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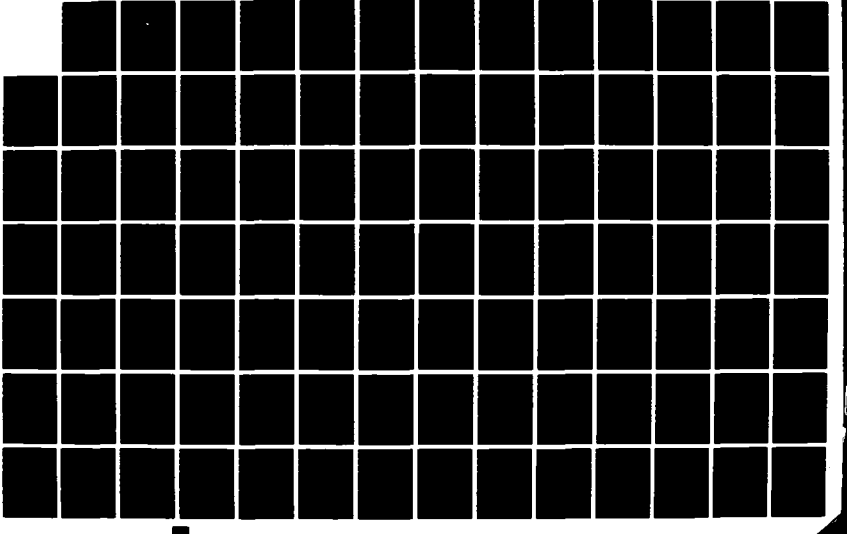

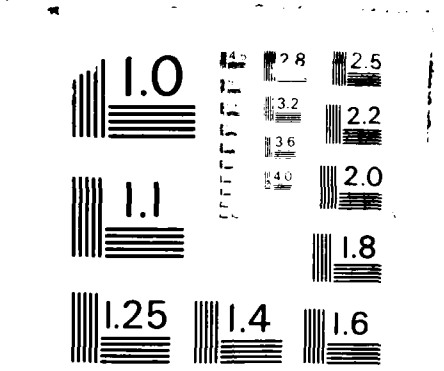
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Monterey, California

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HEAT TRANSFER MODELING
OF
JET VANE THRUST VECTOR CONTROL (TVC)
SYSTEMS

by

Michael F. Dulke

December 1987

Co-Advisor David Salinas
Co-Advisor Matthew D. Kelleher

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Results consist of a numerical solution and a graphical representation of surface shear stress coefficient, Stanton number and convective heat transfer coefficient.

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Heat Transfer Modeling
of
Jet Vane Thrust Vector Control (TVC) Systems

by

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ABSTRACT

The research presented herein, analyzes two models of a jetvane Thrust Vector Control (TVC) System. Computational modeling was accomplished using the latest version of the PHOENICS computer code, designated PHOENICS-84. The vane configurations studied, consisted of a simple wedge and a blunt bodied vane, with a leading edge radius of 1.016 mm. (1/25 in.). These models were examined in a two dimensional, subsonic and supersonic, cold flow field, for both laminar and turbulent flow cases.

Results consist of a numerical solution and a graphical representation of surface shear stress coefficient, Stanton number and convective heat transfer coefficient.

THESIS DISCLAIMER

The reader is cautioned that computer programs developed in this research may not have been exercised for all cases of interest. While every effort has been made, within the time available, to ensure that the programs are free of computational and logic errors, they cannot be considered validated. Any application of these programs without additional verification is at the risk of the user.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

I. INTRODUCTION

The use of Thrust Vector Control (TVC) Systems and in particular jet vanes, are currently being researched for use in air launch, ship launch, underwater launch and high altitude maneuvering of tactical missiles and rockets. The necessity to generate control forces to rapidly change the course of the missile or to induce roll torques is frequently required when traditional, exterior aerodynamic surfaces are unable to produce these forces, when for whatever reasons, the flow over the control surface is insufficient. This situation can occur [Ref. 1: p. 1] at launch, or when the control surfaces are at high angles of attack. In addition, the design of the missile and its launching system, may require that initial trajectory and guidance be input through TVC's as in tube launched missiles.

TVC's are not new and several TVC systems have been developed. These include movable nozzles, boundary layer control, tabs and jet vanes. A comparative evaluation of these different technologies was conducted by the Naval Weapons Center (NWC), China Lake, Ca. with each method being graded in the following four categories:

a. Cost and complexity, to include materials, labor, design and fabrication.
b. Effectiveness and ability to perform two and three axis control.
c. Technical risk in terms of experience and design problems.
d. Materials and special difficulties.

Jet vanes performed well at all altitudes and environmental conditions, unlike those methods utilizing boundary layer control. Also jet vanes were found to be as effective as movable nozzles but not as costly or complicated in design. These advantages, along with the fact that jet vanes are extremely effective at deflection angles up to as high as 30°, [Ref. 1: p. 2], make them ideal for the launch and maneuver applications previously mentioned. A TVC jet vane system currently being tested by NWC, consists of three or four movable, aerodynamic surfaces, equally spaced around the exhaust of a rocket nozzle, Figure 1.1. The required forces and torques are generated by varying one or more of the vanes' angle of attack, thereby deflecting the exhaust gases and producing a moment about the missiles center of gravity.

Jet vanes do of course have disadvantages. For undeflected vanes, there is a loss of thrust of as much as 3 to 5%. [Ref. 1: p. 2] Much higher thrust losses are associated with jet vanes at large deflection angles. This loss in thrust has been noted to be of the same order of magnitude as the generated side force. The thrust loss problem is somewhat minor, though, when compared with the design and materials problem. The vanes are subjected to an extremely hot, high speed, particle laden environment that causes both thermal and dynamic stresses on the vane and its supporting structure. In actual test firings, the thermal stresses have caused significant erosion of the vane's leading edge due to ablation. Failures of the mechanisms that retract insert the vane in the exhaust and change it's angle of attack, once inserted, have also resulted, as the high temperatures tend to propagate through the vane, causing the respective actuator to "freeze". Due to the complexity of these problems, until recently design of jet vanes has been driven by past experience or on theoretically sound, but untested ideas. This leads to over design and the inability to achieve design optimization. As jet vanes are a viable, cost effective TVC system it is imperative that their advantages be capitalized on.

Until recently the work done in this field has been primarily experimental. The severe thermal environment has caused problems in this area in that conventional temperature measuring devices, such as thermocouples and heat flux gages would sometimes burn up or fail before any conclusive results were obtained. This, coupled with the high cost of materials and man hours to conduct a test firing, made it somewhat urgent to come up with an accurate computational model. To do this, the heat transfer characteristics must be accurately modeled and the results analyzed. The need to model both the vane and its environment as well as the compilation of a precise data base has resulted in this project. With the ready availability of commercial computer codes, capable of solving complex fluid mechanics and heat transfer problems, the ability to model this problem has been partially realized. Obviously the nature of the flow environment, coupled with the complex design of the vane currently undergoing experimental testing, Figure 1.2, requires that assumptions and simplifications to the problem be made. The first attempt at the Naval Postgraduate School (NPS) to model the NWC jet vane and its heat transfer characteristics was done by Yukselen, [Ref. 2]. In his work, Yukeselen, used the PHOENICS-81 code to model the flow over a simple wedge in both laminar and turbulent flows. Most recently, Leitner, [Ref. 3], expanded on the previous work by Yukselen by introducing more complicated vane geometries that attempted to more closely model the NWC jet vane.

The research reported herein, continued with the work previously accomplished in this field. In particular, the latest version of the PHOENICS code, PHOENICS-84, was used to verify the results of Leitner with special emphasis on turbulent flow over the blunt vane. In addition, laminar and turbulent flow over the wedge vane was analyzed under two dimensional, subsonic and supersonic, cold flow field conditions. This was done in an attempt to gain famaliarity with the code and as a basis on which to draw some initial conclusions. Currently it is the intent of the project to compare these computational results with the cold flow tests to be conducted by NWC.

The need to verify the computational work with experimental results cannot be overemphasized. The capability of present day computers and codes using the advances made in computational fluid mechanics, to solve this complex problem is somewhat limited, with the accuracy of the results dependent on assumptions made and the particular solution utilized. As a result, this combined computational-experimental program will continue, with design optimization of jet vanes as its final goal.

II. PROBLEM THEORY

A. VANE GEOMETRY, DOMAIN AND FLOW ENVIRONMENT

The actual vane being tested by NWC is constructed of 20% copper impregnated tungsten and is shown in Figure 1.2. As can be seen, this is a three dimensional body with a fairly elaborate geometry. When coupled with the complexity of a high temperature supersonic flow, incorporating oblique shock waves and associated phenomena, the modeling of this problem is a monumental task. As a result, simplifications to the vane's geometry and assumptions to the domain and the flow environment were made. This simplification process was also done to evaluate the ability of PHOENICS to handle subsequent problems that add complexities to the basic model, to determine if the actual vane under the actual flow conditions could be analyzed using PHOENICS.

The modeling of the flow and fluid properties are in themselves a difficult task, without considering the vane's geometry. As was done in the previous modeling projects of Yukselin [Ref. 2] and Leitner [Ref. 3] this project considered only two dimensional approximations to the vane geometry. The vane models consisted of those used by Leitner [Ref. 3], a wedge with a 4° half angle and short afterbody section as well as a shorter vane with a rounded leading edge that intersects with the same 4° half angle. The leading edge radius of this blunt vane was set to 1.016 mm. (1.25 in.). Figure 2.1, shows the dimensions and geometry of the two vanes described above. Follow on studies varying the leading edge radius, of the blunt vane, are planned in order to determine what effect, if any, the leading edge has on minimizing the vane heating effects, thus prolonging the vane life.

The theory that has been taken from the literature and is presented in the following sections is for flow over flat plates. Although this problem does not deal with a strict flat plate, the geometry is not that far removed and the relationships can be considered applicable. The properties of the flow, at the inlet and the thermodynamic constants used, were the same as those used by Leitner [Ref. 3: pp. 12-13] and were either provided to him by NWC, in the case of stagnation temperature, pressure and Mach number or were compiled from standard air tables. These flow conditions for the various cases include:

a. Subsonic freestream Mach number (M_∞) = 0.5

b. Supersonic freestream Mach number (M_∞) = 3.2
c. Subsonic stagnation pressure ($P_{o)}$ = 1.2362 x 10^5 Pa.
d. Supersonic stagnation pressure ($P_{o)}$ = 55 x 10^5 Pa.
e. Subsonic stagnation temperature ($T_{o)}$ = 208.5 K
f. Supersonic stagnation temperature ($T_{o)}$ = 555.55 K
g. Gas constant for air (R) = 287 J/kg-K
h. Specific heat ratio (k) = 1.35
i. Laminar Prandtl number (Pr) = 0.7
j. Turbulent Prandtl number ($Pr_{t)}$ = 0.9
k. Specific heat at constant pressure ($C_{p)}$ = 1107 J/kg-K

The static values of pressure and temperature used at the boundary inlet (assumed in this case to be the outlet of the rocket nozzle) were derived using the following relationships, which assume one dimensional isentropic gas dynamics.

$$\text{Inlet Pressure (Pi)} = \frac{T_o}{\left(1 + \frac{k-1}{2} M_\infty^2\right)} \qquad \text{(eqn 2.1)}$$

$$\text{Freestream Temperature } (T_\infty) = \frac{P_o}{\left(1 + \frac{k-1}{2} M_\infty^2\right)^{k/k-1}} \qquad \text{(eqn 2.2)}$$

The remaining gas properties were evaluated using standard relationships and definitions defined below.

$$\text{Freestream Density } (\rho_\infty) = \frac{Pi}{R\, T_\infty} \qquad \text{(eqn 2.3)}$$

$$\text{Speed of Sound (C)} = \sqrt{k\, R\, T} \qquad \text{(eqn 2.4)}$$

$$\text{Freestream Velocity } (W_\infty) = C^* M_\infty \qquad \text{(eqn 2.5)}$$

B. MODEL ASSUMPTIONS

The following section discusses the specific physical assumptions made to the model and the flow as well as the justification for each.

1. Steady State Flow with Constant Vane Temperature

The model assumes steady state conditions for all properties. This is valid as under actual operating conditions the exhaust parameters reach equilibrium very quickly after ignition and are not prone to change. As to the heat transfer problem, the assumption of a constant vane temperature of 323 K, has the effect of decoupling the convection and vane conduction processes.

2. Cold Air Flow

The initial test firings conducted by NWC utilized ambient temperature air accelerated to the input Mach number of 3.2. Subsequent firings and modeling will subject the vane to actual rocket exhaust conditions. Based on this, initial modeling of the vane was conducted using a subsonic flow of Mach 0.5, under laminar and turbulent flow conditions, prior to attempting the supersonic model. The use of a subsonic model along with the other assumptions, help simplify an already complex problem, thereby allowing experimentation and experience with the code.

3. Ideal Gas

The air flow within the domain is assumed to satisfy the Ideal Gas Equation.

$$P = \rho RT \qquad \text{(eqn 2.6)}$$

As this is a non-reactive gas flow, this is a valid assumption.

4. Property Dependence on Temperature

As the temperature range of the fluid is about 150 K (200 K to approx. 350 K) the laminar and turbulent Prandtl numbers (Pr and Pr_t) as well as the ratio of specific heats, k, were assumed to be constant. The variations in the values of these properties over the specified temperatures is negligible. On the other hand, the dynamic viscosity and hence the kinematic viscosity, are not only temperature dependent but dependent on other properties that are changing as the flow progresses. This is especially true in the boundary layer. As a result power law relations have been developed, which equate certain properties to a temperature ratio, raised to a power. For this particular analysis, the following relationship based on the Sutherland Law was used.

$$\frac{\mu}{\mu_{ref}} = \left(\frac{T}{T_{ref}}\right)^{.667} \qquad \text{(eqn 2.7)}$$

- μ = dynamic viscosity
- T_{ref} = reference temperature, taken to be 273 K
- μ_{ref} = dynamic viscosity at the reference temperature, 1.716 x 10 kg/m-s
- T = value of the temperature

The value of the kinematic viscosity is then obtained by dividing the value of the dynamic viscosity by the density.

5. **Parallel Flow**

As the actual shape of a rocket nozzle is in fact conical, it would stand to reason that the flow would be also. The vane, both in the actual model and in our simulation, is located at the extreme after portion of the nozzle. This coupled with the fact that the half angle of the nozzle is less than 15° , makes it possible to assume parallel flow.

6. **Radiation**

For this analysis, the effects of radiation are neglected. The heat transfer from convection and viscous shear are much greater than any heat flux generated by radiation from the vane to the fluid.

7. **Domain Geometry**

The physical domain encompassing the model was taken from Leitner [Ref. 3] and the problem statement as presented by NWC. Symmetry is assumed for both the wedge and blunt models. That is, only the "top" half of the vane is shown and analyzed for results. The User's Manual, [Ref. 4: p. 8.6], recommends using a Y-Z coordinate system for two dimensional flow problems, with Z taken as the primary flow direction. As this problem is primarily concerned with what happens in the space adjacent to the vane, the model domain considered only a small area in front of the vane, i.e. the inlet. This area is large enough to establish the inlet boundary conditions for the freestream flow so a comparison can be made within the boundary layer and as the flow passes through the shock wave. The vertical Y dimension of 65 mm. was chosen so that an aspect ratio of approximately 10:1 could be satisfied with the half height of the vane which was fixed at 6.35 mm. This is an important criteria to assume that freestream symmetry conditions exist at the upper boundary [Ref. 3: p. 6].

C. LAMINAR FLOW HEAT TRANSFER

For a high speed, temperature dependent, laminar boundary layer the three basic conservation equations of Mass, Momentum and Energy apply and are used to derive the following relationships for Stanton number, heat transfer coefficient and friction coefficient. In order to solve for the heat flux, q_w , the relationship depicted below and referred to as Newton's law of cooling is used.

$$q_w = h_c (T_w - T_\infty) \qquad \text{(eqn 2.8)}$$

- q_w = heat flux (W/m)
- h_c = heat transfer coefficient (W/ m-K)
- T_w = wall temperature
- T_∞ = freestream temperature

For the flow conditions being modeled in this project, this same relationship applies if a reference temperature, known as the recovery temperature, is used in place of the freestream temperature, as in Equation 2.9.

$$q_w = h_c (T_w - Tr) \qquad \text{(eqn 2.9)}$$

Where Tr is the recovery temperature and is obtained as per the following relationship.

$$Tr = T_\infty \left(1 + r \frac{k-1}{2} M_\infty^2\right) \qquad \text{(eqn 2.10)}$$

The recovery factor, r, is derived, for laminar flows by taking the square root of the Prandtl number. Equation 2.11

$$r = \sqrt{Pr} \qquad \text{(eqn 2.11)}$$

It can be easily shown that for flows with Mach numbers less than about 0.3, the recovery temperature is essentially the freestream temperature, making Equation 2.9 identical to Equation 2.8.

There are three flow parameters which this research is interested in from a design and comparison point of view. The convective heat transfer coefficient has been

previously defined and used in the expressions for heat flux. Additionally, there is a non-dimensional term called the Stanton number which is defined in terms of the following physical quantities.

$$St = \frac{h_c}{U_\infty \rho_\infty C_p} \qquad \text{(eqn 2.12)}$$

- U_∞ = freestream velocity (m/s)
- ρ_∞ = freestream density (kg m^3)

The third value is the friction coefficient, C_f The coefficient of friction is a dimensionless form of the wall shear stress, defined below, as in Equation 2.13.

$$C_f = \frac{2 \tau_w}{\rho_\infty U^2_\infty} \qquad \text{(eqn 2.13)}$$

Where τ_w is the shear stress at the vane's surface.

There are many aways to solve for the values of St, h_c and C_f The method outlined here is based on the inlet and boundary conditions of the domain and the method and properties solved for by the PHOENICS code. Since the PHOENICS code cannot solve for the necessary properties directly it is necessary to solve for some "intermediate" fluid properties, in particular, the local value of shear stress at the vane, τ_w , the local value of heat flux, q_w , and the recovery temperature. For a Newtonian fluid, the shear stress, is defined as per the following relationship.

$$\tau = \mu \frac{\partial u}{\partial y} \qquad \text{(eqn 2.14)}$$

Here the dynamic viscosity, μ, is obtained from the product of the kinematic viscosity, ν, and the density, ρ, both of which are dependent variables solved for by the PHOENICS code. In the case of the velocity gradient, $\frac{\partial u}{\partial y}$, we are unable to solve for this value directly, so it is approximated by taking the tangential component (in our case the W component) of the velocity in the first cell above the vane and dividing it by the distance from the vane to the velocity component, i.e. half the first cell height. This is depicted in Equation 2.15.

$$\frac{\partial u}{\partial y} = \frac{W_1}{\Delta Y_1/2} \qquad \text{(eqn 2.15)}$$

The subscript 1 refers to the value in the first cell next to the vane. For these runs, if the first cell is very close to the vane, this makes it a very rough but valid approximation. Combining Equation 2.15 with the definition of the dynamic viscosity into Equation 2.14 yields;

$$\tau_w = \rho \nu \frac{W_1}{\Delta Y_1/2} \qquad \text{(eqn 2.16)}$$

Knowing the shear stress from the above relationship and the other two parameters from the PHOENICS output, Equation 2.13 can be used to solve for the friction coefficient.

In much the same way as the velocity gradient, the enthalpy gradient can be approximated and used to determine the heat flux.

$$\frac{dh}{dy} = \frac{h_1 - h_w}{\Delta Y_1/2} \qquad \text{(eqn 2.17)}$$

The following equation can then be derived for the heat flux at the wall.

$$\dot{q}''_w = \frac{\mu}{Pr}\left(\frac{h_1 - h_w}{\Delta Y_1/2}\right) \qquad \text{(eqn 2.18)}$$

Once a value for the heat flux is determined the heat transfer coefficient can be obtained using Equation 2.9, where the recovery temperature is found through Equation 2.10. Finally the Stanton number is obtained using Equation 2.12.

D. TURBULENT FLOW HEAT TRANSFER

For this analysis, the flows were considered either fully laminar or turbulent. Turbulent flows are characterized by randomness and disorder. In order to deal with these problems, theoretical principles were developed which attempt to relate the Reynolds stresses and average values of the velocity components to the equations for

heat and mass transfer. These mathematical models or relationships are then used to calculate a "turbulent" viscosity, which can then be used to solve for fluid properties or heat transfer values using the standard definitions and relationships. Some of the models currently in use today and which are all built into the Phoenics code are:

a. An algebraic model
b. Prandtl's mixing length model
c. The k-mixing length model
d. The k-ε model

For the turbulent calculations conducted herein, the k-ε model was used. The k-ε model treats the turbulent kinetic energy, k and its rate of dissipation, ε, as properties of the fluid and developes corresponding conservation equations much like the conservation equations of mass, momemtum and energy. while PHOENICS solves the equations for kinetic energy and its dissipation, the turbulent kinematic viscosity, ν_t , is being obtained using the Prandtl-Kolmogorov relationship below.

$$\nu_t = .5478\ ke^{.5}\ \ell_m \qquad \text{(eqn 2.19)}$$

- ke = turbulent kinetic energy
- ℓ_m = mixing length scale

The mixing length scale is calculated, in PHOENICS, according to the below equation.

$$\ell_m = .1643\ \frac{ke^{1.5}}{\varepsilon} \qquad \text{(eqn 2.20)}$$

In addition to the aforementioned models, other relationships have been developed which attempt to relate properties within the boundary layer to each other, thereby generating somewhat simplified equations for these and other values. One of these, known as the Reynolds analogy, relates the skin friction and heat transfer within the boundary layer. In its simplest form, the Reynolds analogy says that the eddy diffusivity or exchange coefficient for momentum, ε_M , is equal to the eddy diffusivity or exchange coefficient for heat, ε_H . The exchange coefficients are proportionality factors used to define the transfer of momentum or shear stress and the heat flux along the wall as depicted in Equations 2.21 and 2.22.

$$\tau_w = \rho \varepsilon_M \frac{\partial u}{\partial y} \qquad \text{(eqn 2.21)}$$

$$\dot{q}''_w = \rho C_p \varepsilon_H \frac{\partial T}{\partial y} \qquad \text{(eqn 2.22)}$$

As can be seen by comparing the above equations, the two exchange coefficients, ε_M and ε_H, are very similiar. Using this similarity and the fact that the shear stress is related to friction coefficient, C_f and the heat flux is related to the Stanton number, St, it can be shown that C_f and St are related in a similiar fashion. Referring back to the basic form of the Reynolds analogy, which equates the two exchange coefficients and defining the ratio of ε_M over ε_H as the turbulent Prandtl number, Pr_t , we have, for $Pr_t = 1.0$ the following relationship.

$$\frac{C_f}{2} = St \qquad \text{(eqn 2.23)}$$

For this research the turbulent Prandtl number was given a value of 0.9 and as a result another form of the Reynolds analogy had to be utilized. Once again using the results of Leitner [Ref. 3: p.22], the Chilton-Colburn form of the analogy was chosen. For the Stanton number this yields the following equation.

$$St = \frac{C_f}{2} Pr^{-.667} \qquad \text{(eqn 2.24)}$$

The relationship developed for the friction coefficient, in this case ia the same as was derived for the laminar case, Equation 2.13, The shear stress, however, must be computed based on the turbulence model used. For this model, the following equation holds.

$$\tau_w = 0.3 \rho_\infty ke_w \qquad \text{(eqn 2.25)}$$

Where k_w is the turbulent kinetic energy at the wall. Substituting the above expression into Equation 2.13, a relationship for the friction coefficient is developed.

$$C_f = \frac{.6\ \rho_w\ ke_w}{\rho_\infty\ W^2{}_\infty} \qquad \text{(eqn 2.26)}$$

The final parameter of heat transfer coefficient, h_c , is computed using the previously derived Stanton number and Equation 2.12.

III. COMPUTATIONAL MODELING

A. A DESCRIPTION OF PHOENICS

The PHOENICS-84 computer code is a follow on to the PHOENICS-81 code developed by D. Brian Spalding, through his company CHAM Ltd.. PHOENICS is an acronym for "Parabolic, Hyperbolic or Elliptic Numerical Integration Code Series". As the name implies this is a general purpose code that can be used to model fluid flow, heat transfer or chemical reaction problems, in one, two or three dimensions for one or two phase flows. The physical domain, within which the problem is modeled, is divided into numerous, finite, three dimensional subdomains referred to as cells [Ref. 5]. PHOENICS obtains values for the fluid properties by solving the conservation equations of mass, momentum, energy and chemical species, all of which can be put in the following form.

$$\frac{\partial}{\partial t}(\rho \varphi) + \mathrm{div}(\rho \overline{V} \varphi - \Gamma_{\varphi} \mathrm{grad}_{\varphi}) = S_{\varphi} \qquad \text{(eqn 3.1)}$$

- φ = fluid property or dependent variable (pressure, enthalpy etc.) being solved for
- Γ_{φ} = exchange coefficient for φ
- S_{φ} = source term for φ per unit volume
- $\overline{V}$ = velocity vector
- div = divergence operator
- grad_{φ} = gradient of φ

Depending on the problem, the required differential equations are solved through a numerical integration scheme which produces a set of finite volume or finite domain equations (FDE's), one for each property or dependent variable being solved for. The FDE's are of the following form and contain terms to account for the convection, diffusion, dissipation and generation of mass, momentum or energy.

$$a_p \varphi_p = a_E \varphi_E + a_W \varphi_W + a_N \varphi_N + a_S \varphi_S + a_H \varphi_H + a_L \varphi_L + a_o \varphi_o + b \qquad \text{(eqn 3.2)}$$

- φ_p = the value of the dependent variable in the cell presently being solved

- $\varphi_E \ldots \varphi_L$ = the value of the variable in the neighboring cells
- $a_E \ldots a_L$ = convection and diffusion terms
- a_o = term to account for time change
- a_p = term that contains the influences of all the above terms
- b = the source term

All variables, with the exception of the velocity components, are solved for at the center or node of each cell. The value of the property at this point is taken to be representative of the whole cell. Velocity components are solved at the cell boundaries (faces) and as expected are driven by the properties, especially pressure, of the two nodes either side of it. Whereas the governing partial differential equations are nonlinear, the generated FDE's are linearized. The FDE's are also coupled in that the solution of any fluid property is dependent on one or more of the other properties. This requires these equations to be solved in an iterative manner.

For most fluid mechanics problems, the solution of the pressure field is the most costly in terms of the amount of time and resources required. This is due to its dependence on all the other properties. As a result PHOENICS approaches the solution of pressure in a slightly different way. The code makes use of the SIMPLE algorithm, a numerical scheme developed by Spalding and Patankar [Ref. 6: p. 1787]. This scheme, which stands for Semi-Implicit Method for Pressure-Linked Equations, solves the continuity equation producing a seperate FDE and another independent variable designated the pressure correction. The value of the pressure correction is added to the current value of the pressure according to the following equation to arrive at a corrected pressure.

$$p = p^* + p' \qquad \text{(eqn 3.3)}$$

- p = corrected pressure
- p^* = value of pressure field
- p' = pressure correction

The PHOENICS code consists of two distinct main programs, each with a number of subroutines as depicted in Figure 3.1. The larger program, designated EARTH, contains the physical laws, flow simulation, integration schemes and FDE solvers. This is permanently installed in the computer as an object code. The

SATELITE is the means by which the user conveys his particular problem to EARTH to be solved. This may be done through a data input file called the Q1 file. The Q1 file is divided into 24 data groups which allow the user to define the domain geometry, set the grid, define the variables to be solved and set fluid properties and boundary conditions (see Appendix A or B). The SATELITE tends to act as an interpreter as it takes the commands in the Q1 file, which is written in a FORTRAN based code called PHOENICS Input Language (PIL) and turns them into commands which can be acted on by EARTH. It should be noted that FORTRAN language commands such as DO loops and IF statements cannot be used in PIL.

Within EARTH there are two user accessible subroutines, GROUND and GREX1, which allow access to EARTH, thereby giving the code greater flexibility. [Ref. 4: pp. 2.1-2.2] The GROUND is a FORTRAN subroutine, in the form of a template, where the user can insert his own coding, that will allow him to actively interact with EARTH while it is carrying out its calculations. This allows the user to solve for variables and fluid properties which are not solved using the conservation laws (viscosity, heat transfer coefficient, etc.), but are functions of those dependent variables that are solved by the conservation equations (enthalpy, velocity, etc). GREX1 is a prewritten GROUND subroutine that contains many of the commonly used equations and laws currently in use today. For example, the Ideal Gas Law can be called on to solve for density; while the temperature field can be solved from the stagnation enthalpy and velocity fields. Additionally GREX1 serves as a guide, should it be necessary for the user to write his own GROUND coding in those cases where features not available in GREX1 are required. The GREX1 subroutine is accessed by the user by invoking commands in the Q1 file. This will be discussed in a later section. With the information on the physical properties of the flow, the geometry of the grid and domain and the inlet and boundary conditions input from the Q1 file, EARTH computes the values of those variables specified to be solved for, expressing them as a table of numbers, which describe the field of pressure, enthalpy, velocity, etc. at every cell throughout the domain.

In terms of those variables that PHOENICS will solve for directly and indirectly, storage has been set aside for up to 25 different variables. The first 15 are designated PHOENICS variables and are the variables that are solved through the discretized differential equations in EARTH. The remaining 10 are set aside for the solution of any other variables the user desires to be solved for, as a function of one or more of

the PHOENICS variables. As referred to previously, the solution of these other variables takes place in either GREX1 or GROUND. In this analysis the PHOENICS variables solved for were:

a. pressure (P1)
b. Z velocity component (W1)
c. Y velocity component (V1)
d. stagnation enthalpy (H1)
e. turbulent kinetic energy (KE)
f. turbulent dissipation of kinetic energy (EP)

Other field properties that were required for the research and for which storage was set aside for were:

a. temperature (TMP1)
b. density (RHO1)
c. laminar kinematic viscosity (ENUL)

B. APPLYING PHOENICS TO THE PROBLEM

Using the theory and assumptions developed in Chapter II and using the previous section as a guideline, this section will attempt to explain exactly how PHOENICS was used to model the domain and boundary conditions, and document some of the problems encountered with its use.

1. Modeling the Domain

The grid used to model both vane geometries and the domain were generated using the Body Fitted Coordinate (BFC) option of the code. This feature takes an orthogonal cartesian grid and through a set of commands, distorts it into the desired shape. For all wedge vane problems, a grid consisting of 20 x 29 cells in the Y and Z directions was generated. The grid was uniform throughout with a very fine mesh being developed at areas that required close scrutiny, for example, along the vane surface. In the Z direction there are four cells evenly spaced, prior to the vane, each 7.3 mm. in length. Along the inclined portion of the vane 10 cells (IZ = 5-14), were placed 9.08 mm. apart. A fine grid, consisting of 10 cells (IZ = 15-24), 1 mm. apart was placed at the point where the 4^{o} incline intersects the horizontal shoulder. This was done to catch the expansion fan that is believed to occur at this discontinuity. Finally, the last five cells (IZ = 25-29), were spaced at 4 mm. increments to complete the grid. In the Y direction, a very fine mesh was generated in the first five cells (IY = 1-5) to catch the boundary layer, each 0.175 mm. in height. The remainder of the

C. BOUNDARY CONDITIONS

The next step in the modeling process requires specifying boundary conditions on all boundaries. The overall domain for all problems consisted of four boundaries, designated here and in the Q1 file as inlet, outlet, vane (wall), and freestream boundary, see Figures 3.2 and 3.3. For the inlet, based on the assumption of parallel flow with known or derived values for the velocity, pressure, enthalpy and density, the following values were specified at the inlet inlet boundary (IZ = 1, IY = 1-20):

a. Mass flow was set equal to the inlet density times the inlet velocity.

b. Inlet velocity (WIN) was set equal to inlet Mach number times the speed of sound at the inlet temperature.

c. Inlet stagnation enthalpy (H0) was set equal to the coefficient of specific heat times the stagnation temperature.

It should be noted that for any variable not specifically given a value at a boundary, for instance V1 at the inlet, PHOENICS automatically sets it to zero. For turbulent flow problems, additional boundary conditions had to be be specified for both KE and EP. For the inlet, their values were set according to the following relationships,

$$KE = 0.01\ W^2_{in} \qquad \text{(eqn 3.4)}$$

$$EP = \frac{.16\ KE^{1.5}}{2\ H} \qquad \text{(eqn 3.5)}$$

where H is set to the domain height, .065 m..

At the outlet boundary (last IZ, IY = 1-20), since we are certain that the flow is directed out, there is only a requirement to fix the pressure and enthalpy. As we are unsure of the exact values of these properties, the pressure was set to atmospheric and the enthalpy to the value of the inlet stagnation enthalpy. When other conditions for P1 were specified at the outlet the results did not differ significantly. This is done strictly to satisfy the requirement for a mass and energy balance, which PHOENICS will take care of by allowing mass to get in or out, as needed, so as to satisfy continuity. For supersonic flows, due to their hyperbolic nature, the specification of other properties is unnecessary from the point of view that downstream conditions, in particular at the outlet, have negligible effects on the upstream flow field.

The setting of boundary conditions along the vane surface differed slightly between the two vane geometries. For the wedge, the BFC option was used to set the lower boundary of the domain along the top of the vane surface, see Figure 3.2. The PHOENICS variables of W1 and H1, were set to zero and C_p times the temperature of the wall, respectively. In order to account for both the velocity and temperature gradients within the boundary layer a wall function that is contained in the GREX1 code was specified as the third argument of the COVAL statement in Group 11. In the case of laminar flow, GRND1 which uses Blasius' law in the solution is used and for the turbulent model GRND2 which makes use of the logarithmic law is used.

The blunt bodied vane required a slightly different approach, as its BFC geometry, as previously described, was generated in a different manner. Unlike the wedge, the whole domain is rectangular.

A CONPOR command was then issued in Group 11 of the Q1 file, for the vane itself, which blocked out the flow of all properties over the specified domain, i.e. the vane. In terms of the vane boundary conditions for W1 and H1, they are set to the same values as in the wedge problem for the different flow cases. Additionally, within the vane the enthalpy and hence the temperature is set at the constant, predetermined value of 323 K.

The last boundary areas to be discussed are the freestream boundaries which exist along the top of the domain and along the bottom in the area from the leading edge of the domain to the tip of the vane. Once again the reader is referred to Figures 3.2 and 3.3 No variables are set, which is interpreted by the code as a line of symmetry, where all property gradients are zero.

D. OTHER VARIABLES

As previously described, there are variables not directly solved from the conservation equations. The coding used in the Q1 file for the solution of the density (RHO1), temperature (TMP1), and laminar kinematic viscosity (ENUL), is outlined below. For both the density and temperature, models from GREX1 were utlized to calculate the values of RHO1, TMP1 and ENUL in Group 9. Based on the assumptions previously presented, the density field was solved using the Ideal Gas Law, Equation 2.6, which was activated by setting RHO1 equal to GRND5. As the specific heat being used is different than the standard value of 1.4, this also required the setting of DRHODP, the compressibility of the fluid, to GRND5 as well and giving the variable RHO1C a value of 1 1.35, (1 Cp). The temperature field was solved by utilizing Equation 3.6.

$$T = h_o - \frac{U^2}{2} \qquad \text{(eqn 3.6)}$$

- h_o = stagnation enthalpy
- U = velocity vector magnitude, square root of the sum of the velocity components squared

This relationship was invoked in Group 9 of the Q1 file by setting TMP1 equal to GRND6. Finally, the solution of the laminar kinematic viscosity, from Equation 2.7, was accomplished in GROUND, Group 9, Section 6, through the use of one of the functions in the PHOENICS Function Library. Once again the reader is referred to the User's Manual [Ref. 4] for further information.

1. **Problems Encountered**

This section is presented so that any research either on this particular project or another project which utilizes the PHOENICS code may bypass some of the frustration and problems encountered by the author during this research. PHOENICS is in fact a very versatile computer code and when dealing with "simple" problems is relatively quick and easy to learn. Applying the code to more complex problems, requires the user to use some of the built in "valves and knobs", that can be turned or tweaked to arrive at a converged solution. A solution is considered to have converged when all three of the below criteria are met:

a. All of the residuals are not changing with increasing iterations.
b. Mass and energy balances are achieved from the NET SOURCE output.
c. The field values of the variables are not changing with increasing iterations.

One of the primary commands used to assist in convergence is the use of the RELAX command in Group 17. For specific use of this and other commands outlined below, the reader is referred to the *PHOENICS Beginner's Guide and User's Manual*, [Ref. 4]. It was found during the course of this research, that as the problem's complexity increased so did the amount of relaxation required on certain variables. For all geometries and flows analyzed, it was necessary to put a small amount of relaxation on the pressure, P1, with varying amounts on the velocity components, V1 and W1 depending on whether the flow was subsonic or supersonic. The reader is directed to the specific Q1 files, Appendices A and B for the exact values. The User's Manual [Ref. 4: pp. 8.25-8.26], describes setting different relaxation values for the different velocity components, when one component is predominant. When used for

different runs of this problem, it was found that the residuals of the component whose relaxation parameter was increased (i.e. the relaxation was decreased) in this case V1, did decrease some, but there was little if any change in the field values of the variable.

Another point to be made is the specification of the whole field solution solver vice a slab by slab solution procedure, the default built into the code, in Group 7 for H1 and P1. Once again the User's Manual [Ref. 4: pp. 8.12-8.13], can be referred to for the specific use of the whole field solution procedure. The use of the whole field solution procedure was found to be unnecessary for subsonic flow, but for the supersonic cases taking the default, resulted in inconsistent results. Although the residuals indicated convergence in that they were not changing significantly, the mass balance and more importantly the results themselves, indicated that an incorrect solution had been reached. For example, for the supersonic laminar wedge problem, the pressures in the boundary layer and in the freestream dropped to below atmospheric as the flow proceeded up the vane. The W component of the freestream velocity, in the same area, accelerated to almost twice the inlet value and there was no perceived temperature gradient. Similiar results were obtained when the whole field solution solver was used on P1 only. Hence for supersonic flow, it is necessary to use the whole field solution solver for both P1 and H1.

In terms of the GROUND coding that was input to solve for and print out values for Stanton number, heat transfer coefficient and friction coefficient, as well as a field Mach number, problems arose which have yet to be resolved. When the coding was inserted for the wedge vane, supersonic, laminar flow case, using the expressions derived in Chapter II, totally unrealistic values were obtained for all parameters. This problem was looked into superficially, due to time constraints, with no significant progress made toward a solution. The required coding within the Q1 file and the GROUND program are included as Appendices A and C to assist follow on research. A temporary solution to this problem was reached by writing two seperate FORTRAN programs. The first program analyses laminar flow and the other turbulent flow and are included as Appendices D and E. These programs use the equations from Chapter II and data input from the user, to solve for the necessary parameters of Stanton number, heat transfer coefficient, and friction coefficient.

In summation, for complex problems, PHOENICS has relatively few specific guidelines to follow and no "quick fixes". Patience, coupled with much trial and error, which yields proficiency in the use of the code, will usually result in success. As the User's Manual, [Ref. 4: p. 8.23], puts it,

"Generally, the PHOENICS user who is baffled by a convergence difficulty should take comfort in this thought: if the flow he is trying to simulate is physically possible, there *must* be a way of simulating it numerically; and, if the first attempt to do so fails, he just has to think a little harder."

IV. DISCUSSION OF RESULTS

The final numerical results for the different cases run are compiled in Appendices F through K. Figures 4.1 to 4.6, give a graphical comparison between the laminar and turbulent values of heat transfer coefficient, Stanton number and friction coefficient. Specific discussion of each case's results is presented in the following sections. The tabular results include field values for the following quantities:

a. Pressure (P1)
b. Velocities (V1, W1)
c. Stagnation enthalpy (H1)
d. Laminar kinematic viscosity (ENUL)
e. Density (RHO1)
f. Temperature (TMP1)
g. Turbulent kinetic energy (KE)
h. Dissipation of turbulent kinetic energy (EP)

Output includes printout of the residuals and net sources to show how the problem converged. The graphs were obtained by creating data files using the appropriate FORTRAN program in Appendix D or E and inputting the necessary data from the PHOENICS output. The data files were then used in a plotting routine to generate the curves depicted.

A. LAMINAR SUBSONIC WEDGE VANE

The results for this case are in Appendix F and the graphical comparisons are presented in Figures 4.1 to 4.3. In general the results were as expected. At Mach 0.5, air is close to the region between compressible and incompressible flow. The effects of compressibility are especially noticeable in the field values for pressure. In the boundary layer, as the flow proceeds up the wedge (IZ = 5-14), the pressure increases up to the shoulder (IZ = 15) where due to the change in flow direction, a slight expansion takes place, followed by a steady increase in the pressure to it's outlet value. Examination of the velocity and temperature fields, shows an increase in viscous and thermal boundary layer thicknesses on the wedge's incline, followed by expansion at the shoulder as evidenced by the increase in the tangential velocities within the boundary layer. The expected change in the velocity vector, as evidenced by the

increase in the V1 values, occurred at the vane tip and as the flow proceeded up the vane.

Figures 4.1, 4.2 and 4.3 give a comparison between the wedge vane and blunt vane values of heat transfer coefficient, Stanton number and friction coefficient respectively. In addition, for the subsonic laminar case only, there is a graph of heat transfer coefficient, which represents the values for incompressible, constant property flow over a flat plate, in Figure 4.1. These values were obtained using the standard flat plate correlation [Ref. 7: pp. 134-137].

$$h_c = \frac{0.332}{x} k \, Re_x^{1/2} \, Pr^{1/3} \qquad \text{(eqn 4.1)}$$

Where k is the thermal coductivity of air, in this case taken at the freestream temperature of 200 K. The values of the three heat transfer coefficients that were plotted, were as anticipated. The maximum values were at the tip of the vane and steadily decreased, as the flow progressed up the 4° incline and the boundary layer thickness increased. The values then increased as the flow changed direction at the shoulder, which had the effect of decreasing the boundary layer thickness. As the boundary layer grew once more, the values of the three coefficients then decreased. Differences between the flat plate results and the wedge can be attributed to the fact that the wedge is not flat and that in the wedge analysis, compressibility and temperature dependent properties were considered. The only part of the plot that caused some concern was the section from 80 to 115 mm.. As can be seen, the values of the parameters appear to level off, whereas in the flat plate analogy, the curve s slope decreases but never levels off. It is believed that this occurs because of the fluid compressibility and the temperature dependence of certain properties.

B. LAMINAR SUBSONIC BLUNT VANE

As the complexity of the model or flow increased, so did the number of iterations or sweeps required to acheive convergence. In this particular model, approximately 500 sweeps were required as opposed to 400 for the previously described model. Referring to the output in Appendix G, it is noted that the values of V1, at IY = 1, in the vicinity of the vane tip are significantly higher than in the wedge model. The W1 values, in this same area, are slowed to zero at the stagnation point and then accelerate, to a value greater than the freestream, as the flow follows the curved portion of the vane (IZ = 7-9). This accounts for the initial increase in the values of

heat transfer coefficient, Stanton number and friction coefficient, in Figures 4.1, 4.2 and 4.3, at the vane tip, followed by a decrease in their values as the flow proceeds up the incline (IZ = 10-18). One important note concerning these figures, as well as Figures 4.4, 4.5 and 4.6, is that at first glance, one may deduce that at any given Z-distance the property values for the blunt vane are higher than the corresponding values for the wedge vane. In reality, with the exception of the vane tip itself, this is not the case. As indicated on the graph, the leading edge of the wedge vane begins at a Z-distance of 29.2 mm. and that of the blunt vane at a Z-distance of 42.72 mm. By transposing the vane tips to the same point, it can be easily shown, that initially along the inclined surface, the three properties are essentially the same and that the shape of the vane tip only affects the values of these properties at the tip.

C. TURBULENT SUBSONIC WEDGE VANE

Appendix H contains the results of the subsonic turbulent wedge model. As can be noted from the output, this model required 500 sweeps to achieve convergence. The mere fact that turbulent flow is more complex, explains this and also accounts for the higher residuals of all the properties when compared with the laminar wedge model. The field values were also as expected, following the same trend as outlined for the laminar model above. The actual values, were of course different. A comparison of the first cell values (IY = 1) of W1 and *TMP1* revealed that in the case of the turbulent model, the velocity values where higher and the temperature values lower than the corresponding values for the laminar model. This indicates that well over half of the velocity and temperature changes occurred in the first 0.0875 mm. above the vane. This also shows that the turbulent velocity and temperature gradients are more pronounced and that the overall height of the turbulent boundary layer is smaller than the laminar boundary layer. Referring to the graphs of the heat transfer coefficient, Stanton number and friction coefficient, Figures 4.4, 4.5 and 4.6, it can be noted by comparing them with corresponding figures for laminar flow, that the values of the three properties are higher for the turbulent flow than for the laminar flow.

D. TURBULENT SUBSONIC BLUNT VANE

The final subsonic model to be discussed is tabulated in Appendix I and represented graphically in Figures 4.4, 4.5 and 4.6. The field values for all output propreties followed the same trend as in the laminar subsonic blunt vane model. Additionally higher cell values, at IY = 2, for W1 and lower values for TMP1 in the

area along the inclined surface (IZ = 11-18) were noted for the turbulent model. This was coincident with the same comparison made in a previous section of the values for the laminar and turbulent wedge models. The values of heat transfer coefficient, Stanton number and friction coefficient were as anticipated, based on the discussion of the field values above. The acceleration of the W1 velocity component in the first cell above the vane (IY = 2) and the corresponding decrease in temperature, accounts for the initial jump in the values of the three properties at the vane tip, as was explained in the laminar model.

E. SUPERSONIC MODELS

Both vane geometries were tested in the supersonic flow regime, but as there were problems and inaccuracies with the results, each will only be discussed briefly in this section and only the tabulated PHOENICS outputs are included as Appendices J and K. Initially it should be pointed out that the transition from a subsonic flow of Mach 0.5 to a flow where a strong shock exists at Mach 3.2 was very time consuming. The solutions appearing in this report, for the following cases were gathered only after much trial and error.

1. Wedge Vane

The initial impression of the results in Appendix J are that a successful run had been accomplished. The residuals had steadied out after approximately 550 sweeps, a good mass and energy balance existed and the field values of all variables had no glaring discrepencies. It was not until the results were input into the FORTRAN program, Appendix C, used to calculate heat transfer coefficient, Stanton number and friction coefficient, that the inaccuracies of this particular model came to light. The first four values of the heat transfer coefficient, Stanton number and friction coefficient were all negative. Based on their definitions, the previous subsonic results and the results of Leitner [Ref. 3], this is not possible. The expectation was that all values of the three properties would be much larger than both the laminar and turbulent subsonic values. Upon closer inspection of the results in the area around the vane tip and when comparing the field values of W1 and TMP1 with the corresponding output from Leitner [Ref. 3], it is noted that the values at IY = 1 and IZ = 5-10 are significantly different. The velocity gradients due to the boundary layer along the vane surface is all but non-existant and the thermal gradient due to the temperature difference between the surface and the freestream was totally absent in the first couple of IZ cells. This caused the approximation for the velocity and enthalpy gradient,

Equations 2.15 and 2.17, being used in the calculations for the heat transfer coefficient, Stanton number and friction coefficient, to be highly inaccurate, thereby giving erroneous values for the three properties. From these observations it was obvious that the initial cell heights of 0.175 mm. were inadequate to capture the compressed boundary layer of a supersonic flow. Initial attempts at reducing the height of the first five cells were unsuccessful, as the results had difficulty in converging when this was done. Due to time constraints this problem had to be left for follow on research.

2. **Blunt Vane**

Field values of the variables for the blunt vane laminar supersonic flow are tabulated in Appendix K. These results also required approximately 550 sweeps and like the previous results have discrepencies, of some field variables, at certain points in the domain. Ironically enough, these discrepencies occurred at those cells where the vane's geometry was changing, as at the point where the curved portion of the vane tip intersected the 4° incline and at the vane shoulder. This is an indication that PHOENICS has difficulty calculating results at points where the supersonic flow is disturbed. At IY = 2 and IZ = 10, which corresponds to the first cell along the inclined surface, the values of P1, RHO1 and TMP1, indicate that the flow undergoes a major expansion. The pressure drops from a value of 4.2 E05 Pa. in the previous cell to a value of 1.0 E05 Pa. in the cell in question. Corresponding similiar changes were present in the density field, and the temperature value of this particular cell dropped from 340 K at IZ = 9, to 139 K; a value below the freestream temperature. Although it is possible for an expansion fan to exist at this point, one so drastic seems unlikely. At the shoulder, the values of V1 and W1 indicate a possible point of recirculation, followed by the boundary layer readhereing itself to the vane. Once again referring to the results, the values of V1 at IY = 2-3 and IZ = 19, which is the first cell on the vane shoulder, are both negative. The actual values are insignificant when compared with the inlet velocity of 888.5 m s, but are not that insignificant when considering the V1 values either side of them. At IY = 2 and IZ = 18, the last cell on the incline prior to the shoulder, the value of the V1 component, is also negative. It's value of 59 m s is less than 10% of the total W1 component but the values on either side of hte V1 value indicate the presence of a discontinuity. At this point it should be mentioned that no such discrepencies or discontinuities exist in the results of Leitner [Ref. 3], who used the same basic model with the PHOENICS-81 code. Finally it appears that the same problem, which plagued the supersonic laminar wedge vane model is also present

here. That is, the necessity to decrease the size of the first cell along the vane surface, in order to capture more of the boundary layer. This too will be left for follow on research, with possible ideas on how to achieve this discussed in the final chapter.

F. CPU TIME

As previously mentioned, the BFC option of PHOENICS-84 was used in all computations. The code is installed in the NPS IBM 3033 mainframe computer and utilizes the MVS batch for all sequential steps in the process. As outlined above in the previous sections, the number of sweeps varied between 400 and about 550 for the different models. Below is a table giving the approximate CPU time required per 100 sweeps for each model.

TABLE 1

CPU TIME PER 100 SWEEPS

SUBSONIC MODEL	
Laminar Wedge	122 seconds
Laminar Blunt	122 seconds
Turbulent Wedge	122 seconds
Turbulent Blunt	124 seconds
SUPERSONIC MODEL	
Laminar Wedge	158 seconds
Laminar Blunt	160 seconds

V. CONCLUSIONS AND RECOMMENDATIONS

The original plan for this project was to take the wedge and blunt vanes first modeled by Leitner in his report, [Ref. 3], and attempt to verify his results using PHOENICS-84 under both a laminar and turbulent supersonic flow regime. As was discussed in the previous chapter, the only supersonic model attempted using the PHOENICS-84 code was the laminar case, which resulted in inconclusive results that cannot be used for verification. The reasons for this are many, but all seem to be centered around the fact that PHOENICS is a versatile but complex code that requires a great deal of time before the user becomes truely proficient. This problem was compounded by the absence of a readily accessible "expert" on the code and it's many uses. Additionally, there exists a plotting routine developed by CHAM for PHOENICS, called PHOTON, which is installed in the NPS system but presently is not working. This routine, in addition to saving time by plotting the values of all variables solved, will plot and give the user an actual drawing of the domain geometry and grid. This is invaluable to the user who invokes the BFC option of the code, as it is the only way of verifying whether the grid that was generated by BFC is correct.

Although useful supersonic results from this report do not exist, information can in fact be gleaned from the results of the subsonic models, which can be useful to the study of jet vane heat transfer as well as to follow on research in this field. Comparing the plots of heat transfer coefficient, Stanton number and friction coefficient, Figures 4.1 to 4.6, with those from Leitner, [Ref. 3], it is observed that in the laminar flow cases, the general outline of the curves are very similiar. This similiarity holds for both the wedge and blunt vane geometries. For the turbulent model, a comparison of the wedge vane curves shows them to be similiar, except at the shoulder, where there is a sudden a fairly large increase in the values in the subsonic case. The supersonic case, on the other hand, has only a very small increase in values at this point. For the blunt vane turbulent turbulent flow cases, a comparison of these two sets of curves, show the least amount of similiarity. For the subsonic case, the values of the three properties (C_f , St, h_c) after reaching a maximum along the curved portion of the vane tip, decrease much more gradually to their minimum values along the inclined surface, than did the curves in the supersonic case. Additionally in the supersonic case, the blunt

vane curves, after falling suddenly along the vane tip, level off along the inclined surface of the vane to values less below those found in the turbulent supersonic wedge model. It should be noted that the leading edge radius of the blunt vane used in this research was determined by NWC and was different than the leading edge radius used by Leitner, [Ref. 3], which may account for some of the dissimilarities.

Finally, based on the results of this research, it is unknown whether PHOENICS-84 has the capability to successfully model both vane geometries under a supersonic flow regime of Mach 3.2. The necessity to pose this complex problem correctly and to be able to effectively utilize all of the code's options and capabilities cannot be overemphasized, if success is to be realized. For instance, the possibility of decreasing only the first Y cell height above the vane has not been attempted. If successful, this would give first cell values for W1 and H1 that could be used as a better approximation for the respective gradients, in the calculations for heat transfer coefficient, Stanton number and friction coefficient. Decreasing the length scale from meters, which was used in this analysis to millimeters is also a possibility. The User's Manual, [Ref. 4: p 8.11], talks of avoiding the use of grid cells whose lengths, face areas or volumes are of the order of 1.0 E-8 or less. In this analysis none of our cells exceeded this value, but were of the order of 1.0E-6 and slightly below. Referring to the supersonic outputs, Appendices J and K, it is observed that discrepencies occurred at those areas where there were very small grids. Additionally, the ability to use GROUND for computing the values of heat transfer coefficient, Stanton number and friction coefficient and any other variable such as the field Mach number, will save the user time.

In closing, there may be numerous other options that can be explored to assist in the solution of this problem and those follow on projects that encompass more complex geometry and flow regimes. In this investigation, due to the time limitations, it was not possible to explore all of the options available in the PHOENICS code It also must be emphasized that with he eventual implementation of PHOTON, instant numerical and graphical results will be available to the user for all variables as well as the domain geometry and grid.

APPENDIX A
WEDGE VANE Q1 FILE

```
TALK=F;RUN(1,1)
     ************************************************************
     *       SUBSONIC TURBULENT FLOW OVER A WEDGE VANE           *
     ************************************************************
     *  NOTE: THIS Q1 FILE IS IDENTICAL TO THE PROGRAMS          *
     *        FOR SUBSONIC AND SUPERSONIC FLOW OVER A            *
     *        WEDGE VANE.  COMMENT STATEMENTS HAVE BEEN          *
     *        ADDED AT THOSE GROUPS WHERE CODING IS              *
     *        DIFFERENT OR OMITTED.                              *
     ************************************************************
     *         LIST OF NON-PHOENICS VARIABLES                   *
     *         USED IN THE SETTING UP THE PROBLEM               *
     *                                                          *
     *  L1:   DOMAIN IN FRONT OF THE VANE                       *
     *  L2:   LENGTH OF THE INCLINED PORTION OF THE VANE        *
     *  L3:   INITIAL LENGTH OF THE VANE SHOULDER               *
     *  TE:   VANE HEIGHT                                       *
     *  H:    TOTAL HEIGHT IN Y DIRECTION                       *
     *  CP:   SPECIFIC HEAT OF THE AIR                          *
     *  TIN:  INLET STATIC TEMPERATURE                          *
     *  PIN:  INLET STATIC PRESSURE                             *
     *  WIN:  AIR VELOCITY AT THE INLET IN M/S                  *
     *  TWAL: VANE TEMPERATURE                                  *
     *  GAMA: RATIO OF SPECIFIC HEATS                           *
     *  MACH: RATIO OF INLET VELOCITY TO SPEED OF SOUND         *
     *  T0:   INLET STAGNATION TEMPERATURE                      *
     *  P0:   INLET STAGNATION PRESSURE                         *
     *  H0:   INLET STAGNATION ENTHALPY                         *
     *  RAIR: GAS CONSTANT FOR AIR                              *
     *  SONIC:SPEED OF SOUND AT THE INLET TO VANE               *
     *  RHOIN:DENSITY OF AIR AT THE INLET                       *
     *  KEIN: INLET TURBULENT KINETIC ENERGY                    *
     *  EPIN: INLET DISSIPATION OF TURB KE                      *
     *  NZ1:  NUMBER OF CELLS IN THE DISTANCE L1                *
     *  NZ2:  NUMBER OF CELLS IN THE DISTANCE L2                *
     *  NZ3:  NUMBER OF CELLS IN THE DISTANCE L3                *
     *  NY1:  NUNBER OF CELLS IN THE DISTANCE T                 *
     ************************************************************
REAL(L1,L2,L3,Y1,TE,H,CP,TIN,WIN,TWAL,PIN,MACH,RAIR,GAMA,T0,P0)
REAL(SONIC,RHOIN,H0,KEIN,EPIN)
INTEGER(NZ1,NZ2,NZ3,NY1)
     *
     * For supersonic flow: Mach=3.2; P0=55. E05; T0=555.5
     * For all laminar flow problems all coding involving KE and EP is
     * omitted, as is coding for the turbulence model
     *
L1=.0292;L2=.0908;TE=6.35E-3;H=.065;Y1=8.75E-4;NZ1=5;NZ2=15;NZ3=25
NY1=6;GAMA=1.35;MACH=.5;T0=208.5;TWAL=323.0;P0=1.2362E05
RAIR=287.;L3=.010;CP=RAIR/(1.-1./GAMA);H0=CP*T0
TIN=T0/(1.+(((GAMA-1.)/2.)*(MACH**2)))
PIN=P0/(1.+(((GAMA-1.)/2.)*(MACH**2)))**(GAMA/(GAMA-1.))
RHOIN=PIN/(RAIR*TIN);SONIC=(GAMA*RAIR*TIN)**.5;WIN=MACH*SONIC
KEIN=.01*WIN**2;EPIN=.16*KEIN**1.5/(H*2)
     GROUP 1. Run title and other preliminaries
TEXT(WEDGE VANE SUBSONIC TURBULENT FLOW)
     GROUP 2. Transience; time-step specification
     GROUP 3. X-direction grid specification
     GROUP 4. Y-direction grid specification
NY=20
     GROUP 5. Z-direction grid specification
NZ=29
```

```
     *
     * The grid and domain was generated using 24 SETPT's and
     * establishing a DOMAIN and SETLIN's for each area that has a
     * change in geometry or where the grid is more compact.
     *
     GROUP 6. Body-fitted coordinates or grid distortion
BFC=T
NONORT=T
SETPT(NX+1,1,1,1.0,0.0,0.0)
SETPT(NX+1,1,NZ1,1.0,0.0,L1)
SETPT(NX+1,1,NZ2,1.0,TE,.12)
SETPT(NX+1,1,NZ+1,1.0,TE,.15)
SETPT(1,1,1,0.0,0.0,0.0)
SETPT(1,1,NZ1,0.0,0.0,L1)
SETPT(1,1,NZ2,0.0,TE,L1+L2)
SETPT(1,1,NZ+1,0.0,TE,.15)
SETPT(NX+1,NY+1,1,1.0,H,0.0)
SETPT(NX+1,NY+1,NZ1,1.0,H,L1)
SETPT(NX+1,NY+1,NZ2,1.0,H,L1+L2)
SETPT(NX+1,NY+1,NZ+1,1.0,H,.15)
SETPT(1,NY+1,1,0.0,H,0.0)
SETPT(1,NY+1,NZ1,0.0,H,L1)
SETPT(1,NY+1,NZ2,0.0,H,L1+L2)
SETPT(1,NY+1,NZ+1,0.0,H,.15)
SETPT(NX+1,NY1,1,1.0,Y1,0.0)
SETPT(1,NY1,1,0.0,Y1,0.0)
SETPT(NX+1,NY1,NZ+1,1.0,TE+Y1,.15)
SETPT(1,NY1,NZ+1,0.0,TE+Y1,.15)
SETPT(1,1,NZ3,0.0,TE,L1+L2+L3)
SETPT(1,NY+1,NZ3,0.0,H,L1+L2+L3)
SETPT(NX+1,1,NZ3,1.0,TE,L1+L2+L3)
SETPT(NX+1,NY+1,NZ3,1.0,H,L1+L2+L3)
DOMAIN(1,NX+1,1,NY1,1,1)
SETLIN(ZC,ZF)
SETLIN(YC,YF+LNJ*(YL-YF))
DOMAIN(1,NX+1,1,NY1,NZ+1,NZ+1)
SETLIN(ZC,ZL)
SETLIN(YC,YF+LNJ*(YL-YF))
DOMAIN(1,NX+1,NY1,NY+1,1,1)
SETLIN(ZC,ZF)
SETLIN(YC,YF+LNJ*(YL-YF))
DOMAIN(1,NX+1,NY1,NY+1,NZ+1,NZ+1)
SETLIN(ZC,ZL)
SETLIN(YC,YF+LNJ*(YL-YF))
DOMAIN(1,NX+1,1,1,1,NZ1)
SETLIN(YC,YF)
SETLIN(ZC,ZF+LNK*(ZL-ZF))
DOMAIN(1,NX+1,NY+1,NY+1,1,NZ1)
SETLIN(YC,YL)
SETLIN(ZC,ZF+LNK*(ZL-ZF))
DOMAIN(1,NX+1,1,1,NZ1,NZ2)
SETLIN(YC,LNK*TE)
SETLIN(ZC,ZF+LNK*(ZL-ZF))
DOMAIN(1,NX+1,NY+1,NY+1,NZ1,NZ2)
SETLIN(YC,YL)
SETLIN(ZC,ZF+LNK*(ZL-ZF))
DOMAIN(1,NX+1,1,1,NZ2,NZ3)
SETLIN(YC,YF)
SETLIN(ZC,ZF+LNK*(ZL-ZF))
DOMAIN(1,NX+1,NY+1,NY+1,NZ2,NZ3)
SETLIN(YC,YL)
SETLIN(ZC,ZF+LNK*(ZL-ZF))
DOMAIN(1,NX+1,1,1,NZ3,NZ+1)
SETLIN(YC,YF)
SETLIN(ZC,ZF+LNK*(ZL-ZF))
DOMAIN(1,NX+1,NY+1,NY+1,NZ3,NZ+1)
SETLIN(YC,YL)
SETLIN(ZC,ZF+LNK*(ZL-ZF))
DOMAIN(1,NX+1,1,NY+1,1,NZ+1)
MAGIC(T)
```

```
     *
     * For supersonic flow a whole field solution is invoked for P1 and
     * H1 by using SOLUTN(P1,Y,Y,Y,N,N,N)
     *
     GROUP 7. Variables stored, solved & named
SOLVE(P1,W1,V1,H1)
STORE(TMP1,RHO1,VCRT,WCRT,ENUL)
TURMOD(KEMODL)
     GROUP 8. Terms (in differential equations) & devices
     *
     * The method of solution for the non PHOENICS variables is specified
     * below.  Exact equations can found in GREX1 or GROUND.
     *
     GROUP 9. Properties of the medium (or media)
RHO1=GRND5;RHO1B=1/RAIR;PRESS0=0.0
DRH1DP=GRND5;RHO1C=1/GAMA
ENUL=GRND
PRNDTL(H1)=.7
PRL=PRNDTL(H1)
PRT(H1)=.9
RFAC=(PRL)**.5
TMP1=GRND6;TMP1B=CP
     GROUP 10. Inter-phase-transfer processes and properties
     GROUP 11. Initialization of variable or porosity fields
FIINIT(W1)=WIN
FIINIT(P1)=PIN
FIINIT(H1)=H0
FIINIT(KE)=KEIN
FIINIT(EP)=EPIN
RESTRT(ALL)
     GROUP 12. Convection and diffusion adjustments
     *
     * Although the value of the boundary conditions vary between the
     * subsonic and supersonic cases, the method i.e. the actual
     * entries for the PATCH and COVAL do not.  For laminar flow, the
     * coefficient or third argument of the COVAL is set to GRND1.
     *
     GROUP 13. Boundary conditions and special sources
PATCH(INLET,LOW,1,1,1,NY,1,1,1,1)
COVAL(INLET,P1,FIXFLU,RHOIN*WIN)
COVAL(INLET,V1,ONLYMS,0.0)
COVAL(INLET,W1,ONLYMS,WIN)
COVAL(INLET,H1,ONLYMS,H0)
COVAL(INLET,KE,ONLYMS,KEIN)
COVAL(INLET,EP,ONLYMS,EPIN)
     *
PATCH(OUTLET,HIGH,1,1,1,NY,NZ,NZ,1,1)
COVAL(OUTLET,P1,FIXP,1.01325E05)
COVAL(OUTLET,H1,ONLYMS,H0)
     *
PATCH(VANE,SWALL,1,1,1,1,NZ1,NZ,1,1)
COVAL(VANE,W1,GRND2,0.0)
COVAL(VANE,H1,GRND2,CP*TWAL)
COVAL(VANE,KE,GRND2,GRND2)
COVAL(VANE,EP,GRND2,GRND2)
     *
KELIN=1
     GROUP 14. Downstream pressure for PARAB=.TRUE.
     GROUP 15. Termination of sweeps
FSWEEP=301
LSWEEP=500
     GROUP 16. Termination of iterations
     GROUP 17. Under-relaxation devices
     *
     * RELAX's for supersonic flow were of the order of 1. E-5.
     *
RELAX(V1,FALSDT,1.E-3)
RELAX(W1,FALSDT,1.E-2)
RELAX(P1,FALSDT,.3)
     GROUP 18. Limits on variables or increments to them
```

```
VARMAX(P1)=4*PIN
VARMIN(P1)=0.2*PIN
VARMIN(V1)=-200.
VARMAX(V1)=.7*WIN
VARMIN(W1)=-.2*WIN
VARMAX(W1)=1.5*WIN
VARMIN(H1)=TIN*CP
VARMAX(H1)=1.8*TWAL*CP
VARMIN(TMP1)=100.
     GROUP 19. Data communicated by satellite to GROUND
USEGRD=T
     GROUP 20. Preliminary print-out
ECHO=T
     GROUP 21. Print-out of variables
     GROUP 22. Spot-value print-out
IZMON=15;IYMON=3;TSTSWP=10
     GROUP 23. Field print-out and plot control
     GROUP 24. Dumps for restarts
SAVE=T
STOP
```

APPENDIX B
BLUNT VANE Q1 FILE

```
TALK=F;RUN(1,1)
     ************************************************************
     *    TURBULENT SUBSONIC FLOW OVER A BLUNT NOSED VANE       *
     ************************************************************
     *  NOTE: THIS Q1 FILE IS IDENTICAL TO THE PROGRAMS         *
     *        FOR SUBSONIC AND SUPERSONIC FLOW OVER A           *
     *        BLUNT VANE.  ADDITIONALLY WITH THE EXCEPTION      *
     *        OF THE CODING FOR BFC IN GROUP 6 AND THE          *
     *        BOUNDARY CONDITIONS IN GROUP 13 THE CODING AND    *
     *        COMMENT STATEMENTS ARE THE SAME AS IN             *
     *        APPENDIX A AND WILL BE OMITTED FOR THE SAKE       *
     *        OF BREVITY.                                       *
     ************************************************************
     *         LIST OF NON-PHOENICS VARIABLES                   *
     *         USED IN THE SETTING UP THE PROBLEM               *
     *                                                          *
     *  L1:   DOMAIN IN FRONT OF THE VANE                       *
     *  L2:   LENGTH OF THE CURVED PORTION OF THE VANE          *
     *  L3:   LENGTH OF THE INCLINED PORTION OF THE VANE        *
     *  TE:   VANE HEIGHT                                       *
     *  H:    TOTAL HEIGHT IN Y DIRECTION                       *
     *  CP:   SPECIFIC HEAT OF THE AIR                          *
     *  TIN:  INLET STATIC TEMPERATURE                          *
     *  PIN:  INLET STATIC PRESSURE                             *
     *  WIN:  AIR VELOCITY AT THE INLET IN M/S                  *
     *  TWAL: VANE TEMPERATURE                                  *
     *  GAMA: RATIO OF SPECIFIC HEATS                           *
     *  MACH: RATIO OF INLET VELOCITY TO SPEED OF SOUND         *
     *  T0:   STAGNATION TEMPERATURE                            *
     *  P0:   STAGNATION PRESSURE                               *
     *  H0:   STAGNATION ENTHALPY
     *  RAIR: GAS CONSTANT FOR AIR                              *
     *  SONIC:SPEED OF SOUND AT THE INLET TO VANE               *
     *  RHOIN:DENSITY OF AIR AT THE INLET                       *
     *  KEIN: INLET TURBULENT KINETIC ENERGY                    *
     *  EPIN: INLET DISSIPATION OF TURBULENT KE                 *
     *  NZ1:  Z POINT OF THE DISTANCE L1                        *
     *  NZ2:  Z POINT OF THE DISTANCE L1 + L2                   *
     *  NZ3:  Z POINT OF THE DISTANCE L1 + L2 + L3              *
     *  NZ4:  Z POINT OF THE DISTANCE L1 + L2 + L3 + L4         *
     *  NY1:  Y POINT OF THE DISTANCE Y1                         *
     *  NY2:  Y POINT OF THE DISTANCE Y1 + Y2                   *
     ************************************************************
REAL(L1,L2,L3,L4,TE,H,CP,KN,TIN,WIN,TWAL,PIN,MACH,RAIR,GAMA,T0,P0)
REAL(SONIC,RHOIN,H0,RH0,PRL,RFAC,Y1,Y2,LER,KEIN,EPIN)
INTEGER(NZ1,NZ2,NZ3,NZ4,NY1,NY2)
     *
L1=.04272;L2=9.45E-4;L3=.07634;L4=.010;TE=6.35E-3;H=.065;Y1=1.E-4
Y2=1.E-3;LER=1.013E-3;NZ1=7;NZ2=10;NZ3=19;NZ4=25;NY1=2;NY2=7
GAMA=1.35;MACH=.5;T0=208.5;TWAL=323.0
P0=1.2362E05;RAIR=287.;CP=RAIR/(1.-1./GAMA);H0=CP*T0
TIN=T0/(1.+(((GAMA-1.)/2.)*(MACH**2)))
PIN=P0/(1.+(((GAMA-1.)/2.)*(MACH**2)))**(GAMA/(GAMA-1.))
RHOIN=PIN/(RAIR*TIN);RH0=P0/(RAIR*T0)
SONIC=(GAMA*RAIR*TIN)**.5;WIN=MACH*SONIC
KEIN=.01*WIN**2;EPIN=.16*KEIN**1.5/(2*H)
     GROUP 1. Run title and other preliminaries
TEXT(BLUNT VANE SUBSONIC TURBULENT FLOW)
     GROUP 2. Transience; time-step specification
     GROUP 3. X-direction grid specification
     GROUP 4. Y-direction grid specification
```

```
NY=20
     GROUP 5. Z-direction grid specification
NZ=30
     *
     * This particular grid and domain were generated with 40 SETPT's.
     * The DOMAIN's and SETLIN's are similiar to those in Appendix A
     * in that they are linear with the exception of the function used
     * to generate the rounded nose of the vane, which uses a function
     * derived from the equation of a circle.
     *
     GROUP 6. Body-fitted coordinates or grid distortion
BFC=T
NONORT=T
SETPT(NX+1,1,1,1.0,0.0,0.0)
SETPT(NX+1,1,NZ1,1.0,0.0,L1)
SETPT(NX+1,NY1,NZ1,1.0,Y1,L1)
SETPT(NX+1,NY1,NZ2,1.0,LER,L1+L2)
SETPT(NX+1,NY1,NZ3,1.0,TE,L1+L2+L3)
SETPT(NX+1,NY1,NZ+1,1.0,TE,.15)
SETPT(NX+1,NY1,NZ4,1.0,TE,L1+L2+L3+L4)
SETPT(1,1,1,0.0,0.0,0.0)
SETPT(1,1,NZ1,0.0,0.0,L1)
SETPT(1,NY1,NZ1,0.0,Y1,L1)
SETPT(1,NY1,NZ2,0.0,LER,L1+L2)
SETPT(1,NY1,NZ3,0.0,TE,L1+L2+L3)
SETPT(1,NY1,NZ4,0.0,TE,L1+L2+L3+L4)
SETPT(1,NY1,NZ+1,0.0,TE,.15)
SETPT(NX+1,NY+1,1,1.0,H,0.0)
SETPT(NX+1,NY+1,NZ1,1.0,H,L1)
SETPT(NX+1,NY+1,NZ2,1.0,H,L1+L2)
SETPT(NX+1,NY+1,NZ3,1.0,H,L1+L2+L3)
SETPT(NX+1,NY+1,NZ4,1.0,H,L1+L2+L3+L4)
SETPT(NX+1,NY+1,NZ+1,1.0,H,.15)
SETPT(1,NY+1,1,0.0,H,0.0)
SETPT(1,NY+1,NZ1,0.0,H,L1)
SETPT(1,NY+1,NZ2,0.0,H,L1+L2)
SETPT(1,NY+1,NZ3,0.0,H,L1+L2+L3)
SETPT(1,NY+1,NZ4,0.0,H,L1+L2+L3+L4)
SETPT(1,NY+1,NZ+1,0.0,H,.15)
SETPT(NX+1,NY1,1,1.0,Y1,0.0)
SETPT(1,NY1,1,0.0,Y1,0.0)
SETPT(NX+1,NY2,NZ+1,1.0,TE+Y2,.15)
SETPT(1,NY2,NZ+1,0.0,TE+Y2,.15)
SETPT(1,NY2,1,0.0,Y1+Y2,0.0)
SETPT(NX+1,NY2,1,1.0,Y1+Y2,0.0)
SETPT(1,1,NZ+1,0.0,0.0,.15)
SETPT(NX+1,1,NZ+1,1.0,0.0,.15)
SETPT(1,1,NZ2,0.0,0.0,L1+L2)
SETPT(1,1,NZ3,0.0,0.0,L1+L2+L3)
SETPT(1,1,NZ4,0.0,0.0,L1+L2+L3+L4)
SETPT(NX+1,1,NZ2,1.0,0.0,L1+L2)
SETPT(NX+1,1,NZ3,1.0,0.0,L1+L2+L3)
SETPT(NX+1,1,NZ4,1.0,0.0,L1+L2+L3+L4)
DOMAIN(1,NX+1,NY2,NY+1,1,1)
SETLIN(ZC,ZF)
SETLIN(YC,YF+LNJ*(YL-YF))
DOMAIN(1,NX+1,NY2,NY+1,NZ+1,NZ+1)
SETLIN(ZC,ZL)
SETLIN(YC,YF+LNJ*(YL-YF))
DOMAIN(1,NX+1,NY1,NY2,1,1)
SETLIN(ZC,ZF)
SETLIN(YC,YF+LNJ*(YL-YF))
DOMAIN(1,NX+1,NY1,NY2,NZ+1,NZ+1)
SETLIN(ZC,ZL)
SETLIN(YC,YF+LNJ*(YL-YF))
DOMAIN(1,NX+1,1,1,1,NZ1)
SETLIN(YC,YF)
SETLIN(ZC,ZF+LNK*(ZL-ZF))
DOMAIN(1,NX+1,NY+1,NY+1,1,NZ1)
SETLIN(YC,YL)
```

```
SETLIN(ZC,ZF+LNK*(ZL-ZF))
DOMAIN(1,NX+1,NY1,NY1,NZ2,NZ3)
SETLIN(YC,LER+(LNK*(TE-LER)))
SETLIN(ZC,ZF+LNK*(ZL-ZF))
DOMAIN(1,NX+1,NY+1,NY+1,NZ1,NZ2)
SETLIN(YC,YL)
SETLIN(ZC,ZF+LNK*(ZL-ZF))
DOMAIN(1,NX+1,NY1,NY1,NZ3,NZ4)
SETLIN(YC,YF)
SETLIN(ZC,ZF+LNK*(ZL-ZF))
DOMAIN(1,NX+1,NY+1,NY+1,NZ2,NZ3)
SETLIN(YC,YL)
SETLIN(ZC,ZF+LNK*(ZL-ZF))
DOMAIN(1,NX+1,NY1,NY1,NZ4,NZ+1)
SETLIN(YC,YF)
SETLIN(ZC,ZF+LNK*(ZL-ZF))
DOMAIN(1,NX+1,NY+1,NY+1,NZ4,NZ+1)
SETLIN(YC,YL)
SETLIN(ZC,ZF+LNK*(ZL-ZF))
DOMAIN(1,NX+1,NY+1,NY+1,NZ3,NZ4)
SETLIN(YC,YL)
SETLIN(ZC,ZF+LNK*(ZL-ZF))
DOMAIN(1,NX+1,NY1,NY1,NZ1,NZ2)
SETLIN(ZC,ZF+LNK*(ZL-ZF))
SETLIN(YC,(1.0322E-6-(((.04264+(LNK*9.4E-4))-.043651)**2))**.5)
DOMAIN(1,NX+1,1,1,NZ1,NZ2)
SETLIN(YC,YF)
SETLIN(ZC,ZF+LNK*(ZL-ZF))
DOMAIN(1,NX+1,1,1,NZ2,NZ3)
SETLIN(YC,YF)
SETLIN(ZC,ZF+LNK*(ZL-ZF))
DOMAIN(1,NX+1,1,1,NZ3,NZ4)
SETLIN(YC,YF)
SETLIN(ZC,ZF+LNK*(ZL-ZF))
DOMAIN(1,NX+1,1,1,NZ4,NZ+1)
SETLIN(YC,YF)
SETLIN(ZC,ZF+LNK*(ZL-ZF))
DOMAIN(1,NX+1,1,NY+1,1,NZ+1)
MAGIC(T)
     GROUP 7. Variables stored, solved & named
SOLVE(P1,W1,V1,H1)
STORE(TMP1,RHO1,VCRT,WCRT,ENUL)
TURMOD(KEMODL)
     GROUP 8. Terms (in differential equations) & devices
     GROUP 9. Properties of the medium (or media)
RHO1=GRND5;RHO1B=1/RAIR;PRESS0=0.0
DRH1DP=GRND5;RHO1C=1/GAMA
ENUL=GRND
PRNDTL(H1)=.7
PRL=PRNDTL(H1)
PRT(H1)=.9
RFAC=(PRL)**.5
TMP1=GRND6;TMP1B=CP
     GROUP 10. Inter-phase-transfer processes and properties
     GROUP 11. Initialization of variable or porosity fields
FIINIT(W1)=WIN
FIINIT(P1)=PIN
FIINIT(H1)=H0
FIINIT(KE)=KEIN
FIINIT(EP)=EPIN
CONPOR(0.0,CELL,1,1,1,1,NZ1,NZ)
RESTRT(ALL)
     GROUP 12. Convection and diffusion adjustments
     *
     * Boundary conditions are set below as described in Appendix A.
     * Vane boundaries are set using 2 PATCH commands.  One to encompass
     * the top surface of the vane to include the curved portion, the
     * the inclined surface and the shoulder.  The other sets the
     * conditions at the vertical/normal section.
     *
```

```
     GROUP 13. Boundary conditions and special sources
PATCH(INLET,LOW,1,1,1,NY,1,1,1,1)
COVAL(INLET,P1,FIXFLU,RHOIN*WIN)
COVAL(INLET,V1,ONLYMS,0.0)
COVAL(INLET,W1,ONLYMS,WIN)
COVAL(INLET,H1,ONLYMS,H0)
COVAL(INLET,KE,ONLYMS,KEIN)
COVAL(INLET,EP,ONLYMS,EPIN)
     *
PATCH(OUTLET,HIGH,1,1,2,NY,NZ,NZ,1,1)
COVAL(OUTLET,P1,FIXP,1.01325E05)
COVAL(OUTLET,H1,ONLYMS,H0)
     *
PATCH(TVANE,SWALL,1,1,NY1,NY1,NZ1,NZ,1,1)
COVAL(TVANE,V1,GRND2,0.0)
COVAL(TVANE,W1,GRND2,0.0)
COVAL(TVANE,H1,GRND2,CP*TWAL)
COVAL(TVANE,KE,GRND2,GRND2)
COVAL(TVANE,EP,GRND2,GRND2)
     *
PATCH(YVANE,LWALL,1,1,1,1,NZ1,NZ1,1,1)
COVAL(YVANE,V1,GRND2,0.0)
COVAL(YVANE,W1,GRND2,0.0)
COVAL(YVANE,H1,GRND2,CP*TWAL)
COVAL(YVANE,KE,GRND2,GRND2)
COVAL(YVANE,EP,GRND2,GRND2)
     *
PATCH(VANE,CELL,1,1,1,1,NZ1,NZ,1,1)
COVAL(VANE,H1,FIXVAL,CP*TWAL)
     KELIN=1
     GROUP 14. Downstream pressure for PARAB=.TRUE.
     GROUP 15. Termination of sweeps
FSWEEP=401
LSWEEP=550
     GROUP 16. Termination of iterations
     GROUP 17. Under-relaxation devices
RELAX(V1,FALSDT,1.E-2)
RELAX(W1,FALSDT,1.E-3)
RELAX(P1,FALSDT,3.E-1)
     GROUP 18. Limits on variables or increments to them
VARMAX(P1)=4*PIN
VARMIN(P1)=0.2*PIN
VARMIN(V1)=-200.
VARMAX(V1)=.7*WIN
VARMIN(W1)=-.2*WIN
VARMAX(W1)=1.5*WIN
VARMIN(H1)=TIN*CP
VARMAX(H1)=1.8*TWAL*CP
VARMIN(TMP1 =100.
     GROUP 19. Data communicated by satellite to GROUND
USEGRD=T
     GROUP 20. Preliminary print-out
ECHO=T
     GROUP 21. Print-out of variables
     GROUP 22. Spot-value print-out
IZMON=19;IYMON=2;TSTSWP=10
     GROUP 23. Field print-out and plot control
     GROUP 24. Dumps for restarts
SAVE=T
STOP
```

APPENDIX C
GROUND FILE

```
      PROGRAM MAIN
C THIS IS THE MAIN PROGRAM OF EARTH
C FILE NAME GROUND.FTN--------------------------------16 July 1986
C
C   (C) COPYRIGHT 1984, LAST REVISION 1986.
C   CONCENTRATION HEAT AND MOMENTUM LTD. ALL RIGHTS RESERVED.
C   This subroutine and the remainder of the PHOENICS code are
C   proprietary software owned by Concentration Heat and Momentum
C   Limited, 40 High Street, Wimbledon, London SW19 5AU, England.
C
C
C     PROGRAM MAIN
C
C 1   The following two COMMON's, which appear identically in the
C     satellite MAIN program, allow up to 25 dependent variables to
C     be solved for (or their storage spaces to be occupied by
C     other variables, such as density). If a larger number is
C     required, the 25's should be replaced, in the next 8 lines,
C     by the required larger number; and the 100 in COMMON/F01/
C     should be replaced by 4 times the required number. Numbers
C     less than 25 are not permitted.
C
      COMMON/LGE1/L1(25)/LGE2/L2(25)/LGE3/L3(25)/LGE4/L4(25)
     1/LDB1/L5(25)/IDA1/I1(25)/IDA2/I2(25)/IDA3/I3(25)/IDA4/I4(25)
     1/IDA5/I5(25)/IDA6/I6(25)/GI1/I7(25)/GI2/I8(25)/HDA1/IH1(25)
     1/GH1/IH2(25)/RDA1/R1(25)/RDA2/R2(25)/RDA3/R3(25)/RDA4/R4(25)
     1/RDA5/R5(25)/RDA6/R6(25)/RDA7/R7(25)/RDA8/R8(25)/RDA9/R9(25)
     1/RDA10/R10(25)/RDA11/R11(25)
     1/GR1/R12(25)/GR2/R13(25)/GR3/R14(25)/GR4/R15(25)
     1/IPIP1/IP1(25)/HPIP2/IHP2(25)/RPIP1/RVAL(25)/LPIP1/LVAL(25)
     1/IFPL/IPL0(25)/RFPL1/ORPRIN(25)/RFPL2/ORMAX(25)
     1/RFPL3/ORMIN(25)/RFPL4/CELAV(25)
      LOGICAL L1,L2,L3,L4,L5,DBGFIL,LVAL
      CHARACTER*4 IH1,IH2,IHP2,NSDA
C
      COMMON/F01/I9(100)
      COMMON/DISC/DBGFIL
      EXTERNAL WAYOUT
C
C 2   Set dimensions of data-for-GROUND arrays here. WARNING: the
C     corresponding arrays in the MAIN program of the satellite
C     (see SATLIT) must have the same dimensions.
      COMMON/LGRND/LG(20)/IGRND/IG(20)/RGRND/RG(100)/CGRND/CG(10)
      LOGICAL LG
      CHARACTER*4 CG
C
C 3   Set dimensions of data-for-GREX1 arrays here. WARNING: the
C     corresponding arrays in the MAIN program of the satellite
C     (see SATLIT) must have the same dimensions.
      COMMON/LSG/LSGD(20)/ISG/ISGD(20)/RSG/RSGD(100)/CSG/CSGD(10)
      LOGICAL LSGD
      CHARACTER*4 CSGD
C
C 4   Set dimension of patch-name array here. WARNING: the array
C     NAMPAT in the MAIN program of the satellite must have the
C     dimension.
      COMMON/NPAT/NAMPAT(100)
      CHARACTER*8 NAMPAT
C
C     Declare local CHARACTER variables.
      CHARACTER NDUM4*4,NDUM6*6,NDUM15*15
```

```
C
C 5   The numbers in the next two statements (which must be ident-
C     ical) indicate how much computer memory is to be set aside
C     for storing the main and auxiliary variables. The user may
C     alter them if he wishes, to accord with the number of
C     grid nodes and dependent variables he is concerned with.
      COMMON F(200000)
      NFDIM=200000
C
C 6   Logical-unit numbers and file names, not to be changed.
      DBGFIL=.FALSE.
      CALL DSCEAR(14,LUPR3,'  ',15,NDUM15,-11,16)
      CALL DSCEAR(6,LUDUM,'  ',4,NDUM4,9,33)
      CALL DSCEAR(-10,LUSDA,'  ',4,NSDA,0,0)
      CALL DSCEAR(-14,LUPR1,'  ',15,NDUM15,0,0)
      CALL DSCEAR(21,LUDST,'  ',4,NDUM4,9,33)
C
C     User may here change message transmitted to logical unit
C     LUPR3
      CALL WRIT40('GROUND STATION IS GROUND.FTN 11 JULY 86 ')
      CALL MAIN1(NFDIM,LUPR1,LUPR3,LUSDA,NSDA)
      CALL WAYOUT(0)
      STOP
      END
C*****************************************************************
      SUBROUTINE GROSTA
C (C) COPYRIGHT 1984, LAST REVISION 1986.
C  CONCENTRATION HEAT AND MOMENTUM LTD. ALL RIGHTS RESERVED.
      INCLUDE (SATEAR)
      INCLUDE (GRDLOC)
      INCLUDE (GRDEAR)
C.... This subroutine directs control to the GROUNDs selected by
C     the satellite settings of USEGRX, NAMGRD & USEGRD.
C          Subroutine GREX1 contains much standard material, eg.
C     options for fluid properties, several turbulence models,
C     wall functions, etc.
C
            IF(USEGRX) CALL GREX1
C
C.... ESTER is for electrolytic-smelter modelling of the Hall-cell
C     and Soderberg types used in the reduction of aluminium.
C
            IF(NAMGRD.EQ.'ESTR') CALL ESTRGR
C
C.... SCRS contains the simple-chemical-reaction-model of
C     combustion, the theoretical basis of which is found in the
C     book "Combustion & Mass Transfer" by D B Spalding (1979)
C     This ground also contains geometrical features of a
C     simplified can combustor.
C
            IF(NAMGRD.EQ.'SCRS') CALL SCRSGR
C
C.... A more advanced model of a combustor is given in COMBGR.
C
            IF(NAMGRD.EQ.'COMB') CALL COMBGR
C
C.... WJETGR shows how to represent non-isotropic effects in the
C     turbulence of a wall jet.
C
            IF(NAMGRD.EQ.'WJET') CALL WJETGR
C
C.... TRACGR contains software for tracking fluid interfaces by
C     means of a set of imaginary particles which follow the motion
C
            IF(NAMGRD.EQ.'TRAC') CALL TRACGR
C
C.... PARTGR is used to solve for the motion of particles slipping
C     relative to the host fluid. A spectrum of particle sizes can
C     can be represented. Each particle is characterized by a size,
C     an interphase friction coefficient, an evaporation rate & a
```

```
C     temperature.
C
            IF(NAMGRD.EQ.'PART') CALL PARTGR
C
C.... RADIGR provides the coding sequences required to activate
C     the so-called six-flux radiation model.
C
            IF(NAMGRD.EQ.'RADI') CALL RADIGR
C
C.... GAUSGR provides the Gauss-Seidel solver as an alternative
C     to the whole-field linear equation solver provided in EARTH.
C
            IF(NAMGRD.EQ.'GAUS') CALL GAUSGR
C
C.... NOZLGR provides initial conditions & special print out for
C     a convergent-divergent nozzle case for which body-fitted
C     coordinates are used.
C
            IF(NAMGRD.EQ.'NOZL') CALL NOZLGR
C
C.... AEROGR provides inlet boundary conditions & initial conditions
C     for a one-half C grid for an aerofoil.
C
            IF(NAMGRD.EQ.'AERO') CALL AEROGR
C
C.... POLRGR specifies uniform flow boundary conditions into
C     a polar domain of 360 degree extent.
C
            IF(NAMGRD.EQ.'POLR') CALL POLRGR
C
C.... BTSTGR contains the sequenses used in conjunction with
C     the BFC test battery.
C
            IF(NAMGRD.EQ.'BTST') CALL BTSTGR
C
C.... TESTGR contains test battery sequences used in conjunction
C     with the test-battery SATLIT subroutine, TESTST.
C
            IF(NAMGRD.EQ.'TEST') CALL TESTGR
C
C.... SPECGR is a generic "special" GROUND the name of which can
C     be used by anyone for their own purposes.
C
            IF(NAMGRD.EQ.'SPEC') CALL SPECGR
C
C.... The model ground is for the insertion of new user sequences.
C
            IF(USEGRD) CALL GROUND
C
C.... The data echo is now called at the preliminary print stage.
C
            IF(IGR.NE.20) RETURN
            IF(.NOT.ECHO) GO TO 20
         CALL DATPRN(Y,Y,Y,Y,  Y,Y,Y,Y,  Y,Y,Y,N,  Y,Y,Y,Y,
        1           Y,Y,Y,Y,  Y,Y,Y,Y)
         RETURN
      20 CALL DATPRN(Y,N,N,N,N,N,N,N,N,N,N,N,N,N,N,N,N,N,N,N,N,N,N,N)
         RETURN
         END
C*************************************************************
         SUBROUTINE GROUND
C (C) COPYRIGHT 1984, LAST REVISION 1986.
C  CONCENTRATION HEAT AND MOMENTUM LTD. ALL RIGHTS RESERVED.
         INCLUDE (SATEAR)
         INCLUDE (GRDLOC)
         INCLUDE (GRDEAR)
         INTEGER HIGH,OLD,AUX,SOUTH,NORTH,EAST,WEST
         LOGICAL STORE,SOLVE,PRINT
CXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX USER SECTION STARTS:
C
```

```
C 1   Set dimensions of data-for-GROUND arrays here. WARNING: the
C     corresponding arrays in the MAIN program of the satellite
C     and EARTH must have the same dimensions.
       COMMON/LGRND/LG(20)/IGRND/IG(20)/RGRND/RG(100)/CGRND/CG(10)
       LOGICAL LG
       CHARACTER*4 CG
C
C 2   User dimensions own arrays here, for example:
C     DIMENSION UUH(10,10),UUC(10,10),UUX(10,10),UUZ(10)
       PARAMETER(MY=20,MX=1)
       DIMENSION GV1(MY,MX),GW1(MY,MX),GTMP1(MY,MX),GRHO1(MY,MX)
       DIMENSION GH1(MY,MX),GENUL(MY,MX),GMACH(MY,MX),GHC(MY,MX)
       DIMENSION GST(MY,MX),GCF(MY,MX),GQ(MY,MX),GTAU(MY,MX)
       COMMON CP,GAMA,RAIR,PRL,RFAC
C
C 3   User places his data statements here, for example:
C     DATA NXDIM,NYDIM/10,10/
C
C 4   Index functions for GROUND-EARTH variable references.
       LOW(I)=NPHI+I
       HIGH(I)=2*NPHI+I
       OLD(I)=3*NPHI+I
       IN(I)=4*NPHI+I
       STORE(I)=MOD(ISLN(I),2).EQ.0
       SOLVE(I)=MOD(ISLN(I),3).EQ.0
       PRINT(I)=MOD(IPRN(I),2).EQ.0
       SOUTH(I)=-(KF(I)-1)
       NORTH(I)=-(KF(I)+1)
       EAST(I)=-(KF(I)+NY)
       WEST(I)=-(KF(I)-NY)
C
C 5   Insert own coding below as desired, guided by GREX1 examples.
C     Note that the satellite-to-GREX1 special data in the labelled
C     COMMONs /RSG/, /ISG/, /LSG/ and /CSG/ can be included and
C     used below but the user must check GREX1 for any conflicting
C     uses. The same comment applies to the EARTH-spare working
C     arrays EASP1, EASP2,....EASP10. If the call to GREX1 has been
C     deactivated then they can all be used without reservation.
C
       IXL=IABS(IXL)
            IF(IGR.EQ.13) GO TO 13
            IF(IGR.EQ.19) GO TO 19
       GO TO (1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,
      122,23,24),IGR
C*********************************************************************
C
C--- GROUP 1. Run title and other preliminaries
C
     1 GO TO (1001,1002),ISC
 1001 CONTINUE
       RETURN
 1002 CONTINUE
       RETURN
C*********************************************************************
C
C--- GROUP 2. Transience; time-step specification
C
     2 CONTINUE
       RETURN
C*********************************************************************
C
C--- GROUP 3. X-direction grid specification
C
     3 CONTINUE
       RETURN
C*********************************************************************
C
C--- GROUP 4. Y-direction grid specification
C
     4 CONTINUE
```

```
      RETURN
C*********************************************************************
C
C--- GROUP 5. Z-direction grid specification
C
     5 CONTINUE
      RETURN
C*********************************************************************
C
C--- GROUP 6. Body-fitted coordinates or grid distortion
C
     6 CONTINUE
      RETURN
C*********************************************************************
C
C--- GROUP 7. Variables stored, solved & named
     7 CONTINUE
      RETURN
C*********************************************************************
C
C--- GROUP 8. Terms (in differential equations) & devices
C
     8 GO TO (81,82,83,84,85,86,87,88,89,810,811,812,813,814,815)
       1,ISC
    81 CONTINUE
C   * ------------------- SECTION  1 --------------------------
C    For U1AD.LE.GRND--- phase 1 additional velocity (VELAD).
      RETURN
    82 CONTINUE
C   * ------------------- SECTION  2 --------------------------
C    For U2AD.LE.GRND--- phase 2 additional velocity (VELAD).
      RETURN
    83 CONTINUE
C   * ------------------- SECTION  3 --------------------------
C    For V1AD.LE.GRND--- phase 1 additional velocity (VELAD).
      RETURN
    84 CONTINUE
C   * ------------------- SECTION  4 --------------------------
C    For V2AD.LE.GRND--- phase 2 additional velocity (VELAD).
      RETURN
    85 CONTINUE
C   * ------------------- SECTION  5 --------------------------
C    For W1AD.LE.GRND--- phase 1 additional velocity (VELAD).
      RETURN
    86 CONTINUE
C   * ------------------- SECTION  6 --------------------------
C    For W2AD.LE.GRND--- phase 2 additional velocity (VELAD).
      RETURN
    87 CONTINUE
C   * ------------------- SECTION 7 ---- VOLUMETRIC SOURCE FOR GALA
      RETURN
    88 CONTINUE
C   * ------------------- SECTION 8 --- CONVECTION FLUXES
      RETURN
    89 CONTINUE
C   * ------------------- SECTION 9 --- DIFFUSION COEFFICIENTS
      RETURN
   810 CONTINUE
C   * ------------------- SECTION 10 --- CONVECTION NEIGHBOURS
      RETURN
   811 CONTINUE
C   * ------------------- SECTION 11 --- DIFFUSION NEIGHBOURS
      RETURN
   812 CONTINUE
C   * ------------------- SECTION 12 --- LINEARISED SOURCES
      RETURN
   813 CONTINUE
C   * ------------------- SECTION 13 --- CORRECTION COEFFICIENTS
      RETURN
   814 CONTINUE
```

```
C   * ------------------- SECTION 14 --- USER'S SOLVER
        RETURN
  815 CONTINUE
C   * ------------------- SECTION 15 --- CHANGE SOLUTION
        RETURN
C   * Make all other group-8 changes in group 19.
C*********************************************************************
C
C--- GROUP 9. Properties of the medium (or media)
C
C   The sections in this group are arranged sequentially in their
C   order of calling from EARTH. Thus, as can be seen from below,
C   the temperature sections (10 and 11) precede the density
C   sections (1 and 3); so, density formulae can refer to
C   temperature stores already set.
     9 GO TO (91,92,93,94,95,96,97,98,99,900,901,902,903),ISC
C*********************************************************************
  900 CONTINUE
C   * ------------------- SECTION 10 -------------------------
C    For TMP1.LE.GRND--------- phase-1 temperature Index AUX(TEMP1)
        RETURN
  901 CONTINUE
C   * ------------------- SECTION 11 -------------------------
C    For TMP2.LE.GRND--------- phase-2 temperature Index AUX(TEMP2)
        RETURN
  902 CONTINUE
C   * ------------------- SECTION 12 -------------------------
C    For EL1.LE.GRND---------- phase-1 length scale Index AUX(LEN1)
        RETURN
  903 CONTINUE
C   * ------------------- SECTION 13 -------------------------
C    For EL2.LE.GRND---------- phase-2 length scale Index AUX(LEN2)
        RETURN
   91 CONTINUE
C   * ------------------- SECTION  1 -------------------------
C    For RHO1.LE.GRND--- density for phase 1 Index AUX(DEN1).
  965 CONTINUE
        RETURN
   92 CONTINUE
C   * ------------------- SECTION  2 -------------------------
C    For DRH1DP.LE.GRND--- D(LN(DEN))/DP for phase 1 (D1DP).
        RETURN
   93 CONTINUE
C   * ------------------- SECTION  3 -------------------------
C    For RHO2.LE.GRND--- density for phase 2 Index AUX(DEN2).
        RETURN
   94 CONTINUE
C   * ------------------- SECTION  4 -------------------------
C    For DRH2DP.LE.GRND--- D(LN(DEN))/DP for phase 2 (D2DP).
        RETURN
   95 CONTINUE
C   * ------------------- SECTION  5 -------------------------
C    For ENUT.LE.GRND--- reference turbulent kinematic viscosity.
        RETURN
   96 CONTINUE
C   * ------------------- SECTION  6 -------------------------
C    For ENUL.LE.GRND--- reference laminar kinematic viscosity.
        CALL FN31(AUX(VISL),AUX(TEMP1),AUX(DEN1),4.08E-7,.666,-1.0)
        RETURN
   97 CONTINUE
C   * ------------------- SECTION  7 -------------------------
C    For PRNDTL( ).LE.GRND--- laminar PRANDTL nos., or diffusivity.
        RETURN
   98 CONTINUE
C   * ------------------- SECTION  8 -------------------------
C    For PHINT( ).LE.GRND--- interface value of first phase(FII1).
        RETURN
   99 CONTINUE
C   * ------------------- SECTION  9 -------------------------
C    For PHINT( ).LE.GRND--- interface value of second phase(FII2)
```

```
      RETURN
C*****************************************************************
C
C--- GROUP 10. Inter-phase-transfer processes and properties
C
   10 GO TO (101,102,103,104),ISC
  101 CONTINUE
C   * -------------------- SECTION  1 --------------------------
C    For CFIPS.LE.GRND--- inter-phase friction coeff. AUX(INTFRC).
      RETURN
  102 CONTINUE
C   * -------------------- SECTION  2 --------------------------
C    For CMDOT.EQ.GRND- inter-phase mass transfer Index AUX(INTMDT)
      RETURN
  103 CONTINUE
C   * -------------------- SECTION  3 --------------------------
C    For CINT( ).EQ.GRND--- phase1-to-interface transfer
C                                              coefficients (COI1)
      RETURN
  104 CONTINUE
C   * -------------------- SECTION  4 --------------------------
C    For CINT( ).EQ.GRND--- phase2-to-interface transfer
C                                              coefficients (COI2)
      RETURN
C*****************************************************************
C
C--- GROUP 11. Initialization of variable or porosity fields
C
   11 CONTINUE
      RETURN
C*****************************************************************
C
C--- GROUP 12. Convection and diffusion adjustments
C
   12 CONTINUE
      RETURN
C*****************************************************************
C
C--- GROUP 13. Boundary conditions and special sources
C
   13 CONTINUE
      GO TO (130,131,132,133,134,135,136,137,138,139,1310,
     11311,1312,1313,1314,1315,1316,1317,1318,1319,1320,1321),ISC
  130 CONTINUE
C------------------- SECTION  1 ------------ coefficient = GRND
  131 CONTINUE
C------------------- SECTION  2 ------------ coefficient = GRND1
      RETURN
  132 CONTINUE
C------------------- SECTION  3 ------------ coefficient = GRND2
      RETURN
  133 CONTINUE
C------------------- SECTION  4 ------------ coefficient = GRND3
      RETURN
  134 CONTINUE
C------------------- SECTION  5 ------------ coefficient = GRND4
      RETURN
  135 CONTINUE
C------------------- SECTION  6 ------------ coefficient = GRND5
      RETURN
  136 CONTINUE
C------------------- SECTION  7 ------------ coefficient = GRND6
      RETURN
  137 CONTINUE
C------------------- SECTION  8 ------------ coefficient = GRND7
      RETURN
  138 CONTINUE
C------------------- SECTION  9 ------------ coefficient = GRND8
      RETURN
  139 CONTINUE
```

```
C------------------- SECTION 10 ------------ coefficient = GRND9
      RETURN
 1310 CONTINUE
C------------------- SECTION 11 ------------ coefficient = GRND10
      RETURN
 1311 CONTINUE
C------------------- SECTION 12 -------------------- value = GRND
 1351 CONTINUE
      RETURN
 1312 CONTINUE
C------------------- SECTION 13 -------------------- value = GRND1
      RETURN
 1313 CONTINUE
C------------------- SECTION 14 -------------------- value = GRND2
      RETURN
 1314 CONTINUE
C------------------- SECTION 15 -------------------- value = GRND3
      RETURN
 1315 CONTINUE
C------------------- SECTION 16 -------------------- value = GRND4
      RETURN
 1316 CONTINUE
C------------------- SECTION 17 -------------------- value = GRND5
      RETURN
 1317 CONTINUE
C------------------- SECTION 18 -------------------- value = GRND6
      RETURN
 1318 CONTINUE
C------------------- SECTION 19 -------------------- value = GRND7
      RETURN
 1319 CONTINUE
C------------------- SECTION 20 -------------------- value = GRND8
      RETURN
 1320 CONTINUE
C------------------- SECTION 21 -------------------- value = GRND9
      RETURN
 1321 CONTINUE
C------------------- SECTION 22 -------------------- value = GRND10
      RETURN
C*****************************************************************
C
C--- GROUP 14. Downstream pressure for PARAB=.TRUE.
C
   14 CONTINUE
      RETURN
C*****************************************************************
C
C--- GROUP 15. Termination of sweeps
C
   15 CONTINUE
C   * Make changes for this group only in group 19.
      RETURN
C*****************************************************************
C
C--- GROUP 16. Termination of iterations
C
   16 CONTINUE
C   * Make changes for this group only in group 19.
      RETURN
C*****************************************************************
C
C--- GROUP 17. Under-relaxation devices
C
   17 CONTINUE
C   * Make changes for this group only in group 19.
      RETURN
C*****************************************************************
C
C--- GROUP 18. Limits on variables or increments to them
C
```

```
   18 CONTINUE
C   * Make changes for this group only in group 19.
       RETURN
C*****************************************************************
C
C--- GROUP 19. Special calls to GROUND from EARTH
C
   19 GO TO (191,192,193,194,195,196,197,198),ISC
  191 CONTINUE
C   * ------------------- SECTION 1 ---- START OF TIME STEP.
       RETURN
  192 CONTINUE
C   * ------------------- SECTION 2 ---- START OF SWEEP.
       RETURN
  193 CONTINUE
C   * ------------------- SECTION 3 ---- START OF IZ SLAB.
       RETURN
  194 CONTINUE
C   * ------------------- SECTION 4 ---- START OF ITERATION.
       RETURN
  195 CONTINUE
C   * ------------------- SECTION 5 ---- FINISH OF ITERATION.
       RETURN
  196 CONTINUE
C   * ------------------- SECTION 6 ---- FINISH OF IZ SLAB.
C     OPEN (UNIT = 10, FILE = 'DATA')
C     CALL GETYX(V1,GV1,MY,MX)
C     CALL GETYX(W1,GW1,MY,MX)
C     CALL GETYX(AUX(TEMP1),GTMP1,MY,MX)
C     CALL GETYX(AUX(DEN1),GRHO1,MY,MX)
C     CALL GETYX(H1,GH1,MY,MX)
C     CALL GETYX(AUX(VISL),GENUL,MY,MX)
C     DO 1000 I=1,MY
C     GSONIC = (GAMA*RAIR*GTMP1(I,1))**.5
C     GVEL = (GV1(I,1)**2 + GW1(I,1)**2)**.5
C     IF((IZ .EQ. 10) .AND. (IY .EQ. 1) .AND.
C    1(ISWEEP .EQ. LSWEEP))THEN
C     WRITE(10,*) 'GV1 =', GV1(1,1)
C     WRITE(10,*) 'GTMP1 =', GTMP1(1,1)
C     WRITE(10,*) 'GW1 =', GW1(1,1)
C     END IF
C1000 GMACH(I,1) = GVEL/GSONIC
C     CALL SETYX(C1,GMACH,MY,MX)
C     CALL GETONE(AUX(TEMP1),TINF,MY,1)
C     CALL GETONE(C1,MINF,MY,1)
C     CALL GETONE(W1,WINF,MY,1)
C     CALL GETONE(AUX(DEN1),RHOI,MY,1)
C     GTR = TINF*(1 + (RFAC*(GAMA - 1.))*(MINF**2)/2)
C     DO 1010 I=1,MY
C     GQ(I,1)=(GRHO1(I,1)*GENUL(I,1)/.7)*((GH1(I,1)-CP*TWAL)/2.5E-4)
C     GHC(I,1) = GQ(I,1)/(GTR - TWAL)
C     GST(I,1) = GHC(I,1)/(RHOI*WINF*CP)
C     GTAU(I,1) = GRHO1(I,1)*GENUL(I,1)*GW1(I,1)/2.5E-4
C1010 GCF(I,1) = 2*GTAU(I,1)/(RHOI*WINF**2)
C     CALL SETYX(C2,GHC,MY,MX)
C     CALL SETYX(C3,GST,MY,MX)
C     CALL SETYX(C4,GCF,MY,MX)
C     CLOSE (UNIT = 10)
       RETURN
  197 CONTINUE
C   * ------------------- SECTION 7 ---- FINISH OF SWEEP.
       RETURN
  198 CONTINUE
C   * ------------------- SECTION 8 ---- FINISH OF TIME STEP.
       RETURN
C*****************************************************************
C
C--- GROUP 20. Preliminary print-out
C
   20 CONTINUE
```

```
      RETURN
C*****************************************************************
C
C--- GROUP 21. Print-out of variables
C
   21 CONTINUE
C   * Make changes for this group only in group 19.
      RETURN
C*****************************************************************
C
C--- GROUP 22. Spot-value print-out
   22 CONTINUE
C   * Make changes for this group only in group 19.
      RETURN
C*****************************************************************
C
C--- GROUP 23. Field print-out and plot control
   23 CONTINUE
      RETURN
C*****************************************************************
C
C--- GROUP 24. Dumps for restarts
C
   24 CONTINUE
      RETURN
      END
```

APPENDIX D
LAMINAR FLOW CALCULATIONS

```
************************************************************************
*                                                                      *
* USING THE DATA FROM A PHOENICS OUTPUT FILE THAT INVOLVES LAMINAR     *
* FLOW, THIS PROGRAM WILL SOLVE FOR THE HEAT TRANSFER COEFFICIENT,     *
* STANTON NUMBER AND FRICTION COEFFICIENT.                             *
*                                                                      *
*     BELOW ARE SOME OF THE VARIABLES USED:                            *
*     V1 = THE VALUE OF THE V1 FIELD ALONG THE TOP OF THE VANE         *
*     V2 = THE VALUE OF THE V1 FIELD AT THE TOP OF THE DOMAIN          *
*     W1 = THE VALUE OF THE W1 FIELD ALONG THE TOP OF THE VANE         *
*     W2 = THE VALUE OF THE W1 FIELD AT THE TOP OF THE DOMAIN          *
*     TMP1 = THE VALUE OF THE TEMPERATURE FIELD ALONG THE VANE         *
*     TMP2 = THE VALUE OF THE TEMPERATURE FIELD AT THE TOP OF THE      *
*            DOMAIN                                                    *
*     RHO1 = THE VALUE OF THE DENSITY FIELD ALONG THE VANE             *
*     RHO2 = THE VALUE OF THE DENSITY FIELD AT THE TOP OF THE DOMAIN   *
*     H1 = THE VALUE OF THE ENTHALPY FIELD ALONG THE VANE              *
*     ENUL = THE VALUE OF THE VISCOSITY ALONG THE VANE                 *
*     MACH = MACH NUMBER, SOLVED FOR IN PROGRAM FOR LATER USE          *
*     QW = HEAT FLUX AT THE WALL                                       *
*     TAU = SHEAR STRESS AT THE WALL                                   *
*     HST = STATIC ENTHALPY                                            *
*     REFT = REFERENCE TEMPERATURE                                     *
*     ZDIST = THE DISTANCE ALONG THE Z DOMAIN EACH CELL CENTER IS      *
*             FROM THE LEADING EDGE                                    *
*     HCOEF = HEAT TRANSFER COEFFICIENT                                *
*     STAN = STANTON NUMBER                                            *
*     FCOEF = FRICTION COEFFICIENT                                     *
*     DELY = THE DISTANCE FROM THE VANE TO THE CENTER OF THE FIRST     *
*            CELL                                                      *
************************************************************************
      DIMENSION V1(30),V2(30),W1(30),W2(30),TMP1(30),TMP2(30),RHO1(30)
      DIMENSION RHO2(30),H1(30),ENUL(30),MACH(30),QW(30),TAU(30)
      DIMENSION HST(30),REFT(30),ZDIST(30),HCOEF(30),STAN(30),FCOEF(30)
      PRINT*, 'ENTER THE NUMBER OF CELLS ALONG THE VANE'
      READ*, ICELL
      PRINT*, 'ENTER THE VALUES FOR W1 (ALONG THE VANE SURFACE)'
      READ*, (W1(I), I=1,ICELL)
      PRINT*, 'ENTER THE VALUES FOR TMP1 (ALONG THE VANE SURFACE)'
      READ*, (TMP1(I), I=1,ICELL)
      PRINT*, 'ENTER THE VALUES FOR W2 (FREESTREAM)'
      READ*, (W2(I), I=1,ICELL)
      PRINT*, 'ENTER THE VALUES FOR TMP2 (FREESTEAM)'
      READ*, (TMP2(I), I=1,ICELL)
      PRINT*, 'ENTER THE VALUES FOR V1 (ALONG THE VANE SURFACE)'
      READ*, (V1(I), I=1,ICELL)
      PRINT*, 'ENTER THE VALUES FOR V2 (FREESTREAM)'
      READ*, (V2(I), I=1,ICELL)
      PRINT*, 'ENTER THE VALUES FOR RHO1 (ALONG THE VANE SURFACE)'
      READ*, (RHO1(I), I=1,ICELL)
      PRINT*, 'ENTER THE VALUES FOR RHO2 (FREESTREAM)'
      READ*, (RHO2(I), I=1,ICELL)
      PRINT*, 'ENTER THE VALUES FOR H1'
      READ*, (H1(I), I=1,ICELL)
      PRINT*, 'ENTER THE VALUES FOR ENUL'
      READ*, (ENUL(I), I=1,ICELL)
      PRINT*, 'ENTER THE CELL CENTERS ALONG THE VANE'
      READ*, (ZDIST(I), I=1,ICELL)
      PRINT*, 'ENTER THE VALUE OF THE FIRST CELL HALF DISTANCE'
      READ*, DELY
*
```

```
* VARIABLES TAKEN FROM THE Q1 FILE FOR USE IN THE SOLUTION PROCESS.
*
      PRL = .7
      RFAC = SQRT(PRL)
      GAMA = 1.35
      TWAL = 323.
      CP = 1107.
      RAIR = 287.
      DO 50 I=1,ICELL
          SONIC = SQRT(GAMA*RAIR*TMP2(I))
          VEL = SQRT(W2(I)**2 + V2(I)**2)
          MACH(I) = VEL/SONIC
          KE = (W1(I)**2 + V1(I)**2)/2
          HST(I) = H1(I)*1.E05 - KE
          QW(I) = RHO1(I)*ENUL(I)*1.E-5/(PRL)*((HST(I)-CP*TWAL)/DELY)
          REFT(I) = TMP2(I)*(1.+RFAC*(GAMA-1.)/2.*MACH(I)**2)
          HCOEF(I) = QW(I)/(REFT(I) -TWAL)
          STAN(I) = HCOEF(I)/(RHO2(I)*W2(I)*CP)
          TAU(I) = RHO1(I)*ENUL(I)*1.E-5*W1(I)/DELY
          FCOEF(I) = 2*TAU(I)/(RHO2(I)*W2(I)**2)
 50   CONTINUE
      WRITE(10,100)
100   FORMAT(1X,'Z-DIST',3X,'HTXFER COEF',3X,'STANTON #',3X,
     1'FRICTION CO',/)
      DO 200 I=1,ICELL
          WRITE(10,150) ZDIST(I), HCOEF(I), STAN(I), FCOEF(I)
150     FORMAT(1X,F6.2,1X,3E14.4)
200   CONTINUE
      STOP
      END
```

APPENDIX E
TURBULENT FLOW CALCULATIONS

```
**********************************************************************
*                                                                    *
*  THIS PROGRAM IS SIMILIAR TO THE PROGRAM THAT SOLVES FOR HEAT      *
*  TRANSFER COEFFICIENT, STANTON NUMBER AND FRICTION COEFFICIENT,    *
*  IN A LAMINAR FLOW ENVIRONMENT.  THE ONLY DIFFERENCE IS THAT THIS  *
*  PROGRAM INCORPORATES THE EQUATIONS FOR TURBULENT FLOW.  VARIABLES *
*  ARE AS DEFINED AS BEFORE WITH THE FOLLOWING EXCEPTIONS:           *
*                                                                    *
*     XKE = THE VALUE OF THE TURBULENT KINETIC ENERGY ALONG THE VANE *
**********************************************************************
      DIMENSION W2(30),RHO1(30),RHO2(30),XKE(30),ZDIST(30)
      DIMENSION HCOEF(30),STAN(30),FCOEF(30)
      PRINT*, 'ENTER THE NUMBER OF CELLS ALONG THE VANE'
      READ*, ICELL
      PRINT*, 'ENTER THE VALUES FOR W2 (FREESTREAM)'
      READ*, (W2(I), I=1,ICELL)
      PRINT*, 'ENTER THE VALUES FOR RHO1 (ALONG THE VANE SURFACE)'
      READ*, (RHO1(I), I=1,ICELL)
      PRINT*, 'ENTER THE VALUES FOR RHO2 (FREESTREAM)'
      READ*, (RHO2(I), I=1,ICELL)
      PRINT*, 'ENTER THE VALUES FOR KINETIC ENERGY (XKE)'
      READ*, (XKE(I), I=1,ICELL)
      PRINT*, 'ENTER THE CELL CENTERS ALONG THE VANE'
      READ*, (ZDIST(I), I=1,ICELL)
      PRL = .7
      CP = 1107.
      DO 50 I=1,ICELL
          FCOEF(I) = 2*RHO1(I)*XKE(I)/(3.33*RHO2(I)*W2(I)**2)
          STAN(I) = FCOEF(I)/(2*PRL**.666)
          HCOEF(I) = RHO2(I)*W2(I)*CP*STAN(I)
 50   CONTINUE
      WRITE(10,100)
100   FORMAT(1X,'Z-DIST',5X,'HTXFER COEF',3X,'STANTON #',3X,
     1'FRICTION CO',/)
      DO 200 I=1,ICELL
         WRITE(10,150) ZDIST(I), HCOEF(I), STAN(I), FCOEF(I)
150      FORMAT(1X,F6.2,1X,3E14.4)
200   CONTINUE
      STOP
      END
```

APPENDIX F
SUBSONIC LAMINAR WEDGE VANE OUTPUT

```
--- INTEGRATION OF EQUATIONS BEGINS ---
TIME STEP =    1      SWEEP = 500
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS  8.920E+03
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS  1.029E+05
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS  2.143E+05
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS  2.204E+08
TIME STEP =    1      SWEEP = 520
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS  1.119E+04
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS  2.011E+05
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS  6.721E+05
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS  8.559E+07
TIME STEP =    1      SWEEP = 540
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS  8.565E+03
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS  1.053E+05
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS  5.202E+05
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS  1.060E+08
TIME STEP =    1      SWEEP = 560
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS  1.004E+04
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS  1.462E+05
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS  3.150E+05
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS  8.648E+07
TIME STEP =    1      SWEEP = 580
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS  8.298E+03
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS  1.606E+05
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS  5.795E+05
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS  2.114E+08
************************************************************
TIME STP=     1 SWEEP NO=   600 ZSLAB NO=    15 ITERN NO=     1
TIME STEP =    1      SWEEP = 600
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS  8.509E+03
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS  1.240E+05
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS  5.796E+05
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS  1.215E+08
************************************************************
TIME STP=     1 SWEEP NO=   600 ZSLAB NO=    29 ITERN NO=     1

FLOW FIELD AT ITHYD=   1, ISWEEP= 600, ISTEP=   1
YZPR  IX=     1
FIELD VALUES OF P1
IY= 20  1.060E+05  1.064E+05  1.064E+05  1.064E+05  1.062E+05
IY= 19  1.061E+05  1.064E+05  1.065E+05  1.064E+05  1.062E+05
IY= 18  1.061E+05  1.064E+05  1.065E+05  1.064E+05  1.063E+05
IY= 17  1.061E+05  1.065E+05  1.065E+05  1.064E+05  1.063E+05
IY= 16  1.061E+05  1.065E+05  1.066E+05  1.065E+05  1.063E+05
IY= 15  1.062E+05  1.066E+05  1.066E+05  1.065E+05  1.064E+05
IY= 14  1.062E+05  1.066E+05  1.067E+05  1.066E+05  1.065E+05
IY= 13  1.063E+05  1.067E+05  1.068E+05  1.067E+05  1.066E+05
IY= 12  1.063E+05  1.068E+05  1.069E+05  1.068E+05  1.067E+05
IY= 11  1.064E+05  1.069E+05  1.070E+05  1.069E+05  1.068E+05
IY= 10  1.064E+05  1.069E+05  1.071E+05  1.071E+05  1.070E+05
IY=  9  1.065E+05  1.070E+05  1.072E+05  1.073E+05  1.072E+05
IY=  8  1.065E+05  1.071E+05  1.073E+05  1.074E+05  1.075E+05
IY=  7  1.066E+05  1.072E+05  1.074E+05  1.077E+05  1.079E+05
IY=  6  1.066E+05  1.072E+05  1.075E+05  1.079E+05  1.085E+05
IY=  5  1.066E+05  1.072E+05  1.075E+05  1.079E+05  1.091E+05
IY=  4  1.066E+05  1.072E+05  1.075E+05  1.079E+05  1.091E+05
IY=  3  1.066E+05  1.072E+05  1.075E+05  1.079E+05  1.092E+05
IY=  2  1.066E+05  1.072E+05  1.075E+05  1.079E+05  1.093E+05
IY=  1  1.066E+05  1.072E+05  1.075E+05  1.079E+05  1.093E+05
```

IZ=	1	2	3	4	5
IY= 20	1.060E+05	1.057E+05	1.054E+05	1.050E+05	1.045E+05
IY= 19	1.060E+05	1.057E+05	1.054E+05	1.050E+05	1.045E+05
IY= 18	1.060E+05	1.057E+05	1.054E+05	1.050E+05	1.045E+05
IY= 17	1.061E+05	1.057E+05	1.054E+05	1.050E+05	1.045E+05
IY= 16	1.061E+05	1.058E+05	1.054E+05	1.050E+05	1.045E+05
IY= 15	1.062E+05	1.058E+05	1.054E+05	1.050E+05	1.045E+05
IY= 14	1.062E+05	1.059E+05	1.055E+05	1.050E+05	1.045E+05
IY= 13	1.063E+05	1.059E+05	1.055E+05	1.050E+05	1.045E+05
IY= 12	1.064E+05	1.060E+05	1.055E+05	1.051E+05	1.045E+05
IY= 11	1.065E+05	1.061E+05	1.056E+05	1.051E+05	1.045E+05
IY= 10	1.067E+05	1.062E+05	1.056E+05	1.051E+05	1.045E+05
IY= 9	1.068E+05	1.063E+05	1.057E+05	1.051E+05	1.045E+05
IY= 8	1.070E+05	1.063E+05	1.057E+05	1.051E+05	1.045E+05
IY= 7	1.072E+05	1.064E+05	1.057E+05	1.051E+05	1.045E+05
IY= 6	1.074E+05	1.065E+05	1.057E+05	1.051E+05	1.045E+05
IY= 5	1.074E+05	1.065E+05	1.057E+05	1.051E+05	1.045E+05
IY= 4	1.075E+05	1.065E+05	1.057E+05	1.051E+05	1.045E+05
IY= 3	1.075E+05	1.065E+05	1.057E+05	1.051E+05	1.045E+05
IY= 2	1.075E+05	1.065E+05	1.057E+05	1.051E+05	1.045E+05
IY= 1	1.075E+05	1.064E+05	1.057E+05	1.051E+05	1.045E+05
IZ=	6	7	8	9	10
IY= 20	1.041E+05	1.037E+05	1.032E+05	1.029E+05	1.025E+05
IY= 19	1.041E+05	1.037E+05	1.032E+05	1.028E+05	1.025E+05
IY= 18	1.041E+05	1.037E+05	1.032E+05	1.028E+05	1.025E+05
IY= 17	1.041E+05	1.036E+05	1.032E+05	1.028E+05	1.024E+05
IY= 16	1.041E+05	1.036E+05	1.032E+05	1.028E+05	1.024E+05
IY= 15	1.041E+05	1.036E+05	1.032E+05	1.027E+05	1.024E+05
IY= 14	1.041E+05	1.036E+05	1.031E+05	1.027E+05	1.023E+05
IY= 13	1.041E+05	1.036E+05	1.031E+05	1.026E+05	1.022E+05
IY= 12	1.040E+05	1.035E+05	1.030E+05	1.025E+05	1.021E+05
IY= 11	1.040E+05	1.035E+05	1.029E+05	1.024E+05	1.020E+05
IY= 10	1.040E+05	1.035E+05	1.029E+05	1.023E+05	1.019E+05
IY= 9	1.040E+05	1.034E+05	1.028E+05	1.022E+05	1.017E+05
IY= 8	1.040E+05	1.034E+05	1.027E+05	1.020E+05	1.013E+05
IY= 7	1.040E+05	1.034E+05	1.027E+05	1.018E+05	1.008E+05
IY= 6	1.040E+05	1.034E+05	1.026E+05	1.016E+05	9.951E+04
IY= 5	1.039E+05	1.033E+05	1.026E+05	1.015E+05	9.792E+04
IY= 4	1.039E+05	1.033E+05	1.026E+05	1.015E+05	9.791E+04
IY= 3	1.039E+05	1.033E+05	1.026E+05	1.015E+05	9.791E+04
IY= 2	1.039E+05	1.033E+05	1.026E+05	1.015E+05	9.790E+04
IY= 1	1.039E+05	1.033E+05	1.026E+05	1.015E+05	9.790E+04
IZ=	11	12	13	14	15
IY= 20	1.024E+05	1.023E+05	1.023E+05	1.023E+05	1.022E+05
IY= 19	1.024E+05	1.023E+05	1.023E+05	1.023E+05	1.022E+05
IY= 18	1.024E+05	1.023E+05	1.023E+05	1.022E+05	1.022E+05
IY= 17	1.023E+05	1.023E+05	1.023E+05	1.022E+05	1.022E+05
IY= 16	1.023E+05	1.023E+05	1.022E+05	1.022E+05	1.022E+05
IY= 15	1.023E+05	1.022E+05	1.022E+05	1.021E+05	1.021E+05
IY= 14	1.022E+05	1.022E+05	1.021E+05	1.021E+05	1.020E+05
IY= 13	1.021E+05	1.021E+05	1.020E+05	1.020E+05	1.020E+05
IY= 12	1.020E+05	1.020E+05	1.019E+05	1.019E+05	1.019E+05
IY= 11	1.019E+05	1.019E+05	1.018E+05	1.018E+05	1.018E+05
IY= 10	1.017E+05	1.017E+05	1.016E+05	1.016E+05	1.016E+05
IY= 9	1.015E+05	1.015E+05	1.014E+05	1.014E+05	1.014E+05
IY= 8	1.012E+05	1.011E+05	1.011E+05	1.011E+05	1.011E+05
IY= 7	1.006E+05	1.005E+05	1.006E+05	1.006E+05	1.007E+05
IY= 6	9.924E+04	9.945E+04	9.973E+04	1.000E+05	1.002E+05
IY= 5	9.875E+04	9.925E+04	9.961E+04	9.990E+04	1.002E+05
IY= 4	9.874E+04	9.924E+04	9.961E+04	9.989E+04	1.002E+05
IY= 3	9.874E+04	9.924E+04	9.960E+04	9.989E+04	1.002E+05
IY= 2	9.874E+04	9.924E+04	9.960E+04	9.989E+04	1.002E+05
IY= 1	9.874E+04	9.924E+04	9.960E+04	9.989E+04	1.002E+05
IZ=	16	17	18	19	20
IY= 20	1.022E+05	1.022E+05	1.021E+05	1.021E+05	1.021E+05
IY= 19	1.022E+05	1.022E+05	1.021E+05	1.021E+05	1.021E+05
IY= 18	1.022E+05	1.021E+05	1.021E+05	1.021E+05	1.020E+05
IY= 17	1.021E+05	1.021E+05	1.021E+05	1.021E+05	1.020E+05
IY= 16	1.021E+05	1.021E+05	1.021E+05	1.020E+05	1.020E+05
IY= 15	1.021E+05	1.020E+05	1.020E+05	1.020E+05	1.020E+05

IY= 14	1.020E+05	1.020E+05	1.020E+05	1.019E+05	1.019E+05
IY= 13	1.019E+05	1.019E+05	1.019E+05	1.019E+05	1.018E+05
IY= 12	1.019E+05	1.018E+05	1.018E+05	1.018E+05	1.018E+05
IY= 11	1.017E+05	1.017E+05	1.017E+05	1.017E+05	1.017E+05
IY= 10	1.016E+05	1.016E+05	1.016E+05	1.016E+05	1.015E+05
IY= 9	1.014E+05	1.014E+05	1.014E+05	1.014E+05	1.014E+05
IY= 8	1.011E+05	1.011E+05	1.012E+05	1.012E+05	1.012E+05
IY= 7	1.008E+05	1.009E+05	1.009E+05	1.010E+05	1.011E+05
IY= 6	1.004E+05	1.006E+05	1.008E+05	1.009E+05	1.010E+05
IY= 5	1.004E+05	1.006E+05	1.008E+05	1.009E+05	1.010E+05
IY= 4	1.004E+05	1.006E+05	1.008E+05	1.009E+05	1.010E+05
IY= 3	1.004E+05	1.006E+05	1.008E+05	1.009E+05	1.010E+05
IY= 2	1.004E+05	1.006E+05	1.008E+05	1.009E+05	1.010E+05
IY= 1	1.004E+05	1.006E+05	1.008E+05	1.009E+05	1.010E+05
IZ=	21	22	23	24	25
IY= 20	1.020E+05	1.018E+05	1.017E+05	1.016E+05	
IY= 19	1.019E+05	1.018E+05	1.017E+05	1.016E+05	
IY= 18	1.019E+05	1.018E+05	1.017E+05	1.016E+05	
IY= 17	1.019E+05	1.018E+05	1.017E+05	1.016E+05	
IY= 16	1.019E+05	1.018E+05	1.017E+05	1.016E+05	
IY= 15	1.019E+05	1.018E+05	1.017E+05	1.016E+05	
IY= 14	1.018E+05	1.017E+05	1.017E+05	1.016E+05	
IY= 13	1.018E+05	1.017E+05	1.017E+05	1.016E+05	
IY= 12	1.017E+05	1.017E+05	1.016E+05	1.016E+05	
IY= 11	1.016E+05	1.016E+05	1.016E+05	1.016E+05	
IY= 10	1.015E+05	1.016E+05	1.016E+05	1.016E+05	
IY= 9	1.014E+05	1.015E+05	1.016E+05	1.016E+05	
IY= 8	1.013E+05	1.014E+05	1.015E+05	1.016E+05	
IY= 7	1.012E+05	1.014E+05	1.015E+05	1.016E+05	
IY= 6	1.012E+05	1.013E+05	1.015E+05	1.016E+05	
IY= 5	1.012E+05	1.013E+05	1.014E+05	1.016E+05	
IY= 4	1.012E+05	1.013E+05	1.014E+05	1.016E+05	
IY= 3	1.012E+05	1.013E+05	1.014E+05	1.015E+05	
IY= 2	1.012E+05	1.013E+05	1.014E+05	1.015E+05	
IY= 1	1.012E+05	1.013E+05	1.014E+05	1.015E+05	
IZ=	26	27	28	29	

FIELD VALUES OF V1

IY= 19	4.820E-02	1.239E-01	2.014E-01	2.804E-01	3.767E-01
IY= 18	1.043E-01	2.473E-01	4.022E-01	5.616E-01	7.538E-01
IY= 17	1.580E-01	3.699E-01	6.021E-01	8.435E-01	1.136E+00
IY= 16	2.095E-01	4.900E-01	8.002E-01	1.126E+00	1.524E+00
IY= 15	2.582E-01	6.056E-01	9.944E-01	1.409E+00	1.919E+00
IY= 14	3.033E-01	7.141E-01	1.182E+00	1.691E+00	2.327E+00
IY= 13	3.428E-01	8.117E-01	1.358E+00	1.969E+00	2.748E+00
IY= 12	3.740E-01	8.932E-01	1.517E+00	2.240E+00	3.189E+00
IY= 11	3.938E-01	9.504E-01	1.647E+00	2.496E+00	3.655E+00
IY= 10	3.975E-01	9.727E-01	1.732E+00	2.723E+00	4.160E+00
IY= 9	3.798E-01	9.463E-01	1.747E+00	2.896E+00	4.725E+00
IY= 8	3.360E-01	8.548E-01	1.655E+00	2.966E+00	5.400E+00
IY= 7	2.624E-01	6.813E-01	1.403E+00	2.826E+00	6.278E+00
IY= 6	1.609E-01	4.177E-01	9.271E-01	2.249E+00	7.583E+00
IY= 5	4.202E-02	7.697E-02	1.884E-01	7.276E-01	9.790E+00
IY= 4	3.272E-02	6.192E-02	1.516E-01	5.983E-01	9.908E+00
IY= 3	2.571E-02	4.659E-02	1.141E-01	4.606E-01	9.959E+00
IY= 2	1.716E-02	3.110E-02	7.625E-02	3.163E-01	9.736E+00
IY= 1	8.583E-03	1.556E-02	3.818E-02	1.639E-01	8.279E+00
IZ=	1	2	3	4	5
IY= 19	4.632E-01	5.307E-01	5.785E-01	6.041E-01	6.078E-01
IY= 18	9.278E-01	1.065E+00	1.159E+00	1.207E+00	1.214E+00
IY= 17	1.400E+00	1.608E+00	1.749E+00	1.820E+00	1.830E+00
IY= 16	1.883E+00	2.163E+00	2.347E+00	2.440E+00	2.452E+00
IY= 15	2.379E+00	2.734E+00	2.964E+00	3.078E+00	3.092E+00
IY= 14	2.897E+00	3.327E+00	3.600E+00	3.733E+00	3.747E+00
IY= 13	3.440E+00	3.948E+00	4.259E+00	4.403E+00	4.415E+00
IY= 12	4.018E+00	4.603E+00	4.943E+00	5.093E+00	5.105E+00
IY= 11	4.642E+00	5.299E+00	5.659E+00	5.810E+00	5.812E+00
IY= 10	5.328E+00	6.044E+00	6.407E+00	6.547E+00	6.543E+00
IY= 9	6.097E+00	6.846E+00	7.187E+00	7.304E+00	7.291E+00
IY= 8	6.979E+00	7.711E+00	8.001E+00	8.079E+00	8.047E+00
IY= 7	8.010E+00	8.638E+00	8.837E+00	8.862E+00	8.806E+00

IY= 6	9.213E+00	9.609E+00	9.669E+00	9.606E+00	9.490E+00
IY= 5	1.044E+01	1.029E+01	9.924E+00	9.470E+00	8.965E+00
IY= 4	1.035E+01	1.004E+01	9.569E+00	9.056E+00	8.519E+00
IY= 3	1.006E+01	9.485E+00	8.809E+00	8.179E+00	7.601E+00
IY= 2	9.249E+00	8.311E+00	7.385E+00	6.570E+00	5.983E+00
IY= 1	6.600E+00	4.939E+00	3.547E+00	2.508E+00	2.042E+00
IZ=	6	7	8	9	10
IY= 19	5.925E-01	5.575E-01	5.063E-01	4.401E-01	4.328E-01
IY= 18	1.183E+00	1.112E+00	1.008E+00	8.803E-01	8.680E-01
IY= 17	1.782E+00	1.679E+00	1.520E+00	1.323E+00	1.298E+00
IY= 16	2.391E+00	2.252E+00	2.037E+00	1.762E+00	1.731E+00
IY= 15	3.013E+00	2.838E+00	2.564E+00	2.203E+00	2.164E+00
IY= 14	3.650E+00	3.441E+00	3.104E+00	2.651E+00	2.597E+00
IY= 13	4.307E+00	4.066E+00	3.666E+00	3.104E+00	3.033E+00
IY= 12	4.986E+00	4.715E+00	4.247E+00	3.560E+00	3.473E+00
IY= 11	5.690E+00	5.403E+00	4.872E+00	4.033E+00	3.923E+00
IY= 10	6.421E+00	6.131E+00	5.548E+00	4.528E+00	4.387E+00
IY= 9	7.177E+00	6.908E+00	6.298E+00	5.073E+00	4.881E+00
IY= 8	7.958E+00	7.743E+00	7.157E+00	5.707E+00	5.429E+00
IY= 7	8.750E+00	8.627E+00	8.162E+00	6.542E+00	6.072E+00
IY= 6	9.460E+00	9.443E+00	9.206E+00	7.783E+00	6.630E+00
IY= 5	8.565E+00	8.036E+00	6.894E+00	5.010E+00	2.228E+00
IY= 4	8.100E+00	7.409E+00	6.292E+00	4.468E+00	9.854E-01
IY= 3	7.128E+00	6.500E+00	5.050E+00	3.777E+00	8.156E-01
IY= 2	5.368E+00	4.566E+00	3.644E+00	2.815E+00	1.386E-01
IY= 1	1.986E+00	1.947E+00	1.842E+00	1.883E+00	5.516E-02
IZ=	11	12	13	14	15
IY= 19	4.254E-01	4.181E-01	4.135E-01	4.039E-01	3.966E-01
IY= 18	8.508E-01	8.360E-01	8.213E-01	8.068E-01	7.927E-01
IY= 17	1.275E+00	1.252E+00	1.230E+00	1.207E+00	1.185E+00
IY= 16	1.699E+00	1.667E+00	1.633E+00	1.604E+00	1.573E+00
IY= 15	2.123E+00	2.078E+00	2.036E+00	1.994E+00	1.953E+00
IY= 14	2.542E+00	2.487E+00	2.435E+00	2.378E+00	2.325E+00
IY= 13	2.960E+00	2.892E+00	2.822E+00	2.755E+00	2.685E+00
IY= 12	3.384E+00	3.294E+00	3.206E+00	3.116E+00	3.029E+00
IY= 11	3.807E+00	3.691E+00	3.573E+00	3.461E+00	3.349E+00
IY= 10	4.238E+00	4.084E+00	3.930E+00	3.778E+00	3.635E+00
IY= 9	4.673E+00	4.462E+00	4.253E+00	4.052E+00	3.859E+00
IY= 8	5.120E+00	4.808E+00	4.506E+00	4.222E+00	3.960E+00
IY= 7	5.541E+00	5.022E+00	4.554E+00	4.140E+00	3.784E+00
IY= 6	5.453E+00	4.502E+00	3.771E+00	3.225E+00	2.824E+00
IY= 5	1.409E+00	1.114E+00	9.488E-01	8.113E-01	7.939E-01
IY= 4	8.190E-01	4.556E-01	6.148E-01	5.392E-01	8.509E-01
IY= 3	1.614E-01	2.808E-01	2.525E-01	3.315E-01	2.983E-01
IY= 2	8.750E-02	-1.189E-02	-3.762E-02	-2.124E-01	-1.900E-01
IY= 1	-2.395E-02	-6.989E-02	-1.334E-01	-2.769E-01	-2.341E-01
IZ=	16	17	18	19	20
IY= 19	3.900E-01	3.834E-01	3.770E-01	3.705E-01	3.477E-01
IY= 18	7.787E-01	7.651E-01	7.519E-01	7.393E-01	6.914E-01
IY= 17	1.163E+00	1.142E+00	1.122E+00	1.102E+00	1.028E+00
IY= 16	1.542E+00	1.513E+00	1.484E+00	1.457E+00	1.353E+00
IY= 15	1.913E+00	1.874E+00	1.840E+00	1.799E+00	1.661E+00
IY= 14	2.273E+00	2.222E+00	2.168E+00	2.125E+00	1.946E+00
IY= 13	2.618E+00	2.553E+00	2.491E+00	2.430E+00	2.203E+00
IY= 12	2.944E+00	2.861E+00	2.782E+00	2.706E+00	2.421E+00
IY= 11	3.241E+00	3.137E+00	3.042E+00	2.942E+00	2.587E+00
IY= 10	3.496E+00	3.363E+00	3.238E+00	3.120E+00	2.685E+00
IY= 9	3.678E+00	3.508E+00	3.347E+00	3.208E+00	2.690E+00
IY= 8	3.722E+00	3.508E+00	3.317E+00	3.150E+00	2.567E+00
IY= 7	3.483E+00	3.231E+00	3.022E+00	2.848E+00	2.277E+00
IY= 6	2.528E+00	2.312E+00	2.158E+00	2.051E+00	1.762E+00
IY= 5	8.468E-01	9.018E-01	9.605E-01	1.027E+00	1.216E+00
IY= 4	6.832E-01	7.655E-01	8.443E-01	9.261E-01	1.183E+00
IY= 3	4.163E-01	5.235E-01	6.240E-01	7.248E-01	1.105E+00
IY= 2	1.162E-01	2.227E-01	3.252E-01	4.292E-01	9.274E-01
IY= 1	-1.769E-01	-1.270E-01	-7.429E-02	-1.496E-02	5.357E-01
IZ=	21	22	23	24	25
IY= 19	3.283E-01	3.203E-01	3.136E-01	3.047E-01	
IY= 18	6.526E-01	6.254E-01	6.069E-01	6.128E-01	
IY= 17	9.674E-01	9.201E-01	9.036E-01	9.051E-01	

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IY= 16   1.268E+00   1.208E+00   1.179E+00   1.180E+00
IY= 15   1.548E+00   1.469E+00   1.430E+00   1.432E+00
IY= 14   1.801E+00   1.706E+00   1.650E+00   1.652E+00
IY= 13   2.020E+00   1.895E+00   1.832E+00   1.833E+00
IY= 12   2.195E+00   2.036E+00   1.965E+00   1.966E+00
IY= 11   2.313E+00   2.131E+00   2.037E+00   2.042E+00
IY= 10   2.361E+00   2.152E+00   2.052E+00   2.053E+00
IY=  9   2.323E+00   2.097E+00   1.994E+00   1.990E+00
IY=  8   2.184E+00   1.962E+00   1.850E+00   1.851E+00
IY=  7   1.938E+00   1.738E+00   1.632E+00   1.631E+00
IY=  6   1.566E+00   1.412E+00   1.294E+00   1.257E+00
IY=  5   1.197E+00   1.113E+00   9.181E-01   6.893E-01
IY=  4   1.167E+00   1.087E+00   8.886E-01  -1.455E-01
IY=  3   1.080E+00   1.112E+00   7.969E-01  -1.326E+00
IY=  2   8.697E-01   7.779E-01   6.695E-01  -2.700E+00
IY=  1   4.462E-01   3.451E-01   2.400E-01  -3.368E+00
IZ=     26           27           28           29
FIELD VALUES OF W1
IY= 20        1.377E+02   1.375E+02   1.379E+02   1.384E+02   1.393E+02
IY= 19        1.377E+02   1.375E+02   1.379E+02   1.384E+02   1.393E+02
IY= 18        1.377E+02   1.375E+02   1.378E+02   1.384E+02   1.393E+02
IY= 17        1.376E+02   1.375E+02   1.378E+02   1.383E+02   1.392E+02
IY= 16        1.376E+02   1.374E+02   1.377E+02   1.383E+02   1.392E+02
IY= 15        1.375E+02   1.373E+02   1.376E+02   1.382E+02   1.391E+02
IY= 14        1.375E+02   1.372E+02   1.375E+02   1.380E+02   1.390E+02
IY= 13        1.374E+02   1.371E+02   1.374E+02   1.379E+02   1.389E+02
IY= 12        1.373E+02   1.370E+02   1.372E+02   1.376E+02   1.387E+02
IY= 11        1.372E+02   1.368E+02   1.369E+02   1.373E+02   1.385E+02
IY= 10        1.371E+02   1.366E+02   1.365E+02   1.369E+02   1.382E+02
IY=  9        1.370E+02   1.363E+02   1.361E+02   1.362E+02   1.378E+02
IY=  8        1.369E+02   1.361E+02   1.355E+02   1.352E+02   1.372E+02
IY=  7        1.368E+02   1.358E+02   1.348E+02   1.338E+02   1.366E+02
IY=  6        1.367E+02   1.356E+02   1.342E+02   1.314E+02   1.359E+02
IY=  5        1.366E+02   1.355E+02   1.340E+02   1.292E+02   1.355E+02
IY=  4        1.366E+02   1.354E+02   1.339E+02   1.288E+02   1.349E+02
IY=  3        1.366E+02   1.354E+02   1.338E+02   1.285E+02   1.332E+02
IY=  2        1.366E+02   1.354E+02   1.338E+02   1.282E+02   1.280E+02
IY=  1        1.366E+02   1.354E+02   1.338E+02   1.277E+02   1.063E+02
IZ=            1           2           3           4           5
IY= 20        1.404E+02   1.418E+02   1.432E+02   1.448E+02   1.465E+02
IY= 19        1.404E+02   1.418E+02   1.433E+02   1.449E+02   1.465E+02
IY= 18        1.404E+02   1.418E+02   1.433E+02   1.449E+02   1.466E+02
IY= 17        1.404E+02   1.418E+02   1.434E+02   1.450E+02   1.467E+02
IY= 16        1.404E+02   1.419E+02   1.434E+02   1.451E+02   1.468E+02
IY= 15        1.404E+02   1.419E+02   1.435E+02   1.453E+02   1.470E+02
IY= 14        1.404E+02   1.419E+02   1.436E+02   1.454E+02   1.472E+02
IY= 13        1.403E+02   1.420E+02   1.438E+02   1.456E+02   1.474E+02
IY= 12        1.403E+02   1.421E+02   1.439E+02   1.458E+02   1.477E+02
IY= 11        1.402E+02   1.421E+02   1.441E+02   1.460E+02   1.480E+02
IY= 10        1.401E+02   1.422E+02   1.442E+02   1.462E+02   1.482E+02
IY=  9        1.400E+02   1.422E+02   1.444E+02   1.465E+02   1.485E+02
IY=  8        1.398E+02   1.423E+02   1.445E+02   1.466E+02   1.487E+02
IY=  7        1.397E+02   1.423E+02   1.447E+02   1.468E+02   1.488E+02
IY=  6        1.396E+02   1.422E+02   1.444E+02   1.462E+02   1.478E+02
IY=  5        1.378E+02   1.377E+02   1.358E+02   1.328E+02   1.292E+02
IY=  4        1.358E+02   1.339E+02   1.302E+02   1.258E+02   1.215E+02
IY=  3        1.313E+02   1.263E+02   1.201E+02   1.140E+02   1.090E+02
IY=  2        1.198E+02   1.096E+02   9.966E+01   9.153E+01   8.522E+01
IY=  1        8.359E+01   6.285E+01   4.562E+01   3.267E+01   2.868E+01
IZ=            6           7           8           9          10
IY= 20        1.481E+02   1.496E+02   1.511E+02   1.524E+02   1.527E+02
IY= 19        1.481E+02   1.497E+02   1.511E+02   1.524E+02   1.528E+02
IY= 18        1.482E+02   1.498E+02   1.512E+02   1.525E+02   1.529E+02
IY= 17        1.483E+02   1.499E+02   1.514E+02   1.527E+02   1.531E+02
IY= 16        1.485E+02   1.501E+02   1.516E+02   1.529E+02   1.533E+02
IY= 15        1.487E+02   1.504E+02   1.519E+02   1.532E+02   1.536E+02
IY= 14        1.490E+02   1.507E+02   1.523E+02   1.536E+02   1.540E+02
IY= 13        1.493E+02   1.511E+02   1.527E+02   1.540E+02   1.544E+02
IY= 12        1.496E+02   1.515E+02   1.532E+02   1.546E+02   1.549E+02
IY= 11        1.499E+02   1.519E+02   1.538E+02   1.552E+02   1.556E+02
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IY= 10	1.503E+02	1.524E+02	1.544E+02	1.559E+02	1.564E+02
IY= 9	1.506E+02	1.528E+02	1.551E+02	1.569E+02	1.574E+02
IY= 8	1.509E+02	1.532E+02	1.559E+02	1.581E+02	1.587E+02
IY= 7	1.510E+02	1.535E+02	1.566E+02	1.599E+02	1.608E+02
IY= 6	1.496E+02	1.516E+02	1.545E+02	1.610E+02	1.620E+02
IY= 5	1.241E+02	1.152E+02	9.724E+01	7.041E+01	1.340E+02
IY= 4	1.159E+02	1.061E+02	8.700E+01	6.331E+01	1.066E+02
IY= 3	1.028E+02	9.160E+01	7.114E+01	5.383E+01	7.627E+01
IY= 2	7.685E+01	6.485E+01	5.166E+01	4.195E+01	4.581E+01
IY= 1	2.874E+01	2.819E+01	2.682E+01	2.699E+01	2.221E+01
IZ=	11	12	13	14	15
IY= 20	1.529E+02	1.531E+02	1.532E+02	1.533E+02	1.534E+02
IY= 19	1.530E+02	1.531E+02	1.533E+02	1.534E+02	1.535E+02
IY= 18	1.531E+02	1.532E+02	1.534E+02	1.535E+02	1.536E+02
IY= 17	1.533E+02	1.534E+02	1.535E+02	1.537E+02	1.538E+02
IY= 16	1.535E+02	1.536E+02	1.538E+02	1.539E+02	1.540E+02
IY= 15	1.538E+02	1.539E+02	1.540E+02	1.542E+02	1.543E+02
IY= 14	1.541E+02	1.543E+02	1.544E+02	1.545E+02	1.546E+02
IY= 13	1.546E+02	1.547E+02	1.548E+02	1.550E+02	1.551E+02
IY= 12	1.551E+02	1.553E+02	1.554E+02	1.555E+02	1.556E+02
IY= 11	1.558E+02	1.559E+02	1.560E+02	1.561E+02	1.562E+02
IY= 10	1.566E+02	1.567E+02	1.568E+02	1.569E+02	1.569E+02
IY= 9	1.576E+02	1.577E+02	1.577E+02	1.578E+02	1.578E+02
IY= 8	1.589E+02	1.590E+02	1.590E+02	1.589E+02	1.589E+02
IY= 7	1.609E+02	1.608E+02	1.606E+02	1.603E+02	1.600E+02
IY= 6	1.613E+02	1.603E+02	1.593E+02	1.585E+02	1.578E+02
IY= 5	1.495E+02	1.546E+02	1.563E+02	1.566E+02	1.566E+02
IY= 4	1.297E+02	1.410E+02	1.469E+02	1.499E+02	1.517E+02
IY= 3	1.019E+02	1.178E+02	1.279E+02	1.343E+02	1.387E+02
IY= 2	6.368E+01	8.115E+01	9.466E+01	1.043E+02	1.114E+02
IY= 1	2.442E+01	2.832E+01	3.377E+01	4.142E+01	4.735E+01
IZ=	16	17	18	19	20
IY= 20	1.536E+02	1.537E+02	1.538E+02	1.539E+02	1.543E+02
IY= 19	1.536E+02	1.538E+02	1.539E+02	1.540E+02	1.544E+02
IY= 18	1.537E+02	1.539E+02	1.540E+02	1.541E+02	1.545E+02
IY= 17	1.539E+02	1.540E+02	1.541E+02	1.542E+02	1.546E+02
IY= 16	1.541E+02	1.542E+02	1.543E+02	1.545E+02	1.548E+02
IY= 15	1.544E+02	1.545E+02	1.546E+02	1.547E+02	1.550E+02
IY= 14	1.547E+02	1.548E+02	1.549E+02	1.550E+02	1.553E+02
IY= 13	1.552E+02	1.553E+02	1.553E+02	1.554E+02	1.557E+02
IY= 12	1.557E+02	1.557E+02	1.558E+02	1.559E+02	1.561E+02
IY= 11	1.563E+02	1.563E+02	1.564E+02	1.564E+02	1.565E+02
IY= 10	1.570E+02	1.570E+02	1.570E+02	1.571E+02	1.571E+02
IY= 9	1.578E+02	1.578E+02	1.577E+02	1.578E+02	1.576E+02
IY= 8	1.588E+02	1.587E+02	1.585E+02	1.585E+02	1.581E+02
IY= 7	1.597E+02	1.594E+02	1.592E+02	1.590E+02	1.585E+02
IY= 6	1.572E+02	1.567E+02	1.563E+02	1.561E+02	1.554E+02
IY= 5	1.564E+02	1.562E+02	1.559E+02	1.557E+02	1.552E+02
IY= 4	1.527E+02	1.533E+02	1.536E+02	1.539E+02	1.534E+02
IY= 3	1.418E+02	1.440E+02	1.456E+02	1.469E+02	1.451E+02
IY= 2	1.168E+02	1.210E+02	1.243E+02	1.270E+02	1.203E+02
IY= 1	5.181E+01	5.520E+01	5.770E+01	5.940E+01	4.466E+01
IZ=	21	22	23	24	25
IY= 20	1.547E+02	1.551E+02	1.555E+02		
IY= 19	1.548E+02	1.552E+02	1.556E+02		
IY= 18	1.549E+02	1.553E+02	1.556E+02		
IY= 17	1.550E+02	1.554E+02	1.557E+02		
IY= 16	1.551E+02	1.555E+02	1.558E+02		
IY= 15	1.554E+02	1.557E+02	1.559E+02		
IY= 14	1.556E+02	1.559E+02	1.561E+02		
IY= 13	1.559E+02	1.561E+02	1.563E+02		
IY= 12	1.562E+02	1.564E+02	1.565E+02		
IY= 11	1.566E+02	1.566E+02	1.566E+02		
IY= 10	1.570E+02	1.569E+02	1.568E+02		
IY= 9	1.574E+02	1.572E+02	1.570E+02		
IY= 8	1.578E+02	1.575E+02	1.572E+02		
IY= 7	1.580E+02	1.576E+02	1.572E+02		
IY= 6	1.549E+02	1.544E+02	1.540E+02		
IY= 5	1.547E+02	1.543E+02	1.539E+02		
IY= 4	1.531E+02	1.528E+02	1.526E+02		

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IY=  3        1.435E+02  1.424E+02  1.423E+02
IY=  2        1.143E+02  1.093E+02  1.066E+02
IY=  1        3.281E+01  2.350E+01  1.759E+01
IZ=              26         27         28
FIELD VALUES OF H1
IY= 20  2.308E+05  2.310E+05  2.310E+05  2.310E+05  2.309E+05
IY= 19  2.308E+05  2.310E+05  2.310E+05  2.310E+05  2.309E+05
IY= 18  2.308E+05  2.310E+05  2.310E+05  2.310E+05  2.309E+05
IY= 17  2.308E+05  2.310E+05  2.310E+05  2.310E+05  2.309E+05
IY= 16  2.308E+05  2.310E+05  2.310E+05  2.310E+05  2.309E+05
IY= 15  2.308E+05  2.310E+05  2.311E+05  2.310E+05  2.309E+05
IY= 14  2.308E+05  2.310E+05  2.311E+05  2.310E+05  2.310E+05
IY= 13  2.308E+05  2.310E+05  2.311E+05  2.310E+05  2.310E+05
IY= 12  2.308E+05  2.311E+05  2.311E+05  2.311E+05  2.310E+05
IY= 11  2.308E+05  2.311E+05  2.311E+05  2.311E+05  2.311E+05
IY= 10  2.308E+05  2.311E+05  2.312E+05  2.312E+05  2.311E+05
IY=  9  2.308E+05  2.311E+05  2.312E+05  2.312E+05  2.312E+05
IY=  8  2.308E+05  2.311E+05  2.312E+05  2.313E+05  2.313E+05
IY=  7  2.308E+05  2.311E+05  2.313E+05  2.314E+05  2.315E+05
IY=  6  2.308E+05  2.311E+05  2.313E+05  2.315E+05  2.319E+05
IY=  5  2.308E+05  2.311E+05  2.313E+05  2.315E+05  2.324E+05
IY=  4  2.308E+05  2.311E+05  2.313E+05  2.315E+05  2.328E+05
IY=  3  2.308E+05  2.311E+05  2.313E+05  2.315E+05  2.341E+05
IY=  2  2.308E+05  2.311E+05  2.313E+05  2.315E+05  2.386E+05
IY=  1  2.308E+05  2.311E+05  2.313E+05  2.315E+05  2.584E+05
IZ=        1          2          3          4          5
IY= 20  2.308E+05  2.306E+05  2.304E+05  2.302E+05  2.300E+05
IY= 19  2.308E+05  2.306E+05  2.304E+05  2.302E+05  2.300E+05
IY= 18  2.308E+05  2.306E+05  2.304E+05  2.302E+05  2.300E+05
IY= 17  2.308E+05  2.306E+05  2.304E+05  2.302E+05  2.300E+05
IY= 16  2.308E+05  2.306E+05  2.304E+05  2.302E+05  2.300E+05
IY= 15  2.308E+05  2.306E+05  2.304E+05  2.302E+05  2.299E+05
IY= 14  2.308E+05  2.306E+05  2.304E+05  2.302E+05  2.299E+05
IY= 13  2.308E+05  2.306E+05  2.304E+05  2.301E+05  2.299E+05
IY= 12  2.309E+05  2.306E+05  2.304E+05  2.301E+05  2.299E+05
IY= 11  2.309E+05  2.307E+05  2.304E+05  2.301E+05  2.298E+05
IY= 10  2.309E+05  2.307E+05  2.304E+05  2.301E+05  2.298E+05
IY=  9  2.310E+05  2.307E+05  2.304E+05  2.301E+05  2.298E+05
IY=  8  2.311E+05  2.307E+05  2.304E+05  2.300E+05  2.297E+05
IY=  7  2.312E+05  2.307E+05  2.304E+05  2.300E+05  2.298E+05
IY=  6  2.313E+05  2.309E+05  2.307E+05  2.306E+05  2.305E+05
IY=  5  2.326E+05  2.340E+05  2.366E+05  2.398E+05  2.435E+05
IY=  4  2.341E+05  2.369E+05  2.409E+05  2.455E+05  2.501E+05
IY=  3  2.377E+05  2.430E+05  2.493E+05  2.556E+05  2.617E+05
IY=  2  2.473E+05  2.574E+05  2.675E+05  2.767E+05  2.860E+05
IY=  1  2.811E+05  3.022E+05  3.205E+05  3.350E+05  3.388E+05
IZ=        6          7          8          9         10
IY= 20  2.298E+05  2.295E+05  2.293E+05  2.291E+05  2.289E+05
IY= 19  2.298E+05  2.295E+05  2.293E+05  2.291E+05  2.289E+05
IY= 18  2.297E+05  2.295E+05  2.293E+05  2.290E+05  2.289E+05
IY= 17  2.297E+05  2.295E+05  2.292E+05  2.290E+05  2.288E+05
IY= 16  2.297E+05  2.295E+05  2.292E+05  2.290E+05  2.288E+05
IY= 15  2.297E+05  2.294E+05  2.292E+05  2.289E+05  2.287E+05
IY= 14  2.296E+05  2.294E+05  2.291E+05  2.289E+05  2.287E+05
IY= 13  2.296E+05  2.293E+05  2.291E+05  2.288E+05  2.286E+05
IY= 12  2.296E+05  2.293E+05  2.290E+05  2.288E+05  2.285E+05
IY= 11  2.295E+05  2.292E+05  2.289E+05  2.287E+05  2.284E+05
IY= 10  2.295E+05  2.292E+05  2.289E+05  2.286E+05  2.283E+05
IY=  9  2.295E+05  2.291E+05  2.288E+05  2.285E+05  2.282E+05
IY=  8  2.294E+05  2.291E+05  2.287E+05  2.283E+05  2.280E+05
IY=  7  2.295E+05  2.292E+05  2.288E+05  2.283E+05  2.278E+05
IY=  6  2.306E+05  2.307E+05  2.309E+05  2.309E+05  2.297E+05
IY=  5  2.485E+05  2.566E+05  2.702E+05  2.954E+05  2.353E+05
IY=  4  2.562E+05  2.658E+05  2.818E+05  3.039E+05  2.448E+05
IY=  3  2.694E+05  2.817E+05  2.982E+05  3.151E+05  2.665E+05
IY=  2  2.967E+05  3.082E+05  3.187E+05  3.274E+05  2.924E+05
IY=  1  3.391E+05  3.394E+05  3.395E+05  3.393E+05  3.154E+05
IZ=       11         12         13         14         15
IY= 20  2.288E+05  2.288E+05  2.288E+05  2.288E+05  2.287E+05
IY= 19  2.288E+05  2.288E+05  2.288E+05  2.287E+05  2.287E+05
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IY= 18	2.288E+05	2.288E+05	2.287E+05	2.287E+05	2.287E+05
IY= 17	2.288E+05	2.287E+05	2.287E+05	2.287E+05	2.287E+05
IY= 16	2.287E+05	2.287E+05	2.287E+05	2.287E+05	2.286E+05
IY= 15	2.287E+05	2.287E+05	2.286E+05	2.286E+05	2.286E+05
IY= 14	2.286E+05	2.286E+05	2.286E+05	2.286E+05	2.285E+05
IY= 13	2.286E+05	2.285E+05	2.285E+05	2.285E+05	2.285E+05
IY= 12	2.285E+05	2.285E+05	2.284E+05	2.284E+05	2.284E+05
IY= 11	2.284E+05	2.283E+05	2.283E+05	2.283E+05	2.283E+05
IY= 10	2.283E+05	2.282E+05	2.282E+05	2.282E+05	2.282E+05
IY= 9	2.281E+05	2.281E+05	2.281E+05	2.280E+05	2.280E+05
IY= 8	2.279E+05	2.279E+05	2.278E+05	2.278E+05	2.279E+05
IY= 7	2.277E+05	2.276E+05	2.276E+05	2.277E+05	2.277E+05
IY= 6	2.296E+05	2.297E+05	2.298E+05	2.299E+05	2.301E+05
IY= 5	2.311E+05	2.303E+05	2.301E+05	2.301E+05	2.302E+05
IY= 4	2.355E+05	2.326E+05	2.315E+05	2.310E+05	2.308E+05
IY= 3	2.458E+05	2.389E+05	2.357E+05	2.340E+05	2.330E+05
IY= 2	2.715E+05	2.581E+05	2.498E+05	2.446E+05	2.416E+05
IY= 1	3.080E+05	3.050E+05	3.032E+05	2.986E+05	2.961E+05
IZ=	16	17	18	19	20
IY= 20	2.287E+05	2.287E+05	2.287E+05	2.287E+05	2.286E+05
IY= 19	2.287E+05	2.287E+05	2.287E+05	2.286E+05	2.286E+05
IY= 18	2.287E+05	2.287E+05	2.286E+05	2.286E+05	2.286E+05
IY= 17	2.287E+05	2.286E+05	2.286E+05	2.286E+05	2.286E+05
IY= 16	2.286E+05	2.286E+05	2.286E+05	2.286E+05	2.286E+05
IY= 15	2.286E+05	2.286E+05	2.285E+05	2.285E+05	2.285E+05
IY= 14	2.285E+05	2.285E+05	2.285E+05	2.285E+05	2.285E+05
IY= 13	2.285E+05	2.284E+05	2.284E+05	2.284E+05	2.284E+05
IY= 12	2.284E+05	2.284E+05	2.284E+05	2.283E+05	2.283E+05
IY= 11	2.283E+05	2.283E+05	2.283E+05	2.283E+05	2.282E+05
IY= 10	2.282E+05	2.282E+05	2.282E+05	2.282E+05	2.281E+05
IY= 9	2.280E+05	2.280E+05	2.280E+05	2.280E+05	2.280E+05
IY= 8	2.279E+05	2.279E+05	2.279E+05	2.279E+05	2.279E+05
IY= 7	2.278E+05	2.278E+05	2.279E+05	2.279E+05	2.279E+05
IY= 6	2.301E+05	2.302E+05	2.303E+05	2.303E+05	2.304E+05
IY= 5	2.302E+05	2.303E+05	2.304E+05	2.304E+05	2.305E+05
IY= 4	2.307E+05	2.306E+05	2.306E+05	2.306E+05	2.307E+05
IY= 3	2.325E+05	2.321E+05	2.318E+05	2.316E+05	2.322E+05
IY= 2	2.396E+05	2.382E+05	2.372E+05	2.364E+05	2.419E+05
IY= 1	2.947E+05	2.939E+05	2.935E+05	2.934E+05	3.091E+05
IZ=	21	22	23	24	25
IY= 20	2.286E+05	2.285E+05	2.284E+05	2.284E+05	
IY= 19	2.286E+05	2.285E+05	2.284E+05	2.284E+05	
IY= 18	2.286E+05	2.285E+05	2.284E+05	2.284E+05	
IY= 17	2.285E+05	2.285E+05	2.284E+05	2.284E+05	
IY= 16	2.285E+05	2.284E+05	2.284E+05	2.283E+05	
IY= 15	2.285E+05	2.284E+05	2.284E+05	2.283E+05	
IY= 14	2.284E+05	2.284E+05	2.283E+05	2.283E+05	
IY= 13	2.284E+05	2.283E+05	2.283E+05	2.283E+05	
IY= 12	2.283E+05	2.283E+05	2.283E+05	2.282E+05	
IY= 11	2.282E+05	2.282E+05	2.282E+05	2.282E+05	
IY= 10	2.281E+05	2.282E+05	2.282E+05	2.282E+05	
IY= 9	2.281E+05	2.281E+05	2.281E+05	2.282E+05	
IY= 8	2.280E+05	2.280E+05	2.281E+05	2.281E+05	
IY= 7	2.280E+05	2.281E+05	2.282E+05	2.282E+05	
IY= 6	2.305E+05	2.306E+05	2.306E+05	2.307E+05	
IY= 5	2.305E+05	2.306E+05	2.307E+05	2.307E+05	
IY= 4	2.308E+05	2.308E+05	2.308E+05	2.309E+05	
IY= 3	2.329E+05	2.335E+05	2.336E+05	2.326E+05	
IY= 2	2.469E+05	2.513E+05	2.542E+05	2.444E+05	
IY= 1	3.209E+05	3.299E+05	3.350E+05	2.778E+05	
IZ=	26	27	28	29	
FIELD VALUES OF ENUL					
IY= 20	7.522E-06	7.508E-06	7.508E-06	7.508E-06	7.510E-06
IY= 19	7.522E-06	7.507E-06	7.507E-06	7.508E-06	7.509E-06
IY= 18	7.521E-06	7.506E-06	7.506E-06	7.506E-06	7.508E-06
IY= 17	7.519E-06	7.504E-06	7.504E-06	7.505E-06	7.506E-06
IY= 16	7.517E-06	7.502E-06	7.501E-06	7.502E-06	7.503E-06
IY= 15	7.515E-06	7.499E-06	7.499E-06	7.499E-06	7.500E-06
IY= 14	7.512E-06	7.496E-06	7.495E-06	7.496E-06	7.497E-06
IY= 13	7.509E-06	7.492E-06	7.491E-06	7.492E-06	7.493E-06

IY= 18	2.288E+05	2.288E+05	2.287E+05	2.287E+05	2.287E+05
IY= 17	2.288E+05	2.287E+05	2.287E+05	2.287E+05	2.287E+05
IY= 16	2.287E+05	2.287E+05	2.287E+05	2.287E+05	2.286E+05
IY= 15	2.287E+05	2.287E+05	2.286E+05	2.286E+05	2.286E+05
IY= 14	2.286E+05	2.286E+05	2.286E+05	2.286E+05	2.285E+05
IY= 13	2.286E+05	2.285E+05	2.285E+05	2.285E+05	2.285E+05
IY= 12	2.285E+05	2.285E+05	2.284E+05	2.284E+05	2.284E+05
IY= 11	2.284E+05	2.283E+05	2.283E+05	2.283E+05	2.283E+05
IY= 10	2.283E+05	2.282E+05	2.282E+05	2.282E+05	2.282E+05
IY= 9	2.281E+05	2.281E+05	2.281E+05	2.280E+05	2.280E+05
IY= 8	2.279E+05	2.279E+05	2.278E+05	2.278E+05	2.279E+05
IY= 7	2.277E+05	2.276E+05	2.276E+05	2.277E+05	2.277E+05
IY= 6	2.296E+05	2.297E+05	2.298E+05	2.299E+05	2.301E+05
IY= 5	2.311E+05	2.303E+05	2.301E+05	2.301E+05	2.302E+05
IY= 4	2.355E+05	2.326E+05	2.315E+05	2.310E+05	2.308E+05
IY= 3	2.458E+05	2.389E+05	2.357E+05	2.340E+05	2.330E+05
IY= 2	2.715E+05	2.581E+05	2.498E+05	2.446E+05	2.416E+05
IY= 1	3.080E+05	3.050E+05	3.032E+05	2.986E+05	2.961E+05
IZ=	16	17	18	19	20
IY= 20	2.287E+05	2.287E+05	2.287E+05	2.287E+05	2.286E+05
IY= 19	2.287E+05	2.287E+05	2.287E+05	2.286E+05	2.286E+05
IY= 18	2.287E+05	2.287E+05	2.286E+05	2.286E+05	2.286E+05
IY= 17	2.287E+05	2.286E+05	2.286E+05	2.286E+05	2.286E+05
IY= 16	2.286E+05	2.286E+05	2.286E+05	2.286E+05	2.286E+05
IY= 15	2.286E+05	2.286E+05	2.285E+05	2.285E+05	2.285E+05
IY= 14	2.285E+05	2.285E+05	2.285E+05	2.285E+05	2.285E+05
IY= 13	2.285E+05	2.284E+05	2.284E+05	2.284E+05	2.284E+05
IY= 12	2.284E+05	2.284E+05	2.284E+05	2.283E+05	2.283E+05
IY= 11	2.283E+05	2.283E+05	2.283E+05	2.283E+05	2.282E+05
IY= 10	2.282E+05	2.282E+05	2.282E+05	2.282E+05	2.281E+05
IY= 9	2.280E+05	2.280E+05	2.280E+05	2.280E+05	2.280E+05
IY= 8	2.279E+05	2.279E+05	2.279E+05	2.279E+05	2.279E+05
IY= 7	2.278E+05	2.278E+05	2.279E+05	2.279E+05	2.279E+05
IY= 6	2.301E+05	2.302E+05	2.303E+05	2.303E+05	2.304E+05
IY= 5	2.302E+05	2.303E+05	2.304E+05	2.304E+05	2.305E+05
IY= 4	2.307E+05	2.306E+05	2.306E+05	2.306E+05	2.307E+05
IY= 3	2.325E+05	2.321E+05	2.318E+05	2.316E+05	2.322E+05
IY= 2	2.396E+05	2.382E+05	2.372E+05	2.364E+05	2.419E+05
IY= 1	2.947E+05	2.939E+05	2.935E+05	2.934E+05	3.091E+05
IZ=	21	22	23	24	25
IY= 20	2.286E+05	2.285E+05	2.284E+05	2.284E+05	
IY= 19	2.286E+05	2.285E+05	2.284E+05	2.284E+05	
IY= 18	2.286E+05	2.285E+05	2.284E+05	2.284E+05	
IY= 17	2.285E+05	2.285E+05	2.284E+05	2.284E+05	
IY= 16	2.285E+05	2.284E+05	2.284E+05	2.283E+05	
IY= 15	2.285E+05	2.284E+05	2.284E+05	2.283E+05	
IY= 14	2.284E+05	2.284E+05	2.283E+05	2.283E+05	
IY= 13	2.284E+05	2.283E+05	2.283E+05	2.283E+05	
IY= 12	2.283E+05	2.283E+05	2.283E+05	2.282E+05	
IY= 11	2.282E+05	2.282E+05	2.282E+05	2.282E+05	
IY= 10	2.281E+05	2.282E+05	2.282E+05	2.282E+05	
IY= 9	2.281E+05	2.281E+05	2.281E+05	2.282E+05	
IY= 8	2.280E+05	2.280E+05	2.281E+05	2.281E+05	
IY= 7	2.280E+05	2.281E+05	2.282E+05	2.282E+05	
IY= 6	2.305E+05	2.306E+05	2.306E+05	2.307E+05	
IY= 5	2.305E+05	2.306E+05	2.307E+05	2.307E+05	
IY= 4	2.308E+05	2.308E+05	2.308E+05	2.309E+05	
IY= 3	2.329E+05	2.335E+05	2.336E+05	2.328E+05	
IY= 2	2.469E+05	2.513E+05	2.542E+05	2.444E+05	
IY= 1	3.209E+05	3.299E+05	3.350E+05	2.778E+05	
IZ=	26	27	28	29	

FIELD VALUES OF ENUL

IY= 20	7.522E-06	7.508E-06	7.508E-06	7.508E-06	7.510E-06
IY= 19	7.522E-06	7.507E-06	7.507E-06	7.508E-06	7.509E-06
IY= 18	7.521E-06	7.506E-06	7.506E-06	7.506E-06	7.508E-06
IY= 17	7.519E-06	7.504E-06	7.504E-06	7.505E-06	7.506E-06
IY= 16	7.517E-06	7.502E-06	7.501E-06	7.502E-06	7.503E-06
IY= 15	7.515E-06	7.499E-06	7.499E-06	7.499E-06	7.500E-06
IY= 14	7.512E-06	7.496E-06	7.495E-06	7.496E-06	7.497E-06
IY= 13	7.509E-06	7.492E-06	7.491E-06	7.492E-06	7.493E-06

IY= 12	7.506E-06	7.488E-06	7.487E-06	7.487E-06	7.488E-06
IY= 11	7.503E-06	7.483E-06	7.482E-06	7.482E-06	7.483E-06
IY= 10	7.499E-06	7.479E-06	7.478E-06	7.477E-06	7.478E-06
IY= 9	7.496E-06	7.475E-06	7.473E-06	7.472E-06	7.472E-06
IY= 8	7.493E-06	7.471E-06	7.469E-06	7.468E-06	7.466E-06
IY= 7	7.491E-06	7.468E-06	7.466E-06	7.463E-06	7.460E-06
IY= 6	7.490E-06	7.466E-06	7.464E-06	7.460E-06	7.452E-06
IY= 5	7.491E-06	7.467E-06	7.464E-06	7.460E-06	7.459E-06
IY= 4	7.491E-06	7.467E-06	7.464E-06	7.461E-06	7.483E-06
IY= 3	7.491E-06	7.467E-06	7.464E-06	7.461E-06	7.555E-06
IY= 2	7.491E-06	7.467E-06	7.464E-06	7.461E-06	7.804E-06
IY= 1	7.491E-06	7.467E-06	7.464E-06	7.461E-06	8.952E-06
IZ=	1	2	3	4	5
IY= 20	7.512E-06	7.515E-06	7.518E-06	7.522E-06	7.526E-06
IY= 19	7.511E-06	7.514E-06	7.517E-06	7.521E-06	7.525E-06
IY= 18	7.510E-06	7.513E-06	7.516E-06	7.520E-06	7.524E-06
IY= 17	7.508E-06	7.511E-06	7.514E-06	7.518E-06	7.523E-06
IY= 16	7.506E-06	7.509E-06	7.512E-06	7.516E-06	7.521E-06
IY= 15	7.503E-06	7.506E-06	7.510E-06	7.514E-06	7.518E-06
IY= 14	7.499E-06	7.502E-06	7.506E-06	7.511E-06	7.515E-06
IY= 13	7.495E-06	7.499E-06	7.503E-06	7.507E-06	7.512E-06
IY= 12	7.491E-06	7.494E-06	7.499E-06	7.503E-06	7.508E-06
IY= 11	7.486E-06	7.490E-06	7.494E-06	7.499E-06	7.504E-06
IY= 10	7.481E-06	7.485E-06	7.490E-06	7.495E-06	7.501E-06
IY= 9	7.475E-06	7.480E-06	7.486E-06	7.491E-06	7.497E-06
IY= 8	7.470E-06	7.476E-06	7.482E-06	7.488E-06	7.494E-06
IY= 7	7.465E-06	7.473E-06	7.480E-06	7.487E-06	7.494E-06
IY= 6	7.464E-06	7.480E-06	7.499E-06	7.520E-06	7.544E-06
IY= 5	7.536E-06	7.673E-06	7.872E-06	8.125E-06	8.415E-06
IY= 4	7.625E-06	7.855E-06	8.156E-06	8.503E-06	8.867E-06
IY= 3	7.842E-06	8.244E-06	8.712E-06	9.199E-06	9.671E-06
IY= 2	8.440E-06	9.191E-06	9.963E-06	1.069E-05	1.142E-05
IY= 1	1.069E-05	1.235E-05	1.384E-05	1.507E-05	1.548E-05
IZ=	6	7	8	9	10
IY= 20	7.530E-06	7.535E-06	7.539E-06	7.543E-06	7.546E-06
IY= 19	7.530E-06	7.534E-06	7.538E-06	7.542E-06	7.546E-06
IY= 18	7.529E-06	7.533E-06	7.537E-06	7.541E-06	7.545E-06
IY= 17	7.527E-06	7.532E-06	7.536E-06	7.540E-06	7.544E-06
IY= 16	7.525E-06	7.530E-06	7.534E-06	7.538E-06	7.542E-06
IY= 15	7.523E-06	7.527E-06	7.532E-06	7.536E-06	7.540E-06
IY= 14	7.520E-06	7.525E-06	7.530E-06	7.534E-06	7.538E-06
IY= 13	7.517E-06	7.522E-06	7.527E-06	7.532E-06	7.535E-06
IY= 12	7.513E-06	7.518E-06	7.524E-06	7.529E-06	7.533E-06
IY= 11	7.510E-06	7.515E-06	7.521E-06	7.526E-06	7.530E-06
IY= 10	7.506E-06	7.511E-06	7.517E-06	7.524E-06	7.528E-06
IY= 9	7.502E-06	7.508E-06	7.514E-06	7.521E-06	7.527E-06
IY= 8	7.499E-06	7.505E-06	7.512E-06	7.520E-06	7.527E-06
IY= 7	7.501E-06	7.509E-06	7.517E-06	7.527E-06	7.538E-06
IY= 6	7.572E-06	7.608E-06	7.657E-06	7.711E-06	7.743E-06
IY= 5	8.793E-06	9.379E-06	1.040E-05	1.237E-05	8.864E-06
IY= 4	9.324E-06	1.003E-05	1.125E-05	1.305E-05	9.508E-06
IY= 3	1.025E-05	1.118E-05	1.248E-05	1.397E-05	1.100E-05
IY= 2	1.225E-05	1.319E-05	1.412E-05	1.498E-05	1.289E-05
IY= 1	1.559E-05	1.570E-05	1.583E-05	1.598E-05	1.467E-05
IZ=	11	12	13	14	15
IY= 20	7.547E-06	7.548E-06	7.548E-06	7.548E-06	7.549E-06
IY= 19	7.547E-06	7.547E-06	7.548E-06	7.548E-06	7.548E-06
IY= 18	7.546E-06	7.546E-06	7.547E-06	7.547E-06	7.547E-06
IY= 17	7.545E-06	7.545E-06	7.545E-06	7.546E-06	7.546E-06
IY= 16	7.543E-06	7.543E-06	7.544E-06	7.544E-06	7.545E-06
IY= 15	7.541E-06	7.542E-06	7.542E-06	7.542E-06	7.543E-06
IY= 14	7.539E-06	7.539E-06	7.540E-06	7.540E-06	7.540E-06
IY= 13	7.536E-06	7.537E-06	7.537E-06	7.538E-06	7.538E-06
IY= 12	7.534E-06	7.534E-06	7.535E-06	7.535E-06	7.536E-06
IY= 11	7.532E-06	7.532E-06	7.533E-06	7.533E-06	7.533E-06
IY= 10	7.530E-06	7.530E-06	7.531E-06	7.531E-06	7.531E-06
IY= 9	7.528E-06	7.529E-06	7.529E-06	7.530E-06	7.530E-06
IY= 8	7.529E-06	7.530E-06	7.530E-06	7.530E-06	7.530E-06
IY= 7	7.541E-06	7.541E-06	7.541E-06	7.541E-06	7.540E-06
IY= 6	7.745E-06	7.742E-06	7.737E-06	7.733E-06	7.729E-06

IY= 5	8.129E-06	7.904E-06	7.817E-06	7.778E-06	7.756E-06
IY= 4	8.599E-06	8.212E-06	8.021E-06	7.916E-06	7.853E-06
IY= 3	9.433E-06	8.798E-06	8.461E-06	8.256E-06	8.122E-06
IY= 2	1.128E-05	1.025E-05	9.581E-06	9.148E-06	8.867E-06
IY= 1	1.399E-05	1.369E-05	1.350E-05	1.311E-05	1.286E-05
IZ=	16	17	18	19	20
IY= 20	7.549E-06	7.550E-06	7.550E-06	7.550E-06	7.551E-06
IY= 19	7.549E-06	7.549E-06	7.549E-06	7.550E-06	7.550E-06
IY= 18	7.548E-06	7.548E-06	7.548E-06	7.549E-06	7.549E-06
IY= 17	7.547E-06	7.547E-06	7.547E-06	7.548E-06	7.548E-06
IY= 16	7.545E-06	7.545E-06	7.546E-06	7.546E-06	7.546E-06
IY= 15	7.543E-06	7.543E-06	7.544E-06	7.544E-06	7.544E-06
IY= 14	7.541E-06	7.541E-06	7.541E-06	7.542E-06	7.542E-06
IY= 13	7.538E-06	7.539E-06	7.539E-06	7.539E-06	7.539E-06
IY= 12	7.536E-06	7.536E-06	7.536E-06	7.537E-06	7.537E-06
IY= 11	7.533E-06	7.534E-06	7.534E-06	7.534E-06	7.534E-06
IY= 10	7.531E-06	7.532E-06	7.532E-06	7.532E-06	7.532E-06
IY= 9	7.530E-06	7.530E-06	7.530E-06	7.530E-06	7.530E-06
IY= 8	7.530E-06	7.530E-06	7.530E-06	7.530E-06	7.529E-06
IY= 7	7.539E-06	7.539E-06	7.538E-06	7.537E-06	7.535E-06
IY= 6	7.726E-06	7.722E-06	7.719E-06	7.716E-06	7.713E-06
IY= 5	7.742E-06	7.733E-06	7.727E-06	7.722E-06	7.718E-06
IY= 4	7.813E-06	7.787E-06	7.769E-06	7.755E-06	7.748E-06
IY= 3	8.031E-06	7.967E-06	7.921E-06	7.885E-06	7.900E-06
IY= 2	8.674E-06	8.534E-06	8.428E-06	8.345E-06	8.653E-06
IY= 1	1.272E-05	1.262E-05	1.256E-05	1.253E-05	1.364E-05
IZ=	21	22	23	24	25
IY= 20	7.552E-06	7.553E-06	7.554E-06	7.555E-06	
IY= 19	7.551E-06	7.552E-06	7.553E-06	7.554E-06	
IY= 18	7.550E-06	7.551E-06	7.552E-06	7.553E-06	
IY= 17	7.549E-06	7.550E-06	7.551E-06	7.552E-06	
IY= 16	7.547E-06	7.548E-06	7.549E-06	7.550E-06	
IY= 15	7.545E-06	7.546E-06	7.547E-06	7.548E-06	
IY= 14	7.543E-06	7.543E-06	7.544E-06	7.545E-06	
IY= 13	7.540E-06	7.541E-06	7.541E-06	7.542E-06	
IY= 12	7.537E-06	7.538E-06	7.538E-06	7.538E-06	
IY= 11	7.534E-06	7.535E-06	7.535E-06	7.535E-06	
IY= 10	7.532E-06	7.532E-06	7.531E-06	7.531E-06	
IY= 9	7.529E-06	7.529E-06	7.528E-06	7.528E-06	
IY= 8	7.528E-06	7.527E-06	7.526E-06	7.525E-06	
IY= 7	7.534E-06	7.532E-06	7.531E-06	7.530E-06	
IY= 6	7.710E-06	7.708E-06	7.706E-06	7.704E-06	
IY= 5	7.715E-06	7.713E-06	7.711E-06	7.709E-06	
IY= 4	7.744E-06	7.740E-06	7.736E-06	7.731E-06	
IY= 3	7.944E-06	7.982E-06	7.992E-06	7.938E-06	
IY= 2	9.003E-06	9.308E-06	9.520E-06	8.913E-06	
IY= 1	1.456E-05	1.527E-05	1.567E-05	1.147E-05	
IZ=	26	27	28	29	

FIELD VALUES OF RHO1

IY= 20	1.848E+00	1.853E+00	1.853E+00	1.852E+00	1.851E+00
IY= 19	1.848E+00	1.853E+00	1.853E+00	1.852E+00	1.851E+00
IY= 18	1.848E+00	1.853E+00	1.853E+00	1.853E+00	1.852E+00
IY= 17	1.849E+00	1.854E+00	1.854E+00	1.853E+00	1.852E+00
IY= 16	1.849E+00	1.854E+00	1.855E+00	1.854E+00	1.853E+00
IY= 15	1.850E+00	1.855E+00	1.855E+00	1.855E+00	1.854E+00
IY= 14	1.851E+00	1.856E+00	1.856E+00	1.856E+00	1.855E+00
IY= 13	1.851E+00	1.857E+00	1.858E+00	1.857E+00	1.856E+00
IY= 12	1.852E+00	1.858E+00	1.859E+00	1.859E+00	1.858E+00
IY= 11	1.853E+00	1.859E+00	1.860E+00	1.860E+00	1.859E+00
IY= 10	1.854E+00	1.861E+00	1.862E+00	1.862E+00	1.861E+00
IY= 9	1.855E+00	1.862E+00	1.863E+00	1.864E+00	1.864E+00
IY= 8	1.856E+00	1.863E+00	1.865E+00	1.866E+00	1.867E+00
IY= 7	1.856E+00	1.864E+00	1.866E+00	1.868E+00	1.870E+00
IY= 6	1.857E+00	1.864E+00	1.867E+00	1.870E+00	1.876E+00
IY= 5	1.857E+00	1.864E+00	1.867E+00	1.870E+00	1.879E+00
IY= 4	1.857E+00	1.864E+00	1.867E+00	1.870E+00	1.875E+00
IY= 3	1.857E+00	1.864E+00	1.867E+00	1.870E+00	1.865E+00
IY= 2	1.857E+00	1.864E+00	1.867E+00	1.870E+00	1.829E+00
IY= 1	1.857E+00	1.864E+00	1.867E+00	1.870E+00	1.685E+00
IZ=	1	2	3	4	5

IY= 20	1.849E+00	1.847E+00	1.844E+00	1.841E+00	1.837E+00
IY= 19	1.849E+00	1.847E+00	1.844E+00	1.841E+00	1.837E+00
IY= 18	1.850E+00	1.847E+00	1.844E+00	1.841E+00	1.837E+00
IY= 17	1.850E+00	1.848E+00	1.845E+00	1.841E+00	1.837E+00
IY= 16	1.851E+00	1.848E+00	1.845E+00	1.842E+00	1.838E+00
IY= 15	1.852E+00	1.849E+00	1.846E+00	1.842E+00	1.838E+00
IY= 14	1.853E+00	1.850E+00	1.846E+00	1.843E+00	1.839E+00
IY= 13	1.854E+00	1.851E+00	1.847E+00	1.843E+00	1.839E+00
IY= 12	1.855E+00	1.852E+00	1.848E+00	1.844E+00	1.840E+00
IY= 11	1.857E+00	1.853E+00	1.849E+00	1.845E+00	1.840E+00
IY= 10	1.859E+00	1.854E+00	1.850E+00	1.845E+00	1.841E+00
IY= 9	1.860E+00	1.856E+00	1.851E+00	1.846E+00	1.841E+00
IY= 8	1.863E+00	1.857E+00	1.852E+00	1.846E+00	1.842E+00
IY= 7	1.865E+00	1.858E+00	1.852E+00	1.847E+00	1.842E+00
IY= 6	1.866E+00	1.857E+00	1.849E+00	1.842E+00	1.834E+00
IY= 5	1.856E+00	1.829E+00	1.796E+00	1.758E+00	1.717E+00
IY= 4	1.843E+00	1.803E+00	1.758E+00	1.710E+00	1.664E+00
IY= 3	1.812E+00	1.752E+00	1.690E+00	1.631E+00	1.580E+00
IY= 2	1.734E+00	1.641E+00	1.559E+00	1.491E+00	1.430E+00
IY= 1	1.505E+00	1.375E+00	1.280E+00	1.214E+00	1.191E+00
IZ=	6	7	8	9	10
IY= 20	1.833E+00	1.830E+00	1.826E+00	1.823E+00	1.820E+00
IY= 19	1.833E+00	1.830E+00	1.826E+00	1.823E+00	1.820E+00
IY= 18	1.833E+00	1.830E+00	1.826E+00	1.823E+00	1.820E+00
IY= 17	1.834E+00	1.830E+00	1.826E+00	1.823E+00	1.820E+00
IY= 16	1.834E+00	1.830E+00	1.826E+00	1.823E+00	1.820E+00
IY= 15	1.834E+00	1.830E+00	1.826E+00	1.823E+00	1.820E+00
IY= 14	1.835E+00	1.830E+00	1.826E+00	1.823E+00	1.819E+00
IY= 13	1.835E+00	1.831E+00	1.826E+00	1.823E+00	1.819E+00
IY= 12	1.835E+00	1.831E+00	1.826E+00	1.822E+00	1.819E+00
IY= 11	1.836E+00	1.831E+00	1.826E+00	1.822E+00	1.819E+00
IY= 10	1.836E+00	1.831E+00	1.826E+00	1.821E+00	1.818E+00
IY= 9	1.837E+00	1.832E+00	1.826E+00	1.821E+00	1.816E+00
IY= 8	1.837E+00	1.832E+00	1.826E+00	1.820E+00	1.814E+00
IY= 7	1.837E+00	1.831E+00	1.825E+00	1.817E+00	1.809E+00
IY= 6	1.826E+00	1.817E+00	1.805E+00	1.790E+00	1.771E+00
IY= 5	1.669E+00	1.602E+00	1.502E+00	1.347E+00	1.622E+00
IY= 4	1.612E+00	1.539E+00	1.432E+00	1.305E+00	1.555E+00
IY= 3	1.522E+00	1.442E+00	1.346E+00	1.252E+00	1.424E+00
IY= 2	1.368E+00	1.306E+00	1.250E+00	1.201E+00	1.295E+00
IY= 1	1.184E+00	1.176E+00	1.167E+00	1.155E+00	1.199E+00
IZ=	11	12	13	14	15
IY= 20	1.819E+00	1.818E+00	1.818E+00	1.818E+00	1.817E+00
IY= 19	1.819E+00	1.818E+00	1.818E+00	1.818E+00	1.817E+00
IY= 18	1.819E+00	1.818E+00	1.818E+00	1.818E+00	1.817E+00
IY= 17	1.819E+00	1.818E+00	1.818E+00	1.818E+00	1.817E+00
IY= 16	1.819E+00	1.818E+00	1.818E+00	1.818E+00	1.817E+00
IY= 15	1.819E+00	1.818E+00	1.818E+00	1.818E+00	1.817E+00
IY= 14	1.819E+00	1.818E+00	1.818E+00	1.818E+00	1.817E+00
IY= 13	1.818E+00	1.818E+00	1.818E+00	1.817E+00	1.817E+00
IY= 12	1.818E+00	1.818E+00	1.817E+00	1.817E+00	1.817E+00
IY= 11	1.818E+00	1.817E+00	1.817E+00	1.816E+00	1.816E+00
IY= 10	1.817E+00	1.816E+00	1.816E+00	1.816E+00	1.815E+00
IY= 9	1.815E+00	1.815E+00	1.814E+00	1.814E+00	1.814E+00
IY= 8	1.813E+00	1.812E+00	1.812E+00	1.812E+00	1.812E+00
IY= 7	1.807E+00	1.806E+00	1.806E+00	1.807E+00	1.808E+00
IY= 6	1.768E+00	1.770E+00	1.773E+00	1.775E+00	1.778E+00
IY= 5	1.714E+00	1.747E+00	1.761E+00	1.769E+00	1.774E+00
IY= 4	1.657E+00	1.707E+00	1.734E+00	1.750E+00	1.761E+00
IY= 3	1.568E+00	1.638E+00	1.679E+00	1.706E+00	1.725E+00
IY= 2	1.408E+00	1.495E+00	1.559E+00	1.604E+00	1.637E+00
IY= 1	1.237E+00	1.256E+00	1.269E+00	1.293E+00	1.309E+00
IZ=	16	17	18	19	20
IY= 20	1.817E+00	1.817E+00	1.816E+00	1.816E+00	1.816E+00
IY= 19	1.817E+00	1.817E+00	1.816E+00	1.816E+00	1.816E+00
IY= 18	1.817E+00	1.817E+00	1.816E+00	1.816E+00	1.816E+00
IY= 17	1.817E+00	1.817E+00	1.817E+00	1.816E+00	1.816E+00
IY= 16	1.817E+00	1.817E+00	1.817E+00	1.816E+00	1.816E+00
IY= 15	1.817E+00	1.817E+00	1.817E+00	1.816E+00	1.816E+00
IY= 14	1.817E+00	1.817E+00	1.816E+00	1.816E+00	1.816E+00

IY= 13	1.817E+00	1.817E+00	1.816E+00	1.816E+00	1.816E+00
IY= 12	1.817E+00	1.816E+00	1.816E+00	1.816E+00	1.816E+00
IY= 11	1.816E+00	1.816E+00	1.816E+00	1.816E+00	1.815E+00
IY= 10	1.815E+00	1.815E+00	1.815E+00	1.815E+00	1.815E+00
IY= 9	1.814E+00	1.814E+00	1.814E+00	1.814E+00	1.814E+00
IY= 8	1.812E+00	1.812E+00	1.813E+00	1.813E+00	1.813E+00
IY= 7	1.808E+00	1.809E+00	1.810E+00	1.810E+00	1.811E+00
IY= 6	1.780E+00	1.781E+00	1.783E+00	1.784E+00	1.785E+00
IY= 5	1.777E+00	1.780E+00	1.782E+00	1.783E+00	1.785E+00
IY= 4	1.768E+00	1.773E+00	1.776E+00	1.779E+00	1.781E+00
IY= 3	1.739E+00	1.748E+00	1.756E+00	1.761E+00	1.760E+00
IY= 2	1.660E+00	1.678E+00	1.691E+00	1.702E+00	1.666E+00
IY= 1	1.320E+00	1.327E+00	1.331E+00	1.334E+00	1.268E+00
IZ=	21	22	23	24	25
IY= 20	1.815E+00	1.814E+00	1.813E+00	1.812E+00	
IY= 19	1.815E+00	1.814E+00	1.813E+00	1.812E+00	
IY= 18	1.815E+00	1.814E+00	1.813E+00	1.812E+00	
IY= 17	1.815E+00	1.814E+00	1.813E+00	1.812E+00	
IY= 16	1.815E+00	1.814E+00	1.814E+00	1.813E+00	
IY= 15	1.815E+00	1.814E+00	1.814E+00	1.813E+00	
IY= 14	1.815E+00	1.815E+00	1.814E+00	1.813E+00	
IY= 13	1.815E+00	1.815E+00	1.814E+00	1.814E+00	
IY= 12	1.815E+00	1.815E+00	1.815E+00	1.814E+00	
IY= 11	1.815E+00	1.815E+00	1.815E+00	1.815E+00	
IY= 10	1.815E+00	1.815E+00	1.815E+00	1.815E+00	
IY= 9	1.815E+00	1.815E+00	1.815E+00	1.816E+00	
IY= 8	1.814E+00	1.815E+00	1.816E+00	1.816E+00	
IY= 7	1.812E+00	1.814E+00	1.815E+00	1.816E+00	
IY= 6	1.787E+00	1.788E+00	1.790E+00	1.791E+00	
IY= 5	1.786E+00	1.788E+00	1.789E+00	1.790E+00	
IY= 4	1.782E+00	1.784E+00	1.785E+00	1.787E+00	
IY= 3	1.755E+00	1.751E+00	1.750E+00	1.758E+00	
IY= 2	1.628E+00	1.597E+00	1.576E+00	1.640E+00	
IY= 1	1.220E+00	1.187E+00	1.169E+00	1.410E+00	
IZ=	26	27	28	29	

FIELD VALUES OF TMP1

IY= 20	1.999E+02	2.001E+02	2.001E+02	2.001E+02	1.999E+02
IY= 19	1.999E+02	2.001E+02	2.001E+02	2.001E+02	1.999E+02
IY= 18	1.999E+02	2.001E+02	2.002E+02	2.001E+02	1.999E+02
IY= 17	1.999E+02	2.001E+02	2.002E+02	2.001E+02	2.000E+02
IY= 16	1.999E+02	2.001E+02	2.002E+02	2.001E+02	2.000E+02
IY= 15	2.000E+02	2.002E+02	2.002E+02	2.001E+02	2.000E+02
IY= 14	2.000E+02	2.002E+02	2.002E+02	2.002E+02	2.000E+02
IY= 13	2.000E+02	2.002E+02	2.003E+02	2.002E+02	2.001E+02
IY= 12	2.000E+02	2.002E+02	2.003E+02	2.002E+02	2.001E+02
IY= 11	2.000E+02	2.002E+02	2.003E+02	2.003E+02	2.002E+02
IY= 10	2.000E+02	2.003E+02	2.004E+02	2.004E+02	2.003E+02
IY= 9	2.000E+02	2.003E+02	2.004E+02	2.005E+02	2.005E+02
IY= 8	2.000E+02	2.003E+02	2.005E+02	2.006E+02	2.007E+02
IY= 7	2.000E+02	2.003E+02	2.006E+02	2.008E+02	2.010E+02
IY= 6	2.001E+02	2.003E+02	2.006E+02	2.010E+02	2.016E+02
IY= 5	2.001E+02	2.004E+02	2.006E+02	2.010E+02	2.023E+02
IY= 4	2.001E+02	2.004E+02	2.006E+02	2.010E+02	2.028E+02
IY= 3	2.001E+02	2.004E+02	2.007E+02	2.010E+02	2.040E+02
IY= 2	2.001E+02	2.004E+02	2.007E+02	2.010E+02	2.081E+02
IY= 1	2.001E+02	2.004E+02	2.007E+02	2.010E+02	2.260E+02
IZ=	1	2	3	4	5
IY= 20	1.997E+02	1.994E+02	1.991E+02	1.987E+02	1.983E+02
IY= 19	1.997E+02	1.994E+02	1.991E+02	1.987E+02	1.983E+02
IY= 18	1.997E+02	1.994E+02	1.991E+02	1.987E+02	1.983E+02
IY= 17	1.997E+02	1.994E+02	1.991E+02	1.987E+02	1.982E+02
IY= 16	1.997E+02	1.994E+02	1.991E+02	1.986E+02	1.982E+02
IY= 15	1.998E+02	1.994E+02	1.990E+02	1.986E+02	1.982E+02
IY= 14	1.998E+02	1.994E+02	1.990E+02	1.986E+02	1.981E+02
IY= 13	1.998E+02	1.994E+02	1.990E+02	1.986E+02	1.981E+02
IY= 12	1.998E+02	1.994E+02	1.990E+02	1.985E+02	1.980E+02
IY= 11	1.999E+02	1.995E+02	1.990E+02	1.985E+02	1.980E+02
IY= 10	2.000E+02	1.995E+02	1.990E+02	1.984E+02	1.979E+02
IY= 9	2.001E+02	1.995E+02	1.989E+02	1.984E+02	1.978E+02
IY= 8	2.002E+02	1.995E+02	1.989E+02	1.983E+02	1.978E+02

IY= 7	2.004E+02	1.996E+02	1.989E+02	1.983E+02	1.978E+02
IY= 6	2.005E+02	1.997E+02	1.992E+02	1.988E+02	1.986E+02
IY= 5	2.017E+02	2.028E+02	2.051E+02	2.083E+02	2.120E+02
IY= 4	2.032E+02	2.057E+02	2.095E+02	2.140E+02	2.188E+02
IY= 3	2.066E+02	2.117E+02	2.179E+02	2.244E+02	2.305E+02
IY= 2	2.160E+02	2.260E+02	2.362E+02	2.455E+02	2.546E+02
IY= 1	2.488E+02	2.698E+02	2.877E+02	3.016E+02	3.056E+02
IZ=	6	7	8	9	10
IY= 20	1.979E+02	1.974E+02	1.970E+02	1.966E+02	1.963E+02
IY= 19	1.979E+02	1.974E+02	1.970E+02	1.966E+02	1.963E+02
IY= 18	1.978E+02	1.974E+02	1.970E+02	1.966E+02	1.962E+02
IY= 17	1.978E+02	1.974E+02	1.969E+02	1.965E+02	1.962E+02
IY= 16	1.978E+02	1.973E+02	1.969E+02	1.965E+02	1.961E+02
IY= 15	1.977E+02	1.973E+02	1.968E+02	1.964E+02	1.960E+02
IY= 14	1.977E+02	1.972E+02	1.967E+02	1.963E+02	1.959E+02
IY= 13	1.976E+02	1.971E+02	1.966E+02	1.962E+02	1.958E+02
IY= 12	1.975E+02	1.970E+02	1.965E+02	1.960E+02	1.957E+02
IY= 11	1.974E+02	1.969E+02	1.964E+02	1.959E+02	1.955E+02
IY= 10	1.974E+02	1.968E+02	1.963E+02	1.957E+02	1.953E+02
IY= 9	1.973E+02	1.967E+02	1.961E+02	1.955E+02	1.950E+02
IY= 8	1.972E+02	1.967E+02	1.960E+02	1.953E+02	1.946E+02
IY= 7	1.972E+02	1.967E+02	1.960E+02	1.951E+02	1.942E+02
IY= 6	1.984E+02	1.983E+02	1.982E+02	1.978E+02	1.958E+02
IY= 5	2.169E+02	2.248E+02	2.380E+02	2.626E+02	2.103E+02
IY= 4	2.247E+02	2.340E+02	2.495E+02	2.711E+02	2.194E+02
IY= 3	2.380E+02	2.497E+02	2.656E+02	2.824E+02	2.395E+02
IY= 2	2.648E+02	2.757E+02	2.860E+02	2.945E+02	2.633E+02
IY= 1	3.059E+02	3.062E+02	3.063E+02	3.062E+02	2.846E+02
IZ=	11	12	13	14	15
IY= 20	1.962E+02	1.961E+02	1.961E+02	1.960E+02	1.960E+02
IY= 19	1.961E+02	1.961E+02	1.961E+02	1.960E+02	1.960E+02
IY= 18	1.961E+02	1.961E+02	1.960E+02	1.960E+02	1.960E+02
IY= 17	1.961E+02	1.960E+02	1.960E+02	1.959E+02	1.959E+02
IY= 16	1.960E+02	1.960E+02	1.959E+02	1.959E+02	1.958E+02
IY= 15	1.959E+02	1.959E+02	1.958E+02	1.958E+02	1.958E+02
IY= 14	1.958E+02	1.958E+02	1.957E+02	1.957E+02	1.957E+02
IY= 13	1.957E+02	1.956E+02	1.956E+02	1.956E+02	1.955E+02
IY= 12	1.955E+02	1.955E+02	1.955E+02	1.954E+02	1.954E+02
IY= 11	1.954E+02	1.953E+02	1.953E+02	1.952E+02	1.952E+02
IY= 10	1.951E+02	1.951E+02	1.951E+02	1.950E+02	1.950E+02
IY= 9	1.949E+02	1.948E+02	1.948E+02	1.948E+02	1.947E+02
IY= 8	1.945E+02	1.944E+02	1.944E+02	1.944E+02	1.944E+02
IY= 7	1.940E+02	1.939E+02	1.940E+02	1.940E+02	1.941E+02
IY= 6	1.955E+02	1.957E+02	1.960E+02	1.963E+02	1.965E+02
IY= 5	2.007E+02	1.979E+02	1.971E+02	1.968E+02	1.968E+02
IY= 4	2.076E+02	2.025E+02	2.001E+02	1.989E+02	1.983E+02
IY= 3	2.194E+02	2.111E+02	2.066E+02	2.040E+02	2.024E+02
IY= 2	2.443E+02	2.313E+02	2.227E+02	2.169E+02	2.133E+02
IY= 1	2.780E+02	2.752E+02	2.736E+02	2.692E+02	2.667E+02
IZ=	16	17	18	19	20
IY= 20	1.960E+02	1.959E+02	1.959E+02	1.959E+02	1.958E+02
IY= 19	1.960E+02	1.959E+02	1.959E+02	1.959E+02	1.958E+02
IY= 18	1.959E+02	1.959E+02	1.959E+02	1.958E+02	1.958E+02
IY= 17	1.959E+02	1.958E+02	1.958E+02	1.958E+02	1.957E+02
IY= 16	1.958E+02	1.958E+02	1.957E+02	1.957E+02	1.957E+02
IY= 15	1.957E+02	1.957E+02	1.957E+02	1.956E+02	1.956E+02
IY= 14	1.956E+02	1.956E+02	1.956E+02	1.955E+02	1.955E+02
IY= 13	1.955E+02	1.955E+02	1.955E+02	1.954E+02	1.954E+02
IY= 12	1.954E+02	1.953E+02	1.953E+02	1.953E+02	1.953E+02
IY= 11	1.952E+02	1.952E+02	1.952E+02	1.951E+02	1.951E+02
IY= 10	1.950E+02	1.950E+02	1.950E+02	1.950E+02	1.950E+02
IY= 9	1.947E+02	1.947E+02	1.947E+02	1.948E+02	1.948E+02
IY= 8	1.944E+02	1.945E+02	1.945E+02	1.945E+02	1.946E+02
IY= 7	1.942E+02	1.943E+02	1.943E+02	1.944E+02	1.945E+02
IY= 6	1.967E+02	1.968E+02	1.969E+02	1.970E+02	1.971E+02
IY= 5	1.969E+02	1.970E+02	1.971E+02	1.972E+02	1.972E+02
IY= 4	1.980E+02	1.978E+02	1.977E+02	1.977E+02	1.977E+02
IY= 3	2.013E+02	2.006E+02	2.000E+02	1.996E+02	2.000E+02
IY= 2	2.108E+02	2.090E+02	2.076E+02	2.066E+02	2.112E+02
IY= 1	2.652E+02	2.643E+02	2.637E+02	2.636E+02	2.776E+02

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IZ=      21          22          23          24          25
IY= 20   1.957E+02   1.956E+02   1.955E+02   1.954E+02
IY= 19   1.957E+02   1.956E+02   1.955E+02   1.954E+02
IY= 18   1.957E+02   1.956E+02   1.955E+02   1.954E+02
IY= 17   1.956E+02   1.955E+02   1.954E+02   1.953E+02
IY= 16   1.956E+02   1.955E+02   1.954E+02   1.953E+02
IY= 15   1.955E+02   1.954E+02   1.953E+02   1.953E+02
IY= 14   1.954E+02   1.954E+02   1.953E+02   1.952E+02
IY= 13   1.953E+02   1.953E+02   1.952E+02   1.952E+02
IY= 12   1.952E+02   1.952E+02   1.952E+02   1.951E+02
IY= 11   1.951E+02   1.951E+02   1.951E+02   1.951E+02
IY= 10   1.950E+02   1.950E+02   1.950E+02   1.950E+02
IY=  9   1.948E+02   1.949E+02   1.949E+02   1.950E+02
IY=  8   1.947E+02   1.948E+02   1.948E+02   1.949E+02
IY=  7   1.946E+02   1.948E+02   1.949E+02   1.950E+02
IY=  6   1.973E+02   1.974E+02   1.976E+02   1.977E+02
IY=  5   1.974E+02   1.975E+02   1.976E+02   1.977E+02
IY=  4   1.978E+02   1.979E+02   1.980E+02   1.980E+02
IY=  3   2.009E+02   2.016E+02   2.019E+02   2.012E+02
IY=  2   2.165E+02   2.211E+02   2.242E+02   2.156E+02
IY=  1   2.889E+02   2.975E+02   3.024E+02   2.508E+02
IZ=      26          27          28          29
WHOLE-FIELD RESIDUALS BEFORE SOLUTIONS
WHOLE-FIELD SUM OF ABS(VOL.FLOW RESIDUALS)=  8.509E+03
WHOLE-FIELD SUM OF ABS(RESIDUALS) OF V1    =  1.240E+05
WHOLE-FIELD SUM OF ABS(RESIDUALS) OF W1    =  5.796E+05
WHOLE-FIELD SUM OF ABS(RESIDUALS) OF H1    =  1.215E+08
* SUMS HAVE BEEN DIVIDED BY RESREF(NAME)

NET SOURCE OF V1   AT PATCH NAMED: INLET     = 4.061E-07
NET SOURCE OF W1   AT PATCH NAMED: INLET     = 2.299E+03
NET SOURCE OF W1   AT PATCH NAMED: VANE      =-3.829E+00
NET SOURCE OF R1   AT PATCH NAMED: INLET     = 1.653E+01
NET SOURCE OF R1   AT PATCH NAMED: OUTLET    =-1.652E+01
NET SOURCE OF H1   AT PATCH NAMED: INLET     = 3.815E+06
NET SOURCE OF H1   AT PATCH NAMED: OUTLET    =-3.777E+06
NET SOURCE OF H1   AT PATCH NAMED: VANE      = 4.942E+03
************************************************************
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APPENDIX G
SUBSONIC LAMINAR BLUNT VANE OUTPUT

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--- INTEGRATION OF EQUATIONS BEGINS ---
TIME STEP =    1     SWEEP = 420
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS  4.177E+04
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS  1.830E+06
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS  1.017E+07
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS  4.965E+09
TIME STEP =    1     SWEEP = 440
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS  4.150E+04
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS  1.846E+06
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS  1.012E+07
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS  4.949E+09
TIME STEP =    1     SWEEP = 460
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS  4.170E+04
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS  1.846E+06
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS  1.016E+07
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS  4.954E+09
TIME STEP =    1     SWEEP = 480
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS  4.162E+04
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS  1.835E+06
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS  9.952E+06
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS  4.920E+09
************************************************************
TIME STP=     1 SWEEP NO=   500 ZSLAB NO=    19 ITERN NO=     1
TIME STEP =    1     SWEEP = 500
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS  4.170E+04
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS  1.842E+06
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS  1.008E+07
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS  5.019E+09
************************************************************
TIME STP=     1 SWEEP NO=   500 ZSLAB NO=    30 ITERN NO=     1

FLOW FIELD AT ITHYD=   1, ISWEEP= 500, ISTEP=   1
YZPR  IX=     1
FIELD VALUES OF P1
IY= 20  1.061E+05  1.064E+05  1.065E+05  1.064E+05  1.062E+05
IY= 19  1.061E+05  1.064E+05  1.065E+05  1.064E+05  1.062E+05
IY= 18  1.061E+05  1.065E+05  1.065E+05  1.064E+05  1.062E+05
IY= 17  1.061E+05  1.065E+05  1.065E+05  1.064E+05  1.063E+05
IY= 16  1.062E+05  1.066E+05  1.066E+05  1.065E+05  1.063E+05
IY= 15  1.062E+05  1.066E+05  1.067E+05  1.066E+05  1.064E+05
IY= 14  1.063E+05  1.067E+05  1.068E+05  1.067E+05  1.065E+05
IY= 13  1.064E+05  1.068E+05  1.069E+05  1.068E+05  1.066E+05
IY= 12  1.064E+05  1.069E+05  1.070E+05  1.070E+05  1.068E+05
IY= 11  1.065E+05  1.071E+05  1.072E+05  1.072E+05  1.070E+05
IY= 10  1.066E+05  1.072E+05  1.074E+05  1.074E+05  1.073E+05
IY=  9  1.067E+05  1.073E+05  1.075E+05  1.077E+05  1.078E+05
IY=  8  1.067E+05  1.074E+05  1.077E+05  1.079E+05  1.083E+05
IY=  7  1.068E+05  1.074E+05  1.078E+05  1.082E+05  1.089E+05
IY=  6  1.068E+05  1.074E+05  1.078E+05  1.082E+05  1.091E+05
IY=  5  1.068E+05  1.074E+05  1.078E+05  1.082E+05  1.091E+05
IY=  4  1.068E+05  1.074E+05  1.078E+05  1.082E+05  1.092E+05
IY=  3  1.068E+05  1.074E+05  1.078E+05  1.082E+05  1.092E+05
IY=  2  1.068E+05  1.074E+05  1.078E+05  1.082E+05  1.092E+05
IY=  1  1.068E+05  1.074E+05  1.078E+05  1.082E+05  1.092E+05
IZ=       1           2           3           4           5
IY= 20  1.060E+05  1.058E+05  1.057E+05  1.057E+05  1.057E+05
IY= 19  1.060E+05  1.058E+05  1.057E+05  1.057E+05  1.057E+05
IY= 18  1.060E+05  1.058E+05  1.058E+05  1.057E+05  1.057E+05
IY= 17  1.061E+05  1.058E+05  1.058E+05  1.057E+05  1.057E+05
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IY= 16	1.061E+05	1.058E+05	1.058E+05	1.057E+05	1.057E+05
IY= 15	1.062E+05	1.059E+05	1.058E+05	1.057E+05	1.057E+05
IY= 14	1.062E+05	1.059E+05	1.059E+05	1.058E+05	1.057E+05
IY= 13	1.063E+05	1.059E+05	1.059E+05	1.058E+05	1.056E+05
IY= 12	1.065E+05	1.060E+05	1.060E+05	1.058E+05	1.056E+05
IY= 11	1.067E+05	1.060E+05	1.060E+05	1.058E+05	1.055E+05
IY= 10	1.070E+05	1.060E+05	1.060E+05	1.058E+05	1.054E+05
IY= 9	1.075E+05	1.059E+05	1.060E+05	1.057E+05	1.051E+05
IY= 8	1.084E+05	1.058E+05	1.060E+05	1.056E+05	1.045E+05
IY= 7	1.101E+05	1.059E+05	1.059E+05	1.055E+05	1.033E+05
IY= 6	1.116E+05	1.132E+05	1.129E+05	1.083E+05	1.016E+05
IY= 5	1.118E+05	1.150E+05	1.145E+05	1.093E+05	1.014E+05
IY= 4	1.119E+05	1.174E+05	1.168E+05	1.107E+05	1.011E+05
IY= 3	1.120E+05	1.211E+05	1.198E+05	1.121E+05	1.007E+05
IY= 2	1.122E+05	1.271E+05	1.227E+05	1.157E+05	1.001E+05
IY= 1	1.126E+05	2.102E+04	2.099E+04	2.096E+04	2.096E+04
IZ=	6	7	8	9	10
IY= 20	1.055E+05	1.052E+05	1.049E+05	1.046E+05	1.043E+05
IY= 19	1.055E+05	1.052E+05	1.049E+05	1.046E+05	1.043E+05
IY= 18	1.055E+05	1.052E+05	1.049E+05	1.046E+05	1.043E+05
IY= 17	1.055E+05	1.052E+05	1.049E+05	1.046E+05	1.043E+05
IY= 16	1.055E+05	1.052E+05	1.049E+05	1.046E+05	1.043E+05
IY= 15	1.054E+05	1.051E+05	1.048E+05	1.046E+05	1.043E+05
IY= 14	1.054E+05	1.051E+05	1.048E+05	1.046E+05	1.043E+05
IY= 13	1.054E+05	1.051E+05	1.048E+05	1.046E+05	1.043E+05
IY= 12	1.053E+05	1.050E+05	1.047E+05	1.045E+05	1.044E+05
IY= 11	1.052E+05	1.049E+05	1.047E+05	1.045E+05	1.044E+05
IY= 10	1.051E+05	1.048E+05	1.046E+05	1.045E+05	1.044E+05
IY= 9	1.048E+05	1.046E+05	1.046E+05	1.045E+05	1.044E+05
IY= 8	1.044E+05	1.045E+05	1.045E+05	1.044E+05	1.044E+05
IY= 7	1.039E+05	1.044E+05	1.044E+05	1.044E+05	1.044E+05
IY= 6	1.038E+05	1.043E+05	1.044E+05	1.044E+05	1.044E+05
IY= 5	1.037E+05	1.043E+05	1.044E+05	1.044E+05	1.044E+05
IY= 4	1.037E+05	1.043E+05	1.044E+05	1.044E+05	1.044E+05
IY= 3	1.037E+05	1.043E+05	1.044E+05	1.044E+05	1.044E+05
IY= 2	1.037E+05	1.043E+05	1.044E+05	1.044E+05	1.044E+05
IY= 1	2.096E+04	2.096E+04	2.096E+04	2.096E+04	2.096E+04
IZ=	11	12	13	14	15
IY= 20	1.040E+05	1.037E+05	1.034E+05	1.030E+05	1.029E+05
IY= 19	1.040E+05	1.037E+05	1.034E+05	1.030E+05	1.029E+05
IY= 18	1.040E+05	1.037E+05	1.034E+05	1.030E+05	1.029E+05
IY= 17	1.041E+05	1.038E+05	1.034E+05	1.031E+05	1.029E+05
IY= 16	1.041E+05	1.038E+05	1.035E+05	1.031E+05	1.030E+05
IY= 15	1.041E+05	1.038E+05	1.035E+05	1.031E+05	1.030E+05
IY= 14	1.041E+05	1.039E+05	1.035E+05	1.032E+05	1.031E+05
IY= 13	1.041E+05	1.039E+05	1.036E+05	1.032E+05	1.031E+05
IY= 12	1.042E+05	1.040E+05	1.037E+05	1.033E+05	1.032E+05
IY= 11	1.042E+05	1.040E+05	1.038E+05	1.034E+05	1.033E+05
IY= 10	1.042E+05	1.041E+05	1.039E+05	1.036E+05	1.035E+05
IY= 9	1.043E+05	1.042E+05	1.041E+05	1.039E+05	1.037E+05
IY= 8	1.043E+05	1.043E+05	1.043E+05	1.043E+05	1.041E+05
IY= 7	1.043E+05	1.044E+05	1.045E+05	1.049E+05	1.049E+05
IY= 6	1.043E+05	1.044E+05	1.046E+05	1.054E+05	1.061E+05
IY= 5	1.043E+05	1.044E+05	1.046E+05	1.054E+05	1.061E+05
IY= 4	1.043E+05	1.044E+05	1.046E+05	1.054E+05	1.062E+05
IY= 3	1.043E+05	1.044E+05	1.046E+05	1.053E+05	1.063E+05
IY= 2	1.043E+05	1.044E+05	1.046E+05	1.053E+05	1.063E+05
IY= 1	2.096E+04	2.096E+04	2.096E+04	2.096E+04	2.096E+04
IZ=	16	17	18	19	20
IY= 20	1.028E+05	1.027E+05	1.026E+05	1.026E+05	1.025E+05
IY= 19	1.028E+05	1.027E+05	1.027E+05	1.026E+05	1.025E+05
IY= 18	1.028E+05	1.027E+05	1.027E+05	1.026E+05	1.025E+05
IY= 17	1.028E+05	1.028E+05	1.027E+05	1.026E+05	1.025E+05
IY= 16	1.029E+05	1.028E+05	1.027E+05	1.026E+05	1.025E+05
IY= 15	1.029E+05	1.028E+05	1.027E+05	1.027E+05	1.026E+05
IY= 14	1.030E+05	1.029E+05	1.028E+05	1.027E+05	1.026E+05
IY= 13	1.030E+05	1.029E+05	1.028E+05	1.027E+05	1.026E+05
IY= 12	1.031E+05	1.030E+05	1.029E+05	1.028E+05	1.027E+05
IY= 11	1.032E+05	1.031E+05	1.030E+05	1.029E+05	1.027E+05
IY= 10	1.034E+05	1.032E+05	1.031E+05	1.030E+05	1.028E+05

IY= 9	1.036E+05	1.034E+05	1.032E+05	1.030E+05	1.029E+05
IY= 8	1.040E+05	1.037E+05	1.034E+05	1.031E+05	1.029E+05
IY= 7	1.046E+05	1.042E+05	1.037E+05	1.032E+05	1.027E+05
IY= 6	1.055E+05	1.048E+05	1.040E+05	1.031E+05	1.020E+05
IY= 5	1.056E+05	1.048E+05	1.040E+05	1.031E+05	1.020E+05
IY= 4	1.056E+05	1.048E+05	1.040E+05	1.031E+05	1.019E+05
IY= 3	1.057E+05	1.049E+05	1.040E+05	1.031E+05	1.019E+05
IY= 2	1.057E+05	1.049E+05	1.040E+05	1.031E+05	1.019E+05
IY= 1	2.096E+04	2.096E+04	2.096E+04	2.096E+04	2.096E+04
IZ=	21	22	23	24	25
IY= 20	1.023E+05	1.022E+05	1.020E+05	1.018E+05	1.016E+05
IY= 19	1.023E+05	1.022E+05	1.020E+05	1.018E+05	1.016E+05
IY= 18	1.023E+05	1.022E+05	1.020E+05	1.018E+05	1.016E+05
IY= 17	1.024E+05	1.022E+05	1.020E+05	1.018E+05	1.016E+05
IY= 16	1.024E+05	1.022E+05	1.020E+05	1.018E+05	1.016E+05
IY= 15	1.024E+05	1.022E+05	1.020E+05	1.018E+05	1.016E+05
IY= 14	1.024E+05	1.022E+05	1.020E+05	1.018E+05	1.016E+05
IY= 13	1.025E+05	1.022E+05	1.020E+05	1.018E+05	1.016E+05
IY= 12	1.025E+05	1.023E+05	1.021E+05	1.018E+05	1.016E+05
IY= 11	1.025E+05	1.023E+05	1.021E+05	1.018E+05	1.016E+05
IY= 10	1.026E+05	1.023E+05	1.021E+05	1.018E+05	1.016E+05
IY= 9	1.026E+05	1.023E+05	1.021E+05	1.018E+05	1.016E+05
IY= 8	1.025E+05	1.022E+05	1.020E+05	1.018E+05	1.016E+05
IY= 7	1.024E+05	1.022E+05	1.020E+05	1.018E+05	1.016E+05
IY= 6	1.022E+05	1.021E+05	1.019E+05	1.017E+05	1.016E+05
IY= 5	1.022E+05	1.021E+05	1.019E+05	1.017E+05	1.015E+05
IY= 4	1.022E+05	1.021E+05	1.019E+05	1.017E+05	1.015E+05
IY= 3	1.022E+05	1.021E+05	1.019E+05	1.017E+05	1.015E+05
IY= 2	1.022E+05	1.021E+05	1.019E+05	1.017E+05	1.015E+05
IY= 1	2.096E+04	2.096E+04	2.096E+04	2.111E+04	2.096E+04
IZ=	26	27	28	29	30

FIELD VALUES OF V1

IY= 19	6.063E-02	1.565E-01	2.514E-01	3.427E-01	4.239E-01
IY= 18	1.327E-01	3.140E-01	5.043E-01	6.889E-01	8.542E-01
IY= 17	2.019E-01	4.720E-01	7.596E-01	1.042E+00	1.298E+00
IY= 16	2.691E-01	6.291E-01	1.018E+00	1.406E+00	1.762E+00
IY= 15	3.334E-01	7.826E-01	1.277E+00	1.783E+00	2.256E+00
IY= 14	3.930E-01	9.286E-01	1.532E+00	2.173E+00	2.790E+00
IY= 13	4.441E-01	1.059E+00	1.776E+00	2.573E+00	3.376E+00
IY= 12	4.819E-01	1.162E+00	1.993E+00	2.973E+00	4.029E+00
IY= 11	4.995E-01	1.222E+00	2.156E+00	3.348E+00	4.760E+00
IY= 10	4.886E-01	1.217E+00	2.223E+00	3.645E+00	5.560E+00
IY= 9	4.416E-01	1.120E+00	2.137E+00	3.764E+00	6.361E+00
IY= 8	3.549E-01	9.114E-01	1.823E+00	3.525E+00	6.911E+00
IY= 7	2.349E-01	5.807E-01	1.217E+00	2.641E+00	6.494E+00
IY= 6	1.072E-01	1.528E-01	3.330E-01	8.811E-01	3.515E+00
IY= 5	1.027E-01	1.331E-01	2.917E-01	7.877E-01	3.228E+00
IY= 4	9.810E-02	1.130E-01	2.498E-01	6.907E-01	2.894E+00
IY= 3	9.370E-02	8.779E-02	2.074E-01	5.917E-01	2.565E+00
IY= 2	8.817E-02	7.251E-02	1.697E-01	5.056E-01	2.241E+00
IY= 1	3.327E-02	1.461E-02	8.958E-02	3.613E-01	1.805E+00
IZ=	1	2	3	4	5
IY= 19	4.866E-01	4.889E-01	4.923E-01	4.943E-01	4.814E-01
IY= 18	9.841E-01	9.858E-01	9.888E-01	9.879E-01	9.668E-01
IY= 17	1.494E+00	1.495E+00	1.497E+00	1.494E+00	1.466E+00
IY= 16	2.037E+00	2.038E+00	2.040E+00	2.036E+00	1.991E+00
IY= 15	2.620E+00	2.620E+00	2.621E+00	2.615E+00	2.555E+00
IY= 14	3.266E+00	3.264E+00	3.264E+00	3.255E+00	3.168E+00
IY= 13	4.004E+00	3.999E+00	3.996E+00	3.984E+00	3.849E+00
IY= 12	4.890E+00	4.881E+00	4.874E+00	4.856E+00	4.618E+00
IY= 11	6.005E+00	5.981E+00	5.965E+00	5.939E+00	5.503E+00
IY= 10	7.522E+00	7.478E+00	7.443E+00	7.401E+00	6.518E+00
IY= 9	9.779E+00	9.695E+00	9.628E+00	9.549E+00	7.642E+00
IY= 8	1.335E+01	1.321E+01	1.307E+01	1.292E+01	8.674E+00
IY= 7	1.861E+01	1.844E+01	1.825E+01	1.806E+01	8.836E+00
IY= 6	2.335E+01	2.680E+01	2.977E+01	3.041E+01	7.129E+00
IY= 5	2.282E+01	3.312E+01	3.856E+01	3.877E+01	6.814E+00
IY= 4	2.226E+01	3.875E+01	4.951E+01	5.046E+01	6.423E+00
IY= 3	2.178E+01	4.863E+01	6.480E+01	6.586E+01	5.889E+00
IY= 2	2.144E+01	6.405E+01	7.938E+01	9.123E+01	4.997E+00

IY= 1	2.139E+01	2.565E-08	6.485E-11	7.343E-11	5.876E-13
IZ=	6	7	8	9	10
IY= 19	4.825E-01	4.732E-01	4.585E-01	4.518E-01	4.572E-01
IY= 18	9.680E-01	9.424E-01	9.109E-01	8.959E-01	9.107E-01
IY= 17	1.461E+00	1.415E+00	1.361E+00	1.335E+00	1.359E+00
IY= 16	1.967E+00	1.888E+00	1.804E+00	1.763E+00	1.791E+00
IY= 15	2.492E+00	2.360E+00	2.235E+00	2.176E+00	2.209E+00
IY= 14	3.036E+00	2.827E+00	2.649E+00	2.568E+00	2.606E+00
IY= 13	3.601E+00	3.283E+00	3.041E+00	2.933E+00	2.974E+00
IY= 12	4.180E+00	3.717E+00	3.399E+00	3.264E+00	3.308E+00
IY= 11	4.760E+00	4.111E+00	3.717E+00	3.556E+00	3.601E+00
IY= 10	5.304E+00	4.442E+00	3.984E+00	3.804E+00	3.844E+00
IY= 9	5.732E+00	4.672E+00	4.185E+00	3.997E+00	4.024E+00
IY= 8	5.873E+00	4.738E+00	4.286E+00	4.100E+00	4.100E+00
IY= 7	5.388E+00	4.504E+00	4.171E+00	4.005E+00	3.965E+00
IY= 6	4.745E+00	4.443E+00	4.213E+00	4.025E+00	3.906E+00
IY= 5	4.688E+00	4.377E+00	4.123E+00	3.913E+00	3.764E+00
IY= 4	4.571E+00	4.213E+00	3.905E+00	3.647E+00	3.452E+00
IY= 3	4.293E+00	3.798E+00	3.377E+00	3.032E+00	2.737E+00
IY= 2	3.364E+00	2.532E+00	1.899E+00	1.419E+00	1.060E+00
IY= 1	5.145E-14	3.592E-14	3.083E-14	2.967E-14	7.200E-14
IZ=	11	12	13	14	15
IY= 19	4.813E-01	5.226E-01	5.671E-01	5.744E-01	5.853E-01
IY= 18	9.596E-01	1.039E+00	1.137E+00	1.153E+00	1.169E+00
IY= 17	1.432E+00	1.555E+00	1.708E+00	1.733E+00	1.759E+00
IY= 16	1.897E+00	2.066E+00	2.279E+00	2.314E+00	2.353E+00
IY= 15	2.343E+00	2.568E+00	2.856E+00	2.906E+00	2.953E+00
IY= 14	2.771E+00	3.058E+00	3.436E+00	3.497E+00	3.561E+00
IY= 13	3.173E+00	3.531E+00	4.014E+00	4.098E+00	4.184E+00
IY= 12	3.540E+00	3.979E+00	4.597E+00	4.707E+00	4.818E+00
IY= 11	3.863E+00	4.384E+00	5.174E+00	5.328E+00	5.480E+00
IY= 10	4.125E+00	4.727E+00	5.734E+00	5.957E+00	6.177E+00
IY= 9	4.302E+00	4.969E+00	6.225E+00	6.569E+00	6.911E+00
IY= 8	4.339E+00	5.009E+00	6.481E+00	7.049E+00	7.624E+00
IY= 7	4.117E+00	4.681E+00	6.134E+00	7.030E+00	8.106E+00
IY= 6	3.889E+00	4.162E+00	4.839E+00	6.404E+00	9.927E+00
IY= 5	3.709E+00	3.898E+00	4.297E+00	5.219E+00	9.236E+00
IY= 4	3.338E+00	3.401E+00	3.550E+00	3.852E+00	8.561E+00
IY= 3	2.537E+00	2.458E+00	1.952E+00	5.112E-01	6.349E+00
IY= 2	7.623E-01	4.906E-01	2.032E-01	5.948E-01	5.612E+00
IY= 1	2.098E-13	2.512E-13	9.242E-13	-3.217E-12	2.044E-11
IZ=	16	17	18	19	20
IY= 19	5.919E-01	5.998E-01	6.121E-01	6.157E-01	6.282E-01
IY= 18	1.184E+00	1.201E+00	1.216E+00	1.230E+00	1.258E+00
IY= 17	1.786E+00	1.808E+00	1.826E+00	1.847E+00	1.894E+00
IY= 16	2.387E+00	2.420E+00	2.455E+00	2.484E+00	2.539E+00
IY= 15	2.999E+00	3.043E+00	3.084E+00	3.121E+00	3.198E+00
IY= 14	3.622E+00	3.679E+00	3.732E+00	3.779E+00	3.876E+00
IY= 13	4.261E+00	4.334E+00	4.401E+00	4.461E+00	4.580E+00
IY= 12	4.925E+00	5.018E+00	5.103E+00	5.177E+00	5.319E+00
IY= 11	5.621E+00	5.747E+00	5.856E+00	5.946E+00	6.108E+00
IY= 10	6.377E+00	6.550E+00	6.690E+00	6.796E+00	6.967E+00
IY= 9	7.215E+00	7.465E+00	7.650E+00	7.767E+00	7.909E+00
IY= 8	8.131E+00	8.529E+00	8.785E+00	8.896E+00	8.900E+00
IY= 7	9.103E+00	9.840E+00	1.024E+01	1.028E+01	9.764E+00
IY= 6	1.250E+01	1.400E+01	1.464E+01	1.430E+01	1.069E+01
IY= 5	1.187E+01	1.340E+01	1.418E+01	1.408E+01	1.018E+01
IY= 4	1.105E+01	1.262E+01	1.344E+01	1.361E+01	9.450E+00
IY= 3	8.982E+00	1.066E+01	1.181E+01	1.243E+01	8.015E+00
IY= 2	7.483E+00	8.641E+00	9.438E+00	1.019E+01	5.687E+00
IY= 1	2.880E-11	3.396E-11	3.757E-11	4.092E-11	7.860E-14
IZ=	21	22	23	24	25
IY= 19	6.388E-01	6.471E-01	6.530E-01	6.556E-01	6.560E-01
IY= 18	1.280E+00	1.298E+00	1.309E+00	1.316E+00	1.316E+00
IY= 17	1.928E+00	1.955E+00	1.973E+00	1.983E+00	1.983E+00
IY= 16	2.587E+00	2.623E+00	2.648E+00	2.661E+00	2.661E+00
IY= 15	3.260E+00	3.307E+00	3.338E+00	3.354E+00	3.354E+00
IY= 14	3.953E+00	4.005E+00	4.046E+00	4.065E+00	4.066E+00
IY= 13	4.671E+00	4.740E+00	4.777E+00	4.797E+00	4.798E+00
IY= 12	5.422E+00	5.491E+00	5.531E+00	5.550E+00	5.551E+00

IY= 11	6.215E+00	6.277E+00	6.308E+00	6.317E+00	6.323E+00
IY= 10	7.056E+00	7.091E+00	7.095E+00	7.100E+00	7.101E+00
IY= 9	7.935E+00	7.909E+00	7.877E+00	7.849E+00	7.847E+00
IY= 8	8.767E+00	8.631E+00	8.532E+00	8.477E+00	8.461E+00
IY= 7	9.297E+00	9.035E+00	8.888E+00	8.788E+00	8.747E+00
IY= 6	9.801E+00	9.555E+00	9.410E+00	9.214E+00	8.994E+00
IY= 5	9.383E+00	9.135E+00	8.988E+00	8.792E+00	7.737E+00
IY= 4	8.744E+00	8.500E+00	8.346E+00	8.158E+00	6.373E+00
IY= 3	7.385E+00	7.112E+00	6.928E+00	6.752E+00	4.250E+00
IY= 2	4.835E+00	4.311E+00	3.901E+00	3.570E+00	8.886E-01
IY= 1	1.383E-13	1.283E-13	2.150E-13	2.097E-13	5.868E-12
IZ=	26	27	28	29	30

FIELD VALUES OF W1

IY= 20	1.377E+02	1.376E+02	1.379E+02	1.385E+02	1.393E+02
IY= 19	1.377E+02	1.376E+02	1.379E+02	1.385E+02	1.393E+02
IY= 18	1.376E+02	1.375E+02	1.379E+02	1.385E+02	1.393E+02
IY= 17	1.376E+02	1.375E+02	1.379E+02	1.385E+02	1.393E+02
IY= 16	1.375E+02	1.374E+02	1.378E+02	1.384E+02	1.393E+02
IY= 15	1.375E+02	1.373E+02	1.377E+02	1.384E+02	1.393E+02
IY= 14	1.374E+02	1.372E+02	1.375E+02	1.382E+02	1.393E+02
IY= 13	1.373E+02	1.370E+02	1.373E+02	1.380E+02	1.392E+02
IY= 12	1.371E+02	1.368E+02	1.370E+02	1.377E+02	1.389E+02
IY= 11	1.370E+02	1.365E+02	1.366E+02	1.371E+02	1.385E+02
IY= 10	1.368E+02	1.362E+02	1.360E+02	1.362E+02	1.376E+02
IY= 9	1.367E+02	1.358E+02	1.352E+02	1.349E+02	1.359E+02
IY= 8	1.366E+02	1.355E+02	1.344E+02	1.330E+02	1.325E+02
IY= 7	1.365E+02	1.352E+02	1.336E+02	1.307E+02	1.260E+02
IY= 6	1.365E+02	1.352E+02	1.336E+02	1.302E+02	1.197E+02
IY= 5	1.365E+02	1.352E+02	1.335E+02	1.300E+02	1.189E+02
IY= 4	1.365E+02	1.352E+02	1.335E+02	1.298E+02	1.182E+02
IY= 3	1.365E+02	1.352E+02	1.335E+02	1.297E+02	1.176E+02
IY= 2	1.365E+02	1.352E+02	1.335E+02	1.296E+02	1.171E+02
IY= 1	1.348E+02	1.339E+02	1.325E+02	1.287E+02	1.143E+02
IZ=	1	2	3	4	5
IY= 20	1.402E+02	1.404E+02	1.404E+02	1.405E+02	1.414E+02
IY= 19	1.402E+02	1.401E+02	1.402E+02	1.406E+02	1.415E+02
IY= 18	1.403E+02	1.396E+02	1.397E+02	1.406E+02	1.415E+02
IY= 17	1.403E+02	1.389E+02	1.391E+02	1.408E+02	1.417E+02
IY= 16	1.404E+02	1.380E+02	1.382E+02	1.410E+02	1.419E+02
IY= 15	1.405E+02	1.369E+02	1.372E+02	1.412E+02	1.421E+02
IY= 14	1.406E+02	1.356E+02	1.361E+02	1.415E+02	1.424E+02
IY= 13	1.408E+02	1.343E+02	1.349E+02	1.419E+02	1.428E+02
IY= 12	1.410E+02	1.329E+02	1.336E+02	1.423E+02	1.433E+02
IY= 11	1.412E+02	1.316E+02	1.324E+02	1.429E+02	1.440E+02
IY= 10	1.415E+02	1.306E+02	1.315E+02	1.436E+02	1.449E+02
IY= 9	1.420E+02	1.302E+02	1.312E+02	1.447E+02	1.459E+02
IY= 8	1.416E+02	1.301E+02	1.313E+02	1.460E+02	1.460E+02
IY= 7	1.352E+02	1.272E+02	1.285E+02	1.423E+02	1.397E+02
IY= 6	1.019E+02	1.132E+02	1.285E+02	1.490E+02	1.404E+02
IY= 5	1.002E+02	1.085E+02	1.280E+02	1.501E+02	1.401E+02
IY= 4	9.963E+01	1.097E+02	1.311E+02	1.509E+02	1.391E+02
IY= 3	1.008E+02	1.187E+02	1.428E+02	1.541E+02	1.369E+02
IY= 2	1.051E+02	1.330E+02	1.535E+02	1.743E+02	1.274E+02
IY= 1	7.536E-10	0.000E+00	0.000E+00	0.000E+00	0.000E+00
IZ=	6	7	8	9	10
IY= 20	1.425E+02	1.436E+02	1.447E+02	1.457E+02	1.468E+02
IY= 19	1.426E+02	1.437E+02	1.447E+02	1.458E+02	1.468E+02
IY= 18	1.426E+02	1.437E+02	1.448E+02	1.458E+02	1.469E+02
IY= 17	1.428E+02	1.439E+02	1.449E+02	1.460E+02	1.470E+02
IY= 16	1.430E+02	1.441E+02	1.451E+02	1.461E+02	1.471E+02
IY= 15	1.433E+02	1.444E+02	1.454E+02	1.463E+02	1.472E+02
IY= 14	1.436E+02	1.447E+02	1.457E+02	1.465E+02	1.474E+02
IY= 13	1.441E+02	1.451E+02	1.460E+02	1.468E+02	1.476E+02
IY= 12	1.446E+02	1.456E+02	1.463E+02	1.470E+02	1.477E+02
IY= 11	1.453E+02	1.461E+02	1.467E+02	1.473E+02	1.479E+02
IY= 10	1.460E+02	1.466E+02	1.470E+02	1.475E+02	1.480E+02
IY= 9	1.465E+02	1.467E+02	1.470E+02	1.474E+02	1.477E+02
IY= 8	1.454E+02	1.453E+02	1.454E+02	1.455E+02	1.457E+02
IY= 7	1.380E+02	1.377E+02	1.378E+02	1.380E+02	1.380E+02
IY= 6	1.377E+02	1.367E+02	1.360E+02	1.353E+02	1.345E+02

IY= 5	1.366E+02	1.346E+02	1.329E+02	1.313E+02	1.296E+02
IY= 4	1.338E+02	1.296E+02	1.257E+02	1.221E+02	1.186E+02
IY= 3	1.260E+02	1.164E+02	1.079E+02	1.006E+02	9.403E+01
IY= 2	9.700E+01	7.396E+01	5.601E+01	4.201E+01	3.078E+01
IY= 1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
IZ=	11	12	13	14	15
IY= 20	1.479E+02	1.492E+02	1.505E+02	1.510E+02	1.513E+02
IY= 19	1.480E+02	1.492E+02	1.505E+02	1.510E+02	1.513E+02
IY= 18	1.480E+02	1.492E+02	1.506E+02	1.510E+02	1.514E+02
IY= 17	1.481E+02	1.493E+02	1.506E+02	1.511E+02	1.514E+02
IY= 16	1.482E+02	1.493E+02	1.507E+02	1.511E+02	1.515E+02
IY= 15	1.482E+02	1.494E+02	1.508E+02	1.512E+02	1.515E+02
IY= 14	1.483E+02	1.494E+02	1.508E+02	1.512E+02	1.515E+02
IY= 13	1.484E+02	1.495E+02	1.508E+02	1.512E+02	1.516E+02
IY= 12	1.485E+02	1.494E+02	1.508E+02	1.511E+02	1.515E+02
IY= 11	1.485E+02	1.493E+02	1.506E+02	1.510E+02	1.514E+02
IY= 10	1.484E+02	1.490E+02	1.502E+02	1.505E+02	1.509E+02
IY= 9	1.479E+02	1.481E+02	1.489E+02	1.492E+02	1.498E+02
IY= 8	1.456E+02	1.453E+02	1.452E+02	1.454E+02	1.462E+02
IY= 7	1.378E+02	1.371E+02	1.353E+02	1.352E+02	1.364E+02
IY= 6	1.332E+02	1.301E+02	1.203E+02	1.240E+02	1.293E+02
IY= 5	1.272E+02	1.223E+02	1.074E+02	1.112E+02	1.184E+02
IY= 4	1.144E+02	1.066E+02	8.996E+01	9.622E+01	1.054E+02
IY= 3	8.694E+01	7.552E+01	4.105E+01	6.360E+01	7.892E+01
IY= 2	2.052E+01	6.360E+00	4.487E+00	4.304E+01	5.840E+01
IY= 1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
IZ=	16	17	18	19	20
IY= 20	1.516E+02	1.519E+02	1.522E+02	1.525E+02	1.530E+02
IY= 19	1.516E+02	1.519E+02	1.522E+02	1.525E+02	1.531E+02
IY= 18	1.517E+02	1.520E+02	1.523E+02	1.526E+02	1.531E+02
IY= 17	1.517E+02	1.520E+02	1.523E+02	1.526E+02	1.532E+02
IY= 16	1.518E+02	1.521E+02	1.524E+02	1.527E+02	1.533E+02
IY= 15	1.518E+02	1.521E+02	1.524E+02	1.528E+02	1.534E+02
IY= 14	1.519E+02	1.522E+02	1.525E+02	1.529E+02	1.535E+02
IY= 13	1.519E+02	1.522E+02	1.526E+02	1.530E+02	1.537E+02
IY= 12	1.519E+02	1.522E+02	1.526E+02	1.531E+02	1.538E+02
IY= 11	1.518E+02	1.522E+02	1.526E+02	1.531E+02	1.539E+02
IY= 10	1.514E+02	1.519E+02	1.524E+02	1.531E+02	1.540E+02
IY= 9	1.504E+02	1.511E+02	1.518E+02	1.526E+02	1.536E+02
IY= 8	1.472E+02	1.483E+02	1.494E+02	1.506E+02	1.517E+02
IY= 7	1.382E+02	1.403E+02	1.425E+02	1.445E+02	1.457E+02
IY= 6	1.337E+02	1.375E+02	1.412E+02	1.452E+02	1.436E+02
IY= 5	1.244E+02	1.295E+02	1.344E+02	1.401E+02	1.375E+02
IY= 4	1.128E+02	1.189E+02	1.249E+02	1.319E+02	1.284E+02
IY= 3	8.954E+01	9.776E+01	1.055E+02	1.150E+02	1.093E+02
IY= 2	6.778E+01	7.414E+01	7.998E+01	8.888E+01	7.614E+01
IY= 1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
IZ=	21	22	23	24	25
IY= 20	1.537E+02	1.543E+02	1.550E+02	1.556E+02	
IY= 19	1.537E+02	1.544E+02	1.550E+02	1.557E+02	
IY= 18	1.538E+02	1.544E+02	1.551E+02	1.557E+02	
IY= 17	1.538E+02	1.545E+02	1.552E+02	1.559E+02	
IY= 16	1.540E+02	1.546E+02	1.553E+02	1.560E+02	
IY= 15	1.541E+02	1.548E+02	1.555E+02	1.562E+02	
IY= 14	1.542E+02	1.550E+02	1.557E+02	1.564E+02	
IY= 13	1.544E+02	1.552E+02	1.559E+02	1.567E+02	
IY= 12	1.546E+02	1.554E+02	1.561E+02	1.569E+02	
IY= 11	1.548E+02	1.556E+02	1.564E+02	1.572E+02	
IY= 10	1.549E+02	1 557E+02	1.565E+02	1.573E+02	
IY= 9	1.546E+02	1.554E+02	1.562E+02	1.570E+02	
IY= 8	1.527E+02	1.535E+02	1.543E+02	1.550E+02	
IY= 7	1.465E+02	1.472E+02	1.479E+02	1.486E+02	
IY= 6	1.434E+02	1.437E+02	1.441E+02	1.447E+02	
IY= 5	1.368E+02	1.367E+02	1.370E+02	1.375E+02	
IY= 4	1.272E+02	1.267E+02	1.266E+02	1.270E+02	
IY= 3	1.066E+02	1.050E+02	1.041E+02	1.042E+02	
IY= 2	6.787E+01	6.148E+01	5.632E+01	5.301E+01	
IY= 1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	
IZ=	26	27	28	29	

FIELD VALUES OF H1

IY= 20	2.308E+05	2.310E+05	2.310E+05	2.310E+05	2.309E+05
IY= 19	2.308E+05	2.310E+05	2.310E+05	2.310E+05	2.309E+05
IY= 18	2.308E+05	2.310E+05	2.310E+05	2.310E+05	2.309E+05
IY= 17	2.308E+05	2.310E+05	2.310E+05	2.310E+05	2.309E+05
IY= 16	2.308E+05	2.310E+05	2.310E+05	2.310E+05	2.309E+05
IY= 15	2.308E+05	2.310E+05	2.311E+05	2.310E+05	2.309E+05
IY= 14	2.308E+05	2.310E+05	2.311E+05	2.310E+05	2.309E+05
IY= 13	2.308E+05	2.311E+05	2.311E+05	2.311E+05	2.310E+05
IY= 12	2.308E+05	2.311E+05	2.311E+05	2.311E+05	2.310E+05
IY= 11	2.308E+05	2.311E+05	2.312E+05	2.312E+05	2.311E+05
IY= 10	2.308E+05	2.311E+05	2.312E+05	2.312E+05	2.312E+05
IY= 9	2.308E+05	2.311E+05	2.313E+05	2.313E+05	2.314E+05
IY= 8	2.308E+05	2.312E+05	2.313E+05	2.315E+05	2.316E+05
IY= 7	2.308E+05	2.312E+05	2.313E+05	2.316E+05	2.320E+05
IY= 6	2.308E+05	2.312E+05	2.313E+05	2.316E+05	2.321E+05
IY= 5	2.308E+05	2.312E+05	2.313E+05	2.316E+05	2.321E+05
IY= 4	2.308E+05	2.312E+05	2.313E+05	2.316E+05	2.321E+05
IY= 3	2.308E+05	2.312E+05	2.313E+05	2.316E+05	2.321E+05
IY= 2	2.308E+05	2.312E+05	2.313E+05	2.316E+05	2.321E+05
IY= 1	2.308E+05	2.312E+05	2.313E+05	2.316E+05	2.321E+05
IZ=	1	2	3	4	5
IY= 20	2.308E+05	2.307E+05	2.306E+05	2.306E+05	2.306E+05
IY= 19	2.308E+05	2.307E+05	2.306E+05	2.306E+05	2.306E+05
IY= 18	2.308E+05	2.306E+05	2.306E+05	2.306E+05	2.306E+05
IY= 17	2.308E+05	2.306E+05	2.306E+05	2.306E+05	2.306E+05
IY= 16	2.308E+05	2.306E+05	2.306E+05	2.306E+05	2.305E+05
IY= 15	2.308E+05	2.306E+05	2.306E+05	2.305E+05	2.305E+05
IY= 14	2.308E+05	2.306E+05	2.306E+05	2.305E+05	2.305E+05
IY= 13	2.308E+05	2.306E+05	2.306E+05	2.305E+05	2.304E+05
IY= 12	2.308E+05	2.306E+05	2.306E+05	2.304E+05	2.304E+05
IY= 11	2.309E+05	2.305E+05	2.305E+05	2.304E+05	2.303E+05
IY= 10	2.310E+05	2.305E+05	2.305E+05	2.304E+05	2.302E+05
IY= 9	2.312E+05	2.304E+05	2.305E+05	2.303E+05	2.300E+05
IY= 8	2.317E+05	2.303E+05	2.304E+05	2.302E+05	2.296E+05
IY= 7	2.326E+05	2.304E+05	2.304E+05	2.302E+05	2.290E+05
IY= 6	2.334E+05	2.343E+05	2.341E+05	2.317E+05	2.289E+05
IY= 5	2.335E+05	2.352E+05	2.350E+05	2.323E+05	2.296E+05
IY= 4	2.335E+05	2.364E+05	2.361E+05	2.330E+05	2.313E+05
IY= 3	2.336E+05	2.384E+05	2.377E+05	2.338E+05	2.361E+05
IY= 2	2.337E+05	2.435E+05	2.430E+05	2.405E+05	2.546E+05
IY= 1	2.339E+05	3.576E+05	3.576E+05	3.576E+05	3.576E+05
IZ=	6	7	8	9	10
IY= 20	2.305E+05	2.303E+05	2.302E+05	2.300E+05	2.299E+05
IY= 19	2.305E+05	2.303E+05	2.302E+05	2.300E+05	2.299E+05
IY= 18	2.305E+05	2.303E+05	2.302E+05	2.300E+05	2.298E+05
IY= 17	2.304E+05	2.303E+05	2.301E+05	2.300E+05	2.298E+05
IY= 16	2.304E+05	2.303E+05	2.301E+05	2.300E+05	2.298E+05
IY= 15	2.304E+05	2.302E+05	2.301E+05	2.299E+05	2.298E+05
IY= 14	2.303E+05	2.302E+05	2.300E+05	2.299E+05	2.297E+05
IY= 13	2.303E+05	2.301E+05	2.300E+05	2.298E+05	2.297E+05
IY= 12	2.302E+05	2.300E+05	2.299E+05	2.298E+05	2.297E+05
IY= 11	2.301E+05	2.299E+05	2.298E+05	2.297E+05	2.296E+05
IY= 10	2.300E+05	2.298E+05	2.297E+05	2.297E+05	2.296E+05
IY= 9	2.298E+05	2.297E+05	2.297E+05	2.296E+05	2.296E+05
IY= 8	2.296E+05	2.296E+05	2.296E+05	2.296E+05	2.296E+05
IY= 7	2.294E+05	2.296E+05	2.297E+05	2.298E+05	2.298E+05
IY= 6	2.308E+05	2.319E+05	2.329E+05	2.339E+05	2.348E+05
IY= 5	2.324E+05	2.346E+05	2.366E+05	2.385E+05	2.403E+05
IY= 4	2.363E+05	2.406E+05	2.445E+05	2.481E+05	2.514E+05
IY= 3	2.462E+05	2.549E+05	2.626E+05	2.693E+05	2.751E+05
IY= 2	2.784E+05	2.971E+05	3.124E+05	3.246E+05	3.341E+05
IY= 1	3.576E+05	3.576E+05	3.576E+05	3.576E+05	3.576E+05
IZ=	11	12	13	14	15
IY= 20	2.297E+05	2.295E+05	2.294E+05	2.292E+05	2.291E+05
IY= 19	2.297E+05	2.295E+05	2.294E+05	2.292E+05	2.291E+05
IY= 18	2.297E+05	2.295E+05	2.293E+05	2.291E+05	2.291E+05
IY= 17	2.297E+05	2.295E+05	2.293E+05	2.291E+05	2.291E+05
IY= 16	2.297E+05	2.295E+05	2.293E+05	2.291E+05	2.291E+05
IY= 15	2.296E+05	2.295E+05	2.293E+05	2.291E+05	2.290E+05
IY= 14	2.296E+05	2.295E+05	2.293E+05	2.291E+05	2.290E+05

IY= 13	2.296E+05	2.295E+05	2.293E+05	2.291E+05	2.290E+05
IY= 12	2.296E+05	2.295E+05	2.293E+05	2.291E+05	2.290E+05
IY= 11	2.295E+05	2.295E+05	2.293E+05	2.291E+05	2.291E+05
IY= 10	2.295E+05	2.295E+05	2.294E+05	2.292E+05	2.291E+05
IY= 9	2.295E+05	2.295E+05	2.294E+05	2.293E+05	2.292E+05
IY= 8	2.295E+05	2.295E+05	2.296E+05	2.295E+05	2.295E+05
IY= 7	2.298E+05	2.299E+05	2.304E+05	2.306E+05	2.305E+05
IY= 6	2.360E+05	2.381E+05	2.437E+05	2.388E+05	2.368E+05
IY= 5	2.423E+05	2.458E+05	2.536E+05	2.477E+05	2.447E+05
IY= 4	2.549E+05	2.604E+05	2.695E+05	2.597E+05	2.556E+05
IY= 3	2.807E+05	2.880E+05	2.947E+05	2.725E+05	2.675E+05
IY= 2	3.410E+05	3.448E+05	3.109E+05	2.797E+05	2.825E+05
IY= 1	3.576E+05	3.576E+05	3.576E+05	3.576E+05	3.576E+05
IZ=	16	17	18	19	20
IY= 20	2.290E+05	2.290E+05	2.289E+05	2.289E+05	2.289E+05
IY= 19	2.290E+05	2.290E+05	2.289E+05	2.289E+05	2.289E+05
IY= 18	2.290E+05	2.290E+05	2.289E+05	2.289E+05	2.288E+05
IY= 17	2.290E+05	2.290E+05	2.289E+05	2.289E+05	2.288E+05
IY= 16	2.290E+05	2.290E+05	2.289E+05	2.289E+05	2.288E+05
IY= 15	2.290E+05	2.290E+05	2.289E+05	2.289E+05	2.288E+05
IY= 14	2.290E+05	2.289E+05	2.289E+05	2.288E+05	2.288E+05
IY= 13	2.290E+05	2.289E+05	2.289E+05	2.288E+05	2.288E+05
IY= 12	2.290E+05	2.289E+05	2.289E+05	2.288E+05	2.288E+05
IY= 11	2.290E+05	2.289E+05	2.289E+05	2.288E+05	2.287E+05
IY= 10	2.290E+05	2.290E+05	2.289E+05	2.288E+05	2.287E+05
IY= 9	2.291E+05	2.290E+05	2.289E+05	2.288E+05	2.287E+05
IY= 8	2.294E+05	2.292E+05	2.291E+05	2.289E+05	2.288E+05
IY= 7	2.304E+05	2.302E+05	2.299E+05	2.296E+05	2.293E+05
IY= 6	2.353E+05	2.342E+05	2.332E+05	2.321E+05	2.326E+05
IY= 5	2.425E+05	2.408E+05	2.393E+05	2.376E+05	2.385E+05
IY= 4	2.527E+05	2.506E+05	2.487E+05	2.465E+05	2.478E+05
IY= 3	2.643E+05	2.621E+05	2.602E+05	2.578E+05	2.608E+05
IY= 2	2.851E+05	2.881E+05	2.908E+05	2.919E+05	2.986E+05
IY= 1	3.576E+05	3.576E+05	3.576E+05	3.576E+05	3.576E+05
IZ=	21	22	23	24	25
IY= 20	2.288E+05	2.287E+05	2.286E+05	2.285E+05	2.284E+05
IY= 19	2.288E+05	2.287E+05	2.286E+05	2.285E+05	2.284E+05
IY= 18	2.288E+05	2.287E+05	2.286E+05	2.285E+05	2.284E+05
IY= 17	2.287E+05	2.286E+05	2.285E+05	2.284E+05	2.283E+05
IY= 16	2.287E+05	2.286E+05	2.285E+05	2.284E+05	2.283E+05
IY= 15	2.287E+05	2.286E+05	2.285E+05	2.284E+05	2.283E+05
IY= 14	2.287E+05	2.286E+05	2.285E+05	2.284E+05	2.283E+05
IY= 13	2.287E+05	2.286E+05	2.284E+05	2.283E+05	2.282E+05
IY= 12	2.287E+05	2.285E+05	2.284E+05	2.283E+05	2.282E+05
IY= 11	2.286E+05	2.285E+05	2.284E+05	2.283E+05	2.281E+05
IY= 10	2.286E+05	2.285E+05	2.283E+05	2.282E+05	2.281E+05
IY= 9	2.286E+05	2.284E+05	2.283E+05	2.282E+05	2.281E+05
IY= 8	2.286E+05	2.284E+05	2.283E+05	2.282E+05	2.281E+05
IY= 7	2.292E+05	2.291E+05	2.290E+05	2.289E+05	2.288E+05
IY= 6	2.333E+05	2.337E+05	2.339E+05	2.340E+05	2.339E+05
IY= 5	2.396E+05	2.403E+05	2.407E+05	2.409E+05	2.401E+05
IY= 4	2.493E+05	2.503E+05	2.511E+05	2.516E+05	2.493E+05
IY= 3	2.640E+05	2.665E+05	2.686E+05	2.700E+05	2.642E+05
IY= 2	3.061E+05	3.127E+05	3.186E+05	3.240E+05	3.028E+05
IY= 1	3.576E+05	3.576E+05	3.576E+05	3.576E+05	3.576E+05
IZ=	26	27	28	29	30
FIELD VALUES OF ENUL					
IY= 20	7.521E-06	7.506E-06	7.506E-06	7.507E-06	7.508E-06
IY= 19	7.520E-06	7.505E-06	7.505E-06	7.506E-06	7.507E-06
IY= 18	7.519E-06	7.504E-06	7.503E-06	7.504E-06	7.506E-06
IY= 17	7.517E-06	7.501E-06	7.501E-06	7.502E-06	7.503E-06
IY= 16	7.514E-06	7.498E-06	7.498E-06	7.499E-06	7.500E-06
IY= 15	7.511E-06	7.494E-06	7.494E-06	7.494E-06	7.496E-06
IY= 14	7.507E-06	7.489E-06	7.489E-06	7.489E-06	7.491E-06
IY= 13	7.503E-06	7.484E-06	7.483E-06	7.484E-06	7.485E-06
IY= 12	7.498E-06	7.478E-06	7.477E-06	7.477E-06	7.479E-06
IY= 11	7.494E-06	7.472E-06	7.471E-06	7.471E-06	7.471E-06
IY= 10	7.489E-06	7.466E-06	7.464E-06	7.464E-06	7.463E-06
IY= 9	7.485E-06	7.461E-06	7.459E-06	7.457E-06	7.455E-06
IY= 8	7.482E-06	7.457E-06	7.454E-06	7.451E-06	7.447E-06

IY= 7	7.480E-06	7.454E-06	7.451E-06	7.447E-06	7.439E-06
IY= 6	7.479E-06	7.454E-06	7.450E-06	7.446E-06	7.434E-06
IY= 5	7.479E-06	7.453E-06	7.450E-06	7.446E-06	7.436E-06
IY= 4	7.479E-06	7.453E-06	7.450E-06	7.446E-06	7.436E-06
IY= 3	7.479E-06	7.453E-06	7.450E-06	7.446E-06	7.436E-06
IY= 2	7.479E-06	7.453E-06	7.450E-06	7.446E-06	7.436E-06
IY= 1	7.492E-06	7.466E-06	7.459E-06	7.453E-06	7.442E-06
IZ=	1	2	3	4	5
IY= 20	7.510E-06	7.513E-06	7.513E-06	7.513E-06	7.513E-06
IY= 19	7.509E-06	7.512E-06	7.514E-06	7.515E-06	7.512E-06
IY= 18	7.508E-06	7.510E-06	7.517E-06	7.517E-06	7.511E-06
IY= 17	7.505E-06	7.508E-06	7.521E-06	7.521E-06	7.509E-06
IY= 16	7.502E-06	7.505E-06	7.525E-06	7.526E-06	7.506E-06
IY= 15	7.498E-06	7.501E-06	7.531E-06	7.532E-06	7.503E-06
IY= 14	7.493E-06	7.497E-06	7.537E-06	7.538E-06	7.499E-06
IY= 13	7.488E-06	7.492E-06	7.543E-06	7.545E-06	7.495E-06
IY= 12	7.482E-06	7.486E-06	7.549E-06	7.552E-06	7.490E-06
IY= 11	7.474E-06	7.480E-06	7.554E-06	7.557E-06	7.486E-06
IY= 10	7.466E-06	7.474E-06	7.556E-06	7.561E-06	7.482E-06
IY= 9	7.455E-06	7.469E-06	7.555E-06	7.561E-06	7.481E-06
IY= 8	7.439E-06	7.470E-06	7.553E-06	7.560E-06	7.494E-06
IY= 7	7.414E-06	7.508E-06	7.561E-06	7.566E-06	7.579E-06
IY= 6	7.398E-06	7.432E-06	7.369E-06	7.442E-06	7.641E-06
IY= 5	7.398E-06	7.363E-06	7.310E-06	7.378E-06	7.688E-06
IY= 4	7.398E-06	7.259E-06	7.176E-06	7.257E-06	7.805E-06
IY= 3	7.397E-06	7.083E-06	6.970E-06	7.020E-06	8.095E-06
IY= 2	7.396E-06	7.077E-06	7.144E-06	7.285E-06	9.086E-06
IY= 1	7.399E-06	8.438E-05	8.450E-05	8.462E-05	8.462E-05
IZ=	6	7	8	9	10
IY= 20	7.516E-06	7.518E-06	7.521E-06	7.524E-06	7.527E-06
IY= 19	7.515E-06	7.517E-06	7.520E-06	7.523E-06	7.526E-06
IY= 18	7.513E-06	7.516E-06	7.519E-06	7.522E-06	7.524E-06
IY= 17	7.511E-06	7.514E-06	7.517E-06	7.520E-06	7.522E-06
IY= 16	7.509E-06	7.512E-06	7.514E-06	7.517E-06	7.519E-06
IY= 15	7.505E-06	7.508E-06	7.511E-06	7.514E-06	7.516E-06
IY= 14	7.501E-06	7.505E-06	7.507E-06	7.510E-06	7.512E-06
IY= 13	7.497E-06	7.500E-06	7.503E-06	7.505E-06	7.507E-06
IY= 12	7.493E-06	7.496E-06	7.499E-06	7.501E-06	7.502E-06
IY= 11	7.489E-06	7.492E-06	7.494E-06	7.496E-06	7.497E-06
IY= 10	7.486E-06	7.489E-06	7.490E-06	7.492E-06	7.493E-06
IY= 9	7.487E-06	7.489E-06	7.490E-06	7.491E-06	7.492E-06
IY= 8	7.501E-06	7.503E-06	7.504E-06	7.505E-06	7.507E-06
IY= 7	7.575E-06	7.573E-06	7.575E-06	7.578E-06	7.581E-06
IY= 6	7.662E-06	7.710E-06	7.769E-06	7.832E-06	7.895E-06
IY= 5	7.761E-06	7.872E-06	7.998E-06	8.124E-06	8.247E-06
IY= 4	7.997E-06	8.247E-06	8.508E-06	8.758E-06	8.990E-06
IY= 3	8.609E-06	9.177E-06	9.722E-06	1.021E-05	1.065E-05
IY= 2	1.073E-05	1.216E-05	1.337E-05	1.435E-05	1.511E-05
IY= 1	8.462E-05	8.462E-05	8.462E-05	8.462E-05	8.462E-05
IZ=	11	12	13	14	15
IY= 20	7.530E-06	7.533E-06	7.536E-06	7.539E-06	7.541E-06
IY= 19	7.529E-06	7.532E-06	7.535E-06	7.538E-06	7.540E-06
IY= 18	7.527E-06	7.530E-06	7.533E-06	7.537E-06	7.538E-06
IY= 17	7.525E-06	7.528E-06	7.531E-06	7.534E-06	7.536E-06
IY= 16	7.522E-06	7.525E-06	7.528E-06	7.531E-06	7.533E-06
IY= 15	7.518E-06	7.521E-06	7.524E-06	7.527E-06	7.529E-06
IY= 14	7.514E-06	7.516E-06	7.519E-06	7.523E-06	7.525E-06
IY= 13	7.509E-06	7.511E-06	7.514E-06	7.517E-06	7.519E-06
IY= 12	7.504E-06	7.506E-06	7.508E-06	7.511E-06	7.514E-06
IY= 11	7.499E-06	7.500E-06	7.502E-06	7.505E-06	7.508E-06
IY= 10	7.494E-06	7.495E-06	7.495E-06	7.500E-06	7.502E-06
IY= 9	7.493E-06	7.494E-06	7.495E-06	7.498E-06	7.501E-06
IY= 8	7.508E-06	7.509E-06	7.511E-06	7.515E-06	7.517E-06
IY= 7	7.564E-06	7.590E-06	7.607E-06	7.616E-06	7.605E-06
IY= 6	7.968E-06	8.101E-06	8.393E-06	8.139E-06	7.944E-06
IY= 5	8.383E-06	8.610E-06	9.032E-06	8.736E-06	8.475E-06
IY= 4	9.233E-06	9.601E-06	1.014E-05	9.560E-06	9.191E-06
IY= 3	1.116E-05	1.160E-05	1.190E-05	1.177E-05	1.124E-05
IY= 2	1.567E-05	1.596E-05	1.550E-05	1.438E-05	1.344E-05
IY= 1	8.462E-05	8.462E-05	8.462E-05	8.462E-05	8.462E-05

IZ=	16	17	18	19	20
IY= 20	7.542E-06	7.542E-06	7.543E-06	7.544E-06	7.545E-06
IY= 19	7.541E-06	7.541E-06	7.542E-06	7.543E-06	7.544E-06
IY= 18	7.539E-06	7.540E-06	7.541E-06	7.542E-06	7.542E-06
IY= 17	7.537E-06	7.538E-06	7.538E-06	7.539E-06	7.540E-06
IY= 16	7.534E-06	7.535E-06	7.535E-06	7.536E-06	7.537E-06
IY= 15	7.530E-06	7.531E-06	7.532E-06	7.533E-06	7.533E-06
IY= 14	7.525E-06	7.526E-06	7.527E-06	7.528E-06	7.529E-06
IY= 13	7.520E-06	7.521E-06	7.522E-06	7.523E-06	7.523E-06
IY= 12	7.515E-06	7.516E-06	7.517E-06	7.518E-06	7.518E-06
IY= 11	7.509E-06	7.510E-06	7.511E-06	7.512E-06	7.512E-06
IY= 10	7.503E-06	7.505E-06	7.506E-06	7.507E-06	7.508E-06
IY= 9	7.502E-06	7.503E-06	7.505E-06	7.507E-06	7.507E-06
IY= 8	7.518E-06	7.519E-06	7.522E-06	7.524E-06	7.526E-06
IY= 7	7.603E-06	7.604E-06	7.607E-06	7.611E-06	7.620E-06
IY= 6	7.861E-06	7.818E-06	7.790E-06	7.766E-06	7.840E-06
IY= 5	8.342E-06	8.262E-06	8.200E-06	8.134E-06	8.228E-06
IY= 4	9.010E-06	8.901E-06	8.815E-06	8.715E-06	8.852E-06
IY= 3	1.001E-05	9.877E-06	9.775E-06	9.648E-06	9.953E-06
IY= 2	1.169E-05	1.199E-05	1.228E-05	1.242E-05	1.305E-05
IY= 1	8.462E-05	8.462E-05	8.462E-05	8.462E-05	8.462E-05
IZ=	21	22	23	24	25
IY= 20	7.546E-06	7.548E-06	7.550E-06	7.552E-06	7.554E-06
IY= 19	7.545E-06	7.547E-06	7.549E-06	7.551E-06	7.553E-06
IY= 18	7.544E-06	7.546E-06	7.547E-06	7.549E-06	7.551E-06
IY= 17	7.542E-06	7.543E-06	7.545E-06	7.547E-06	7.549E-06
IY= 16	7.539E-06	7.540E-06	7.542E-06	7.544E-06	7.546E-06
IY= 15	7.535E-06	7.537E-06	7.539E-06	7.541E-06	7.543E-06
IY= 14	7.530E-06	7.532E-06	7.534E-06	7.536E-06	7.538E-06
IY= 13	7.525E-06	7.527E-06	7.529E-06	7.531E-06	7.534E-06
IY= 12	7.520E-06	7.522E-06	7.524E-06	7.526E-06	7.529E-06
IY= 11	7.514E-06	7.517E-06	7.519E-06	7.521E-06	7.523E-06
IY= 10	7.510E-06	7.512E-06	7.515E-06	7.517E-06	7.519E-06
IY= 9	7.510E-06	7.513E-06	7.516E-06	7.518E-06	7.520E-06
IY= 8	7.530E-06	7.533E-06	7.536E-06	7.538E-06	7.540E-06
IY= 7	7.625E-06	7.628E-06	7.631E-06	7.633E-06	7.635E-06
IY= 6	7.882E-06	7.914E-06	7.938E-06	7.953E-06	7.956E-06
IY= 5	8.296E-06	8.349E-06	8.391E-06	8.417E-06	8.381E-06
IY= 4	8.966E-06	9.061E-06	9.143E-06	9.196E-06	9.078E-06
IY= 3	1.021E-05	1.043E-05	1.063E-05	1.078E-05	1.033E-05
IY= 2	1.367E-05	1.424E-05	1.474E-05	1.519E-05	1.371E-05
IY= 1	8.462E-05	8.462E-05	8.462E-05	8.404E-05	8.460E-05
IZ=	26	27	28	29	30
FIELD VALUES OF RHO1					
IY= 20	1.848E+00	1.853E+00	1.853E+00	1.852E+00	1.851E+00
IY= 19	1.849E+00	1.853E+00	1.854E+00	1.853E+00	1.851E+00
IY= 18	1.849E+00	1.854E+00	1.854E+00	1.853E+00	1.852E+00
IY= 17	1.849E+00	1.854E+00	1.855E+00	1.854E+00	1.852E+00
IY= 16	1.850E+00	1.855E+00	1.856E+00	1.855E+00	1.853E+00
IY= 15	1.851E+00	1.856E+00	1.857E+00	1.856E+00	1.855E+00
IY= 14	1.852E+00	1.858E+00	1.858E+00	1.857E+00	1.856E+00
IY= 13	1.853E+00	1.859E+00	1.860E+00	1.859E+00	1.858E+00
IY= 12	1.854E+00	1.861E+00	1.862E+00	1.861E+00	1.860E+00
IY= 11	1.856E+00	1.863E+00	1.864E+00	1.864E+00	1.863E+00
IY= 10	1.857E+00	1.864E+00	1.866E+00	1.866E+00	1.866E+00
IY= 9	1.858E+00	1.866E+00	1.868E+00	1.869E+00	1.870E+00
IY= 8	1.859E+00	1.867E+00	1.870E+00	1.872E+00	1.875E+00
IY= 7	1.859E+00	1.868E+00	1.871E+00	1.874E+00	1.880E+00
IY= 6	1.860E+00	1.868E+00	1.871E+00	1.874E+00	1.882E+00
IY= 5	1.860E+00	1.868E+00	1.871E+00	1.874E+00	1.882E+00
IY= 4	1.860E+00	1.868E+00	1.871E+00	1.874E+00	1.882E+00
IY= 3	1.860E+00	1.868E+00	1.871E+00	1.874E+00	1.882E+00
IY= 2	1.860E+00	1.868E+00	1.871E+00	1.874E+00	1.883E+00
IY= 1	1.858E+00	1.866E+00	1.869E+00	1.873E+00	1.882E+00
IZ=	1	2	3	4	5
IY= 20	1.850E+00	1.848E+00	1.847E+00	1.847E+00	1.847E+00
IY= 19	1.850E+00	1.848E+00	1.847E+00	1.847E+00	1.847E+00
IY= 18	1.850E+00	1.848E+00	1.847E+00	1.847E+00	1.847E+00
IY= 17	1.851E+00	1.849E+00	1.846E+00	1.846E+00	1.848E+00
IY= 16	1.851E+00	1.849E+00	1.846E+00	1.845E+00	1.848E+00

IY= 15	1.852E+00	1.850E+00	1.845E+00	1.845E+00	1.848E+00
IY= 14	1.854E+00	1.851E+00	1.845E+00	1.844E+00	1.849E+00
IY= 13	1.855E+00	1.852E+00	1.844E+00	1.843E+00	1.849E+00
IY= 12	1.857E+00	1.853E+00	1.844E+00	1.842E+00	1.850E+00
IY= 11	1.860E+00	1.854E+00	1.843E+00	1.841E+00	1.850E+00
IY= 10	1.863E+00	1.855E+00	1.843E+00	1.840E+00	1.850E+00
IY= 9	1.868E+00	1.855E+00	1.843E+00	1.840E+00	1.848E+00
IY= 8	1.877E+00	1.854E+00	1.843E+00	1.839E+00	1.842E+00
IY= 7	1.892E+00	1.849E+00	1.841E+00	1.838E+00	1.820E+00
IY= 6	1.905E+00	1.911E+00	1.918E+00	1.876E+00	1.800E+00
IY= 5	1.906E+00	1.934E+00	1.939E+00	1.893E+00	1.792E+00
IY= 4	1.907E+00	1.966E+00	1.976E+00	1.921E+00	1.774E+00
IY= 3	1.908E+00	2.021E+00	2.032E+00	1.969E+00	1.732E+00
IY= 2	1.909E+00	2.061E+00	2.020E+00	1.950E+00	1.612E+00
IY= 1	1.911E+00	2.268E-01	2.264E-01	2.261E-01	2.261E-01
IZ=	6	7	8	9	10
IY= 20	1.845E+00	1.843E+00	1.840E+00	1.838E+00	1.835E+00
IY= 19	1.845E+00	1.843E+00	1.840E+00	1.838E+00	1.835E+00
IY= 18	1.845E+00	1.843E+00	1.840E+00	1.838E+00	1.836E+00
IY= 17	1.846E+00	1.843E+00	1.841E+00	1.838E+00	1.836E+00
IY= 16	1.846E+00	1.843E+00	1.841E+00	1.839E+00	1.836E+00
IY= 15	1.846E+00	1.844E+00	1.841E+00	1.839E+00	1.837E+00
IY= 14	1.847E+00	1.844E+00	1.842E+00	1.840E+00	1.838E+00
IY= 13	1.847E+00	1.844E+00	1.842E+00	1.840E+00	1.838E+00
IY= 12	1.847E+00	1.845E+00	1.842E+00	1.841E+00	1.839E+00
IY= 11	1.847E+00	1.844E+00	1.843E+00	1.841E+00	1.840E+00
IY= 10	1.846E+00	1.844E+00	1.843E+00	1.842E+00	1.841E+00
IY= 9	1.844E+00	1.843E+00	1.842E+00	1.842E+00	1.841E+00
IY= 8	1.840E+00	1.840E+00	1.840E+00	1.839E+00	1.839E+00
IY= 7	1.825E+00	1.829E+00	1.829E+00	1.829E+00	1.828E+00
IY= 6	1.812E+00	1.809E+00	1.801E+00	1.793E+00	1.784E+00
IY= 5	1.798E+00	1.787E+00	1.770E+00	1.754E+00	1.737E+00
IY= 4	1.766E+00	1.737E+00	1.706E+00	1.676E+00	1.650E+00
IY= 3	1.689E+00	1.630E+00	1.575E+00	1.529E+00	1.491E+00
IY= 2	1.480E+00	1.376E+00	1.301E+00	1.246E+00	1.208E+00
IY= 1	2.261E-01	2.261E-01	2.261E-01	2.261E-01	2.261E-01
IZ=	11	12	13	14	15
IY= 20	1.833E+00	1.830E+00	1.827E+00	1.824E+00	1.823E+00
IY= 19	1.833E+00	1.830E+00	1.828E+00	1.825E+00	1.823E+00
IY= 18	1.833E+00	1.831E+00	1.828E+00	1.825E+00	1.824E+00
IY= 17	1.834E+00	1.831E+00	1.828E+00	1.825E+00	1.824E+00
IY= 16	1.834E+00	1.832E+00	1.829E+00	1.826E+00	1.825E+00
IY= 15	1.835E+00	1.833E+00	1.830E+00	1.827E+00	1.826E+00
IY= 14	1.836E+00	1.834E+00	1.831E+00	1.828E+00	1.827E+00
IY= 13	1.837E+00	1.835E+00	1.832E+00	1.829E+00	1.828E+00
IY= 12	1.838E+00	1.836E+00	1.834E+00	1.831E+00	1.829E+00
IY= 11	1.839E+00	1.837E+00	1.835E+00	1.832E+00	1.831E+00
IY= 10	1.840E+00	1.838E+00	1.837E+00	1.834E+00	1.833E+00
IY= 9	1.840E+00	1.839E+00	1.839E+00	1.836E+00	1.835E+00
IY= 8	1.838E+00	1.838E+00	1.838E+00	1.837E+00	1.835E+00
IY= 7	1.827E+00	1.826E+00	1.825E+00	1.827E+00	1.827E+00
IY= 6	1.774E+00	1.757E+00	1.715E+00	1.754E+00	1.786E+00
IY= 5	1.720E+00	1.694E+00	1.639E+00	1.679E+00	1.717E+00
IY= 4	1.623E+00	1.586E+00	1.529E+00	1.588E+00	1.633E+00
IY= 3	1.457E+00	1.417E+00	1.383E+00	1.494E+00	1.545E+00
IY= 2	1.182E+00	1.168E+00	1.298E+00	1.451E+00	1.457E+0(
IY= 1	2.261E-01	2.261E-01	2.261E-01	2.261E-01	2.261E-01
IZ=	16	17	18	19	20
IY= 20	1.822E+00	1.822E+00	1.821E+00	1.820E+00	1.820E+00
IY= 19	1.823E+00	1.822E+00	1.821E+00	1.821E+00	1.820E+00
IY= 18	1.823E+00	1.822E+00	1.822E+00	1.821E+00	1.820E+00
IY= 17	1.823E+00	1.823E+00	1.822E+00	1.821E+00	1.821E+00
IY= 16	1.824E+00	1.823E+00	1.823E+00	1.822E+00	1.821E+00
IY= 15	1.825E+00	1.824E+00	1.823E+00	1.823E+00	1.822E+00
IY= 14	1.826E+00	1.825E+00	1.824E+00	1.824E+00	1.823E+00
IY= 13	1.827E+00	1.826E+00	1.825E+00	1.825E+00	1.824E+00
IY= 12	1.828E+00	1.828E+00	1.827E+00	1.826E+00	1.825E+00
IY= 11	1.830E+00	1.829E+00	1.828E+00	1.827E+00	1.826E+00
IY= 10	1.832E+00	1.831E+00	1.830E+00	1.828E+00	1.827E+00
IY= 9	1.834E+00	1.832E+00	1.831E+00	1.829E+00	1.828E+00

IY= 8	1.834E+00	1.832E+00	1.830E+00	1.827E+00	1.825E+00
IY= 7	1.826E+00	1.823E+00	1.819E+00	1.815E+00	1.810E+00
IY= 6	1.794E+00	1.795E+00	1.793E+00	1.791E+00	1.773E+00
IY= 5	1.730E+00	1.735E+00	1.738E+00	1.741E+00	1.720E+00
IY= 4	1.649E+00	1.656E+00	1.661E+00	1.667E+00	1.645E+00
IY= 3	1.560E+00	1.567E+00	1.571E+00	1.577E+00	1.546E+00
IY= 2	1.438E+00	1.415E+00	1.393E+00	1.378E+00	1.334E+00
IY= 1	2.261E-01	2.261E-01	2.261E-01	2.261E-01	2.261E-01
IZ=	21	22	23	24	25
IY= 20	1.818E+00	1.817E+00	1.815E+00	1.814E+00	1.812E+00
IY= 19	1.819E+00	1.817E+00	1.816E+00	1.814E+00	1.812E+00
IY= 18	1.819E+00	1.817E+00	1.816E+00	1.814E+00	1.813E+00
IY= 17	1.819E+00	1.818E+00	1.816E+00	1.815E+00	1.813E+00
IY= 16	1.820E+00	1.818E+00	1.817E+00	1.815E+00	1.813E+00
IY= 15	1.820E+00	1.819E+00	1.817E+00	1.816E+00	1.814E+00
IY= 14	1.821E+00	1.820E+00	1.818E+00	1.816E+00	1.814E+00
IY= 13	1.822E+00	1.821E+00	1.819E+00	1.817E+00	1.815E+00
IY= 12	1.823E+00	1.821E+00	1.820E+00	1.818E+00	1.816E+00
IY= 11	1.824E+00	1.822E+00	1.820E+00	1.818E+00	1.817E+00
IY= 10	1.825E+00	1.823E+00	1.821E+00	1.819E+00	1.817E+00
IY= 9	1.825E+00	1.823E+00	1.821E+00	1.819E+00	1.817E+00
IY= 8	1.822E+00	1.820E+00	1.818E+00	1.816E+00	1.814E+00
IY= 7	1.807E+00	1.805E+00	1.803E+00	1.801E+00	1.800E+00
IY= 6	1.768E+00	1.763E+00	1.759E+00	1.755E+00	1.754E+00
IY= 5	1.713E+00	1.706E+00	1.700E+00	1.695E+00	1.698E+00
IY= 4	1.635E+00	1.626E+00	1.617E+00	1.611E+00	1.623E+00
IY= 3	1.527E+00	1.510E+00	1.495E+00	1.483E+00	1.513E+00
IY= 2	1.300E+00	1.269E+00	1.241E+00	1.217E+00	1.298E+00
IY= 1	2.261E-01	2.261E-01	2.261E-01	2.277E-01	2.262E-01
IZ=	26	27	28	29	30

FIELD VALUES OF TMP1

IY= 20	1.999E+02	2.001E+02	2.001E+02	2.001E+02	1.999E+02
IY= 19	1.999E+02	2.001E+02	2.001E+02	2.001E+02	1.999E+02
IY= 18	1.999E+02	2.001E+02	2.002E+02	2.001E+02	1.999E+02
IY= 17	1.999E+02	2.001E+02	2.002E+02	2.001E+02	1.999E+02
IY= 16	2.000E+02	2.002E+02	2.002E+02	2.001E+02	1.999E+02
IY= 15	2.000E+02	2.002E+02	2.002E+02	2.001E+02	1.999E+02
IY= 14	2.000E+02	2.002E+02	2.002E+02	2.002E+02	2.000E+02
IY= 13	2.000E+02	2.002E+02	2.003E+02	2.002E+02	2.000E+02
IY= 12	2.000E+02	2.003E+02	2.003E+02	2.003E+02	2.001E+02
IY= 11	2.000E+02	2.003E+02	2.004E+02	2.004E+02	2.002E+02
IY= 10	2.000E+02	2.003E+02	2.005E+02	2.005E+02	2.005E+02
IY= 9	2.001E+02	2.004E+02	2.006E+02	2.007E+02	2.008E+02
IY= 8	2.001E+02	2.004E+02	2.007E+02	2.009E+02	2.013E+02
IY= 7	2.001E+02	2.004E+02	2.007E+02	2.011E+02	2.018E+02
IY= 6	2.001E+02	2.004E+02	2.007E+02	2.011E+02	2.020E+02
IY= 5	2.001E+02	2.004E+02	2.007E+02	2.011E+02	2.020E+02
IY= 4	2.001E+02	2.004E+02	2.007E+02	2.011E+02	2.020E+02
IY= 3	2.001E+02	2.004E+02	2.007E+02	2.011E+02	2.021E+02
IY= 2	2.001E+02	2.004E+02	2.007E+02	2.011E+02	2.021E+02
IY= 1	2.003E+02	2.006E+02	2.009E+02	2.013E+02	2.022E+02
IZ=	1	2	3	4	5
IY= 20	1.997E+02	1.995E+02	1.994E+02	1.994E+02	1.994E+02
IY= 19	1.997E+02	1.995E+02	1.995E+02	1.994E+02	1.994E+02
IY= 18	1.997E+02	1.995E+02	1.995E+02	1.995E+02	1.994E+02
IY= 17	1.997E+02	1.994E+02	1.996E+02	1.996E+02	1.993E+02
IY= 16	1.997E+02	1.994E+02	1.997E+02	1.997E+02	1.993E+02
IY= 15	1.997E+02	1.994E+02	1.998E+02	1.998E+02	1.992E+02
IY= 14	1.997E+02	1.994E+02	2.000E+02	1.999E+02	1.991E+02
IY= 13	1.997E+02	1.993E+02	2.001E+02	2.000E+02	1.990E+02
IY= 12	1.998E+02	1.993E+02	2.003E+02	2.001E+02	1.989E+02
IY= 11	1.999E+02	1.992E+02	2.004E+02	2.002E+02	1.988E+02
IY= 10	2.001E+02	1.991E+02	2.005E+02	2.002E+02	1.986E+02
IY= 9	2.005E+02	1.990E+02	2.005E+02	2.002E+02	1.983E+02
IY= 8	2.012E+02	1.989E+02	2.003E+02	2.000E+02	1.978E+02
IY= 7	2.027E+02	1.995E+02	2.004E+02	2.000E+02	1.977E+02
IY= 6	2.041E+02	2.065E+02	2.050E+02	2.012E+02	1.967E+02
IY= 5	2.043E+02	2.073E+02	2.058E+02	2.013E+02	1.972E+02
IY= 4	2.044E+02	2.080E+02	2.060E+02	2.008E+02	1.987E+02
IY= 3	2.046E+02	2.089E+02	2.055E+02	1.983E+02	2.026E+02

IY= 2	2.047E+02	2.149E+02	2.116E+02	2.066E+02	2.163E+02
IY= 1	2.052E+02	3.230E+02	3.230E+02	3.230E+02	3.230E+02
IZ=	6	7	8	9	10
IY= 20	1.992E+02	1.989E+02	1.986E+02	1.983E+02	1.981E+02
IY= 19	1.992E+02	1.989E+02	1.986E+02	1.983E+02	1.980E+02
IY= 18	1.991E+02	1.989E+02	1.986E+02	1.983E+02	1.980E+02
IY= 17	1.991E+02	1.988E+02	1.985E+02	1.983E+02	1.980E+02
IY= 16	1.991E+02	1.988E+02	1.985E+02	1.982E+02	1.980E+02
IY= 15	1.990E+02	1.987E+02	1.984E+02	1.981E+02	1.979E+02
IY= 14	1.989E+02	1.986E+02	1.983E+02	1.981E+02	1.978E+02
IY= 13	1.988E+02	1.985E+02	1.982E+02	1.980E+02	1.978E+02
IY= 12	1.987E+02	1.983E+02	1.981E+02	1.979E+02	1.977E+02
IY= 11	1.985E+02	1.982E+02	1.980E+02	1.978E+02	1.976E+02
IY= 10	1.982E+02	1.980E+02	1.978E+02	1.977E+02	1.976E+02
IY= 9	1.979E+02	1.978E+02	1.977E+02	1.976E+02	1.976E+02
IY= 8	1.977E+02	1.978E+02	1.979E+02	1.978E+02	1.978E+02
IY= 7	1.984E+02	1.988E+02	1.990E+02	1.990E+02	1.990E+02
IY= 6	1.995E+02	2.009E+02	2.020E+02	2.029E+02	2.039E+02
IY= 5	2.011E+02	2.035E+02	2.055E+02	2.074E+02	2.093E+02
IY= 4	2.047E+02	2.092E+02	2.133E+02	2.170E+02	2.204E+02
IY= 3	2.140E+02	2.231E+02	2.311E+02	2.380E+02	2.439E+02
IY= 2	2.441E+02	2.642E+02	2.798E+02	2.918E+02	3.010E+02
IY= 1	3.230E+02	3.230E+02	3.230E+02	3.230E+02	3.230E+02
IZ=	11	12	13	14	15
IY= 20	1.978E+02	1.975E+02	1.971E+02	1.968E+02	1.966E+02
IY= 19	1.978E+02	1.975E+02	1.971E+02	1.968E+02	1.966E+02
IY= 18	1.977E+02	1.974E+02	1.971E+02	1.968E+02	1.966E+02
IY= 17	1.977E+02	1.974E+02	1.971E+02	1.967E+02	1.966E+02
IY= 16	1.977E+02	1.974E+02	1.971E+02	1.967E+02	1.966E+02
IY= 15	1.977E+02	1.974E+02	1.971E+02	1.967E+02	1.966E+02
IY= 14	1.976E+02	1.974E+02	1.971E+02	1.967E+02	1.966E+02
IY= 13	1.976E+02	1.973E+02	1.970E+02	1.967E+02	1.966E+02
IY= 12	1.975E+02	1.973E+02	1.970E+02	1.967E+02	1.966E+02
IY= 11	1.975E+02	1.973E+02	1.971E+02	1.967E+02	1.966E+02
IY= 10	1.974E+02	1.973E+02	1.971E+02	1.968E+02	1.967E+02
IY= 9	1.975E+02	1.974E+02	1.973E+02	1.971E+02	1.970E+02
IY= 8	1.977E+02	1.978E+02	1.978E+02	1.978E+02	1.977E+02
IY= 7	1.990E+02	1.991E+02	1.996E+02	2.000E+02	2.000E+02
IY= 6	2.050E+02	2.071E+02	2.125E+02	2.092E+02	2.069E+02
IY= 5	2.113E+02	2.148E+02	2.223E+02	2.185E+02	2.155E+02
IY= 4	2.239E+02	2.293E+02	2.383E+02	2.310E+02	2.267E+02
IY= 3	2.496E+02	2.567E+02	2.636E+02	2.454E+02	2.398E+02
IY= 2	3.076E+02	3.113E+02	2.808E+02	2.527E+02	2.544E+02
IY= 1	3.230E+02	3.230E+02	3.230E+02	3.230E+02	3.230E+02
IZ=	16	17	18	19	20
IY= 20	1.966E+02	1.965E+02	1.964E+02	1.963E+02	1.962E+02
IY= 19	1.965E+02	1.965E+02	1.964E+02	1.963E+02	1.962E+02
IY= 18	1.965E+02	1.965E+02	1.964E+02	1.963E+02	1.962E+02
IY= 17	1.965E+02	1.964E+02	1.964E+02	1.963E+02	1.962E+02
IY= 16	1.965E+02	1.964E+02	1.963E+02	1.963E+02	1.962E+02
IY= 15	1.965E+02	1.964E+02	1.963E+02	1.962E+02	1.961E+02
IY= 14	1.965E+02	1.964E+02	1.963E+02	1.962E+02	1.961E+02
IY= 13	1.965E+02	1.964E+02	1.963E+02	1.962E+02	1.961E+02
IY= 12	1.965E+02	1.964E+02	1.963E+02	1.962E+02	1.960E+02
IY= 11	1.965E+02	1.964E+02	1.963E+02	1.962E+02	1.960E+02
IY= 10	1.966E+02	1.965E+02	1.963E+02	1.962E+02	1.960E+02
IY= 9	1.968E+02	1.967E+02	1.965E+02	1.963E+02	1.961E+02
IY= 8	1.975E+02	1.972E+02	1.970E+02	1.967E+02	1.964E+02
IY= 7	1.997E+02	1.992E+02	1.987E+02	1.981E+02	1.977E+02
IY= 6	2.049E+02	2.034E+02	2.020E+02	2.006E+02	2.006E+02
IY= 5	2.127E+02	2.105E+02	2.085E+02	2.064E+02	2.066E+02
IY= 4	2.232E+02	2.206E+02	2.182E+02	2.155E+02	2.159E+02
IY= 3	2.359E+02	2.331E+02	2.307E+02	2.273E+02	2.296E+02
IY= 2	2.560E+02	2.582E+02	2.602E+02	2.608E+02	2.662E+02
IY= 1	3.230E+02	3.230E+02	3.230E+02	3.230E+02	3.230E+02
IZ=	21	22	23	24	25
IY= 20	1.961E+02	1.959E+02	1.957E+02	1.955E+02	1.954E+02
IY= 19	1.961E+02	1.959E+02	1.957E+02	1.955E+02	1.953E+02
IY= 18	1.961E+02	1.959E+02	1.957E+02	1.955E+02	1.953E+02
IY= 17	1.960E+02	1.959E+02	1.957E+02	1.955E+02	1.953E+02

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IY= 16  1.960E+02  1.958E+02  1.956E+02  1.954E+02  1.952E+02
IY= 15  1.960E+02  1.958E+02  1.956E+02  1.954E+02  1.952E+02
IY= 14  1.959E+02  1.957E+02  1.955E+02  1.953E+02  1.951E+02
IY= 13  1.959E+02  1.957E+02  1.955E+02  1.953E+02  1.951E+02
IY= 12  1.958E+02  1.956E+02  1.954E+02  1.952E+02  1.950E+02
IY= 11  1.958E+02  1.956E+02  1.953E+02  1.951E+02  1.949E+02
IY= 10  1.958E+02  1.955E+02  1.953E+02  1.951E+02  1.948E+02
IY=  9  1.958E+02  1.955E+02  1.953E+02  1.951E+02  1.949E+02
IY=  8  1.961E+02  1.958E+02  1.956E+02  1.954E+02  1.952E+02
IY=  7  1.974E+02  1.972E+02  1.970E+02  1.968E+02  1.967E+02
IY=  6  2.014E+02  2.018E+02  2.020E+02  2.020E+02  2.018E+02
IY=  5  2.079E+02  2.085E+02  2.090E+02  2.091E+02  2.084E+02
IY=  4  2.177E+02  2.188E+02  2.196E+02  2.200E+02  2.179E+02
IY=  3  2.331E+02  2.356E+02  2.377E+02  2.390E+02  2.337E+02
IY=  2  2.739E+02  2.804E+02  2.861E+02  2.912E+02  2.723E+02
IY=  1  3.230E+02  3.230E+02  3.230E+02  3.230E+02  3.230E+02
IZ=     26         27         28         29         30
WHOLE-FIELD RESIDUALS BEFORE SOLUTIONS
WHOLE-FIELD SUM OF ABS(VOL.FLOW RESIDUALS)=  4.170E+04
WHOLE-FIELD SUM OF ABS(RESIDUALS) OF V1   =  1.842E+06
WHOLE-FIELD SUM OF ABS(RESIDUALS) OF W1   =  1.008E+07
WHOLE-FIELD SUM OF ABS(RESIDUALS) OF H1   =  5.019E+09
* SUMS HAVE BEEN DIVIDED BY RESREF(NAME)

NET SOURCE OF V1   AT PATCH NAMED: INLET    = 5.960E-07
NET SOURCE OF V1   AT PATCH NAMED: TVANE    =-3.814E-01
NET SOURCE OF V1   AT PATCH NAMED: YVANE    =-3.077E-19
NET SOURCE OF W1   AT PATCH NAMED: INLET    = 2.299E+03
NET SOURCE OF W1   AT PATCH NAMED: TVANE    =-4.724E+00
NET SOURCE OF W1   AT PATCH NAMED: YVANE    = 0.000E+00
NET SOURCE OF R1   AT PATCH NAMED: INLET    = 1.653E+01
NET SOURCE OF R1   AT PATCH NAMED: OUTLET   =-1.652E+01
NET SOURCE OF H1   AT PATCH NAMED: INLET    = 3.815E+06
NET SOURCE OF H1   AT PATCH NAMED: OUTLET   =-3.777E+06
NET SOURCE OF H1   AT PATCH NAMED: TVANE    = 5.255E+03
NET SOURCE OF H1   AT PATCH NAMED: YVANE    = 0.000E+00
NET SOURCE OF H1   AT PATCH NAMED: VANE     = 0.000E+00
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APPENDIX H
SUBSONIC TURBULENT WEDGE VANE OUTPUT

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--- INTEGRATION OF EQUATIONS BEGINS ---
TIME STEP =    1     SWEEP = 400
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS  1.302E+04
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS  9.755E+06
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS  7.030E+06
TOTAL RESIDUAL/( 1.000E-06) FOR KE    IS  5.951E+06
TOTAL RESIDUAL/( 1.000E-06) FOR EP    IS  3.941E+11
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS  1.238E+09
TIME STEP =    1     SWEEP = 420
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS  1.302E+04
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS  9.663E+06
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS  6.673E+06
TOTAL RESIDUAL/( 1.000E-06) FOR KE    IS  5.749E+06
TOTAL RESIDUAL/( 1.000E-06) FOR EP    IS  3.950E+11
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS  1.239E+09
TIME STEP =    1     SWEEP = 440
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS  1.193E+04
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS  9.576E+06
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS  6.324E+06
TOTAL RESIDUAL/( 1.000E-06) FOR KE    IS  5.494E+06
TOTAL RESIDUAL/( 1.000E-06) FOR EP    IS  3.960E+11
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS  1.250E+09
TIME STEP =    1     SWEEP = 460
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS  1.167E+04
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS  9.520E+06
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS  5.968E+06
TOTAL RESIDUAL/( 1.000E-06) FOR KE    IS  5.470E+06
TOTAL RESIDUAL/( 1.000E-06) FOR EP    IS  3.951E+11
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS  1.211E+09
TIME STEP =    1     SWEEP = 480
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS  1.138E+04
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS  9.418E+06
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS  5.677E+06
TOTAL RESIDUAL/( 1.000E-06) FOR KE    IS  5.423E+06
TOTAL RESIDUAL/( 1.000E-06) FOR EP    IS  3.955E+11
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS  1.215E+09
************************************************************
TIME STP=     1 SWEEP NO=   500 ZSLAB NO=    15 ITERN NO=     1
TIME STEP =    1     SWEEP = 500
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS  1.085E+04
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS  9.322E+06
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS  5.403E+06
TOTAL RESIDUAL/( 1.000E-06) FOR KE    IS  5.407E+06
TOTAL RESIDUAL/( 1.000E-06) FOR EP    IS  3.956E+11
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS  1.234E+09
************************************************************
TIME STP=     1 SWEEP NO=   500 ZSLAB NO=    29 ITERN NO=     1

FLOW FIELD AT ITHYD=    1, ISWEEP= 500, ISTEP=    1
YZPR  IX=     1
FIELD VALUES OF P1
IY= 20  1.063E+05  1.067E+05  1.068E+05  1.067E+05  1.067E+05
IY= 19  1.063E+05  1.066E+05  1.067E+05  1.066E+05  1.065E+05
IY= 18  1.063E+05  1.066E+05  1.067E+05  1.067E+05  1.065E+05
IY= 17  1.063E+05  1.067E+05  1.068E+05  1.067E+05  1.066E+05
IY= 16  1.063E+05  1.067E+05  1.068E+05  1.067E+05  1.066E+05
IY= 15  1.064E+05  1.068E+05  1.068E+05  1.068E+05  1.067E+05
IY= 14  1.064E+05  1.068E+05  1.069E+05  1.069E+05  1.067E+05
IY= 13  1.065E+05  1.069E+05  1.070E+05  1.070E+05  1.068E+05
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IY= 12	1.065E+05	1.069E+05	1.071E+05	1.071E+05	1.070E+05
IY= 11	1.066E+05	1.070E+05	1.072E+05	1.072E+05	1.071E+05
IY= 10	1.066E+05	1.071E+05	1.073E+05	1.073E+05	1.073E+05
IY= 9	1.067E+05	1.072E+05	1.074E+05	1.075E+05	1.075E+05
IY= 8	1.067E+05	1.073E+05	1.075E+05	1.077E+05	1.079E+05
IY= 7	1.068E+05	1.073E+05	1.076E+05	1.079E+05	1.084E+05
IY= 6	1.068E+05	1.074E+05	1.077E+05	1.081E+05	1.092E+05
IY= 5	1.068E+05	1.074E+05	1.077E+05	1.082E+05	1.099E+05
IY= 4	1.068E+05	1.074E+05	1.077E+05	1.082E+05	1.099E+05
IY= 3	1.068E+05	1.073E+05	1.077E+05	1.081E+05	1.100E+05
IY= 2	1.068E+05	1.073E+05	1.076E+05	1.080E+05	1.100E+05
IY= 1	1.067E+05	1.072E+05	1.074E+05	1.077E+05	1.101E+05
IZ=	1	2	3	4	5
IY= 20	1.064E+05	1.062E+05	1.058E+05	1.054E+05	1.050E+05
IY= 19	1.062E+05	1.059E+05	1.056E+05	1.051E+05	1.047E+05
IY= 18	1.063E+05	1.059E+05	1.056E+05	1.052E+05	1.047E+05
IY= 17	1.063E+05	1.060E+05	1.056E+05	1.052E+05	1.047E+05
IY= 16	1.063E+05	1.060E+05	1.056E+05	1.052E+05	1.047E+05
IY= 15	1.064E+05	1.061E+05	1.057E+05	1.052E+05	1.048E+05
IY= 14	1.065E+05	1.061E+05	1.057E+05	1.053E+05	1.048E+05
IY= 13	1.066E+05	1.062E+05	1.058E+05	1.053E+05	1.048E+05
IY= 12	1.067E+05	1.063E+05	1.059E+05	1.054E+05	1.049E+05
IY= 11	1.068E+05	1.064E+05	1.060E+05	1.054E+05	1.049E+05
IY= 10	1.070E+05	1.066E+05	1.061E+05	1.055E+05	1.049E+05
IY= 9	1.072E+05	1.067E+05	1.062E+05	1.056E+05	1.050E+05
IY= 8	1.075E+05	1.069E+05	1.063E+05	1.057E+05	1.051E+05
IY= 7	1.078E+05	1.070E+05	1.063E+05	1.057E+05	1.051E+05
IY= 6	1.081E+05	1.072E+05	1.064E+05	1.057E+05	1.051E+05
IY= 5	1.082E+05	1.072E+05	1.064E+05	1.057E+05	1.051E+05
IY= 4	1.082E+05	1.072E+05	1.064E+05	1.057E+05	1.051E+05
IY= 3	1.082E+05	1.072E+05	1.064E+05	1.057E+05	1.051E+05
IY= 2	1.082E+05	1.072E+05	1.064E+05	1.057E+05	1.051E+05
IY= 1	1.082E+05	1.072E+05	1.064E+05	1.057E+05	1.051E+05
IZ=	6	7	8	9	10
IY= 20	1.045E+05	1.040E+05	1.036E+05	1.031E+05	1.028E+05
IY= 19	1.042E+05	1.038E+05	1.033E+05	1.029E+05	1.026E+05
IY= 18	1.042E+05	1.038E+05	1.033E+05	1.029E+05	1.026E+05
IY= 17	1.042E+05	1.038E+05	1.033E+05	1.029E+05	1.025E+05
IY= 16	1.043E+05	1.038E+05	1.033E+05	1.028E+05	1.025E+05
IY= 15	1.043E+05	1.038E+05	1.033E+05	1.028E+05	1.025E+05
IY= 14	1.043E+05	1.038E+05	1.033E+05	1.028E+05	1.024E+05
IY= 13	1.043E+05	1.038E+05	1.032E+05	1.027E+05	1.024E+05
IY= 12	1.043E+05	1.038E+05	1.032E+05	1.027E+05	1.023E+05
IY= 11	1.043E+05	1.038E+05	1.032E+05	1.026E+05	1.022E+05
IY= 10	1.044E+05	1.038E+05	1.031E+05	1.025E+05	1.020E+05
IY= 9	1.044E+05	1.038E+05	1.031E+05	1.024E+05	1.018E+05
IY= 8	1.044E+05	1.038E+05	1.030E+05	1.022E+05	1.015E+05
IY= 7	1.045E+05	1.038E+05	1.030E+05	1.020E+05	1.009E+05
IY= 6	1.045E+05	1.038E+05	1.030E+05	1.019E+05	9.953E+04
IY= 5	1.045E+05	1.038E+05	1.030E+05	1.018E+05	9.634E+04
IY= 4	1.045E+05	1.038E+05	1.030E+05	1.018E+05	9.631E+04
IY= 3	1.045E+05	1.038E+05	1.030E+05	1.018E+05	9.630E+04
IY= 2	1.045E+05	1.038E+05	1.030E+05	1.018E+05	9.629E+04
IY= 1	1.045E+05	1.038E+05	1.030E+05	1.018E+05	9.628E+04
IZ=	11	12	13	14	15
IY= 20	1.027E+05	1.027E+05	1.027E+05	1.027E+05	1.026E+05
IY= 19	1.025E+05	1.025E+05	1.025E+05	1.025E+05	1.024E+05
IY= 18	1.025E+05	1.025E+05	1.025E+05	1.025E+05	1.024E+05
IY= 17	1.025E+05	1.025E+05	1.025E+05	1.024E+05	1.024E+05
IY= 16	1.025E+05	1.025E+05	1.024E+05	1.024E+05	1.024E+05
IY= 15	1.025E+05	1.024E+05	1.024E+05	1.024E+05	1.023E+05
IY= 14	1.024E+05	1.024E+05	1.023E+05	1.023E+05	1.023E+05
IY= 13	1.023E+05	1.023E+05	1.023E+05	1.022E+05	1.022E+05
IY= 12	1.022E+05	1.022E+05	1.022E+05	1.021E+05	1.021E+05
IY= 11	1.021E+05	1.021E+05	1.020E+05	1.020E+05	1.019E+05
IY= 10	1.019E+05	1.019E+05	1.018E+05	1.018E+05	1.018E+05
IY= 9	1.017E+05	1.016E+05	1.016E+05	1.015E+05	1.015E+05
IY= 8	1.013E+05	1.012E+05	1.012E+05	1.012E+05	1.012E+05
IY= 7	1.006E+05	1.006E+05	1.006E+05	1.006E+05	1.007E+05
IY= 6	9.917E+04	9.939E+04	9.970E+04	9.998E+04	1.002E+05

IY= 5	9.834E+04	9.927E+04	9.974E+04	1.000E+05	1.002E+05
IY= 4	9.832E+04	9.926E+04	9.973E+04	1.000E+05	1.002E+05
IY= 3	9.831E+04	9.926E+04	9.973E+04	1.000E+05	1.002E+05
IY= 2	9.831E+04	9.926E+04	9.973E+04	1.000E+05	1.002E+05
IY= 1	9.831E+04	9.926E+04	9.973E+04	1.000E+05	1.002E+05
IZ=	16	17	18	19	20
IY= 20	1.026E+05	1.025E+05	1.025E+05	1.024E+05	1.024E+05
IY= 19	1.024E+05	1.024E+05	1.023E+05	1.023E+05	1.022E+05
IY= 18	1.024E+05	1.023E+05	1.023E+05	1.022E+05	1.022E+05
IY= 17	1.024E+05	1.023E+05	1.023E+05	1.022E+05	1.022E+05
IY= 16	1.023E+05	1.023E+05	1.022E+05	1.022E+05	1.021E+05
IY= 15	1.023E+05	1.022E+05	1.022E+05	1.022E+05	1.021E+05
IY= 14	1.022E+05	1.022E+05	1.021E+05	1.021E+05	1.020E+05
IY= 13	1.021E+05	1.021E+05	1.021E+05	1.020E+05	1.020E+05
IY= 12	1.020E+05	1.020E+05	1.020E+05	1.019E+05	1.019E+05
IY= 11	1.019E+05	1.019E+05	1.018E+05	1.018E+05	1.017E+05
IY= 10	1.017E+05	1.017E+05	1.017E+05	1.016E+05	1.016E+05
IY= 9	1.015E+05	1.015E+05	1.014E+05	1.014E+05	1.014E+05
IY= 8	1.012E+05	1.012E+05	1.012E+05	1.012E+05	1.013E+05
IY= 7	1.008E+05	1.009E+05	1.009E+05	1.010E+05	1.011E+05
IY= 6	1.004E+05	1.006E+05	1.007E+05	1.008E+05	1.009E+05
IY= 5	1.004E+05	1.006E+05	1.007E+05	1.008E+05	1.009E+05
IY= 4	1.004E+05	1.006E+05	1.007E+05	1.008E+05	1.009E+05
IY= 3	1.004E+05	1.006E+05	1.007E+05	1.008E+05	1.009E+05
IY= 2	1.004E+05	1.006E+05	1.007E+05	1.008E+05	1.009E+05
IY= 1	1.004E+05	1.006E+05	1.007E+05	1.008E+05	1.009E+05
IZ=	21	22	23	24	25
IY= 20	1.022E+05	1.020E+05	1.019E+05	1.016E+05	
IY= 19	1.020E+05	1.019E+05	1.018E+05	1.016E+05	
IY= 18	1.020E+05	1.019E+05	1.018E+05	1.016E+05	
IY= 17	1.020E+05	1.019E+05	1.018E+05	1.016E+05	
IY= 16	1.020E+05	1.018E+05	1.017E+05	1.016E+05	
IY= 15	1.019E+05	1.018E+05	1.017E+05	1.016E+05	
IY= 14	1.019E+05	1.018E+05	1.017E+05	1.016E+05	
IY= 13	1.018E+05	1.017E+05	1.017E+05	1.016E+05	
IY= 12	1.018E+05	1.017E+05	1.017E+05	1.016E+05	
IY= 11	1.017E+05	1.016E+05	1.016E+05	1.016E+05	
IY= 10	1.016E+05	1.016E+05	1.016E+05	1.016E+05	
IY= 9	1.015E+05	1.015E+05	1.016E+05	1.016E+05	
IY= 8	1.013E+05	1.014E+05	1.015E+05	1.016E+05	
IY= 7	1.012E+05	1.014E+05	1.015E+05	1.016E+05	
IY= 6	1.011E+05	1.013E+05	1.015E+05	1.016E+05	
IY= 5	1.011E+05	1.013E+05	1.015E+05	1.016E+05	
IY= 4	1.011E+05	1.013E+05	1.015E+05	1.016E+05	
IY= 3	1.011E+05	1.013E+05	1.015E+05	1.015E+05	
IY= 2	1.011E+05	1.013E+05	1.015E+05	1.015E+05	
IY= 1	1.011E+05	1.013E+05	1.015E+05	1.015E+05	
IZ=	26	27	28	29	
FIELD VALUES OF V1					
IY= 19	8.376E-02	1.571E-01	2.300E-01	3.026E-01	3.932E-01
IY= 18	1.603E-01	2.934E-01	4.358E-01	5.808E-01	7.578E-01
IY= 17	2.394E-01	4.314E-01	6.407E-01	8.570E-01	1.122E+00
IY= 16	3.172E-01	5.667E-01	8.408E-01	1.128E+00	1.484E+00
IY= 15	3.903E-01	6.945E-01	1.032E+00	1.390E+00	1.841E+00
IY= 14	4.559E-01	8.098E-01	1.207E+00	1.638E+00	2.196E+00
IY= 13	5.106E-01	9.072E-01	1.361E+00	1.866E+00	2.545E+00
IY= 12	5.501E-01	9.796E-01	1.484E+00	2.064E+00	2.894E+00
IY= 11	5.698E-01	1.019E+00	1.564E+00	2.220E+00	3.247E+00
IY= 10	5.645E-01	1.015E+00	1.587E+00	2.315E+00	3.624E+00
IY= 9	5.287E-01	9.575E-01	1.534E+00	2.321E+00	4.067E+00
IY= 8	4.582E-01	8.364E-01	1.381E+00	2.192E+00	4.666E+00
IY= 7	3.508E-01	6.443E-01	1.102E+00	1.860E+00	5.572E+00
IY= 6	2.092E-01	3.834E-01	6.808E-01	1.247E+00	7.018E+00
IY= 5	4.038E-02	7.269E-02	1.357E-01	2.820E-01	9.331E+00
IY= 4	3.198E-02	5.908E-02	1.103E-01	2.302E-01	9.458E+00
IY= 3	2.597E-02	4.527E-02	8.440E-02	1.769E-01	9.558E+00
IY= 2	1.827E-02	3.101E-02	5.784E-02	1.220E-01	9.556E+00
IY= 1	9.960E-03	1.592E-02	3.001E-02	6.378E-02	9.045E+00
IZ=	1	2	3	4	5
IY= 19	4.835E-01	5.551E-01	6.061E-01	6.348E-01	6.420E-01

IY= 18	9.370E-01	1.085E+00	1.191E+00	1.253E+00	1.275E+00
IY= 17	1.392E+00	1.616E+00	1.779E+00	1.876E+00	1.913E+00
IY= 16	1.848E+00	2.152E+00	2.372E+00	2.504E+00	2.557E+00
IY= 15	2.308E+00	2.698E+00	2.978E+00	3.148E+00	3.216E+00
IY= 14	2.779E+00	3.260E+00	3.602E+00	3.808E+00	3.893E+00
IY= 13	3.262E+00	3.845E+00	4.250E+00	4.488E+00	4.587E+00
IY= 12	3.773E+00	4.466E+00	4.929E+00	5.195E+00	5.308E+00
IY= 11	4.328E+00	5.138E+00	5.652E+00	5.940E+00	6.052E+00
IY= 10	4.960E+00	5.881E+00	6.420E+00	6.706E+00	6.818E+00
IY= 9	5.714E+00	6.701E+00	7.224E+00	7.491E+00	7.600E+00
IY= 8	6.621E+00	7.592E+00	8.057E+00	8.290E+00	8.389E+00
IY= 7	7.703E+00	8.538E+00	8.897E+00	9.080E+00	9.172E+00
IY= 6	8.954E+00	9.487E+00	9.692E+00	9.801E+00	9.866E+00
IY= 5	1.006E+01	1.007E+01	9.982E+00	9.854E+00	9.677E+00
IY= 4	1.004E+01	9.974E+00	9.862E+00	9.714E+00	9.492E+00
IY= 3	9.936E+00	9.758E+00	9.532E+00	9.303E+00	9.009E+00
IY= 2	9.635E+00	9.325E+00	8.990E+00	8.602E+00	8.322E+00
IY= 1	8.603E+00	8.078E+00	7.629E+00	7.293E+00	6.898E+00
IZ=	6	7	8	9	10
IY= 19	6.301E-01	5.974E-01	5.444E-01	4.550E-01	4.222E-01
IY= 18	1.258E+00	1.198E+00	1.098E+00	9.368E-01	8.748E-01
IY= 17	1.891E+00	1.809E+00	1.661E+00	1.424E+00	1.324E+00
IY= 16	2.532E+00	2.426E+00	2.230E+00	1.912E+00	1.776E+00
IY= 15	3.187E+00	3.056E+00	2.811E+00	2.406E+00	2.229E+00
IY= 14	3.860E+00	3.705E+00	3.406E+00	2.912E+00	2.686E+00
IY= 13	4.554E+00	4.375E+00	4.023E+00	3.426E+00	3.143E+00
IY= 12	5.274E+00	5.069E+00	4.652E+00	3.941E+00	3.601E+00
IY= 11	6.015E+00	5.793E+00	5.314E+00	4.466E+00	4.071E+00
IY= 10	6.780E+00	6.548E+00	6.013E+00	4.998E+00	4.577E+00
IY= 9	7.567E+00	7.342E+00	6.773E+00	5.562E+00	5.128E+00
IY= 8	8.373E+00	8.183E+00	7.619E+00	6.192E+00	5.749E+00
IY= 7	9.183E+00	9.055E+00	8.581E+00	7.003E+00	6.469E+00
IY= 6	9.892E+00	9.839E+00	9.565E+00	8.237E+00	6.972E+00
IY= 5	9.421E+00	9.039E+00	8.451E+00	7.419E+00	1.739E+00
IY= 4	9.203E+00	8.676E+00	8.192E+00	7.000E+00	3.845E-01
IY= 3	8.656E+00	8.296E+00	7.488E+00	6.429E+00	4.957E-01
IY= 2	7.944E+00	7.466E+00	6.708E+00	5.334E+00	-9.313E-02
IY= 1	6.513E+00	6.030E+00	5.213E+00	4.030E+00	-7.699E-03
IZ=	11	12	13	14	15
IY= 19	4.139E-01	4.058E-01	4.002E-01	3.899E-01	3.819E-01
IY= 18	8.556E-01	8.385E-01	8.214E-01	8.041E-01	7.868E-01
IY= 17	1.297E+00	1.270E+00	1.243E+00	1.216E+00	1.188E+00
IY= 16	1.738E+00	1.701E+00	1.660E+00	1.624E+00	1.585E+00
IY= 15	2.182E+00	2.128E+00	2.077E+00	2.026E+00	1.974E+00
IY= 14	2.620E+00	2.554E+00	2.489E+00	2.420E+00	2.354E+00
IY= 13	3.056E+00	2.973E+00	2.888E+00	2.804E+00	2.718E+00
IY= 12	3.495E+00	3.387E+00	3.281E+00	3.171E+00	3.066E+00
IY= 11	3.938E+00	3.802E+00	3.662E+00	3.527E+00	3.392E+00
IY= 10	4.404E+00	4.223E+00	4.038E+00	3.856E+00	3.685E+00
IY= 9	4.886E+00	4.636E+00	4.387E+00	4.146E+00	3.916E+00
IY= 8	5.385E+00	5.016E+00	4.661E+00	4.328E+00	4.021E+00
IY= 7	5.845E+00	5.241E+00	4.699E+00	4.223E+00	3.814E+00
IY= 6	5.660E+00	4.608E+00	3.816E+00	3.232E+00	2.798E+00
IY= 5	3.010E-01	1.489E-01	2.760E-01	4.053E-01	4.859E-01
IY= 4	-2.896E-01	-5.124E-01	-1.160E-01	5.064E-02	4.081E-01
IY= 3	-6.295E-01	-4.060E-01	-2.455E-01	3.047E-02	7.109E-03
IY= 2	-4.070E-01	-4.173E-01	-2.915E-01	-3.013E-01	-3.081E-01
IY= 1	-3.368E-01	-3.297E-01	-2.542E-01	-1.965E-01	-1.555E-01
IZ=	16	17	18	19	20
IY= 19	3.741E-01	3.663E-01	3.586E-01	3.510E-01	3.288E-01
IY= 18	7.696E-01	7.528E-01	7.362E-01	7.201E-01	6.735E-01
IY= 17	1.161E+00	1.135E+00	1.109E+00	1.084E+00	1.011E+00
IY= 16	1.547E+00	1.510E+00	1.474E+00	1.438E+00	1.335E+00
IY= 15	1.924E+00	1.874E+00	1.831E+00	1.780E+00	1.643E+00
IY= 14	2.289E+00	2.226E+00	2.160E+00	2.106E+00	1.928E+00
IY= 13	2.636E+00	2.557E+00	2.480E+00	2.408E+00	2.184E+00
IY= 12	2.963E+00	2.864E+00	2.771E+00	2.684E+00	2.401E+00
IY= 11	3.263E+00	3.140E+00	3.030E+00	2.922E+00	2.565E+00
IY= 10	3.519E+00	3.365E+00	3.227E+00	3.110E+00	2.651E+00
IY= 9	3.702E+00	3.508E+00	3.336E+00	3.219E+00	2.623E+00

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IY=  8  3.743E+00  3.497E+00  3.287E+00  3.136E+00  2.446E+00
IY=  7  3.468E+00  3.177E+00  2.935E+00  2.736E+00  2.059E+00
IY=  6  2.468E+00  2.215E+00  2.020E+00  1.867E+00  1.377E+00
IY=  5  5.523E-01  5.923E-01  6.232E-01  6.545E-01  6.383E-01
IY=  4  2.521E-01  3.117E-01  3.587E-01  4.131E-01  4.509E-01
IY=  3  8.428E-02  1.418E-01  1.885E-01  2.439E-01  2.968E-01
IY=  2 -4.455E-02 -1.576E-03  3.400E-02  7.790E-02  1.532E-01
IY=  1 -1.268E-01 -1.062E-01 -8.901E-02 -6.497E-02  3.062E-02
IZ=      21          22          23          24          25
IY= 19  3.026E-01  2.977E-01  3.260E-01  4.439E-01
IY= 18  6.187E-01  5.852E-01  5.793E-01  6.127E-01
IY= 17  9.236E-01  8.576E-01  8.274E-01  8.246E-01
IY= 16  1.213E+00  1.121E+00  1.062E+00  1.043E+00
IY= 15  1.483E+00  1.361E+00  1.279E+00  1.252E+00
IY= 14  1.727E+00  1.578E+00  1.474E+00  1.440E+00
IY= 13  1.937E+00  1.755E+00  1.637E+00  1.599E+00
IY= 12  2.103E+00  1.888E+00  1.760E+00  1.720E+00
IY= 11  2.213E+00  1.973E+00  1.829E+00  1.794E+00
IY= 10  2.247E+00  1.984E+00  1.840E+00  1.809E+00
IY=  9  2.183E+00  1.907E+00  1.772E+00  1.749E+00
IY=  8  1.992E+00  1.730E+00  1.601E+00  1.599E+00
IY=  7  1.650E+00  1.426E+00  1.327E+00  1.335E+00
IY=  6  1.118E+00  9.765E-01  9.111E-01  9.033E-01
IY=  5  5.943E-01  5.384E-01  4.631E-01  1.679E-01
IY=  4  4.424E-01  4.077E-01  3.430E-01 -2.434E-01
IY=  3  3.120E-01  4.090E-01  2.513E-01 -6.257E-01
IY=  2  1.775E-01  1.785E-01  2.419E-01 -8.583E-01
IY=  1  5.240E-02 -2.860E-02  3.944E-02 -9.949E-01
IZ=      26          27          28          29
FIELD VALUES OF W1
IY= 20        1.375E+02  1.373E+02  1.376E+02  1.381E+02  1.390E+02
IY= 19        1.375E+02  1.374E+02  1.376E+02  1.382E+02  1.390E+02
IY= 18        1.375E+02  1.373E+02  1.376E+02  1.381E+02  1.390E+02
IY= 17        1.375E+02  1.373E+02  1.376E+02  1.381E+02  1.389E+02
IY= 16        1.374E+02  1.372E+02  1.375E+02  1.380E+02  1.388E+02
IY= 15        1.374E+02  1.372E+02  1.374E+02  1.378E+02  1.387E+02
IY= 14        1.373E+02  1.371E+02  1.372E+02  1.377E+02  1.385E+02
IY= 13        1.372E+02  1.369E+02  1.370E+02  1.374E+02  1.383E+02
IY= 12        1.371E+02  1.368E+02  1.368E+02  1.371E+02  1.380E+02
IY= 11        1.370E+02  1.366E+02  1.365E+02  1.367E+02  1.376E+02
IY= 10        1.369E+02  1.363E+02  1.361E+02  1.361E+02  1.372E+02
IY=  9        1.368E+02  1.361E+02  1.357E+02  1.354E+02  1.368E+02
IY=  8        1.367E+02  1.358E+02  1.352E+02  1.345E+02  1.364E+02
IY=  7        1.366E+02  1.356E+02  1.346E+02  1.334E+02  1.361E+02
IY=  6        1.365E+02  1.354E+02  1.342E+02  1.322E+02  1.365E+02
IY=  5        1.365E+02  1.354E+02  1.342E+02  1.318E+02  1.366E+02
IY=  4        1.365E+02  1.354E+02  1.342E+02  1.318E+02  1.366E+02
IY=  3        1.365E+02  1.354E+02  1.342E+02  1.318E+02  1.361E+02
IY=  2        1.365E+02  1.354E+02  1.342E+02  1.317E+02  1.343E+02
IY=  1        1.365E+02  1.354E+02  1.342E+02  1.317E+02  1.259E+02
IZ=             1          2          3          4          5
IY= 20        1.402E+02  1.415E+02  1.431E+02  1.447E+02  1.464E+02
IY= 19        1.402E+02  1.415E+02  1.431E+02  1.447E+02  1.464E+02
IY= 18        1.402E+02  1.415E+02  1.431E+02  1.447E+02  1.465E+02
IY= 17        1.401E+02  1.415E+02  1.431E+02  1.447E+02  1.465E+02
IY= 16        1.400E+02  1.414E+02  1.430E+02  1.447E+02  1.465E+02
IY= 15        1.399E+02  1.414E+02  1.430E+02  1.446E+02  1.466E+02
IY= 14        1.398E+02  1.413E+02  1.430E+02  1.446E+02  1.467E+02
IY= 13        1.396E+02  1.412E+02  1.430E+02  1.449E+02  1.468E+02
IY= 12        1.394E+02  1.411E+02  1.430E+02  1.450E+02  1.470E+02
IY= 11        1.392E+02  1.411E+02  1.431E+02  1.451E+02  1.471E+02
IY= 10        1.390E+02  1.411E+02  1.432E+02  1.453E+02  1.474E+02
IY=  9        1.389E+02  1.412E+02  1.434E+02  1.455E+02  1.476E+02
IY=  8        1.389E+02  1.414E+02  1.436E+02  1.458E+02  1.480E+02
IY=  7        1.392E+02  1.418E+02  1.440E+02  1.461E+02  1.483E+02
IY=  6        1.399E+02  1.423E+02  1.442E+02  1.460E+02  1.477E+02
IY=  5        1.388E+02  1.396E+02  1.394E+02  1.383E+02  1.368E+02
IY=  4        1.382E+02  1.383E+02  1.373E+02  1.355E+02  1.327E+02
IY=  3        1.367E+02  1.357E+02  1.336E+02  1.307E+02  1.270E+02
IY=  2        1.326E+02  1.295E+02  1.258E+02  1.219E+02  1.175E+02
```

IY= 1	1.188E+02	1.126E+02	1.074E+02	1.029E+02	9.838E+01
IZ=	6	7	8	9	10
IY= 20	1.482E+02	1.499E+02	1.514E+02	1.528E+02	1.531E+02
IY= 19	1.482E+02	1.499E+02	1.514E+02	1.528E+02	1.532E+02
IY= 18	1.482E+02	1.499E+02	1.515E+02	1.529E+02	1.532E+02
IY= 17	1.483E+02	1.500E+02	1.516E+02	1.530E+02	1.533E+02
IY= 16	1.483E+02	1.501E+02	1.517E+02	1.531E+02	1.535E+02
IY= 15	1.484E+02	1.502E+02	1.519E+02	1.533E+02	1.537E+02
IY= 14	1.486E+02	1.504E+02	1.522E+02	1.536E+02	1.540E+02
IY= 13	1.488E+02	1.507E+02	1.525E+02	1.539E+02	1.543E+02
IY= 12	1.490E+02	1.510E+02	1.529E+02	1.544E+02	1.547E+02
IY= 11	1.492E+02	1.513E+02	1.533E+02	1.549E+02	1.553E+02
IY= 10	1.495E+02	1.517E+02	1.539E+02	1.555E+02	1.560E+02
IY= 9	1.499E+02	1.522E+02	1.546E+02	1.564E+02	1.569E+02
IY= 8	1.502E+02	1.527E+02	1.554E+02	1.577E+02	1.583E+02
IY= 7	1.505E+02	1.530E+02	1.561E+02	1.596E+02	1.606E+02
IY= 6	1.495E+02	1.516E+02	1.546E+02	1.613E+02	1.626E+02
IY= 5	1.330E+02	1.275E+02	1.192E+02	1.044E+02	1.202E+02
IY= 4	1.286E+02	1.225E+02	1.132E+02	9.848E+01	1.110E+02
IY= 3	1.223E+02	1.156E+02	1.056E+02	9.034E+01	1.001E+02
IY= 2	1.123E+02	1.056E+02	9.465E+01	7.789E+01	8.600E+01
IY= 1	9.315E+01	8.654E+01	7.506E+01	5.646E+01	6.367E+01
IZ=	11	12	13	14	15
IY= 20	1.532E+02	1.534E+02	1.535E+02	1.536E+02	1.537E+02
IY= 19	1.533E+02	1.534E+02	1.535E+02	1.536E+02	1.537E+02
IY= 18	1.533E+02	1.534E+02	1.535E+02	1.537E+02	1.538E+02
IY= 17	1.534E+02	1.535E+02	1.536E+02	1.538E+02	1.539E+02
IY= 16	1.536E+02	1.537E+02	1.538E+02	1.539E+02	1.541E+02
IY= 15	1.538E+02	1.539E+02	1.540E+02	1.542E+02	1.543E+02
IY= 14	1.541E+02	1.542E+02	1.543E+02	1.544E+02	1.546E+02
IY= 13	1.544E+02	1.545E+02	1.547E+02	1.548E+02	1.549E+02
IY= 12	1.549E+02	1.550E+02	1.551E+02	1.552E+02	1.553E+02
IY= 11	1.554E+02	1.555E+02	1.557E+02	1.558E+02	1.559E+02
IY= 10	1.561E+02	1.563E+02	1.564E+02	1.565E+02	1.566E+02
IY= 9	1.571E+02	1.573E+02	1.574E+02	1.574E+02	1.575E+02
IY= 8	1.586E+02	1.587E+02	1.587E+02	1.587E+02	1.586E+02
IY= 7	1.607E+02	1.606E+02	1.604E+02	1.601E+02	1.598E+02
IY= 6	1.618E+02	1.607E+02	1.597E+02	1.589E+02	1.583E+02
IY= 5	1.338E+02	1.407E+02	1.449E+02	1.466E+02	1.449E+02
IY= 4	1.242E+02	1.323E+02	1.372E+02	1.403E+02	1.422E+02
IY= 3	1.128E+02	1.216E+02	1.274E+02	1.313E+02	1.344E+02
IY= 2	9.922E+01	1.086E+02	1.148E+02	1.190E+02	1.222E+02
IY= 1	7.863E+01	8.850E+01	9.470E+01	9.888E+01	1.022E+02
IZ=	16	17	18	19	20
IY= 20	1.539E+02	1.540E+02	1.542E+02	1.543E+02	1.544E+02
IY= 19	1.539E+02	1.540E+02	1.542E+02	1.543E+02	1.544E+02
IY= 18	1.539E+02	1.541E+02	1.542E+02	1.544E+02	1.545E+02
IY= 17	1.540E+02	1.542E+02	1.543E+02	1.544E+02	1.545E+02
IY= 16	1.542E+02	1.543E+02	1.545E+02	1.546E+02	1.547E+02
IY= 15	1.544E+02	1.545E+02	1.547E+02	1.548E+02	1.549E+02
IY= 14	1.547E+02	1.548E+02	1.549E+02	1.550E+02	1.551E+02
IY= 13	1.550E+02	1.551E+02	1.552E+02	1.553E+02	1.554E+02
IY= 12	1.554E+02	1.555E+02	1.557E+02	1.558E+02	1.559E+02
IY= 11	1.560E+02	1.561E+02	1.562E+02	1.563E+02	1.564E+02
IY= 10	1.567E+02	1.568E+02	1.569E+02	1.570E+02	1.571E+02
IY= 9	1.575E+02	1.576E+02	1.577E+02	1.578E+02	1.579E+02
IY= 8	1.580E+02	1.581E+02	1.582E+02	1.583E+02	1.584E+02
IY= 7	1.595E+02	1.596E+02	1.597E+02	1.598E+02	1.599E+02
IY= 6	1.577E+02	1.578E+02	1.579E+02	1.580E+02	1.581E+02
IY= 5	1.488E+02	1.494E+02	1.499E+02	1.504E+02	1.508E+02
IY= 4	1.439E+02	1.453E+02	1.465E+02	1.475E+02	1.484E+02
IY= 3	1.384E+02	1.406E+02	1.424E+02	1.439E+02	1.452E+02
IY= 2	1.247E+02	1.283E+02	1.312E+02	1.336E+02	1.356E+02
IY= 1	1.042E+02	1.091E+02	1.131E+02	1.164E+02	1.191E+02
IZ=	21	22	23	24	
IY= 20	1.552E+02	1.555E+02	1.557E+02		
IY= 19	1.552E+02	1.555E+02	1.557E+02		
IY= 18	1.552E+02	1.555E+02	1.557E+02		
IY= 17	1.553E+02	1.555E+02	1.557E+02		
IY= 16	1.554E+02	1.557E+02	1.559E+02		

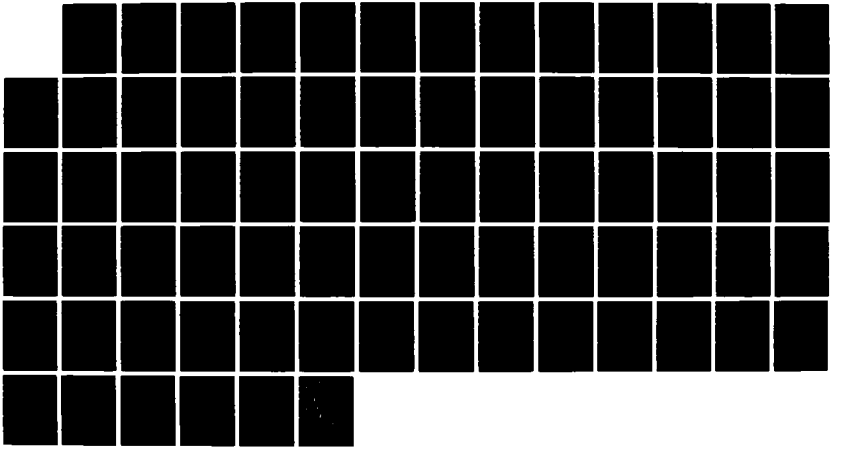
IY= 15	1.555E+02	1.558E+02	1.561E+02
IY= 14	1.557E+02	1.560E+02	1.562E+02
IY= 13	1.559E+02	1.561E+02	1.563E+02
IY= 12	1.562E+02	1.563E+02	1.564E+02
IY= 11	1.565E+02	1.565E+02	1.566E+02
IY= 10	1.568E+02	1.567E+02	1.567E+02
IY= 9	1.571E+02	1.569E+02	1.567E+02
IY= 8	1.575E+02	1.571E+02	1.568E+02
IY= 7	1.575E+02	1.570E+02	1.566E+02
IY= 6	1.552E+02	1.547E+02	1.543E+02
IY= 5	1.461E+02	1.453E+02	1.448E+02
IY= 4	1.428E+02	1.419E+02	1.413E+02
IY= 3	1.371E+02	1.362E+02	1.357E+02
IY= 2	1.274E+02	1.266E+02	1.260E+02
IY= 1	1.080E+02	1.073E+02	1.072E+02
IZ=	26	27	28

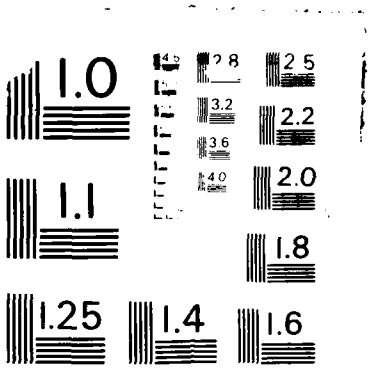
FIELD VALUES OF KE

IY= 20	1.936E+02	1.940E+02	1.948E+02	1.963E+02	1.992E+02
IY= 19	1.936E+02	1.940E+02	1.948E+02	1.964E+02	1.993E+02
IY= 18	1.937E+02	1.941E+02	1.950E+02	1.966E+02	1.996E+02
IY= 17	1.937E+02	1.942E+02	1.952E+02	1.969E+02	2.000E+02
IY= 16	1.938E+02	1.944E+02	1.955E+02	1.973E+02	2.007E+02
IY= 15	1.940E+02	1.946E+02	1.959E+02	1.980E+02	2.015E+02
IY= 14	1.941E+02	1.950E+02	1.964E+02	1.987E+02	2.026E+02
IY= 13	1.943E+02	1.953E+02	1.971E+02	1.998E+02	2.041E+02
IY= 12	1.945E+02	1.958E+02	1.979E+02	2.012E+02	2.059E+02
IY= 11	1.947E+02	1.964E+02	1.990E+02	2.030E+02	2.082E+02
IY= 10	1.949E+02	1.970E+02	2.003E+02	2.055E+02	2.110E+02
IY= 9	1.951E+02	1.977E+02	2.019E+02	2.087E+02	2.145E+02
IY= 8	1.953E+02	1.984E+02	2.037E+02	2.129E+02	2.185E+02
IY= 7	1.954E+02	1.991E+02	2.055E+02	2.179E+02	2.220E+02
IY= 6	1.955E+02	1.995E+02	2.068E+02	2.226E+02	2.209E+02
IY= 5	1.955E+02	1.995E+02	2.069E+02	2.235E+02	2.055E+02
IY= 4	1.955E+02	1.995E+02	2.069E+02	2.236E+02	1.991E+02
IY= 3	1.955E+02	1.995E+02	2.070E+02	2.236E+02	1.897E+02
IY= 2	1.955E+02	1.995E+02	2.070E+02	2.237E+02	1.776E+02
IY= 1	1.955E+02	1.995E+02	2.070E+02	2.237E+02	2.139E+02
IZ=	2	3		4	5

AD-A190 106 HEAT TRANSFER MODELING OF JET VANE THRUST VECTOR CONTROL (TVC) SYSTEMS(U) NAVAL POSTGRADUATE SCHOOL MONTEREY CA M F DULKE DEC 87 2/2

UNCLASSIFIED F/G 21/5 NL





MICROCOPY RESOLUTION TEST CHART

IY= 9	2.280E+02	2.294E+02	2.312E+02	2.324E+02	2.336E+02
IY= 8	2.206E+02	2.205E+02	2.210E+02	2.216E+02	2.226E+02
IY= 7	2.066E+02	2.040E+02	2.022E+02	2.015E+02	2.021E+02
IY= 6	1.759E+02	1.732E+02	1.736E+02	1.806E+02	1.814E+02
IY= 5	1.449E+02	1.467E+02	1.551E+02	1.410E+02	2.321E+02
IY= 4	1.484E+02	1.537E+02	1.667E+02	1.515E+02	2.597E+02
IY= 3	1.569E+02	1.641E+02	1.782E+02	1.619E+02	2.787E+02
IY= 2	1.734E+02	1.792E+02	1.903E+02	1.787E+02	2.880E+02
IY= 1	1.807E+02	1.772E+02	1.730E+02	2.539E+02	3.620E+02
IZ=	11	12	13	14	15
IY= 20	2.547E+02	2.548E+02	2.550E+02	2.552E+02	2.553E+02
IY= 19	2.545E+02	2.547E+02	2.549E+02	2.550E+02	2.552E+02
IY= 18	2.543E+02	2.544E+02	2.546E+02	2.548E+02	2.549E+02
IY= 17	2.539E+02	2.541E+02	2.542E+02	2.544E+02	2.545E+02
IY= 16	2.534E+02	2.535E+02	2.537E+02	2.538E+02	2.539E+02
IY= 15	2.526E+02	2.527E+02	2.529E+02	2.530E+02	2.531E+02
IY= 14	2.515E+02	2.517E+02	2.518E+02	2.519E+02	2.520E+02
IY= 13	2.500E+02	2.502E+02	2.503E+02	2.504E+02	2.505E+02
IY= 12	2.479E+02	2.481E+02	2.482E+02	2.483E+02	2.484E+02
IY= 11	2.449E+02	2.451E+02	2.452E+02	2.454E+02	2.454E+02
IY= 10	2.405E+02	2.407E+02	2.409E+02	2.410E+02	2.411E+02
IY= 9	2.339E+02	2.341E+02	2.343E+02	2.344E+02	2.345E+02
IY= 8	2.229E+02	2.232E+02	2.233E+02	2.235E+02	2.236E+02
IY= 7	2.022E+02	2.023E+02	2.024E+02	2.024E+02	2.024E+02
IY= 6	1.803E+02	1.783E+02	1.760E+02	1.737E+02	1.714E+02
IY= 5	2.513E+02	2.455E+02	2.308E+02	2.165E+02	2.044E+02
IY= 4	2.977E+02	2.919E+02	2.708E+02	2.495E+02	2.315E+02
IY= 3	3.244E+02	3.197E+02	2.987E+02	2.765E+02	2.569E+02
IY= 2	3.224E+02	3.168E+02	3.013E+02	2.848E+02	2.699E+02
IY= 1	2.357E+02	2.166E+02	2.198E+02	2.199E+02	2.184E+02
IZ=	16	17	18	19	20
IY= 20	2.555E+02	2.556E+02	2.558E+02	2.559E+02	2.561E+02
IY= 19	2.554E+02	2.555E+02	2.556E+02	2.557E+02	2.560E+02
IY= 18	2.551E+02	2.552E+02	2.553E+02	2.554E+02	2.556E+02
IY= 17	2.547E+02	2.548E+02	2.549E+02	2.550E+02	2.552E+02
IY= 16	2.541E+02	2.542E+02	2.543E+02	2.543E+02	2.545E+02
IY= 15	2.532E+02	2.533E+02	2.534E+02	2.535E+02	2.535E+02
IY= 14	2.521E+02	2.522E+02	2.523E+02	2.523E+02	2.523E+02
IY= 13	2.506E+02	2.507E+02	2.507E+02	2.508E+02	2.507E+02
IY= 12	2.485E+02	2.485E+02	2.486E+02	2.486E+02	2.485E+02
IY= 11	2.455E+02	2.456E+02	2.456E+02	2.457E+02	2.455E+02
IY= 10	2.412E+02	2.413E+02	2.413E+02	2.414E+02	2.411E+02
IY= 9	2.346E+02	2.347E+02	2.347E+02	2.348E+02	2.343E+02
IY= 8	2.236E+02	2.236E+02	2.236E+02	2.237E+02	2.229E+02
IY= 7	2.024E+02	2.024E+02	2.024E+02	2.024E+02	2.010E+02
IY= 6	1.692E+02	1.671E+02	1.651E+02	1.632E+02	1.564E+02
IY= 5	1.947E+02	1.868E+02	1.802E+02	1.749E+02	1.602E+02
IY= 4	2.168E+02	2.051E+02	1.955E+02	1.879E+02	1.702E+02
IY= 3	2.406E+02	2.270E+02	2.158E+02	2.066E+02	1.866E+02
IY= 2	2.570E+02	2.459E+02	2.364E+02	2.284E+02	2.084E+02
IY= 1	2.162E+02	2.139E+02	2.114E+02	2.086E+02	2.039E+02
IZ=	21	22	23	24	25
IY= 20	2.565E+02	2.566E+02	2.566E+02	2.564E+02	
IY= 19	2.563E+02	2.564E+02	2.564E+02	2.562E+02	
IY= 18	2.559E+02	2.560E+02	2.559E+02	2.557E+02	
IY= 17	2.554E+02	2.554E+02	2.553E+02	2.551E+02	
IY= 16	2.546E+02	2.546E+02	2.544E+02	2.542E+02	
IY= 15	2.536E+02	2.535E+02	2.533E+02	2.530E+02	
IY= 14	2.523E+02	2.521E+02	2.518E+02	2.515E+02	
IY= 13	2.505E+02	2.502E+02	2.499E+02	2.495E+02	
IY= 12	2.482E+02	2.478E+02	2.474E+02	2.469E+02	
IY= 11	2.451E+02	2.446E+02	2.440E+02	2.434E+02	
IY= 10	2.406E+02	2.399E+02	2.392E+02	2.385E+02	
IY= 9	2.336E+02	2.328E+02	2.320E+02	2.311E+02	
IY= 8	2.220E+02	2.209E+02	2.199E+02	2.188E+02	
IY= 7	1.996E+02	1.982E+02	1.967E+02	1.952E+02	
IY= 6	1.508E+02	1.463E+02	1.426E+02	1.396E+02	
IY= 5	1.460E+02	1.357E+02	1.289E+02	1.255E+02	
IY= 4	1.532E+02	1.411E+02	1.330E+02	1.291E+02	
IY= 3	1.674E+02	1.537E+02	1.445E+02	1.403E+02	

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IY=  2  1.891E+02  1.753E+02  1.657E+02  1.673E+02
IY=  1  1.977E+02  1.917E+02  1.877E+02  2.892E+02
IZ=       26         27         28         29
FIELD VALUES OF EP
IY= 20  3.309E+03  3.312E+03  3.325E+03  3.355E+03  3.423E+03
IY= 19  3.310E+03  3.313E+03  3.326E+03  3.358E+03  3.428E+03
IY= 18  3.311E+03  3.315E+03  3.330E+03  3.363E+03  3.440E+03
IY= 17  3.312E+03  3.318E+03  3.335E+03  3.373E+03  3.460E+03
IY= 16  3.314E+03  3.321E+03  3.342E+03  3.386E+03  3.491E+03
IY= 15  3.316E+03  3.327E+03  3.351E+03  3.406E+03  3.539E+03
IY= 14  3.318E+03  3.333E+03  3.364E+03  3.433E+03  3.611E+03
IY= 13  3.321E+03  3.341E+03  3.380E+03  3.470E+03  3.724E+03
IY= 12  3.324E+03  3.351E+03  3.402E+03  3.522E+03  3.905E+03
IY= 11  3.327E+03  3.362E+03  3.429E+03  3.592E+03  4.211E+03
IY= 10  3.330E+03  3.376E+03  3.463E+03  3.682E+03  4.773E+03
IY=  9  3.333E+03  3.391E+03  3.503E+03  3.789E+03  5.905E+03
IY=  8  3.336E+03  3.406E+03  3.547E+03  3.902E+03  8.550E+03
IY=  7  3.337E+03  3.419E+03  3.589E+03  4.025E+03  1.664E+04
IY=  6  3.338E+03  3.428E+03  3.621E+03  4.166E+03  5.878E+04
IY=  5  3.338E+03  3.429E+03  3.624E+03  4.196E+03  3.623E+05
IY=  4  3.338E+03  3.429E+03  3.624E+03  4.199E+03  5.374E+05
IY=  3  3.338E+03  3.429E+03  3.625E+03  4.201E+03  9.410E+05
IY=  2  3.338E+03  3.429E+03  3.625E+03  4.202E+03  2.282E+06
IY=  1  3.338E+03  3.429E+03  3.625E+03  4.202E+03  1.136E+07
IZ=       1          2          3          4          5
IY= 20  3.552E+03  3.745E+03  4.002E+03  4.315E+03  4.674E+03
IY= 19  3.563E+03  3.764E+03  4.031E+03  4.355E+03  4.725E+03
IY= 18  3.588E+03  3.807E+03  4.094E+03  4.440E+03  4.832E+03
IY= 17  3.629E+03  3.878E+03  4.199E+03  4.580E+03  5.006E+03
IY= 16  3.695E+03  3.988E+03  4.359E+03  4.790E+03  5.265E+03
IY= 15  3.795E+03  4.155E+03  4.596E+03  5.098E+03  5.641E+03
IY= 14  3.949E+03  4.406E+03  4.947E+03  5.545E+03  6.175E+03
IY= 13  4.189E+03  4.788E+03  5.471E+03  6.194E+03  6.942E+03
IY= 12  4.573E+03  5.388E+03  6.262E+03  7.161E+03  8.071E+03
IY= 11  5.219E+03  6.349E+03  7.503E+03  8.658E+03  9.808E+03
IY= 10  6.351E+03  7.981E+03  9.582E+03  1.114E+04  1.267E+04
IY=  9  8.516E+03  1.104E+04  1.344E+04  1.572E+04  1.792E+04
IY=  8  1.338E+04  1.779E+04  2.183E+04  2.560E+04  2.919E+04
IY=  7  2.778E+04  3.726E+04  4.559E+04  5.332E+04  6.091E+04
IY=  6  9.769E+04  1.267E+05  1.521E+05  1.785E+05  2.096E+05
IY=  5  5.333E+05  6.522E+05  8.070E+05  1.047E+06  1.420E+06
IY=  4  7.495E+05  8.998E+05  1.120E+06  1.472E+06  2.014E+06
IY=  3  1.229E+06  1.464E+06  1.847E+06  2.441E+06  3.300E+06
IY=  2  2.753E+06  3.241E+06  4.025E+06  5.124E+06  6.606E+06
IY=  1  1.169E+07  1.231E+07  1.345E+07  1.526E+07  1.797E+07
IZ=       6          7          8          9          10
IY= 20  5.062E+03  5.462E+03  5.855E+03  6.276E+03  6.436E+03
IY= 19  5.123E+03  5.534E+03  5.936E+03  6.365E+03  6.525E+03
IY= 18  5.252E+03  5.683E+03  6.106E+03  6.549E+03  6.713E+03
IY= 17  5.459E+03  5.924E+03  6.378E+03  6.840E+03  7.012E+03
IY= 16  5.767E+03  6.278E+03  6.773E+03  7.263E+03  7.446E+03
IY= 15  6.206E+03  6.776E+03  7.328E+03  7.857E+03  8.057E+03
IY= 14  6.824E+03  7.474E+03  8.101E+03  8.684E+03  8.907E+03
IY= 13  7.703E+03  8.461E+03  9.193E+03  9.851E+03  1.011E+04
IY= 12  8.987E+03  9.898E+03  1.078E+04  1.155E+04  1.184E+04
IY= 11  1.095E+04  1.209E+04  1.319E+04  1.414E+04  1.446E+04
IY= 10  1.418E+04  1.567E+04  1.713E+04  1.837E+04  1.873E+04
IY=  9  2.007E+04  2.219E+04  2.430E+04  2.608E+04  2.651E+04
IY=  8  3.271E+04  3.626E+04  3.992E+04  4.310E+04  4.370E+04
IY=  7  6.883E+04  7.764E+04  8.811E+04  9.879E+04  1.000E+05
IY=  6  2.500E+05  3.078E+05  4.042E+05  5.762E+05  5.704E+05
IY=  5  2.012E+06  3.016E+06  5.313E+06  1.033E+07  1.806E+07
IY=  4  2.859E+06  4.252E+06  7.397E+06  1.479E+07  3.014E+07
IY=  3  4.566E+06  6.579E+06  1.091E+07  2.302E+07  5.017E+07
IY=  2  8.690E+06  1.193E+07  1.848E+07  4.457E+07  9.679E+07
IY=  1  2.200E+07  2.844E+07  4.104E+07  1.447E+08  3.204E+08
IZ=       11         12         13         14         15
IY= 20  6.470E+03  6.505E+03  6.539E+03  6.574E+03  6.608E+03
IY= 19  6.560E+03  6.596E+03  6.631E+03  6.666E+03  6.701E+03
IY= 18  6.749E+03  6.786E+03  6.823E+03  6.859E+03  6.895E+03
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IY= 17	7.050E+03	7.089E+03	7.128E+03	7.167E+03	7.205E+03
IY= 16	7.488E+03	7.531E+03	7.573E+03	7.614E+03	7.656E+03
IY= 15	8.103E+03	8.150E+03	8.197E+03	8.243E+03	8.289E+03
IY= 14	8.961E+03	9.015E+03	9.068E+03	9.120E+03	9.172E+03
IY= 13	1.017E+04	1.023E+04	1.030E+04	1.036E+04	1.042E+04
IY= 12	1.192E+04	1.200E+04	1.207E+04	1.214E+04	1.222E+04
IY= 11	1.456E+04	1.466E+04	1.476E+04	1.485E+04	1.494E+04
IY= 10	1.887E+04	1.901E+04	1.914E+04	1.926E+04	1.937E+04
IY= 9	2.672E+04	2.692E+04	2.711E+04	2.727E+04	2.742E+04
IY= 8	4.408E+04	4.439E+04	4.464E+04	4.483E+04	4.496E+04
IY= 7	1.003E+05	1.002E+05	9.972E+04	9.902E+04	9.816E+04
IY= 6	5.552E+05	5.363E+05	5.164E+05	4.967E+05	4.775E+05
IY= 5	1.300E+07	9.177E+06	6.520E+06	4.786E+06	3.640E+06
IY= 4	2.368E+07	1.697E+07	1.202E+07	8.729E+06	6.557E+06
IY= 3	3.692E+07	2.616E+07	1.887E+07	1.406E+07	1.082E+07
IY= 2	5.653E+07	3.811E+07	2.814E+07	2.180E+07	1.747E+07
IY= 1	1.005E+08	6.314E+07	5.016E+07	4.102E+07	3.434E+07
IZ=	16	17	18	19	20
IY= 20	6.642E+03	6.675E+03	6.707E+03	6.738E+03	6.831E+03
IY= 19	6.736E+03	6.770E+03	6.802E+03	6.834E+03	6.928E+03
IY= 18	6.931E+03	6.966E+03	7.000E+03	7.033E+03	7.131E+03
IY= 17	7.243E+03	7.280E+03	7.315E+03	7.350E+03	7.455E+03
IY= 16	7.696E+03	7.736E+03	7.775E+03	7.812E+03	7.927E+03
IY= 15	8.334E+03	8.377E+03	8.420E+03	8.460E+03	8.589E+03
IY= 14	9.222E+03	9.271E+03	9.319E+03	9.364E+03	9.514E+03
IY= 13	1.047E+04	1.053E+04	1.058E+04	1.064E+04	1.082E+04
IY= 12	1.228E+04	1.235E+04	1.242E+04	1.248E+04	1.271E+04
IY= 11	1.503E+04	1.511E+04	1.518E+04	1.525E+04	1.558E+04
IY= 10	1.948E+04	1.958E+04	1.967E+04	1.974E+04	2.025E+04
IY= 9	2.756E+04	2.768E+04	2.778E+04	2.788E+04	2.858E+04
IY= 8	4.506E+04	4.511E+04	4.513E+04	4.516E+04	4.607E+04
IY= 7	9.720E+04	9.618E+04	9.512E+04	9.405E+04	9.491E+04
IY= 6	4.591E+05	4.415E+05	4.247E+05	4.086E+05	3.661E+05
IY= 5	2.866E+06	2.324E+06	1.932E+06	1.643E+06	1.593E+06
IY= 4	5.083E+06	4.058E+06	3.323E+06	2.786E+06	2.369E+06
IY= 3	8.561E+06	6.947E+06	5.761E+06	4.873E+06	3.944E+06
IY= 2	1.438E+07	1.208E+07	1.034E+07	8.982E+06	7.376E+06
IY= 1	2.932E+07	2.543E+07	2.236E+07	1.983E+07	1.749E+07
IZ=	21	22	23	24	25
IY= 20	6.962E+03	7.084E+03	7.194E+03	7.266E+03	
IY= 19	7.062E+03	7.186E+03	7.296E+03	7.372E+03	
IY= 18	7.269E+03	7.398E+03	7.513E+03	7.594E+03	
IY= 17	7.601E+03	7.737E+03	7.860E+03	7.950E+03	
IY= 16	8.084E+03	8.231E+03	8.366E+03	8.470E+03	
IY= 15	8.763E+03	8.927E+03	9.079E+03	9.201E+03	
IY= 14	9.712E+03	9.898E+03	1.007E+04	1.022E+04	
IY= 13	1.105E+04	1.127E+04	1.148E+04	1.166E+04	
IY= 12	1.299E+04	1.326E+04	1.351E+04	1.374E+04	
IY= 11	1.594E+04	1.627E+04	1.657E+04	1.686E+04	
IY= 10	2.070E+04	2.111E+04	2.148E+04	2.183E+04	
IY= 9	2.916E+04	2.966E+04	3.010E+04	3.049E+04	
IY= 8	4.674E+04	4.722E+04	4.756E+04	4.778E+04	
IY= 7	9.470E+04	9.382E+04	9.254E+04	9.101E+04	
IY= 6	3.308E+05	3.009E+05	2.754E+05	2.532E+05	
IY= 5	1.350E+06	1.132E+06	9.641E+05	8.312E+05	
IY= 4	1.944E+06	1.619E+06	1.380E+06	1.189E+06	
IY= 3	3.188E+06	2.651E+06	2.271E+06	1.992E+06	
IY= 2	6.077E+06	5.156E+06	4.490E+06	4.497E+06	
IY= 1	1.537E+07	1.358E+07	1.226E+07	2.192E+07	
IZ=	26	27	28	29	

FIELD VALUES OF H1

IY= 20	2.309E+05	2.310E+05	2.311E+05	2.310E+05	2.309E+05
IY= 19	2.309E+05	2.310E+05	2.311E+05	2.310E+05	2.309E+05
IY= 18	2.309E+05	2.310E+05	2.311E+05	2.310E+05	2.310E+05
IY= 17	2.309E+05	2.310E+05	2.311E+05	2.310E+05	2.310E+05
IY= 16	2.309E+05	2.310E+05	2.311E+05	2.310E+05	2.310E+05
IY= 15	2.309E+05	2.311E+05	2.311E+05	2.311E+05	2.310E+05
IY= 14	2.309E+05	2.311E+05	2.311E+05	2.311E+05	2.310E+05
IY= 13	2.309E+05	2.311E+05	2.311E+05	2.311E+05	2.311E+05
IY= 12	2.309E+05	2.311E+05	2.311E+05	2.311E+05	2.311E+05

IY= 11	2.309E+05	2.311E+05	2.312E+05	2.312E+05	2.311E+05
IY= 10	2.309E+05	2.311E+05	2.312E+05	2.312E+05	2.312E+05
IY= 9	2.309E+05	2.311E+05	2.312E+05	2.313E+05	2.313E+05
IY= 8	2.309E+05	2.311E+05	2.313E+05	2.313E+05	2.314E+05
IY= 7	2.309E+05	2.312E+05	2.313E+05	2.314E+05	2.316E+05
IY= 6	2.309E+05	2.312E+05	2.313E+05	2.314E+05	2.320E+05
IY= 5	2.309E+05	2.312E+05	2.313E+05	2.314E+05	2.328E+05
IY= 4	2.309E+05	2.312E+05	2.313E+05	2.314E+05	2.332E+05
IY= 3	2.309E+05	2.312E+05	2.313E+05	2.314E+05	2.340E+05
IY= 2	2.309E+05	2.312E+05	2.313E+05	2.314E+05	2.361E+05
IY= 1	2.309E+05	2.312E+05	2.313E+05	2.314E+05	2.443E+05
IZ=	1	2	3	4	5
IY= 20	2.308E+05	2.307E+05	2.305E+05	2.303E+05	2.300E+05
IY= 19	2.308E+05	2.307E+05	2.305E+05	2.303E+05	2.300E+05
IY= 18	2.308E+05	2.307E+05	2.305E+05	2.303E+05	2.300E+05
IY= 17	2.308E+05	2.307E+05	2.305E+05	2.303E+05	2.300E+05
IY= 16	2.308E+05	2.307E+05	2.305E+05	2.303E+05	2.300E+05
IY= 15	2.309E+05	2.307E+05	2.305E+05	2.303E+05	2.300E+05
IY= 14	2.309E+05	2.307E+05	2.305E+05	2.303E+05	2.300E+05
IY= 13	2.309E+05	2.307E+05	2.305E+05	2.303E+05	2.300E+05
IY= 12	2.310E+05	2.308E+05	2.305E+05	2.303E+05	2.300E+05
IY= 11	2.310E+05	2.308E+05	2.306E+05	2.303E+05	2.300E+05
IY= 10	2.311E+05	2.308E+05	2.306E+05	2.303E+05	2.300E+05
IY= 9	2.311E+05	2.309E+05	2.306E+05	2.303E+05	2.300E+05
IY= 8	2.312E+05	2.309E+05	2.306E+05	2.303E+05	2.301E+05
IY= 7	2.313E+05	2.310E+05	2.307E+05	2.305E+05	2.303E+05
IY= 6	2.316E+05	2.314E+05	2.315E+05	2.316E+05	2.318E+05
IY= 5	2.334E+05	2.346E+05	2.365E+05	2.390E+05	2.423E+05
IY= 4	2.342E+05	2.360E+05	2.385E+05	2.417E+05	2.456E+05
IY= 3	2.359E+05	2.386E+05	2.421E+05	2.462E+05	2.509E+05
IY= 2	2.400E+05	2.447E+05	2.496E+05	2.546E+05	2.598E+05
IY= 1	2.533E+05	2.609E+05	2.672E+05	2.724E+05	2.773E+05
IZ=	6	7	8	9	10
IY= 20	2.298E+05	2.295E+05	2.293E+05	2.290E+05	2.288E+05
IY= 19	2.298E+05	2.295E+05	2.293E+05	2.290E+05	2.288E+05
IY= 18	2.298E+05	2.295E+05	2.293E+05	2.290E+05	2.288E+05
IY= 17	2.298E+05	2.295E+05	2.293E+05	2.290E+05	2.288E+05
IY= 16	2.298E+05	2.295E+05	2.293E+05	2.290E+05	2.288E+05
IY= 15	2.298E+05	2.295E+05	2.292E+05	2.289E+05	2.288E+05
IY= 14	2.298E+05	2.295E+05	2.292E+05	2.289E+05	2.287E+05
IY= 13	2.298E+05	2.295E+05	2.292E+05	2.289E+05	2.287E+05
IY= 12	2.297E+05	2.295E+05	2.292E+05	2.289E+05	2.286E+05
IY= 11	2.297E+05	2.294E+05	2.291E+05	2.288E+05	2.286E+05
IY= 10	2.297E+05	2.294E+05	2.291E+05	2.288E+05	2.285E+05
IY= 9	2.297E+05	2.295E+05	2.291E+05	2.288E+05	2.285E+05
IY= 8	2.298E+05	2.296E+05	2.292E+05	2.289E+05	2.285E+05
IY= 7	2.302E+05	2.300E+05	2.297E+05	2.294E+05	2.288E+05
IY= 6	2.321E+05	2.325E+05	2.329E+05	2.332E+05	2.319E+05
IY= 5	2.466E+05	2.524E+05	2.610E+05	2.765E+05	2.504E+05
IY= 4	2.505E+05	2.568E+05	2.655E+05	2.825E+05	2.564E+05
IY= 3	2.563E+05	2.628E+05	2.714E+05	2.904E+05	2.649E+05
IY= 2	2.654E+05	2.718E+05	2.797E+05	3.020E+05	2.785E+05
IY= 1	2.824E+05	2.881E+05	2.949E+05	3.200E+05	3.032E+05
IZ=	11	12	13	14	15
IY= 20	2.288E+05	2.288E+05	2.288E+05	2.287E+05	2.287E+05
IY= 19	2.288E+05	2.288E+05	2.288E+05	2.287E+05	2.287E+05
IY= 18	2.288E+05	2.288E+05	2.288E+05	2.287E+05	2.287E+05
IY= 17	2.288E+05	2.288E+05	2.287E+05	2.287E+05	2.287E+05
IY= 16	2.288E+05	2.287E+05	2.287E+05	2.287E+05	2.287E+05
IY= 15	2.287E+05	2.287E+05	2.287E+05	2.287E+05	2.287E+05
IY= 14	2.287E+05	2.287E+05	2.287E+05	2.286E+05	2.286E+05
IY= 13	2.287E+05	2.286E+05	2.286E+05	2.286E+05	2.286E+05
IY= 12	2.286E+05	2.286E+05	2.286E+05	2.286E+05	2.285E+05
IY= 11	2.285E+05	2.285E+05	2.285E+05	2.285E+05	2.285E+05
IY= 10	2.285E+05	2.285E+05	2.284E+05	2.284E+05	2.284E+05
IY= 9	2.284E+05	2.284E+05	2.284E+05	2.284E+05	2.284E+05
IY= 8	2.284E+05	2.284E+05	2.284E+05	2.284E+05	2.284E+05
IY= 7	2.286E+05	2.286E+05	2.286E+05	2.287E+05	2.287E+05
IY= 6	2.316E+05	2.317E+05	2.318E+05	2.320E+05	2.320E+05
IY= 5	2.428E+05	2.399E+05	2.384E+05	2.374E+05	2.368E+05

IY= 4	2.478E+05	2.440E+05	2.419E+05	2.405E+05	2.396E+05
IY= 3	2.548E+05	2.500E+05	2.473E+05	2.456E+05	2.443E+05
IY= 2	2.654E+05	2.591E+05	2.558E+05	2.537E+05	2.523E+05
IY= 1	2.853E+05	2.771E+05	2.732E+05	2.710E+05	2.695E+05
IZ=	16	17	18	19	20
IY= 20	2.287E+05	2.287E+05	2.287E+05	2.287E+05	2.286E+05
IY= 19	2.287E+05	2.287E+05	2.287E+05	2.287E+05	2.286E+05
IY= 18	2.287E+05	2.287E+05	2.287E+05	2.286E+05	2.286E+05
IY= 17	2.287E+05	2.287E+05	2.287E+05	2.286E+05	2.286E+05
IY= 16	2.287E+05	2.287E+05	2.286E+05	2.286E+05	2.286E+05
IY= 15	2.286E+05	2.286E+05	2.286E+05	2.286E+05	2.286E+05
IY= 14	2.286E+05	2.286E+05	2.286E+05	2.286E+05	2.285E+05
IY= 13	2.286E+05	2.286E+05	2.285E+05	2.285E+05	2.285E+05
IY= 12	2.285E+05	2.285E+05	2.285E+05	2.285E+05	2.285E+05
IY= 11	2.285E+05	2.284E+05	2.284E+05	2.284E+05	2.284E+05
IY= 10	2.284E+05	2.284E+05	2.284E+05	2.284E+05	2.284E+05
IY= 9	2.284E+05	2.284E+05	2.284E+05	2.284E+05	2.284E+05
IY= 8	2.284E+05	2.284E+05	2.284E+05	2.284E+05	2.285E+05
IY= 7	2.288E+05	2.288E+05	2.288E+05	2.289E+05	2.290E+05
IY= 6	2.321E+05	2.321E+05	2.321E+05	2.322E+05	2.321E+05
IY= 5	2.364E+05	2.360E+05	2.358E+05	2.356E+05	2.373E+05
IY= 4	2.389E+05	2.384E+05	2.380E+05	2.376E+05	2.393E+05
IY= 3	2.434E+05	2.426E+05	2.421E+05	2.416E+05	2.433E+05
IY= 2	2.512E+05	2.504E+05	2.497E+05	2.491E+05	2.509E+05
IY= 1	2.685E+05	2.676E+05	2.669E+05	2.664E+05	2.677E+05
IZ=	21	22	23	24	25
IY= 20	2.285E+05	2.285E+05	2.284E+05	2.283E+05	
IY= 19	2.285E+05	2.285E+05	2.284E+05	2.283E+05	
IY= 18	2.285E+05	2.285E+05	2.284E+05	2.283E+05	
IY= 17	2.285E+05	2.284E+05	2.284E+05	2.283E+05	
IY= 16	2.285E+05	2.284E+05	2.284E+05	2.283E+05	
IY= 15	2.285E+05	2.284E+05	2.284E+05	2.283E+05	
IY= 14	2.285E+05	2.284E+05	2.284E+05	2.283E+05	
IY= 13	2.284E+05	2.284E+05	2.284E+05	2.283E+05	
IY= 12	2.284E+05	2.284E+05	2.284E+05	2.284E+05	
IY= 11	2.284E+05	2.284E+05	2.284E+05	2.284E+05	
IY= 10	2.284E+05	2.284E+05	2.284E+05	2.284E+05	
IY= 9	2.284E+05	2.285E+05	2.285E+05	2.286E+05	
IY= 8	2.286E+05	2.286E+05	2.287E+05	2.288E+05	
IY= 7	2.291E+05	2.292E+05	2.293E+05	2.294E+05	
IY= 6	2.322E+05	2.322E+05	2.322E+05	2.322E+05	
IY= 5	2.383E+05	2.389E+05	2.393E+05	2.392E+05	
IY= 4	2.406E+05	2.414E+05	2.419E+05	2.418E+05	
IY= 3	2.447E+05	2.458E+05	2.465E+05	2.460E+05	
IY= 2	2.524E+05	2.537E+05	2.547E+05	2.540E+05	
IY= 1	2.693E+05	2.707E+05	2.718E+05	2.719E+05	
IZ=	26	27	28	29	
FIELD VALUES OF ENUL					
IY= 20	7.512E-06	7.492E-06	7.487E-06	7.485E-06	7.484E-06
IY= 19	7.514E-06	7.495E-06	7.492E-06	7.493E-06	7.494E-06
IY= 18	7.513E-06	7.494E-06	7.491E-06	7.491E-06	7.493E-06
IY= 17	7.512E-06	7.493E-06	7.489E-06	7.490E-06	7.491E-06
IY= 16	7.510E-06	7.491E-06	7.487E-06	7.488E-06	7.489E-06
IY= 15	7.508E-06	7.488E-06	7.485E-06	7.485E-06	7.487E-06
IY= 14	7.505E-06	7.485E-06	7.482E-06	7.482E-06	7.485E-06
IY= 13	7.503E-06	7.482E-06	7.478E-06	7.479E-06	7.482E-06
IY= 12	7.500E-06	7.478E-06	7.475E-06	7.476E-06	7.478E-06
IY= 11	7.497E-06	7.475E-06	7.471E-06	7.472E-06	7.474E-06
IY= 10	7.493E-06	7.471E-06	7.467E-06	7.468E-06	7.470E-06
IY= 9	7.490E-06	7.467E-06	7.463E-06	7.463E-06	7.463E-06
IY= 8	7.488E-06	7.464E-06	7.458E-06	7.457E-06	7.452E-06
IY= 7	7.486E-06	7.461E-06	7.454E-06	7.448E-06	7.433E-06
IY= 6	7.485E-06	7.459E-06	7.451E-06	7.437E-06	7.407E-06
IY= 5	7.484E-06	7.459E-06	7.450E-06	7.432E-06	7.413E-06
IY= 4	7.484E-06	7.459E-06	7.451E-06	7.434E-06	7.432E-06
IY= 3	7.485E-06	7.461E-06	7.453E-06	7.438E-06	7.472E-06
IY= 2	7.486E-06	7.464E-06	7.459E-06	7.449E-06	7.583E-06
IY= 1	7.490E-06	7.469E-06	7.469E-06	7.470E-06	8.040E-06
IZ=	1	2	3	4	5
IY= 20	7.485E-06	7.486E-06	7.488E-06	7.492E-06	7.497E-06

IY= 19	7.498E-06	7.503E-06	7.507E-06	7.512E-06	7.517E-06
IY= 18	7.497E-06	7.501E-06	7.506E-06	7.511E-06	7.517E-06
IY= 17	7.496E-06	7.500E-06	7.505E-06	7.510E-06	7.516E-06
IY= 16	7.494E-06	7.498E-06	7.504E-06	7.509E-06	7.514E-06
IY= 15	7.492E-06	7.497E-06	7.502E-06	7.507E-06	7.512E-06
IY= 14	7.489E-06	7.494E-06	7.499E-06	7.504E-06	7.510E-06
IY= 13	7.487E-06	7.491E-06	7.496E-06	7.501E-06	7.507E-06
IY= 12	7.483E-06	7.487E-06	7.492E-06	7.497E-06	7.503E-06
IY= 11	7.479E-06	7.482E-06	7.486E-06	7.492E-06	7.498E-06
IY= 10	7.472E-06	7.475E-06	7.479E-06	7.485E-06	7.492E-06
IY= 9	7.463E-06	7.466E-06	7.472E-06	7.479E-06	7.487E-06
IY= 8	7.451E-06	7.456E-06	7.464E-06	7.473E-06	7.484E-06
IY= 7	7.436E-06	7.447E-06	7.461E-06	7.476E-06	7.492E-06
IY= 6	7.430E-06	7.461E-06	7.495E-06	7.533E-06	7.576E-06
IY= 5	7.521E-06	7.648E-06	7.804E-06	7.999E-06	8.248E-06
IY= 4	7.568E-06	7.731E-06	7.929E-06	8.171E-06	8.468E-06
IY= 3	7.664E-06	7.892E-06	8.159E-06	8.467E-06	8.823E-06
IY= 2	7.913E-06	8.274E-06	8.651E-06	9.038E-06	9.443E-06
IY= 1	8.752E-06	9.353E-06	9.854E-06	1.029E-05	1.070E-05
IZ=	6	7	8	9	10
IY= 20	7.502E-06	7.508E-06	7.513E-06	7.515E-06	7.519E-06
IY= 19	7.522E-06	7.527E-06	7.531E-06	7.531E-06	7.534E-06
IY= 18	7.522E-06	7.527E-06	7.531E-06	7.531E-06	7.534E-06
IY= 17	7.521E-06	7.526E-06	7.530E-06	7.530E-06	7.533E-06
IY= 16	7.520E-06	7.525E-06	7.530E-06	7.530E-06	7.533E-06
IY= 15	7.518E-06	7.524E-06	7.529E-06	7.529E-06	7.532E-06
IY= 14	7.516E-06	7.522E-06	7.527E-06	7.528E-06	7.531E-06
IY= 13	7.513E-06	7.519E-06	7.525E-06	7.527E-06	7.530E-06
IY= 12	7.509E-06	7.516E-06	7.523E-06	7.527E-06	7.530E-06
IY= 11	7.505E-06	7.512E-06	7.521E-06	7.527E-06	7.530E-06
IY= 10	7.500E-06	7.509E-06	7.519E-06	7.528E-06	7.531E-06
IY= 9	7.496E-06	7.506E-06	7.518E-06	7.531E-06	7.536E-06
IY= 8	7.495E-06	7.508E-06	7.522E-06	7.539E-06	7.548E-06
IY= 7	7.509E-06	7.528E-06	7.549E-06	7.573E-06	7.589E-06
IY= 6	7.625E-06	7.680E-06	7.744E-06	7.821E-06	7.863E-06
IY= 5	8.574E-06	9.014E-06	9.631E-06	1.082E-05	9.787E-06
IY= 4	8.841E-06	9.321E-06	9.958E-06	1.127E-05	1.024E-05
IY= 3	9.240E-06	9.750E-06	1.038E-05	1.187E-05	1.087E-05
IY= 2	9.884E-06	1.040E-05	1.099E-05	1.276E-05	1.190E-05
IY= 1	1.113E-05	1.163E-05	1.210E-05	1.421E-05	1.386E-05
IZ=	11	12	13	14	15
IY= 20	7.517E-06	7.517E-06	7.517E-06	7.517E-06	7.518E-06
IY= 19	7.531E-06	7.531E-06	7.530E-06	7.530E-06	7.531E-06
IY= 18	7.531E-06	7.530E-06	7.530E-06	7.530E-06	7.531E-06
IY= 17	7.531E-06	7.530E-06	7.530E-06	7.530E-06	7.531E-06
IY= 16	7.530E-06	7.530E-06	7.530E-06	7.530E-06	7.530E-06
IY= 15	7.530E-06	7.529E-06	7.529E-06	7.529E-06	7.530E-06
IY= 14	7.529E-06	7.528E-06	7.529E-06	7.529E-06	7.530E-06
IY= 13	7.528E-06	7.528E-06	7.529E-06	7.529E-06	7.530E-06
IY= 12	7.528E-06	7.529E-06	7.529E-06	7.530E-06	7.531E-06
IY= 11	7.529E-06	7.530E-06	7.531E-06	7.532E-06	7.533E-06
IY= 10	7.531E-06	7.532E-06	7.534E-06	7.535E-06	7.537E-06
IY= 9	7.537E-06	7.539E-06	7.541E-06	7.542E-06	7.543E-06
IY= 8	7.551E-06	7.553E-06	7.555E-06	7.556E-06	7.558E-06
IY= 7	7.594E-06	7.596E-06	7.598E-06	7.598E-06	7.598E-06
IY= 6	7.865E-06	7.860E-06	7.854E-06	7.848E-06	7.843E-06
IY= 5	8.990E-06	8.618E-06	8.426E-06	8.314E-06	8.240E-06
IY= 4	9.380E-06	8.952E-06	8.714E-06	8.565E-06	8.464E-06
IY= 3	9.918E-06	9.425E-06	9.142E-06	8.960E-06	8.832E-06
IY= 2	1.071E-05	1.011E-05	9.786E-06	9.579E-06	9.434E-06
IY= 1	1.223E-05	1.146E-05	1.109E-05	1.086E-05	1.071E-05
IZ=	16	17	18	19	20
IY= 20	7.519E-06	7.520E-06	7.522E-06	7.523E-06	7.524E-06
IY= 19	7.531E-06	7.532E-06	7.533E-06	7.535E-06	7.535E-06
IY= 18	7.531E-06	7.532E-06	7.534E-06	7.535E-06	7.535E-06
IY= 17	7.531E-06	7.532E-06	7.534E-06	7.535E-06	7.536E-06
IY= 16	7.531E-06	7.532E-06	7.533E-06	7.535E-06	7.536E-06
IY= 15	7.531E-06	7.532E-06	7.533E-06	7.534E-06	7.536E-06
IY= 14	7.531E-06	7.532E-06	7.533E-06	7.535E-06	7.536E-06
IY= 13	7.531E-06	7.532E-06	7.534E-06	7.535E-06	7.537E-06

IY= 12	7.532E-06	7.533E-06	7.535E-06	7.536E-06	7.538E-06
IY= 11	7.534E-06	7.535E-06	7.537E-06	7.538E-06	7.540E-06
IY= 10	7.538E-06	7.539E-06	7.540E-06	7.541E-06	7.543E-06
IY= 9	7.545E-06	7.546E-06	7.547E-06	7.548E-06	7.549E-06
IY= 8	7.558E-06	7.559E-06	7.560E-06	7.560E-06	7.562E-06
IY= 7	7.598E-06	7.598E-06	7.598E-06	7.598E-06	7.600E-06
IY= 6	7.837E-06	7.832E-06	7.828E-06	7.823E-06	7.815E-06
IY= 5	8.187E-06	8.147E-06	8.116E-06	8.091E-06	8.180E-06
IY= 4	8.389E-06	8.332E-06	8.288E-06	8.251E-06	8.339E-06
IY= 3	8.736E-06	8.661E-06	8.600E-06	8.550E-06	8.639E-06
IY= 2	9.325E-06	9.238E-06	9.167E-06	9.108E-06	9.201E-06
IY= 1	1.060E-05	1.052E-05	1.044E-05	1.038E-05	1.045E-05
IZ=	21	22	23	24	25
IY= 20	7.529E-06	7.532E-06	7.535E-06	7.547E-06	
IY= 19	7.539E-06	7.541E-06	7.543E-06	7.549E-06	
IY= 18	7.540E-06	7.542E-06	7.543E-06	7.549E-06	
IY= 17	7.540E-06	7.542E-06	7.543E-06	7.549E-06	
IY= 16	7.540E-06	7.542E-06	7.543E-06	7.548E-06	
IY= 15	7.540E-06	7.542E-06	7.543E-06	7.547E-06	
IY= 14	7.540E-06	7.542E-06	7.543E-06	7.546E-06	
IY= 13	7.540E-06	7.542E-06	7.543E-06	7.545E-06	
IY= 12	7.541E-06	7.542E-06	7.544E-06	7.545E-06	
IY= 11	7.542E-06	7.544E-06	7.545E-06	7.546E-06	
IY= 10	7.545E-06	7.546E-06	7.547E-06	7.548E-06	
IY= 9	7.551E-06	7.552E-06	7.553E-06	7.554E-06	
IY= 8	7.564E-06	7.565E-06	7.566E-06	7.567E-06	
IY= 7	7.602E-06	7.604E-06	7.605E-06	7.606E-06	
IY= 6	7.807E-06	7.801E-06	7.796E-06	7.791E-06	
IY= 5	8.248E-06	8.284E-06	8.303E-06	8.293E-06	
IY= 4	8.415E-06	8.464E-06	8.494E-06	8.480E-06	
IY= 3	8.720E-06	8.780E-06	8.821E-06	8.790E-06	
IY= 2	9.287E-06	9.360E-06	9.415E-06	9.368E-06	
IY= 1	1.054E-05	1.062E-05	1.068E-05	1.068E-05	
IZ=	26	27	28	29	

FIELD VALUES OF RHO1

IY= 20	1.851E+00	1.857E+00	1.858E+00	1.858E+00	1.858E+00
IY= 19	1.851E+00	1.856E+00	1.857E+00	1.857E+00	1.855E+00
IY= 18	1.851E+00	1.856E+00	1.857E+00	1.857E+00	1.856E+00
IY= 17	1.851E+00	1.857E+00	1.858E+00	1.857E+00	1.856E+00
IY= 16	1.852E+00	1.857E+00	1.858E+00	1.858E+00	1.857E+00
IY= 15	1.852E+00	1.858E+00	1.859E+00	1.859E+00	1.858E+00
IY= 14	1.853E+00	1.859E+00	1.860E+00	1.860E+00	1.859E+00
IY= 13	1.854E+00	1.860E+00	1.861E+00	1.861E+00	1.860E+00
IY= 12	1.855E+00	1.861E+00	1.862E+00	1.862E+00	1.861E+00
IY= 11	1.856E+00	1.862E+00	1.864E+00	1.863E+00	1.862E+00
IY= 10	1.856E+00	1.863E+00	1.865E+00	1.865E+00	1.864E+00
IY= 9	1.857E+00	1.864E+00	1.866E+00	1.867E+00	1.867E+00
IY= 8	1.858E+00	1.865E+00	1.868E+00	1.869E+00	1.871E+00
IY= 7	1.859E+00	1.866E+00	1.869E+00	1.872E+00	1.878E+00
IY= 6	1.859E+00	1.867E+00	1.870E+00	1.875E+00	1.887E+00
IY= 5	1.859E+00	1.867E+00	1.871E+00	1.877E+00	1.891E+00
IY= 4	1.859E+00	1.867E+00	1.870E+00	1.876E+00	1.888E+00
IY= 3	1.859E+00	1.866E+00	1.870E+00	1.875E+00	1.883E+00
IY= 2	1.859E+00	1.865E+00	1.868E+00	1.872E+00	1.867E+00
IY= 1	1.858E+00	1.864E+00	1.866E+00	1.867E+00	1.802E+00
IZ=	1	2	3	4	5
IY= 20	1.856E+00	1.854E+00	1.852E+00	1.848E+00	1.844E+00
IY= 19	1.853E+00	1.850E+00	1.847E+00	1.843E+00	1.839E+00
IY= 18	1.853E+00	1.850E+00	1.847E+00	1.843E+00	1.840E+00
IY= 17	1.854E+00	1.851E+00	1.847E+00	1.844E+00	1.840E+00
IY= 16	1.854E+00	1.851E+00	1.848E+00	1.844E+00	1.840E+00
IY= 15	1.855E+00	1.852E+00	1.849E+00	1.845E+00	1.840E+00
IY= 14	1.856E+00	1.853E+00	1.849E+00	1.845E+00	1.841E+00
IY= 13	1.857E+00	1.854E+00	1.850E+00	1.846E+00	1.842E+00
IY= 12	1.858E+00	1.855E+00	1.851E+00	1.847E+00	1.843E+00
IY= 11	1.860E+00	1.857E+00	1.853E+00	1.848E+00	1.844E+00
IY= 10	1.862E+00	1.859E+00	1.854E+00	1.850E+00	1.845E+00
IY= 9	1.865E+00	1.861E+00	1.856E+00	1.851E+00	1.846E+00
IY= 8	1.869E+00	1.864E+00	1.858E+00	1.853E+00	1.847E+00
IY= 7	1.873E+00	1.866E+00	1.859E+00	1.853E+00	1.846E+00

IY= 6	1.876E+00	1.865E+00	1.855E+00	1.844E+00	1.834E+00
IY= 5	1.863E+00	1.837E+00	1.810E+00	1.779E+00	1.742E+00
IY= 4	1.856E+00	1.826E+00	1.793E+00	1.757E+00	1.715E+00
IY= 3	1.842E+00	1.803E+00	1.762E+00	1.719E+00	1.673E+00
IY= 2	1.807E+00	1.753E+00	1.702E+00	1.653E+00	1.607E+00
IY= 1	1.701E+00	1.628E+00	1.574E+00	1.530E+00	1.490E+00
IZ=	6	7	8	9	10
IY= 20	1.840E+00	1.836E+00	1.832E+00	1.828E+00	1.825E+00
IY= 19	1.835E+00	1.831E+00	1.828E+00	1.825E+00	1.822E+00
IY= 18	1.835E+00	1.831E+00	1.828E+00	1.825E+00	1.822E+00
IY= 17	1.836E+00	1.832E+00	1.828E+00	1.825E+00	1.822E+00
IY= 16	1.836E+00	1.832E+00	1.828E+00	1.824E+00	1.822E+00
IY= 15	1.836E+00	1.832E+00	1.828E+00	1.824E+00	1.822E+00
IY= 14	1.837E+00	1.832E+00	1.828E+00	1.824E+00	1.821E+00
IY= 13	1.837E+00	1.832E+00	1.828E+00	1.824E+00	1.821E+00
IY= 12	1.838E+00	1.833E+00	1.828E+00	1.824E+00	1.820E+00
IY= 11	1.839E+00	1.833E+00	1.828E+00	1.823E+00	1.820E+00
IY= 10	1.840E+00	1.834E+00	1.828E+00	1.822E+00	1.818E+00
IY= 9	1.840E+00	1.834E+00	1.828E+00	1.821E+00	1.816E+00
IY= 8	1.841E+00	1.834E+00	1.827E+00	1.819E+00	1.812E+00
IY= 7	1.839E+00	1.831E+00	1.823E+00	1.812E+00	1.802E+00
IY= 6	1.822E+00	1.810E+00	1.795E+00	1.776E+00	1.754E+00
IY= 5	1.698E+00	1.644E+00	1.571E+00	1.458E+00	1.517E+00
IY= 4	1.667E+00	1.611E+00	1.539E+00	1.423E+00	1.476E+00
IY= 3	1.624E+00	1.568E+00	1.500E+00	1.379E+00	1.424E+00
IY= 2	1.559E+00	1.508E+00	1.449E+00	1.321E+00	1.348E+00
IY= 1	1.452E+00	1.411E+00	1.364E+00	1.239E+00	1.231E+00
IZ=	11	12	13	14	15
IY= 20	1.826E+00	1.825E+00	1.825E+00	1.825E+00	1.825E+00
IY= 19	1.822E+00	1.822E+00	1.822E+00	1.822E+00	1.821E+00
IY= 18	1.822E+00	1.822E+00	1.822E+00	1.822E+00	1.821E+00
IY= 17	1.822E+00	1.822E+00	1.822E+00	1.822E+00	1.821E+00
IY= 16	1.822E+00	1.822E+00	1.822E+00	1.821E+00	1.821E+00
IY= 15	1.822E+00	1.822E+00	1.821E+00	1.821E+00	1.821E+00
IY= 14	1.821E+00	1.821E+00	1.821E+00	1.821E+00	1.820E+00
IY= 13	1.821E+00	1.821E+00	1.821E+00	1.820E+00	1.820E+00
IY= 12	1.820E+00	1.820E+00	1.820E+00	1.819E+00	1.819E+00
IY= 11	1.819E+00	1.819E+00	1.819E+00	1.818E+00	1.818E+00
IY= 10	1.818E+00	1.817E+00	1.817E+00	1.816E+00	1.816E+00
IY= 9	1.815E+00	1.814E+00	1.814E+00	1.813E+00	1.813E+00
IY= 8	1.811E+00	1.810E+00	1.809E+00	1.809E+00	1.808E+00
IY= 7	1.799E+00	1.799E+00	1.799E+00	1.799E+00	1.799E+00
IY= 6	1.751E+00	1.754E+00	1.757E+00	1.759E+00	1.762E+00
IY= 5	1.610E+00	1.658E+00	1.684E+00	1.700E+00	1.710E+00
IY= 4	1.570E+00	1.621E+00	1.650E+00	1.669E+00	1.683E+00
IY= 3	1.518E+00	1.571E+00	1.603E+00	1.625E+00	1.640E+00
IY= 2	1.449E+00	1.506E+00	1.539E+00	1.561E+00	1.577E+00
IY= 1	1.339E+00	1.397E+00	1.428E+00	1.447E+00	1.461E+00
IZ=	16	17	18	19	20
IY= 20	1.824E+00	1.824E+00	1.823E+00	1.822E+00	1.822E+00
IY= 19	1.821E+00	1.821E+00	1.820E+00	1.820E+00	1.819E+00
IY= 18	1.821E+00	1.820E+00	1.820E+00	1.819E+00	1.819E+00
IY= 17	1.821E+00	1.820E+00	1.820E+00	1.819E+00	1.819E+00
IY= 16	1.821E+00	1.820E+00	1.820E+00	1.819E+00	1.819E+00
IY= 15	1.820E+00	1.820E+00	1.819E+00	1.819E+00	1.818E+00
IY= 14	1.820E+00	1.819E+00	1.819E+00	1.818E+00	1.818E+00
IY= 13	1.819E+00	1.819E+00	1.818E+00	1.818E+00	1.817E+00
IY= 12	1.818E+00	1.818E+00	1.817E+00	1.817E+00	1.816E+00
IY= 11	1.817E+00	1.817E+00	1.816E+00	1.816E+00	1.815E+00
IY= 10	1.815E+00	1.815E+00	1.815E+00	1.814E+00	1.814E+00
IY= 9	1.813E+00	1.812E+00	1.812E+00	1.812E+00	1.812E+00
IY= 8	1.808E+00	1.808E+00	1.808E+00	1.808E+00	1.808E+00
IY= 7	1.800E+00	1.800E+00	1.801E+00	1.801E+00	1.802E+00
IY= 6	1.764E+00	1.766E+00	1.767E+00	1.769E+00	1.770E+00
IY= 5	1.718E+00	1.724E+00	1.729E+00	1.733E+00	1.722E+00
IY= 4	1.693E+00	1.701E+00	1.707E+00	1.713E+00	1.703E+00
IY= 3	1.652E+00	1.662E+00	1.670E+00	1.677E+00	1.667E+00
IY= 2	1.589E+00	1.599E+00	1.607E+00	1.614E+00	1.605E+00
IY= 1	1.471E+00	1.479E+00	1.486E+00	1.492E+00	1.487E+00
IZ=	21	22	23	24	25

IY= 20	1.820E+00	1.818E+00	1.817E+00	1.813E+00
IY= 19	1.817E+00	1.816E+00	1.815E+00	1.813E+00
IY= 18	1.817E+00	1.816E+00	1.815E+00	1.813E+00
IY= 17	1.817E+00	1.816E+00	1.815E+00	1.813E+00
IY= 16	1.817E+00	1.816E+00	1.815E+00	1.813E+00
IY= 15	1.817E+00	1.815E+00	1.815E+00	1.813E+00
IY= 14	1.816E+00	1.815E+00	1.814E+00	1.813E+00
IY= 13	1.816E+00	1.815E+00	1.814E+00	1.813E+00
IY= 12	1.815E+00	1.814E+00	1.814E+00	1.813E+00
IY= 11	1.814E+00	1.814E+00	1.814E+00	1.813E+00
IY= 10	1.813E+00	1.813E+00	1.813E+00	1.813E+00
IY= 9	1.812E+00	1.812E+00	1.812E+00	1.812E+00
IY= 8	1.809E+00	1.809E+00	1.810E+00	1.810E+00
IY= 7	1.802E+00	1.803E+00	1.804E+00	1.805E+00
IY= 6	1.773E+00	1.775E+00	1.777E+00	1.779E+00
IY= 5	1.716E+00	1.712E+00	1.711E+00	1.713E+00
IY= 4	1.695E+00	1.690E+00	1.688E+00	1.690E+00
IY= 3	1.659E+00	1.653E+00	1.650E+00	1.654E+00
IY= 2	1.598E+00	1.591E+00	1.587E+00	1.592E+00
IY= 1	1.481E+00	1.475E+00	1.471E+00	1.471E+00
IZ=	26	27	28	29

FIELD VALUES OF TMP1

IY= 20	2.000E+02	2.002E+02	2.002E+02	2.001E+02	2.000E+02
IY= 19	2.000E+02	2.002E+02	2.002E+02	2.001E+02	2.000E+02
IY= 18	2.000E+02	2.002E+02	2.002E+02	2.001E+02	2.000E+02
IY= 17	2.000E+02	2.002E+02	2.002E+02	2.001E+02	2.000E+02
IY= 16	2.001E+02	2.002E+02	2.002E+02	2.002E+02	2.000E+02
IY= 15	2.001E+02	2.002E+02	2.002E+02	2.002E+02	2.001E+02
IY= 14	2.001E+02	2.002E+02	2.003E+02	2.002E+02	2.001E+02
IY= 13	2.001E+02	2.002E+02	2.003E+02	2.003E+02	2.002E+02
IY= 12	2.001E+02	2.003E+02	2.003E+02	2.003E+02	2.003E+02
IY= 11	2.001E+02	2.003E+02	2.004E+02	2.004E+02	2.004E+02
IY= 10	2.001E+02	2.003E+02	2.004E+02	2.005E+02	2.005E+02
IY= 9	2.002E+02	2.003E+02	2.005E+02	2.006E+02	2.006E+02
IY= 8	2.002E+02	2.004E+02	2.006E+02	2.007E+02	2.009E+02
IY= 7	2.002E+02	2.004E+02	2.006E+02	2.008E+02	2.012E+02
IY= 6	2.002E+02	2.004E+02	2.007E+02	2.009E+02	2.016E+02
IY= 5	2.002E+02	2.004E+02	2.007E+02	2.009E+02	2.024E+02
IY= 4	2.002E+02	2.004E+02	2.007E+02	2.009E+02	2.028E+02
IY= 3	2.002E+02	2.004E+02	2.007E+02	2.009E+02	2.035E+02
IY= 2	2.002E+02	2.004E+02	2.007E+02	2.009E+02	2.054E+02
IY= 1	2.002E+02	2.004E+02	2.007E+02	2.009E+02	2.128E+02
IZ=	1	2	3	4	5
IY= 20	1.998E+02	1.995E+02	1.992E+02	1.988E+02	1.983E+02
IY= 19	1.998E+02	1.995E+02	1.992E+02	1.988E+02	1.983E+02
IY= 18	1.998E+02	1.995E+02	1.992E+02	1.988E+02	1.983E+02
IY= 17	1.998E+02	1.995E+02	1.992E+02	1.988E+02	1.983E+02
IY= 16	1.998E+02	1.995E+02	1.992E+02	1.988E+02	1.983E+02
IY= 15	1.999E+02	1.996E+02	1.992E+02	1.988E+02	1.983E+02
IY= 14	1.999E+02	1.996E+02	1.992E+02	1.988E+02	1.983E+02
IY= 13	2.000E+02	1.996E+02	1.992E+02	1.988E+02	1.983E+02
IY= 12	2.000E+02	1.997E+02	1.993E+02	1.988E+02	1.983E+02
IY= 11	2.001E+02	1.997E+02	1.993E+02	1.988E+02	1.983E+02
IY= 10	2.002E+02	1.998E+02	1.993E+02	1.987E+02	1.982E+02
IY= 9	2.003E+02	1.998E+02	1.993E+02	1.987E+02	1.982E+02
IY= 8	2.004E+02	1.998E+02	1.993E+02	1.987E+02	1.982E+02
IY= 7	2.006E+02	1.999E+02	1.993E+02	1.988E+02	1.984E+02
IY= 6	2.008E+02	2.002E+02	1.999E+02	1.998E+02	1.997E+02
IY= 5	2.023E+02	2.032E+02	2.048E+02	2.071E+02	2.102E+02
IY= 4	2.031E+02	2.045E+02	2.068E+02	2.098E+02	2.135E+02
IY= 3	2.046E+02	2.071E+02	2.104E+02	2.143E+02	2.189E+02
IY= 2	2.086E+02	2.130E+02	2.179E+02	2.229E+02	2.280E+02
IY= 1	2.216E+02	2.293E+02	2.356E+02	2.409E+02	2.457E+02
IZ=	6	7	8	9	10
IY= 20	1.979E+02	1.974E+02	1.970E+02	1.965E+02	1.962E+02
IY= 19	1.979E+02	1.974E+02	1.970E+02	1.965E+02	1.962E+02
IY= 18	1.979E+02	1.974E+02	1.970E+02	1.965E+02	1.961E+02
IY= 17	1.979E+02	1.974E+02	1.969E+02	1.965E+02	1.961E+02
IY= 16	1.979E+02	1.974E+02	1.969E+02	1.964E+02	1.961E+02
IY= 15	1.979E+02	1.974E+02	1.969E+02	1.964E+02	1.960E+02

IY= 14	1.978E+02	1.973E+02	1.968E+02	1.963E+02	1.960E+02
IY= 13	1.978E+02	1.973E+02	1.968E+02	1.963E+02	1.959E+02
IY= 12	1.978E+02	1.972E+02	1.967E+02	1.962E+02	1.958E+02
IY= 11	1.977E+02	1.972E+02	1.966E+02	1.961E+02	1.956E+02
IY= 10	1.977E+02	1.971E+02	1.966E+02	1.960E+02	1.955E+02
IY= 9	1.977E+02	1.971E+02	1.965E+02	1.959E+02	1.953E+02
IY= 8	1.977E+02	1.971E+02	1.965E+02	1.958E+02	1.952E+02
IY= 7	1.979E+02	1.975E+02	1.969E+02	1.962E+02	1.952E+02
IY= 6	1.998E+02	1.999E+02	1.999E+02	1.999E+02	1.977E+02
IY= 5	2.144E+02	2.200E+02	2.284E+02	2.433E+02	2.212E+02
IY= 4	2.183E+02	2.245E+02	2.331E+02	2.494E+02	2.273E+02
IY= 3	2.242E+02	2.306E+02	2.391E+02	2.573E+02	2.356E+02
IY= 2	2.335E+02	2.398E+02	2.476E+02	2.687E+02	2.488E+02
IY= 1	2.507E+02	2.563E+02	2.630E+02	2.865E+02	2.725E+02
IZ=	11	12	13	14	15
IY= 20	1.961E+02	1.961E+02	1.960E+02	1.960E+02	1.960E+02
IY= 19	1.961E+02	1.961E+02	1.960E+02	1.960E+02	1.960E+02
IY= 18	1.961E+02	1.961E+02	1.960E+02	1.960E+02	1.959E+02
IY= 17	1.961E+02	1.960E+02	1.960E+02	1.960E+02	1.959E+02
IY= 16	1.960E+02	1.960E+02	1.960E+02	1.959E+02	1.959E+02
IY= 15	1.960E+02	1.959E+02	1.959E+02	1.959E+02	1.958E+02
IY= 14	1.959E+02	1.959E+02	1.958E+02	1.958E+02	1.958E+02
IY= 13	1.958E+02	1.958E+02	1.957E+02	1.957E+02	1.957E+02
IY= 12	1.957E+02	1.957E+02	1.956E+02	1.956E+02	1.956E+02
IY= 11	1.956E+02	1.955E+02	1.955E+02	1.955E+02	1.954E+02
IY= 10	1.954E+02	1.954E+02	1.953E+02	1.953E+02	1.953E+02
IY= 9	1.952E+02	1.952E+02	1.951E+02	1.951E+02	1.951E+02
IY= 8	1.950E+02	1.949E+02	1.949E+02	1.949E+02	1.949E+02
IY= 7	1.949E+02	1.948E+02	1.949E+02	1.949E+02	1.950E+02
IY= 6	1.973E+02	1.975E+02	1.978E+02	1.980E+02	1.982E+02
IY= 5	2.128E+02	2.086E+02	2.064E+02	2.051E+02	2.042E+02
IY= 4	2.183E+02	2.134E+02	2.106E+02	2.088E+02	2.075E+02
IY= 3	2.257E+02	2.201E+02	2.167E+02	2.145E+02	2.129E+02
IY= 2	2.364E+02	2.296E+02	2.258E+02	2.233E+02	2.215E+02
IY= 1	2.559E+02	2.475E+02	2.433E+02	2.408E+02	2.391E+02
IZ=	16	17	18	19	20
IY= 20	1.959E+02	1.959E+02	1.959E+02	1.958E+02	1.958E+02
IY= 19	1.959E+02	1.959E+02	1.959E+02	1.958E+02	1.958E+02
IY= 18	1.959E+02	1.959E+02	1.958E+02	1.958E+02	1.957E+02
IY= 17	1.959E+02	1.958E+02	1.958E+02	1.958E+02	1.957E+02
IY= 16	1.958E+02	1.958E+02	1.958E+02	1.957E+02	1.957E+02
IY= 15	1.958E+02	1.958E+02	1.957E+02	1.957E+02	1.956E+02
IY= 14	1.957E+02	1.957E+02	1.957E+02	1.956E+02	1.956E+02
IY= 13	1.956E+02	1.956E+02	1.956E+02	1.955E+02	1.955E+02
IY= 12	1.955E+02	1.955E+02	1.955E+02	1.954E+02	1.954E+02
IY= 11	1.954E+02	1.954E+02	1.953E+02	1.953E+02	1.953E+02
IY= 10	1.952E+02	1.952E+02	1.952E+02	1.952E+02	1.952E+02
IY= 9	1.951E+02	1.951E+02	1.951E+02	1.951E+02	1.951E+02
IY= 8	1.949E+02	1.950E+02	1.950E+02	1.950E+02	1.951E+02
IY= 7	1.951E+02	1.952E+02	1.953E+02	1.953E+02	1.955E+02
IY= 6	1.983E+02	1.985E+02	1.985E+02	1.986E+02	1.986E+02
IY= 5	2.036E+02	2.032E+02	2.029E+02	2.027E+02	2.041E+02
IY= 4	2.066E+02	2.060E+02	2.055E+02	2.051E+02	2.065E+02
IY= 3	2.117E+02	2.108E+02	2.101E+02	2.095E+02	2.109E+02
IY= 2	2.202E+02	2.191E+02	2.183E+02	2.176E+02	2.191E+02
IY= 1	2.378E+02	2.368E+02	2.361E+02	2.354E+02	2.365E+02
IZ=	21	22	23	24	25
IY= 20	1.956E+02	1.955E+02	1.954E+02	1.953E+02	
IY= 19	1.956E+02	1.955E+02	1.954E+02	1.953E+02	
IY= 18	1.956E+02	1.955E+02	1.954E+02	1.953E+02	
IY= 17	1.956E+02	1.955E+02	1.954E+02	1.953E+02	
IY= 16	1.956E+02	1.955E+02	1.954E+02	1.953E+02	
IY= 15	1.955E+02	1.954E+02	1.953E+02	1.953E+02	
IY= 14	1.955E+02	1.954E+02	1.953E+02	1.952E+02	
IY= 13	1.954E+02	1.953E+02	1.953E+02	1.952E+02	
IY= 12	1.953E+02	1.953E+02	1.953E+02	1.952E+02	
IY= 11	1.953E+02	1.953E+02	1.952E+02	1.952E+02	
IY= 10	1.952E+02	1.952E+02	1.952E+02	1.953E+02	
IY= 9	1.952E+02	1.952E+02	1.953E+02	1.954E+02	
IY= 8	1.952E+02	1.953E+02	1.955E+02	1.956E+02	

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IY=  7  1.957E+02  1.959E+02  1.960E+02  1.962E+02
IY=  6  1.988E+02  1.989E+02  1.990E+02  1.990E+02
IY=  5  2.054E+02  2.062E+02  2.066E+02  2.066E+02
IY=  4  2.079E+02  2.089E+02  2.095E+02  2.094E+02
IY=  3  2.124E+02  2.135E+02  2.143E+02  2.139E+02
IY=  2  2.206E+02  2.219E+02  2.228E+02  2.222E+02
IY=  1  2.380E+02  2.393E+02  2.404E+02  2.404E+02
IZ=     26         27         28         29
WHOLE-FIELD RESIDUALS BEFORE SOLUTIONS
WHOLE-FIELD SUM OF ABS(VOL.FLOW RESIDUALS)=  1.085E+04
WHOLE-FIELD SUM OF ABS(RESIDUALS) OF V1   =  9.322E+06
WHOLE-FIELD SUM OF ABS(RESIDUALS) OF W1   =  5.403E+06
WHOLE-FIELD SUM OF ABS(RESIDUALS) OF KE   =  5.407E+06
WHOLE-FIELD SUM OF ABS(RESIDUALS) OF EP   =  3.956E+11
WHOLE-FIELD SUM OF ABS(RESIDUALS) OF H1   =  1.234E+09
* SUMS HAVE BEEN DIVIDED BY RESREF(NAME)

NET SOURCE OF V1   AT PATCH NAMED: INLET     =-2.384E-07
NET SOURCE OF W1   AT PATCH NAMED: INLET     = 2.299E+03
NET SOURCE OF W1   AT PATCH NAMED: VANE      =-1.047E+01
NET SOURCE OF R1   AT PATCH NAMED: INLET     = 1.653E+01
NET SOURCE OF R1   AT PATCH NAMED: OUTLET    =-1.653E+01
NET SOURCE OF KE   AT PATCH NAMED: KESOURCE = 3.922E+02
NET SOURCE OF KE   AT PATCH NAMED: INLET     = 3.198E+03
NET SOURCE OF KE   AT PATCH NAMED: VANE      = 3.434E+12
NET SOURCE OF EP   AT PATCH NAMED: KESOURCE =-1.007E+08
NET SOURCE OF EP   AT PATCH NAMED: INLET     = 5.475E+04
NET SOURCE OF EP   AT PATCH NAMED: VANE      = 1.103E+18
NET SOURCE OF H1   AT PATCH NAMED: INLET     = 3.815E+06
NET SOURCE OF H1   AT PATCH NAMED: OUTLET    =-3.784E+06
NET SOURCE OF H1   AT PATCH NAMED: VANE      = 1.193E+04
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APPENDIX I
SUBSONIC TURBULENT BLUNT VANE OUTPUT

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--- INTEGRATION OF EQUATIONS BEGINS ---
TIME STEP =   1     SWEEP = 450
TOTAL RESIDUAL/( 1.000E-06) FOR P1   IS  1.410E+05
TOTAL RESIDUAL/( 1.000E-06) FOR V1   IS  6.775E+07
TOTAL RESIDUAL/( 1.000E-06) FOR W1   IS  8.111E+07
TOTAL RESIDUAL/( 1.000E-06) FOR KE   IS  5.428E+09
TOTAL RESIDUAL/( 1.000E-06) FOR EP   IS  7.334E+12
TOTAL RESIDUAL/( 1.000E-06) FOR H1   IS  1.857E+10
TIME STEP =   1     SWEEP = 470
TOTAL RESIDUAL/( 1.000E-06) FOR P1   IS  8.542E+04
TOTAL RESIDUAL/( 1.000E-06) FOR V1   IS  4.630E+07
TOTAL RESIDUAL/( 1.000E-06) FOR W1   IS  7.030E+07
TOTAL RESIDUAL/( 1.000E-06) FOR KE   IS  5.848E+09
TOTAL RESIDUAL/( 1.000E-06) FOR EP   IS  8.045E+12
TOTAL RESIDUAL/( 1.000E-06) FOR H1   IS  2.566E+10
TIME STEP =   1     SWEEP = 490
TOTAL RESIDUAL/( 1.000E-06) FOR P1   IS  1.406E+05
TOTAL RESIDUAL/( 1.000E-06) FOR V1   IS  6.719E+07
TOTAL RESIDUAL/( 1.000E-06) FOR W1   IS  8.032E+07
TOTAL RESIDUAL/( 1.000E-06) FOR KE   IS  5.432E+09
TOTAL RESIDUAL/( 1.000E-06) FOR EP   IS  7.340E+12
TOTAL RESIDUAL/( 1.000E-06) FOR H1   IS  1.859E+10
TIME STEP =   1     SWEEP = 510
TOTAL RESIDUAL/( 1.000E-06) FOR P1   IS  8.470E+04
TOTAL RESIDUAL/( 1.000E-06) FOR V1   IS  4.582E+07
TOTAL RESIDUAL/( 1.000E-06) FOR W1   IS  6.949E+07
TOTAL RESIDUAL/( 1.000E-06) FOR KE   IS  5.852E+09
TOTAL RESIDUAL/( 1.000E-06) FOR EP   IS  8.047E+12
TOTAL RESIDUAL/( 1.000E-06) FOR H1   IS  2.567E+10
TIME STEP =   1     SWEEP = 530
TOTAL RESIDUAL/( 1.000E-06) FOR P1   IS  1.403E+05
TOTAL RESIDUAL/( 1.000E-06) FOR V1   IS  6.670E+07
TOTAL RESIDUAL/( 1.000E-06) FOR W1   IS  7.970E+07
TOTAL RESIDUAL/( 1.000E-06) FOR KE   IS  5.435E+09
TOTAL RESIDUAL/( 1.000E-06) FOR EP   IS  7.345E+12
TOTAL RESIDUAL/( 1.000E-06) FOR H1   IS  1.858E+10
************************************************************
TIME STP=     1 SWEEP NO=   550 ZSLAB NO=    19 ITERN NO=     1
TIME STEP =   1     SWEEP = 550
TOTAL RESIDUAL/( 1.000E-06) FOR P1   IS  8.432E+04
TOTAL RESIDUAL/( 1.000E-06) FOR V1   IS  4.538E+07
TOTAL RESIDUAL/( 1.000E-06) FOR W1   IS  6.871E+07
TOTAL RESIDUAL/( 1.000E-06) FOR KE   IS  5.855E+09
TOTAL RESIDUAL/( 1.000E-06) FOR EP   IS  8.048E+12
TOTAL RESIDUAL/( 1.000E-06) FOR H1   IS  2.566E+10
************************************************************
TIME STP=     1 SWEEP NO=   550 ZSLAB NO=    30 ITERN NO=     1

FLOW FIELD AT ITHYD=   1, ISWEEP= 550, ISTEP=   1
YZPR  IX=     1
FIELD VALUES OF P1
IY= 20  1.062E+05  1.066E+05  1.067E+05  1.066E+05  1.065E+05
IY= 19  1.062E+05  1.065E+05  1.066E+05  1.065E+05  1.063E+05
IY= 18  1.062E+05  1.066E+05  1.066E+05  1.065E+05  1.063E+05
IY= 17  1.062E+05  1.066E+05  1.067E+05  1.066E+05  1.064E+05
IY= 16  1.063E+05  1.067E+05  1.067E+05  1.066E+05  1.065E+05
IY= 15  1.063E+05  1.067E+05  1.068E+05  1.067E+05  1.066E+05
IY= 14  1.064E+05  1.068E+05  1.069E+05  1.068E+05  1.067E+05
IY= 13  1.065E+05  1.069E+05  1.070E+05  1.070E+05  1.068E+05
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IY= 12	1.066E+05	1.070E+05	1.072E+05	1.071E+05	1.070E+05
IY= 11	1.067E+05	1.072E+05	1.073E+05	1.073E+05	1.072E+05
IY= 10	1.068E+05	1.073E+05	1.075E+05	1.076E+05	1.076E+05
IY= 9	1.069E+05	1.074E+05	1.077E+05	1.079E+05	1.081E+05
IY= 8	1.069E+05	1.075E+05	1.078E+05	1.082E+05	1.088E+05
IY= 7	1.070E+05	1.075E+05	1.079E+05	1.084E+05	1.096E+05
IY= 6	1.070E+05	1.076E+05	1.079E+05	1.085E+05	1.097E+05
IY= 5	1.070E+05	1.076E+05	1.079E+05	1.085E+05	1.097E+05
IY= 4	1.070E+05	1.076E+05	1.079E+05	1.085E+05	1.097E+05
IY= 3	1.070E+05	1.075E+05	1.079E+05	1.084E+05	1.097E+05
IY= 2	1.070E+05	1.075E+05	1.079E+05	1.084E+05	1.097E+05
IY= 1	1.069E+05	1.073E+05	1.076E+05	1.079E+05	1.094E+05
IZ=	1	2	3	4	5
IY= 20	1.062E+05	1.059E+05	1.059E+05	1.059E+05	1.059E+05
IY= 19	1.060E+05	1.057E+05	1.057E+05	1.058E+05	1.058E+05
IY= 18	1.061E+05	1.058E+05	1.058E+05	1.059E+05	1.058E+05
IY= 17	1.061E+05	1.058E+05	1.059E+05	1.059E+05	1.058E+05
IY= 16	1.062E+05	1.058E+05	1.060E+05	1.060E+05	1.058E+05
IY= 15	1.062E+05	1.059E+05	1.061E+05	1.061E+05	1.057E+05
IY= 14	1.063E+05	1.059E+05	1.061E+05	1.061E+05	1.057E+05
IY= 13	1.064E+05	1.060E+05	1.062E+05	1.061E+05	1.057E+05
IY= 12	1.066E+05	1.060E+05	1.062E+05	1.061E+05	1.057E+05
IY= 11	1.068E+05	1.061E+05	1.063E+05	1.062E+05	1.057E+05
IY= 10	1.071E+05	1.062E+05	1.064E+05	1.063E+05	1.056E+05
IY= 9	1.078E+05	1.062E+05	1.064E+05	1.064E+05	1.054E+05
IY= 8	1.090E+05	1.062E+05	1.065E+05	1.061E+05	1.049E+05
IY= 7	1.111E+05	1.065E+05	1.067E+05	1.063E+05	1.035E+05
IY= 6	1.130E+05	1.143E+05	1.141E+05	1.094E+05	1.016E+05
IY= 5	1.132E+05	1.164E+05	1.158E+05	1.102E+05	1.014E+05
IY= 4	1.133E+05	1.191E+05	1.180E+05	1.114E+05	1.010E+05
IY= 3	1.135E+05	1.229E+05	1.214E+05	1.119E+05	1.006E+05
IY= 2	1.136E+05	1.308E+05	1.260E+05	1.182E+05	9.987E+04
IY= 1	1.141E+05	2.116E+04	2.102E+04	2.098E+04	2.098E+04
IZ=	6	7	8	9	10
IY= 20	1.056E+05	1.052E+05	1.050E+05	1.047E+05	1.044E+05
IY= 19	1.055E+05	1.052E+05	1.049E+05	1.046E+05	1.043E+05
IY= 18	1.055E+05	1.052E+05	1.049E+05	1.046E+05	1.044E+05
IY= 17	1.055E+05	1.052E+05	1.049E+05	1.046E+05	1.044E+05
IY= 16	1.055E+05	1.052E+05	1.049E+05	1.047E+05	1.044E+05
IY= 15	1.055E+05	1.052E+05	1.049E+05	1.047E+05	1.044E+05
IY= 14	1.055E+05	1.052E+05	1.049E+05	1.047E+05	1.044E+05
IY= 13	1.054E+05	1.051E+05	1.049E+05	1.047E+05	1.044E+05
IY= 12	1.054E+05	1.051E+05	1.048E+05	1.046E+05	1.045E+05
IY= 11	1.053E+05	1.050E+05	1.048E+05	1.046E+05	1.045E+05
IY= 10	1.052E+05	1.049E+05	1.047E+05	1.046E+05	1.045E+05
IY= 9	1.049E+05	1.048E+05	1.047E+05	1.046E+05	1.045E+05
IY= 8	1.046E+05	1.046E+05	1.046E+05	1.046E+05	1.045E+05
IY= 7	1.041E+05	1.045E+05	1.046E+05	1.046E+05	1.045E+05
IY= 6	1.039E+05	1.045E+05	1.046E+05	1.046E+05	1.045E+05
IY= 5	1.039E+05	1.045E+05	1.046E+05	1.046E+05	1.045E+05
IY= 4	1.038E+05	1.045E+05	1.046E+05	1.046E+05	1.045E+05
IY= 3	1.038E+05	1.045E+05	1.046E+05	1.046E+05	1.045E+05
IY= 2	1.038E+05	1.045E+05	1.046E+05	1.046E+05	1.045E+05
IY= 1	2.097E+04	2.097E+04	2.097E+04	2.096E+04	2.096E+04
IZ=	11	12	13	14	15
IY= 20	1.041E+05	1.038E+05	1.035E+05	1.031E+05	1.030E+05
IY= 19	1.041E+05	1.038E+05	1.034E+05	1.030E+05	1.029E+05
IY= 18	1.041E+05	1.038E+05	1.034E+05	1.030E+05	1.030E+05
IY= 17	1.041E+05	1.038E+05	1.035E+05	1.031E+05	1.030E+05
IY= 16	1.041E+05	1.038E+05	1.035E+05	1.031E+05	1.030E+05
IY= 15	1.042E+05	1.039E+05	1.036E+05	1.032E+05	1.031E+05
IY= 14	1.042E+05	1.039E+05	1.036E+05	1.032E+05	1.031E+05
IY= 13	1.042E+05	1.040E+05	1.037E+05	1.033E+05	1.032E+05
IY= 12	1.043E+05	1.041E+05	1.038E+05	1.034E+05	1.033E+05
IY= 11	1.043E+05	1.042E+05	1.039E+05	1.035E+05	1.034E+05
IY= 10	1.044E+05	1.043E+05	1.041E+05	1.037E+05	1.036E+05
IY= 9	1.044E+05	1.044E+05	1.043E+05	1.040E+05	1.038E+05
IY= 8	1.045E+05	1.045E+05	1.046E+05	1.045E+05	1.043E+05
IY= 7	1.045E+05	1.046E+05	1.049E+05	1.055E+05	1.053E+05
IY= 6	1.045E+05	1.046E+05	1.049E+05	1.073E+05	1.063E+05

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IY=  5   1.045E+05   1.046E+05   1.049E+05   1.074E+05   1.064E+05
IY=  4   1.045E+05   1.046E+05   1.049E+05   1.076E+05   1.064E+05
IY=  3   1.045E+05   1.046E+05   1.049E+05   1.078E+05   1.065E+05
IY=  2   1.045E+05   1.046E+05   1.049E+05   1.079E+05   1.065E+05
IY=  1   2.096E+04   2.096E+04   2.096E+04   2.096E+04   2.096E+04
IZ=         16          17          18          19          20
IY= 20   1.029E+05   1.029E+05   1.028E+05   1.027E+05   1.026E+05
IY= 19   1.029E+05   1.028E+05   1.027E+05   1.026E+05   1.025E+05
IY= 18   1.029E+05   1.028E+05   1.027E+05   1.026E+05   1.025E+05
IY= 17   1.029E+05   1.028E+05   1.027E+05   1.027E+05   1.025E+05
IY= 16   1.029E+05   1.028E+05   1.028E+05   1.027E+05   1.026E+05
IY= 15   1.030E+05   1.029E+05   1.028E+05   1.027E+05   1.026E+05
IY= 14   1.030E+05   1.029E+05   1.028E+05   1.027E+05   1.026E+05
IY= 13   1.031E+05   1.030E+05   1.029E+05   1.028E+05   1.027E+05
IY= 12   1.032E+05   1.030E+05   1.029E+05   1.028E+05   1.027E+05
IY= 11   1.033E+05   1.031E+05   1.030E+05   1.029E+05   1.028E+05
IY= 10   1.034E+05   1.033E+05   1.031E+05   1.030E+05   1.028E+05
IY=  9   1.037E+05   1.035E+05   1.033E+05   1.030E+05   1.028E+05
IY=  8   1.041E+05   1.037E+05   1.034E+05   1.031E+05   1.028E+05
IY=  7   1.048E+05   1.042E+05   1.036E+05   1.030E+05   1.024E+05
IY=  6   1.053E+05   1.045E+05   1.037E+05   1.028E+05   1.016E+05
IY=  5   1.053E+05   1.045E+05   1.037E+05   1.028E+05   1.015E+05
IY=  4   1.054E+05   1.045E+05   1.037E+05   1.028E+05   1.014E+05
IY=  3   1.054E+05   1.045E+05   1.037E+05   1.028E+05   1.014E+05
IY=  2   1.054E+05   1.046E+05   1.038E+05   1.029E+05   1.013E+05
IY=  1   2.096E+04   2.096E+04   2.096E+04   2.096E+04   2.096E+04
IZ=         21          22          23          24          25
IY= 20   1.024E+05   1.022E+05   1.020E+05   1.018E+05   1.016E+05
IY= 19   1.023E+05   1.021E+05   1.020E+05   1.018E+05   1.016E+05
IY= 18   1.023E+05   1.022E+05   1.020E+05   1.018E+05   1.016E+05
IY= 17   1.024E+05   1.022E+05   1.020E+05   1.018E+05   1.016E+05
IY= 16   1.024E+05   1.022E+05   1.020E+05   1.018E+05   1.016E+05
IY= 15   1.024E+05   1.022E+05   1.020E+05   1.018E+05   1.016E+05
IY= 14   1.024E+05   1.022E+05   1.020E+05   1.018E+05   1.016E+05
IY= 13   1.025E+05   1.023E+05   1.020E+05   1.018E+05   1.016E+05
IY= 12   1.025E+05   1.023E+05   1.021E+05   1.018E+05   1.016E+05
IY= 11   1.025E+05   1.023E+05   1.021E+05   1.018E+05   1.016E+05
IY= 10   1.025E+05   1.023E+05   1.021E+05   1.018E+05   1.016E+05
IY=  9   1.025E+05   1.023E+05   1.020E+05   1.018E+05   1.016E+05
IY=  8   1.024E+05   1.022E+05   1.020E+05   1.018E+05   1.016E+05
IY=  7   1.022E+05   1.021E+05   1.019E+05   1.018E+05   1.016E+05
IY=  6   1.020E+05   1.020E+05   1.019E+05   1.018E+05   1.016E+05
IY=  5   1.020E+05   1.020E+05   1.019E+05   1.018E+05   1.016E+05
IY=  4   1.020E+05   1.020E+05   1.019E+05   1.018E+05   1.015E+05
IY=  3   1.020E+05   1.020E+05   1.019E+05   1.018E+05   1.015E+05
IY=  2   1.020E+05   1.020E+05   1.019E+05   1.018E+05   1.015E+05
IY=  1   2.096E+04   2.096E+04   2.096E+04   2.096E+04   2.096E+04
IZ=         26          27          28          29          30
FIELD VALUES OF V1
IY= 19   1.231E-01   2.303E-01   3.341E-01   4.344E-01   5.167E-01
IY= 18   2.375E-01   4.296E-01   6.294E-01   8.243E-01   9.910E-01
IY= 17   3.555E-01   6.311E-01   9.211E-01   1.206E+00   1.456E+00
IY= 16   4.709E-01   8.277E-01   1.204E+00   1.578E+00   1.911E+00
IY= 15   5.785E-01   1.012E+00   1.472E+00   1.938E+00   2.356E+00
IY= 14   6.733E-01   1.176E+00   1.716E+00   2.284E+00   2.801E+00
IY= 13   7.489E-01   1.308E+00   1.924E+00   2.607E+00   3.246E+00
IY= 12   7.972E-01   1.396E+00   2.078E+00   2.889E+00   3.691E+00
IY= 11   8.087E-01   1.422E+00   2.151E+00   3.101E+00   4.130E+00
IY= 10   7.732E-01   1.368E+00   2.112E+00   3.192E+00   4.539E+00
IY=  9   6.823E-01   1.215E+00   1.923E+00   3.078E+00   4.842E+00
IY=  8   5.322E-01   9.527E-01   1.549E+00   2.648E+00   4.863E+00
IY=  7   3.262E-01   5.846E-01   9.797E-01   1.801E+00   4.184E+00
IY=  6   7.368E-02   1.418E-01   2.630E-01   5.735E-01   1.884E+00
IY=  5   6.175E-02   1.223E-01   2.321E-01   5.170E-01   1.733E+00
IY=  4   4.976E-02   1.029E-01   2.009E-01   4.589E-01   1.539E+00
IY=  3   3.777E-02   7.889E-02   1.694E-01   4.001E-01   1.357E+00
IY=  2   2.418E-02   6.239E-02   1.426E-01   3.537E-01   1.188E+00
IY=  1   1.076E-02   4.037E-02   1.028E-01   2.772E-01   9.719E-01
IZ=         1           2           3           4           5
IY= 19   5.537E-01   5.304E-01   5.282E-01   5.260E-01   4.534E-01
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IY= 18	1.086E+00	1.047E+00	1.043E+00	1.040E+00	9.290E-01
IY= 17	1.615E+00	1.564E+00	1.560E+00	1.556E+00	1.408E+00
IY= 16	2.152E+00	2.096E+00	2.091E+00	2.088E+00	1.901E+00
IY= 15	2.693E+00	2.639E+00	2.634E+00	2.631E+00	2.420E+00
IY= 14	3.208E+00	3.184E+00	3.182E+00	3.180E+00	2.982E+00
IY= 13	3.733E+00	3.757E+00	3.762E+00	3.759E+00	3.593E+00
IY= 12	4.345E+00	4.425E+00	4.444E+00	4.440E+00	4.284E+00
IY= 11	5.172E+00	5.292E+00	5.327E+00	5.324E+00	5.096E+00
IY= 10	6.451E+00	6.572E+00	6.607E+00	6.606E+00	6.070E+00
IY= 9	8.609E+00	8.645E+00	8.655E+00	8.636E+00	7.189E+00
IY= 8	1.246E+01	1.235E+01	1.225E+01	1.210E+01	8.232E+00
IY= 7	1.872E+01	1.858E+01	1.845E+01	1.830E+01	8.626E+00
IY= 6	2.496E+01	2.887E+01	3.236E+01	3.337E+01	7.048E+00
IY= 5	2.448E+01	3.640E+01	4.320E+01	4.358E+01	6.704E+00
IY= 4	2.400E+01	4.369E+01	5.513E+01	5.631E+01	6.273E+00
IY= 3	2.357E+01	5.261E+01	6.872E+01	7.010E+01	5.689E+00
IY= 2	2.322E+01	6.537E+01	8.127E+01	9.358E+01	5.018E+00
IY= 1	2.329E+01	2.869E-08	3.164E-09	4.005E-09	2.859E-09
IZ=	6	7	8	9	10
IY= 19	4.254E-01	4.274E-01	4.245E-01	4.261E-01	4.392E-01
IY= 18	8.862E-01	8.708E-01	8.553E-01	8.546E-01	8.826E-01
IY= 17	1.355E+00	1.319E+00	1.286E+00	1.280E+00	1.324E+00
IY= 16	1.832E+00	1.767E+00	1.709E+00	1.696E+00	1.751E+00
IY= 15	2.325E+00	2.213E+00	2.122E+00	2.098E+00	2.166E+00
IY= 14	2.836E+00	2.656E+00	2.519E+00	2.480E+00	2.560E+00
IY= 13	3.365E+00	3.090E+00	2.896E+00	2.838E+00	2.929E+00
IY= 12	3.909E+00	3.505E+00	3.246E+00	3.168E+00	3.269E+00
IY= 11	4.459E+00	3.886E+00	3.561E+00	3.465E+00	3.570E+00
IY= 10	4.989E+00	4.213E+00	3.829E+00	3.719E+00	3.821E+00
IY= 9	5.418E+00	4.440E+00	4.030E+00	3.913E+00	3.999E+00
IY= 8	5.542E+00	4.485E+00	4.117E+00	4.009E+00	4.065E+00
IY= 7	5.018E+00	4.215E+00	3.992E+00	3.919E+00	3.941E+00
IY= 6	4.431E+00	4.191E+00	4.014E+00	3.866E+00	3.756E+00
IY= 5	4.345E+00	4.108E+00	3.934E+00	3.789E+00	3.669E+00
IY= 4	4.225E+00	3.988E+00	3.812E+00	3.662E+00	3.533E+00
IY= 3	4.046E+00	3.792E+00	3.599E+00	3.435E+00	3.256E+00
IY= 2	3.692E+00	3.359E+00	3.121E+00	2.932E+00	2.815E+00
IY= 1	2.467E-09	2.127E-09	1.881E-09	1.705E-09	1.596E-09
IZ=	11	12	13	14	15
IY= 19	4.713E-01	5.231E-01	5.854E-01	6.073E-01	6.165E-01
IY= 18	9.458E-01	1.044E+00	1.170E+00	1.209E+00	1.224E+00
IY= 17	1.418E+00	1.568E+00	1.756E+00	1.807E+00	1.829E+00
IY= 16	1.885E+00	2.088E+00	2.343E+00	2.402E+00	2.436E+00
IY= 15	2.335E+00	2.602E+00	2.938E+00	3.006E+00	3.047E+00
IY= 14	2.769E+00	3.107E+00	3.539E+00	3.613E+00	3.672E+00
IY= 13	3.181E+00	3.599E+00	4.148E+00	4.236E+00	4.320E+00
IY= 12	3.560E+00	4.071E+00	4.774E+00	4.888E+00	4.999E+00
IY= 11	3.895E+00	4.500E+00	5.407E+00	5.566E+00	5.720E+00
IY= 10	4.164E+00	4.858E+00	6.033E+00	6.268E+00	6.494E+00
IY= 9	4.331E+00	5.089E+00	6.609E+00	6.981E+00	7.348E+00
IY= 8	4.344E+00	5.090E+00	6.996E+00	7.677E+00	8.358E+00
IY= 7	4.116E+00	4.688E+00	6.799E+00	8.302E+00	9.732E+00
IY= 6	3.682E+00	3.718E+00	4.750E+00	1.018E+01	1.313E+01
IY= 5	3.582E+00	3.578E+00	4.339E+00	1.047E+01	1.309E+01
IY= 4	3.431E+00	3.386E+00	3.885E+00	1.090E+01	1.322E+01
IY= 3	3.140E+00	3.096E+00	3.257E+00	1.101E+01	1.300E+01
IY= 2	2.668E+00	2.574E+00	2.478E+00	1.043E+01	1.199E+01
IY= 1	1.482E-09	1.380E-09	1.016E-09	1.117E-09	1.358E-09
IZ=	16	17	18	19	20
IY= 19	6.186E-01	6.214E-01	6.281E-01	6.266E-01	6.283E-01
IY= 18	1.231E+00	1.239E+00	1.245E+00	1.249E+00	1.255E+00
IY= 17	1.847E+00	1.858E+00	1.865E+00	1.872E+00	1.888E+00
IY= 16	2.461E+00	2.481E+00	2.502E+00	2.512E+00	2.545E+00
IY= 15	3.084E+00	3.116E+00	3.143E+00	3.161E+00	3.225E+00
IY= 14	3.725E+00	3.772E+00	3.813E+00	3.845E+00	3.931E+00
IY= 13	4.393E+00	4.460E+00	4.519E+00	4.569E+00	4.672E+00
IY= 12	5.103E+00	5.191E+00	5.268E+00	5.333E+00	5.456E+00
IY= 11	5.860E+00	5.981E+00	6.081E+00	6.158E+00	6.295E+00
IY= 10	6.696E+00	6.864E+00	6.992E+00	7.080E+00	7.209E+00
IY= 9	7.666E+00	7.912E+00	8.077E+00	8.161E+00	8.217E+00

IY= 8	8.915E+00	9.305E+00	9.504E+00	9.525E+00	9.314E+00
IY= 7	1.077E+01	1.139E+01	1.159E+01	1.139E+01	1.030E+01
IY= 6	1.454E+01	1.525E+01	1.549E+01	1.496E+01	1.035E+01
IY= 5	1.451E+01	1.520E+01	1.552E+01	1.518E+01	1.006E+01
IY= 4	1.440E+01	1.512E+01	1.545E+01	1.538E+01	9.668E+00
IY= 3	1.408E+01	1.477E+01	1.533E+01	1.558E+01	9.048E+00
IY= 2	1.286E+01	1.345E+01	1.395E+01	1.453E+01	7.729E+00
IY= 1	1.506E-09	1.615E-09	1.719E-09	1.874E-09	1.625E-09
IZ=	21	22	23	24	25
IY= 19	6.362E-01	6.491E-01	6.694E-01	7.138E-01	8.671E-01
IY= 18	1.274E+00	1.297E+00	1.318E+00	1.339E+00	1.356E+00
IY= 17	1.924E+00	1.955E+00	1.975E+00	1.981E+00	1.968E+00
IY= 16	2.592E+00	2.628E+00	2.648E+00	2.650E+00	2.631E+00
IY= 15	3.282E+00	3.323E+00	3.345E+00	3.348E+00	3.330E+00
IY= 14	3.998E+00	4.041E+00	4.069E+00	4.074E+00	4.059E+00
IY= 13	4.749E+00	4.801E+00	4.823E+00	4.828E+00	4.815E+00
IY= 12	5.537E+00	5.583E+00	5.603E+00	5.604E+00	5.593E+00
IY= 11	6.370E+00	6.399E+00	6.402E+00	6.390E+00	6.382E+00
IY= 10	7.246E+00	7.232E+00	7.198E+00	7.175E+00	7.160E+00
IY= 9	8.150E+00	8.049E+00	7.969E+00	7.910E+00	7.889E+00
IY= 8	9.005E+00	8.765E+00	8.618E+00	8.542E+00	8.508E+00
IY= 7	9.541E+00	9.177E+00	9.016E+00	8.935E+00	8.887E+00
IY= 6	9.281E+00	9.104E+00	9.058E+00	9.003E+00	8.769E+00
IY= 5	9.145E+00	8.983E+00	8.933E+00	8.874E+00	8.380E+00
IY= 4	8.905E+00	8.755E+00	8.699E+00	8.642E+00	7.874E+00
IY= 3	8.425E+00	8.278E+00	8.214E+00	8.161E+00	7.113E+00
IY= 2	7.269E+00	7.132E+00	7.070E+00	7.046E+00	5.870E+00
IY= 1	1.657E-09	1.647E-09	1.642E-09	1.659E-09	1.638E-09
IZ=	26	27	28	29	30

FIELD VALUES OF W1

IY= 20	1.376E+02	1.376E+02	1.380E+02	1.386E+02	1.395E+02
IY= 19	1.376E+02	1.376E+02	1.380E+02	1.386E+02	1.395E+02
IY= 18	1.376E+02	1.376E+02	1.380E+02	1.386E+02	1.394E+02
IY= 17	1.376E+02	1.375E+02	1.379E+02	1.385E+02	1.393E+02
IY= 16	1.375E+02	1.374E+02	1.378E+02	1.384E+02	1.392E+02
IY= 15	1.374E+02	1.373E+02	1.376E+02	1.382E+02	1.390E+02
IY= 14	1.373E+02	1.371E+02	1.374E+02	1.379E+02	1.387E+02
IY= 13	1.372E+02	1.369E+02	1.371E+02	1.376E+02	1.384E+02
IY= 12	1.370E+02	1.366E+02	1.367E+02	1.371E+02	1.379E+02
IY= 11	1.369E+02	1.363E+02	1.361E+02	1.364E+02	1.371E+02
IY= 10	1.367E+02	1.359E+02	1.355E+02	1.354E+02	1.360E+02
IY= 9	1.365E+02	1.355E+02	1.348E+02	1.341E+02	1.342E+02
IY= 8	1.363E+02	1.352E+02	1.341E+02	1.327E+02	1.314E+02
IY= 7	1.362E+02	1.349E+02	1.336E+02	1.314E+02	1.270E+02
IY= 6	1.361E+02	1.348E+02	1.335E+02	1.311E+02	1.244E+02
IY= 5	1.361E+02	1.348E+02	1.335E+02	1.311E+02	1.242E+02
IY= 4	1.361E+02	1.348E+02	1.335E+02	1.310E+02	1.240E+02
IY= 3	1.361E+02	1.348E+02	1.335E+02	1.310E+02	1.238E+02
IY= 2	1.361E+02	1.348E+02	1.335E+02	1.310E+02	1.236E+02
IY= 1	1.362E+02	1.349E+02	1.335E+02	1.309E+02	1.229E+02
IZ=	1	2	3	4	5
IY= 20	1.407E+02	1.409E+02	1.409E+02	1.410E+02	1.418E+02
IY= 19	1.406E+02	1.406E+02	1.406E+02	1.409E+02	1.417E+02
IY= 18	1.405E+02	1.400E+02	1.400E+02	1.408E+02	1.417E+02
IY= 17	1.404E+02	1.391E+02	1.392E+02	1.408E+02	1.418E+02
IY= 16	1.403E+02	1.381E+02	1.381E+02	1.408E+02	1.418E+02
IY= 15	1.401E+02	1.368E+02	1.369E+02	1.408E+02	1.419E+02
IY= 14	1.399E+02	1.353E+02	1.355E+02	1.409E+02	1.420E+02
IY= 13	1.397E+02	1.336E+02	1.340E+02	1.411E+02	1.421E+02
IY= 12	1.396E+02	1.319E+02	1.324E+02	1.412E+02	1.424E+02
IY= 11	1.397E+02	1.303E+02	1.310E+02	1.416E+02	1.430E+02
IY= 10	1.399E+02	1.292E+02	1.300E+02	1.423E+02	1.439E+02
IY= 9	1.408E+02	1.290E+02	1.299E+02	1.438E+02	1.454E+02
IY= 8	1.418E+02	1.300E+02	1.310E+02	1.463E+02	1.469E+02
IY= 7	1.379E+02	1.297E+02	1.310E+02	1.453E+02	1.435E+02
IY= 6	1.081E+02	1.173E+02	1.328E+02	1.539E+02	1.475E+02
IY= 5	1.078E+02	1.172E+02	1.366E+02	1.577E+02	1.479E+02
IY= 4	1.077E+02	1.206E+02	1.427E+02	1.612E+02	1.483E+02
IY= 3	1.082E+02	1.260E+02	1.517E+02	1.632E+02	1.483E+02
IY= 2	1.103E+02	1.362E+02	1.577E+02	1.827E+02	1.475E+02

IY= 1	4.320E-07	0.000E+00	0.000E+00	0.000E+00	0.000E+00
IZ=	6	7	8	9	10
IY= 20	1.429E+02	1.440E+02	1.450E+02	1.460E+02	1.470E+02
IY= 19	1.429E+02	1.439E+02	1.450E+02	1.460E+02	1.470E+02
IY= 18	1.429E+02	1.439E+02	1.450E+02	1.460E+02	1.470E+02
IY= 17	1.429E+02	1.440E+02	1.450E+02	1.459E+02	1.470E+02
IY= 16	1.429E+02	1.440E+02	1.450E+02	1.459E+02	1.469E+02
IY= 15	1.430E+02	1.441E+02	1.450E+02	1.459E+02	1.469E+02
IY= 14	1.431E+02	1.442E+02	1.451E+02	1.459E+02	1.468E+02
IY= 13	1.433E+02	1.443E+02	1.452E+02	1.460E+02	1.468E+02
IY= 12	1.437E+02	1.446E+02	1.454E+02	1.461E+02	1.468E+02
IY= 11	1.442E+02	1.450E+02	1.456E+02	1.462E+02	1.468E+02
IY= 10	1.449E+02	1.455E+02	1.460E+02	1.464E+02	1.468E+02
IY= 9	1.459E+02	1.460E+02	1.463E+02	1.465E+02	1.468E+02
IY= 8	1.463E+02	1.459E+02	1.459E+02	1.460E+02	1.461E+02
IY= 7	1.420E+02	1.418E+02	1.420E+02	1.423E+02	1.424E+02
IY= 6	1.433E+02	1.409E+02	1.391E+02	1.377E+02	1.363E+02
IY= 5	1.431E+02	1.402E+02	1.380E+02	1.362E+02	1.345E+02
IY= 4	1.424E+02	1.388E+02	1.359E+02	1.335E+02	1.312E+02
IY= 3	1.405E+02	1.353E+02	1.310E+02	1.274E+02	1.243E+02
IY= 2	1.334E+02	1.242E+02	1.172E+02	1.118E+02	1.077E+02
IY= 1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
IZ=	11	12	13	14	15
IY= 20	1.482E+02	1.494E+02	1.508E+02	1.513E+02	1.516E+02
IY= 19	1.482E+02	1.494E+02	1.508E+02	1.513E+02	1.516E+02
IY= 18	1.481E+02	1.494E+02	1.508E+02	1.513E+02	1.516E+02
IY= 17	1.481E+02	1.493E+02	1.507E+02	1.512E+02	1.515E+02
IY= 16	1.480E+02	1.492E+02	1.506E+02	1.511E+02	1.514E+02
IY= 15	1.479E+02	1.491E+02	1.505E+02	1.509E+02	1.513E+02
IY= 14	1.478E+02	1.489E+02	1.504E+02	1.508E+02	1.511E+02
IY= 13	1.477E+02	1.487E+02	1.502E+02	1.506E+02	1.510E+02
IY= 12	1.475E+02	1.485E+02	1.500E+02	1.504E+02	1.508E+02
IY= 11	1.474E+02	1.483E+02	1.497E+02	1.501E+02	1.505E+02
IY= 10	1.473E+02	1.478E+02	1.492E+02	1.496E+02	1.501E+02
IY= 9	1.469E+02	1.470E+02	1.481E+02	1.485E+02	1.491E+02
IY= 8	1.459E+02	1.454E+02	1.454E+02	1.458E+02	1.468E+02
IY= 7	1.421E+02	1.408E+02	1.377E+02	1.385E+02	1.406E+02
IY= 6	1.347E+02	1.318E+02	1.187E+02	1.257E+02	1.308E+02
IY= 5	1.326E+02	1.293E+02	1.148E+02	1.219E+02	1.276E+02
IY= 4	1.288E+02	1.250E+02	1.091E+02	1.171E+02	1.233E+02
IY= 3	1.214E+02	1.173E+02	1.003E+02	1.098E+02	1.166E+02
IY= 2	1.044E+02	1.005E+02	8.383E+01	9.543E+01	1.027E+02
IY= 1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
IZ=	16	17	18	19	20
IY= 20	1.519E+02	1.522E+02	1.525E+02	1.528E+02	1.534E+02
IY= 19	1.519E+02	1.522E+02	1.525E+02	1.528E+02	1.534E+02
IY= 18	1.519E+02	1.522E+02	1.525E+02	1.528E+02	1.534E+02
IY= 17	1.518E+02	1.521E+02	1.524E+02	1.527E+02	1.534E+02
IY= 16	1.517E+02	1.520E+02	1.523E+02	1.527E+02	1.533E+02
IY= 15	1.516E+02	1.519E+02	1.523E+02	1.526E+02	1.533E+02
IY= 14	1.515E+02	1.518E+02	1.522E+02	1.526E+02	1.533E+02
IY= 13	1.513E+02	1.517E+02	1.521E+02	1.525E+02	1.532E+02
IY= 12	1.512E+02	1.516E+02	1.520E+02	1.525E+02	1.533E+02
IY= 11	1.510E+02	1.514E+02	1.519E+02	1.525E+02	1.533E+02
IY= 10	1.506E+02	1.511E+02	1.517E+02	1.524E+02	1.533E+02
IY= 9	1.498E+02	1.506E+02	1.513E+02	1.522E+02	1.533E+02
IY= 8	1.480E+02	1.493E+02	1.505E+02	1.517E+02	1.529E+02
IY= 7	1.430E+02	1.454E+02	1.477E+02	1.498E+02	1.506E+02
IY= 6	1.345E+02	1.378E+02	1.415E+02	1.464E+02	1.442E+02
IY= 5	1.318E+02	1.354E+02	1.394E+02	1.449E+02	1.423E+02
IY= 4	1.279E+02	1.318E+02	1.361E+02	1.423E+02	1.392E+02
IY= 3	1.215E+02	1.257E+02	1.302E+02	1.372E+02	1.328E+02
IY= 2	1.076E+02	1.116E+02	1.159E+02	1.232E+02	1.165E+02
IY= 1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
IZ=	21	22	23	24	25
IY= 20	1.541E+02	1.547E+02	1.554E+02	1.561E+02	
IY= 19	1.541E+02	1.547E+02	1.554E+02	1.560E+02	
IY= 18	1.540E+02	1.547E+02	1.554E+02	1.560E+02	
IY= 17	1.540E+02	1.547E+02	1.554E+02	1.561E+02	
IY= 16	1.540E+02	1.547E+02	1.554E+02	1.561E+02	

IY= 15	1.540E+02	1.547E+02	1.554E+02	1.562E+02
IY= 14	1.540E+02	1.547E+02	1.555E+02	1.562E+02
IY= 13	1.540E+02	1.548E+02	1.556E+02	1.563E+02
IY= 12	1.541E+02	1.549E+02	1.557E+02	1.565E+02
IY= 11	1.541E+02	1.550E+02	1.558E+02	1.566E+02
IY= 10	1.542E+02	1.551E+02	1.559E+02	1.566E+02
IY= 9	1.542E+02	1.550E+02	1.557E+02	1.564E+02
IY= 8	1.537E+02	1.543E+02	1.550E+02	1.556E+02
IY= 7	1.510E+02	1.514E+02	1.520E+02	1.526E+02
IY= 6	1.438E+02	1.441E+02	1.446E+02	1.452E+02
IY= 5	1.417E+02	1.418E+02	1.422E+02	1.428E+02
IY= 4	1.382E+02	1.381E+02	1.383E+02	1.387E+02
IY= 3	1.312E+02	1.307E+02	1.305E+02	1.308E+02
IY= 2	1.140E+02	1.130E+02	1.126E+02	1.130E+02
IY= 1	0.000E+00	0.000E+00	0.000E+00	0.000E+00
IZ=	26	27	28	29

FIELD VALUES OF KE

IY= 20	1.941E+02	1.951E+02	1.974E+02	2.018E+02	2.101E+02
IY= 19	1.941E+02	1.952E+02	1.976E+02	2.021E+02	2.110E+02
IY= 18	1.942E+02	1.954E+02	1.979E+02	2.027E+02	2.128E+02
IY= 17	1.944E+02	1.958E+02	1.984E+02	2.034E+02	2.152E+02
IY= 16	1.946E+02	1.962E+02	1.990E+02	2.043E+02	2.173E+02
IY= 15	1.949E+02	1.968E+02	1.998E+02	2.053E+02	2.190E+02
IY= 14	1.953E+02	1.975E+02	2.009E+02	2.065E+02	2.204E+02
IY= 13	1.958E+02	1.985E+02	2.024E+02	2.083E+02	2.225E+02
IY= 12	1.963E+02	1.997E+02	2.044E+02	2.112E+02	2.262E+02
IY= 11	1.969E+02	2.012E+02	2.070E+02	2.152E+02	2.325E+02
IY= 10	1.975E+02	2.030E+02	2.100E+02	2.204E+02	2.417E+02
IY= 9	1.981E+02	2.049E+02	2.133E+02	2.265E+02	2.568E+02
IY= 8	1.986E+02	2.066E+02	2.163E+02	2.328E+02	2.819E+02
IY= 7	1.990E+02	2.079E+02	2.184E+02	2.374E+02	3.189E+02
IY= 6	1.991E+02	2.082E+02	2.188E+02	2.381E+02	3.354E+02
IY= 5	1.991E+02	2.082E+02	2.189E+02	2.382E+02	3.370E+02
IY= 4	1.991E+02	2.082E+02	2.189E+02	2.382E+02	3.383E+02
IY= 3	1.991E+02	2.082E+02	2.189E+02	2.383E+02	3.396E+02
IY= 2	1.991E+02	2.082E+02	2.190E+02	2.383E+02	3.408E+02
IY= 1	1.991E+02	2.083E+02	2.190E+02	2.385E+02	3.441E+02
IZ=	1	2	3	4	5
IY= 20	2.246E+02	2.325E+02	2.333E+02	2.339E+02	2.492E+02
IY= 19	2.283E+02	2.388E+02	2.399E+02	2.409E+02	2.606E+02
IY= 18	2.372E+02	2.634E+02	2.658E+02	2.681E+02	2.909E+02
IY= 17	2.508E+02	3.225E+02	3.283E+02	3.341E+02	3.504E+02
IY= 16	2.616E+02	4.197E+02	4.337E+02	4.479E+02	4.428E+02
IY= 15	2.565E+02	5.139E+02	5.462E+02	5.777E+02	5.543E+02
IY= 14	2.370E+02	5.814E+02	6.431E+02	7.037E+02	6.718E+02
IY= 13	2.297E+02	6.203E+02	7.130E+02	8.154E+02	7.852E+02
IY= 12	2.332E+02	6.697E+02	7.864E+02	9.423E+02	9.057E+02
IY= 11	2.428E+02	7.602E+02	8.914E+02	1.108E+03	1.046E+03
IY= 10	2.555E+02	8.625E+02	1.020E+03	1.310E+03	1.183E+03
IY= 9	2.722E+02	8.218E+02	9.903E+02	1.351E+03	1.165E+03
IY= 8	3.044E+02	4.371E+02	4.547E+02	7.514E+02	6.933E+02
IY= 7	5.351E+02	5.506E+02	5.413E+02	6.154E+02	5.005E+02
IY= 6	1.966E+03	1.632E+03	1.594E+03	1.650E+03	1.099E+03
IY= 5	2.079E+03	2.016E+03	2.181E+03	2.413E+03	1.146E+03
IY= 4	2.285E+03	2.304E+03	2.542E+03	2.944E+03	1.142E+03
IY= 3	2.575E+03	2.345E+03	2.388E+03	3.118E+03	1.002E+03
IY= 2	2.947E+03	2.479E+02	3.214E+02	4.195E+02	2.858E+02
IY= 1	4.050E+03	5.080E-08	1.000E-10	1.000E-10	1.000E-10
IZ=	6	7	8	9	10
IY= 20	2.713E+02	2.898E+02	3.046E+02	3.168E+02	3.269E+02
IY= 19	2.836E+02	3.013E+02	3.152E+02	3.265E+02	3.358E+02
IY= 18	3.122E+02	3.274E+02	3.390E+02	3.481E+02	3.555E+02
IY= 17	3.640E+02	3.733E+02	3.802E+02	3.853E+02	3.892E+02
IY= 16	4.422E+02	4.420E+02	4.415E+02	4.404E+02	4.390E+02
IY= 15	5.404E+02	5.298E+02	5.204E+02	5.117E+02	5.033E+02
IY= 14	6.481E+02	6.280E+02	6.097E+02	5.927E+02	5.766E+02
IY= 13	7.563E+02	7.283E+02	7.013E+02	6.754E+02	6.508E+02
IY= 12	8.669E+02	8.275E+02	7.890E+02	7.521E+02	7.173E+02
IY= 11	9.822E+02	9.212E+02	8.644E+02	8.123E+02	7.648E+02
IY= 10	1.074E+03	9.803E+02	9.004E+02	8.315E+02	7.716E+02

IY= 9	1.028E+03	9.199E+02	8.327E+02	7.604E+02	6.994E+02
IY= 8	6.471E+02	6.057E+02	5.677E+02	5.328E+02	5.006E+02
IY= 7	4.073E+02	3.424E+02	2.979E+02	2.670E+02	2.454E+02
IY= 6	5.756E+02	3.375E+02	2.269E+02	1.742E+02	1.494E+02
IY= 5	5.712E+02	3.264E+02	2.140E+02	1.608E+02	1.366E+02
IY= 4	5.371E+02	3.025E+02	1.983E+02	1.504E+02	1.301E+02
IY= 3	4.531E+02	2.633E+02	1.840E+02	1.501E+02	1.377E+02
IY= 2	2.446E+02	2.195E+02	2.014E+02	1.880E+02	1.781E+02
IY= 1	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
IZ=	11	12	13	14	15
IY= 20	3.355E+02	3.429E+02	3.494E+02	3.519E+02	3.530E+02
IY= 19	3.436E+02	3.504E+02	3.563E+02	3.584E+02	3.594E+02
IY= 18	3.617E+02	3.669E+02	3.713E+02	3.729E+02	3.736E+02
IY= 17	3.922E+02	3.946E+02	3.966E+02	3.972E+02	3.975E+02
IY= 16	4.372E+02	4.353E+02	4.334E+02	4.330E+02	4.324E+02
IY= 15	4.954E+02	4.879E+02	4.809E+02	4.791E+02	4.773E+02
IY= 14	5.615E+02	5.474E+02	5.342E+02	5.310E+02	5.277E+02
IY= 13	6.277E+02	6.061E+02	5.861E+02	5.815E+02	5.769E+02
IY= 12	6.849E+02	6.549E+02	6.274E+02	6.216E+02	6.159E+02
IY= 11	7.217E+02	6.826E+02	6.471E+02	6.404E+02	6.339E+02
IY= 10	7.190E+02	6.724E+02	6.306E+02	6.240E+02	6.176E+02
IY= 9	6.470E+02	6.010E+02	5.589E+02	5.543E+02	5.498E+02
IY= 8	4.708E+02	4.427E+02	4.140E+02	4.142E+02	4.140E+02
IY= 7	2.298E+02	2.179E+02	2.093E+02	2.131E+02	2.156E+02
IY= 6	1.388E+02	1.351E+02	1.342E+02	1.535E+02	1.610E+02
IY= 5	1.274E+02	1.259E+02	1.302E+02	1.456E+02	1.533E+02
IY= 4	1.240E+02	1.249E+02	1.330E+02	1.454E+02	1.506E+02
IY= 3	1.354E+02	1.370E+02	1.417E+02	1.531E+02	1.555E+02
IY= 2	1.700E+02	1.598E+02	1.181E+02	1.467E+02	1.662E+02
IY= 1	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
IZ=	16	17	18	19	20
IY= 20	3.540E+02	3.550E+02	3.560E+02	3.569E+02	3.586E+02
IY= 19	3.604E+02	3.613E+02	3.622E+02	3.630E+02	3.645E+02
IY= 18	3.743E+02	3.750E+02	3.756E+02	3.761E+02	3.772E+02
IY= 17	3.977E+02	3.978E+02	3.980E+02	3.980E+02	3.983E+02
IY= 16	4.318E+02	4.311E+02	4.305E+02	4.298E+02	4.287E+02
IY= 15	4.755E+02	4.737E+02	4.720E+02	4.703E+02	4.674E+02
IY= 14	5.245E+02	5.214E+02	5.184E+02	5.155E+02	5.105E+02
IY= 13	5.725E+02	5.681E+02	5.638E+02	5.597E+02	5.525E+02
IY= 12	6.103E+02	6.048E+02	5.995E+02	5.944E+02	5.849E+02
IY= 11	6.276E+02	6.215E+02	6.154E+02	6.097E+02	5.982E+02
IY= 10	6.114E+02	6.053E+02	5.994E+02	5.937E+02	5.811E+02
IY= 9	5.452E+02	5.408E+02	5.364E+02	5.321E+02	5.200E+02
IY= 8	4.134E+02	4.125E+02	4.114E+02	4.104E+02	4.016E+02
IY= 7	2.172E+02	2.184E+02	2.194E+02	2.202E+02	2.164E+02
IY= 6	1.637E+02	1.647E+02	1.651E+02	1.661E+02	1.554E+02
IY= 5	1.562E+02	1.568E+02	1.564E+02	1.556E+02	1.463E+02
IY= 4	1.525E+02	1.525E+02	1.515E+02	1.492E+02	1.406E+02
IY= 3	1.562E+02	1.562E+02	1.559E+02	1.539E+02	1.469E+02
IY= 2	1.799E+02	1.914E+02	2.041E+02	2.267E+02	2.064E+02
IY= 1	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
IZ=	21	22	23	24	25
IY= 20	3.605E+02	3.623E+02	3.641E+02	3.657E+02	3.666E+02
IY= 19	3.662E+02	3.678E+02	3.693E+02	3.707E+02	3.714E+02
IY= 18	3.784E+02	3.796E+02	3.806E+02	3.815E+02	3.818E+02
IY= 17	3.986E+02	3.989E+02	3.990E+02	3.991E+02	3.988E+02
IY= 16	4.276E+02	4.266E+02	4.255E+02	4.244E+02	4.229E+02
IY= 15	4.645E+02	4.618E+02	4.591E+02	4.564E+02	4.534E+02
IY= 14	5.058E+02	5.011E+02	4.965E+02	4.920E+02	4.873E+02
IY= 13	5.459E+02	5.387E+02	5.321E+02	5.257E+02	5.191E+02
IY= 12	5.756E+02	5.669E+02	5.583E+02	5.500E+02	5.417E+02
IY= 11	5.872E+02	5.766E+02	5.664E+02	5.565E+02	5.468E+02
IY= 10	5.690E+02	5.574E+02	5.464E+02	5.358E+02	5.255E+02
IY= 9	5.086E+02	4.978E+02	4.875E+02	4.777E+02	4.683E+02
IY= 8	3.936E+02	3.862E+02	3.793E+02	3.727E+02	3.664E+02
IY= 7	2.137E+02	2.115E+02	2.095E+02	2.078E+02	2.063E+02
IY= 6	1.507E+02	1.482E+02	1.470E+02	1.467E+02	1.484E+02
IY= 5	1.412E+02	1.387E+02	1.380E+02	1.382E+02	1.409E+02
IY= 4	1.368E+02	1.356E+02	1.360E+02	1.371E+02	1.416E+02
IY= 3	1.458E+02	1.471E+02	1.494E+02	1.515E+02	1.612E+02

IY= 2	1.994E+02	1.967E+02	1.958E+02	1.971E+02	2.771E+02
IY= 1	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
IZ=	26	27	28	29	30

FIELD VALUES OF EP

IY= 20	3.314E+03	3.328E+03	3.375E+03	3.491E+03	3.843E+03
IY= 19	3.315E+03	3.331E+03	3.379E+03	3.500E+03	3.898E+03
IY= 18	3.317E+03	3.335E+03	3.386E+03	3.515E+03	4.002E+03
IY= 17	3.320E+03	3.342E+03	3.397E+03	3.537E+03	4.121E+03
IY= 16	3.324E+03	3.351E+03	3.412E+03	3.561E+03	4.199E+03
IY= 15	3.329E+03	3.363E+03	3.431E+03	3.589E+03	4.186E+03
IY= 14	3.335E+03	3.378E+03	3.459E+03	3.631E+03	4.097E+03
IY= 13	3.342E+03	3.396E+03	3.497E+03	3.701E+03	4.092E+03
IY= 12	3.350E+03	3.419E+03	3.550E+03	3.810E+03	4.286E+03
IY= 11	3.359E+03	3.447E+03	3.622E+03	3.968E+03	4.715E+03
IY= 10	3.368E+03	3.480E+03	3.715E+03	4.185E+03	5.345E+03
IY= 9	3.377E+03	3.516E+03	3.827E+03	4.464E+03	6.563E+03
IY= 8	3.384E+03	3.550E+03	3.941E+03	4.761E+03	8.934E+03
IY= 7	3.390E+03	3.576E+03	4.031E+03	4.945E+03	1.360E+04
IY= 6	3.392E+03	3.581E+03	4.050E+03	4.934E+03	1.668E+04
IY= 5	3.392E+03	3.582E+03	4.051E+03	4.933E+03	1.697E+04
IY= 4	3.392E+03	3.582E+03	4.053E+03	4.932E+03	1.724E+04
IY= 3	3.392E+03	3.583E+03	4.054E+03	4.931E+03	1.749E+04
IY= 2	3.392E+03	3.583E+03	4.055E+03	4.931E+03	1.772E+04
IY= 1	3.392E+03	3.583E+03	4.057E+03	4.931E+03	1.836E+04
IZ=	1	2	3	4	5
IY= 20	4.771E+03	5.429E+03	5.496E+03	5.560E+03	7.404E+03
IY= 19	5.065E+03	6.037E+03	6.144E+03	6.242E+03	9.033E+03
IY= 18	5.745E+03	8.152E+03	8.394E+03	8.613E+03	1.364E+04
IY= 17	6.837E+03	1.438E+04	1.508E+04	1.572E+04	2.483E+04
IY= 16	7.744E+03	3.123E+04	3.356E+04	3.582E+04	5.009E+04
IY= 15	6.529E+03	6.819E+04	7.678E+04	8.558E+04	1.021E+05
IY= 14	5.180E+03	1.319E+05	1.575E+05	1.870E+05	1.999E+05
IY= 13	5.134E+03	2.236E+05	2.834E+05	3.652E+05	3.678E+05
IY= 12	6.475E+03	3.584E+05	4.710E+05	6.630E+05	6.377E+05
IY= 11	1.020E+04	5.605E+05	7.431E+05	1.127E+06	1.032E+06
IY= 10	2.027E+04	7.866E+05	1.070E+06	1.743E+06	1.503E+06
IY= 9	6.257E+04	8.596E+05	1.198E+06	2.220E+06	1.812E+06
IY= 8	4.210E+05	7.430E+05	7.555E+05	1.773E+06	1.498E+06
IY= 7	3.110E+06	3.177E+06	3.029E+06	3.561E+06	2.612E+06
IY= 6	2.175E+07	1.733E+07	1.754E+07	1.899E+07	1.437E+07
IY= 5	2.414E+07	2.423E+07	2.974E+07	3.690E+07	1.665E+07
IY= 4	2.850E+07	3.156E+07	4.098E+07	5.525E+07	1.936E+07
IY= 3	3.478E+07	3.799E+07	4.546E+07	7.514E+07	2.147E+07
IY= 2	4.317E+07	1.768E+07	2.610E+07	3.892E+07	1.826E+07
IY= 1	6.766E+07	2.745E-08	1.000E-10	1.000E-10	1.000E-10
IZ=	6	7	8	9	10
IY= 20	1.076E+04	1.427E+04	1.780E+04	2.128E+04	2.466E+04
IY= 19	1.316E+04	1.724E+04	2.118E+04	2.497E+04	2.859E+04
IY= 18	1.943E+04	2.466E+04	2.944E+04	3.383E+04	3.788E+04
IY= 17	3.315E+04	4.008E+04	4.600E+04	5.113E+04	5.560E+04
IY= 16	6.117E+04	6.984E+04	7.674E+04	8.226E+04	8.670E+04
IY= 15	1.145E+05	1.236E+05	1.301E+05	1.346E+05	1.376E+05
IY= 14	2.092E+05	2.147E+05	2.170E+05	2.169E+05	2.151E+05
IY= 13	3.657E+05	3.592E+05	3.495E+05	3.378E+05	3.251E+05
IY= 12	6.062E+05	5.712E+05	5.354E+05	5.005E+05	4.675E+05
IY= 11	9.362E+05	8.460E+05	7.641E+05	6.911E+05	6.268E+05
IY= 10	1.298E+06	1.126E+06	9.819E+05	8.621E+05	7.620E+05
IY= 9	1.505E+06	1.266E+06	1.078E+06	9.276E+05	8.058E+05
IY= 8	1.262E+06	1.071E+06	9.183E+05	7.941E+05	6.923E+05
IY= 7	1.804E+06	1.284E+06	9.520E+05	7.353E+05	5.897E+05
IY= 6	6.450E+06	3.087E+06	1.674E+06	1.055E+06	7.812E+05
IY= 5	6.990E+06	3.320E+06	1.829E+06	1.191E+06	9.227E+05
IY= 4	7.627E+06	3.703E+06	2.189E+06	1.569E+06	1.333E+06
IY= 3	8.646E+06	4.860E+06	3.449E+06	2.891E+06	2.693E+06
IY= 2	1.445E+07	1.229E+07	1.080E+07	9.739E+06	8.982E+06
IY= 1	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
IZ=	11	12	13	14	15
IY= 20	2.793E+04	3.110E+04	3.416E+04	3.496E+04	3.548E+04
IY= 19	3.204E+04	3.534E+04	3.848E+04	3.924E+04	3.975E+04
IY= 18	4.162E+04	4.509E+04	4.835E+04	4.900E+04	4.947E+04

IY= 17	5.955E+04	6.307E+04	6.625E+04	6.668E+04	6.701E+04
IY= 16	9.032E+04	9.332E+04	9.584E+04	9.589E+04	9.588E+04
IY= 15	1.394E+05	1.405E+05	1.411E+05	1.404E+05	1.397E+05
IY= 14	2.122E+05	2.087E+05	2.050E+05	2.030E+05	2.011E+05
IY= 13	3.122E+05	2.996E+05	2.878E+05	2.838E+05	2.799E+05
IY= 12	4.368E+05	4.090E+05	3.841E+05	3.773E+05	3.707E+05
IY= 11	5.705E+05	5.215E+05	4.791E+05	4.692E+05	4.597E+05
IY= 10	6.777E+05	6.067E+05	5.467E+05	5.346E+05	5.230E+05
IY= 9	7.060E+05	6.234E+05	5.539E+05	5.421E+05	5.308E+05
IY= 8	6.082E+05	5.379E+05	4.784E+05	4.705E+05	4.628E+05
IY= 7	4.892E+05	4.190E+05	3.801E+05	3.755E+05	3.696E+05
IY= 6	6.696E+05	6.423E+05	7.296E+05	7.018E+05	7.080E+05
IY= 5	8.281E+05	8.229E+05	9.469E+05	9.363E+05	9.328E+05
IY= 4	1.273E+06	1.293E+06	1.429E+06	1.404E+06	1.387E+06
IY= 3	2.647E+06	2.627E+06	2.507E+06	2.527E+06	2.576E+06
IY= 2	8.374E+06	7.633E+06	4.846E+06	6.767E+06	8.155E+06
IY= 1	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
IZ=	16	17	18	19	20
IY= 20	3.601E+04	3.654E+04	3.705E+04	3.751E+04	3.851E+04
IY= 19	4.027E+04	4.079E+04	4.129E+04	4.174E+04	4.277E+04
IY= 18	4.994E+04	5.041E+04	5.087E+04	5.127E+04	5.231E+04
IY= 17	6.734E+04	6.767E+04	6.798E+04	6.829E+04	6.917E+04
IY= 16	9.587E+04	9.584E+04	9.581E+04	9.580E+04	9.624E+04
IY= 15	1.390E+05	1.383E+05	1.376E+05	1.369E+05	1.364E+05
IY= 14	1.991E+05	1.972E+05	1.954E+05	1.935E+05	1.913E+05
IY= 13	2.760E+05	2.723E+05	2.686E+05	2.651E+05	2.601E+05
IY= 12	3.643E+05	3.581E+05	3.521E+05	3.463E+05	3.373E+05
IY= 11	4.505E+05	4.417E+05	4.331E+05	4.249E+05	4.112E+05
IY= 10	5.118E+05	5.010E+05	4.907E+05	4.807E+05	4.628E+05
IY= 9	5.199E+05	5.093E+05	4.991E+05	4.893E+05	4.695E+05
IY= 8	4.553E+05	4 477E+05	4.402E+05	4.328E+05	4.152E+05
IY= 7	3.633E+05	3.568E+05	3.500E+05	3.424E+05	3.287E+05
IY= 6	7.095E+05	7.045E+05	6.911E+05	6.599E+05	6.732E+05
IY= 5	9.251E+05	9.133E+05	8.940E+05	8.491E+05	8.649E+05
IY= 4	1.382E+06	1.377E+06	1.363E+06	1.303E+06	1.355E+06
IY= 3	2.660E+06	2.747E+06	2.829E+06	2.843E+06	2.951E+06
IY= 2	9.184E+06	1.008E+07	1.110E+07	1.299E+07	1.122E+07
IY= 1	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
IZ=	21	22	23	24	25
IY= 20	3.961E+04	4.068E+04	4.173E+04	4.276E+04	4.365E+04
IY= 19	4.386E+04	4.491E+04	4.594E+04	4.694E+04	4.781E+04
IY= 18	5.334E+04	5.434E+04	5.530E+04	5.622E+04	5.700E+04
IY= 17	7.003E+04	7.083E+04	7.159E+04	7.229E+04	7.285E+04
IY= 16	9.662E+04	9.696E+04	9.723E+04	9.746E+04	9.751E+04
IY= 15	1.358E+05	1.352E+05	1.345E+05	1.338E+05	1.330E+05
IY= 14	1.890E+05	1.868E+05	1.845E+05	1.823E+05	1.799E+05
IY= 13	2.551E+05	2.503E+05	2.456E+05	2.410E+05	2.363E+05
IY= 12	3.286E+05	3.203E+05	3.123E+05	3.045E+05	2.968E+05
IY= 11	3.982E+05	3.857E+05	3.739E+05	3.625E+05	3.516E+05
IY= 10	4.458E+05	4.298E+05	4.147E+05	4.003E+05	3.866E+05
IY= 9	4.509E+05	4.334E+05	4.170E+05	4.016E+05	3.870E+05
IY= 8	3.988E+05	3.836E+05	3.694E+05	3.561E+05	3.436E+05
IY= 7	3.163E+05	3.054E+05	2.957E+05	2.870E+05	2.790E+05
IY= 6	6.612E+05	6.532E+05	6.514E+05	6.530E+05	6.587E+05
IY= 5	8.617E+05	8.634E+05	8.721E+05	8.829E+05	8.996E+05
IY= 4	1.371E+06	1.393E+06	1.423E+06	1.451E+06	1.502E+06
IY= 3	2.983E+06	3.031E+06	3.091E+06	3.143E+06	3.509E+06
IY= 2	1.066E+07	1.044E+07	1.037E+07	1.047E+07	1.745E+07
IY= 1	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
IZ=	26	27	28	29	30
FIELD VALUES OF H1					
IY= 20	2.309E+05	2.310E+05	2.310E+05	2.310E+05	2.309E+05
IY= 19	2.309E+05	2.310E+05	2.310E+05	2.310E+05	2.309E+05
IY= 18	2.309E+05	2.310E+05	2.310E+05	2.310E+05	2.309E+05
IY= 17	2.309E+05	2.310E+05	2.310E+05	2.310E+05	2.309E+05
IY= 16	2.309E+05	2.310E+05	2.310E+05	2.310E+05	2.309E+05
IY= 15	2.309E+05	2.310E+05	2.311E+05	2.310E+05	2.310E+05
IY= 14	2.309E+05	2.311E+05	2.311E+05	2.311E+05	2.310E+05
IY= 13	2.309E+05	2.311E+05	2.311E+05	2.311E+05	2.311E+05
IY= 12	2.309E+05	2.311E+05	2.312E+05	2.312E+05	2.311E+05

IY= 11	2.309E+05	2.311E+05	2.312E+05	2.312E+05	2.312E+05
IY= 10	2.310E+05	2.312E+05	2.313E+05	2.313E+05	2.313E+05
IY= 9	2.310E+05	2.312E+05	2.313E+05	2.314E+05	2.315E+05
IY= 8	2.310E+05	2.312E+05	2.313E+05	2.315E+05	2.317E+05
IY= 7	2.310E+05	2.312E+05	2.314E+05	2.315E+05	2.319E+05
IY= 6	2.310E+05	2.312E+05	2.314E+05	2.315E+05	2.320E+05
IY= 5	2.310E+05	2.312E+05	2.314E+05	2.315E+05	2.320E+05
IY= 4	2.310E+05	2.312E+05	2.314E+05	2.316E+05	2.320E+05
IY= 3	2.310E+05	2.312E+05	2.314E+05	2.316E+05	2.320E+05
IY= 2	2.310E+05	2.312E+05	2.314E+05	2.316E+05	2.320E+05
IY= 1	2.310E+05	2.312E+05	2.314E+05	2.316E+05	2.320E+05
IZ=	1	2	3	4	5
IY= 20	2.308E+05	2.307E+05	2.307E+05	2.307E+05	2.307E+05
IY= 19	2.308E+05	2.307E+05	2.307E+05	2.307E+05	2.307E+05
IY= 18	2.308E+05	2.307E+05	2.307E+05	2.307E+05	2.307E+05
IY= 17	2.308E+05	2.308E+05	2.308E+05	2.308E+05	2.308E+05
IY= 16	2.308E+05	2.309E+05	2.309E+05	2.310E+05	2.308E+05
IY= 15	2.309E+05	2.310E+05	2.311E+05	2.311E+05	2.309E+05
IY= 14	2.309E+05	2.311E+05	2.312E+05	2.312E+05	2.310E+05
IY= 13	2.309E+05	2.312E+05	2.313E+05	2.313E+05	2.311E+05
IY= 12	2.310E+05	2.312E+05	2.313E+05	2.315E+05	2.312E+05
IY= 11	2.310E+05	2.313E+05	2.314E+05	2.316E+05	2.313E+05
IY= 10	2.312E+05	2.313E+05	2.315E+05	2.318E+05	2.313E+05
IY= 9	2.313E+05	2.311E+05	2.314E+05	2.317E+05	2.311E+05
IY= 8	2.319E+05	2.305E+05	2.307E+05	2.308E+05	2.302E+05
IY= 7	2.337E+05	2.313E+05	2.314E+05	2.312E+05	2.301E+05
IY= 6	2.385E+05	2.387E+05	2.383E+05	2.355E+05	2.353E+05
IY= 5	2.387E+05	2.405E+05	2.404E+05	2.375E+05	2.360E+05
IY= 4	2.390E+05	2.425E+05	2.424E+05	2.393E+05	2.369E+05
IY= 3	2.395E+05	2.448E+05	2.444E+05	2.408E+05	2.384E+05
IY= 2	2.400E+05	2.490E+05	2.474E+05	2.445E+05	2.426E+05
IY= 1	2.417E+05	3.576E+05	3.576E+05	3.576E+05	3.576E+05
IZ=	6	7	8	9	10
IY= 20	2.305E+05	2.304E+05	2.303E+05	2.301E+05	2.300E+05
IY= 19	2.306E+05	2.304E+05	2.303E+05	2.301E+05	2.300E+05
IY= 18	2.306E+05	2.304E+05	2.303E+05	2.302E+05	2.300E+05
IY= 17	2.306E+05	2.305E+05	2.303E+05	2.302E+05	2.301E+05
IY= 16	2.307E+05	2.305E+05	2.304E+05	2.303E+05	2.301E+05
IY= 15	2.308E+05	2.306E+05	2.305E+05	2.303E+05	2.302E+05
IY= 14	2.309E+05	2.307E+05	2.305E+05	2.304E+05	2.303E+05
IY= 13	2.310E+05	2.308E+05	2.306E+05	2.305E+05	2.304E+05
IY= 12	2.310E+05	2.309E+05	2.307E+05	2.306E+05	2.305E+05
IY= 11	2.311E+05	2.309E+05	2.308E+05	2.307E+05	2.306E+05
IY= 10	2.310E+05	2.309E+05	2.308E+05	2.307E+05	2.306E+05
IY= 9	2.308E+05	2.307E+05	2.306E+05	2.306E+05	2.306E+05
IY= 8	2.302E+05	2.304E+05	2.305E+05	2.305E+05	2.306E+05
IY= 7	2.307E+05	2.313E+05	2.316E+05	2.319E+05	2.322E+05
IY= 6	2.385E+05	2.403E+05	2.414E+05	2.423E+05	2.431E+05
IY= 5	2.396E+05	2.418E+05	2.434E+05	2.446E+05	2.457E+05
IY= 4	2.412E+05	2.440E+05	2.462E+05	2.481E+05	2.497E+05
IY= 3	2.440E+05	2.479E+05	2.514E+05	2.544E+05	2.568E+05
IY= 2	2.515E+05	2.583E+05	2.642E+05	2.689E+05	2.724E+05
IY= 1	3.576E+05	3.576E+05	3.576E+05	3.576E+05	3.576E+05
IZ=	11	12	13	14	15
IY= 20	2.299E+05	2.297E+05	2.295E+05	2.293E+05	2.292E+05
IY= 19	2.299E+05	2.297E+05	2.295E+05	2.293E+05	2.293E+05
IY= 18	2.299E+05	2.297E+05	2.296E+05	2.293E+05	2.293E+05
IY= 17	2.299E+05	2.298E+05	2.296E+05	2.294E+05	2.293E+05
IY= 16	2.300E+05	2.298E+05	2.297E+05	2.294E+05	2.294E+05
IY= 15	2.301E+05	2.299E+05	2.297E+05	2.295E+05	2.295E+05
IY= 14	2.302E+05	2.300E+05	2.299E+05	2.296E+05	2.296E+05
IY= 13	2.303E+05	2.301E+05	2.300E+05	2.298E+05	2.297E+05
IY= 12	2.304E+05	2.303E+05	2.301E+05	2.299E+05	2.298E+05
IY= 11	2.305E+05	2.304E+05	2.302E+05	2.300E+05	2.299E+05
IY= 10	2.305E+05	2.304E+05	2.304E+05	2.301E+05	2.301E+05
IY= 9	2.305E+05	2.305E+05	2.305E+05	2.304E+05	2.303E+05
IY= 8	2.307E+05	2.308E+05	2.311E+05	2.310E+05	2.309E+05
IY= 7	2.325E+05	2.329E+05	2.337E+05	2.340E+05	2.339E+05
IY= 6	2.439E+05	2.448E+05	2.476E+05	2.468E+05	2.457E+05
IY= 5	2.468E+05	2.479E+05	2.507E+05	2.506E+05	2.492E+05

IY= 4	2.511E+05	2.525E+05	2.553E+05	2.554E+05	2.538E+05
IY= 3	2.587E+05	2.602E+05	2.626E+05	2.627E+05	2.610E+05
IY= 2	2.747E+05	2.761E+05	2.771E+05	2.776E+05	2.759E+05
IY= 1	3.576E+05	3.576E+05	3.576E+05	3.576E+05	3.576E+05
IZ=	16	17	18	19	20
IY= 20	2.292E+05	2.292E+05	2.291E+05	2.291E+05	2.290E+05
IY= 19	2.292E+05	2.292E+05	2.291E+05	2.291E+05	2.291E+05
IY= 18	2.292E+05	2.292E+05	2.292E+05	2.291E+05	2.291E+05
IY= 17	2.293E+05	2.292E+05	2.292E+05	2.292E+05	2.291E+05
IY= 16	2.293E+05	2.293E+05	2.292E+05	2.292E+05	2.291E+05
IY= 15	2.294E+05	2.294E+05	2.293E+05	2.293E+05	2.292E+05
IY= 14	2.295E+05	2.295E+05	2.294E+05	2.294E+05	2.293E+05
IY= 13	2.296E+05	2.296E+05	2.295E+05	2.295E+05	2.294E+05
IY= 12	2.297E+05	2.297E+05	2.296E+05	2.296E+05	2.295E+05
IY= 11	2.299E+05	2.298E+05	2.297E+05	2.297E+05	2.296E+05
IY= 10	2.300E+05	2.299E+05	2.298E+05	2.297E+05	2.297E+05
IY= 9	2.302E+05	2.301E+05	2.300E+05	2.299E+05	2.298E+05
IY= 8	2.308E+05	2.306E+05	2.304E+05	2.303E+05	2.301E+05
IY= 7	2.336E+05	2.333E+05	2.330E+05	2.326E+05	2.325E+05
IY= 6	2.448E+05	2.441E+05	2.434E+05	2.423E+05	2.426E+05
IY= 5	2.481E+05	2.473E+05	2.465E+05	2.453E+05	2.453E+05
IY= 4	2.526E+05	2.517E+05	2.508E+05	2.496E+05	2.495E+05
IY= 3	2.597E+05	2.588E+05	2.579E+05	2.567E+05	2.569E+05
IY= 2	2.748E+05	2.741E+05	2.736E+05	2.728E+05	2.732E+05
IY= 1	3.576E+05	3.576E+05	3.576E+05	3.576E+05	3.576E+05
IZ=	21	22	23	24	25
IY= 20	2.289E+05	2.288E+05	2.287E+05	2.286E+05	2.285E+05
IY= 19	2.290E+05	2.289E+05	2.288E+05	2.287E+05	2.286E+05
IY= 18	2.290E+05	2.289E+05	2.288E+05	2.287E+05	2.286E+05
IY= 17	2.290E+05	2.289E+05	2.288E+05	2.287E+05	2.286E+05
IY= 16	2.291E+05	2.290E+05	2.288E+05	2.287E+05	2.286E+05
IY= 15	2.291E+05	2.290E+05	2.289E+05	2.288E+05	2.287E+05
IY= 14	2.292E+05	2.291E+05	2.290E+05	2.289E+05	2.287E+05
IY= 13	2.293E+05	2.292E+05	2.290E+05	2.289E+05	2.288E+05
IY= 12	2.294E+05	2.292E+05	2.291E+05	2.290E+05	2.289E+05
IY= 11	2.294E+05	2.293E+05	2.292E+05	2.291E+05	2.289E+05
IY= 10	2.295E+05	2.294E+05	2.293E+05	2.291E+05	2.290E+05
IY= 9	2.296E+05	2.295E+05	2.294E+05	2.293E+05	2.292E+05
IY= 8	2.300E+05	2.299E+05	2.299E+05	2.298E+05	2.298E+05
IY= 7	2.325E+05	2.326E+05	2.326E+05	2.326E+05	2.326E+05
IY= 6	2.430E+05	2.430E+05	2.430E+05	2.430E+05	2.427E+05
IY= 5	2.459E+05	2.461E+05	2.462E+05	2.462E+05	2.458E+05
IY= 4	2.502E+05	2.506E+05	2.508E+05	2.509E+05	2.503E+05
IY= 3	2.579E+05	2.585E+05	2.588E+05	2.590E+05	2.581E+05
IY= 2	2.745E+05	2.752E+05	2.756E+05	2.759E+05	2.753E+05
IY= 1	3.576E+05	3.576E+05	3.576E+05	3.576E+05	3.576E+05
IZ=	26	27	28	29	30
FIELD VALUES OF ENUL					
IY= 20	7.516E-06	7.496E-06	7.490E-06	7.487E-06	7.487E-06
IY= 19	7.517E-06	7.500E-06	7.498E-06	7.498E-06	7.500E-06
IY= 18	7.516E-06	7.498E-06	7.496E-06	7.496E-06	7.498E-06
IY= 17	7.514E-06	7.496E-06	7.493E-06	7.493E-06	7.496E-06
IY= 16	7.512E-06	7.493E-06	7.490E-06	7.490E-06	7.493E-06
IY= 15	7.508E-06	7.489E-06	7.486E-06	7.486E-06	7.490E-06
IY= 14	7.505E-06	7.484E-06	7.481E-06	7.482E-06	7.486E-06
IY= 13	7.500E-06	7.479E-06	7.476E-06	7.478E-06	7.483E-06
IY= 12	7.496E-06	7.474E-06	7.470E-06	7.472E-06	7.478E-06
IY= 11	7.491E-06	7.468E-06	7.464E-06	7.466E-06	7.471E-06
IY= 10	7.487E-06	7.462E-06	7.458E-06	7.459E-06	7.461E-06
IY= 9	7.483E-06	7.458E-06	7.452E-06	7.450E-06	7.443E-06
IY= 8	7.480E-06	7.454E-06	7.447E-06	7.439E-06	7.416E-06
IY= 7	7.478E-06	7.452E-06	7.443E-06	7.429E-06	7.389E-06
IY= 6	7.478E-06	7.452E-06	7.443E-06	7.425E-06	7.388E-06
IY= 5	7.477E-06	7.451E-06	7.443E-06	7.424E-06	7.384E-06
IY= 4	7.477E-06	7.451E-06	7.443E-06	7.424E-06	7.385E-06
IY= 3	7.477E-06	7.453E-06	7.444E-06	7.427E-06	7.386E-06
IY= 2	7.480E-06	7.456E-06	7.447E-06	7.429E-06	7.383E-06
IY= 1	7.486E-06	7.466E-06	7.467E-06	7.467E-06	7.409E-06
IZ=	1	2	3	4	5
IY= 20	7.492E-06	7.503E-06	7.501E-06	7.500E-06	7.498E-06

IY= 19	7.506E-06	7.517E-06	7.516E-06	7.513E-06	7.510E-06
IY= 18	7.505E-06	7.517E-06	7.517E-06	7.514E-06	7.512E-06
IY= 17	7.505E-06	7.518E-06	7.522E-06	7.519E-06	7.515E-06
IY= 16	7.505E-06	7.522E-06	7.531E-06	7.528E-06	7.520E-06
IY= 15	7.504E-06	7.528E-06	7.543E-06	7.543E-06	7.525E-06
IY= 14	7.502E-06	7.531E-06	7.557E-06	7.559E-06	7.531E-06
IY= 13	7.499E-06	7.531E-06	7.569E-06	7.576E-06	7.536E-06
IY= 12	7.494E-06	7.529E-06	7.581E-06	7.592E-06	7.541E-06
IY= 11	7.489E-06	7.527E-06	7.593E-06	7.606E-06	7.545E-06
IY= 10	7.476E-06	7.522E-06	7.600E-06	7.615E-06	7.546E-06
IY= 9	7.448E-06	7.501E-06	7.587E-06	7.602E-06	7.535E-06
IY= 8	7.415E-06	7.453E-06	7.535E-06	7.562E-06	7.508E-06
IY= 7	7.407E-06	7.496E-06	7.541E-06	7.551E-06	7.609E-06
IY= 6	7.565E-06	7.567E-06	7.489E-06	7.544E-06	7.989E-06
IY= 5	7.566E-06	7.520E-06	7.463E-06	7.540E-06	8.011E-06
IY= 4	7.575E-06	7.430E-06	7.364E-06	7.463E-06	8.060E-06
IY= 3	7.591E-06	7.276E-06	7.172E-06	7.338E-06	8.169E-06
IY= 2	7.616E-06	7.132E-06	7.159E-06	7.316E-06	8.265E-06
IY= 1	7.678E-06	8.383E-05	8.440E-05	8.455E-05	8.455E-05
IZ=	6	7	8	9	10
IY= 20	7.509E-06	7.514E-06	7.518E-06	7.522E-06	7.526E-06
IY= 19	7.518E-06	7.521E-06	7.525E-06	7.528E-06	7.531E-06
IY= 18	7.519E-06	7.522E-06	7.525E-06	7.528E-06	7.531E-06
IY= 17	7.520E-06	7.523E-06	7.526E-06	7.529E-06	7.532E-06
IY= 16	7.523E-06	7.526E-06	7.529E-06	7.532E-06	7.534E-06
IY= 15	7.527E-06	7.530E-06	7.533E-06	7.535E-06	7.537E-06
IY= 14	7.533E-06	7.535E-06	7.537E-06	7.539E-06	7.541E-06
IY= 13	7.538E-06	7.540E-06	7.542E-06	7.544E-06	7.545E-06
IY= 12	7.543E-06	7.545E-06	7.547E-06	7.548E-06	7.549E-06
IY= 11	7.547E-06	7.549E-06	7.550E-06	7.550E-06	7.551E-06
IY= 10	7.547E-06	7.548E-06	7.549E-06	7.550E-06	7.550E-06
IY= 9	7.539E-06	7.541E-06	7.543E-06	7.546E-06	7.548E-06
IY= 8	7.524E-06	7.533E-06	7.541E-06	7.549E-06	7.558E-06
IY= 7	7.622E-06	7.634E-06	7.650E-06	7.669E-06	7.689E-06
IY= 6	8.058E-06	8.146E-06	8.223E-06	8.291E-06	8.350E-06
IY= 5	8.120E-06	8.236E-06	8.338E-06	8.424E-06	8.497E-06
IY= 4	8.211E-06	8.370E-06	8.512E-06	8.632E-06	8.731E-06
IY= 3	8.369E-06	8.610E-06	8.833E-06	9.026E-06	9.180E-06
IY= 2	8.816E-06	9.278E-06	9.687E-06	1.002E-05	1.027E-05
IY= 1	8.457E-05	8.459E-05	8.460E-05	8.460E-05	8.461E-05
IZ=	11	12	13	14	15
IY= 20	7.529E-06	7.533E-06	7.537E-06	7.540E-06	7.539E-06
IY= 19	7.534E-06	7.538E-06	7.543E-06	7.545E-06	7.545E-06
IY= 18	7.535E-06	7.538E-06	7.543E-06	7.545E-06	7.545E-06
IY= 17	7.535E-06	7.539E-06	7.543E-06	7.546E-06	7.546E-06
IY= 16	7.537E-06	7.540E-06	7.544E-06	7.547E-06	7.548E-06
IY= 15	7.540E-06	7.543E-06	7.546E-06	7.549E-06	7.551E-06
IY= 14	7.543E-06	7.546E-06	7.549E-06	7.553E-06	7.554E-06
IY= 13	7.547E-06	7.549E-06	7.552E-06	7.556E-06	7.557E-06
IY= 12	7.550E-06	7.552E-06	7.554E-06	7.558E-06	7.560E-06
IY= 11	7.552E-06	7.553E-06	7.555E-06	7.559E-06	7.561E-06
IY= 10	7.551E-06	7.552E-06	7.555E-06	7.559E-06	7.562E-06
IY= 9	7.551E-06	7.554E-06	7.558E-06	7.563E-06	7.566E-06
IY= 8	7.567E-06	7.576E-06	7.587E-06	7.591E-06	7.592E-06
IY= 7	7.711E-06	7.735E-06	7.768E-06	7.762E-06	7.761E-06
IY= 6	8.401E-06	8.451E-06	8.569E-06	8.450E-06	8.411E-06
IY= 5	8.559E-06	8.618E-06	8.748E-06	8.647E-06	8.602E-06
IY= 4	8.812E-06	8.885E-06	9.031E-06	8.924E-06	8.875E-06
IY= 3	9.299E-06	9.391E-06	9.526E-06	9.389E-06	9.335E-06
IY= 2	1.044E-05	1.054E-05	1.059E-05	1.042E-05	1.038E-05
IY= 1	8.461E-05	8.461E-05	8.461E-05	8.462E-05	8.461E-05
IZ=	16	17	18	19	20
IY= 20	7.539E-06	7.540E-06	7.541E-06	7.543E-06	7.544E-06
IY= 19	7.545E-06	7.546E-06	7.547E-06	7.549E-06	7.551E-06
IY= 18	7.546E-06	7.547E-06	7.548E-06	7.549E-06	7.551E-06
IY= 17	7.547E-06	7.548E-06	7.549E-06	7.550E-06	7.552E-06
IY= 16	7.549E-06	7.550E-06	7.551E-06	7.552E-06	7.553E-06
IY= 15	7.552E-06	7.553E-06	7.553E-06	7.555E-06	7.556E-06
IY= 14	7.555E-06	7.556E-06	7.557E-06	7.558E-06	7.558E-06
IY= 13	7.558E-06	7.559E-06	7.560E-06	7.561E-06	7.561E-06

IY= 12	7.561E-06	7.562E-06	7.563E-06	7.563E-06	7.564E-06
IY= 11	7.562E-06	7.563E-06	7.564E-06	7.565E-06	7.566E-06
IY= 10	7.563E-06	7.564E-06	7.566E-06	7.567E-06	7.568E-06
IY= 9	7.567E-06	7.569E-06	7.571E-06	7.573E-06	7.576E-06
IY= 8	7.594E-06	7.597E-06	7.600E-06	7.604E-06	7.611E-06
IY= 7	7.766E-06	7.772E-06	7.779E-06	7.786E-06	7.806E-06
IY= 6	8.405E-06	8.403E-06	8.397E-06	8.380E-06	8.447E-06
IY= 5	8.584E-06	8.574E-06	8.563E-06	8.542E-06	8.599E-06
IY= 4	8.848E-06	8.830E-06	8.812E-06	8.784E-06	8.844E-06
IY= 3	9.306E-06	9.287E-06	9.270E-06	9.241E-06	9.325E-06
IY= 2	1.037E-05	1.037E-05	1.038E-05	1.039E-05	1.051E-05
IY= 1	8.461E-05	8.461E-05	8.461E-05	8.461E-05	8.461E-05
IZ=	21	22	23	24	25
IY= 20	7.548E-06	7.550E-06	7.552E-06	7.555E-06	7.559E-06
IY= 19	7.554E-06	7.556E-06	7.558E-06	7.560E-06	7.561E-06
IY= 18	7.554E-06	7.556E-06	7.558E-06	7.560E-06	7.562E-06
IY= 17	7.554E-06	7.556E-06	7.558E-06	7.560E-06	7.562E-06
IY= 16	7.555E-06	7.557E-06	7.559E-06	7.562E-06	7.564E-06
IY= 15	7.557E-06	7.559E-06	7.561E-06	7.564E-06	7.566E-06
IY= 14	7.560E-06	7.562E-06	7.564E-06	7.566E-06	7.568E-06
IY= 13	7.563E-06	7.565E-06	7.567E-06	7.569E-06	7.571E-06
IY= 12	7.566E-06	7.568E-06	7.570E-06	7.572E-06	7.574E-06
IY= 11	7.568E-06	7.570E-06	7.572E-06	7.575E-06	7.577E-06
IY= 10	7.571E-06	7.574E-06	7.577E-06	7.579E-06	7.582E-06
IY= 9	7.580E-06	7.585E-06	7.589E-06	7.592E-06	7.596E-06
IY= 8	7.620E-06	7.627E-06	7.633E-06	7.639E-06	7.645E-06
IY= 7	7.817E-06	7.827E-06	7.836E-06	7.845E-06	7.854E-06
IY= 6	8.454E-06	8.456E-06	8.460E-06	8.464E-06	8.459E-06
IY= 5	8.612E-06	8.620E-06	8.629E-06	8.636E-06	8.627E-06
IY= 4	8.865E-06	8.883E-06	8.900E-06	8.915E-06	8.895E-06
IY= 3	9.365E-06	9.402E-06	9.434E-06	9.460E-06	9.420E-06
IY= 2	1.058E-05	1.064E-05	1.068E-05	1.072E-05	1.070E-05
IY= 1	8.462E-05	8.462E-05	8.462E-05	8.462E-05	8.462E-05
IZ=	26	27	28	29	30

FIELD VALUES OF RHO1

IY= 20	1.850E+00	1.856E+00	1.857E+00	1.857E+00	1.856E+00
IY= 19	1.850E+00	1.855E+00	1.855E+00	1.855E+00	1.853E+00
IY= 18	1.850E+00	1.855E+00	1.856E+00	1.855E+00	1.854E+00
IY= 17	1.851E+00	1.856E+00	1.857E+00	1.856E+00	1.854E+00
IY= 16	1.851E+00	1.857E+00	1.858E+00	1.857E+00	1.855E+00
IY= 15	1.852E+00	1.858E+00	1.859E+00	1.858E+00	1.856E+00
IY= 14	1.853E+00	1.859E+00	1.860E+00	1.860E+00	1.857E+00
IY= 13	1.854E+00	1.861E+00	1.862E+00	1.861E+00	1.859E+00
IY= 12	1.856E+00	1.862E+00	1.864E+00	1.863E+00	1.861E+00
IY= 11	1.857E+00	1.864E+00	1.866E+00	1.865E+00	1.863E+00
IY= 10	1.858E+00	1.866E+00	1.868E+00	1.868E+00	1.867E+00
IY= 9	1.859E+00	1.867E+00	1.870E+00	1.872E+00	1.874E+00
IY= 8	1.860E+00	1.868E+00	1.872E+00	1.875E+00	1.883E+00
IY= 7	1.861E+00	1.869E+00	1.873E+00	1.878E+00	1.893E+00
IY= 6	1.861E+00	1.869E+00	1.873E+00	1.880E+00	1.895E+00
IY= 5	1.861E+00	1.869E+00	1.873E+00	1.880E+00	1.896E+00
IY= 4	1.861E+00	1.869E+00	1.873E+00	1.880E+00	1.896E+00
IY= 3	1.861E+00	1.869E+00	1.873E+00	1.879E+00	1.896E+00
IY= 2	1.861E+00	1.868E+00	1.872E+00	1.879E+00	1.897E+00
IY= 1	1.859E+00	1.866E+00	1.867E+00	1.869E+00	1.891E+00
IZ=	1	2	3	4	5
IY= 20	1.854E+00	1.850E+00	1.850E+00	1.850E+00	1.851E+00
IY= 19	1.850E+00	1.847E+00	1.847E+00	1.848E+00	1.848E+00
IY= 18	1.851E+00	1.847E+00	1.847E+00	1.848E+00	1.848E+00
IY= 17	1.851E+00	1.847E+00	1.847E+00	1.848E+00	1.847E+00
IY= 16	1.852E+00	1.847E+00	1.846E+00	1.847E+00	1.846E+00
IY= 15	1.852E+00	1.846E+00	1.845E+00	1.845E+00	1.846E+00
IY= 14	1.854E+00	1.846E+00	1.844E+00	1.843E+00	1.845E+00
IY= 13	1.855E+00	1.847E+00	1.842E+00	1.841E+00	1.844E+00
IY= 12	1.856E+00	1.847E+00	1.841E+00	1.838E+00	1.843E+00
IY= 11	1.856E+00	1.848E+00	1.840E+00	1.837E+00	1.842E+00
IY= 10	1.862E+00	1.849E+00	1.839E+00	1.836E+00	1.841E+00
IY= 9	1.871E+00	1.852E+00	1.841E+00	1.839E+00	1.842E+00
IY= 8	1.885E+00	1.860E+00	1.849E+00	1.843E+00	1.842E+00
IY= 7	1.899E+00	1.856E+00	1.851E+00	1.846E+00	1.819E+00

IY= 6	1.888E+00	1.899E+00	1.911E+00	1.871E+00	1.754E+00
IY= 5	1.889E+00	1.920E+00	1.926E+00	1.876E+00	1.750E+00
IY= 4	1.889E+00	1.952E+00	1.956E+00	1.896E+00	1.741E+00
IY= 3	1.887E+00	2.002E+00	2.011E+00	1.919E+00	1.723E+00
IY= 2	1.884E+00	2.076E+00	2.043E+00	1.965E+00	1.706E+00
IY= 1	1.878E+00	2.282E-01	2.267E-01	2.263E-01	2.263E-01
IZ=	6	7	8	9	10
IY= 20	1.847E+00	1.844E+00	1.841E+00	1.839E+00	1.836E+00
IY= 19	1.845E+00	1.842E+00	1.840E+00	1.837E+00	1.835E+00
IY= 18	1.845E+00	1.842E+00	1.840E+00	1.837E+00	1.835E+00
IY= 17	1.844E+00	1.842E+00	1.839E+00	1.837E+00	1.835E+00
IY= 16	1.844E+00	1.841E+00	1.839E+00	1.837E+00	1.835E+00
IY= 15	1.843E+00	1.841E+00	1.839E+00	1.836E+00	1.834E+00
IY= 14	1.842E+00	1.840E+00	1.838E+00	1.836E+00	1.834E+00
IY= 13	1.842E+00	1.839E+00	1.837E+00	1.835E+00	1.833E+00
IY= 12	1.840E+00	1.838E+00	1.836E+00	1.834E+00	1.833E+00
IY= 11	1.839E+00	1.837E+00	1.835E+00	1.834E+00	1.833E+00
IY= 10	1.838E+00	1.836E+00	1.835E+00	1.834E+00	1.833E+00
IY= 9	1.838E+00	1.837E+00	1.836E+00	1.835E+00	1.834E+00
IY= 8	1.838E+00	1.837E+00	1.836E+00	1.835E+00	1.833E+00
IY= 7	1.821E+00	1.822E+00	1.821E+00	1.819E+00	1.816E+00
IY= 6	1.760E+00	1.752E+00	1.743E+00	1.734E+00	1.726E+00
IY= 5	1.752E+00	1.741E+00	1.728E+00	1.716E+00	1.705E+00
IY= 4	1.740E+00	1.723E+00	1.705E+00	1.689E+00	1.674E+00
IY= 3	1.719E+00	1.693E+00	1.666E+00	1.641E+00	1.621E+00
IY= 2	1.664E+00	1.616E+00	1.573E+00	1.539E+00	1.515E+00
IY= 1	2.262E-01	2.262E-01	2.262E-01	2.262E-01	2.261E-01
IZ=	11	12	13	14	15
IY= 20	1.834E+00	1.831E+00	1.828E+00	1.825E+00	1.824E+00
IY= 19	1.832E+00	1.830E+00	1.826E+00	1.823E+00	1.823E+00
IY= 18	1.832E+00	1.830E+00	1.827E+00	1.824E+00	1.823E+00
IY= 17	1.832E+00	1.830E+00	1.827E+00	1.824E+00	1.823E+00
IY= 16	1.832E+00	1.830E+00	1.827E+00	1.824E+00	1.823E+00
IY= 15	1.832E+00	1.830E+00	1.827E+00	1.824E+00	1.823E+00
IY= 14	1.832E+00	1.830E+00	1.827E+00	1.824E+00	1.823E+00
IY= 13	1.832E+00	1.830E+00	1.827E+00	1.824E+00	1.823E+00
IY= 12	1.832E+00	1.830E+00	1.828E+00	1.824E+00	1.823E+00
IY= 11	1.832E+00	1.830E+00	1.829E+00	1.825E+00	1.824E+00
IY= 10	1.832E+00	1.831E+00	1.830E+00	1.826E+00	1.825E+00
IY= 9	1.833E+00	1.832E+00	1.831E+00	1.828E+00	1.827E+00
IY= 8	1.831E+00	1.830E+00	1.829E+00	1.828E+00	1.827E+00
IY= 7	1.813E+00	1.810E+00	1.808E+00	1.813E+00	1.812E+00
IY= 6	1.718E+00	1.711E+00	1.695E+00	1.726E+00	1.725E+00
IY= 5	1.695E+00	1.687E+00	1.670E+00	1.699E+00	1.698E+00
IY= 4	1.662E+00	1.652E+00	1.636E+00	1.664E+00	1.663E+00
IY= 3	1.606E+00	1.595E+00	1.583E+00	1.614E+00	1.612E+00
IY= 2	1.499E+00	1.490E+00	1.488E+00	1.519E+00	1.514E+00
IY= 1	2.261E-01	2.261E-01	2.261E-01	2.261E-01	2.261E-01
IZ=	16	17	18	19	20
IY= 20	1.824E+00	1.823E+00	1.822E+00	1.821E+00	1.820E+00
IY= 19	1.822E+00	1.822E+00	1.821E+00	1.820E+00	1.819E+00
IY= 18	1.822E+00	1.822E+00	1.821E+00	1.820E+00	1.819E+00
IY= 17	1.822E+00	1.822E+00	1.821E+00	1.820E+00	1.819E+00
IY= 16	1.822E+00	1.822E+00	1.821E+00	1.820E+00	1.819E+00
IY= 15	1.822E+00	1.821E+00	1.821E+00	1.820E+00	1.819E+00
IY= 14	1.822E+00	1.821E+00	1.820E+00	1.820E+00	1.819E+00
IY= 13	1.822E+00	1.821E+00	1.820E+00	1.819E+00	1.819E+00
IY= 12	1.822E+00	1.821E+00	1.820E+00	1.819E+00	1.819E+00
IY= 11	1.823E+00	1.822E+00	1.821E+00	1.820E+00	1.819E+00
IY= 10	1.824E+00	1.823E+00	1.821E+00	1.820E+00	1.819E+00
IY= 9	1.825E+00	1.824E+00	1.822E+00	1.820E+00	1.818E+00
IY= 8	1.825E+00	1.822E+00	1.819E+00	1.817E+00	1.813E+00
IY= 7	1.808E+00	1.803E+00	1.797E+00	1.792E+00	1.786E+00
IY= 6	1.720E+00	1.715E+00	1.711E+00	1.708E+00	1.690E+00
IY= 5	1.694E+00	1.690E+00	1.687E+00	1.684E+00	1.668E+00
IY= 4	1.659E+00	1.656E+00	1.653E+00	1.651E+00	1.635E+00
IY= 3	1.608E+00	1.604E+00	1.601E+00	1.598E+00	1.580E+00
IY= 2	1.509E+00	1.503E+00	1.497E+00	1.491E+00	1.471E+00
IY= 1	2.261E-01	2.261E-01	2.261E-01	2.261E-01	2.261E-01
IZ=	21	22	23	24	25

IY= 20	1.819E+00	1.817E+00	1.815E+00	1.814E+00	1.811E+00
IY= 19	1.817E+00	1.816E+00	1.814E+00	1.812E+00	1.811E+00
IY= 18	1.817E+00	1.816E+00	1.814E+00	1.813E+00	1.811E+00
IY= 17	1.817E+00	1.816E+00	1.814E+00	1.813E+00	1.811E+00
IY= 16	1.817E+00	1.816E+00	1.814E+00	1.812E+00	1.811E+00
IY= 15	1.817E+00	1.816E+00	1.814E+00	1.812E+00	1.810E+00
IY= 14	1.817E+00	1.815E+00	1.814E+00	1.812E+00	1.810E+00
IY= 13	1.817E+00	1.815E+00	1.813E+00	1.812E+00	1.810E+00
IY= 12	1.817E+00	1.815E+00	1.813E+00	1.811E+00	1.809E+00
IY= 11	1.817E+00	1.815E+00	1.813E+00	1.811E+00	1.809E+00
IY= 10	1.817E+00	1.814E+00	1.812E+00	1.810E+00	1.808E+00
IY= 9	1.815E+00	1.813E+00	1.811E+00	1.809E+00	1.807E+00
IY= 8	1.810E+00	1.807E+00	1.805E+00	1.803E+00	1.801E+00
IY= 7	1.783E+00	1.781E+00	1.778E+00	1.776E+00	1.774E+00
IY= 6	1.692E+00	1.692E+00	1.690E+00	1.688E+00	1.687E+00
IY= 5	1.669E+00	1.668E+00	1.666E+00	1.663E+00	1.663E+00
IY= 4	1.635E+00	1.633E+00	1.630E+00	1.627E+00	1.627E+00
IY= 3	1.579E+00	1.575E+00	1.571E+00	1.567E+00	1.569E+00
IY= 2	1.469E+00	1.465E+00	1.460E+00	1.456E+00	1.456E+00
IY= 1	2.261E-01	2.261E-01	2.261E-01	2.261E-01	2.261E-01
IZ=	26	27	28	29	30

FIELD VALUES OF TMP1

IY= 20	2.000E+02	2.001E+02	2.001E+02	2.000E+02	1.999E+02
IY= 19	2.000E+02	2.001E+02	2.001E+02	2.000E+02	1.999E+02
IY= 18	2.000E+02	2.001E+02	2.001E+02	2.001E+02	1.999E+02
IY= 17	2.000E+02	2.001E+02	2.002E+02	2.001E+02	1.999E+02
IY= 16	2.000E+02	2.002E+02	2.002E+02	2.001E+02	2.000E+02
IY= 15	2.001E+02	2.002E+02	2.002E+02	2.001E+02	2.000E+02
IY= 14	2.001E+02	2.002E+02	2.003E+02	2.002E+02	2.001E+02
IY= 13	2.001E+02	2.002E+02	2.003E+02	2.003E+02	2.002E+02
IY= 12	2.001E+02	2.003E+02	2.004E+02	2.004E+02	2.003E+02
IY= 11	2.002E+02	2.003E+02	2.005E+02	2.005E+02	2.005E+02
IY= 10	2.002E+02	2.004E+02	2.006E+02	2.006E+02	2.007E+02
IY= 9	2.002E+02	2.004E+02	2.006E+02	2.008E+02	2.010E+02
IY= 8	2.003E+02	2.005E+02	2.007E+02	2.010E+02	2.013E+02
IY= 7	2.003E+02	2.005E+02	2.008E+02	2.011E+02	2.017E+02
IY= 6	2.003E+02	2.005E+02	2.008E+02	2.011E+02	2.018E+02
IY= 5	2.003E+02	2.005E+02	2.008E+02	2.011E+02	2.018E+02
IY= 4	2.003E+02	2.005E+02	2.008E+02	2.011E+02	2.018E+02
IY= 3	2.003E+02	2.005E+02	2.008E+02	2.011E+02	2.018E+02
IY= 2	2.003E+02	2.005E+02	2.008E+02	2.011E+02	2.018E+02
IY= 1	2.003E+02	2.005E+02	2.008E+02	2.011E+02	2.019E+02
IZ=	1	2	3	4	5
IY= 20	1.997E+02	1.995E+02	1.994E+02	1.994E+02	1.994E+02
IY= 19	1.997E+02	1.995E+02	1.995E+02	1.995E+02	1.995E+02
IY= 18	1.997E+02	1.995E+02	1.996E+02	1.996E+02	1.995E+02
IY= 17	1.997E+02	1.996E+02	1.998E+02	1.998E+02	1.995E+02
IY= 16	1.998E+02	1.997E+02	2.000E+02	2.000E+02	1.996E+02
IY= 15	1.998E+02	1.998E+02	2.003E+02	2.003E+02	1.996E+02
IY= 14	1.999E+02	1.999E+02	2.006E+02	2.006E+02	1.997E+02
IY= 13	1.999E+02	2.000E+02	2.008E+02	2.009E+02	1.998E+02
IY= 12	2.000E+02	2.000E+02	2.011E+02	2.011E+02	1.998E+02
IY= 11	2.002E+02	2.001E+02	2.014E+02	2.014E+02	1.999E+02
IY= 10	2.004E+02	2.001E+02	2.016E+02	2.017E+02	1.998E+02
IY= 9	2.008E+02	1.998E+02	2.014E+02	2.016E+02	1.994E+02
IY= 8	2.015E+02	1.990E+02	2.006E+02	2.006E+02	1.983E+02
IY= 7	2.035E+02	2.000E+02	2.010E+02	2.006E+02	1.983E+02
IY= 6	2.082E+02	2.097E+02	2.082E+02	2.039E+02	2.019E+02
IY= 5	2.084E+02	2.112E+02	2.096E+02	2.047E+02	2.019E+02
IY= 4	2.087E+02	2.126E+02	2.103E+02	2.047E+02	2.022E+02
IY= 3	2.091E+02	2.139E+02	2.106E+02	2.032E+02	2.033E+02
IY= 2	2.097E+02	2.194E+02	2.151E+02	2.097E+02	2.040E+02
IY= 1	2.113E+02	3.230E+02	3.230E+02	3.230E+02	3.230E+02
IZ=	6	7	8	9	10
IY= 20	1.992E+02	1.989E+02	1.987E+02	1.984E+02	1.981E+02
IY= 19	1.992E+02	1.989E+02	1.987E+02	1.984E+02	1.982E+02
IY= 18	1.992E+02	1.989E+02	1.987E+02	1.984E+02	1.982E+02
IY= 17	1.993E+02	1.990E+02	1.987E+02	1.985E+02	1.982E+02
IY= 16	1.993E+02	1.990E+02	1.988E+02	1.985E+02	1.983E+02
IY= 15	1.994E+02	1.991E+02	1.988E+02	1.986E+02	1.983E+02

IY= 14	1.994E+02	1.991E+02	1.989E+02	1.986E+02	1.984E+02
IY= 13	1.995E+02	1.992E+02	1.989E+02	1.987E+02	1.985E+02
IY= 12	1.995E+02	1.992E+02	1.990E+02	1.988E+02	1.986E+02
IY= 11	1.995E+02	1.992E+02	1.990E+02	1.988E+02	1.986E+02
IY= 10	1.993E+02	1.990E+02	1.989E+02	1.987E+02	1.986E+02
IY= 9	1.989E+02	1.988E+02	1.987E+02	1.986E+02	1.986E+02
IY= 8	1.982E+02	1.984E+02	1.986E+02	1.986E+02	1.987E+02
IY= 7	1.991E+02	1.998E+02	2.002E+02	2.004E+02	2.006E+02
IY= 6	2.056E+02	2.078E+02	2.091E+02	2.101E+02	2.110E+02
IY= 5	2.066E+02	2.092E+02	2.110E+02	2.124E+02	2.136E+02
IY= 4	2.080E+02	2.113E+02	2.137E+02	2.158E+02	2.175E+02
IY= 3	2.105E+02	2.151E+02	2.188E+02	2.220E+02	2.246E+02
IY= 2	2.174E+02	2.253E+02	2.317E+02	2.367E+02	2.404E+02
IY= 1	3.230E+02	3.230E+02	3.230E+02	3.230E+02	3.230E+02
IZ=	11	12	13	14	15
IY= 20	1.979E+02	1.976E+02	1.973E+02	1.968E+02	1.967E+02
IY= 19	1.979E+02	1.976E+02	1.973E+02	1.969E+02	1.967E+02
IY= 18	1.979E+02	1.976E+02	1.973E+02	1.969E+02	1.968E+02
IY= 17	1.979E+02	1.977E+02	1.973E+02	1.969E+02	1.968E+02
IY= 16	1.980E+02	1.977E+02	1.974E+02	1.970E+02	1.969E+02
IY= 15	1.981E+02	1.978E+02	1.975E+02	1.971E+02	1.970E+02
IY= 14	1.982E+02	1.979E+02	1.976E+02	1.972E+02	1.971E+02
IY= 13	1.983E+02	1.980E+02	1.977E+02	1.973E+02	1.972E+02
IY= 12	1.984E+02	1.982E+02	1.979E+02	1.975E+02	1.974E+02
IY= 11	1.984E+02	1.983E+02	1.980E+02	1.976E+02	1.975E+02
IY= 10	1.985E+02	1.984E+02	1.982E+02	1.978E+02	1.977E+02
IY= 9	1.985E+02	1.985E+02	1.985E+02	1.982E+02	1.980E+02
IY= 8	1.988E+02	1.989E+02	1.992E+02	1.991E+02	1.989E+02
IY= 7	2.009E+02	2.013E+02	2.021E+02	2.027E+02	2.025E+02
IY= 6	2.119E+02	2.129E+02	2.158E+02	2.166E+02	2.147E+02
IY= 5	2.147E+02	2.160E+02	2.189E+02	2.204E+02	2.183E+02
IY= 4	2.191E+02	2.206E+02	2.236E+02	2.253E+02	2.230E+02
IY= 3	2.267E+02	2.284E+02	2.310E+02	2.327E+02	2.302E+02
IY= 2	2.429E+02	2.445E+02	2.458E+02	2.476E+02	2.451E+02
IY= 1	3.230E+02	3.230E+02	3.230E+02	3.230E+02	3.230E+02
IZ=	16	17	18	19	20
IY= 20	1.967E+02	1.966E+02	1.965E+02	1.964E+02	1.964E+02
IY= 19	1.967E+02	1.966E+02	1.965E+02	1.964E+02	1.964E+02
IY= 18	1.967E+02	1.966E+02	1.965E+02	1.965E+02	1.964E+02
IY= 17	1.967E+02	1.967E+02	1.966E+02	1.965E+02	1.964E+02
IY= 16	1.968E+02	1.967E+02	1.966E+02	1.966E+02	1.965E+02
IY= 15	1.969E+02	1.968E+02	1.967E+02	1.966E+02	1.965E+02
IY= 14	1.970E+02	1.969E+02	1.968E+02	1.967E+02	1.966E+02
IY= 13	1.971E+02	1.970E+02	1.969E+02	1.968E+02	1.967E+02
IY= 12	1.972E+02	1.971E+02	1.970E+02	1.969E+02	1.968E+02
IY= 11	1.974E+02	1.973E+02	1.971E+02	1.970E+02	1.969E+02
IY= 10	1.976E+02	1.974E+02	1.973E+02	1.971E+02	1.969E+02
IY= 9	1.979E+02	1.977E+02	1.975E+02	1.973E+02	1.971E+02
IY= 8	1.987E+02	1.984E+02	1.980E+02	1.977E+02	1.975E+02
IY= 7	2.020E+02	2.014E+02	2.008E+02	2.002E+02	1.998E+02
IY= 6	2.133E+02	2.123E+02	2.112E+02	2.098E+02	2.094E+02
IY= 5	2.167E+02	2.154E+02	2.142E+02	2.127E+02	2.121E+02
IY= 4	2.212E+02	2.199E+02	2.186E+02	2.170E+02	2.162E+02
IY= 3	2.284E+02	2.270E+02	2.258E+02	2.242E+02	2.236E+02
IY= 2	2.435E+02	2.424E+02	2.415E+02	2.404E+02	2.399E+02
IY= 1	3.230E+02	3.230E+02	3.230E+02	3.230E+02	3.230E+02
IZ=	21	22	23	24	25
IY= 20	1.962E+02	1.960E+02	1.958E+02	1.956E+02	1.954E+02
IY= 19	1.962E+02	1.960E+02	1.958E+02	1.957E+02	1.955E+02
IY= 18	1.962E+02	1.960E+02	1.959E+02	1.957E+02	1.955E+02
IY= 17	1.962E+02	1.961E+02	1.959E+02	1.957E+02	1.955E+02
IY= 16	1.963E+02	1.961E+02	1.959E+02	1.957E+02	1.955E+02
IY= 15	1.964E+02	1.962E+02	1.960E+02	1.958E+02	1.956E+02
IY= 14	1.964E+02	1.962E+02	1.960E+02	1.958E+02	1.956E+02
IY= 13	1.965E+02	1.963E+02	1.961E+02	1.959E+02	1.956E+02
IY= 12	1.966E+02	1.963E+02	1.961E+02	1.959E+02	1.957E+02
IY= 11	1.966E+02	1.964E+02	1.962E+02	1.959E+02	1.957E+02
IY= 10	1.967E+02	1.964E+02	1.962E+02	1.960E+02	1.958E+02
IY= 9	1.968E+02	1.965E+02	1.963E+02	1.961E+02	1.960E+02
IY= 8	1.972E+02	1.970E+02	1.969E+02	1.967E+02	1.966E+02

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IY=  7  1.997E+02  1.997E+02  1.997E+02  1.997E+02  1.996E+02
IY=  6  2.100E+02  2.102E+02  2.101E+02  2.100E+02  2.097E+02
IY=  5  2.129E+02  2.132E+02  2.132E+02  2.132E+02  2.128E+02
IY=  4  2.172E+02  2.177E+02  2.179E+02  2.180E+02  2.174E+02
IY=  3  2.250E+02  2.257E+02  2.261E+02  2.263E+02  2.254E+02
IY=  2  2.418E+02  2.427E+02  2.432E+02  2.435E+02  2.429E+02
IY=  1  3.230E+02  3.230E+02  3.230E+02  3.230E+02  3.230E+02
IZ=     26         27         28         29         30
WHOLE-FIELD RESIDUALS BEFORE SOLUTIONS
WHOLE-FIELD SUM OF ABS(VOL.FLOW RESIDUALS)=  8.432E+04
WHOLE-FIELD SUM OF ABS(RESIDUALS) OF V1   =  4.538E+07
WHOLE-FIELD SUM OF ABS(RESIDUALS) OF W1   =  6.871E+07
WHOLE-FIELD SUM OF ABS(RESIDUALS) OF KE   =  5.855E+09
WHOLE-FIELD SUM OF ABS(RESIDUALS) OF EP   =  8.048E+12
WHOLE-FIELD SUM OF ABS(RESIDUALS) OF H1   =  2.566E+10
* SUMS HAVE BEEN DIVIDED BY RESREF(NAME)

NET SOURCE OF V1   AT PATCH NAMED: INLET     =-1.311E-06
NET SOURCE OF V1   AT PATCH NAMED: TVANE     =-5.261E-01
NET SOURCE OF V1   AT PATCH NAMED: YVANE     =-2.696E-12
NET SOURCE OF W1   AT PATCH NAMED: INLET     = 2.299E+03
NET SOURCE OF W1   AT PATCH NAMED: TVANE     =-9.689E+00
NET SOURCE OF W1   AT PATCH NAMED: YVANE     = 0.000E+00
NET SOURCE OF R1   AT PATCH NAMED: INLET     = 1.653E+01
NET SOURCE OF R1   AT PATCH NAMED: OUTLET    =-1.652E+01
NET SOURCE OF KE   AT PATCH NAMED: KESOURCE  = 4.267E+03
NET SOURCE OF KE   AT PATCH NAMED: INLET     = 3.198E+03
NET SOURCE OF KE   AT PATCH NAMED: TVANE     =-3.726E+12
NET SOURCE OF KE   AT PATCH NAMED: YVANE     = 2.957E+00
NET SOURCE OF EP   AT PATCH NAMED: KESOURCE  =-2.190E+07
NET SOURCE OF EP   AT PATCH NAMED: INLET     = 5.475E+04
NET SOURCE OF EP   AT PATCH NAMED: TVANE     =-2.817E+17
NET SOURCE OF EP   AT PATCH NAMED: YVANE     = 2.395E+00
NET SOURCE OF H1   AT PATCH NAMED: INLET     = 3.815E+06
NET SOURCE OF H1   AT PATCH NAMED: OUTLET    =-3.790E+06
NET SOURCE OF H1   AT PATCH NAMED: TVANE     = 1.025E+04
NET SOURCE OF H1   AT PATCH NAMED: YVANE     = 0.000E+00
NET SOURCE OF H1   AT PATCH NAMED: VANE      = 0.000E+00
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APPENDIX J
SUPERSONIC LAMINAR WEDGE VANE OUTPUT

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--- INTEGRATION OF EQUATIONS BEGINS ---
TIME STEP =   1     SWEEP = 400
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS  3.396E+03
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS  2.518E+05
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS  1.162E+06
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS  4.785E+08
TIME STEP =   1     SWEEP = 400
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS  3.396E+03
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS  2.518E+05
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS  1.162E+06
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS  4.840E+08
TIME STEP =   1     SWEEP = 420
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS  3.421E+03
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS  2.680E+05
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS  1.128E+06
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS  4.877E+08
TIME STEP =   1     SWEEP = 420
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS  3.421E+03
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS  2.680E+05
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS  1.128E+06
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS  4.844E+08
TIME STEP =   1     SWEEP = 440
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS  3.484E+03
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS  2.637E+05
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS  1.141E+06
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS  4.779E+08
TIME STEP =   1     SWEEP = 440
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS  3.484E+03
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS  2.637E+05
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS  1.141E+06
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS  4.898E+08
TIME STEP =   1     SWEEP = 460
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS  3.840E+03
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS  2.758E+05
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS  1.177E+06
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS  4.658E+08
TIME STEP =   1     SWEEP = 460
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS  3.840E+03
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS  2.758E+05
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS  1.177E+06
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS  4.889E+08
TIME STEP =   1     SWEEP = 480
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS  4.046E+03
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS  2.661E+05
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS  1.125E+06
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS  4.635E+08
TIME STEP =   1     SWEEP = 480
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS  4.046E+03
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS  2.661E+05
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS  1.125E+06
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS  4.841E+08
************************************************************
TIME STP=     1 SWEEP NO=   500 ZSLAB NO=    15 ITERN NO=     1
TIME STEP =   1     SWEEP = 500
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS  3.552E+03
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS  2.755E+05
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS  1.153E+06
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS  4.880E+08
TIME STEP =   1     SWEEP = 500
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS  3.552E+03
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TOTAL RESIDUAL/( 1.000E-06) FOR V1   IS  2.755E+05
TOTAL RESIDUAL/( 1.000E-06) FOR W1   IS  1.153E+06
TOTAL RESIDUAL/( 1.000E-06) FOR H1   IS  4.880E+08
************************************************************
TIME STP=     1 SWEEP NO=   500 ZSLAB NO=    29 ITERN NO=     1

FLOW FIELD AT ITHYD=   1, ISWEEP= 500, ISTEP=   1
YZPR  IX=     1
FIELD VALUES OF P1
IY= 20  1.048E+05  1.048E+05  1.048E+05  1.048E+05  1.048E+05
IY= 19  1.048E+05  1.048E+05  1.048E+05  1.048E+05  1.048E+05
IY= 18  1.048E+05  1.048E+05  1.048E+05  1.048E+05  1.048E+05
IY= 17  1.048E+05  1.048E+05  1.048E+05  1.048E+05  1.049E+05
IY= 16  1.048E+05  1.048E+05  1.048E+05  1.048E+05  1.049E+05
IY= 15  1.048E+05  1.048E+05  1.048E+05  1.048E+05  1.049E+05
IY= 14  1.048E+05  1.048E+05  1.048E+05  1.048E+05  1.050E+05
IY= 13  1.048E+05  1.048E+05  1.048E+05  1.049E+05  1.051E+05
IY= 12  1.048E+05  1.048E+05  1.048E+05  1.049E+05  1.052E+05
IY= 11  1.048E+05  1.048E+05  1.048E+05  1.049E+05  1.055E+05
IY= 10  1.048E+05  1.048E+05  1.049E+05  1.050E+05  1.060E+05
IY=  9  1.048E+05  1.048E+05  1.049E+05  1.052E+05  1.069E+05
IY=  8  1.048E+05  1.048E+05  1.050E+05  1.056E+05  1.090E+05
IY=  7  1.048E+05  1.048E+05  1.051E+05  1.064E+05  1.138E+05
IY=  6  1.048E+05  1.048E+05  1.052E+05  1.078E+05  1.262E+05
IY=  5  1.048E+05  1.048E+05  1.052E+05  1.084E+05  1.446E+05
IY=  4  1.048E+05  1.048E+05  1.052E+05  1.084E+05  1.464E+05
IY=  3  1.048E+05  1.048E+05  1.052E+05  1.085E+05  1.484E+05
IY=  2  1.048E+05  1.048E+05  1.052E+05  1.085E+05  1.504E+05
IY=  1  1.048E+05  1.048E+05  1.052E+05  1.085E+05  1.523E+05
IZ=       1           2           3           4           5
IY= 20  1.048E+05  1.049E+05  1.050E+05  1.051E+05  1.054E+05
IY= 19  1.049E+05  1.049E+05  1.050E+05  1.052E+05  1.055E+05
IY= 18  1.049E+05  1.049E+05  1.051E+05  1.053E+05  1.057E+05
IY= 17  1.049E+05  1.050E+05  1.052E+05  1.055E+05  1.062E+05
IY= 16  1.050E+05  1.051E+05  1.054E+05  1.060E+05  1.071E+05
IY= 15  1.051E+05  1.053E+05  1.058E+05  1.067E+05  1.085E+05
IY= 14  1.053E+05  1.056E+05  1.064E+05  1.080E+05  1.108E+05
IY= 13  1.055E+05  1.061E+05  1.075E+05  1.101E+05  1.145E+05
IY= 12  1.059E+05  1.071E+05  1.094E+05  1.136E+05  1.201E+05
IY= 11  1.067E+05  1.088E+05  1.127E+05  1.192E+05  1.280E+05
IY= 10  1.081E+05  1.118E+05  1.183E+05  1.274E+05  1.376E+05
IY=  9  1.108E+05  1.173E+05  1.269E+05  1.378E+05  1.474E+05
IY=  8  1.162E+05  1.265E+05  1.384E+05  1.485E+05  1.551E+05
IY=  7  1.264E+05  1.398E+05  1.501E+05  1.564E+05  1.596E+05
IY=  6  1.432E+05  1.527E+05  1.575E+05  1.605E+05  1.618E+05
IY=  5  1.499E+05  1.539E+05  1.578E+05  1.594E+05  1.589E+05
IY=  4  1.504E+05  1.541E+05  1.579E+05  1.594E+05  1.589E+05
IY=  3  1.508E+05  1.542E+05  1.580E+05  1.595E+05  1.588E+05
IY=  2  1.511E+05  1.543E+05  1.581E+05  1.595E+05  1.588E+05
IY=  1  1.511E+05  1.540E+05  1.579E+05  1.593E+05  1.587E+05
IZ=       6           7           8           9          10
IY= 20  1.059E+05  1.068E+05  1.085E+05  1.109E+05  1.112E+05
IY= 19  1.061E+05  1.073E+05  1.093E+05  1.120E+05  1.124E+05
IY= 18  1.066E+05  1.082E+05  1.109E+05  1.145E+05  1.150E+05
IY= 17  1.076E+05  1.099E+05  1.136E+05  1.183E+05  1.190E+05
IY= 16  1.091E+05  1.126E+05  1.177E+05  1.237E+05  1.247E+05
IY= 15  1.116E+05  1.166E+05  1.233E+05  1.305E+05  1.316E+05
IY= 14  1.155E+05  1.223E+05  1.304E+05  1.379E+05  1.392E+05
IY= 13  1.211E+05  1.296E+05  1.383E+05  1.452E+05  1.463E+05
IY= 12  1.287E+05  1.380E+05  1.459E+05  1.512E+05  1.521E+05
IY= 11  1.377E+05  1.462E+05  1.522E+05  1.555E+05  1.560E+05
IY= 10  1.467E+05  1.530E+05  1.565E+05  1.578E+05  1.579E+05
IY=  9  1.539E+05  1.575E+05  1.586E+05  1.582E+05  1.582E+05
IY=  8  1.585E+05  1.595E+05  1.588E+05  1.573E+05  1.573E+05
IY=  7  1.606E+05  1.597E+05  1.576E+05  1.556E+05  1.561E+05
IY=  6  1.611E+05  1.588E+05  1.559E+05  1.540E+05  1.537E+05
IY=  5  1.573E+05  1.551E+05  1.526E+05  1.478E+05  1.588E+05
IY=  4  1.573E+05  1.551E+05  1.526E+05  1.478E+05  1.578E+05
IY=  3  1.573E+05  1.551E+05  1.526E+05  1.477E+05  1.580E+05
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IY=  2  1.573E+05  1.551E+05  1.526E+05  1.477E+05  1.580E+05
IY=  1  1.572E+05  1.551E+05  1.526E+05  1.477E+05  1.581E+05
IZ=        11         12         13         14         15
IY= 20  1.116E+05  1.119E+05  1.123E+05  1.127E+05  1.131E+05
IY= 19  1.128E+05  1.133E+05  1.137E+05  1.142E+05  1.147E+05
IY= 18  1.155E+05  1.160E+05  1.166E+05  1.172E+05  1.178E+05
IY= 17  1.197E+05  1.204E+05  1.212E+05  1.219E+05  1.228E+05
IY= 16  1.255E+05  1.264E+05  1.273E+05  1.283E+05  1.293E+05
IY= 15  1.326E+05  1.337E+05  1.347E+05  1.357E+05  1.368E+05
IY= 14  1.402E+05  1.412E+05  1.422E+05  1.432E+05  1.442E+05
IY= 13  1.472E+05  1.481E+05  1.489E+05  1.497E+05  1.505E+05
IY= 12  1.528E+05  1.534E+05  1.540E+05  1.545E+05  1.550E+05
IY= 11  1.564E+05  1.567E+05  1.570E+05  1.573E+05  1.575E+05
IY= 10  1.581E+05  1.582E+05  1.582E+05  1.582E+05  1.582E+05
IY=  9  1.581E+05  1.580E+05  1.579E+05  1.577E+05  1.576E+05
IY=  8  1.572E+05  1.569E+05  1.566E+05  1.563E+05  1.559E+05
IY=  7  1.556E+05  1.549E+05  1.539E+05  1.527E+05  1.512E+05
IY=  6  1.481E+05  1.427E+05  1.375E+05  1.328E+05  1.286E+05
IY=  5  1.404E+05  1.345E+05  1.312E+05  1.284E+05  1.259E+05
IY=  4  1.402E+05  1.344E+05  1.310E+05  1.283E+05  1.258E+05
IY=  3  1.403E+05  1.343E+05  1.309E+05  1.282E+05  1.257E+05
IY=  2  1.403E+05  1.343E+05  1.309E+05  1.282E+05  1.257E+05
IY=  1  1.404E+05  1.343E+05  1.309E+05  1.282E+05  1.257E+05
IZ=        16         17         18         19         20
IY= 20  1.136E+05  1.141E+05  1.146E+05  1.155E+05  1.183E+05
IY= 19  1.152E+05  1.158E+05  1.164E+05  1.174E+05  1.206E+05
IY= 18  1.185E+05  1.192E+05  1.200E+05  1.213E+05  1.251E+05
IY= 17  1.236E+05  1.245E+05  1.255E+05  1.270E+05  1.315E+05
IY= 16  1.303E+05  1.313E+05  1.325E+05  1.342E+05  1.389E+05
IY= 15  1.378E+05  1.389E+05  1.401E+05  1.418E+05  1.462E+05
IY= 14  1.452E+05  1.462E+05  1.472E+05  1.487E+05  1.523E+05
IY= 13  1.513E+05  1.520E+05  1.528E+05  1.538E+05  1.564E+05
IY= 12  1.555E+05  1.559E+05  1.564E+05  1.570E+05  1.585E+05
IY= 11  1.577E+05  1.579E+05  1.580E+05  1.582E+05  1.588E+05
IY= 10  1.582E+05  1.581E+05  1.580E+05  1.578E+05  1.574E+05
IY=  9  1.574E+05  1.571E+05  1.568E+05  1.561E+05  1.540E+05
IY=  8  1.554E+05  1.548E+05  1.539E+05  1.521E+05  1.467E+05
IY=  7  1.495E+05  1.473E+05  1.447E+05  1.405E+05  1.301E+05
IY=  6  1.249E+05  1.217E+05  1.189E+05  1.158E+05  1.103E+05
IY=  5  1.234E+05  1.209E+05  1.184E+05  1.152E+05  1.089E+05
IY=  4  1.233E+05  1.209E+05  1.183E+05  1.152E+05  1.088E+05
IY=  3  1.233E+05  1.209E+05  1.183E+05  1.151E+05  1.088E+05
IY=  2  1.233E+05  1.209E+05  1.183E+05  1.151E+05  1.087E+05
IY=  1  1.233E+05  1.209E+05  1.183E+05  1.150E+05  1.088E+05
IZ=        21         22         23         24         25
IY= 20  1.217E+05  1.252E+05  1.253E+05  1.031E+05
IY= 19  1.244E+05  1.280E+05  1.277E+05  1.031E+05
IY= 18  1.293E+05  1.331E+05  1.318E+05  1.032E+05
IY= 17  1.360E+05  1.394E+05  1.366E+05  1.032E+05
IY= 16  1.431E+05  1.457E+05  1.412E+05  1.032E+05
IY= 15  1.496E+05  1.510E+05  1.446E+05  1.032E+05
IY= 14  1.545E+05  1.545E+05  1.467E+05  1.032E+05
IY= 13  1.575E+05  1.562E+05  1.473E+05  1.032E+05
IY= 12  1.585E+05  1.562E+05  1.466E+05  1.032E+05
IY= 11  1.577E+05  1.543E+05  1.443E+05  1.032E+05
IY= 10  1.550E+05  1.504E+05  1.402E+05  1.032E+05
IY=  9  1.496E+05  1.433E+05  1.331E+05  1.031E+05
IY=  8  1.393E+05  1.314E+05  1.222E+05  1.030E+05
IY=  7  1.217E+05  1.151E+05  1.100E+05  1.029E+05
IY=  6  1.081E+05  1.076E+05  1.069E+05  1.028E+05
IY=  5  1.077E+05  1.079E+05  1.070E+05  1.028E+05
IY=  4  1.077E+05  1.079E+05  1.070E+05  1.027E+05
IY=  3  1.078E+05  1.079E+05  1.070E+05  1.026E+05
IY=  2  1.078E+05  1.080E+05  1.070E+05  1.022E+05
IY=  1  1.078E+05  1.080E+05  1.069E+05  1.019E+05
IZ=        26         27         28         29
FIELD VALUES OF V1
IY= 19 -6.319E-04 -1.103E-03 -7.676E-04  1.027E-03  1.714E-02
IY= 18 -1.480E-04 -3.300E-04  3.663E-05  2.603E-03  2.120E-02
IY= 17 -1.453E-04 -3.501E-04  5.414E-04  4.855E-03  3.309E-02
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IY= 16	-9.614E-06	-1.992E-04	7.156E-04	5.934E-03	4.540E-02
IY= 15	-2.117E-04	-2.375E-04	5.071E-04	7.910E-03	5.730E-02
IY= 14	-1.315E-04	-9.048E-05	2.046E-03	1.361E-02	9.063E-02
IY= 13	8.467E-05	9.109E-04	5.268E-03	2.247E-02	1.293E-01
IY= 12	7.478E-05	9.102E-04	6.366E-03	3.594E-02	2.177E-01
IY= 11	-3.155E-05	4.373E-04	8.991E-03	6.375E-02	3.807E-01
IY= 10	4.216E-04	2.190E-03	2.062E-02	1.263E-01	7.181E-01
IY= 9	9.758E-04	5.283E-03	4.170E-02	2.484E-01	1.441E+00
IY= 8	1.602E-03	9.167E-03	7.587E-02	4.948E-01	3.070E+00
IY= 7	2.352E-03	1.363E-02	1.237E-01	9.455E-01	6.917E+00
IY= 6	2.481E-03	1.435E-02	1.559E-01	1.565E+00	1.681E+01
IY= 5	1.785E-03	4.279E-03	5.863E-02	1.271E+00	4.449E+01
IY= 4	-7.415E-03	3.563E-03	4.977E-02	1.094E+00	4.746E+01
IY= 3	1.542E-03	2.723E-03	3.801E-02	8.455E-01	5.011E+01
IY= 2	1.125E-03	1.813E-03	2.554E-02	5.663E-01	5.289E+01
IY= 1	5.902E-04	8.822E-04	1.283E-02	2.621E-01	4.884E+01
IZ=	1	2	3	4	5
IY= 19	3.776E-02	5.700E-02	1.059E-01	1.924E-01	3.519E-01
IY= 18	6.366E-02	1.173E-01	2.135E-01	3.947E-01	7.519E-01
IY= 17	9.894E-02	1.916E-01	3.641E-01	6.850E-01	1.341E+00
IY= 16	1.424E-01	2.930E-01	5.637E-01	1.120E+00	2.249E+00
IY= 15	1.968E-01	4.427E-01	9.142E-01	1.882E+00	3.762E+00
IY= 14	2.956E-01	6.880E-01	1.504E+00	3.162E+00	6.224E+00
IY= 13	4.468E-01	1.124E+00	2.548E+00	5.308E+00	1.014E+01
IY= 12	7.475E-01	1.935E+00	4.391E+00	8.923E+00	1.621E+01
IY= 11	1.315E+00	3.439E+00	7.666E+00	1.480E+01	2.494E+01
IY= 10	2.464E+00	6.325E+00	1.332E+01	2.369E+01	3.622E+01
IY= 9	4.823E+00	1.168E+01	2.243E+01	3.573E+01	4.830E+01
IY= 8	9.684E+00	2.107E+01	3.545E+01	4.897E+01	5.866E+01
IY= 7	1.945E+01	3.566E+01	5.028E+01	6.005E+01	6.551E+01
IY= 6	3.719E+01	5.297E+01	6.173E+01	6.615E+01	6.794E+01
IY= 5	6.021E+01	6.302E+01	6.347E+01	6.080E+01	5.397E+01
IY= 4	6.036E+01	6.228E+01	6.146E+01	5.735E+01	4.943E+01
IY= 3	6.004E+01	6.024E+01	5.719E+01	5.120E+01	4.246E+01
IY= 2	5.761E+01	5.553E+01	4.958E+01	4.133E+01	3.271E+01
IY= 1	4.733E+01	3.887E+01	3.081E+01	2.172E+01	1.390E+01
IZ=	6	7	8	9	10
IY= 19	6.701E-01	1.265E+00	2.303E+00	3.899E+00	4.085E+00
IY= 18	1.462E+00	2.758E+00	4.992E+00	8.395E+00	8.802E+00
IY= 17	2.607E+00	4.880E+00	8.613E+00	1.405E+01	1.466E+01
IY= 16	4.365E+00	7.973E+00	1.360E+01	2.117E+01	2.204E+01
IY= 15	7.111E+00	1.251E+01	2.028E+01	2.968E+01	3.075E+01
IY= 14	1.134E+01	1.898E+01	2.869E+01	3.901E+01	4.014E+01
IY= 13	1.758E+01	2.748E+01	3.823E+01	4.811E+01	4.915E+01
IY= 12	2.624E+01	3.750E+01	4.776E+01	5.585E+01	5.670E+01
IY= 11	3.682E+01	4.775E+01	5.606E+01	6.158E+01	6.214E+01
IY= 10	4.791E+01	5.670E+01	6.216E+01	6.497E+01	6.525E+01
IY= 9	5.757E+01	6.319E+01	6.575E+01	6.627E+01	6.630E+01
IY= 8	6.435E+01	6.685E+01	6.703E+01	6.586E+01	6.573E+01
IY= 7	6.784E+01	6.787E+01	6.628E+01	6.393E+01	6.372E+01
IY= 6	6.762E+01	6.548E+01	6.231E+01	5.915E+01	5.882E+01
IY= 5	4.488E+01	3.584E+01	2.765E+01	1.126E+01	1.289E+01
IY= 4	4.045E+01	3.172E+01	2.505E+01	9.044E+00	-1.467E+01
IY= 3	3.391E+01	2.685E+01	2.057E+01	6.484E+00	-9.345E+00
IY= 2	2.506E+01	1.904E+01	1.424E+01	3.828E+00	-7.286E+00
IY= 1	7.966E+00	3.978E+00	4.187E+00	1.669E+00	-2.952E+00
IZ=	11	12	13	14	15
IY= 19	4.281E+00	4.487E+00	4.717E+00	4.932E+00	5.171E+00
IY= 18	9.199E+00	9.630E+00	1.008E+01	1.055E+01	1.105E+01
IY= 17	1.532E+01	1.600E+01	1.670E+01	1.744E+01	1.820E+01
IY= 16	2.293E+01	2.385E+01	2.479E+01	2.578E+01	2.678E+01
IY= 15	3.185E+01	3.294E+01	3.406E+01	3.519E+01	3.634E+01
IY= 14	4.127E+01	4.241E+01	4.355E+01	4.466E+01	4.578E+01
IY= 13	5.018E+01	5.122E+01	5.222E+01	5.320E+01	5.412E+01
IY= 12	5.751E+01	5.828E+01	5.903E+01	5.972E+01	6.037E+01
IY= 11	6.265E+01	6.312E+01	6.354E+01	6.394E+01	6.429E+01
IY= 10	6.549E+01	6.569E+01	6.584E+01	6.595E+01	6.606E+01
IY= 9	6.630E+01	6.628E+01	6.623E+01	6.616E+01	6.606E+01
IY= 8	6.558E+01	6.542E+01	6.523E+01	6.501E+01	6.476E+01
IY= 7	6.347E+01	6.315E+01	6.275E+01	6.222E+01	6.153E+01

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IY=  6  5.773E+01  5.598E+01  5.358E+01  5.065E+01  4.730E+01
IY=  5  1.076E+01  8.568E+00  6.959E+00  5.990E+00  5.510E+00
IY=  4  2.766E+00  3.171E+00  4.062E+00  3.845E+00  5.315E+00
IY=  3 -1.185E+00  1.802E+00  2.139E+00  3.111E+00  2.662E+00
IY=  2 -3.524E-01  3.834E-01  6.354E-01  2.832E-01  1.583E-01
IY=  1 -8.279E-01 -8.854E-01 -9.997E-01 -9.465E-01 -7.835E-01
IZ=       16          17          18          19          20
IY= 19  5.421E+00  5.685E+00  5.964E+00  6.265E+00  7.769E+00
IY= 18  1.157E+01  1.211E+01  1.267E+01  1.328E+01  1.620E+01
IY= 17  1.899E+01  1.982E+01  2.067E+01  2.157E+01  2.568E+01
IY= 16  2.781E+01  2.887E+01  2.995E+01  3.105E+01  3.580E+01
IY= 15  3.749E+01  3.865E+01  3.984E+01  4.097E+01  4.557E+01
IY= 14  4.689E+01  4.798E+01  4.902E+01  5.008E+01  5.387E+01
IY= 13  5.502E+01  5.589E+01  5.671E+01  5.748E+01  6.001E+01
IY= 12  6.098E+01  6.155E+01  6.207E+01  6.253E+01  6.379E+01
IY= 11  6.460E+01  6.487E+01  6.512E+01  6.527E+01  6.540E+01
IY= 10  6.612E+01  6.615E+01  6.614E+01  6.608E+01  6.520E+01
IY=  9  6.594E+01  6.579E+01  6.559E+01  6.536E+01  6.326E+01
IY=  8  6.446E+01  6.412E+01  6.369E+01  6.312E+01  5.853E+01
IY=  7  6.067E+01  5.960E+01  5.830E+01  5.667E+01  4.673E+01
IY=  6  4.362E+01  3.974E+01  3.580E+01  3.200E+01  1.970E+01
IY=  5  5.520E+00  5.704E+00  5.958E+00  6.161E+00  4.291E+00
IY=  4  4.239E+00  4.615E+00  4.922E+00  5.044E+00  3.554E+00
IY=  3  3.053E+00  3.463E+00  3.771E+00  3.849E+00  2.825E+00
IY=  2  1.729E+00  2.120E+00  2.393E+00  2.420E+00  2.078E+00
IY=  1 -5.704E-01 -3.656E-01 -2.410E-01 -3.029E-01  8.731E-01
IZ=       21          22          23          24          25
IY= 19  9.515E+00  1.141E+01  1.305E+01  1.325E+01
IY= 18  1.946E+01  2.279E+01  2.557E+01  2.598E+01
IY= 17  2.998E+01  3.406E+01  3.734E+01  3.776E+01
IY= 16  4.039E+01  4.444E+01  4.743E+01  4.781E+01
IY= 15  4.965E+01  5.296E+01  5.520E+01  5.548E+01
IY= 14  5.691E+01  5.915E+01  6.043E+01  6.058E+01
IY= 13  6.179E+01  6.281E+01  6.319E+01  6.322E+01
IY= 12  6.435E+01  6.424E+01  6.376E+01  6.367E+01
IY= 11  6.487E+01  6.371E+01  6.225E+01  6.206E+01
IY= 10  6.353E+01  6.107E+01  5.841E+01  5.806E+01
IY=  9  5.992E+01  5.554E+01  5.113E+01  5.062E+01
IY=  8  5.224E+01  4.505E+01  3.839E+01  3.797E+01
IY=  7  3.627E+01  2.660E+01  1.925E+01  1.917E+01
IY=  6  1.106E+01  6.151E+00  4.174E+00  4.089E+00
IY=  5  3.825E+00  4.210E+00  4.273E+00  4.223E+00
IY=  4  3.624E+00  4.228E+00  4.221E+00  3.456E+00
IY=  3  3.377E+00  4.840E+00  4.088E+00  1.748E+00
IY=  2  2.962E+00  3.838E+00  4.165E+00 -1.700E+00
IY=  1  2.272E+00  1.681E+00  1.407E+00 -8.769E+00
IZ=       26          27          28          29
FIELD VALUES OF W1
IY= 20  8.885E+02  8.885E+02  8.885E+02  8.885E+02  8.884E+02
IY= 19  8.885E+02  8.885E+02  8.885E+02  8.884E+02  8.884E+02
IY= 18  8.885E+02  8.885E+02  8.885E+02  8.884E+02  8.884E+02
IY= 17  8.885E+02  8.885E+02  8.885E+02  8.884E+02  8.883E+02
IY= 16  8.885E+02  8.885E+02  8.885E+02  8.884E+02  8.882E+02
IY= 15  8.885E+02  8.885E+02  8.885E+02  8.883E+02  8.881E+02
IY= 14  8.885E+02  8.885E+02  8.884E+02  8.882E+02  8.879E+02
IY= 13  8.885E+02  8.885E+02  8.884E+02  8.882E+02  8.877E+02
IY= 12  8.885E+02  8.885E+02  8.884E+02  8.880E+02  8.873E+02
IY= 11  8.885E+02  8.885E+02  8.884E+02  8.878E+02  8.868E+02
IY= 10  8.885E+02  8.884E+02  8.883E+02  8.875E+02  8.858E+02
IY=  9  8.885E+02  3.884E+02  8.882E+02  8.869E+02  8.842E+02
IY=  8  8.885E+02  8.884E+02  8.880E+02  8.856E+02  8.811E+02
IY=  7  8.885E+02  8.883E+02  8.875E+02  8.827E+02  8.754E+02
IY=  6  8.884E+02  8.882E+02  8.867E+02  8.755E+02  8.668E+02
IY=  5  8.884E+02  8.882E+02  8.864E+02  8.669E+02  8.648E+02
IY=  4  8.884E+02  8.882E+02  8.863E+02  8.645E+02  8.630E+02
IY=  3  8.884E+02  8.882E+02  8.863E+02  8.632E+02  8.623E+02
IY=  2  8.884E+02  8.882E+02  8.862E+02  8.620E+02  8.616E+02
IY=  1  8.884E+02  8.882E+02  8.862E+02  8.635E+02  7.587E+02
IZ=        1           2           3           4           5
IY= 20  8.884E+02  8.884E+02  8.883E+02  8.881E+02  8.878E+02
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IY= 19	8.884E+02	8.883E+02	8.882E+02	8.880E+02	8.877E+02
IY= 18	8.883E+02	8.883E+02	8.881E+02	8.879E+02	8.873E+02
IY= 17	8.883E+02	8.881E+02	8.879E+02	8.875E+02	8.867E+02
IY= 16	8.881E+02	8.880E+02	8.876E+02	8.870E+02	8.858E+02
IY= 15	8.880E+02	8.877E+02	8.871E+02	8.861E+02	8.842E+02
IY= 14	8.877E+02	8.872E+02	8.863E+02	8.847E+02	8.820E+02
IY= 13	8.873E+02	8.865E+02	8.850E+02	8.825E+02	8.787E+02
IY= 12	8.866E+02	8.853E+02	8.829E+02	8.792E+02	8.744E+02
IY= 11	8.856E+02	8.833E+02	8.797E+02	8.748E+02	8.695E+02
IY= 10	8.837E+02	8.801E+02	8.751E+02	8.695E+02	8.645E+02
IY= 9	8.805E+02	8.753E+02	8.694E+02	8.642E+02	8.606E+02
IY= 8	8.754E+02	8.691E+02	8.637E+02	8.601E+02	8.582E+02
IY= 7	8.684E+02	8.629E+02	8.595E+02	8.574E+02	8.562E+02
IY= 6	8.619E+02	8.590E+02	8.557E+02	8.503E+02	8.439E+02
IY= 5	8.611E+02	8.494E+02	8.138E+02	7.459E+02	6.599E+02
IY= 4	8.579E+02	8.370E+02	7.836E+02	7.014E+02	6.093E+02
IY= 3	8.498E+02	8.087E+02	7.305E+02	6.348E+02	5.376E+02
IY= 2	8.135E+02	7.379E+02	6.303E+02	5.243E+02	4.232E+02
IY= 1	6.393E+02	5.137E+02	3.904E+02	2.768E+02	1.788E+02
IZ=	6	7	8	9	10
IY= 20	8.872E+02	8.862E+02	8.848E+02	8.846E+02	8.844E+02
IY= 19	8.870E+02	8.857E+02	8.841E+02	8.838E+02	8.836E+02
IY= 18	8.864E+02	8.848E+02	8.826E+02	8.823E+02	8.820E+02
IY= 17	8.853E+02	8.831E+02	8.804E+02	8.799E+02	8.795E+02
IY= 16	8.837E+02	8.807E+02	8.772E+02	8.765E+02	8.760E+02
IY= 15	8.814E+02	8.775E+02	8.734E+02	8.725E+02	8.719E+02
IY= 14	8.781E+02	8.735E+02	8.691E+02	8.682E+02	8.676E+02
IY= 13	8.740E+02	8.690E+02	8.651E+02	8.642E+02	8.637E+02
IY= 12	8.692E+02	8.647E+02	8.618E+02	8.611E+02	8.607E+02
IY= 11	8.647E+02	8.614E+02	8.596E+02	8.592E+02	8.590E+02
IY= 10	8.611E+02	8.591E+02	8.585E+02	8.584E+02	8.582E+02
IY= 9	8.587E+02	8.581E+02	8.583E+02	8.583E+02	8.582E+02
IY= 8	8.576E+02	8.578E+02	8.584E+02	8.582E+02	8.581E+02
IY= 7	8.557E+02	8.557E+02	8.557E+02	8.543E+02	8.544E+02
IY= 6	8.383E+02	8.341E+02	8.309E+02	8.257E+02	8.291E+02
IY= 5	5.669E+02	4.720E+02	3.826E+02	1.181E+02	7.116E+02
IY= 4	5.152E+02	4.244E+02	3.443E+02	9.868E+01	6.065E+02
IY= 3	4.439E+02	3.599E+02	2.917E+02	7.316E+01	5.056E+02
IY= 2	3.332E+02	2.614E+02	2.035E+02	4.708E+01	4.016E+02
IY= 1	1.026E+02	5.145E+01	6.194E+01	2.170E+01	2.211E+02
IZ=	11	12	13	14	15
IY= 20	8.842E+02	8.839E+02	8.837E+02	8.834E+02	8.832E+02
IY= 19	8.833E+02	8.831E+02	8.828E+02	8.825E+02	8.822E+02
IY= 18	8.817E+02	8.813E+02	8.810E+02	8.806E+02	8.802E+02
IY= 17	8.791E+02	8.786E+02	8.782E+02	8.777E+02	8.772E+02
IY= 16	8.755E+02	8.750E+02	8.744E+02	8.738E+02	8.732E+02
IY= 15	8.713E+02	8.707E+02	8.701E+02	8.695E+02	8.688E+02
IY= 14	8.670E+02	8.664E+02	8.658E+02	8.653E+02	8.647E+02
IY= 13	8.632E+02	8.627E+02	8.623E+02	8.618E+02	8.614E+02
IY= 12	8.603E+02	8.600E+02	8.597E+02	8.594E+02	8.592E+02
IY= 11	8.588E+02	8.586E+02	8.585E+02	8.584E+02	8.583E+02
IY= 10	8.582E+02	8.582E+02	8.581E+02	8.582E+02	8.582E+02
IY= 9	8.583E+02	8.584E+02	8.584E+02	8.585E+02	8.586E+02
IY= 8	8.583E+02	8.584E+02	8.585E+02	8.587E+02	8.590E+02
IY= 7	8.547E+02	8.552E+02	8.558E+02	8.565E+02	8.575E+02
IY= 6	8.324E+02	8.356E+02	8.385E+02	8.412E+02	8.435E+02
IY= 5	7.891E+02	8.153E+02	8.274E+02	8.343E+02	8.390E+02
IY= 4	7.167E+02	7.676E+02	7.953E+02	8.118E+02	8.226E+02
IY= 3	6.217E+02	6.884E+02	7.312E+02	7.601E+02	7.803E+02
IY= 2	5.034E+02	5.720E+02	6.227E+02	6.612E+02	6.909E+02
IY= 1	2.581E+02	2.943E+02	3.296E+02	3.609E+02	3.877E+02
IZ=	16	17	18	19	20
IY= 20	8.829E+02	8.825E+02	8.820E+02	8.804E+02	8.784E+02
IY= 19	8.819E+02	8.815E+02	8.809E+02	8.790E+02	8.766E+02
IY= 18	8.798E+02	8.793E+02	8.786E+02	8.763E+02	8.737E+02
IY= 17	8.766E+02	8.760E+02	8.751E+02	8.725E+02	8.697E+02
IY= 16	8.726E+02	8.719E+02	8.709E+02	8.680E+02	8.654E+02
IY= 15	8.682E+02	8.675E+02	8.666E+02	8.637E+02	8.616E+02
IY= 14	8.641E+02	8.636E+02	8.627E+02	8.602E+02	8.587E+02
IY= 13	8.610E+02	8.605E+02	8.600E+02	8.579E+02	8.570E+02

IY= 12	8.590E+02	8.587E+02	8.584E+02	8.567E+02	8.565E+02
IY= 11	8.582E+02	8.581E+02	8.580E+02	8.568E+02	8.572E+02
IY= 10	8.582E+02	8.583E+02	8.584E+02	8.576E+02	8.588E+02
IY= 9	8.588E+02	8.589E+02	8.593E+02	8.595E+02	8.618E+02
IY= 8	8.593E+02	8.598E+02	8.607E+02	8.628E+02	8.669E+02
IY= 7	8.586E+02	8.601E+02	8.624E+02	8.682E+02	8.729E+02
IY= 6	8.456E+02	8.474E+02	8.495E+02	8.540E+02	8.556E+02
IY= 5	8.424E+02	8.452E+02	8.480E+02	8.533E+02	8.544E+02
IY= 4	8.302E+02	8.358E+02	8.407E+02	8.475E+02	8.493E+02
IY= 3	7.951E+02	8.065E+02	8.159E+02	8.263E+02	8.300E+02
IY= 2	7.142E+02	7.331E+02	7.493E+02	7.661E+02	7.724E+02
IY= 1	4.104E+02	4.301E+02	4.490E+02	4.714E+02	4.083E+02
IZ=	21	22	23	24	25
IY= 20	8.763E+02	8.763E+02	8.895E+02		
IY= 19	8.746E+02	8.747E+02	8.893E+02		
IY= 18	8.715E+02	8.721E+02	8.889E+02		
IY= 17	8.677E+02	8.690E+02	8.886E+02		
IY= 16	8.638E+02	8.662E+02	8.882E+02		
IY= 15	8.607E+02	8.640E+02	8.879E+02		
IY= 14	8.586E+02	8.628E+02	8.878E+02		
IY= 13	8.577E+02	8.624E+02	8.878E+02		
IY= 12	8.578E+02	8.630E+02	8.880E+02		
IY= 11	8.591E+02	8.646E+02	8.883E+02		
IY= 10	8.615E+02	8.672E+02	8.887E+02		
IY= 9	8.655E+02	8.713E+02	8.889E+02		
IY= 8	8.714E+02	8.768E+02	8.882E+02		
IY= 7	8.768E+02	8.799E+02	8.843E+02		
IY= 6	8.559E+02	8.565E+02	8.596E+02		
IY= 5	8.547E+02	8.555E+02	8.586E+02		
IY= 4	8.501E+02	8.514E+02	8.549E+02		
IY= 3	8.321E+02	8.343E+02	8.390E+02		
IY= 2	7.595E+02	7.475E+02	7.455E+02		
IY= 1	3.497E+02	3.039E+02	2.744E+02		
IZ=	26	27	28		

FIELD VALUES OF H1

IY= 20	6.149E+05	6.149E+05	6.149E+05	6.149E+05	6.149E+05
IY= 19	6.149E+05	6.149E+05	6.149E+05	6.149E+05	6.149E+05
IY= 18	6.149E+05	6.149E+05	6.149E+05	6.149E+05	6.150E+05
IY= 17	6.149E+05	6.149E+05	6.149E+05	6.149E+05	6.150E+05
IY= 16	6.149E+05	6.149E+05	6.149E+05	6.149E+05	6.150E+05
IY= 15	6.149E+05	6.149E+05	6.149E+05	6.150E+05	6.150E+05
IY= 14	6.149E+05	6.149E+05	6.149E+05	6.150E+05	6.150E+05
IY= 13	6.149E+05	6.149E+05	6.149E+05	6.150E+05	6.151E+05
IY= 12	6.149E+05	6.149E+05	6.149E+05	6.150E+05	6.152E+05
IY= 11	6.149E+05	6.149E+05	6.150E+05	6.150E+05	6.153E+05
IY= 10	6.149E+05	6.149E+05	6.150E+05	6.151E+05	6.156E+05
IY= 9	6.149E+05	6.149E+05	6.150E+05	6.152E+05	6.161E+05
IY= 8	6.149E+05	6.149E+05	6.150E+05	6.154E+05	6.172E+05
IY= 7	6.149E+05	6.149E+05	6.151E+05	6.158E+05	6.198E+05
IY= 6	6.149E+05	6.150E+05	6.151E+05	6.165E+05	6.264E+05
IY= 5	6.149E+05	6.150E+05	6.152E+05	6.169E+05	6.361E+05
IY= 4	6.149E+05	6.150E+05	6.152E+05	6.169E+05	6.372E+05
IY= 3	6.149E+05	6.150E+05	6.152E+05	6.169E+05	6.383E+05
IY= 2	6.149E+05	6.150E+05	6.152E+05	6.169E+05	6.394E+05
IY= 1	6.149E+05	6.150E+05	6.152E+05	6.169E+05	5.433E+05
IZ=	1	2	3	4	5
IY= 20	6.150E+05	6.150E+05	6.150E+05	6.151E+05	6.152E+05
IY= 19	6.150E+05	6.150E+05	6.150E+05	6.151E+05	6.153E+05
IY= 18	6.150E+05	6.150E+05	6.151E+05	6.152E+05	6.154E+05
IY= 17	6.150E+05	6.151E+05	6.151E+05	6.153E+05	6.157E+05
IY= 16	6.151E+05	6.151E+05	6.153E+05	6.156E+05	6.162E+05
IY= 15	6.151E+05	6.152E+05	6.155E+05	6.160E+05	6.169E+05
IY= 14	6.152E+05	6.154E+05	6.158E+05	6.167E+05	6.182E+05
IY= 13	6.153E+05	6.157E+05	6.164E+05	6.178E+05	6.202E+05
IY= 12	6.156E+05	6.162E+05	6.174E+05	6.197E+05	6.231E+05
IY= 11	6.160E+05	6.171E+05	6.192E+05	6.226E+05	6.271E+05
IY= 10	6.167E+05	6.187E+05	6.221E+05	6.268E+05	6.319E+05
IY= 9	6.182E+05	6.216E+05	6.266E+05	6.320E+05	6.366E+05
IY= 8	6.210E+05	6.264E+05	6.323E+05	6.371E+05	6.401E+05
IY= 7	6.264E+05	6.331E+05	6.379E+05	6.407E+05	6.419E+05

IY= 6	6.349E+05	6.391E+05	6.405E+05	6.403E+05	6.391E+05
IY= 5	6.379E+05	6.347E+05	6.227E+05	6.048E+05	5.869E+05
IY= 4	6.368E+05	6.276E+05	6.087E+05	5.873E+05	5.682E+05
IY= 3	6.308E+05	6.102E+05	5.831E+05	5.593E+05	5.396E+05
IY= 2	6.016E+05	5.667E+05	5.332E+05	5.094E+05	4.906E+05
IY= 1	4.801E+05	4.406E+05	4.162E+05	3.990E+05	3.873E+05
IZ=	6	7	8	9	10
IY= 20	6.155E+05	6.160E+05	6.169E+05	6.182E+05	6.184E+05
IY= 19	6.156E+05	6.163E+05	6.174E+05	6.188E+05	6.190E+05
IY= 18	6.159E+05	6.168E+05	6.182E+05	6.201E+05	6.204E+05
IY= 17	6.164E+05	6.177E+05	6.197E+05	6.221E+05	6.225E+05
IY= 16	6.173E+05	6.191E+05	6.218E+05	6.249E+05	6.254E+05
IY= 15	6.186E+05	6.212E+05	6.247E+05	6.283E+05	6.289E+05
IY= 14	6.207E+05	6.242E+05	6.283E+05	6.320E+05	6.326E+05
IY= 13	6.236E+05	6.279E+05	6.322E+05	6.355E+05	6.360E+05
IY= 12	6.275E+05	6.320E+05	6.358E+05	6.383E+05	6.387E+05
IY= 11	6.319E+05	6.360E+05	6.388E+05	6.402E+05	6.405E+05
IY= 10	6.362E+05	6.391E+05	6.407E+05	6.413E+05	6.413E+05
IY= 9	6.396E+05	6.412E+05	6.417E+05	6.415E+05	6.415E+05
IY= 8	6.416E+05	6.420E+05	6.417E+05	6.410E+05	6.409E+05
IY= 7	6.420E+05	6.414E+05	6.402E+05	6.390E+05	6.392E+05
IY= 6	6.373E+05	6.351E+05	6.329E+05	6.313E+05	6.312E+05
IY= 5	5.704E+05	5.556E+05	5.427E+05	5.228E+05	6.153E+05
IY= 4	5.515E+05	5.373E+05	5.257E+05	5.057E+05	5.913E+05
IY= 3	5.234E+05	5.107E+05	5.009E+05	4.810E+05	5.604E+05
IY= 2	4.768E+05	4.676E+05	4.585E+05	4.456E+05	5.176E+05
IY= 1	3.802E+05	3.770E+05	3.840E+05	4.010E+05	4.389E+05
IZ=	11	12	13	14	15
IY= 20	6.186E+05	6.188E+05	6.190E+05	6.192E+05	6.194E+05
IY= 19	6.192E+05	6.195E+05	6.197E+05	6.200E+05	6.202E+05
IY= 18	6.207E+05	6.209E+05	6.212E+05	6.215E+05	6.219E+05
IY= 17	6.229E+05	6.232E+05	6.236E+05	6.240E+05	6.244E+05
IY= 16	6.258E+05	6.263E+05	6.267E+05	6.272E+05	6.277E+05
IY= 15	6.294E+05	6.299E+05	6.304E+05	6.309E+05	6.314E+05
IY= 14	6.331E+05	6.335E+05	6.340E+05	6.345E+05	6.350E+05
IY= 13	6.364E+05	6.368E+05	6.372E+05	6.376E+05	6.379E+05
IY= 12	6.390E+05	6.393E+05	6.395E+05	6.398E+05	6.400E+05
IY= 11	6.406E+05	6.408E+05	6.409E+05	6.410E+05	6.411E+05
IY= 10	6.414E+05	6.415E+05	6.415E+05	6.415E+05	6.415E+05
IY= 9	6.415E+05	6.414E+05	6.413E+05	6.413E+05	6.412E+05
IY= 8	6.409E+05	6.407E+05	6.406E+05	6.404E+05	6.403E+05
IY= 7	6.390E+05	6.386E+05	6.382E+05	6.376E+05	6.369E+05
IY= 6	6.284E+05	6.257E+05	6.231E+05	6.207E+05	6.185E+05
IY= 5	6.184E+05	6.190E+05	6.185E+05	6.176E+05	6.166E+05
IY= 4	6.047E+05	6.110E+05	6.136E+05	6.143E+05	6.143E+05
IY= 3	5.787E+05	5.917E+05	5.994E+05	6.037E+05	6.060E+05
IY= 2	5.350E+05	5.521E+05	5.653E+05	5.747E+05	5.812E+05
IY= 1	4.383E+05	4.480E+05	4.593E+05	4.691E+05	4.769E+05
IZ=	16	17	18	19	20
IY= 20	6.196E+05	6.199E+05	6.202E+05	6.206E+05	6.221E+05
IY= 19	6.205E+05	6.208E+05	6.211E+05	6.216E+05	6.233E+05
IY= 18	6.222E+05	6.226E+05	6.230E+05	6.236E+05	6.256E+05
IY= 17	6.248E+05	6.253E+05	6.258E+05	6.265E+05	6.287E+05
IY= 16	6.282E+05	6.287E+05	6.293E+05	6.301E+05	6.324E+05
IY= 15	6.319E+05	6.324E+05	6.330E+05	6.338E+05	6.358E+05
IY= 14	6.354E+05	6.359E+05	6.364E+05	6.370E+05	6.387E+05
IY= 13	6.383E+05	6.386E+05	6.390E+05	6.394E+05	6.406E+05
IY= 12	6.402E+05	6.404E+05	6.406E+05	6.409E+05	6.416E+05
IY= 11	6.412E+05	6.413E+05	6.414E+05	6.415E+05	6.417E+05
IY= 10	6.415E+05	6.414E+05	6.414E+05	6.413E+05	6.411E+05
IY= 9	6.411E+05	6.410E+05	6.408E+05	6.405E+05	6.396E+05
IY= 8	6.400E+05	6.397E+05	6.393E+05	6.385E+05	6.360E+05
IY= 7	6.361E+05	6.351E+05	6.339E+05	6.319E+05	6.269E+05
IY= 6	6.165E+05	6.148E+05	6.133E+05	6.116E+05	6.085E+05
IY= 5	6.154E+05	6.141E+05	6.128E+05	6.111E+05	6.076E+05
IY= 4	6.137E+05	6.128E+05	6.118E+05	6.102E+05	6.067E+05
IY= 3	6.071E+05	6.074E+05	6.072E+05	6.063E+05	6.030E+05
IY= 2	5.857E+05	5.887E+05	5.906E+05	5.914E+05	5.885E+05
IY= 1	4.827E+05	4.872E+05	4.906E+05	4.935E+05	4.545E+05
IZ=	21	22	23	24	25

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IY= 20  6.239E+05  6.256E+05  6.257E+05  6.146E+05
IY= 19  6.252E+05  6.270E+05  6.269E+05  6.147E+05
IY= 18  6.277E+05  6.295E+05  6.289E+05  6.150E+05
IY= 17  6.309E+05  6.326E+05  6.313E+05  6.153E+05
IY= 16  6.344E+05  6.356E+05  6.335E+05  6.156E+05
IY= 15  6.374E+05  6.381E+05  6.352E+05  6.159E+05
IY= 14  6.397E+05  6.397E+05  6.362E+05  6.161E+05
IY= 13  6.411E+05  6.405E+05  6.365E+05  6.162E+05
IY= 12  6.415E+05  6.405E+05  6.362E+05  6.161E+05
IY= 11  6.412E+05  6.397E+05  6.352E+05  6.160E+05
IY= 10  6.400E+05  6.380E+05  6.333E+05  6.158E+05
IY=  9  6.376E+05  6.347E+05  6.299E+05  6.153E+05
IY=  8  6.326E+05  6.288E+05  6.243E+05  6.145E+05
IY=  7  6.227E+05  6.193E+05  6.166E+05  6.128E+05
IY=  6  6.073E+05  6.070E+05  6.067E+05  6.044E+05
IY=  5  6.069E+05  6.070E+05  6.065E+05  6.041E+05
IY=  4  6.063E+05  6.064E+05  6.060E+05  6.036E+05
IY=  3  6.029E+05  6.033E+05  6.029E+05  6.007E+05
IY=  2  5.824E+05  5.778E+05  5.748E+05  5.771E+05
IY=  1  4.327E+05  4.194E+05  4.095E+05  4.677E+05
IZ=       26         27         28         29
FIELD VALUES OF ENUL
IY= 20  7.549E-06  7.549E-06  7.549E-06  7.549E-06  7.549E-06
IY= 19  7.549E-06  7.549E-06  7.549E-06  7.549E-06  7.549E-06
IY= 18  7.549E-06  7.549E-06  7.549E-06  7.549E-06  7.549E-06
IY= 17  7.549E-06  7.549E-06  7.549E-06  7.549E-06  7.550E-06
IY= 16  7.549E-06  7.549E-06  7.549E-06  7.549E-06  7.551E-06
IY= 15  7.549E-06  7.549E-06  7.549E-06  7.549E-06  7.551E-06
IY= 14  7.549E-06  7.549E-06  7.549E-06  7.549E-06  7.552E-06
IY= 13  7.549E-06  7.549E-06  7.549E-06  7.549E-06  7.553E-06
IY= 12  7.549E-06  7.549E-06  7.549E-06  7.548E-06  7.554E-06
IY= 11  7.549E-06  7.549E-06  7.549E-06  7.548E-06  7.553E-06
IY= 10  7.549E-06  7.549E-06  7.548E-06  7.547E-06  7.551E-06
IY=  9  7.549E-06  7.549E-06  7.548E-06  7.545E-06  7.544E-06
IY=  8  7.549E-06  7.549E-06  7.547E-06  7.541E-06  7.525E-06
IY=  7  7.549E-06  7.548E-06  7.546E-06  7.533E-06  7.478E-06
IY=  6  7.549E-06  7.548E-06  7.545E-06  7.520E-06  7.346E-06
IY=  5  7.549E-06  7.548E-06  7.544E-06  7.511E-06  7.180E-06
IY=  4  7.549E-06  7.548E-06  7.544E-06  7.513E-06  7.228E-06
IY=  3  7.549E-06  7.548E-06  7.545E-06  7.514E-06  7.227E-06
IY=  2  7.549E-06  7.548E-06  7.545E-06  7.514E-06  7.234E-06
IY=  1  7.549E-06  7.548E-06  7.544E-06  7.514E-06  5.196E-06
IZ=       1          2          3          4          5
IY= 20  7.549E-06  7.548E-06  7.547E-06  7.546E-06  7.544E-06
IY= 19  7.549E-06  7.549E-06  7.548E-06  7.546E-06  7.543E-06
IY= 18  7.550E-06  7.549E-06  7.549E-06  7.547E-06  7.542E-06
IY= 17  7.552E-06  7.551E-06  7.549E-06  7.546E-06  7.539E-06
IY= 16  7.554E-06  7.552E-06  7.550E-06  7.544E-06  7.532E-06
IY= 15  7.556E-06  7.554E-06  7.549E-06  7.539E-06  7.520E-06
IY= 14  7.558E-06  7.555E-06  7.546E-06  7.529E-06  7.498E-06
IY= 13  7.560E-06  7.553E-06  7.538E-06  7.509E-06  7.460E-06
IY= 12  7.561E-06  7.549E-06  7.523E-06  7.476E-06  7.404E-06
IY= 11  7.559E-06  7.535E-06  7.489E-06  7.416E-06  7.322E-06
IY= 10  7.549E-06  7.505E-06  7.431E-06  7.331E-06  7.228E-06
IY=  9  7.524E-06  7.447E-06  7.339E-06  7.226E-06  7.143E-06
IY=  8  7.466E-06  7.346E-06  7.220E-06  7.131E-06  7.079E-06
IY=  7  7.349E-06  7.206E-06  7.114E-06  7.064E-06  7.044E-06
IY=  6  7.165E-06  7.085E-06  7.033E-06  7.022E-06  7.127E-06
IY=  5  7.058E-06  6.862E-06  6.614E-06  7.056E-06  8.684E-06
IY=  4  7.050E-06  6.674E-06  6.472E-06  7.359E-06  9.345E-06
IY=  3  6.800E-06  6.236E-06  6.388E-06  7.922E-06  1.015E-05
IY=  2  5.593E-06  5.713E-06  6.618E-06  8.791E-06  1.093E-05
IY=  1  5.237E-06  5.743E-06  7.648E-06  9.374E-06  1.073E-05
IZ=       6          7          8          9         10
IY= 20  7.539E-06  7.529E-06  7.513E-06  7.491E-06  7.488E-06
IY= 19  7.537E-06  7.526E-06  7.506E-06  7.480E-06  7.477E-06
IY= 18  7.533E-06  7.517E-06  7.491E-06  7.456E-06  7.452E-06
IY= 17  7.525E-06  7.502E-06  7.464E-06  7.417E-06  7.413E-06
IY= 16  7.511E-06  7.475E-06  7.423E-06  7.364E-06  7.361E-06
IY= 15  7.486E-06  7.435E-06  7.367E-06  7.300E-06  7.299E-06
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IY= 14	7.448E-06	7.378E-06	7.300E-06	7.234E-06	7.234E-06
IY= 13	7.390E-06	7.305E-06	7.229E-06	7.172E-06	7.172E-06
IY= 12	7.315E-06	7.231E-06	7.166E-06	7.123E-06	7.123E-06
IY= 11	7.229E-06	7.157E-06	7.111E-06	7.086E-06	7.086E-06
IY= 10	7.151E-06	7.101E-06	7.076E-06	7.068E-06	7.067E-06
IY= 9	7.091E-06	7.066E-06	7.059E-06	7.064E-06	7.066E-06
IY= 8	7.055E-06	7.051E-06	7.063E-06	7.083E-06	7.091E-06
IY= 7	7.054E-06	7.090E-06	7.142E-06	7.194E-06	7.230E-06
IY= 6	7.332E-06	7.566E-06	7.783E-06	7.943E-06	8.151E-06
IY= 5	1.098E-05	1.346E-05	1.586E-05	1.758E-05	2.707E-05
IY= 4	1.169E-05	1.403E-05	1.614E-05	1.738E-05	2.561E-05
IY= 3	1.240E-05	1.448E-05	1.618E-05	1.686E-05	2.354E-05
IY= 2	1.288E-05	1.449E-05	1.546E-05	1.600E-05	2.071E-05
IY= 1	1.163E-05	1.220E-05	1.301E-05	1.441E-05	1.577E-05
IZ=	11	12	13	14	15
IY= 20	7.485E-06	7.481E-06	7.478E-06	7.474E-06	7.470E-06
IY= 19	7.473E-06	7.469E-06	7.465E-06	7.461E-06	7.456E-06
IY= 18	7.447E-06	7.442E-06	7.437E-06	7.431E-06	7.426E-06
IY= 17	7.407E-06	7.400E-06	7.393E-06	7.386E-06	7.379E-06
IY= 16	7.354E-06	7.346E-06	7.338E-06	7.329E-06	7.321E-06
IY= 15	7.292E-06	7.283E-06	7.275E-06	7.266E-06	7.258E-06
IY= 14	7.226E-06	7.218E-06	7.210E-06	7.202E-06	7.194E-06
IY= 13	7.166E-06	7.160E-06	7.154E-06	7.148E-06	7.142E-06
IY= 12	7.120E-06	7.115E-06	7.111E-06	7.107E-06	7.104E-06
IY= 11	7.085E-06	7.083E-06	7.081E-06	7.079E-06	7.077E-06
IY= 10	7.069E-06	7.068E-06	7.068E-06	7.068E-06	7.068E-06
IY= 9	7.069E-06	7.070E-06	7.071E-06	7.073E-06	7.074E-06
IY= 8	7.096E-06	7.099E-06	7.102E-06	7.106E-06	7.111E-06
IY= 7	7.240E-06	7.252E-06	7.266E-06	7.282E-06	7.300E-06
IY= 6	8.191E-06	8.235E-06	8.278E-06	8.318E-06	8.356E-06
IY= 5	1.309E-05	1.026E-05	9.331E-06	8.937E-06	8.744E-06
IY= 4	1.659E-05	1.299E-05	1.119E-05	1.021E-05	9.648E-06
IY= 3	1.861E-05	1.582E-05	1.386E-05	1.250E-05	1.155E-05
IY= 2	1.884E-05	1.764E-05	1.646E-05	1.537E-05	1.444E-05
IY= 1	1.612E-05	1.691E-05	1.744E-05	1.772E-05	1.785E-05
IZ=	16	17	18	19	20
IY= 20	7.466E-06	7.462E-06	7.457E-06	7.449E-06	7.424E-06
IY= 19	7.451E-06	7.446E-06	7.440E-06	7.431E-06	7.404E-06
IY= 18	7.419E-06	7.413E-06	7.406E-06	7.395E-06	7.364E-06
IY= 17	7.372E-06	7.364E-06	7.355E-06	7.342E-06	7.310E-06
IY= 16	7.313E-06	7.304E-06	7.294E-06	7.281E-06	7.253E-06
IY= 15	7.249E-06	7.240E-06	7.231E-06	7.219E-06	7.200E-06
IY= 14	7.187E-06	7.180E-06	7.172E-06	7.162E-06	7.157E-06
IY= 13	7.136E-06	7.131E-06	7.126E-06	7.119E-06	7.128E-06
IY= 12	7.101E-06	7.097E-06	7.094E-06	7.090E-06	7.113E-06
IY= 11	7.076E-06	7.075E-06	7.074E-06	7.073E-06	7.107E-06
IY= 10	7.069E-06	7.069E-06	7.070E-06	7.072E-06	7.116E-06
IY= 9	7.076E-06	7.079E-06	7.082E-06	7.087E-06	7.147E-06
IY= 8	7.116E-06	7.123E-06	7.132E-06	7.146E-06	7.235E-06
IY= 7	7.320E-06	7.342E-06	7.367E-06	7.403E-06	7.501E-06
IY= 6	8.390E-06	8.421E-06	8.449E-06	8.480E-06	8.497E-06
IY= 5	8.643E-06	8.589E-06	8.566E-06	8.569E-06	8.591E-06
IY= 4	9.306E-06	9.091E-06	8.954E-06	8.874E-06	8.840E-06
IY= 3	1.090E-05	1.043E-05	1.009E-05	9.857E-06	9.693E-06
IY= 2	1.369E-05	1.307E-05	1.258E-05	1.219E-05	1.185E-05
IY= 1	1.789E-05	1.791E-05	1.793E-05	1.802E-05	1.524E-05
IZ=	21	22	23	24	25
IY= 20	7.395E-06	7.366E-06	7.364E-06	7.672E-06	
IY= 19	7.374E-06	7.345E-06	7.348E-06	7.671E-06	
IY= 18	7.332E-06	7.303E-06	7.312E-06	7.669E-06	
IY= 17	7.279E-06	7.254E-06	7.274E-06	7.667E-06	
IY= 16	7.227E-06	7.209E-06	7.241E-06	7.665E-06	
IY= 15	7.183E-06	7.173E-06	7.217E-06	7.664E-06	
IY= 14	7.149E-06	7.149E-06	7.202E-06	7.663E-06	
IY= 13	7.130E-06	7.138E-06	7.198E-06	7.663E-06	
IY= 12	7.124E-06	7.138E-06	7.203E-06	7.664E-06	
IY= 11	7.125E-06	7.147E-06	7.217E-06	7.665E-06	
IY= 10	7.145E-06	7.177E-06	7.251E-06	7.668E-06	
IY= 9	7.192E-06	7.240E-06	7.321E-06	7.672E-06	
IY= 8	7.307E-06	7.376E-06	7.458E-06	7.679E-06	

IY= 7	7.589E-06	7.651E-06	7.701E-06	7.774E-06	
IY= 6	8.516E-06	8.525E-06	8.529E-06	8.569E-06	
IY= 5	8.586E-06	8.569E-06	8.569E-06	8.609E-06	
IY= 4	8.803E-06	8.763E-06	8.746E-06	8.773E-06	
IY= 3	9.579E-06	9.482E-06	9.434E-06	9.446E-06	
IY= 2	1.122E-05	1.155E-05	1.206E-05	1.289E-05	
IY= 1	1.583E-05	1.648E-05	1.703E-05	2.367E-05	
IZ=	26	27	28	29	

FIELD VALUES OF RHO1

IY= 20	1.836E+00	1.836E+00	1.836E+00	1.836E+00	1.836E+00
IY= 19	1.835E+00	1.836E+00	1.836E+00	1.836E+00	1.836E+00
IY= 18	1.835E+00	1.835E+00	1.836E+00	1.836E+00	1.836E+00
IY= 17	1.835E+00	1.835E+00	1.836E+00	1.836E+00	1.836E+00
IY= 16	1.835E+00	1.835E+00	1.836E+00	1.836E+00	1.836E+00
IY= 15	1.835E+00	1.835E+00	1.836E+00	1.836E+00	1.836E+00
IY= 14	1.835E+00	1.835E+00	1.836E+00	1.836E+00	1.836E+00
IY= 13	1.835E+00	1.836E+00	1.836E+00	1.836E+00	1.837E+00
IY= 12	1.835E+00	1.836E+00	1.836E+00	1.836E+00	1.838E+00
IY= 11	1.835E+00	1.836E+00	1.836E+00	1.837E+00	1.840E+00
IY= 10	1.835E+00	1.836E+00	1.836E+00	1.837E+00	1.843E+00
IY= 9	1.835E+00	1.836E+00	1.836E+00	1.839E+00	1.851E+00
IY= 8	1.835E+00	1.836E+00	1.837E+00	1.843E+00	1.868E+00
IY= 7	1.835E+00	1.836E+00	1.838E+00	1.849E+00	1.908E+00
IY= 6	1.835E+00	1.836E+00	1.839E+00	1.860E+00	2.009E+00
IY= 5	1.835E+00	1.836E+00	1.839E+00	1.866E+00	2.151E+00
IY= 4	1.835E+00	1.836E+00	1.839E+00	1.866E+00	2.153E+00
IY= 3	1.835E+00	1.836E+00	1.839E+00	1.866E+00	2.165E+00
IY= 2	1.835E+00	1.836E+00	1.839E+00	1.866E+00	2.176E+00
IY= 1	1.835E+00	1.836E+00	1.839E+00	1.866E+00	2.667E+00
IZ=	1	2	3	4	5
IY= 20	1.836E+00	1.836E+00	1.837E+00	1.838E+00	1.840E+00
IY= 19	1.836E+00	1.836E+00	1.837E+00	1.838E+00	1.841E+00
IY= 18	1.836E+00	1.836E+00	1.837E+00	1.839E+00	1.843E+00
IY= 17	1.836E+00	1.837E+00	1.838E+00	1.841E+00	1.847E+00
IY= 16	1.836E+00	1.837E+00	1.840E+00	1.844E+00	1.854E+00
IY= 15	1.837E+00	1.838E+00	1.842E+00	1.850E+00	1.865E+00
IY= 14	1.837E+00	1.840E+00	1.847E+00	1.860E+00	1.885E+00
IY= 13	1.839E+00	1.844E+00	1.856E+00	1.878E+00	1.915E+00
IY= 12	1.842E+00	1.851E+00	1.871E+00	1.907E+00	1.961E+00
IY= 11	1.847E+00	1.865E+00	1.899E+00	1.953E+00	2.025E+00
IY= 10	1.858E+00	1.890E+00	1.945E+00	2.019E+00	2.101E+00
IY= 9	1.880E+00	1.936E+00	2.015E+00	2.102E+00	2.174E+00
IY= 8	1.925E+00	2.012E+00	2.107E+00	2.183E+00	2.231E+00
IY= 7	2.010E+00	2.118E+00	2.196E+00	2.242E+00	2.264E+00
IY= 6	2.146E+00	2.216E+00	2.254E+00	2.273E+00	2.260E+00
IY= 5	2.205E+00	2.267E+00	2.340E+00	2.260E+00	1.993E+00
IY= 4	2.209E+00	2.305E+00	2.372E+00	2.204E+00	1.907E+00
IY= 3	2.260E+00	2.402E+00	2.391E+00	2.109E+00	1.815E+00
IY= 2	2.544E+00	2.533E+00	2.341E+00	1.981E+00	1.735E+00
IY= 1	2.646E+00	2.523E+00	2.145E+00	1.906E+00	1.755E+00
IZ=	6	7	8	9	10
IY= 20	1.844E+00	1.852E+00	1.867E+00	1.886E+00	1.889E+00
IY= 19	1.846E+00	1.856E+00	1.873E+00	1.896E+00	1.899E+00
IY= 18	1.850E+00	1.864E+00	1.886E+00	1.916E+00	1.920E+00
IY= 17	1.858E+00	1.878E+00	1.908E+00	1.947E+00	1.952E+00
IY= 16	1.871E+00	1.900E+00	1.942E+00	1.991E+00	1.997E+00
IY= 15	1.892E+00	1.933E+00	1.988E+00	2.044E+00	2.052E+00
IY= 14	1.924E+00	1.979E+00	2.044E+00	2.101E+00	2.109E+00
IY= 13	1.970E+00	2.038E+00	2.105E+00	2.156E+00	2.163E+00
IY= 12	2.031E+00	2.102E+00	2.162E+00	2.201E+00	2.206E+00
IY= 11	2.101E+00	2.165E+00	2.209E+00	2.232E+00	2.235E+00
IY= 10	2.169E+00	2.215E+00	2.240E+00	2.249E+00	2.250E+00
IY= 9	2.222E+00	2.247E+00	2.255E+00	2.252E+00	2.251E+00
IY= 8	2.256E+00	2.262E+00	2.255E+00	2.243E+00	2.242E+00
IY= 7	2.267E+00	2.255E+00	2.234E+00	2.212E+00	2.209E+00
IY= 6	2.218E+00	2.164E+00	2.112E+00	2.076E+00	2.043E+00
IY= 5	1.724E+00	1.517E+00	1.366E+00	1.268E+00	1.007E+00
IY= 4	1.661E+00	1.480E+00	1.352E+00	1.277E+00	1.038E+00
IY= 3	1.602E+00	1.452E+00	1.350E+00	1.300E+00	1.093E+00
IY= 2	1.566E+00	1.451E+00	1.387E+00	1.341E+00	1.180E+00

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IY=  1  1.665E+00  1.609E+00  1.538E+00  1.428E+00  1.390E+00
IZ=     11         12         13         14         15
IY= 20  1.892E+00  1.895E+00  1.898E+00  1.901E+00  1.904E+00
IY= 19  1.902E+00  1.905E+00  1.909E+00  1.913E+00  1.917E+00
IY= 18  1.924E+00  1.928E+00  1.933E+00  1.938E+00  1.943E+00
IY= 17  1.958E+00  1.964E+00  1.970E+00  1.976E+00  1.982E+00
IY= 16  2.004E+00  2.011E+00  2.018E+00  2.026E+00  2.033E+00
IY= 15  2.059E+00  2.067E+00  2.075E+00  2.082E+00  2.090E+00
IY= 14  2.117E+00  2.124E+00  2.132E+00  2.139E+00  2.146E+00
IY= 13  2.169E+00  2.175E+00  2.182E+00  2.187E+00  2.193E+00
IY= 12  2.210E+00  2.215E+00  2.219E+00  2.223E+00  2.226E+00
IY= 11  2.238E+00  2.240E+00  2.242E+00  2.244E+00  2.245E+00
IY= 10  2.250E+00  2.251E+00  2.251E+00  2.251E+00  2.251E+00
IY=  9  2.251E+00  2.250E+00  2.249E+00  2.248E+00  2.246E+00
IY=  8  2.240E+00  2.238E+00  2.235E+00  2.233E+00  2.230E+00
IY=  7  2.204E+00  2.198E+00  2.190E+00  2.180E+00  2.169E+00
IY=  6  2.007E+00  1.971E+00  1.936E+00  1.904E+00  1.874E+00
IY=  5  1.482E+00  1.686E+00  1.768E+00  1.799E+00  1.808E+00
IY=  4  1.286E+00  1.463E+00  1.584E+00  1.660E+00  1.704E+00
IY=  3  1.200E+00  1.300E+00  1.393E+00  1.470E+00  1.529E+00
IY=  2  1.191E+00  1.218E+00  1.257E+00  1.298E+00  1.337E+00
IY=  1  1.308E+00  1.249E+00  1.213E+00  1.192E+00  1.178E+00
IZ=     16         17         18         19         20
IY= 20  1.908E+00  1.912E+00  1.916E+00  1.924E+00  1.946E+00
IY= 19  1.921E+00  1.926E+00  1.931E+00  1.939E+00  1.964E+00
IY= 18  1.948E+00  1.954E+00  1.960E+00  1.970E+00  2.000E+00
IY= 17  1.989E+00  1.996E+00  2.004E+00  2.016E+00  2.049E+00
IY= 16  2.041E+00  2.049E+00  2.058E+00  2.071E+00  2.104E+00
IY= 15  2.098E+00  2.106E+00  2.115E+00  2.128E+00  2.157E+00
IY= 14  2.153E+00  2.161E+00  2.168E+00  2.179E+00  2.200E+00
IY= 13  2.199E+00  2.204E+00  2.209E+00  2.217E+00  2.229E+00
IY= 12  2.230E+00  2.233E+00  2.236E+00  2.240E+00  2.244E+00
IY= 11  2.247E+00  2.248E+00  2.249E+00  2.250E+00  2.247E+00
IY= 10  2.251E+00  2.250E+00  2.250E+00  2.248E+00  2.237E+00
IY=  9  2.245E+00  2.243E+00  2.240E+00  2.235E+00  2.212E+00
IY=  8  2.226E+00  2.221E+00  2.214E+00  2.201E+00  2.153E+00
IY=  7  2.155E+00  2.139E+00  2.119E+00  2.088E+00  2.009E+00
IY=  6  1.848E+00  1.825E+00  1.804E+00  1.781E+00  1.745E+00
IY=  5  1.806E+00  1.798E+00  1.786E+00  1.767E+00  1.725E+00
IY=  4  1.728E+00  1.738E+00  1.739E+00  1.730E+00  1.695E+00
IY=  3  1.571E+00  1.600E+00  1.618E+00  1.624E+00  1.603E+00
IY=  2  1.370E+00  1.397E+00  1.418E+00  1.429E+00  1.421E+00
IY=  1  1.167E+00  1.157E+00  1.146E+00  1.130E+00  1.222E+00
IZ=     21         22         23         24         25
IY= 20  1.973E+00  2.000E+00  2.001E+00  1.806E+00
IY= 19  1.993E+00  2.021E+00  2.019E+00  1.806E+00
IY= 18  2.032E+00  2.060E+00  2.050E+00  1.807E+00
IY= 17  2.082E+00  2.107E+00  2.087E+00  1.807E+00
IY= 16  2.134E+00  2.153E+00  2.120E+00  1.808E+00
IY= 15  2.180E+00  2.190E+00  2.145E+00  1.808E+00
IY= 14  2.215E+00  2.215E+00  2.160E+00  1.808E+00
IY= 13  2.235E+00  2.227E+00  2.164E+00  1.808E+00
IY= 12  2.242E+00  2.226E+00  2.159E+00  1.808E+00
IY= 11  2.237E+00  2.214E+00  2.143E+00  1.808E+00
IY= 10  2.218E+00  2.186E+00  2.112E+00  1.807E+00
IY=  9  2.178E+00  2.133E+00  2.057E+00  1.806E+00
IY=  8  2.097E+00  2.037E+00  1.966E+00  1.804E+00
IY=  7  1.942E+00  1.890E+00  1.849E+00  1.790E+00
IY=  6  1.729E+00  1.724E+00  1.720E+00  1.688E+00
IY=  5  1.718E+00  1.721E+00  1.715E+00  1.683E+00
IY=  4  1.692E+00  1.698E+00  1.694E+00  1.664E+00
IY=  3  1.609E+00  1.620E+00  1.619E+00  1.591E+00
IY=  2  1.463E+00  1.439E+00  1.397E+00  1.318E+00
IY=  1  1.191E+00  1.163E+00  1.135E+00  9.141E-01
IZ=     26         27         28         29
FIELD VALUES OF TMP1
IY= 20  1.990E+02  1.990E+02  1.990E+02  1.990E+02  1.990E+02
IY= 19  1.990E+02  1.990E+02  1.990E+02  1.990E+02  1.990E+02
IY= 18  1.990E+02  1.990E+02  1.990E+02  1.990E+02  1.990E+02
IY= 17  1.990E+02  1.990E+02  1.990E+02  1.990E+02  1.990E+02
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IY= 16	1.990E+02	1.990E+02	1.990E+02	1.990E+02	1.991E+02
IY= 15	1.990E+02	1.990E+02	1.990E+02	1.990E+02	1.991E+02
IY= 14	1.990E+02	1.990E+02	1.990E+02	1.990E+02	1.992E+02
IY= 13	1.990E+02	1.990E+02	1.990E+02	1.990E+02	1.993E+02
IY= 12	1.990E+02	1.990E+02	1.990E+02	1.990E+02	1.995E+02
IY= 11	1.990E+02	1.990E+02	1.990E+02	1.991E+02	1.998E+02
IY= 10	1.990E+02	1.990E+02	1.990E+02	1.992E+02	2.003E+02
IY= 9	1.990E+02	1.990E+02	1.990E+02	1.994E+02	2.013E+02
IY= 8	1.990E+02	1.990E+02	1.991E+02	1.998E+02	2.033E+02
IY= 7	1.990E+02	1.990E+02	1.992E+02	2.005E+02	2.079E+02
IY= 6	1.990E+02	1.990E+02	1.993E+02	2.019E+02	2.188E+02
IY= 5	1.990E+02	1.990E+02	1.994E+02	2.024E+02	2.342E+02
IY= 4	1.990E+02	1.990E+02	1.994E+02	2.025E+02	2.369E+02
IY= 3	1.990E+02	1.990E+02	1.994E+02	2.025E+02	2.388E+02
IY= 2	1.990E+02	1.990E+02	1.994E+02	2.026E+02	2.409E+02
IY= 1	1.990E+02	1.990E+02	1.994E+02	2.026E+02	1.990E+02
IZ=	1	2	3	4	5
IY= 20	1.990E+02	1.990E+02	1.991E+02	1.992E+02	1.995E+02
IY= 19	1.990E+02	1.991E+02	1.992E+02	1.993E+02	1.996E+02
IY= 18	1.991E+02	1.991E+02	1.992E+02	1.995E+02	1.999E+02
IY= 17	1.992E+02	1.992E+02	1.994E+02	1.997E+02	2.004E+02
IY= 16	1.993E+02	1.994E+02	1.997E+02	2.002E+02	2.013E+02
IY= 15	1.994E+02	1.996E+02	2.000E+02	2.010E+02	2.027E+02
IY= 14	1.997E+02	2.000E+02	2.007E+02	2.022E+02	2.049E+02
IY= 13	2.000E+02	2.006E+02	2.018E+02	2.043E+02	2.083E+02
IY= 12	2.005E+02	2.015E+02	2.037E+02	2.076E+02	2.134E+02
IY= 11	2.012E+02	2.032E+02	2.069E+02	2.126E+02	2.203E+02
IY= 10	2.027E+02	2.061E+02	2.119E+02	2.197E+02	2.283E+02
IY= 9	2.053E+02	2.112E+02	2.194E+02	2.284E+02	2.362E+02
IY= 8	2.102E+02	2.192E+02	2.289E+02	2.370E+02	2.422E+02
IY= 7	2.191E+02	2.300E+02	2.382E+02	2.431E+02	2.457E+02
IY= 6	2.325E+02	2.401E+02	2.435E+02	2.460E+02	2.494E+02
IY= 5	2.369E+02	2.367E+02	2.349E+02	2.457E+02	2.778E+02
IY= 4	2.372E+02	2.329E+02	2.320E+02	2.520E+02	2.903E+02
IY= 3	2.325E+02	2.237E+02	2.302E+02	2.635E+02	3.050E+02
IY= 2	2.070E+02	2.123E+02	2.353E+02	2.805E+02	3.189E+02
IY= 1	1.990E+02	2.127E+02	2.564E+02	2.913E+02	3.152E+02
IZ=	6	7	8	9	10
IY= 20	2.000E+02	2.010E+02	2.026E+02	2.049E+02	2.052E+02
IY= 19	2.002E+02	2.014E+02	2.033E+02	2.060E+02	2.063E+02
IY= 18	2.008E+02	2.023E+02	2.049E+02	2.082E+02	2.087E+02
IY= 17	2.017E+02	2.039E+02	2.074E+02	2.117E+02	2.124E+02
IY= 16	2.032E+02	2.064E+02	2.112E+02	2.165E+02	2.175E+02
IY= 15	2.056E+02	2.101E+02	2.162E+02	2.224E+02	2.236E+02
IY= 14	2.092E+02	2.152E+02	2.223E+02	2.287E+02	2.299E+02
IY= 13	2.143E+02	2.216E+02	2.289E+02	2.346E+02	2.357E+02
IY= 12	2.209E+02	2.287E+02	2.352E+02	2.395E+02	2.403E+02
IY= 11	2.284E+02	2.353E+02	2.402E+02	2.427E+02	2.432E+02
IY= 10	2.356E+02	2.407E+02	2.435E+02	2.444E+02	2.446E+02
IY= 9	2.414E+02	2.441E+02	2.450E+02	2.448E+02	2.448E+02
IY= 8	2.449E+02	2.457E+02	2.453E+02	2.444E+02	2.445E+02
IY= 7	2.468E+02	2.467E+02	2.458E+02	2.450E+02	2.462E+02
IY= 6	2.531E+02	2.557E+02	2.571E+02	2.584E+02	2.621E+02
IY= 5	3.179E+02	3.563E+02	3.894E+02	4.062E+02	5.495E+02
IY= 4	3.300E+02	3.651E+02	3.933E+02	4.033E+02	5.296E+02
IY= 3	3.420E+02	3.722E+02	3.939E+02	3.961E+02	5.038E+02
IY= 2	3.498E+02	3.723E+02	3.833E+02	3.838E+02	4.665E+02
IY= 1	3.290E+02	3.358E+02	3.457E+02	3.605E+02	3.963E+02
IZ=	11	12	13	14	15
IY= 20	2.055E+02	2.059E+02	2.062E+02	2.066E+02	2.070E+02
IY= 19	2.067E+02	2.071E+02	2.075E+02	2.080E+02	2.084E+02
IY= 18	2.092E+02	2.097E+02	2.102E+02	2.108E+02	2.114E+02
IY= 17	2.130E+02	2.137E+02	2.144E+02	2.151E+02	2.158E+02
IY= 16	2.183E+02	2.190E+02	2.198E+02	2.207E+02	2.215E+02
IY= 15	2.245E+02	2.253E+02	2.262E+02	2.271E+02	2.280E+02
IY= 14	2.308E+02	2.316E+02	2.324E+02	2.333E+02	2.341E+02
IY= 13	2.365E+02	2.372E+02	2.379E+02	2.385E+02	2.392E+02
IY= 12	2.409E+02	2.414E+02	2.418E+02	2.423E+02	2.427E+02
IY= 11	2.435E+02	2.438E+02	2.440E+02	2.442E+02	2.444E+02
IY= 10	2.448E+02	2.448E+02	2.449E+02	2.449E+02	2.449E+02

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IY=  9   2.448E+02   2.447E+02   2.446E+02   2.445E+02   2.444E+02
IY=  8   2.445E+02   2.443E+02   2.441E+02   2.439E+02   2.436E+02
IY=  7   2.460E+02   2.455E+02   2.449E+02   2.441E+02   2.430E+02
IY=  6   2.571E+02   2.523E+02   2.475E+02   2.431E+02   2.391E+02
IY=  5   3.299E+02   2.779E+02   2.585E+02   2.487E+02   2.425E+02
IY=  4   3.801E+02   3.199E+02   2.881E+02   2.693E+02   2.572E+02
IY=  3   4.073E+02   3.600E+02   3.275E+02   3.039E+02   2.865E+02
IY=  2   4.104E+02   3.843E+02   3.629E+02   3.440E+02   3.276E+02
IY=  1   3.738E+02   3.746E+02   3.758E+02   3.747E+02   3.719E+02
IZ=      16          17          18          19          20
IY= 20   2.074E+02   2.079E+02   2.084E+02   2.092E+02   2.118E+02
IY= 19   2.089E+02   2.094E+02   2.100E+02   2.110E+02   2.140E+02
IY= 18   2.120E+02   2.126E+02   2.134E+02   2.145E+02   2.180E+02
IY= 17   2.165E+02   2.173E+02   2.182E+02   2.196E+02   2.236E+02
IY= 16   2.224E+02   2.233E+02   2.243E+02   2.258E+02   2.300E+02
IY= 15   2.289E+02   2.298E+02   2.308E+02   2.322E+02   2.361E+02
IY= 14   2.349E+02   2.357E+02   2.366E+02   2.378E+02   2.411E+02
IY= 13   2.398E+02   2.404E+02   2.410E+02   2.418E+02   2.444E+02
IY= 12   2.430E+02   2.434E+02   2.437E+02   2.442E+02   2.461E+02
IY= 11   2.446E+02   2.447E+02   2.448E+02   2.450E+02   2.462E+02
IY= 10   2.449E+02   2.448E+02   2.447E+02   2.446E+02   2.451E+02
IY=  9   2.443E+02   2.441E+02   2.438E+02   2.433E+02   2.426E+02
IY=  8   2.432E+02   2.428E+02   2.421E+02   2.408E+02   2.373E+02
IY=  7   2.417E+02   2.400E+02   2.379E+02   2.344E+02   2.257E+02
IY=  6   2.355E+02   2.324E+02   2.296E+02   2.265E+02   2.202E+02
IY=  5   2.380E+02   2.342E+02   2.309E+02   2.272E+02   2.200E+02
IY=  4   2.487E+02   2.423E+02   2.371E+02   2.320E+02   2.237E+02
IY=  3   2.734E+02   2.632E+02   2.548E+02   2.470E+02   2.364E+02
IY=  2   3.135E+02   3.014E+02   2.908E+02   2.806E+02   2.666E+02
IY=  1   3.682E+02   3.640E+02   3.597E+02   3.547E+02   3.102E+02
IZ=      21          22          23          24          25
IY= 20   2.150E+02   2.182E+02   2.182E+02   1.990E+02
IY= 19   2.174E+02   2.207E+02   2.204E+02   1.990E+02
IY= 18   2.218E+02   2.251E+02   2.240E+02   1.990E+02
IY= 17   2.276E+02   2.305E+02   2.282E+02   1.990E+02
IY= 16   2.337E+02   2.358E+02   2.320E+02   1.990E+02
IY= 15   2.391E+02   2.402E+02   2.350E+02   1.990E+02
IY= 14   2.431E+02   2.431E+02   2.367E+02   1.990E+02
IY= 13   2.455E+02   2.445E+02   2.372E+02   1.990E+02
IY= 12   2.463E+02   2.444E+02   2.366E+02   1.990E+02
IY= 11   2.455E+02   2.429E+02   2.347E+02   1.990E+02
IY= 10   2.434E+02   2.397E+02   2.312E+02   1.990E+02
IY=  9   2.393E+02   2.341E+02   2.254E+02   1.990E+02
IY=  8   2.314E+02   2.247E+02   2.166E+02   1.990E+02
IY=  7   2.183E+02   2.122E+02   2.072E+02   2.003E+02
IY=  6   2.179E+02   2.174E+02   2.167E+02   2.122E+02
IY=  5   2.185E+02   2.184E+02   2.173E+02   2.128E+02
IY=  4   2.218E+02   2.214E+02   2.200E+02   2.151E+02
IY=  3   2.334E+02   2.322E+02   2.303E+02   2.247E+02
IY=  2   2.567E+02   2.614E+02   2.669E+02   2.703E+02
IY=  1   3.156E+02   3.236E+02   3.282E+02   3.884E+02
IZ=      26          27          28          29
WHOLE-FIELD RESIDUALS BEFORE SOLUTIONS
WHOLE-FIELD SUM OF ABS(VOL.FLOW RESIDUALS)=  3.552E+03
WHOLE-FIELD SUM OF ABS(RESIDUALS) OF V1   =  2.755E+05
WHOLE-FIELD SUM OF ABS(RESIDUALS) OF W1   =  1.153E+06
WHOLE-FIELD SUM OF ABS(RESIDUALS) OF H1   =  4.880E+08
* SUMS HAVE BEEN DIVIDED BY RESREF(NAME)

NET SOURCE OF V1   AT PATCH NAMED: INLET    =-3.725E-09
NET SOURCE OF W1   AT PATCH NAMED: INLET    = 9.418E+04
NET SOURCE OF W1   AT PATCH NAMED: VANE     =-1.687E+02
NET SOURCE OF R1   AT PATCH NAMED: INLET    = 1.060E+02
NET SOURCE OF R1   AT PATCH NAMED: OUTLET   =-1.060E+02
NET SOURCE OF H1   AT PATCH NAMED: INLET    = 6.518E+07
NET SOURCE OF H1   AT PATCH NAMED: OUTLET   =-6.513E+07
NET SOURCE OF H1   AT PATCH NAMED: VANE     =-4.734E+04
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APPENDIX K
SUPERSONIC LAMINAR BLUNT VANE OUTPUT

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--- INTEGRATION OF EQUATIONS BEGINS ---
TIME STEP =    1      SWEEP = 550
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS   2.644E+05
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS   1.463E+08
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS   1.002E+08
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS   7.218E+11
TIME STEP =    1      SWEEP = 550
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS   2.644E+05
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS   1.463E+08
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS   1.002E+08
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS   7.219E+11
TIME STEP =    1      SWEEP = 570
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS   2.642E+05
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS   1.463E+08
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS   9.988E+07
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS   7.220E+11
TIME STEP =    1      SWEEP = 570
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS   2.642E+05
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS   1.463E+08
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS   9.988E+07
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS   7.218E+11
TIME STEP =    1      SWEEP = 590
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS   2.645E+05
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS   1.463E+08
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS   9.976E+07
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS   7.219E+11
TIME STEP =    1      SWEEP = 590
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS   2.645E+05
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS   1.463E+08
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS   9.976E+07
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS   7.219E+11
TIME STEP =    1      SWEEP = 610
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS   2.655E+05
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS   1.463E+08
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS   9.983E+07
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS   7.221E+11
TIME STEP =    1      SWEEP = 610
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS   2.655E+05
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS   1.463E+08
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS   9.983E+07
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS   7.220E+11
TIME STEP =    1      SWEEP = 630
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS   2.643E+05
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS   1.462E+08
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS   9.968E+07
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS   7.219E+11
TIME STEP =    1      SWEEP = 630
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS   2.643E+05
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS   1.462E+08
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS   9.968E+07
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS   7.218E+11
************************************************************
TIME STP=     1 SWEEP NO=   650 ZSLAB NO=    19 ITERN NO=     1
TIME STEP =    1      SWEEP = 650
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS   2.645E+05
TOTAL RESIDUAL/( 1.000E-06) FOR V1    IS   1.462E+08
TOTAL RESIDUAL/( 1.000E-06) FOR W1    IS   9.970E+07
TOTAL RESIDUAL/( 1.000E-06) FOR H1    IS   7.219E+11
TIME STEP =    1      SWEEP = 650
TOTAL RESIDUAL/( 1.000E-06) FOR P1    IS   2.645E+05
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TOTAL RESIDUAL/( 1.000E-06) FOR V1   IS  1.462E+08
TOTAL RESIDUAL/( 1.000E-06) FOR W1   IS  9.970E+07
TOTAL RESIDUAL/( 1.000E-06) FOR H1   IS  7.219E+11
************************************************************
TIME STP=     1 SWEEP NO=   650 ZSLAB NO=    30 ITERN NO=     1

FLOW FIELD AT ITHYD=   1, ISWEEP= 650, ISTEP=   1
YZPR  IX=     1
FIELD VALUES OF P1
IY= 20   1.048E+05  1.048E+05  1.048E+05  1.048E+05  1.048E+05
IY= 19   1.048E+05  1.048E+05  1.048E+05  1.048E+05  1.048E+05
IY= 18   1.048E+05  1.048E+05  1.048E+05  1.048E+05  1.048E+05
IY= 17   1.048E+05  1.048E+05  1.048E+05  1.048E+05  1.049E+05
IY= 16   1.048E+05  1.048E+05  1.048E+05  1.048E+05  1.049E+05
IY= 15   1.048E+05  1.048E+05  1.048E+05  1.048E+05  1.049E+05
IY= 14   1.048E+05  1.048E+05  1.048E+05  1.048E+05  1.049E+05
IY= 13   1.048E+05  1.048E+05  1.048E+05  1.048E+05  1.050E+05
IY= 12   1.048E+05  1.048E+05  1.048E+05  1.048E+05  1.051E+05
IY= 11   1.048E+05  1.048E+05  1.048E+05  1.049E+05  1.052E+05
IY= 10   1.048E+05  1.048E+05  1.048E+05  1.049E+05  1.054E+05
IY=  9   1.048E+05  1.048E+05  1.048E+05  1.050E+05  1.061E+05
IY=  8   1.048E+05  1.048E+05  1.048E+05  1.052E+05  1.076E+05
IY=  7   1.048E+05  1.048E+05  1.049E+05  1.056E+05  1.108E+05
IY=  6   1.048E+05  1.048E+05  1.049E+05  1.057E+05  1.130E+05
IY=  5   1.048E+05  1.048E+05  1.049E+05  1.057E+05  1.132E+05
IY=  4   1.048E+05  1.048E+05  1.049E+05  1.057E+05  1.133E+05
IY=  3   1.048E+05  1.048E+05  1.049E+05  1.057E+05  1.135E+05
IY=  2   1.048E+05  1.048E+05  1.049E+05  1.057E+05  1.136E+05
IY=  1   1.048E+05  1.048E+05  1.049E+05  1.058E+05  1.139E+05
IZ=          1           2           3           4           5
IY= 20   1.048E+05  1.049E+05  1.051E+05  1.051E+05  1.050E+05
IY= 19   1.049E+05  1.052E+05  1.070E+05  1.068E+05  1.050E+05
IY= 18   1.050E+05  1.058E+05  1.109E+05  1.101E+05  1.050E+05
IY= 17   1.051E+05  1.067E+05  1.164E+05  1.148E+05  1.050E+05
IY= 16   1.053E+05  1.078E+05  1.236E+05  1.209E+05  1.050E+05
IY= 15   1.055E+05  1.092E+05  1.321E+05  1.279E+05  1.050E+05
IY= 14   1.057E+05  1.109E+05  1.419E+05  1.360E+05  1.049E+05
IY= 13   1.060E+05  1.127E+05  1.524E+05  1.445E+05  1.046E+05
IY= 12   1.064E+05  1.146E+05  1.621E+05  1.521E+05  1.037E+05
IY= 11   1.068E+05  1.162E+05  1.698E+05  1.582E+05  1.025E+05
IY= 10   1.078E+05  1.182E+05  1.776E+05  1.649E+05  1.031E+05
IY=  9   1.103E+05  1.213E+05  1.858E+05  1.733E+05  1.088E+05
IY=  8   1.190E+05  1.280E+05  1.945E+05  1.861E+05  1.225E+05
IY=  7   1.453E+05  1.497E+05  2.083E+05  2.076E+05  1.389E+05
IY=  6   1.904E+05  1.886E+05  2.313E+05  2.175E+05  1.286E+05
IY=  5   1.935E+05  2.022E+05  2.478E+05  2.296E+05  1.271E+05
IY=  4   1.969E+05  2.100E+05  2.669E+05  2.559E+05  1.245E+05
IY=  3   2.005E+05  2.281E+05  3.525E+05  3.384E+05  1.195E+05
IY=  2   2.046E+05  4.192E+05  4.192E+05  4.192E+05  9.926E+04
IY=  1   2.218E+05  2.096E+04  2.096E+04  2.096E+04  2.096E+04
IZ=          6           7           8           9          10
IY= 20   1.051E+05  1.052E+05  1.053E+05  1.055E+05  1.056E+05
IY= 19   1.051E+05  1.052E+05  1.053E+05  1.055E+05  1.057E+05
IY= 18   1.051E+05  1.052E+05  1.053E+05  1.055E+05  1.058E+05
IY= 17   1.051E+05  1.052E+05  1.053E+05  1.056E+05  1.062E+05
IY= 16   1.050E+05  1.051E+05  1.053E+05  1.059E+05  1.071E+05
IY= 15   1.049E+05  1.050E+05  1.055E+05  1.066E+05  1.088E+05
IY= 14   1.047E+05  1.050E+05  1.061E+05  1.084E+05  1.119E+05
IY= 13   1.045E+05  1.055E+05  1.079E+05  1.118E+05  1.166E+05
IY= 12   1.045E+05  1.073E+05  1.119E+05  1.174E+05  1.224E+05
IY= 11   1.060E+05  1.119E+05  1.186E+05  1.241E+05  1.273E+05
IY= 10   1.107E+05  1.195E+05  1.261E+05  1.291E+05  1.292E+05
IY=  9   1.201E+05  1.278E+05  1.304E+05  1.295E+05  1.271E+05
IY=  8   1.308E+05  1.311E+05  1.280E+05  1.247E+05  1.226E+05
IY=  7   1.327E+05  1.243E+05  1.200E+05  1.190E+05  1.195E+05
IY=  6   1.197E+05  1.192E+05  1.193E+05  1.187E+05  1.190E+05
IY=  5   1.187E+05  1.189E+05  1.193E+05  1.187E+05  1.189E+05
IY=  4   1.175E+05  1.187E+05  1.193E+05  1.187E+05  1.189E+05
IY=  3   1.163E+05  1.187E+05  1.193E+05  1.187E+05  1.189E+05
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IY=  2  1.159E+05  1.188E+05  1.193E+05  1.187E+05  1.189E+05
IY=  1  2.096E+04  2.096E+04  2.096E+04  2.096E+04  2.096E+04
IZ=        11         12         13         14         15
IY= 20  1.059E+05  1.065E+05  1.073E+05  1.075E+05  1.078E+05
IY= 19  1.061E+05  1.069E+05  1.080E+05  1.082E+05  1.086E+05
IY= 18  1.065E+05  1.077E+05  1.093E+05  1.097E+05  1.102E+05
IY= 17  1.074E+05  1.093E+05  1.116E+05  1.122E+05  1.129E+05
IY= 16  1.091E+05  1.119E+05  1.150E+05  1.157E+05  1.165E+05
IY= 15  1.119E+05  1.157E+05  1.191E+05  1.198E+05  1.206E+05
IY= 14  1.161E+05  1.202E+05  1.232E+05  1.237E+05  1.244E+05
IY= 13  1.211E+05  1.244E+05  1.262E+05  1.264E+05  1.270E+05
IY= 12  1.257E+05  1.272E+05  1.273E+05  1.273E+05  1.278E+05
IY= 11  1.282E+05  1.276E+05  1.265E+05  1.264E+05  1.273E+05
IY= 10  1.277E+05  1.259E+05  1.247E+05  1.248E+05  1.263E+05
IY=  9  1.249E+05  1.235E+05  1.235E+05  1.240E+05  1.263E+05
IY=  8  1.217E+05  1.221E+05  1.242E+05  1.258E+05  1.293E+05
IY=  7  1.204E+05  1.220E+05  1.277E+05  1.376E+05  1.437E+05
IY=  6  1.199E+05  1.219E+05  1.313E+05  1.795E+05  1.763E+05
IY=  5  1.199E+05  1.219E+05  1.316E+05  1.787E+05  1.796E+05
IY=  4  1.198E+05  1.220E+05  1.318E+05  1.766E+05  1.831E+05
IY=  3  1.198E+05  1.220E+05  1.320E+05  1.742E+05  1.862E+05
IY=  2  1.198E+05  1.220E+05  1.320E+05  1.737E+05  1.879E+05
IY=  1  2.096E+04  2.096E+04  2.096E+04  2.096E+04  2.096E+04
IZ=        16         17         18         19         20
IY= 20  1.080E+05  1.083E+05  1.087E+05  1.091E+05  1.099E+05
IY= 19  1.089E+05  1.092E+05  1.096E+05  1.101E+05  1.111E+05
IY= 18  1.106E+05  1.111E+05  1.116E+05  1.123E+05  1.135E+05
IY= 17  1.134E+05  1.141E+05  1.147E+05  1.155E+05  1.169E+05
IY= 16  1.172E+05  1.179E+05  1.186E+05  1.195E+05  1.209E+05
IY= 15  1.213E+05  1.220E+05  1.226E+05  1.234E+05  1.244E+05
IY= 14  1.249E+05  1.254E+05  1.258E+05  1.262E+05  1.266E+05
IY= 13  1.272E+05  1.273E+05  1.274E+05  1.275E+05  1.271E+05
IY= 12  1.278E+05  1.276E+05  1.275E+05  1.272E+05  1.262E+05
IY= 11  1.271E+05  1.268E+05  1.266E+05  1.262E+05  1.251E+05
IY= 10  1.262E+05  1.261E+05  1.260E+05  1.260E+05  1.254E+05
IY=  9  1.266E+05  1.270E+05  1.276E+05  1.285E+05  1.302E+05
IY=  8  1.309E+05  1.328E+05  1.354E+05  1.391E+05  1.461E+05
IY=  7  1.494E+05  1.561E+05  1.632E+05  1.696E+05  1.715E+05
IY=  6  1.852E+05  1.855E+05  1.790E+05  1.679E+05  1.413E+05
IY=  5  1.874E+05  1.865E+05  1.793E+05  1.673E+05  1.395E+05
IY=  4  1.889E+05  1.869E+05  1.794E+05  1.669E+05  1.383E+05
IY=  3  1.897E+05  1.869E+05  1.794E+05  1.668E+05  1.375E+05
IY=  2  1.899E+05  1.869E+05  1.795E+05  1.671E+05  1.371E+05
IY=  1  2.096E+04  2.096E+04  2.096E+04  2.096E+04  2.096E+04
IZ=        21         22         23         24         25
IY= 20  1.110E+05  1.121E+05  1.133E+05  1.130E+05  1.030E+05
IY= 19  1.123E+05  1.136E+05  1.148E+05  1.143E+05  1.030E+05
IY= 18  1.149E+05  1.164E+05  1.176E+05  1.167E+05  1.031E+05
IY= 17  1.185E+05  1.199E+05  1.210E+05  1.194E+05  1.031E+05
IY= 16  1.223E+05  1.235E+05  1.241E+05  1.218E+05  1.031E+05
IY= 15  1.254E+05  1.261E+05  1.261E+05  1.230E+05  1.031E+05
IY= 14  1.270E+05  1.271E+05  1.266E+05  1.231E+05  1.031E+05
IY= 13  1.269E+05  1.267E+05  1.259E+05  1.224E+05  1.031E+05
IY= 12  1.258E+05  1.256E+05  1.251E+05  1.220E+05  1.031E+05
IY= 11  1.250E+05  1.254E+05  1.259E+05  1.236E+05  1.031E+05
IY= 10  1.266E+05  1.288E+05  1.313E+05  1.299E+05  1.032E+05
IY=  9  1.345E+05  1.400E+05  1.446E+05  1.418E+05  1.033E+05
IY=  8  1.537E+05  1.584E+05  1.587E+05  1.495E+05  1.033E+05
IY=  7  1.672E+05  1.604E+05  1.529E+05  1.409E+05  1.032E+05
IY=  6  1.513E+05  1.552E+05  1.517E+05  1.385E+05  1.029E+05
IY=  5  1.505E+05  1.549E+05  1.516E+05  1.383E+05  1.026E+05
IY=  4  1.499E+05  1.548E+05  1.515E+05  1.381E+05  1.024E+05
IY=  3  1.495E+05  1.547E+05  1.515E+05  1.380E+05  1.022E+05
IY=  2  1.494E+05  1.547E+05  1.515E+05  1.381E+05  1.020E+05
IY=  1  2.096E+04  2.096E+04  2.096E+04  2.096E+04  2.096E+04
IZ=        26         27         28         29         30
FIELD VALUES OF V1
IY= 19 -5.442E-04 -1.461E-03 -3.408E-03 -3.586E-03  2.634E-03
IY= 18 -9.178E-04 -1.788E-03 -2.593E-03 -1.856E-03  1.022E-02
IY= 17 -1.309E-03 -2.777E-03 -3.479E-03 -1.683E-03  1.614E-02
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IY= 16	-1.427E-03	-3.177E-03	-3.674E-03	-3.817E-04	2.271E-02
IY= 15	-2.063E-03	-3.899E-03	-4.992E-03	-2.373E-03	2.650E-02
IY= 14	-2.555E-03	-3.496E-03	-6.177E-03	-3.141E-03	3.197E-02
IY= 13	-2.831E-03	-4.997E-03	-4.717E-03	-2.317E-03	4.035E-02
IY= 12	-3.500E-03	-8.533E-03	-1.059E-02	3.423E-03	7.033E-02
IY= 11	-3.678E-03	-6.961E-03	-2.465E-03	2.948E-02	1.405E-01
IY= 10	-4.012E-03	-7.143E-03	-2.403E-03	4.693E-02	2.941E-01
IY= 9	-4.497E-03	-7.609E-03	2.315E-03	9.931E-02	6.893E-01
IY= 8	-4.522E-03	-5.641E-03	1.511E-02	2.217E-01	1.707E+00
IY= 7	-5.058E-03	-8.060E-03	2.010E-02	3.399E-01	3.355E+00
IY= 6	-9.345E-03	-1.504E-02	-1.930E-03	2.344E-01	4.234E+00
IY= 5	-1.381E-02	-1.735E-02	-6.492E-03	2.326E-01	4.416E+00
IY= 4	-1.489E-02	-1.712E-02	-9.795E-03	2.082E-01	3.993E+00
IY= 3	-1.622E-02	-5.029E-02	-1.319E-02	1.805E-01	3.648E+00
IY= 2	-2.603E-02	-1.772E-02	1.637E-02	2.492E-01	3.395E+00
IY= 1	-2.355E-02	-1.955E-02	-3.760E-02	1.128E-01	2.680E+00
IZ=	1	2	3	4	5
IY= 19	4.682E-02	6.590E-02	1.499E-01	2.234E-01	2.316E-01
IY= 18	9.523E-02	1.206E-01	2.856E-01	4.277E-01	4.456E-01
IY= 17	1.419E-01	1.795E-01	4.201E-01	6.257E-01	6.287E-01
IY= 16	1.862E-01	2.352E-01	5.436E-01	8.042E-01	7.798E-01
IY= 15	2.279E-01	2.878E-01	6.555E-01	9.585E-01	9.142E-01
IY= 14	2.714E-01	3.417E-01	7.617E-01	1.109E+00	1.059E+00
IY= 13	3.159E-01	3.951E-01	8.570E-01	1.224E+00	8.784E-01
IY= 12	3.954E-01	4.784E-01	8.969E-01	1.229E+00	1.428E-01
IY= 11	5.765E-01	6.323E-01	9.667E-01	1.237E+00	-1.711E-01
IY= 10	1.187E+00	1.255E+00	1.570E+00	1.847E+00	2.515E+00
IY= 9	3.143E+00	3.210E+00	3.492E+00	3.774E+00	1.025E+01
IY= 8	9.955E+00	9.978E+00	1.010E+01	1.039E+01	2.707E+01
IY= 7	3.315E+01	3.309E+01	3.273E+01	3.268E+01	5.109E+01
IY= 6	9.008E+01	8.848E+01	8.597E+01	8.275E+01	6.268E+01
IY= 5	9.638E+01	9.809E+01	9.934E+01	9.671E+01	6.147E+01
IY= 4	1.016E+02	1.031E+02	1.089E+02	1.136E+02	6.024E+01
IY= 3	1.062E+02	1.116E+02	1.406E+02	1.553E+02	5.723E+01
IY= 2	1.108E+02	1.759E+02	2.661E+02	3.037E+02	3.638E+01
IY= 1	1.140E+02	1.699E-06	2.183E-10	3.011E-10	1.268E-12
IZ=	6	7	8	9	10
IY= 19	2.225E-01	2.096E-01	1.890E-01	1.892E-01	2.408E-01
IY= 18	4.245E-01	3.812E-01	3.478E-01	3.711E-01	5.598E-01
IY= 17	5.879E-01	5.339E-01	5.100E-01	6.271E-01	1.093E+00
IY= 16	7.126E-01	6.529E-01	6.851E-01	1.039E+00	2.035E+00
IY= 15	8.081E-01	7.394E-01	9.550E-01	1.852E+00	3.856E+00
IY= 14	8.357E-01	8.172E-01	1.546E+00	3.581E+00	7.228E+00
IY= 13	5.647E-01	1.063E+00	3.135E+00	7.177E+00	1.285E+01
IY= 12	2.164E-01	2.366E+00	7.009E+00	1.361E+01	2.045E+01
IY= 11	1.547E+00	6.803E+00	1.462E+01	2.246E+01	2.813E+01
IY= 10	7.848E+00	1.673E+01	2.543E+01	3.108E+01	3.316E+01
IY= 9	2.133E+01	3.094E+01	3.575E+01	3.607E+01	3.375E+01
IY= 8	3.953E+01	4.312E+01	4.042E+01	3.528E+01	3.042E+01
IY= 7	5.222E+01	4.463E+01	3.605E+01	2.999E+01	2.668E+01
IY= 6	3.804E+01	2.805E+01	2.672E+01	2.603E+01	2.481E+01
IY= 5	3.502E+01	2.691E+01	2.585E+01	2.493E+01	2.359E+01
IY= 4	3.103E+01	2.547E+01	2.442E+01	2.305E+01	2.146E+01
IY= 3	2.626E+01	2.328E+01	2.164E+01	1.960E+01	1.756E+01
IY= 2	2.068E+01	1.829E+01	1.474E+01	1.193E+01	9.626E+00
IY= 1	6.419E-13	4.923E-12	1.360E-11	2.042E-11	2.854E-11
IZ=	11	12	13	14	15
IY= 19	4.456E-01	8.886E-01	1.636E+00	1.797E+00	1.990E+00
IY= 18	1.075E+00	2.107E+00	3.760E+00	4.101E+00	4.480E+00
IY= 17	2.135E+00	4.037E+00	6.833E+00	7.388E+00	7.987E+00
IY= 16	4.015E+00	7.122E+00	1.117E+01	1.193E+01	1.273E+01
IY= 15	7.214E+00	1.172E+01	1.665E+01	1.754E+01	1.843E+01
IY= 14	1.223E+01	1.763E+01	2.250E+01	2.333E+01	2.413E+01
IY= 13	1.887E+01	2.393E+01	2.743E+01	2.798E+01	2.852E+01
IY= 12	2.581E+01	2.898E+01	3.026E+01	3.040E+01	3.056E+01
IY= 11	3.094E+01	3.138E+01	3.047E+01	3.029E+01	3.018E+01
IY= 10	3.258E+01	3.070E+01	2.870E+01	2.840E+01	2.823E+01
IY= 9	3.062E+01	2.797E+01	2.661E+01	2.648E+01	2.652E+01
IY= 8	2.706E+01	2.551E+01	2.634E+01	2.672E+01	2.733E+01
IY= 7	2.523E+01	2.516E+01	2.903E+01	3.140E+01	3.425E+01

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IY=  6   2.365E+01   2.349E+01   3.096E+01   4.771E+01   6.010E+01
IY=  5   2.232E+01   2.202E+01   2.805E+01   3.152E+01   5.616E+01
IY=  4   2.011E+01   1.956E+01   2.343E+01   1.543E+01   4.887E+01
IY=  3   1.601E+01   1.513E+01   1.592E+01  -1.544E+00   4.001E+01
IY=  2   7.568E+00   5.872E+00   3.861E+00  -6.965E+00   2.700E+01
IY=  1   3.307E-11   3.520E-11   3.364E-12   2.411E-11   1.940E-10
IZ=        16          17          18          19          20
IY= 19   2.174E+00   2.386E+00   2.615E+00   2.865E+00   3.430E+00
IY= 18   4.874E+00   5.322E+00   5.788E+00   6.288E+00   7.421E+00
IY= 17   8.632E+00   9.286E+00   9.985E+00   1.072E+01   1.234E+01
IY= 16   1.356E+01   1.440E+01   1.527E+01   1.615E+01   1.801E+01
IY= 15   1.933E+01   2.022E+01   2.109E+01   2.194E+01   2.359E+01
IY= 14   2.489E+01   2.562E+01   2.629E+01   2.690E+01   2.791E+01
IY= 13   2.896E+01   2.936E+01   2.969E+01   2.993E+01   3.015E+01
IY= 12   3.068E+01   3.071E+01   3.071E+01   3.063E+01   3.024E+01
IY= 11   3.004E+01   2.990E+01   2.970E+01   2.950E+01   2.901E+01
IY= 10   2.808E+01   2.796E+01   2.788E+01   2.786E+01   2.800E+01
IY=  9   2.665E+01   2.685E+01   2.723E+01   2.778E+01   2.985E+01
IY=  8   2.818E+01   2.937E+01   3.093E+01   3.305E+01   3.986E+01
IY=  7   3.790E+01   4.243E+01   4.777E+01   5.353E+01   6.387E+01
IY=  6   7.336E+01   8.382E+01   8.894E+01   8.746E+01   6.430E+01
IY=  5   7.027E+01   7.658E+01   7.911E+01   7.744E+01   5.688E+01
IY=  4   6.203E+01   6.552E+01   6.698E+01   6.618E+01   4.874E+01
IY=  3   4.949E+01   5.111E+01   5.287E+01   5.453E+01   3.879E+01
IY=  2   2.945E+01   2.988E+01   3.222E+01   3.765E+01   2.408E+01
IY=  1   2.017E-10   2.170E-10   2.157E-10   2.420E-10   4.416E-12
IZ=        21          22          23          24          25
IY= 19   4.066E+00   4.770E+00   5.508E+00   6.167E+00   6.190E+00
IY= 18   8.668E+00   9.995E+00   1.134E+01   1.250E+01   1.253E+01
IY= 17   1.407E+01   1.578E+01   1.740E+01   1.872E+01   1.874E+01
IY= 16   1.979E+01   2.150E+01   2.298E+01   2.408E+01   2.411E+01
IY= 15   2.503E+01   2.621E+01   2.716E+01   2.775E+01   2.779E+01
IY= 14   2.864E+01   2.910E+01   2.933E+01   2.936E+01   2.936E+01
IY= 13   3.012E+01   2.991E+01   2.962E+01   2.929E+01   2.926E+01
IY= 12   2.974E+01   2.928E+01   2.886E+01   2.871E+01   2.872E+01
IY= 11   2.864E+01   2.855E+01   2.894E+01   2.962E+01   2.966E+01
IY= 10   2.869E+01   3.017E+01   3.253E+01   3.530E+01   3.531E+01
IY=  9   3.329E+01   3.814E+01   4.395E+01   4.919E+01   4.941E+01
IY=  8   4.814E+01   5.597E+01   6.185E+01   6.494E+01   6.490E+01
IY=  7   6.911E+01   6.972E+01   6.720E+01   6.363E+01   6.351E+01
IY=  6   5.213E+01   4.807E+01   4.716E+01   4.519E+01   4.496E+01
IY=  5   4.646E+01   4.337E+01   4.239E+01   4.020E+01   3.849E+01
IY=  4   3.979E+01   3.759E+01   3.665E+01   3.487E+01   3.264E+01
IY=  3   3.184E+01   3.024E+01   2.968E+01   2.927E+01   2.665E+01
IY=  2   1.862E+01   1.680E+01   1.632E+01   1.867E+01   1.510E+01
IY=  1   9.568E-12   1.344E-11   1.326E-10   2.180E-10   1.732E-10
IZ=        26          27          28          29          30
FIELD VALUES OF W1
IY= 20   8.885E+02   8.885E+02   8.885E+02   8.885E+02   8.884E+02
IY= 19   8.885E+02   8.885E+02   8.885E+02   8.885E+02   8.884E+02
IY= 18   8.885E+02   8.885E+02   8.885E+02   8.884E+02   8.884E+02
IY= 17   8.885E+02   8.885E+02   8.885E+02   8.884E+02   8.883E+02
IY= 16   8.885E+02   8.885E+02   8.885E+02   8.884E+02   8.882E+02
IY= 15   8.885E+02   8.885E+02   8.885E+02   8.884E+02   8.880E+02
IY= 14   8.885E+02   8.885E+02   8.884E+02   8.884E+02   8.879E+02
IY= 13   8.885E+02   8.885E+02   8.884E+02   8.883E+02   8.877E+02
IY= 12   8.885E+02   8.885E+02   8.884E+02   8.883E+02   8.875E+02
IY= 11   8.885E+02   8.885E+02   8.884E+02   8.882E+02   8.872E+02
IY= 10   8.885E+02   8.884E+02   8.884E+02   8.880E+02   8.867E+02
IY=  9   8.885E+02   8.884E+02   8.883E+02   8.877E+02   8.852E+02
IY=  8   8.885E+02   8.884E+02   8.882E+02   8.868E+02   8.802E+02
IY=  7   8.885E+02   8.884E+02   8.880E+02   8.849E+02   8.660E+02
IY=  6   8.884E+02   8.884E+02   8.879E+02   8.842E+02   8.538E+02
IY=  5   8.885E+02   8.884E+02   8.879E+02   8.838E+02   8.476E+02
IY=  4   8.885E+02   8.884E+02   8.879E+02   8.835E+02   8.440E+02
IY=  3   8.885E+02   8.884E+02   8.879E+02   8.834E+02   8.417E+02
IY=  2   8.885E+02   8.884E+02   8.879E+02   8.833E+02   8.399E+02
IY=  1   8.886E+02   8.886E+02   8.881E+02   8.832E+02   8.323E+02
IZ=        1           2           3           4           5
IY= 20   8.884E+02   8.880E+02   8.880E+02   8.883E+02   8.883E+02
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IY= 19	8.882E+02	8.849E+02	8.851E+02	8.883E+02	8.883E+02
IY= 18	8.878E+02	8.788E+02	8.793E+02	8.883E+02	8.882E+02
IY= 17	8.873E+02	8.698E+02	8.708E+02	8.882E+02	8.882E+02
IY= 16	8.865E+02	8.582E+02	8.599E+02	8.882E+02	8.882E+02
IY= 15	8.856E+02	8.442E+02	8.469E+02	8.881E+02	8.883E+02
IY= 14	8.846E+02	8.283E+02	8.319E+02	8.879E+02	8.881E+02
IY= 13	8.834E+02	8.107E+02	8.155E+02	8.878E+02	8.882E+02
IY= 12	8.822E+02	7.927E+02	7.987E+02	8.880E+02	8.877E+02
IY= 11	8.812E+02	7.753E+02	7.820E+02	8.879E+02	8.861E+02
IY= 10	8.799E+02	7.579E+02	7.651E+02	8.865E+02	8.824E+02
IY= 9	8.783E+02	7.424E+02	7.495E+02	8.820E+02	8.756E+02
IY= 8	8.748E+02	7.353E+02	7.395E+02	8.726E+02	8.673E+02
IY= 7	8.615E+02	7.432E+02	7.428E+02	8.626E+02	8.629E+02
IY= 6	8.372E+02	7.334E+02	7.376E+02	8.636E+02	8.396E+02
IY= 5	8.311E+02	7.307E+02	7.379E+02	8.614E+02	8.269E+02
IY= 4	8.268E+02	7.278E+02	7.344E+02	8.500E+02	8.090E+02
IY= 3	8.230E+02	7.336E+02	7.363E+02	8.263E+02	7.861E+02
IY= 2	8.205E+02	7.124E+02	7.302E+02	8.701E+02	7.493E+02
IY= 1	3.014E-08	0.000E+00	0.000E+00	0.000E+00	0.000E+00
IZ=	6	7	8	9	10
IY= 20	8.882E+02	8.881E+02	8.880E+02	8.879E+02	8.878E+02
IY= 19	8.882E+02	8.881E+02	8.880E+02	8.879E+02	8.877E+02
IY= 18	8.882E+02	8.881E+02	8.880E+02	8.878E+02	8.874E+02
IY= 17	8.882E+02	8.881E+02	8.879E+02	8.875E+02	8.868E+02
IY= 16	8.882E+02	8.881E+02	8.877E+02	8.870E+02	8.858E+02
IY= 15	8.882E+02	8.879E+02	8.872E+02	8.859E+02	8.841E+02
IY= 14	8.880E+02	8.873E+02	8.860E+02	8.839E+02	8.814E+02
IY= 13	8.876E+02	8.861E+02	8.838E+02	8.809E+02	8.782E+02
IY= 12	8.861E+02	8.834E+02	8.802E+02	8.772E+02	8.753E+02
IY= 11	8.827E+02	8.789E+02	8.757E+02	8.738E+02	8.733E+02
IY= 10	8.774E+02	8.736E+02	8.719E+02	8.718E+02	8.726E+02
IY= 9	8.711E+02	8.697E+02	8.702E+02	8.714E+02	8.726E+02
IY= 8	8.670E+02	8.687E+02	8.703E+02	8.714E+02	8.717E+02
IY= 7	8.661E+02	8.676E+02	8.674E+02	8.662E+02	8.649E+02
IY= 6	8.284E+02	8.210E+02	8.126E+02	8.026E+02	7.922E+02
IY= 5	8.133E+02	8.014E+02	7.871E+02	7.712E+02	7.555E+02
IY= 4	7.909E+02	7.682E+02	7.429E+02	7.175E+02	6.932E+02
IY= 3	7.501E+02	7.022E+02	6.582E+02	6.162E+02	5.774E+02
IY= 2	6.395E+02	5.396E+02	4.509E+02	3.719E+02	3.022E+02
IY= 1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
IZ=	11	12	13	14	15
IY= 20	8.874E+02	8.869E+02	8.868E+02	8.866E+02	8.865E+02
IY= 19	8.872E+02	8.865E+02	8.864E+02	8.861E+02	8.859E+02
IY= 18	8.866E+02	8.857E+02	8.854E+02	8.851E+02	8.848E+02
IY= 17	8.857E+02	8.843E+02	8.839E+02	8.834E+02	8.831E+02
IY= 16	8.841E+02	8.822E+02	8.818E+02	8.812E+02	8.808E+02
IY= 15	8.818E+02	8.797E+02	8.794E+02	8.787E+02	8.783E+02
IY= 14	8.789E+02	8.771E+02	8.769E+02	8.763E+02	8.760E+02
IY= 13	8.763E+02	8.753E+02	8.752E+02	8.746E+02	8.745E+02
IY= 12	8.744E+02	8.743E+02	8.745E+02	8.735E+02	8.736E+02
IY= 11	8.736E+02	8.742E+02	8.744E+02	8.728E+02	8.729E+02
IY= 10	8.736E+02	8.742E+02	8.742E+02	8.717E+02	8.718E+02
IY= 9	8.733E+02	8.733E+02	8.730E+02	8.696E+02	8.695E+02
IY= 8	8.714E+02	8.701E+02	8.688E+02	8.647E+02	8.640E+02
IY= 7	8.633E+02	8.592E+02	8.476E+02	8.434E+02	8.410E+02
IY= 6	7.815E+02	7.637E+02	6.531E+02	7.224E+02	7.513E+02
IY= 5	7.397E+02	7.144E+02	5.641E+02	6.259E+02	6.530E+02
IY= 4	6.694E+02	6.317E+02	4.312E+02	5.180E+02	5.447E+02
IY= 3	5.398E+02	4.820E+02	2.333E+02	3.861E+02	4.120E+02
IY= 2	2.396E+02	1.625E+02	-5.872E+01	2.438E+02	2.434E+02
IY= 1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
IZ=	16	17	18	19	20
IY= 20	8.863E+02	8.861E+02	8.858E+02	8.853E+02	8.847E+02
IY= 19	8.857E+02	8.855E+02	8.852E+02	8.846E+02	8.839E+02
IY= 18	8.845E+02	8.842E+02	8.838E+02	8.832E+02	8.823E+02
IY= 17	8.827E+02	8.823E+02	8.819E+02	8.811E+02	8.802E+02
IY= 16	8.804E+02	8.800E+02	8.795E+02	8.788E+02	8.780E+02
IY= 15	8.780E+02	8.776E+02	8.772E+02	8.768E+02	8.762E+02
IY= 14	8.758E+02	8.755E+02	8.753E+02	8.753E+02	8.751E+02
IY= 13	8.744E+02	8.743E+02	8.743E+02	8.749E+02	8.751E+02

IY= 12	8.736E+02	8.737E+02	8.739E+02	8.751E+02	8.754E+02
IY= 11	8.730E+02	8.732E+02	8.734E+02	8.749E+02	8.752E+02
IY= 10	8.719E+02	8.719E+02	8.720E+02	8.735E+02	8.732E+02
IY= 9	8.693E+02	8.690E+02	8.686E+02	8.692E+02	8.671E+02
IY= 8	8.631E+02	8.619E+02	8.601E+02	8.578E+02	8.535E+02
IY= 7	8.381E+02	8.351E+02	8.326E+02	8.319E+02	8.332E+02
IY= 6	7.677E+02	7.789E+02	7.893E+02	8.083E+02	7.834E+02
IY= 5	6.707E+02	6.864E+02	7.043E+02	7.378E+02	7.084E+02
IY= 4	5.596E+02	5.770E+02	6.010E+02	6.474E+02	6.140E+02
IY= 3	4.238E+02	4.447E+02	4.767E+02	5.388E+02	4.982E+02
IY= 2	2.390E+02	2.552E+02	2.895E+02	3.661E+02	3.142E+02
IY= 1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
IZ=	21	22	23	24	25
IY= 20	8.840E+02	8.833E+02	8.835E+02	8.895E+02	
IY= 19	8.831E+02	8.824E+02	8.827E+02	8.895E+02	
IY= 18	8.815E+02	8.808E+02	8.813E+02	8.895E+02	
IY= 17	8.793E+02	8.787E+02	8.796E+02	8.894E+02	
IY= 16	8.772E+02	8.769E+02	8.782E+02	8.894E+02	
IY= 15	8.758E+02	8.758E+02	8.775E+02	8.894E+02	
IY= 14	8.751E+02	8.753E+02	8.773E+02	8.892E+02	
IY= 13	8.752E+02	8.756E+02	8.776E+02	8.891E+02	
IY= 12	8.755E+02	8.758E+02	8.775E+02	8.887E+02	
IY= 11	8.749E+02	8.747E+02	8.760E+02	8.879E+02	
IY= 10	8.720E+02	8.707E+02	8.715E+02	8.865E+02	
IY= 9	8.643E+02	8.618E+02	8.631E+02	8.842E+02	
IY= 8	8.508E+02	8.505E+02	8.550E+02	8.802E+02	
IY= 7	8.365E+02	8.404E+02	8.468E+02	8.685E+02	
IY= 6	7.761E+02	7.782E+02	7.890E+02	8.201E+02	
IY= 5	6.995E+02	7.013E+02	7.155E+02	7.565E+02	
IY= 4	6.024E+02	6.036E+02	6.225E+02	6.770E+02	
IY= 3	4.808E+02	4.792E+02	5.046E+02	5.775E+02	
IY= 2	2.768E+02	2.595E+02	2.760E+02	3.721E+02	
IY= 1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	
IZ=	26	27	28	29	

FIELD VALUES OF H1

IY= 20	6.149E+05	6.149E+05	6.149E+05	6.149E+05	6.149E+05
IY= 19	6.149E+05	6.149E+05	6.149E+05	6.149E+05	6.149E+05
IY= 18	6.149E+05	6.149E+05	6.149E+05	6.149E+05	6.150E+05
IY= 17	6.149E+05	6.149E+05	6.149E+05	6.149E+05	6.150E+05
IY= 16	6.149E+05	6.149E+05	6.149E+05	6.149E+05	6.150E+05
IY= 15	6.149E+05	6.149E+05	6.149E+05	6.149E+05	6.150E+05
IY= 14	6.149E+05	6.149E+05	6.149E+05	6.150E+05	6.150E+05
IY= 13	6.149E+05	6.149E+05	6.149E+05	6.150E+05	6.150E+05
IY= 12	6.149E+05	6.149E+05	6.149E+05	6.150E+05	6.151E+05
IY= 11	6.149E+05	6.149E+05	6.149E+05	6.150E+05	6.152E+05
IY= 10	6.149E+05	6.149E+05	6.150E+05	6.150E+05	6.153E+05
IY= 9	6.149E+05	6.149E+05	6.150E+05	6.151E+05	6.156E+05
IY= 8	6.149E+05	6.149E+05	6.150E+05	6.152E+05	6.165E+05
IY= 7	6.149E+05	6.149E+05	6.150E+05	6.154E+05	6.182E+05
IY= 6	6.149E+05	6.149E+05	6.150E+05	6.154E+05	6.194E+05
IY= 5	6.149E+05	6.149E+05	6.150E+05	6.155E+05	6.195E+05
IY= 4	6.149E+05	6.149E+05	6.150E+05	6.155E+05	6.196E+05
IY= 3	6.149E+05	6.149E+05	6.150E+05	6.155E+05	6.197E+05
IY= 2	6.149E+05	6.149E+05	6.150E+05	6.155E+05	6.197E+05
IY= 1	6.149E+05	6.149E+05	6.150E+05	6.155E+05	6.199E+05
IZ=	1	2	3	4	5
IY= 20	6.150E+05	6.150E+05	6.151E+05	6.151E+05	6.150E+05
IY= 19	6.150E+05	6.151E+05	6.161E+05	6.160E+05	6.150E+05
IY= 18	6.150E+05	6.155E+05	6.182E+05	6.178E+05	6.150E+05
IY= 17	6.151E+05	6.159E+05	6.212E+05	6.204E+05	6.150E+05
IY= 16	6.152E+05	6.166E+05	6.251E+05	6.236E+05	6.150E+05
IY= 15	6.153E+05	6.173E+05	6.296E+05	6.273E+05	6.148E+05
IY= 14	6.154E+05	6.182E+05	6.347E+05	6.315E+05	6.147E+05
IY= 13	6.156E+05	6.192E+05	6.402E+05	6.359E+05	6.143E+05
IY= 12	6.158E+05	6.202E+05	6.436E+05	6.384E+05	6.121E+05
IY= 11	6.160E+05	6.211E+05	6.436E+05	6.377E+05	6.075E+05
IY= 10	6.165E+05	6.222E+05	6.436E+05	6.371E+05	6.038E+05
IY= 9	6.179E+05	6.238E+05	6.436E+05	6.373E+05	6.030E+05
IY= 8	6.226E+05	6.272E+05	6.436E+05	6.396E+05	6.069E+05
IY= 7	6.351E+05	6.371E+05	6.436E+05	6.435E+05	6.109E+05

IY= 6	6.436E+05	6.436E+05	6.436E+05	6.421E+05	5.919E+05
IY= 5	6.436E+05	6.436E+05	6.436E+05	6.412E+05	5.859E+05
IY= 4	6.433E+05	6.436E+05	6.436E+05	6.436E+05	5.783E+05
IY= 3	6.414E+05	6.436E+05	6.436E+05	6.436E+05	5.663E+05
IY= 2	6.398E+05	6.436E+05	6.436E+05	6.436E+05	5.311E+05
IY= 1	6.436E+05	3.576E+05	3.576E+05	3.576E+05	3.576E+05
IZ=	6	7	8	9	10
IY= 20	6.151E+05	6.152E+05	6.152E+05	6.153E+05	6.154E+05
IY= 19	6.151E+05	6.152E+05	6.152E+05	6.153E+05	6.154E+05
IY= 18	6.151E+05	6.151E+05	6.152E+05	6.153E+05	6.155E+05
IY= 17	6.150E+05	6.151E+05	6.152E+05	6.153E+05	6.157E+05
IY= 16	6.150E+05	6.150E+05	6.151E+05	6.154E+05	6.161E+05
IY= 15	6.148E+05	6.149E+05	6.151E+05	6.157E+05	6.169E+05
IY= 14	6.145E+05	6.147E+05	6.153E+05	6.165E+05	6.184E+05
IY= 13	6.142E+05	6.147E+05	6.160E+05	6.182E+05	6.206E+05
IY= 12	6.126E+05	6.141E+05	6.166E+05	6.194E+05	6.218E+05
IY= 11	6.095E+05	6.126E+05	6.160E+05	6.186E+05	6.200E+05
IY= 10	6.078E+05	6.122E+05	6.152E+05	6.165E+05	6.164E+05
IY= 9	6.085E+05	6.121E+05	6.132E+05	6.126E+05	6.115E+05
IY= 8	6.106E+05	6.105E+05	6.089E+05	6.073E+05	6.062E+05
IY= 7	6.075E+05	6.033E+05	6.010E+05	6.001E+05	6.000E+05
IY= 6	5.838E+05	5.803E+05	5.765E+05	5.719E+05	5.681E+05
IY= 5	5.769E+05	5.714E+05	5.649E+05	5.579E+05	5.522E+05
IY= 4	5.666E+05	5.559E+05	5.450E+05	5.352E+05	5.275E+05
IY= 3	5.459E+05	5.260E+05	5.107E+05	4.978E+05	4.880E+05
IY= 2	4.957E+05	4.654E+05	4.419E+05	4.241E+05	4.115E+05
IY= 1	3.576E+05	3.576E+05	3.576E+05	3.576E+05	3.576E+05
IZ=	11	12	13	14	15
IY= 20	6.155E+05	6.158E+05	6.163E+05	6.164E+05	6.165E+05
IY= 19	6.156E+05	6.160E+05	6.166E+05	6.168E+05	6.170E+05
IY= 18	6.159E+05	6.165E+05	6.174E+05	6.176E+05	6.178E+05
IY= 17	6.163E+05	6.173E+05	6.186E+05	6.189E+05	6.192E+05
IY= 16	6.172E+05	6.187E+05	6.203E+05	6.206E+05	6.211E+05
IY= 15	6.186E+05	6.206E+05	6.223E+05	6.227E+05	6.231E+05
IY= 14	6.206E+05	6.227E+05	6.242E+05	6.245E+05	6.249E+05
IY= 13	6.229E+05	6.245E+05	6.253E+05	6.254E+05	6.257E+05
IY= 12	6.233E+05	6.238E+05	6.237E+05	6.237E+05	6.241E+05
IY= 11	6.202E+05	6.198E+05	6.192E+05	6.192E+05	6.197E+05
IY= 10	6.156E+05	6.146E+05	6.140E+05	6.141E+05	6.149E+05
IY= 9	6.103E+05	6.096E+05	6.096E+05	6.099E+05	6.111E+05
IY= 8	6.058E+05	6.059E+05	6.067E+05	6.076E+05	6.093E+05
IY= 7	6.001E+05	6.005E+05	6.015E+05	6.064E+05	6.094E+05
IY= 6	5.649E+05	5.618E+05	5.501E+05	5.910E+05	5.993E+05
IY= 5	5.477E+05	5.429E+05	5.280E+05	5.658E+05	5.747E+05
IY= 4	5.214E+05	5.150E+05	4.992E+05	5.402E+05	5.514E+05
IY= 3	4.805E+05	4.731E+05	4.617E+05	5.110E+05	5.250E+05
IY= 2	4.030E+05	3.983E+05	4.084E+05	4.709E+05	4.787E+05
IY= 1	3.576E+05	3.576E+05	3.576E+05	3.576E+05	3.576E+05
IZ=	16	17	18	19	20
IY= 20	6.167E+05	6.168E+05	6.170E+05	6.172E+05	6.177E+05
IY= 19	6.171E+05	6.173E+05	6.175E+05	6.178E+05	6.183E+05
IY= 18	6.181E+05	6.183E+05	6.186E+05	6.189E+05	6.196E+05
IY= 17	6.195E+05	6.199E+05	6.202E+05	6.206E+05	6.213E+05
IY= 16	6.214E+05	6.218E+05	6.222E+05	6.226E+05	6.233E+05
IY= 15	6.235E+05	6.238E+05	6.241E+05	6.245E+05	6.250E+05
IY= 14	6.251E+05	6.254E+05	6.256E+05	6.258E+05	6.260E+05
IY= 13	6.258E+05	6.259E+05	6.260E+05	6.260E+05	6.258E+05
IY= 12	6.240E+05	6.240E+05	6.240E+05	6.238E+05	6.234E+05
IY= 11	6.196E+05	6.196E+05	6.195E+05	6.194E+05	6.189E+05
IY= 10	6.149E+05	6.150E+05	6.151E+05	6.151E+05	6.149E+05
IY= 9	6.114E+05	6.116E+05	6.120E+05	6.126E+05	6.134E+05
IY= 8	6.101E+05	6.112E+05	6.124E+05	6.142E+05	6.173E+05
IY= 7	6.122E+05	6.153E+05	6.185E+05	6.213E+05	6.219E+05
IY= 6	6.084E+05	6.108E+05	6.094E+05	6.063E+05	5.886E+05
IY= 5	5.833E+05	5.855E+05	5.843E+05	5.822E+05	5.620E+05
IY= 4	5.575E+05	5.584E+05	5.569E+05	5.549E+05	5.325E+05
IY= 3	5.284E+05	5.285E+05	5.267E+05	5.245E+05	4.984E+05
IY= 2	4.750E+05	4.705E+05	4.656E+05	4.623E+05	4.354E+05
IY= 1	3.576E+05	3.576E+05	3.576E+05	3.576E+05	3.576E+05
IZ=	21	22	23	24	25

IY= 20	6.182E+05	6.189E+05	6.195E+05	6.193E+05	6.141E+05
IY= 19	6.189E+05	6.196E+05	6.203E+05	6.200E+05	6.141E+05
IY= 18	6.203E+05	6.211E+05	6.217E+05	6.212E+05	6.142E+05
IY= 17	6.221E+05	6.229E+05	6.234E+05	6.226E+05	6.143E+05
IY= 16	6.241E+05	6.247E+05	6.250E+05	6.238E+05	6.143E+05
IY= 15	6.255E+05	6.259E+05	6.259E+05	6.243E+05	6.143E+05
IY= 14	6.262E+05	6.262E+05	6.260E+05	6.242E+05	6.142E+05
IY= 13	6.257E+05	6.256E+05	6.252E+05	6.235E+05	6.137E+05
IY= 12	6.232E+05	6.231E+05	6.228E+05	6.213E+05	6.118E+05
IY= 11	6.189E+05	6.191E+05	6.193E+05	6.183E+05	6.082E+05
IY= 10	6.155E+05	6.166E+05	6.178E+05	6.171E+05	6.045E+05
IY= 9	6.154E+05	6.179E+05	6.199E+05	6.186E+05	6.014E+05
IY= 8	6.205E+05	6.224E+05	6.224E+05	6.185E+05	5.983E+05
IY= 7	6.201E+05	6.172E+05	6.139E+05	6.087E+05	5.914E+05
IY= 6	5.919E+05	5.937E+05	5.928E+05	5.885E+05	5.722E+05
IY= 5	5.665E+05	5.687E+05	5.680E+05	5.643E+05	5.480E+05
IY= 4	5.378E+05	5.403E+05	5.397E+05	5.365E+05	5.198E+05
IY= 3	5.034E+05	5.053E+05	5.048E+05	5.024E+05	4.857E+05
IY= 2	4.364E+05	4.332E+05	4.272E+05	4.251E+05	4.119E+05
IY= 1	3.576E+05	3.576E+05	3.576E+05	3.576E+05	3.576E+05
IZ=	26	27	28	29	30

FIELD VALUES OF TMP1

IY= 20	1.990E+02	1.990E+02	1.990E+02	1.990E+02	1.990E+02
IY= 19	1.990E+02	1.990E+02	1.990E+02	1.990E+02	1.990E+02
IY= 18	1.990E+02	1.990E+02	1.990E+02	1.990E+02	1.990E+02
IY= 17	1.990E+02	1.990E+02	1.990E+02	1.990E+02	1.990E+02
IY= 16	1.990E+02	1.990E+02	1.990E+02	1.990E+02	1.990E+02
IY= 15	1.990E+02	1.990E+02	1.990E+02	1.990E+02	1.991E+02
IY= 14	1.990E+02	1.990E+02	1.990E+02	1.990E+02	1.991E+02
IY= 13	1.990E+02	1.990E+02	1.990E+02	1.990E+02	1.992E+02
IY= 12	1.990E+02	1.990E+02	1.990E+02	1.990E+02	1.992E+02
IY= 11	1.990E+02	1.990E+02	1.990E+02	1.991E+02	1.994E+02
IY= 10	1.990E+02	1.990E+02	1.990E+02	1.991E+02	1.996E+02
IY= 9	1.990E+02	1.990E+02	1.990E+02	1.992E+02	2.002E+02
IY= 8	1.990E+02	1.990E+02	1.990E+02	1.994E+02	2.017E+02
IY= 7	1.990E+02	1.990E+02	1.991E+02	1.998E+02	2.048E+02
IY= 6	1.990E+02	1.990E+02	1.991E+02	1.999E+02	2.064E+02
IY= 5	1.990E+02	1.990E+02	1.991E+02	1.999E+02	2.068E+02
IY= 4	1.990E+02	1.990E+02	1.991E+02	1.999E+02	2.071E+02
IY= 3	1.990E+02	1.990E+02	1.991E+02	1.999E+02	2.073E+02
IY= 2	1.990E+02	1.990E+02	1.991E+02	1.999E+02	2.075E+02
IY= 1	1.988E+02	1.988E+02	1.989E+02	1.998E+02	2.076E+02
IZ=	1	2	3	4	5
IY= 20	1.990E+02	1.990E+02	1.994E+02	1.994E+02	1.992E+02
IY= 19	1.990E+02	1.993E+02	2.029E+02	2.026E+02	1.992E+02
IY= 18	1.991E+02	1.999E+02	2.097E+02	2.089E+02	1.992E+02
IY= 17	1.993E+02	2.008E+02	2.195E+02	2.179E+02	1.992E+02
IY= 16	1.994E+02	2.020E+02	2.320E+02	2.294E+02	1.992E+02
IY= 15	1.996E+02	2.034E+02	2.468E+02	2.427E+02	1.991E+02
IY= 14	1.999E+02	2.050E+02	2.635E+02	2.579E+02	1.992E+02
IY= 13	2.002E+02	2.069E+02	2.814E+02	2.741E+02	1.988E+02
IY= 12	2.005E+02	2.087E+02	2.976E+02	2.886E+02	1.968E+02
IY= 11	2.010E+02	2.104E+02	3.099E+02	2.998E+02	1.927E+02
IY= 10	2.019E+02	2.123E+02	3.220E+02	3.111E+02	1.904E+02
IY= 9	2.043E+02	2.150E+02	3.324E+02	3.220E+02	1.930E+02
IY= 8	2.120E+02	2.204E+02	3.367E+02	3.303E+02	2.032E+02
IY= 7	2.313E+02	2.368E+02	3.286E+02	3.290E+02	2.139E+02
IY= 6	2.479E+02	2.605E+02	3.340E+02	3.301E+02	1.961E+02
IY= 5	2.522E+02	2.646E+02	3.349E+02	3.274E+02	1.925E+02
IY= 4	2.543E+02	2.670E+02	3.332E+02	3.269E+02	1.946E+02
IY= 3	2.538E+02	2.615E+02	3.063E+02	2.949E+02	2.026E+02
IY= 2	2.535E+02	2.773E+02	3.522E+02	3.406E+02	1.379E+02
IY= 1	2.626E+02	3.230E+02	3.230E+02	3.230E+02	3.230E+02
IZ=	6	7	8	9	10
IY= 20	1.993E+02	1.994E+02	1.995E+02	1.996E+02	1.998E+02
IY= 19	1.993E+02	1.994E+02	1.995E+02	1.996E+02	1.998E+02
IY= 18	1.993E+02	1.994E+02	1.995E+02	1.996E+02	2.000E+02
IY= 17	1.992E+02	1.993E+02	1.995E+02	1.997E+02	2.004E+02
IY= 16	1.992E+02	1.993E+02	1.995E+02	2.000E+02	2.012E+02
IY= 15	1.990E+02	1.991E+02	1.996E+02	2.007E+02	2.027E+02

IY= 14	1.989E+02	1.992E+02	2.002E+02	2.024E+02	2.057E+02
IY= 13	1.985E+02	1.995E+02	2.018E+02	2.055E+02	2.100E+02
IY= 12	1.974E+02	2.001E+02	2.044E+02	2.094E+02	2.137E+02
IY= 11	1.959E+02	2.013E+02	2.072E+02	2.120E+02	2.147E+02
IY= 10	1.972E+02	2.048E+02	2.105E+02	2.130E+02	2.130E+02
IY= 9	2.027E+02	2.093E+02	2.116E+02	2.108E+02	2.089E+02
IY= 8	2.106E+02	2.111E+02	2.087E+02	2.061E+02	2.044E+02
IY= 7	2.118E+02	2.059E+02	2.025E+02	2.020E+02	2.028E+02
IY= 6	2.084E+02	2.139E+02	2.160E+02	2.181E+02	2.220E+02
IY= 5	2.119E+02	2.171E+02	2.199E+02	2.239E+02	2.300E+02
IY= 4	2.159E+02	2.194E+02	2.256E+02	2.340E+02	2.439E+02
IY= 3	2.138E+02	2.208E+02	2.385E+02	2.540E+02	2.693E+02
IY= 2	1.942E+02	2.357E+02	2.677E+02	2.913E+02	3.093E+02
IY= 1	3.230E+02	3.230E+02	3.230E+02	3.230E+02	3.230E+02
IZ=	11	12	13	14	15
IY= 20	2.001E+02	2.006E+02	2.015E+02	2.017E+02	2.019E+02
IY= 19	2.002E+02	2.010E+02	2.021E+02	2.023E+02	2.027E+02
IY= 18	2.007E+02	2.018E+02	2.034E+02	2.037E+02	2.043E+02
IY= 17	2.015E+02	2.034E+02	2.056E+02	2.061E+02	2.068E+02
IY= 16	2.031E+02	2.058E+02	2.087E+02	2.093E+02	2.102E+02
IY= 15	2.057E+02	2.092E+02	2.124E+02	2.130E+02	2.139E+02
IY= 14	2.096E+02	2.133E+02	2.161E+02	2.165E+02	2.173E+02
IY= 13	2.140E+02	2.169E+02	2.184E+02	2.186E+02	2.194E+02
IY= 12	2.166E+02	2.177E+02	2.177E+02	2.176E+02	2.187E+02
IY= 11	2.153E+02	2.147E+02	2.137E+02	2.136E+02	2.154E+02
IY= 10	2.117E+02	2.102E+02	2.091E+02	2.092E+02	2.119E+02
IY= 9	2.071E+02	2.059E+02	2.059E+02	2.064E+02	2.102E+02
IY= 8	2.037E+02	2.040E+02	2.057E+02	2.075E+02	2.122E+02
IY= 7	2.040E+02	2.056E+02	2.095E+02	2.222E+02	2.276E+02
IY= 6	2.267E+02	2.314E+02	2.332E+02	3.407E+02	3.042E+02
IY= 5	2.368E+02	2.431E+02	2.462E+02	3.672E+02	3.412E+02
IY= 4	2.538E+02	2.627E+02	2.706E+02	4.040E+02	3.762E+02
IY= 3	2.834E+02	2.958E+02	3.121E+02	4.370E+02	4.066E+02
IY= 2	3.228E+02	3.339E+02	3.554E+02	4.254E+02	4.055E+02
IY= 1	3.230E+02	3.230E+02	3.230E+02	3.230E+02	3.230E+02
IZ=	16	17	18	19	20
IY= 20	2.021E+02	2.024E+02	2.027E+02	2.032E+02	2.040E+02
IY= 19	2.030E+02	2.033E+02	2.037E+02	2.042E+02	2.051E+02
IY= 18	2.047E+02	2.051E+02	2.056E+02	2.062E+02	2.073E+02
IY= 17	2.073E+02	2.079E+02	2.085E+02	2.092E+02	2.105E+02
IY= 16	2.108E+02	2.114E+02	2.121E+02	2.128E+02	2.140E+02
IY= 15	2.145E+02	2.150E+02	2.156E+02	2.162E+02	2.171E+02
IY= 14	2.177E+02	2.181E+02	2.185E+02	2.188E+02	2.190E+02
IY= 13	2.195E+02	2.196E+02	2.197E+02	2.197E+02	2.191E+02
IY= 12	2.186E+02	2.186E+02	2.184E+02	2.182E+02	2.169E+02
IY= 11	2.152E+02	2.151E+02	2.149E+02	2.147E+02	2.130E+02
IY= 10	2.119E+02	2.119E+02	2.119E+02	2.119E+02	2.104E+02
IY= 9	2.105E+02	2.108E+02	2.113E+02	2.121E+02	2.122E+02
IY= 8	2.134E+02	2.148E+02	2.167E+02	2.194E+02	2.235E+02
IY= 7	2.311E+02	2.354E+02	2.401E+02	2.447E+02	2.473E+02
IY= 6	2.924E+02	2.829E+02	2.736E+02	2.637E+02	2.351E+02
IY= 5	3.326E+02	3.238E+02	3.130E+02	2.999E+02	2.608E+02
IY= 4	3.685E+02	3.618E+02	3.515E+02	3.368E+02	2.911E+02
IY= 3	4.003E+02	3.959E+02	3.860E+02	3.705E+02	3.188E+02
IY= 2	4.024E+02	3.992E+02	3.912E+02	3.798E+02	3.327E+02
IY= 1	3.230E+02	3.230E+02	3.230E+02	3.230E+02	3.230E+02
IZ=	21	22	23	24	25
IY= 20	2.050E+02	2.061E+02	2.071E+02	2.069E+02	1.973E+02
IY= 19	2.062E+02	2.074E+02	2.086E+02	2.081E+02	1.973E+02
IY= 18	2.086E+02	2.100E+02	2.111E+02	2.103E+02	1.973E+02
IY= 17	2.119E+02	2.132E+02	2.142E+02	2.127E+02	1.974E+02
IY= 16	2.153E+02	2.164E+02	2.169E+02	2.148E+02	1.973E+02
IY= 15	2.180E+02	2.186E+02	2.186E+02	2.158E+02	1.973E+02
IY= 14	2.193E+02	2.194E+02	2.190E+02	2.158E+02	1.972E+02
IY= 13	2.190E+02	2.187E+02	2.181E+02	2.149E+02	1.970E+02
IY= 12	2.164E+02	2.162E+02	2.158E+02	2.130E+02	1.955E+02
IY= 11	2.127E+02	2.131E+02	2.134E+02	2.114E+02	1.928E+02
IY= 10	2.111E+02	2.129E+02	2.148E+02	2.133E+02	1.900E+02
IY= 9	2.152E+02	2.194E+02	2.228E+02	2.205E+02	1.882E+02
IY= 8	2.294E+02	2.331E+02	2.335E+02	2.267E+02	1.868E+02

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IY=  7  2.453E+02  2.404E+02  2.346E+02  2.250E+02  1.926E+02
IY=  6  2.565E+02  2.634E+02  2.611E+02  2.498E+02  2.125E+02
IY=  5  2.844E+02  2.921E+02  2.903E+02  2.780E+02  2.361E+02
IY=  4  3.151E+02  3.237E+02  3.226E+02  3.093E+02  2.622E+02
IY=  3  3.425E+02  3.519E+02  3.522E+02  3.387E+02  2.880E+02
IY=  2  3.496E+02  3.567E+02  3.555E+02  3.496E+02  3.095E+02
IY=  1  3.230E+02  3.230E+02  3.230E+02  3.230E+02  3.230E+02
IZ=      26         27         28         29         30
FIELD VALUES OF ENUL
IY= 20  7.549E-06  7.549E-06  7.549E-06  7.549E-06  7.549E-06
IY= 19  7.549E-06  7.549E-06  7.549E-06  7.549E-06  7.549E-06
IY= 18  7.549E-06  7.549E-06  7.549E-06  7.549E-06  7.549E-06
IY= 17  7.549E-06  7.549E-06  7.549E-06  7.549E-06  7.549E-06
IY= 16  7.549E-06  7.549E-06  7.549E-06  7.549E-06  7.549E-06
IY= 15  7.549E-06  7.549E-06  7.549E-06  7.549E-06  7.549E-06
IY= 14  7.550E-06  7.550E-06  7.550E-06  7.549E-06  7.548E-06
IY= 13  7.550E-06  7.550E-06  7.550E-06  7.550E-06  7.548E-06
IY= 12  7.550E-06  7.550E-06  7.550E-06  7.549E-06  7.548E-06
IY= 11  7.550E-06  7.550E-06  7.550E-06  7.550E-06  7.547E-06
IY= 10  7.551E-06  7.551E-06  7.550E-06  7.550E-06  7.546E-06
IY=  9  7.551E-06  7.551E-06  7.551E-06  7.549E-06  7.538E-06
IY=  8  7.552E-06  7.551E-06  7.551E-06  7.547E-06  7.522E-06
IY=  7  7.552E-06  7.552E-06  7.551E-06  7.544E-06  7.492E-06
IY=  6  7.553E-06  7.553E-06  7.552E-06  7.542E-06  7.444E-06
IY=  5  7.553E-06  7.552E-06  7.552E-06  7.542E-06  7.456E-06
IY=  4  7.553E-06  7.552E-06  7.552E-06  7.542E-06  7.463E-06
IY=  3  7.553E-06  7.552E-06  7.552E-06  7.543E-06  7.465E-06
IY=  2  7.553E-06  7.552E-06  7.552E-06  7.542E-06  7.466E-06
IY=  1  7.545E-06  7.544E-06  7.542E-06  7.532E-06  7.457E-06
IZ=       1          2          3          4          5
IY= 20  7.549E-06  7.549E-06  7.559E-06  7.559E-06  7.548E-06
IY= 19  7.548E-06  7.546E-06  7.636E-06  7.639E-06  7.548E-06
IY= 18  7.548E-06  7.541E-06  7.787E-06  7.795E-06  7.549E-06
IY= 17  7.546E-06  7.534E-06  8.002E-06  8.018E-06  7.550E-06
IY= 16  7.545E-06  7.526E-06  8.269E-06  8.296E-06  7.550E-06
IY= 15  7.543E-06  7.515E-06  8.575E-06  8.614E-06  7.548E-06
IY= 14  7.541E-06  7.504E-06  8.904E-06  8.968E-06  7.554E-06
IY= 13  7.538E-06  7.491E-06  9.247E-06  9.338E-06  7.554E-06
IY= 12  7.535E-06  7.480E-06  9.542E-06  9.664E-06  7.490E-06
IY= 11  7.531E-06  7.470E-06  9.751E-06  9.902E-06  7.318E-06
IY= 10  7.523E-06  7.456E-06  9.931E-06  1.010E-05  7.128E-06
IY=  9  7.494E-06  7.424E-06  1.001E-05  1.018E-05  6.910E-06
IY=  8  7.391E-06  7.331E-06  9.773E-06  9.889E-06  6.691E-06
IY=  7  6.997E-06  7.063E-06  8.762E-06  8.809E-06  6.428E-06
IY=  6  5.997E-06  6.572E-06  8.111E-06  8.457E-06  6.007E-06
IY=  5  6.070E-06  6.294E-06  7.602E-06  7.903E-06  5.893E-06
IY=  4  6.045E-06  6.150E-06  6.999E-06  7.071E-06  6.121E-06
IY=  3  5.921E-06  5.469E-06  4.607E-06  4.503E-06  6.824E-06
IY=  2  5.791E-06  3.282E-06  4.887E-06  4.621E-06  4.327E-06
IY=  1  5.665E-06  8.461E-05  8.461E-05  8.461E-05  8.461E-05
IZ=       6          7          8          9          10
IY= 20  7.547E-06  7.546E-06  7.545E-06  7.544E-06  7.542E-06
IY= 19  7.547E-06  7.546E-06  7.545E-06  7.544E-06  7.542E-06
IY= 18  7.547E-06  7.547E-06  7.546E-06  7.544E-06  7.541E-06
IY= 17  7.548E-06  7.547E-06  7.546E-06  7.543E-06  7.537E-06
IY= 16  7.547E-06  7.547E-06  7.545E-06  7.539E-06  7.527E-06
IY= 15  7.544E-06  7.543E-06  7.539E-06  7.527E-06  7.506E-06
IY= 14  7.548E-06  7.546E-06  7.535E-06  7.511E-06  7.476E-06
IY= 13  7.546E-06  7.536E-06  7.511E-06  7.470E-06  7.420E-06
IY= 12  7.470E-06  7.443E-06  7.396E-06  7.336E-06  7.284E-06
IY= 11  7.272E-06  7.214E-06  7.142E-06  7.087E-06  7.054E-06
IY= 10  7.039E-06  6.950E-06  6.891E-06  6.863E-06  6.860E-06
IY=  9  6.801E-06  6.739E-06  6.721E-06  6.731E-06  6.752E-06
IY=  8  6.650E-06  6.659E-06  6.694E-06  6.728E-06  6.750E-06
IY=  7  6.619E-06  6.740E-06  6.792E-06  6.816E-06  6.834E-06
IY=  6  7.137E-06  7.491E-06  7.605E-06  7.765E-06  7.982E-06
IY=  5  7.405E-06  7.695E-06  7.835E-06  8.115E-06  8.471E-06
IY=  4  7.719E-06  7.843E-06  8.174E-06  8.735E-06  9.339E-06
IY=  3  7.670E-06  7.932E-06  8.967E-06  1.001E-05  1.102E-05
IY=  2  6.557E-06  8.836E-06  1.087E-05  1.258E-05  1.388E-05
```

IY= 1	8.461E-05	8.461E-05	8.461E-05	8.461E-05	8.461E-05
IZ=	11	12	13	14	15
IY= 20	7.540E-06	7.534E-06	7.526E-06	7.524E-06	7.522E-06
IY= 19	7.538E-06	7.530E-06	7.520E-06	7.517E-06	7.515E-06
IY= 18	7.534E-06	7.522E-06	7.506E-06	7.503E-06	7.502E-06
IY= 17	7.525E-06	7.506E-06	7.483E-06	7.478E-06	7.478E-06
IY= 16	7.507E-06	7.479E-06	7.449E-06	7.443E-06	7.442E-06
IY= 15	7.474E-06	7.438E-06	7.406E-06	7.400E-06	7.398E-06
IY= 14	7.434E-06	7.396E-06	7.369E-06	7.362E-06	7.364E-06
IY= 13	7.376E-06	7.344E-06	7.325E-06	7.319E-06	7.330E-06
IY= 12	7.249E-06	7.230E-06	7.222E-06	7.219E-06	7.245E-06
IY= 11	7.041E-06	7.041E-06	7.046E-06	7.046E-06	7.093E-06
IY= 10	6.870E-06	6.883E-06	6.891E-06	6.893E-06	6.959E-06
IY= 9	6.772E-06	6.784E-06	6.782E-06	6.784E-06	6.863E-06
IY= 8	6.759E-06	6.7[illegible]E-06	6.736E-06	6.743E-06	6.812E-06
IY= 7	6.848E-06	6.85[illegible]-06	6.754E-06	6.915E-06	6.889E-06
IY= 6	8.200E-06	[illegible]E-06	7.852E-06	1.081E-05	9.104E-06
IY= 5	8.819E-06	[illegible]E-06	8.575E-06	1.229E-05	1.082E-05
IY= 4	9.904E-06	1.031E-05	1.002E-05	1.458E-05	1.249E-05
IY= 3	1.191E-05	1.256E-05	1.269E-05	1.684E-05	1.398E-05
IY= 2	1.478E-05	1.537E-05	1.576E-05	1.616E-05	1.379E-05
IY= 1	8.461E-05	8.461E-05	8.461E-05	8.461E-05	8.461E-05
IZ=	16	17	18	19	20
IY= 20	7.520E-06	7.517E-06	7.514E-06	7.510E-06	7.502E-06
IY= 19	7.512E-06	7.509E-06	7.505E-06	7.500E-06	7.490E-06
IY= 18	7.497E-06	7.492E-06	7.487E-06	7.480E-06	7.466E-06
IY= 17	7.471E-06	7.465E-06	7.458E-06	7.449E-06	7.432E-06
IY= 16	7.434E-06	7.426E-06	7.418E-06	7.410E-06	7.391E-06
IY= 15	7.391E-06	7.384E-06	7.376E-06	7.369E-06	7.352E-06
IY= 14	7.359E-06	7.353E-06	7.349E-06	7.345E-06	7.331E-06
IY= 13	7.328E-06	7.326E-06	7.325E-06	7.325E-06	7.311E-06
IY= 12	7.247E-06	7.249E-06	7.252E-06	7.256E-06	7.237E-06
IY= 11	7.098E-06	7.103E-06	7.109E-06	7.115E-06	7.084E-06
IY= 10	6.964E-06	6.968E-06	6.972E-06	6.975E-06	6.924E-06
IY= 9	6.862E-06	6.860E-06	6.856E-06	6.847E-06	6.763E-06
IY= 8	6.794E-06	6.769E-06	6.736E-06	6.693E-06	6.572E-06
IY= 7	6.797E-06	6.705E-06	6.631E-06	6.588E-06	6.630E-06
IY= 6	8.114E-06	7.665E-06	7.514E-06	7.534E-06	7.398E-06
IY= 5	9.937E-06	9.549E-06	9.386E-06	9.373E-06	8.905E-06
IY= 4	1.169E-05	1.147E-05	1.138E-05	1.139E-05	1.078E-05
IY= 3	1.336E-05	1.332E-05	1.330E-05	1.337E-05	1.262E-05
IY= 2	1.347E-05	1.351E-05	1.359E-05	1.390E-05	1.359E-05
IY= 1	8.461E-05	8.461E-05	8.461E-05	8.461E-05	8.461E-05
IZ=	21	22	23	24	25
IY= 20	7.492E-06	7.481E-06	7.471E-06	7.473E-06	7.574E-06
IY= 19	7.479E-06	7.466E-06	7.455E-06	7.459E-06	7.574E-06
IY= 18	7.453E-06	7.439E-06	7.428E-06	7.434E-06	7.573E-06
IY= 17	7.418E-06	7.404E-06	7.394E-06	7.406E-06	7.573E-06
IY= 16	7.378E-06	7.368E-06	7.362E-06	7.381E-06	7.571E-06
IY= 15	7.344E-06	7.339E-06	7.338E-06	7.363E-06	7.567E-06
IY= 14	7.328E-06	7.327E-06	7.332E-06	7.361E-06	7.565E-06
IY= 13	7.312E-06	7.315E-06	7.321E-06	7.350E-06	7.547E-06
IY= 12	7.235E-06	7.237E-06	7.241E-06	7.265E-06	7.456E-06
IY= 11	7.075E-06	7.071E-06	7.065E-06	7.078E-06	7.280E-06
IY= 10	6.900E-06	6.875E-06	6.846E-06	6.843E-06	7.098E-06
IY= 9	6.707E-06	6.652E-06	6.608E-06	6.620E-06	6.982E-06
IY= 8	6.524E-06	6.502E-06	6.510E-06	6.578E-06	7.014E-06
IY= 7	6.706E-06	6.762E-06	6.809E-06	6.894E-06	7.262E-06
IY= 6	7.982E-06	8.137E-06	8.203E-06	8.343E-06	8.582E-06
IY= 5	9.535E-06	9.684E-06	9.794E-06	9.993E-06	1.025E-05
IY= 4	1.136E-05	1.150E-05	1.168E-05	1.195E-05	1.224E-05
IY= 3	1.308E-05	1.322E-05	1.352E-05	1.391E-05	1.434E-05
IY= 2	1.354E-05	1.353E-05	1.373E-05	1.466E-05	1.620E-05
IY= 1	8.461E-05	8.461E-05	8.461E-05	8.461E-05	8.461E-05
IZ=	26	27	28	29	30
FIELD VALUES OF RHO1					
IY= 20	1.836E+00	1.836E+00	1.836E+00	1.836E+00	1.836E+00
IY= 19	1.835E+00	1.835E+00	1.835E+00	1.836E+00	1.836E+00
IY= 18	1.835E+00	1.835E+00	1.835E+00	1.836E+00	1.836E+00
IY= 17	1.835E+00	1.835E+00	1.835E+00	1.836E+00	1.836E+00

IY= 16	1.835E+00	1.835E+00	1.835E+00	1.836E+00	1.836E+00
IY= 15	1.835E+00	1.835E+00	1.835E+00	1.836E+00	1.836E+00
IY= 14	1.835E+00	1.835E+00	1.835E+00	1.836E+00	1.837E+00
IY= 13	1.835E+00	1.835E+00	1.835E+00	1.836E+00	1.837E+00
IY= 12	1.835E+00	1.835E+00	1.835E+00	1.836E+00	1.838E+00
IY= 11	1.835E+00	1.835E+00	1.835E+00	1.836E+00	1.838E+00
IY= 10	1.835E+00	1.835E+00	1.835E+00	1.836E+00	1.840E+00
IY= 9	1.835E+00	1.835E+00	1.835E+00	1.837E+00	1.846E+00
IY= 8	1.835E+00	1.835E+00	1.835E+00	1.839E+00	1.859E+00
IY= 7	1.835E+00	1.835E+00	1.836E+00	1.842E+00	1.885E+00
IY= 6	1.835E+00	1.835E+00	1.836E+00	1.843E+00	1.908E+00
IY= 5	1.835E+00	1.835E+00	1.836E+00	1.843E+00	1.907E+00
IY= 4	1.835E+00	1.835E+00	1.836E+00	1.843E+00	1.907E+00
IY= 3	1.835E+00	1.835E+00	1.836E+00	1.843E+00	1.908E+00
IY= 2	1.835E+00	1.835E+00	1.836E+00	1.843E+00	1.908E+00
IY= 1	1.836E+00	1.836E+00	1.837E+00	1.845E+00	1.912E+00
IZ=	1	2	3	4	5
IY= 20	1.836E+00	1.836E+00	1.836E+00	1.836E+00	1.837E+00
IY= 19	1.836E+00	1.839E+00	1.838E+00	1.836E+00	1.837E+00
IY= 18	1.837E+00	1.843E+00	1.842E+00	1.836E+00	1.837E+00
IY= 17	1.838E+00	1.850E+00	1.849E+00	1.836E+00	1.837E+00
IY= 16	1.839E+00	1.860E+00	1.856E+00	1.836E+00	1.837E+00
IY= 15	1.841E+00	1.871E+00	1.865E+00	1.836E+00	1.837E+00
IY= 14	1.843E+00	1.884E+00	1.876E+00	1.837E+00	1.836E+00
IY= 13	1.846E+00	1.898E+00	1.888E+00	1.837E+00	1.834E+00
IY= 12	1.848E+00	1.912E+00	1.898E+00	1.837E+00	1.836E+00
IY= 11	1.852E+00	1.925E+00	1.909E+00	1.839E+00	1.853E+00
IY= 10	1.860E+00	1.940E+00	1.922E+00	1.847E+00	1.888E+00
IY= 9	1.882E+00	1.965E+00	1.947E+00	1.875E+00	1.965E+00
IY= 8	1.956E+00	2.023E+00	2.013E+00	1.964E+00	2.100E+00
IY= 7	2.189E+00	2.203E+00	2.209E+00	2.199E+00	2.262E+00
IY= 6	2.675E+00	2.523E+00	2.412E+00	2.296E+00	2.285E+00
IY= 5	2.673E+00	2.662E+00	2.578E+00	2.443E+00	2.300E+00
IY= 4	2.699E+00	2.741E+00	2.791E+00	2.728E+00	2.230E+00
IY= 3	2.752E+00	3.039E+00	4.009E+00	3.999E+00	2.055E+00
IY= 2	2.812E+00	5.267E+00	4.148E+00	4.289E+00	2.508E+00
IY= 1	2.943E+00	2.261E-01	2.261E-01	2.261E-01	2.261E-01
IZ=	6	7	8	9	10
IY= 20	1.838E+00	1.839E+00	1.840E+00	1.841E+00	1.842E+00
IY= 19	1.838E+00	1.839E+00	1.840E+00	1.841E+00	1.843E+00
IY= 18	1.838E+00	1.839E+00	1.839E+00	1.841E+00	1.844E+00
IY= 17	1.838E+00	1.838E+00	1.839E+00	1.842E+00	1.847E+00
IY= 16	1.837E+00	1.838E+00	1.840E+00	1.844E+00	1.854E+00
IY= 15	1.837E+00	1.838E+00	1.842E+00	1.851E+00	1.869E+00
IY= 14	1.835E+00	1.837E+00	1.847E+00	1.866E+00	1.895E+00
IY= 13	1.834E+00	1.842E+00	1.863E+00	1.896E+00	1.935E+00
IY= 12	1.845E+00	1.868E+00	1.907E+00	1.954E+00	1.995E+00
IY= 11	1.886E+00	1.936E+00	1.993E+00	2.040E+00	2.066E+00
IY= 10	1.957E+00	2.033E+00	2.088E+00	2.113E+00	2.114E+00
IY= 9	2.063E+00	2.127E+00	2.148E+00	2.140E+00	2.120E+00
IY= 8	2.164E+00	2.164E+00	2.137E+00	2.108E+00	2.090E+00
IY= 7	2.183E+00	2.103E+00	2.064E+00	2.053E+00	2.054E+00
IY= 6	2.002E+00	1.941E+00	1.925E+00	1.897E+00	1.867E+00
IY= 5	1.951E+00	1.908E+00	1.891E+00	1.847E+00	1.802E+00
IY= 4	1.896E+00	1.885E+00	1.843E+00	1.767E+00	1.699E+00
IY= 3	1.895E+00	1.872E+00	1.743E+00	1.629E+00	1.539E+00
IY= 2	2.079E+00	1.756E+00	1.553E+00	1.420E+00	1.340E+00
IY= 1	2.261E-01	2.261E-01	2.261E-01	2.261E-01	2.261E-01
IZ=	11	12	13	14	15
IY= 20	1.845E+00	1.849E+00	1.856E+00	1.858E+00	1.860E+00
IY= 19	1.846E+00	1.853E+00	1.862E+00	1.864E+00	1.866E+00
IY= 18	1.850E+00	1.860E+00	1.873E+00	1.876E+00	1.880E+00
IY= 17	1.857E+00	1.873E+00	1.892E+00	1.897E+00	1.901E+00
IY= 16	1.871E+00	1.895E+00	1.920E+00	1.925E+00	1.931E+00
IY= 15	1.896E+00	1.926E+00	1.954E+00	1.959E+00	1.965E+00
IY= 14	1.930E+00	1.963E+00	1.987E+00	1.991E+00	1.995E+00
IY= 13	1.972E+00	1.999E+00	2.013E+00	2.015E+00	2.017E+00
IY= 12	2.023E+00	2.035E+00	2.037E+00	2.038E+00	2.037E+00
IY= 11	2.074E+00	2.070E+00	2.063E+00	2.062E+00	2.059E+00
IY= 10	2.102E+00	2.088E+00	2.079E+00	2.079E+00	2.077E+00

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IY=  9  2.101E+00  2.090E+00  2.090E+00  2.093E+00  2.094E+00
IY=  8  2.082E+00  2.085E+00  2.103E+00  2.113E+00  2.123E+00
IY=  7  2.057E+00  2.068E+00  2.123E+00  2.157E+00  2.200E+00
IY=  6  1.843E+00  1.836E+00  1.961E+00  1.835E+00  2.019E+00
IY=  5  1.764E+00  1.748E+00  1.862E+00  1.695E+00  1.834E+00
IY=  4  1.645E+00  1.618E+00  1.698E+00  1.523E+00  1.696E+00
IY=  3  1.473E+00  1.437E+00  1.474E+00  1.389E+00  1.595E+00
IY=  2  1.294E+00  1.273E+00  1.294E+00  1.423E+00  1.614E+00
IY=  1  2.261E-01  2.261E-01  2.261E-01  2.261E-01  2.261E-01
IZ=     16         17         18         19         20
IY= 20  1.862E+00  1.865E+00  1.867E+00  1.871E+00  1.878E+00
IY= 19  1.869E+00  1.872E+00  1.875E+00  1.879E+00  1.888E+00
IY= 18  1.883E+00  1.887E+00  1.892E+00  1.897E+00  1.907E+00
IY= 17  1.906E+00  1.911E+00  1.917E+00  1.923E+00  1.936E+00
IY= 16  1.937E+00  1.943E+00  1.949E+00  1.956E+00  1.968E+00
IY= 15  1.971E+00  1.976E+00  1.982E+00  1.988E+00  1.997E+00
IY= 14  1.999E+00  2.003E+00  2.007E+00  2.010E+00  2.015E+00
IY= 13  2.019E+00  2.020E+00  2.021E+00  2.021E+00  2.021E+00
IY= 12  2.036E+00  2.035E+00  2.033E+00  2.031E+00  2.028E+00
IY= 11  2.057E+00  2.055E+00  2.052E+00  2.049E+00  2.047E+00
IY= 10  2.075E+00  2.074E+00  2.073E+00  2.072E+00  2.077E+00
IY=  9  2.096E+00  2.099E+00  2.104E+00  2.112E+00  2.138E+00
IY=  8  2.137E+00  2.154E+00  2.177E+00  2.210E+00  2.278E+00
IY=  7  2.252E+00  2.311E+00  2.369E+00  2.414E+00  2.416E+00
IY=  6  2.207E+00  2.285E+00  2.280E+00  2.218E+00  2.093E+00
IY=  5  1.963E+00  2.007E+00  1.996E+00  1.943E+00  1.863E+00
IY=  4  1.787E+00  1.799E+00  1.778E+00  1.726E+00  1.656E+00
IY=  3  1.651E+00  1.645E+00  1.620E+00  1.569E+00  1.503E+00
IY=  2  1.645E+00  1.631E+00  1.599E+00  1.533E+00  1.436E+00
IY=  1  2.261E-01  2.261E-01  2.261E-01  2.261E-01  2.261E-01
IZ=     21         22         23         24         25
IY= 20  1.886E+00  1.896E+00  1.905E+00  1.903E+00  1.819E+00
IY= 19  1.897E+00  1.908E+00  1.918E+00  1.914E+00  1.819E+00
IY= 18  1.919E+00  1.931E+00  1.940E+00  1.934E+00  1.820E+00
IY= 17  1.948E+00  1.960E+00  1.968E+00  1.956E+00  1.820E+00
IY= 16  1.979E+00  1.989E+00  1.994E+00  1.975E+00  1.820E+00
IY= 15  2.005E+00  2.010E+00  2.010E+00  1.986E+00  1.821E+00
IY= 14  2.018E+00  2.018E+00  2.014E+00  1.987E+00  1.821E+00
IY= 13  2.020E+00  2.018E+00  2.012E+00  1.985E+00  1.824E+00
IY= 12  2.026E+00  2.024E+00  2.020E+00  1.996E+00  1.837E+00
IY= 11  2.047E+00  2.051E+00  2.055E+00  2.038E+00  1.864E+00
IY= 10  2.089E+00  2.108E+00  2.130E+00  2.121E+00  1.893E+00
IY=  9  2.177E+00  2.223E+00  2.261E+00  2.241E+00  1.913E+00
IY=  8  2.335E+00  2.368E+00  2.368E+00  2.298E+00  1.908E+00
IY=  7  2.375E+00  2.325E+00  2.271E+00  2.182E+00  1.867E+00
IY=  6  2.056E+00  2.053E+00  2.024E+00  1.932E+00  1.687E+00
IY=  5  1.844E+00  1.848E+00  1.820E+00  1.733E+00  1.515E+00
IY=  4  1.657E+00  1.666E+00  1.637E+00  1.556E+00  1.361E+00
IY=  3  1.521E+00  1.532E+00  1.499E+00  1.420E+00  1.236E+00
IY=  2  1.489E+00  1.511E+00  1.485E+00  1.376E+00  1.148E+00
IY=  1  2.261E-01  2.261E-01  2.261E-01  2.261E-01  2.261E-01
IZ=     26         27         28         29         30
WHOLE-FIELD RESIDUALS BEFORE SOLUTIONS
WHOLE-FIELD SUM OF ABS(VOL.FLOW RESIDUALS)=  2.645E+05
WHOLE-FIELD SUM OF ABS(RESIDUALS) OF V1   =  1.462E+08
WHOLE-FIELD SUM OF ABS(RESIDUALS) OF W1   =  9.970E+07
WHOLE-FIELD SUM OF ABS(RESIDUALS) OF H1   =  7.219E+11
* SUMS HAVE BEEN DIVIDED BY RESREF(NAME)

NET SOURCE OF V1   AT PATCH NAMED: INLET    = 0.000E+00
NET SOURCE OF V1   AT PATCH NAMED: TVANE    =-9.862E+00
NET SOURCE OF V1   AT PATCH NAMED: YVANE    =-4.847E-16
NET SOURCE OF W1   AT PATCH NAMED: INLET    = 9.418E+04
NET SOURCE OF W1   AT PATCH NAMED: TVANE    =-1.523E+02
NET SOURCE OF W1   AT PATCH NAMED: YVANE    = 0.000E+00
NET SOURCE OF R1   AT PATCH NAMED: INLET    = 1.060E+02
NET SOURCE OF R1   AT PATCH NAMED: OUTLET   =-1.054E+02
NET SOURCE OF H1   AT PATCH NAMED: INLET    = 6.518E+07
NET SOURCE OF H1   AT PATCH NAMED: OUTLET   =-6.409E+07
NET SOURCE OF H1   AT PATCH NAMED: TVANE    =-4.708E+04
```

```
NET SOURCE OF H1    AT PATCH NAMED: YVANE     = 0.000E+00
NET SOURCE OF H1    AT PATCH NAMED: VANE      = 0.000E+00
```

APPENDIX L
FIGURES

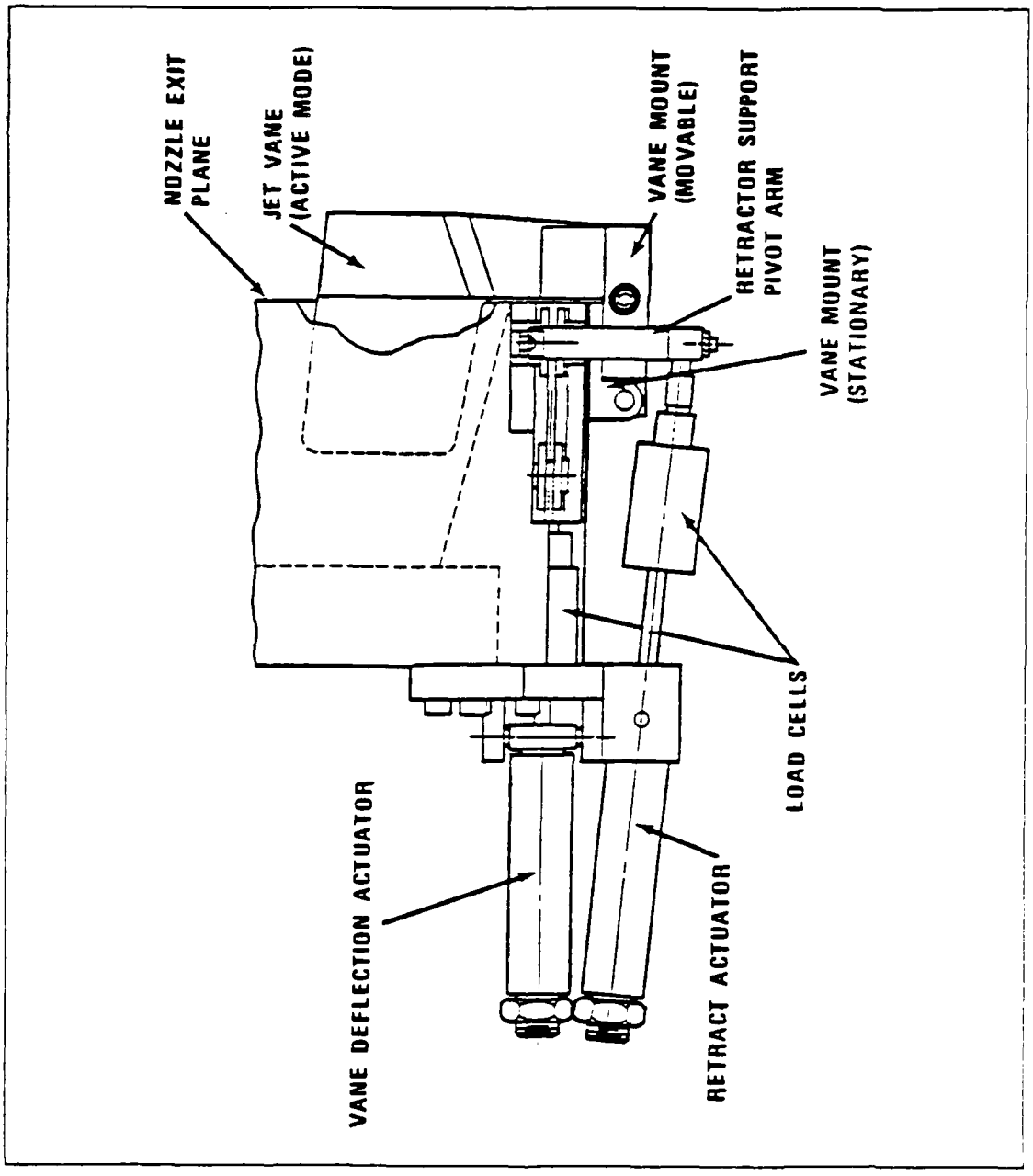

Figure 1.1 Side View of Jet Vane Test Assembly.

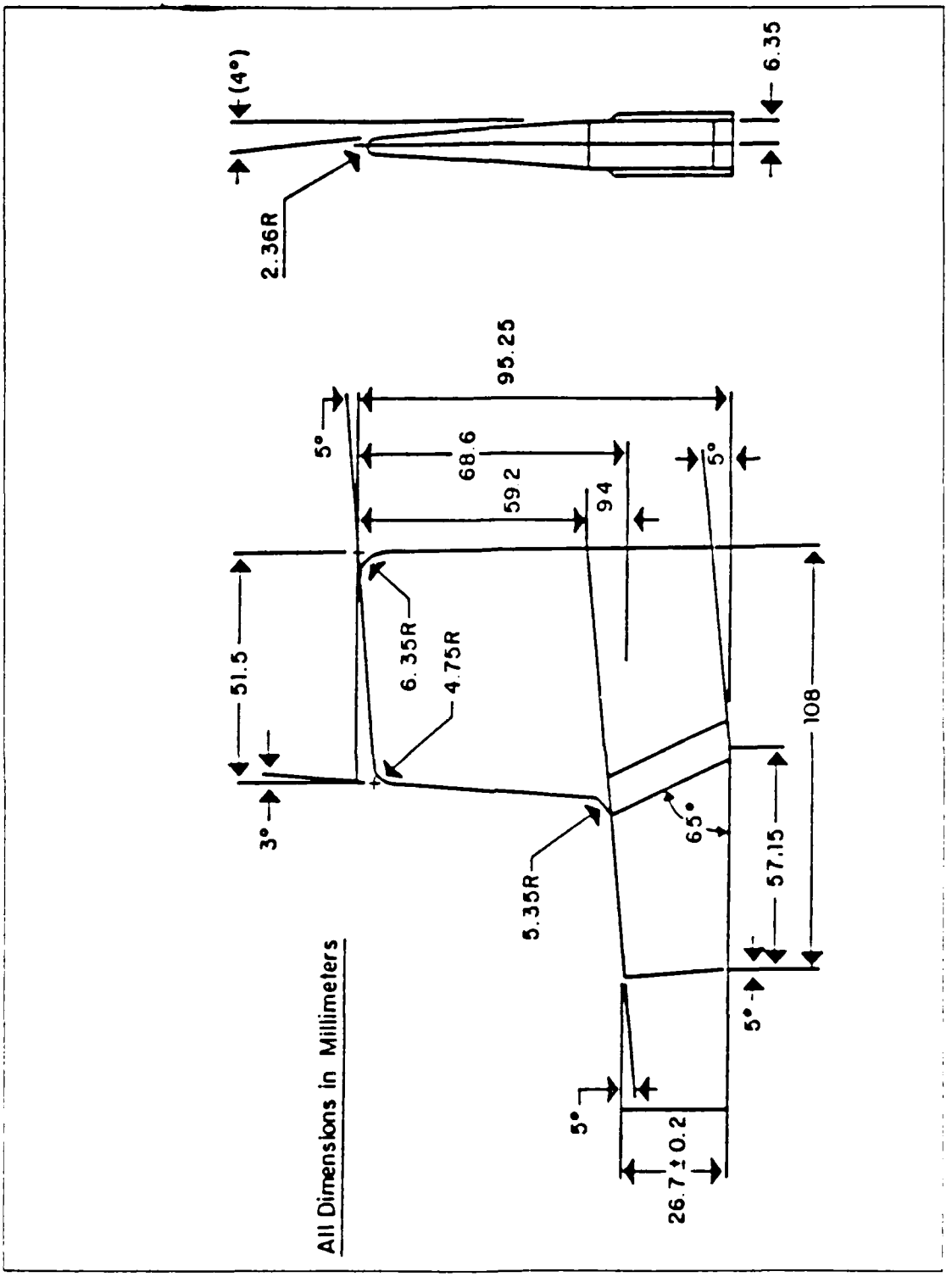

Figure 1.2 NWC Jet Vane Configuration.

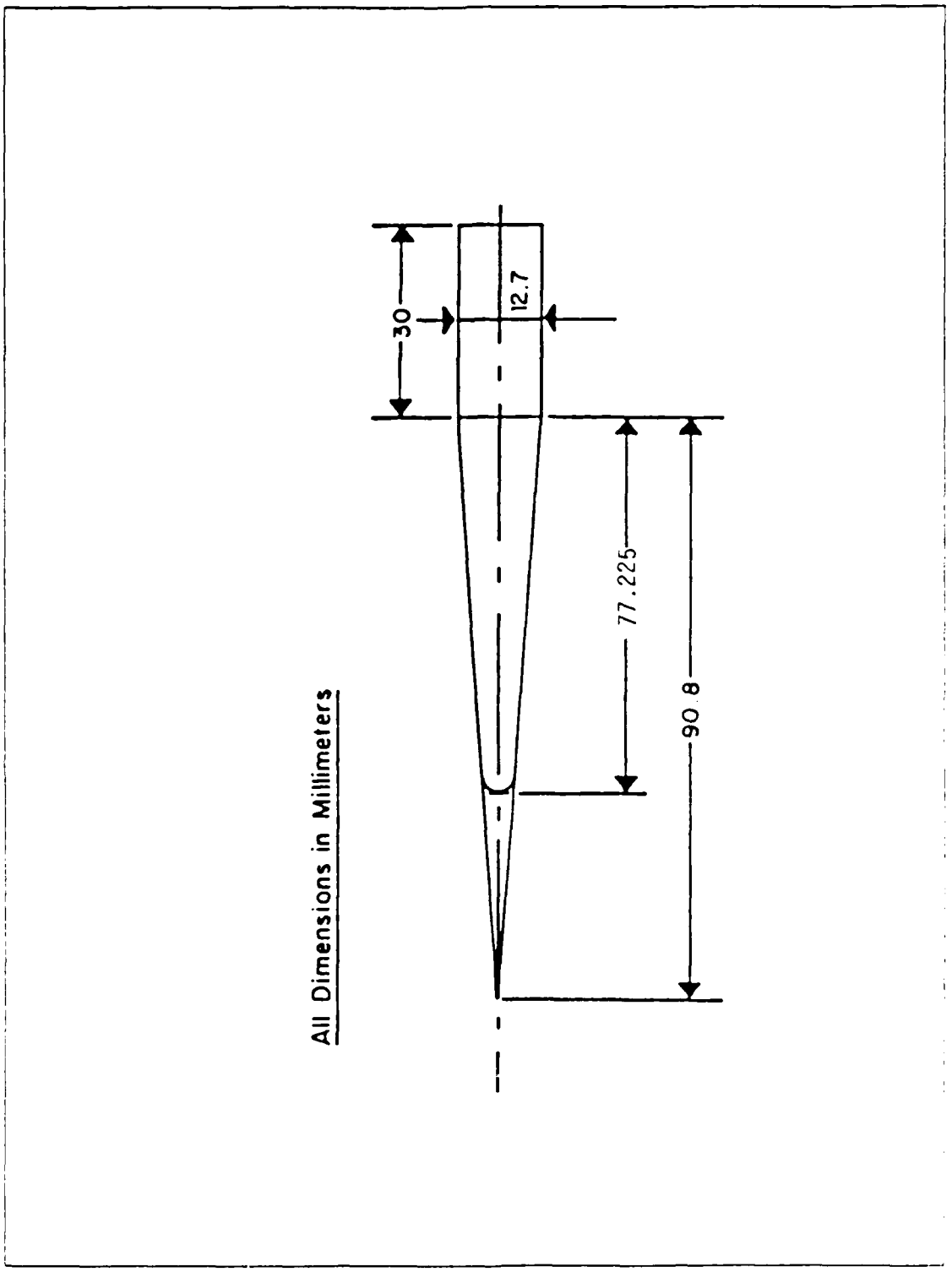

Figure 2.1 NPS Jet Vane Approximation.

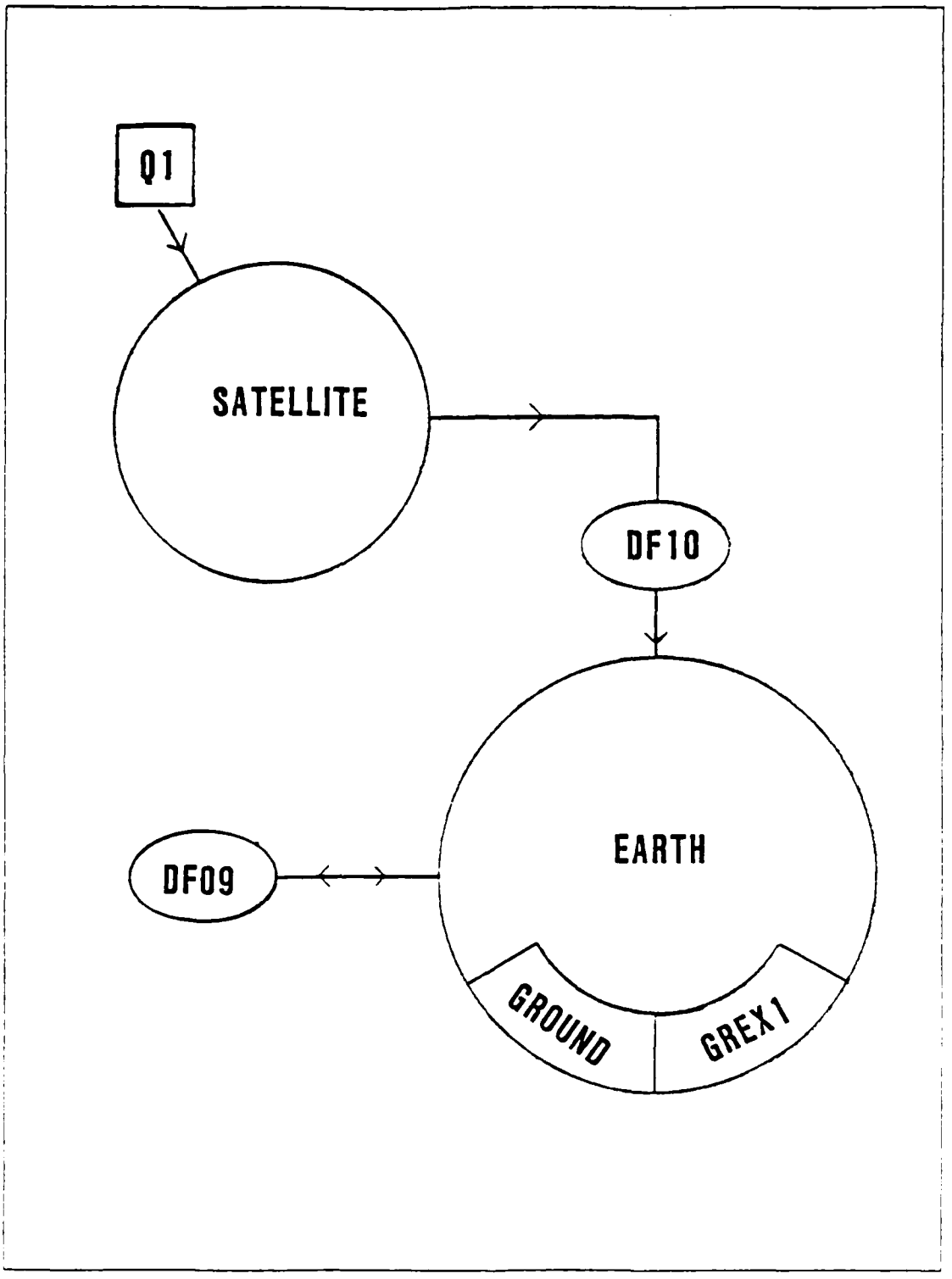

Figure 3.1 Main PHOENICS Programs and how they interface.

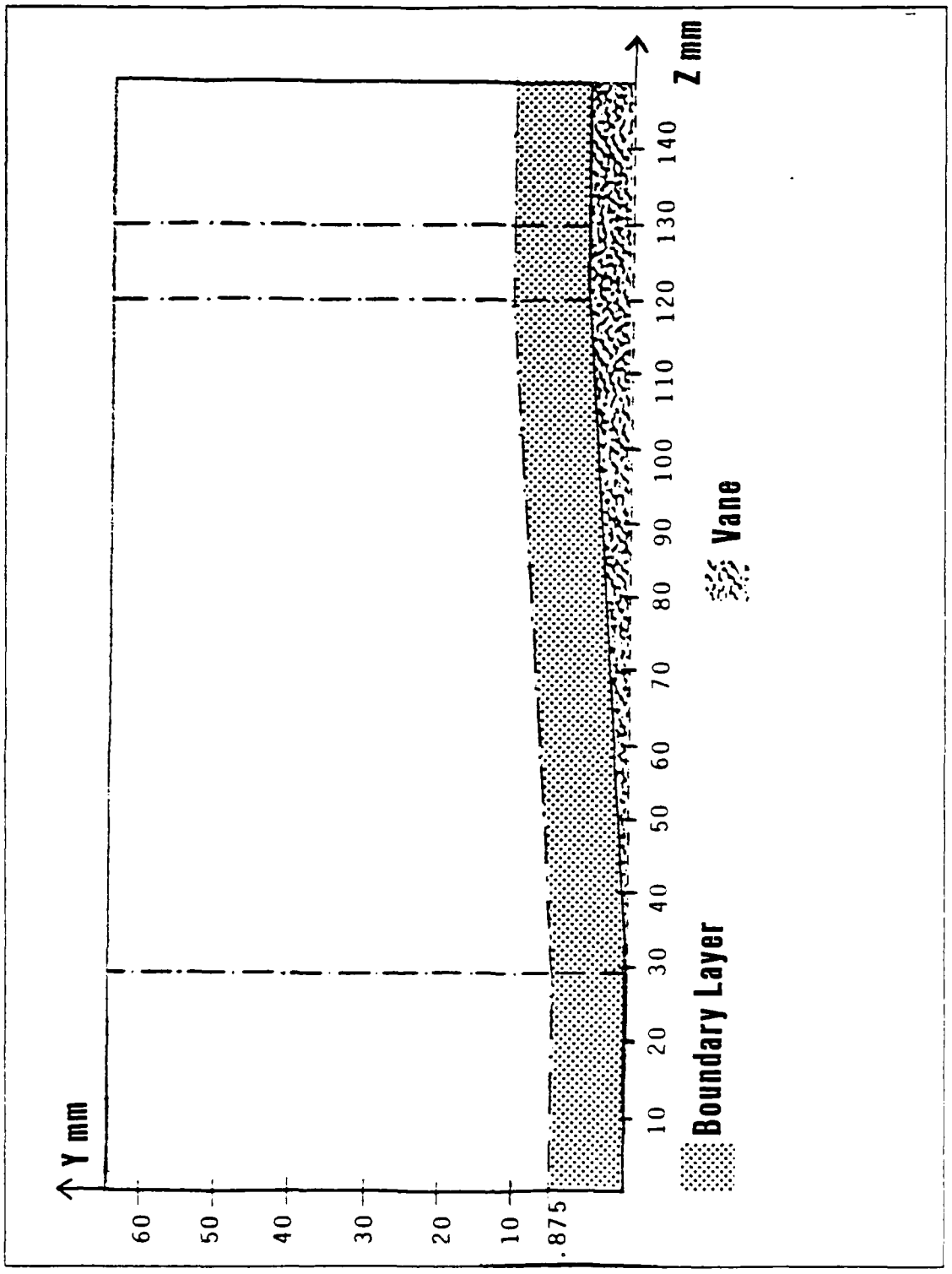

Figure 3.2 Wedge Vane Grid and Domain.

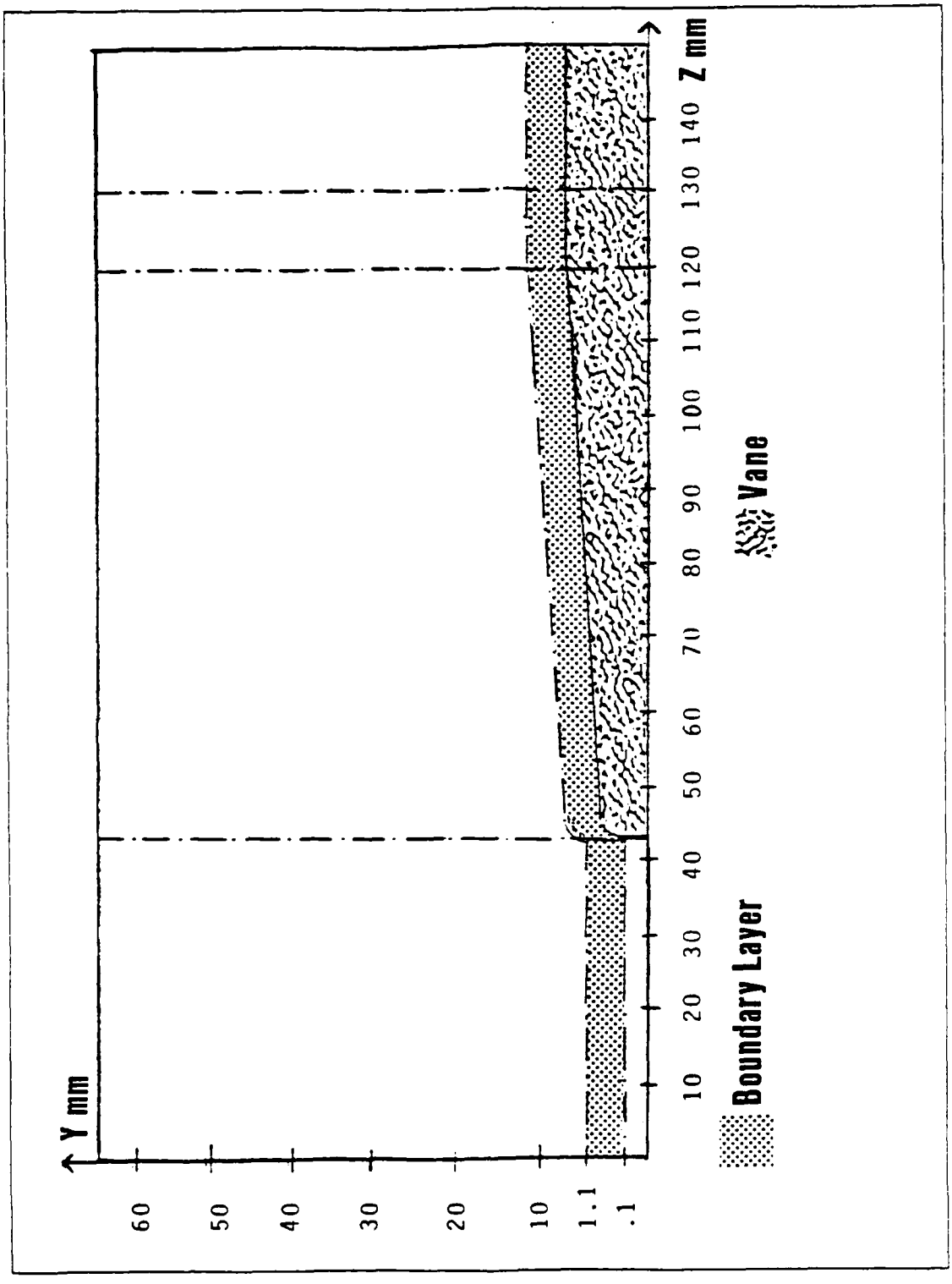

Figure 3.3 Blunt Vane Grid and Domain.

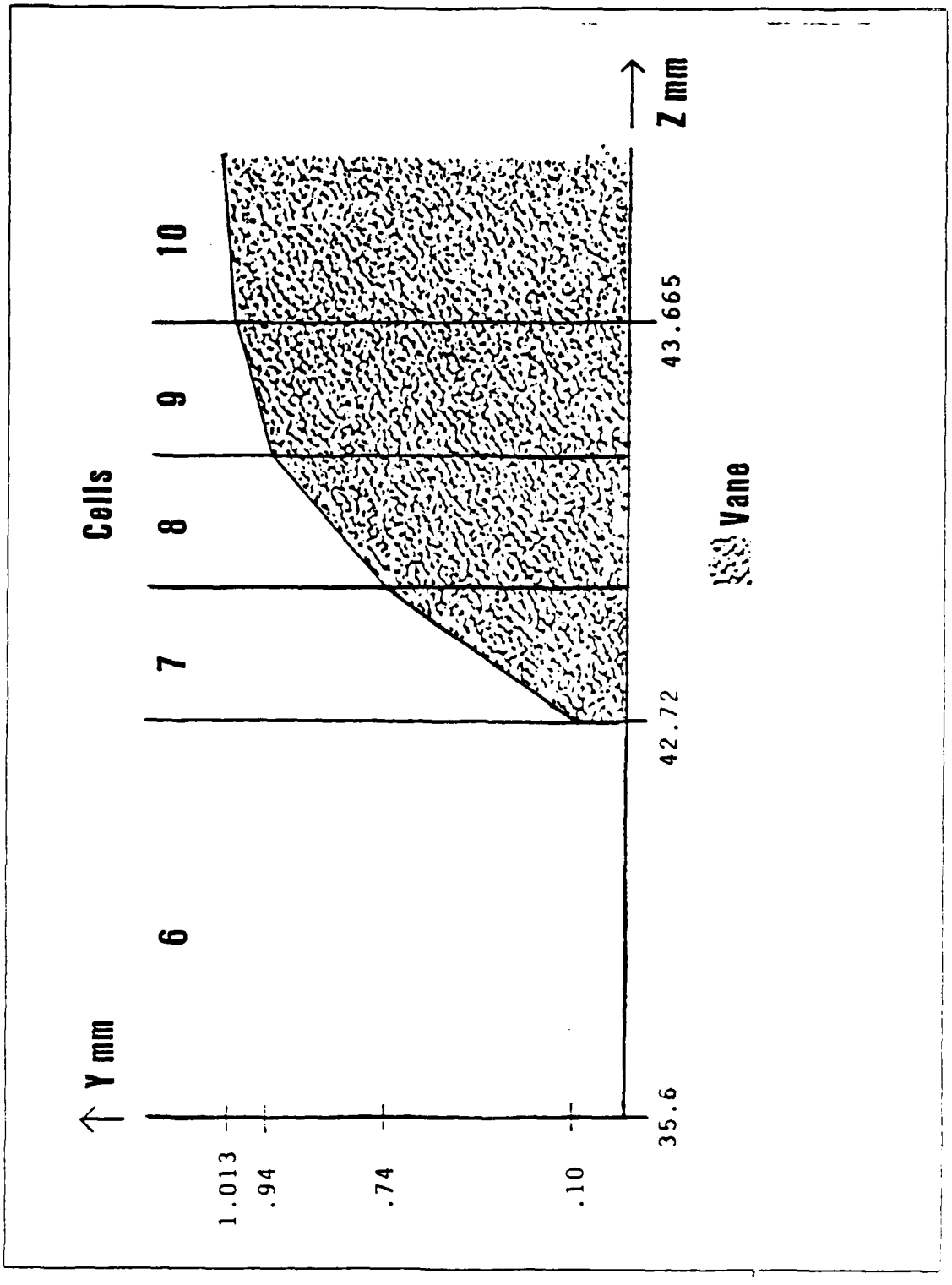

Figure 3.4 Expanded View of Blunt Vane Tip Domain.

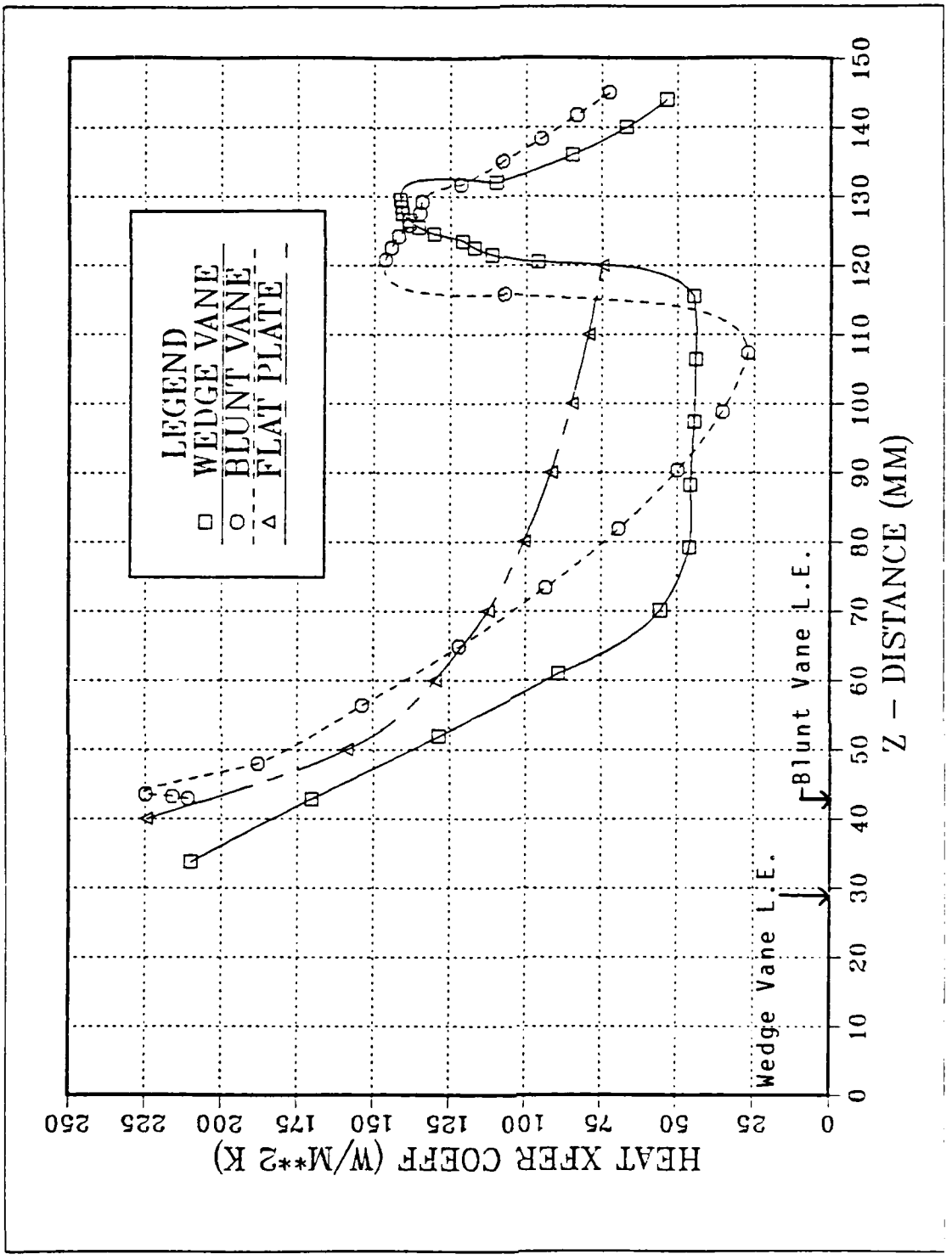

Figure 4.1 Subsonic Laminar Heat Transfer Coefficient.

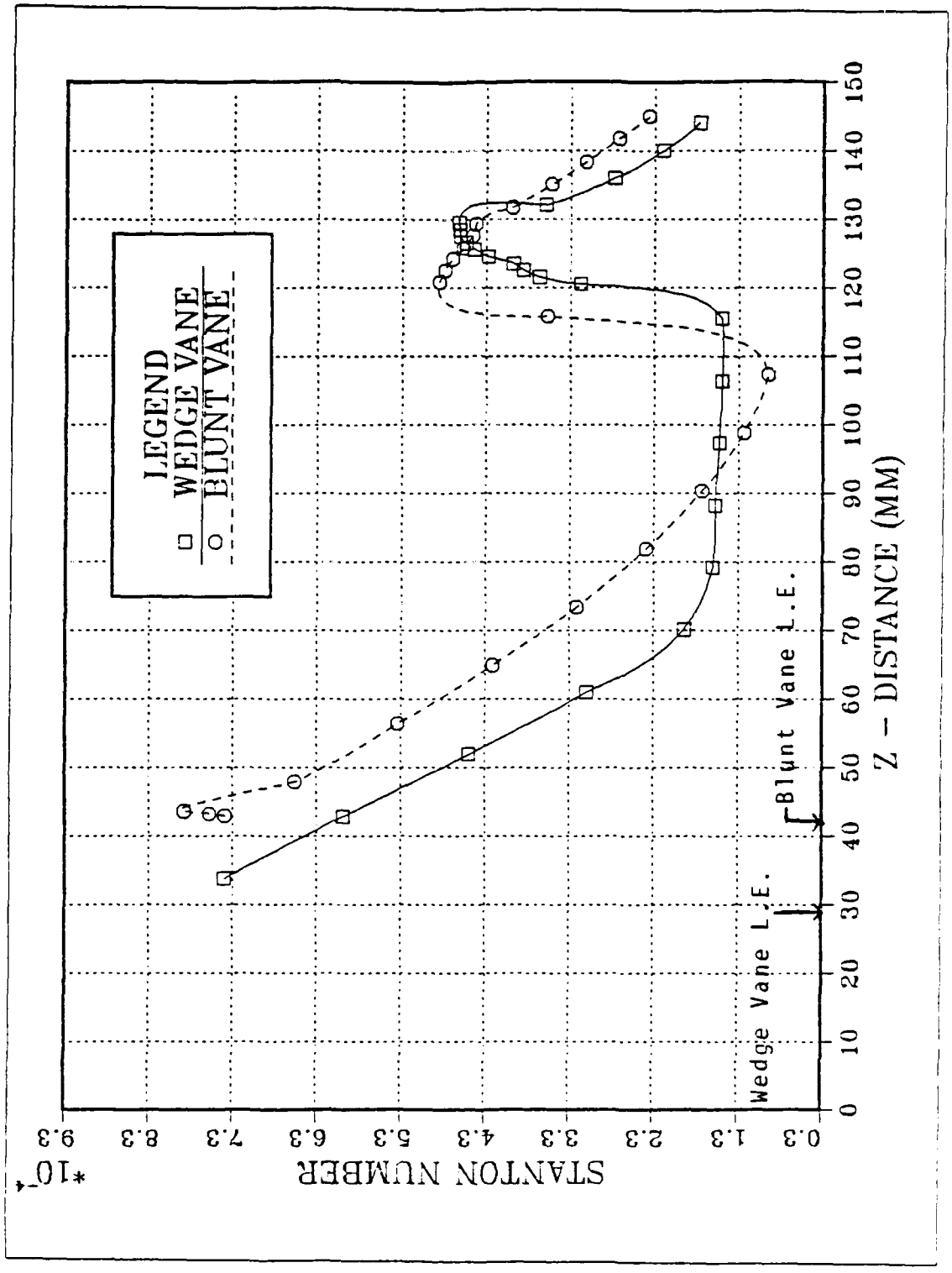

Figure 4.2 Subsonic Laminar Stanton Number.

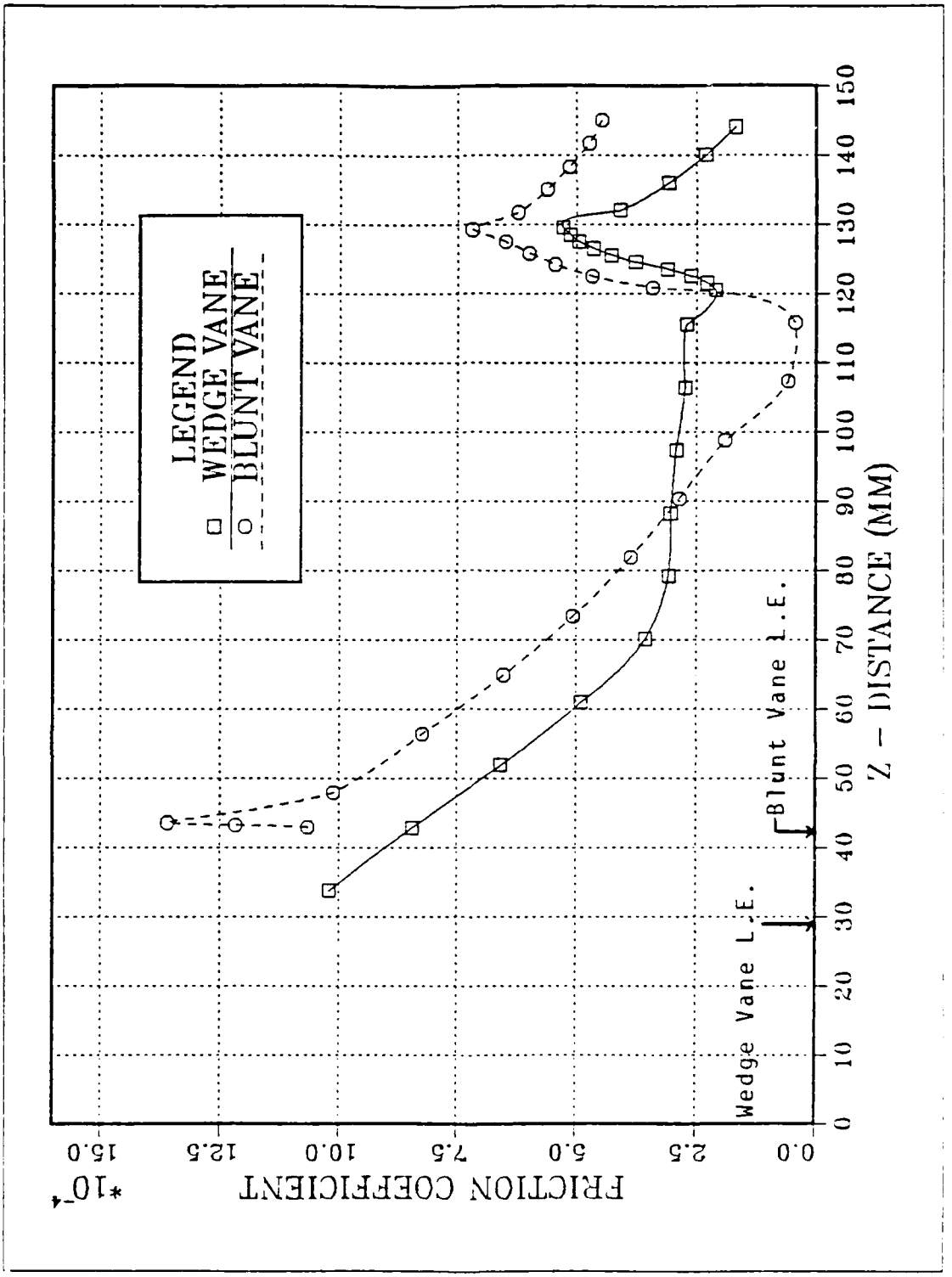

Figure 4.3 Subsonic Laminar Friction Coefficient.

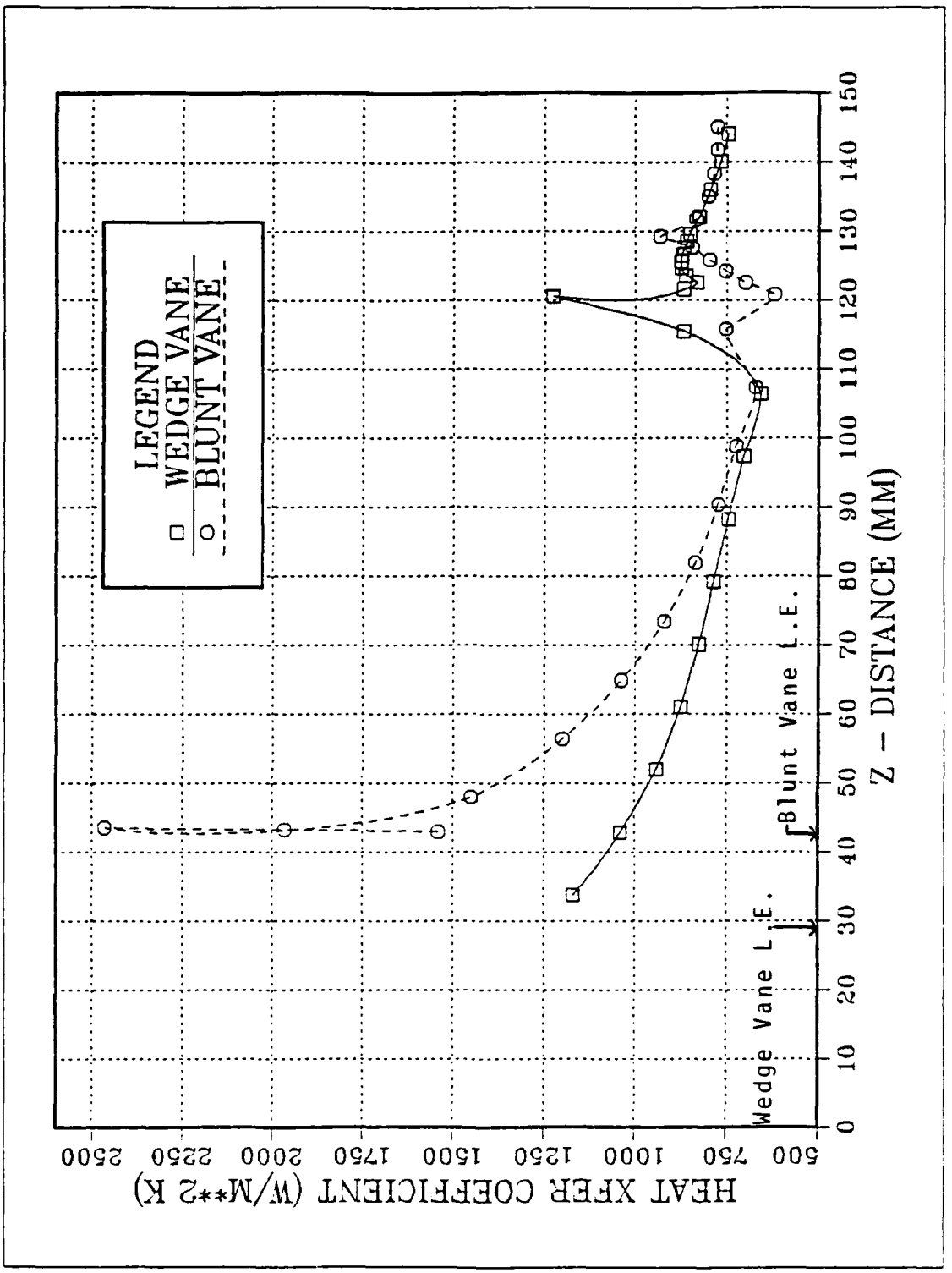

Figure 4.4 Subsonic Turbulent Heat Transfer Coefficient.

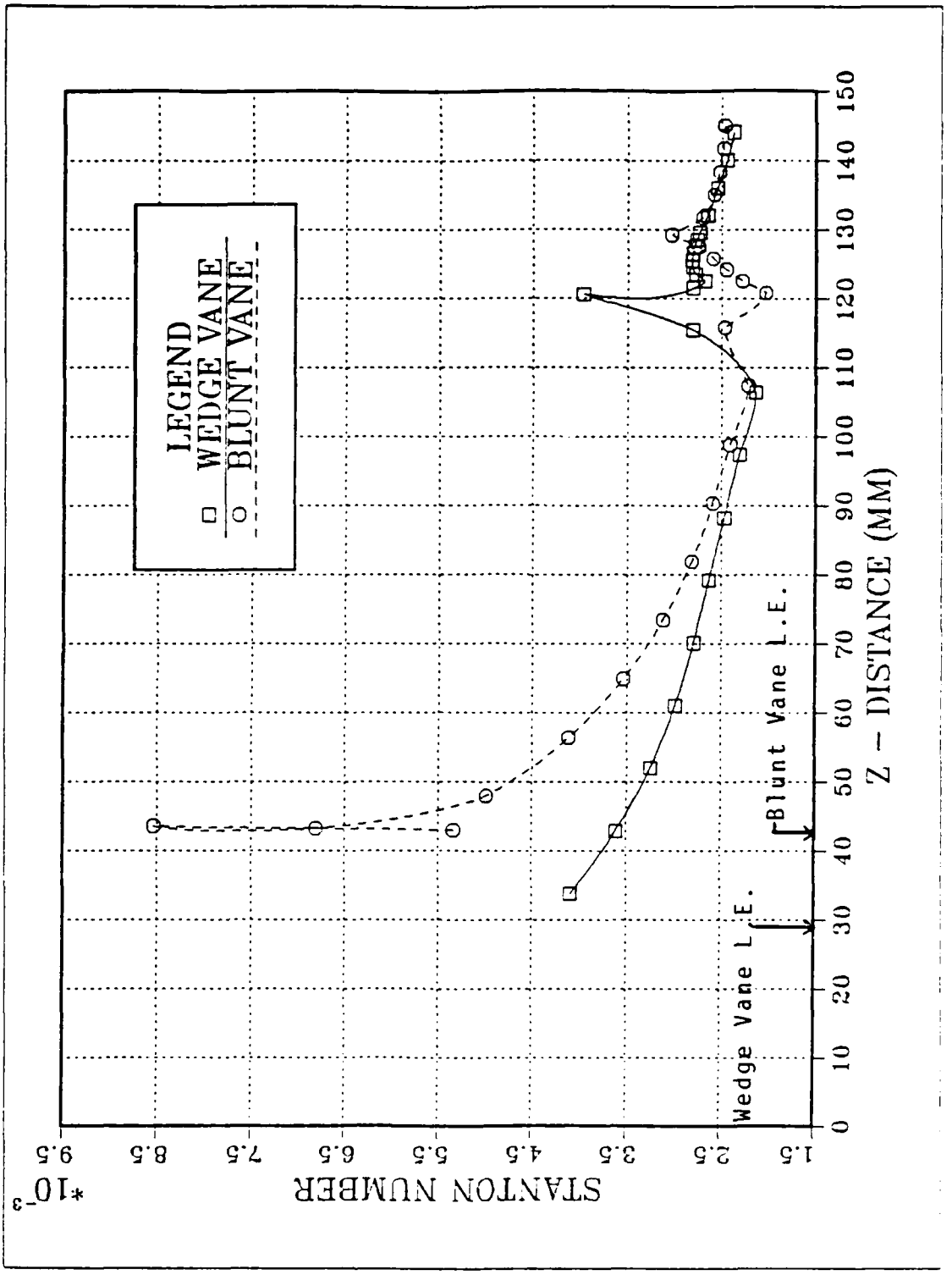

Figure 4.5 Subsonic Turbulent Stanton Number.

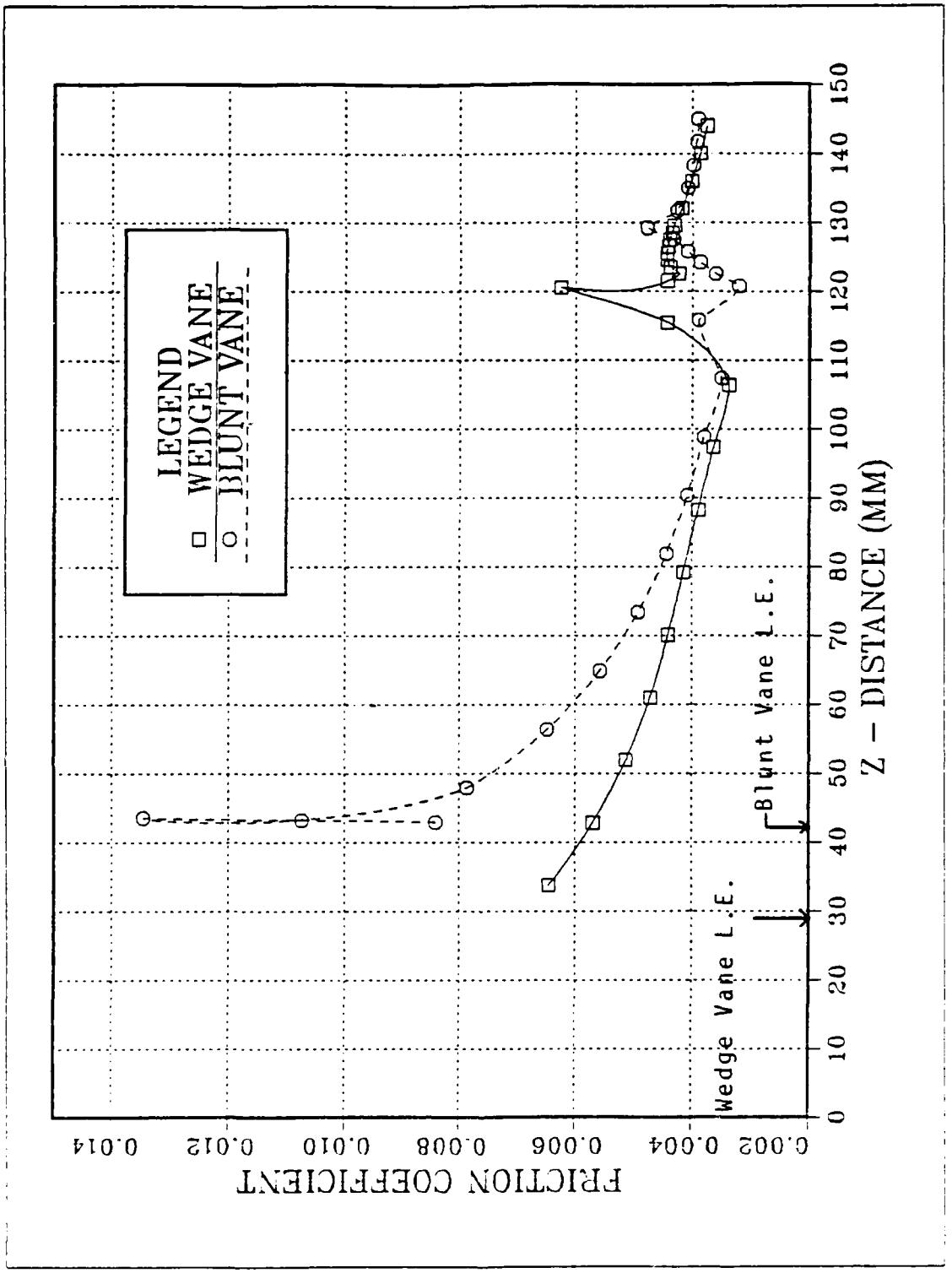

Figure 4.6 Subsonic Turbulent Friction Coefficient.

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