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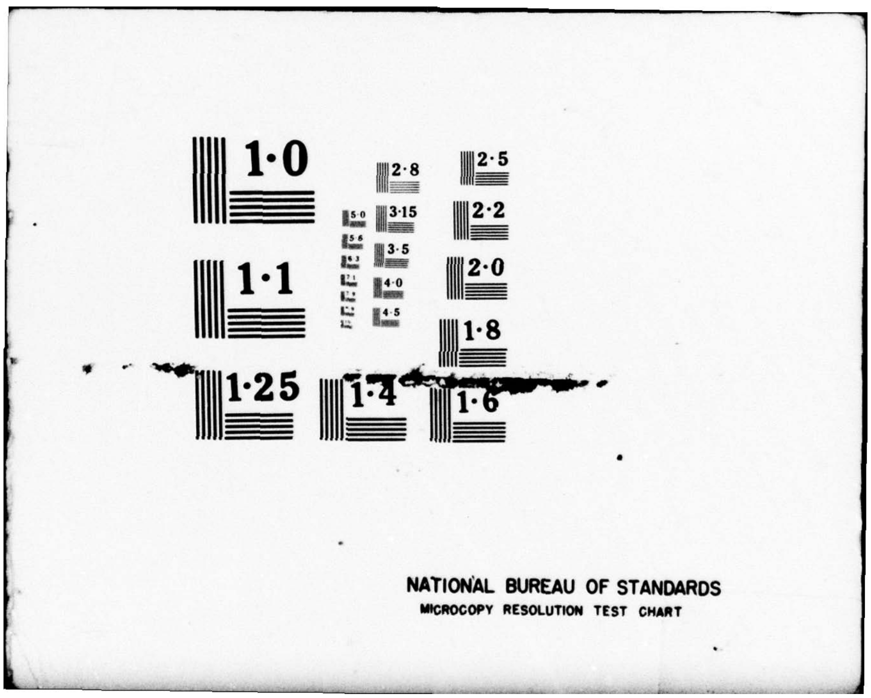
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CAMBERED JET-FLAPPED AIRFOIL THEORY WITH TABLES AND COMPUTER PROGRAMS FOR APPLICATION

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Design Predictions Group
Control Criteria Branch
Flight Control Division

September 1977

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This technical report has been reviewed and is approved for publication.

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

A quadrature method is derived for calculating the incompressible-flow aerodynamics of arbitrarily cambered jet-flapped airfoils. The anticipated application of the methodology is to high-speed subsonic flows (combat maneuvering aircraft) via the use of compressible-flow similarity transformations. The method yields the aerodynamic properties in terms of integrals having integrands which consist of the product of the camber-line ordinate and an influence function which is a parametric function of the jet-momentum coefficient. In general,

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20. ABSTRACT (Cont'd)

the integrals involved must be evaluated by numerical methods. Tables of the necessary influence functions are given in the report. Usually the governing integral equation for flow problems of the present type is solved by a series-collocation method necessitating the solution of a set of simultaneous equations. This approach generally dictates the use of a digital computer since frequently a moderate number (say, nine) simultaneous equations are required for reasonable accuracy. In contrast, relatively simple computational machinery such as a pocket electronic calculator may be employed for the quadrature method because numerical integration is the principal computation of any complexity. In essence, in the latter method, the requisite solutions to the simultaneous equations are implicitly incorporated in the tables of influence functions. Included in the report are program listings for numerical quadrature for an arbitrary number and spacing of abscissae for key-programmable pocket electronic calculators employing Reverse-Polish and algebraic logic systems. Although hand computation is a principal feature of the quadrature method, a digital-computer program listing also is included in the report for the purposes of employing this mode of calculation in application or for calculating more extensive tables of influence functions if required.

For purposes of comparison with the quadrature method and for possible use in its own right, an alternative method of analysis designated as the power-law superposition method is presented. This latter method employs the superposition of series-collocation solutions for basic power-law camber-line shapes. A digital-computer program listing and tables of aerodynamic coefficients for this method are included in the report. Very good agreement is achieved for aerodynamic properties calculated by the two different methods. Although the quadrature method is the preferable methodology for completely arbitrary camber-line shapes, the power-law superposition method may be preferable for camber lines which are precisely or nearly a polynomial.

FOREWORD

The analyses and computations in this report were performed by Henry W. Woolard and Bernard F. Niehaus of the Design Predictions Group, Control Criteria Branch, Flight Control Division, Air Force Flight Dynamics Laboratory, Wright-Patterson Air Force Base, Ohio. Mr. Woolard performed the analyses and selected hand computations. Mr. Niehaus developed and applied the digital-computer programs and performed selected hand computations. The work reported upon was performed in support of Work Unit Number 82190120.

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ANALYSIS SYMBOLS*

a	exponent for a basic power-law camber line, see Eq. 36a
a_{mn}	see Eqs. B-10
A_n	Fourier coefficients for the trailing jet-sheet vorticity distribution for a singularly blown flat plate, see Eqs. B-9
b	wing span
b_{mn}	see Eqs. B-10
B_n	Fourier coefficients for the trailing jet-sheet vorticity distribution for a regularly blown flat plate, see Ref. 4
c	airfoil chord (taken as $c = 1$)
c_f	flap chord
c_j	jet-momentum coefficient, $\hat{m}_j/q_\infty c$
c_ℓ	lift coefficient, $c_\ell^{(o)} + c_\ell^{(i)}$
$c_\ell^{(i)}$	interference lift coefficient, $c_\ell - c_\ell^{(o)} \equiv \Delta c_\ell$
$c_\ell^{(o)}$	lift coefficient without jet-flap blowing, i.e., for unblown airfoil
c_{ℓ_α}	lift-coefficient partial derivative, $\partial c_\ell/\partial\alpha$
c_{ℓ_δ}	lift-coefficient partial derivative, $\partial c_\ell/\partial\delta$
c_{ℓ_τ}	lift-coefficient partial derivative, $\partial c_\ell/\partial\tau$
c_{ℓ_κ}	lift-coefficient partial derivative, $\partial c_\ell/\partial\kappa$
c_m	pitching-moment coefficient about the leading edge, positive for a tail-down moment (also see alternative definition below), $c_m^{(o)} + c_m^{(i)}$
c_m	quantity defined by Eq. B-11 (also see alternative definition above)
$c_m^{(i)}$	interference pitching moment coefficient, $c_m - c_m^{(o)} \equiv \Delta c_m$

*Computer program symbols are listed in Appendix G.

ANALYSIS SYMBOLS (Contd)

$c_m^{(o)}$ — moment coefficient without jet-flap blowing, i.e., for unblown airfoil

c_{m_α} — moment-coefficient partial derivative, $\partial c_m/\partial\alpha$

c_{m_δ} — moment-coefficient partial derivative, $\partial c_m/\partial\delta$

c_{m_τ} — moment-coefficient partial derivative, $\partial c_m/\partial\tau$

c_p — pressure coefficient, $(p - p_\infty)/q_\infty$; for small perturbations, $c_p = -2u'/U_\infty$

C_n — Fourier coefficients for the trailing jet-sheet vorticity distribution for a power-law cambered jet-flapped airfoil at zero angle of attack and zero jet deflection ($\tau = 0$), see Eqs. 49 and 52

d_m — see Eq. B-11

D_n — Fourier coefficients for the trailing jet-sheet vorticity distribution for a regularly blown mechanically flapped airfoil at zero angle of attack, see Eqs. B-15 and B-19

D_n'' — influence function coefficient in quadrature method, $\partial^2 D_n/\partial\xi^2$, see Eqs. C-1 and C-3

e_m — defined by the generalized set of simultaneous equations, $\sum_{n=0}^{N-1}(a_{mn} + \lambda b_{mn})E_n = e_m + \lambda f_m$, where the coefficients E_n, e_m, and f_m may be those corresponding to any one of the boundary-value problems considered in this report, i.e., E_n may be A_n, B_n, C_n, D_n, E_n, etc. along with the appropriate analytical relation for e_m and f_m (used principally in the computer program)

E_n — Fourier coefficients for quadrature-method influence coefficients, see Eq. C-4

f_m — see e_m above and f_m below

f_m — see Eq. B-20

$\bar{f}_m$ — see Eq. 51

F — see Eq. 42

$g'(x)$ — nondimensional vorticity distribution along the trailing jet sheet, $g'(x) = \gamma(x)/U_\infty c$

ANALYSIS SYMBOLS (Contd)

$\bar{g}_m$	see Eq. 50
h	maximum camber height, see Fig. 2
H_n	see Eqs. 13 and 28
$(H_n)_{LE}$	see Eqs. 28 and 30
$H_n^{(c)}$	see Eqs. 28 and 31
$(H_n)_{TE}$	see Eqs. 28 and 32
I_ℓ	see Eqs. B-4
I_n	see Eqs. B-6 and B-7
$\mathcal{J}$	see Eqs. 26 and 29
$\mathcal{J}_{LE}$	see Eqs. 29 and 33
$\mathcal{J}^{(c)}$	see Eqs. 29 and 34
$\mathcal{J}_{TE}$	see Eqs. 29 and 35
j_m	see Eq. C-2
J_n	see Eq. D-12
K_1	see Eqs. 44
K_n	see Eqs. B-8
$\ell_0, \ell_1, - -$	see Eqs. D-10, D-14, D-22, and D-26
m	m^{th} collocation point, $m = 0,1,2,- - -,N-1$
$m_0, m_1, - -$	see Eqs. D-11, D-14, D-23, and D-26
$\tilde{m}_j$	momentum flux per unit span within the jet sheet
M	degree of polynomial for a polynomial camber line, see Eq. 37
N	total number of collocation points (also total number of simultaneous equations)
n	summation index, $n = 0,1,2,- -$

ANALYSIS SYMBOLS (Contd)

p	static pressure
q_∞	freestream dynamic pressure, $(\rho/2)U_\infty^2$
r_a	see Eqs. 36c
s	see Eq. C-6
S	wing area
S_A	see Eq. 23
S_D	see Eq. 24
S''_D	influence coefficient for quadrature method, $\partial^2 S_D/\partial\xi^2$, see Eq. 27
T	aircraft thrust
u,v	local velocity components, respectively parallel and perpendicular to the freestream velocity
u',v'	local perturbation velocity components, $u' = u - U_\infty$, $v' = v$
U_∞	freestream velocity
$\mathcal{U}(x)$	unit step function; $\mathcal{U}(x) = 0$ for $x < 0$, $\mathcal{U}(x) = 1$ fox $x \geq 0$
W	aircraft weight
x,y	rectangular coordinates, see Figs. 2 and 3
y	airfoil camber line ordinate
X	$[1-(1-x)^{\frac{1}{2}}]/[1+(1-x)^{\frac{1}{2}}]$
α	angle of attack
α_{ZL}	angle of attack at zero lift
β_n	"equivalent" Fourier coefficients for quadrature method, see Eqs. 10 and 11
γ	vorticity
γ_α	$\partial\gamma/\partial\alpha$
γ_δ	$\partial\gamma/\partial\delta$
γ_τ	$\partial\gamma/\partial\tau$

ANALYSIS SYMBOLS (Contd)

δ	flap deflection angle, see Fig. 1c
Δc_ℓ	interference lift coefficient, $c_\ell - c_\ell^{(o)} \equiv c_\ell^{(i)}$
Δc_m	interference pitching-moment coefficient, $c_m - c_m^{(o)} \equiv c_m^{(i)}$
ΔD_n	$A_n - D_n$, see Eq. 12
ΔS	$S_A - S_D$, see Eq. 22
η	dummy variable, see Eq. 38
θ	local camber-line slope (also see below)
θ	polar coordinate defined by $x = (\frac{1}{2})(1 + \cos\theta)$ for $0 \leq x \leq 1$, see Eq. B-16
κ	camber ratio, h/c
λ	$4/c_j$
ξ	dummy variable along abscissa x, see Figs. 2 and 3
ξ	location of flap hinge point, $\xi = (\frac{1}{2})(1 + \cos\chi)$
ξ_0, ξ_1	pivotal points for quadratic function approximation in an infinitesimal region at the airfoil leading edge; $0 < \xi_0 < \xi_1$ and $\xi_1 \to 0$
ξ_2, ξ_3	pivotal points for quadratic function approximation in an infinitesimal region at the airfoil trailing edge; $\xi_2 < \xi_3 < 1$ and $\xi_2 \to 1$
ρ	fluid density
τ	jet-sheet deflection angle at the airfoil trailing edge, measured relative to the airfoil chord line as depicted in Fig. 1
φ	polar coordinate defined by $x = \cos^{-2}(\varphi/2)$ for $x \geq 1$, see Eq. 45
φ_m	$m\pi/N$; $m = 0, 1, 2, \ldots, N-1$
χ	polar coordinate of flap hinge point, defined by $\xi = (\frac{1}{2})(1 + \cos\chi)$
$(\ )_{LE}$	denotes the airfoil leading edge
$(\ )_{TE}$	denotes the airfoil trailing edge
$(\ )_{TS}$	denotes the trailing streamline (i.e., the jet sheet for the blown flow case)

SECTION I

INTRODUCTION

The most commonly proposed application of the jet-flap principle to date has been to jet-augmented mechanical flaps for use during the take-off and landing flight phases of aircraft. For this application, the lift coefficients achieved are very high and the relative lift contribution due to camber-line jet-sheet interaction is negligible. Recently, studies have been conducted on the aerodynamics of pure* jet-flapped wings at high subsonic and transonic speeds (Refs. 1 and 2). Motivation for these studies is the possible use of pure jet-flapped wings for maneuvering combat aircraft at high speeds. For pure jet-flapped wings at high speeds, the camber-line jet-sheet interaction, although small in absolute magnitude, can be a relatively higher fraction of the total lift than in very-high-lift applications and should be taken into account in some instances. Because of previous emphasis on very high-lift applications, little attention has been given to the analysis of camber-line effects. Other than a very limited investigation by Woolard (Ref. 2), the sole in-depth treatment of camber-line effects appears to be that of Hough (Ref. 3), who formulated an analysis for a polynomial camber line, but provided specific numerical results only for the parabolic shape. There is a need for a prediction capability for arbitrary camber-line shapes, since the parabolic camber line is not necessarily the best one for high-speed applications.

The analysis herein is a small-perturbation one with the obvious restriction to small flow disturbances and the attendant results that flow solutions and boundary conditions are linearly superposable. Hence, the flow about an arbitrarily shaped jet-flapped airfoil may be obtained by appropriate addition of jet-flapped-airfoil solutions for a regularly

*That is, a wing employing trailing-edge jet blowing alone, unassisted by mechanically deflected flaps or ailerons.

blown* flat plate at angle of attack (Fig. 1a), a singularly blown** flat plate at zero angle of attack (Fig. 1b), a singularly blown cambered plate at zero angle of attack (Fig. 2), and the solution for the flow about an unblown symmetrical airfoil at zero angle of attack. To the order of linear terms in small perturbations, airfoil thickness does not influence the vorticity distribution nor the associated lift and pitching-moment coefficients. The local surface-pressure coefficient is affected, however, and is the sum of contributions due to the vorticity and thickness distributions. In view of the superposition properties of solutions and boundary conditions, the present analysis is concerned principally with camber-line aerodynamics on the assumption that the solutions for the other aforementioned contributions are available in the technical literature. The regularly and singularly blown flat-plate solutions, for example, are available in Ref. 4. The singularly blown solution is given also in an Appendix in this report. Solution for the flow about a symmetric airfoil of arbitrary thickness distribution at zero angle of attack may be found in Ref. 5. The camber-line solutions obtained herein are, of course, limited to camber-height ratios which are small relative to unity as a consequence of the small-perturbation assumption.

Consideration of high-speed aerodynamics herein is limited to subcritical flight Mach numbers so that the jet-sheet camber-line flow-interaction problem can be solved for incompressible flow and extended into the compressible regime by means of jet-flapped airfoil similarity rules such as given by Woolard in Ref. 2.

In this report the Hough formulation for polynomial camber lines is further developed (with modifications) into a method designated as the "Power-Law Superposition Method." Since it is likely, however, that a polynomial representation may be inadequate or unwieldy for some camber lines, a new method designated as the "quadrature method" is developed

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* Regular blowing denotes a jet sheet emerging tangent to the trailing edge.

**Singular blowing denotes a jet sheet emerging at an angle relative to the trailing edge.

to avoid the use of a polynomial and permit the use of numerically specified ordinates for completely arbitrary shapes (except for slope limitations at the leading and trailing edges).

The quadrature method is the principal contribution of this report and is the method emphasized. This method is derived from superposition of jet-augmented, mechanically flapped airfoil solutions (Ref. 6) taken in the limit as the number of flapped airfoils become infinite. The approach ultimately yields the aerodynamic properties in terms of integrals having integrands which consist of the product of the camber-line ordinate and an influence function. In application, the integrals involved are evaluated by numerical methods. The required influence functions are determined by means of a series-collocation solution to the governing integral equation. Tables of the influence functions, obtained from nine-point collocation solutions on a CDC6600 computer, are presented in the report.

The Power-Law Superposition Method for an arbitrary camber line employs superposition of (n-1) solutions for basic power-law camber-line shapes of the form $r_a(x-x^a)$, where a = 2,3,-----,n. This approach differs from that of Hough who uses superposition of camber lines of the form $r_a x^a$. The analytical bookkeeping involved in studying a particular camber line is believed to be more convenient with the present approach. The governing integral equation for each basic power-law camber line is solved by collocation assuming a Fourier series approximation. Numerical solutions for the Fourier coefficients were obtained on a CDC6600 computer for nine collocation points, seven basic camber-line shapes corresponding to a = 2,3,4,5,6,7, and 8 and values of c_J ranging from 0.001 through 5.0. Tables of the coefficients so obtained are presented in the report.

One of the principal features of the quadrature method is that it provides a convenient means for determining the aerodynamics of an arbitrarily cambered jet-flapped airfoil by hand calculation utilizing a pocket- or desk-electronic calculator. The hand calculation approach is very convenient* for the lift and moment coefficients, but somewhat less so for pressure distributions and trailing jet-sheet shapes. If, therefore, one requires aerodynamic characteristics for an arbitrary camber line for only a moderate number of parametric variations, hand calculation by the quadrature method is appropriate. If, on the other hand, a large number of parametric variations is involved, the sheer bulk of the calculation dictates the use of a digital computer. For application convenience in this latter situation, or for the purpose of calculating additional tables of influence functions, a digital computer program is given in an appendix. If the airfoil camber line is closely represented by a polynomial, the power-law superposition method is likely to be the most convenient.

For analysis convenience, a given aerodynamic property of a jet-flapped airfoil with the jet operating (blown airfoil) is expressed herein as the sum of the aerodynamic property without the jet operating (unblown airfoil) plus an interference quantity; that is, blown-airfoil aerodynamics equals unblown-airfoil aerodynamics plus an interference quantity. The subject of this report is the determination of the interference quantities for the principal aerodynamic properties. In application it is assumed that the detailed methodology for calculating the theoretical aerodynamics of the unblown airfoil is obtained from one of the many sources in the technical literature (Refs. 5 and 7, e.g.). Nevertheless, for convenience, a brief summary of some principal results from unblown thin-airfoil theory is presented in Appendix A.

As mentioned earlier, the most likely application of cambered jet-flapped airfoil theory is to pure jet-flapped wings on combat aircraft maneuvering at high subsonic speeds. For this application, it is of interest to estimate an upper bound to the value of the two-dimensional jet-momentum coefficient. Employing a mean wing chord, (S/b), a mean two-dimensional jet-momentum coefficient, c_j, may be cast in the form

$$c_j = k_f(W/S)(T/W)/q_\infty$$

*Especially for the small personal programmable calculators where (W/S) and (T/S) are the wing loading and thrust-to-weight ratio respectively and k_f is a factor which is proportional to the fraction of engine thrust available to the jet flap, the fraction of sea-level thrust available in flight at altitude and an engine installation factor. Assuming a wing loading of 80 pounds per square foot, a thrust-to-weight ratio of unity, a maneuvering Mach number of 0.9, and a maneuvering altitude of 25,000 feet, to be typical for a fighter aircraft, and very conservatively assuming k_f to be 0.5 yields $c_j \approx 0.10$. Hence, it appears that for foreseeable high-speed applications, values of the jet-momentum coefficient that are of practical interest are less than 0.1. However, for the sake of completeness, and because future applications are difficult to anticipate, the tables and examples presented in this report include values of c_j ranging from 0.001 through 5.0.

SECTION II
ANALYSIS

THE QUADRATURE METHOD

As noted in the introduction, the aerodynamics of a cambered jet-flapped airfoil (Fig. 2) by the quadrature method is derived from superposition (Fig. 3) of solutions for regularly blown, mechanically flapped airfoils taken in the limit as the number of flapped airfoils become infinite. In the present analysis, the boundary condition of zero jet deflection at the trailing edge (Fig. 2) for the camber case is evoked to achieve, for the more general airfoil geometry and aerodynamic state, a superposition rule in which the contribution of each fundamental case is proportional only to the single principal parameter for that case. For example, for the lift coefficient, this approach yields the relation

$$c_\ell = c_{\ell_\alpha}\alpha + c_{\ell_\kappa}\kappa + c_{\ell_\delta}\delta + c_{\ell_\tau}\tau \qquad (1)$$

with corresponding relations for the other aerodynamic properties. If tangential trailing-edge blowing (regular blowing) were to be employed as a boundary condition, the singular-blowing contribution would be proportional to $(\theta_{TE} - \tau)$ rather than to τ, and the magnitude of c_{ℓ_κ} would differ from that in Eq. 1.

Before developing the quadrature method, it is of interest to discuss a pertinent limiting property of Spence's solution (Ref. 6) for the regularly blown, mechanically flapped airfoil. Consider the fundamental cases of the regularly and singularly blown flat plate (Ref. 4) and the regularly blown, mechanically flapped airfoil illustrated in Fig. 1. In order to properly implement the quadrature method as formulated in this report, the aerodynamic derivatives $c_{\ell_\delta}(c_j,\xi)$, $c_{m_\delta}(c_j,\xi)$, and $\gamma_\delta(c_j,x,\xi)$ for the regularly blown, mechanically flapped airfoil should reduce to the corresponding derivatives with respect to α for the regularly blown flat plate and with respect to τ for the singularly blown flat plate for the limiting cases of $\xi = 0$ and 1 respectively. These limiting cases are examined in Appendix B where it is found that the limit for $\xi = 0$ yields the proper result, but that for $\xi = 1$ does not. Hence, for the purpose of distinguishing between quantities resulting from taking $\xi = 1$ in the Spence theory and those obtained directly, the Spence quantities will be denoted by an inverted circumflex, e.g., $\check{c}_{\ell_\delta}(c_j,1)$, $\check{c}_{m_\delta}(c_j,1)$, and $\check{\gamma}_\delta(c_j,x,1)$.

In order to overcome the aforementioned difficulty at $\xi = 1$, the vorticity-distribution derivative with respect to δ must be written as

$$\gamma_\delta(x,\xi) = \gamma_\delta^{(0)}(x,\xi) + \gamma_\delta^{(1)}(x,\xi) + \mathcal{U}(\xi-1)\left[\gamma_\tau(x) - \check{\gamma}_\delta^{(1)}(x)\right] \tag{2}$$

where $\mathcal{U}$ is the unit step function for which $\mathcal{U}(\xi-1) = 0$ for $(\xi-1) < 0$ and $\mathcal{U}(\xi-1) = 1$ for $(\xi-1) \geq 0$. For the sake of conciseness of presentatio the dependence of γ_δ and γ_τ on c_j is not symbolically indicated.

From the principle of superposition, the vorticity-distribution derivative for the segmented camber line of Fig. 3 is

$$\gamma_\delta(x) = -\gamma_\delta(x,0)\theta_0 - \sum_{n=1}^{N-1} \gamma_\delta(x,\xi_n)(\theta_n - \theta_{n-1}) + \gamma_\delta(x,1)\theta_{N-1} \tag{3}$$

where

$$\xi_0 = 0,\ \xi_N = 1,\ \theta_{-1} = \theta_N = 0,\ \text{and}$$

$$\tau = \sum_{n=0}^{N} (\theta_n - \theta_{n-1}) = 0$$

Noting that

$$\theta \equiv dy/d\xi \equiv y' \tag{4}$$

and hence

$$(\theta_n - \theta_{n-1}) = \Delta\theta = \Delta y' = (\Delta y'/\Delta\xi)\Delta\xi \tag{5}$$

where $\Delta\xi \equiv \xi_n - \xi_{n-1}$. Substitution of Eqs. 4 and 5 in Eq. 3 yields

$$\gamma(x) = -\gamma_\delta(x,0)y'(0) - \sum_{n=1}^{N-1} \gamma_\delta(x,\xi_n)(\Delta y'/\Delta\xi)\Delta\xi + \gamma_\delta(x,1)y'(1) \tag{6}$$

where y'(1) is the slope of the airfoil camber line at the trailing edge. Taking the limit $\Delta\xi \rightarrow 0$ in the second term on the right-hand side of Eq. 6 yields

$$\gamma(x) = \left[\gamma_\delta(x,\xi)y'(\xi)\right]_0^1 - \int_0^1 \gamma_\delta(x,\xi)(d^2y/d\xi^2)d\xi \qquad (7)$$

Substituting Eq. 2 in Eq. 7 yields

$$\gamma(x) = \gamma^{(0)}(x) + y'(1)\left[\gamma_\tau(x) - \check{\gamma}_\delta^{(1)}(x,1)\right]$$
$$+ \left[y'(\xi)\gamma_\delta^{(1)}(x,\xi)\right]_0^1 - \int_0^1 \gamma_\delta^{(1)}(x,\xi)(d^2y/d\xi^2)d\xi \qquad (8)$$

where, assuming that $(d^2y/d\xi^2)$ is bounded at the trailing edge, the integral involving $\mathcal{U}$ $(\xi-1)$ vanishes.

Assuming continuous first and second derivatives for γ_δ and y and integrating Eq. 8 twice by parts yields

$$\gamma(x) = \gamma^{(0)}(x) + y'(1)\left[\gamma_\tau(x) - \check{\gamma}_\delta^{(1)}(x,1)\right]$$
$$- \int_0^1 y(\xi)(d^2\gamma_\delta^{(1)}/d\xi^2)d\xi \qquad (9)$$

Substituting Eqs. B-1 and B-15 in Eq. 9 yields

$$\gamma(x)/U_\infty = \gamma^{(0)}(x)/U_\infty - (2/\pi)y'(1)\,x^{-3/2}\,\ell n(1-x)$$
$$+ \left[4X/(1+X)\right]x^{-3/2}\beta_0 + 2x^{-3/2}\sum_{n=1}^{N-1} X^n\beta_n \qquad (10)$$

where X is defined in the list of symbols and

$$\beta_n \equiv y'(1)\Delta D_n - H_n \tag{11}$$

$$\Delta D_n(c_j) \equiv A_n(c_j) - D_n(c_j,1) \tag{12}$$

$$H_n \equiv \int_0^1 y(\xi)\, D_n''(c_j,\xi)\, d\xi \tag{13}$$

The determination of $\Delta D_n(c_j)$ is treated in Appendix B, with tabulated numerical values given in Table I*. For the sake of completeness, tabulated numerical values of $A_n(c_j)$ are presented in Table II. In general, the integral in Eq. 13 must be evaluated by numerical means. Discussion of the methods for accomplishing this is deferred to a later point in the report. The determination of $D_n''(c_j,\xi)$ is treated in Appendix C, with tabulated numerical values given in Table III.

For zero jet deflection at the trailing edge ($\tau = 0$), the lift coefficient and the tail-down pitching-moment coefficient about the leading edge are given, respectively, by

$$c_\ell = 2\int_0^1 (\gamma/U_\infty)\, dx \tag{14}$$

$$c_m = -2\int_0^1 x(\gamma/U_\infty)\, dx \tag{15}$$

It would appear that the logical procedure for obtaining c_ℓ and c_m in terms of the β_n coefficients would be to substitute Eq. 10 in Eqs. 14 and 15. This is the only option available for c_m, but a simpler relation can be obtained for c_ℓ by an analysis paralleling that for Eqs. 97 through 103 in Ref. 4. Noting that Eq. 10 is of a form similar to that of

*Since Tables I through IV and VII and IX are reproduced from computer printouts the entries in the tables are identified by the Fortran symbols for the parameters listed. The Fortran symbols and their corresponding analysis symbols are listed in Appendix G.

Eq. 107* in Ref. 4, then by analogy with Eqs. 103 and 107 in Ref. 4 for the lift coefficient and by direct substitution of Eq. 10 in Eq. 15 for the moment coefficient, there is obtained

$$c_\ell = c_\ell^{(o)} + 4\pi\beta_0 \tag{16}$$

$$c_m = c_m^{(o)} - y'(1) I_\ell - \sum_{n=0}^{N-1} \beta_n I_n \tag{17}$$

where I_ℓ and I_n are given by Eqs. B-4, B-5, and B-6.

It should be noted that in view of the similarity of Eq. 10 to Eq. 107 in Ref. 4, and other mathematical similarities (without exact equivalence) to Ref. 4, some of the mathematical relations given herein may be deduced by means of a term-by-term comparison with those in Ref. 4 without recourse to actual mathematical manipulation.

By comparison with Eq. 123 in Ref. 4 (taking into account differences in coordinate-system sign convention), the trailing streamline (jet-sheet) shape is given by

$$y_{TS}(\varphi) = y_{TS}^{(o)} - 2y'(1)\left(1 - \cos\frac{\varphi}{2}\right) - 2\beta_0\left[\ell n \tan\left(\frac{\varphi}{4} + \frac{\pi}{4}\right) - \sin\frac{\varphi}{2}\right]$$
$$- \sum_{n=1}^{N-1} \beta_n \, 2\left(\cos\frac{\varphi}{2}\sin n\varphi - 2n\sin\frac{\varphi}{2}\cos n\varphi\right)\Big/\left(4n^2 - 1\right) \tag{18}$$

where

$$x = \cos^{-2}(\varphi/2) \qquad (x \geq 1) \tag{19}$$

*When Eq. 107 of Ref. 4 is corrected for significant typographical errors. See Appendix B.

The derivatives $c_{\ell_\delta}(c_j,\xi)$ and $c_{m_\delta}(c_j,\xi)$ may be modified in a manner analogous to Eq. 2 so that

$$c_{\ell_\delta}(c_j,\xi) = c_{\ell_\delta}^{(0)}(\xi) + 4\pi\left[D_0(c_j,\xi) + \mathcal{U}(\xi-1)\Delta D_0(c_j,\xi)\right] \quad (20)$$

$$c_{m_\delta}(c_j,\xi) = c_{m_\delta}^{(0)}(\xi) - S_D(c_j,\xi) - \mathcal{U}(\xi-1)\left[I_\ell + \Delta S(c_j,\xi)\right] \quad (21)$$

where

$$\Delta S \equiv S_A - S_D = \sum_{n=0}^{N-1} \Delta D_n I_n \quad (22)$$

$$S_A = \sum_{n=0}^{N=1} A_n I_n \qquad S_D = \sum_{n=0}^{N-1} D_n I_n \quad (23)\ (24)$$

Tabulated numerical values of $\Delta S(c_j)$ are given in Table I.

Making use of Eqs. 20 and 21, relations for the lift and moment coefficients also may be derived by a superposition procedure paralleling that used to obtain Eq. 10. The resulting lift coefficient is identical to Eq. 16. The moment coefficient, however, is of a different form given by

$$c_m = c_m^{(0)} - y'(1)(I_\ell + \Delta S) + \mathcal{J} \quad (25)$$

where

$$\mathcal{J} \equiv \int_0^1 y(\xi) S_D''(c_j,\xi) d\xi \quad (26)$$

$$S_D''(c_j,\xi) \equiv \sum_{n=0}^{N-1} D_n''(c_j,\xi) I_n \quad (27)$$

and tabulated numerical values of $S_D''(c_j,\xi)$ are given in Table III. Determination of the pitching-moment coefficient by means of Eq. 25 involves less computational labor than does Eq. 17.

The integrals of Eqs. 13 and 26 must be evaluated by numerical quadrature. However, as may be seen in Appendix C, the function D_n'', and hence also S_D'', experiences a singular behavior at $\xi = .0$ and 1. It follows therefore that the leading and trailing edges must be given separate special treatment in the aforementioned integrals. For this purpose it is convenient to define the following

$$H_n = (H_n)_{LE} + H_n^{(c)} + (H_n)_{TE} \tag{28}$$

$$\mathcal{J} = \mathcal{J}_{LE} + \mathcal{J}^{(c)} + \mathcal{J}_{TE} \tag{29}$$

where

$$(H_n)_{LE} = \int_0^{\xi_1} y(\xi) D_n''(\xi) d\xi \; ; \qquad H_n^{(c)} = \int_{\xi_1}^{\xi_2} y(\xi) D_n''(\xi) d\xi \qquad (30)(31)$$

$$(H_n)_{TE} = \int_{\xi_2}^{1} y(\xi) D_n''(\xi) d\xi \tag{32}$$

$$\mathcal{J}_{LE} = \int_0^{\xi_1} y(\xi) S_D''(\xi) d\xi \; ; \qquad \mathcal{J}^{(c)} = \int_{\xi_1}^{\xi_2} y(\xi) S_D''(\xi) d\xi \qquad (33)(34)$$

$$\mathcal{J}_{TE} = \int_{\xi_2}^{1} y(\xi) S_D''(\xi) d\xi \tag{35}$$

with $\xi_1 << 1.0$ and $(1-\xi_2) << 1.0$. Approximate analytic relations for the foregoing leading and trailing edge integrals are given by Eqs. D-8, D-9, D-20, and D-21 in Appendix D. Evaluation of these analytic relations requires values of $E_n(\xi)$ and $s(\xi)$ at five selected magnitudes of ξ, which were taken to be 0.025, 0.050, 0.975, 0.9875, and 1.0000 in this report. Tables of values of $E_n(\xi)$ and $s(\xi)$ for these specified arguments are given in Table III.

The integrals of Eqs (31) and (34) are now the ones to be evaluated numerically. The specific computational algorithm employed for this purpose will depend upon the precision required, the type of computational mechanics used, the character of the quadrature integrand, and perhaps, the number of cases to be calculated. For purposes of discussion it is convenient to categorize the computational mechanics as either a "nonautomatic hand computation," an "automatic hand computation," or a "machine computation." A nonautomatic hand computation employs non-programmable calculating machinery and requires that the airfoil camber-line coordinates and the influence function be input by hand at intermediate stages during hand manipulation of the computation steps on the calculator keyboard. An automatic hand computation employs limited-capability programmable calculating machinery* and, because of the machine limits, requires that the camber-line coordinate and influence function be input by hand at intermediate stages during the automatic running of the computation steps on the calculator. Both nonautomatic and automatic hand computations require tables of the influence functions $D''_n(c_j,\xi)$ and $S''_n(c_j,\xi)$. A machine computation employs a digital computer, permits all camber-line coordinates to be initially input together and calculates or stores the influence functions internally to the program. The quadrature algorithm complexity and integration step size that can be tolerated obviously are strongly influenced by the type of computation mechanics employed.

The quadrature integrands in the present application vary rapidly over the aft portion of the airfoil and also are of a greater magnitude in this region. In selecting a numerical quadrature algorithm for good accuracy, therefore, one has the choice of employing a large number of equally spaced abscissae or a lesser number of unequally spaced abscissae with the spacing graduated so that the spacing decreases over the aft region of the airfoil. A nonuniform abscissae spacing can be achieved by dividing the range of integration into subintervals each of which employs an equal-abscissa-spacing quadrature formula, but for which the

*Such as, for example, the Hewlett-Packard models HP-25, HP-67, and HP-97. or the Texas Instruments models SR-52 and SR-56.

spacing differs for the various subintervals, or by deriving specific formulae for nonequally spaced abscissae. The use of a large number of equally spaced abscissae increases the labor required to input the data regardless of whether the computation is performed by hand or machine. For hand computation, however, this approach requires more extensive influence-function tables if the tedious process of interpolation is to be avoided. Dividing the range of integration into subintervals also may introduce difficulty in achieving abscissae values coinciding with those listed in the influence-function tables. If only a few integrations are to be performed, use of a large number of abscissae, the subinterval scheme, or even influence-function table interpolation may not be objectionable.

For nonautomatic hand computations it is likely that, in general, the most practical quadrature formula is the trapezoidal rule with nonequal abscissa spacings graduated in the manner previously noted.

Although a computer program for machine computation is included in Appendix H, the principal emphasis is upon automatic hand computation. This is largely because of the wide availability of programmable pocket calculators. The capabilities of the key-programmable Hewlett-Packard HP-25 and Texas Instruments SR-56 models were particularly influential in establishing the level of complexity of the quadrature formula selected and presented in Appendix E. The formula of Appendix E employs a quadratic interpolating polynomial for the integrand, arbitrary nonequal abscissae spacings and an arbitrary number of abscissae. Program listings and run instructions for use of this formula on the HP-25 and SR-56 calculators are given in Appendix F.

Although the selection of the aforementioned quadrature was dictated by considerations of use in automatic hand computations, for convenience and consistency the same formula is also used in the digital computer program.

THE POWER-LAW SUPERPOSITION METHOD

The "power-law superposition method" employs superposition of basic power-law camber lines of the type

$$y_a = r_a\,(x - x^a) \qquad a = 2,3,4,--- \tag{36a}$$

for which the abscissa for the maximum camber height, h, is

$$x_h = a^{-1/(a-1)} \tag{36b}$$

and r_a is given by

$$r_a = K_a\,(x_h - x_h^a) \tag{36c}$$

For an arbitrarily shaped camber line given by

$$y = \sum_{a=2}^{M} r_a\,(x - x^a) \tag{37}$$

the r_a coefficients are determined by the specifications placed on the camber-line geometry. For example, for an S-shaped camber line of amplitude h, and antisymmetric about the mid-chord point, the coefficients are $r_2 = 18\sqrt{3}\,h$ and $r_3 = -12\sqrt{3}\,h$.

From Eq. 69 of Ref. 4, the integro-differential equation for the vorticity distribution, $g'(x)$, along the trailing streamline is

$$\frac{4}{c_j}\,g(x) = \frac{1}{\pi}\left(\frac{x-1}{x}\right)^{1/2}\int_1^{\infty}\left(\frac{\eta}{\eta-1}\right)^{1/2}\frac{g'(\eta)}{\eta - x}\,d\eta$$

$$-\frac{2}{\pi}\left(\frac{x-1}{x}\right)^{1/2}\int_0^{1}\left(\frac{\eta}{1-\eta}\right)^{1/2}\frac{y_a'(\eta)}{\eta - x}\,d\eta \tag{38}$$

where $g(x) = (1/2)c_j y'_{TS}(x)$ and the boundary conditions are

$$g(1) = g(\infty) = 0 \tag{39}$$

The chordwise vorticity distribution along the airfoil is given by Eq. 62 in Ref. 4 as

$$\frac{\gamma(x)}{U_\infty} = \frac{\gamma^{(0)}(x)}{U_\infty} + \frac{1}{\pi}\left(\frac{1-x}{x}\right)^{1/2}\int_1^\infty \left(\frac{\eta}{\eta-1}\right)^{1/2} \frac{g'(\eta)}{\eta-x}\, d\eta \qquad (40)$$

In the process of solving Eq. 38 it is convenient to treat separately the logarithmic singularity in the vorticity distribution (Ref. 4) known to occur at the trailing edge. For this purpose, using the form of Eq. 2.26 in Ref. 3 as a guide, let

$$g(x) = \left[2r_a(a-1)/\pi\right] F(x) + (1/2)\, r_a G(x) \qquad (41)$$

where

$$F(x) = -(2/x^{1/2})\ln(x-1) + 2\ln\left[(x^{1/2}-1)/(x^{1/2}+1)\right] \qquad (42)$$

with G(1) and F(1) finite and G(∞) and F(∞) vanishing.

Substituting Eqs. 36 and 41 in Eq. 38 yields

$$\frac{1}{\pi}\left(\frac{x-1}{x}\right)^{1/2}\int_1^\infty \left(\frac{\eta}{\eta-1}\right)^{1/2} \frac{G'(\eta)}{\eta-x}\, d\eta - \lambda G(x)$$

$$= 2\left\{\frac{2(a-1)}{\pi}\lambda F(x) - \frac{2(a-1)}{x^{3/2}} + 2(1-ax^{a-1})\left[\left(\frac{x-1}{x}\right)^{1/2} - 1\right]\right.$$

$$\left. - 2a\left(\frac{x-1}{x}\right)^{1/2}\sum_{i=1}^{a-1} K_i x^{a-1-i}\right\} \qquad (43)$$

where

$$K_i = \left[1\cdot3\cdot5\cdot\_\_\_\_\cdot(2i-1)\right]/(2\cdot4\cdot6\cdot\_\_\_\_\cdot2i) \qquad (44)$$

For the purpose of solving Eq. 43 it is convenient to introduce the transformations

$$x = \cos^{-2}(\varphi/2); \quad \eta = \cos^{-2}(\theta/2) \tag{45}$$

and expand $G'(\varphi)$ in the Fourier series

$$G'(\varphi) = \sin\frac{\varphi}{2}\sum_{n=0}^{\infty} C_n \cos n\varphi \tag{46}$$

in the range $0 \leq \varphi \leq \pi$. The corresponding series for $G(\varphi)$ is

$$G(\varphi) = \sum_{n=0}^{\infty} 2C_n\left(\cos\frac{\varphi}{2}\cos n\varphi + 2n\sin\frac{\varphi}{2}\sin n\varphi\right)/(4n^2-1) \tag{47}$$

Substituting Eqs. 45, 46, and 47 in Eq. 43 and satisfying the resulting equation at N points given by

$$\varphi_m = m\pi/N, \quad m = 0, 1, 2, \text{----}, N-1 \tag{48}$$

yields the result

$$\sum_{n=0}^{N-1} (a_{mn} + \lambda b_{mn}) C_n = \bar{f}_m + \lambda \bar{g}_m/4 \tag{49}$$

where a_{mn} and b_{mn} are given by Eqs. A-8 and

$$\frac{\bar{g}_m}{4} = \frac{32(a-1)}{\pi}\left[\ln\left(\tan\frac{\varphi_m}{2}\right) - \sec\frac{\varphi_m}{2}\ln\left(\tan\frac{\varphi_m}{4}\right)\right] \tag{50}$$

$$\bar{f}_m = 8\left\{(a-1)\cos^2\frac{\varphi_m}{2} + \left(\frac{1-\sin\frac{\varphi_m}{2}}{\cos\frac{\varphi_m}{2}}\right)\right.$$

$$\left. + a\left(\sec^2\frac{\varphi_m}{2}\right)^{a-1}\left[\tan\frac{\varphi_m}{2}\sum_{i=1}^{a-1} K_i\left(\cos^2\frac{\varphi_m}{2}\right)^i - \left(\frac{1-\sin\frac{\varphi_m}{2}}{\cos\frac{\varphi_m}{2}}\right)\right]\right\} \tag{51}$$

A word of caution is in order regarding precision in the numerical calculation of $\overline{f}_m$ by Eq. 51. For a given value of a, as $m \to N$, small differences between small numbers are encountered in the bracketed terms in Eq. 51. The situation is greatly aggravated for $a \to N$. If, therefore, a given precision in $\overline{f}_m$ is desired, care should be taken to insure that the bracketed terms are calculated to a sufficient number of places to achieve the desired precision.

The N simultaneous equations for C_n given by Eq. 49 have been numerically evaluated on a CDC 6600 digital computer for N = 9, a = 2, 3, 4, 5, 6, 7, and 8 and values of c_j ranging from 0.001 through 5.0. Values of $\overline{f}_m + \lambda\overline{g}_m/4$ were input to 10 significant figures* and the calculations performed to 15 decimal places. The resulting values of C_n are recorded in Table IV. The computer program for accomplishing the preceding computations is documented in the listing in Appendix H.

Making use of Eq. 47 in Eq. 41 and substituting into Eq. 40 the value of $g'(\eta)$ obtained by differentiating Eq. 41 yields the following for the vorticity distribution along the airfoil

$$\gamma(x)/U_\infty = \gamma^{(0)}(x)/U_\infty + r_a(a-1)(2/\pi)x^{-3/2}\ell n(1-x) + (r_a/4)\left[4C_0 X/(1+X) + 2\sum_{n=1}^{N-1} C_n X^n\right]x^{-3/2} \tag{52}$$

where X is defined in the list of symbols.

By analogy with Ref. 4, there is obtained

$$c_\ell = c_\ell^{(0)} + \pi r_a C_0 \tag{53}$$

$$c_m = c_m^{(0)} - r_a\left[(1-a)I_\ell + (1/4)\sum_{n=0}^{N-1} C_n I_n\right] \tag{54}$$

*Because of the previously noted precision problem, double-precision arithmetic was employed.

$$y_{TS}(\varphi) = y_{TS}^{(0)}(\varphi) + r_a \left\{ 2(1-a)(1-\cos\frac{\varphi}{2}) + \frac{C_0}{2}\left[\ln \tan(\frac{\varphi}{4}+\frac{\pi}{4}) - \sin\frac{\varphi}{2}\right]\right.$$

$$\left. + \frac{1}{4}\sum_{n=1}^{N-1} \frac{2C_n}{4n^2-1}(\cos\frac{\varphi}{2}\sin n\varphi - 2n \sin\frac{\varphi}{4}\cos n\varphi)\right\} \tag{55}$$

If the solutions for a particular power-law mean line are denoted by the superscript (a), such that the left hand sides of Eqs. 52 through 55 become $\gamma^{(a)}(x)/U_\infty$, $c_\ell^{(a)}$, $c_m^{(a)}$, and $y_{TS}^{(a)}(\varphi)$, then the solutions for a camber line represented by the polynomial of Eq. 37 are

$$\gamma(x)/U_\infty = \sum_{a=2}^{M} \gamma^{(a)}(x)/U_\infty \tag{56}$$

$$c_\ell = \sum_{a=2}^{M} c_\ell^{(a)} \tag{57}$$

$$c_m = \sum_{a=2}^{M} c_m^{(a)} \tag{58}$$

$$y_{TS}(\varphi) = \sum_{a=2}^{M} y_{TS}^{(a)}(\varphi) \tag{59}$$

SECTION III
SOME NUMERICAL EVALUATIONS

Several numerical evaluations are of interest. First is the determination of the impact of alternative quadrature rules and abscissae station distributions upon the accuracy of the integrals for $H_n^{(c)}$ and $\mathcal{Q}^{(c)}$ given by Eqs. 31 and 34. Second is a determination of the relative contributions of the integrals for the forward, central, and aft regions of the airfoil as given by Eqs. 28 through 35. Finally, it is of interest to compare the aerodynamics as calculated by the Quadrature Method to that calculated by the series-collocation approach used in the Power-Law Superposition Method. For the foregoing purposes, basic power-law camber lines normalized* to unity camber ratio, $\kappa = 1$, are examined for exponents of a = 2, 4, and 8. Plots of some normalized camber lines are shown in Fig. 5.

For the quadrature-rule and abscissae-station-distribution evaluations, comparisons are made for the trapezoidal rule and the quadratic rule of Appendix E in conjunction with dense (19 stations) and sparse (9 stations) distributions. Listings of the aforementioned abscissae distributions are presented in Table V**.

There is no way of establishing the absolute accuracy of the previously mentioned alternatives for calculating $H_n^{(c)}$ and $\mathcal{Q}^{(c)}$. However, "equivalent" collocation values of $H_n^{(c)}$ and $\mathcal{Q}^{(c)}$ are useful as reference quantities for assessing the "apparent" accuracy of the alternatives. A "collocation-equivalent value" is obtained by subtracting the quadrature-method

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* An aerodynamic property calculated for a normalized camber line may be applied to an arbitrary camber ratio for that camber line by simply multiplying the given property by the specified camber ratio.

**Abscissae are listed only for the central region where numerical quadrature is employed.

leading- and trailing-edge contributions from the appropriate collocation solution quantity. The percentage relative difference in $H_n^{(c)}$ is then defined as

$$100(H_n^{(c)} - (H_n^{(c)})_{equiv})/(H_n^{(c)})_{equiv}$$

with a corresponding definition for $\mathcal{L}^{(c)}$.

A tabulation of the percentage relative differences for $H_0^{(c)}$ and $\mathcal{L}^{(c)}$ calculated by the alternative quadrature rules and abscissae station distributions for a = 2, 4, and 8 and c_j values of .01, .10, and 4.00 is given in Table VI. It is seen in this table, that although there is some variation with "a" and "c_j", the most significant differences are due to the number of abscissae stations and the type of quadrature rule employed. It is apparent that the best results are obtained through use of the quadratic rule in conjunction with the dense station distribution, with the trapezoidal rule utilizing a dense distribution rating second best. The sparse distribution generally gives poorer results. Although the percentage relative differences for $H_n^{(c)}$ with $n \neq 0$ are not shown in Table VI, those values presented for n = 0 are typical of those for $n \neq 0$. For a given computer capability and quadrature accuracy goal, Table VI provides a partial guide to the user in selecting the quadrature rule and station distribution most appropriate to his application. Another factor influencing the accuracy required in the numerical quadrature is the relative contribution of the quadrature calculation to the total value of β_n and Δc_m coefficients. In order to provide visibility on this, as well as visibility on the other components contributing to β_n and Δc_m, a computer printout showing the component breakdown is presented in Table VII*. Also shown, as a point of information, are values of Δc_m calculated by both of the methods presented in the text. The Δc_m value shown with the asterisk is calculated according to Eq. 17 and that without according to Eq. 25. The relative contributions of $H_n^{(c)}$ to β_n and $\mathcal{L}^{(c)}$ to Δc_m for the calculations shown in Table VII are summarized in Table VIII. It is observed in this table that, although there is some variation with the exponent "a", the most significant variation is with c_j, where it is

*The numeric quadrature calculations in Tables VII and IX employ the quadratic quadrature rule and the dense abscissae station distribution.

seen that the relative contribution of the central-region quadrature decreases considerably at the lower values of c_j. Apparently, at low momentum coefficients, say $c_j = .10$, the major contributions to β_n and Δc_m are from the trailing edge region; that is, from the terms containing the factor $y'(1)$ in Eqs. 17 and 25, and the trailing-edge quadrature, Eqs. 32 and 35.

Table VIII in conjunction with Table VI provides the user with additional guidance in the selection of a quadrature rule and abscissae station distribution. For $c_j = .10$ and a given accuracy requirement, the combined tables indicate a requirement less stringent than does Table VI alone. In some instances a relatively crude numerical quadrature calculation might be satisfactory. Consider, for example, that the interference lift coefficient ($\Delta c_\ell = 4\pi\beta_0$) for a camber line closely resembling an a = 2 power-law camber line is required to an accuracy of ±2.5% or better at $c_j = .05$. It is seen from Tables VI and VIII that a numerical quadrature using the trapezoidal rule and a sparse station distribution will satisfy this requirement (since -.3182 x 6.90 = 2.2%).

As a final assessment of the quadrature method, collocation solutions for the same camber-line shapes and momentum coefficients considered in Table VII have been obtained. The resulting β_n and Δc_m values are given in Table IX. The percent differences in β_n, Δc_ℓ, and Δc_m as calculated by the two methods are summarized in Table X. It is seen in this table that excellent agreement is achieved at the lower values of the momentum coefficient with the agreement becoming less favorable at higher momentum coefficients. There also is some degradation with increasingly higher Fourier harmonics. From examination of Table VI and VIII it can be seen that the momentum-coefficient degradation is likely due in part to the fact that the relative contribution of the numerical quadrature component to a total aerodynamic property increases more rapidly than does the quadrature accuracy for a fixed quadrature routine.

Although methodology is the main concern of this report, the interference lift- and pitching-moment coefficients for several power-law camber lines are presented in Fig. 6 as a matter of interest. As can be seen, for positive camber the interference of the jet sheet produces a lift decrement and moment increment, both of which increase with increasing jet-momentum coefficient and rearward movement of the maximum-camber location. The corresponding center of the interference lift is relatively insensitive to the camber-line shape and varies only slightly with the jet-momentum coefficient from a mid-chord position at low coefficient values to approximately the 46-percent-chord position at a jet-momentum coefficient of five.

SECTION IV

CONCLUDING REMARKS

A quadrature method for calculating the incompressible-flow aerodynamics of an arbitrarily-cambered jet-flapped airfoil has been derived and evaluated. The principal advantage of the method is that it replaces the usual process of solving a set of simultaneous equations by numerical quadrature employing a table of influence functions. For a moderate-to-large number of simultaneous equations (say, nine or more) this results in a considerable simplification in the computation routine. As a consequence, relatively simple computational machinery, such as a pocket electronic calculator, can be used for computation instead of a digital computer. This facilitates convenient and fairly rapid analysis of prospective camber-line shapes. The method probably has its greatest utility for situations in which only a small or moderate number of cases are being examined. For extensive parametric studies, because of the sheer bulk of the computations, use of a digital computer probably is more desirable.

Some numerical evaluations of the quadrature method were made by using aerodynamic properties calculated from a series-collocation method of solution as reference values. Factors examined were the effect of linear and quadratic approximating integrands and dense (19) and sparse (9) abscissae distributions on the apparent accuracy of the numerical quadrature, the relative contribution of the quadrature component to the total value of an aerodynamic coefficient, and the relative difference between aerodynamic properties calculated by the two different methods. The highest apparent accuracy in the numerical quadrature was obtained with the quadratic approximating integrand in conjunction with a dense station distribution, with the linear approximating integrand (trapezoidal rule) utilizing a dense distribution rating second best. The sparse distribution generally yielded poorer results. It was found that relative contribution of the quadrature component to a total aerodynamic coefficient increased with increasing values of the jet-momentum coefficient. For a given accuracy requirement on a total aerodynamic property this means that the numerical quadrature accuracy at high speed (the regime of most likely application) can be less than that at low speed (higher c_j).

In general, for the cases examined, very good agreement was obtained between aerodynamic properties calculated by the quadrature and collocation methods (an average of .08% for the absolute value of the relative difference in the β_n values) with the "apparent" error in the quadrature-method results increasing with increasing values of the jet-momentum coefficient. This partially verifies the necessity for increased numerical-quadrature accuracy as the jet-momentum coefficient increases. The tabulated results for the examples calculated in this report provide a guide to the user in selecting an appropriate abscissae distribution and numerical quadrature routine for a given application.

Although methodology is the main concern of this report, a peripheral finding of interest is that for a positively cambered non-reflexed camber line the jet-sheet interference effect yields a lift decrement and moment increment both of which increase with increasing jet-momentum coefficient and rearward movement of the maximum camber location. The corresponding center of the interference lift is relatively insensitive to variations in camber-line shape and jet-momentum coefficient and is located approximately at the mid-chord position.

APPENDIX A

SOME RESULTS FROM UNBLOWN THIN-AIRFOIL THEORY

It is the purpose of this appendix to present only some highlights of unblown thin-airfoil theory, including analytical expressions for the integrals required for polynomial camber lines.

For a zero-thickness cambered airfoil at zero angle of attack the integral equation for the vorticity distribution $\gamma^{(o)}(x)$ is

$$y'(x) = \frac{1}{2\pi U_\infty} \int_0^1 \frac{\gamma^{(0)}(\xi)}{\xi - x} d\xi \qquad \text{(A-1)}$$

The solution (see, e.g., Ref. 4, 6, or 8) of Eq. A-1 is

$$\frac{\gamma^{(0)}(x)}{U_\infty} = \frac{2}{\pi}\left(\frac{1-x}{x}\right)^{1/2} \int_0^1 \frac{\xi\, y'(\xi)}{(x-\xi)\sqrt{\xi(1-\xi)}} d\xi \qquad \text{(A-2)}$$

for which

$$c_\ell^{(0)} = -2\pi \alpha_{ZL}^{(0)} \qquad \text{(A-3)}$$

$$c_m^{(0)} = 2\mu + \pi \alpha_{ZL}^{(0)} \qquad \text{(A-4)}$$

where

$$\alpha_{ZL}^{(0)} = \frac{1}{\pi} \int_0^1 \frac{y(\xi)}{(1-\xi)\sqrt{\xi(1-\xi)}} d\xi \qquad \text{(A-5)}$$

$$\mu = \int_0^1 \frac{y(\xi)(1-2\xi)}{\sqrt{\xi(1-\xi)}} d\xi \qquad \text{(A-6)}$$

In applying Eqs. A-2, A-5, and A-6 to arbitrary camber lines, numerical quadrature is usually employed. For bounded values of y'(0) and y'(1), evaluation of the foregoing integrals gives no difficulty at the leading- and trailing-edge singularities, although approximate analytical treatment paralleling that of Appendix D likely will be necessary for small regions near these extremities. For Eqs. A-5 and A-6, this subject is discussed in more detail in Ref. 7. Special treatment in the region of ξ near x also will be necessitated. Studies of the numerical evaluation of Eq. A-2, or alternative forms thereof, may be found in Refs. 5, 7, and 9.

The principal purpose of this appendix is to present some pertinent relations for polynomial camber lines. For polynomial camber lines of the form of Eq. 36, the following basic integral repeatedly occurs in Eqs. A-2, A-5, and A-6

$$\left.\begin{aligned} I_m(x) &= \oint_0^1 \frac{\xi^m}{(x-\xi)\sqrt{\xi(1-\xi)}}\,d\xi \\ m &= 0,1,2,\ldots\,; \quad 0 \le x \le 1 \end{aligned}\right\} \qquad \text{(A-7)}$$

where the integral is the Cauchy principal value.

The integral is evaluated by

$$I_{m+1}(x) = xI_m(x) + I_{m+1}(0) \qquad \text{(A-8)}$$

where

$$I_0(x) = 0 \qquad \text{(A-9)}$$

$$\left.\begin{aligned} I_1(0) &= -\pi \\ I_{m+1}(0) &= -1\cdot 3\cdot 5\cdot\ldots\,(2m-1)\,\pi/2^m m! \quad (m \ne 0) \end{aligned}\right\} \qquad \text{(A-10)}$$

The integral of Eq. A-10 is taken from integral 212.4 in Ref. 10. The integrals given by Eqs. A-8 through A-10 are analogous (but not identical) to integrals 6 through 13 in the Appendix B of Ref. 8.

APPENDIX B

THE FUNDAMENTAL JET-FLAPPED AIRFOIL SOLUTIONS

The jet-flapped airfoil flows considered to be "fundamental" for the purposes of this report are the flows for the regularly blown flat plate (Ref. 4), the singularly blown flat plate (Ref. 4), and the regularly blown, mechanically flapped airfoil* (Ref. 6) (see Fig. 1). Since most of the mathematical relations involved in the latter two cases are employed or implied in the methodology of this report, it is of interest to summarize them in this appendix.

SINGULARLY BLOWN FLAT PLATE

This case is illustrated in Fig. 1b. The pertinent relations as given or implied by Ref. 4** are as follows

$$\gamma_\tau(c_j, x) = 2U_\infty x^{-3/2}\left[-\ell n(1-x) + 2A_0 X/(1+X) + \sum_{n=1}^{N-1} A_n X^n\right] \qquad \text{(B-1)}$$

$$c_{\ell_\tau}(c_j) = 4\pi A_0 \qquad \text{(B-2)}$$

$$c_{m_\tau}(c_j) = -(c_j + I_\ell) - \sum_{n=0}^{N-1} A_n I_n \qquad \text{(B-3)}$$

* Called a "jet-augmented flap" in Ref. 6.

**The relation for the chordwise vorticity distribution in Ref. 4, Eq. 107, contains typographical omissions. The second and third terms on the right-hand side of Eq. 107 should be multiplied by $x^{-3/2}$ and the term $2\alpha[1-x)/x]^{1/2}$ should be added to the equation.

$$I_{\ell} = -(4/\pi)\int_0^1 x^{-1/2}\,\ell n(1-x)\,dx = (16/\pi)(1-\ell n\,2) \tag{B-4}$$

$$I_0 = 4\int_0^1 x^{-1/2}(1-\sqrt{1-x})\,dx = 8(1-\frac{\pi}{4}) \tag{B-5}$$

$$I_n = 4\int_0^1 x^{-1/2}X^n\,dx \quad (n=1,2,3,---) \tag{B-6}$$

where $A_n = A_n(c_j)$, X is defined in the list of symbols, and

$$\left.\begin{aligned} I_1 &= 4(\pi-2-K_1) \\ I_n &= 8\left[-(2n+1)/(2n-1)+nK_{n-1}\right] \end{aligned}\right\} \tag{B-7}$$

with K_n given by the recursion formulae

$$\left.\begin{aligned} K_1 &= 4-\pi \\ K_n &= [4/(2n-1)]-K_{n-1} \end{aligned}\right\} \tag{B-8}$$

The A_n coefficients are given by

$$\sum_{n=0}^{N-1}(a_{mn}+\lambda b_{mn})A_n = c_m+\lambda d_m \tag{B-9}$$

where

$$\left.\begin{aligned} a_{m0} &= \sin\varphi_m \qquad (n=0) \\ a_{mn} &= (1+\cos\varphi_m)\sin\varphi_m \qquad (n>1) \\ b_{mn} &= 4(\cos n\varphi + 2n\tan\frac{\varphi_m}{2}\sin n\varphi_m)/(4n^2-1) \end{aligned}\right\} \tag{B-10}$$

$$\left.\begin{aligned} c_m &= -(1+\cos\varphi_m) \\ d_m &= (8/\pi)\left\{\left[\sec(\varphi_m/2)\right]\ell n\left[\tan(\varphi_m/4)\right] - \ell n\left[\tan(\varphi_m/2)\right]\right\} \end{aligned}\right\} \quad \text{(B-11)}$$

$$\varphi_m = m\pi/N \qquad m = 0,1,2,----,N-1 \quad \text{(B-12)}$$

The equation for the trailing streamline is given by Eq. 123 in Ref. 6.

REGULARLY BLOWN, MECHANICALLY FLAPPED AIRFOIL

This case is illustrated in Fig. 1c. The pertinent relations as given or implied in Ref. 6 are as follows:

$$\gamma_\delta(c_j,x,\xi) = \gamma_\delta^{(0)}(x,\xi) + \gamma_\delta^{(i)}(c_j,x,\xi) \quad \text{(B-13)}$$

$$\gamma_\delta^{(0)}(x,\xi) = \frac{2U_\infty}{\pi}\left\{\chi\tan\frac{\theta}{2} + \ell n\left|\frac{\sin\frac{\theta+\chi}{2}}{\sin\frac{\theta-\chi}{2}}\right|\right\} \quad \text{(B-14)}$$

$$\gamma_\delta^{(i)}(c_j,x,\xi) = 2U_\infty x^{-3/2}\left[2D_0 X/(1+X) + \sum_{n=1}^{N-1} D_n X^n\right] \quad \text{(B-15)}$$

$$D_n = D_n(c_j,\xi)$$

$$x = (1/2)(1+\cos\theta); \quad \xi = (1/2)(1+\cos\chi) \quad \text{(B-16)}$$

$$c_{\ell\delta}(c_j,\xi) = c_{\ell\delta}^{(0)}(\xi) + 4\pi D_0 \quad \text{(B-17)}$$

$$c_{m\delta}(c_j,\xi) = c_{m\delta}^{(0)}(\xi) - \xi c_j - \sum_{n=0}^{N-1} D_n I_n \quad \text{(B-18)}$$

where I_n is given by Eq. B-6. The D_n coefficients are given by

$$\sum_{n=0}^{N-1} (a_{mn} + \lambda b_{mn}) D_n(c_j, \xi) = f_m(\xi) \tag{B-19}$$

where m = 0, 1, 2, ----, N-1, a_{mn} and b_{mn} are given by Eqs. B-10, and

$$f_m(\xi) = \frac{2\chi}{\pi} \tan\frac{\varphi_m}{2} - \frac{4}{\pi} \sec\frac{\varphi_m}{2} \tan^{-1}\left[\frac{\tan\frac{\chi}{2}}{\sin\frac{\varphi_m}{2}}\right] \tag{B-20}$$

As discussed in the main body of the report, correct implementation of the quadrature method requires that the aerodynamic derivatives $c_{\ell_\delta}(c_j,\xi)$, $c_{m_\delta}(c_j,\xi)$ and $\gamma_\delta(c_j,x,\xi)$ for the blown mechanically flapped airfoil reduce to the corresponding derivatives with respect to α for the regularly blown flat plate and with respect to τ for the singularly blown flat plate for ξ = 0 and ξ = 1 respectively.

That is, the following must be satisfied:

$$c_{\ell_\delta}(c_j,0) = c_{\ell_\alpha}(c_j)$$

$$c_{m_\delta}(c_j,0) = c_{m_\alpha}(c_j)$$

$$\gamma_\delta(c_j,x,0) = \gamma_\alpha(c_j,x) \tag{B-21}$$

$$c_{\ell_\delta}(c_j,1) = c_{\ell_\tau}(c_j)$$

$$c_{m_\delta}(c_j,1) = c_{m_\tau}(c_j)$$

$$\gamma_\delta(c_j,x,1) = \gamma_\tau(c_j,x) \tag{B-22}$$

For $\xi = 0$, Eq. B-16 yields $\chi = \pi$, and $f_m(0)$ of Eqs. B-20 becomes e_m where e_m (defined in Ref. 4) is the correct right-hand side for Eqs. B-19 to yield the numerical results $D_n(c_j,0) = B_n(c_j)$, where the B_n's are the coefficient of the regularly blown flat solution (Ref. 4). Hence in this case the proper limit is obtained.

We now consider the limit $\xi = 1$ ($\chi = 0$). The proper limit for $f_0(1)$ is obtained by noting that $f_0(\xi) = -2$, for which $f_0(1) = -2$. The result $f_0(1) = 0$, obtained by first substituting $\xi = 1$ and then $\psi_0 = 0$ in Eqs. B-20, is incorrect. The foregoing choice for $f_0(1)$ also may be verified by checking the trailing-edge boundary condition. From Eqs. 17 and 23 in Ref. 7 it may be shown that this boundary condition is

$$\sum_{n=0}^{N-1} D_n(c_j,1)/(4n^2-1) = -1/2\lambda$$

Substitution of $f_0(1) = -2$ in the first of Eqs. B-19 satisfies the boundary condition, whereas $f_0(1) = 0$ does not. We also have $f_m(1) = 0$ for $m \neq 0$. The coefficients $D_n(c_j,1)$ are then determined by

$$\sum_{n=0}^{N-1} (a_{mn} + \lambda b_{mn}) D_n(c_j,1) = \begin{Bmatrix} -2 & m=0 \\ 0 & m=1,2,3,\ldots \end{Bmatrix} \tag{B-23}$$

Also for $\xi = 1$, $\gamma_\delta^{(o)}(x,1) = 0$; then

$$\check{\gamma}_\delta^{(\lambda)}(c_j,x,1) = 2U_\infty x^{-3/2}\left\{2\left[D_0(c_j,1)\right]X/(1+X) + \sum_{n=1}^{N-1}\left[D_n(c_j,1)\right]X^n\right\} \tag{B-24}$$

where the inverted circumflex indicates that the vorticity distribution is obtained by taking $\xi = 1$ in the regularly blown, mechanically flapped airfoil solution of Spence (Ref. 6). From a visual comparison of Eqs. B-9 and B-23 and Eqs. B-1 and B-24, it is not possible to determine whether the conditions of Eqs. B-22 are satisfied. However, extensive numerical calculations for N = 3 and 9 reveal that they are not. Because of this discrepancy, quantities obtained by taking $\xi = 1$ in the Spence theory will be denoted by an inverted circumflex to distinguish them from the correct result; for example, $\check{c}_{\ell_\delta}(c_j,1)$, $\check{c}_{m_\delta}(c_j,1)$, and $\check{\gamma}_\delta(c_j,x,1)$

THE INCREMENTAL COEFFICIENTS ΔD_n AND ΔS

The incremental coefficients ΔD_n and ΔS are defined as

$$\Delta D_n(c_j) \equiv A_n(c_j) - D_n(c_j, 1) \tag{B-25}$$

$$\Delta S \equiv S_A - S_D = \sum_{n=0}^{N-1} = \Delta D_n I_n \tag{B-26}$$

where S_A, S_D, and I_n are defined by Eqs. 23, 24, and B-5 and B-6. These incremental coefficients can be determined by separately evaluating A_n and D_n from Eqs. B-9 and B-19, or, in view of the linearity of the problem, by solving

$$\sum_{n=0}^{N-1} (a_{mn} + \lambda b_{mn}) \Delta D_n = \begin{cases} 2 + c_m + \lambda d_m & m = 0 \\ c_m + \lambda d_m & m = 1, 2, ---- \end{cases} \tag{B-27}$$

for ΔD_n.

APPENDIX C

DETERMINATION OF D_n'' AND S_D''

The second derivative of D_n with respect to ξ, D_n'', is determined from the set of simultaneous equations resulting from taking the second derivative with respect to ξ of both sides of Eq. B-19 yielding

$$\sum_{n=0}^{N-1} (a_{mn} + \lambda b_{mn}) D_n'' = j_m \left[\xi(1-\xi)\right]^{-3/2} \tag{C-1}$$

where

$$j_m = \frac{1}{\pi} \tan\frac{\varphi_m}{2} \left[(1-2\xi) - \frac{2(\frac{3}{2}-2\xi)}{(1-\xi\cos^2\frac{\varphi_m}{2})} + \frac{2(1-\xi)}{(1-\xi\cos^2\frac{\varphi_m}{2})^2} \right] \tag{C-2}$$

The right-hand side of Eqs. C-1 has singularities at $\xi = 0$ and 1. In order to avoid numerical difficulties associated with these singularities it is convenient to introduce the coefficients E_n defined by

$$D_n'' \equiv E_n \left[\xi(1-\xi)\right]^{-3/2} \tag{C-3}$$

Equations C-1 then yield the set of simultaneous equations

$$\sum_{n=0}^{N-1} (a_{mn} + \lambda b_{mn}) E_n = j_m \tag{C-4}$$

which are solved for the E_n's.

The relations for S_D'', given by Eq. 27, may be written as

$$S_D'' = s\left[\xi(1-\xi)\right]^{-3/2} \tag{C-5}$$

where

$$s = \sum_{n=0}^{N-1} E_n I_n \tag{C-6}$$

APPENDIX D

TREATMENT OF THE LEADING- AND TRAILING-EDGE SINGULARITIES FOR THE QUADRATURE METHODS

LEADING EDGE

Evaluation of the following integrals is required:

$$(H_n)_{LE} = \int_0^{\xi_1} y(\xi)\, D_n''(\xi)\, d\xi \qquad \text{(D-1)}$$

$$\mathcal{J}_{LE} = \int_0^{\xi_1} y(\xi)\, S_D''(\xi)\, d\xi \qquad \text{(D-2)}$$

where $\xi_1 \ll 1$ and

$$D_n''(\xi) = E_n(\xi)\left[\xi(1-\xi)\right]^{-3/2} \qquad \text{(D-3)}$$

$$S_D''(\xi) = s(\xi)\left[\xi(1-\xi)\right]^{-3/2} \qquad \text{(D-4)}$$

with $E_n(\xi)$ and $s(\xi)$ given by Eqs. C-4 and C-6.

Numerical calculation shows that $E_n(\xi)$ and $s(\xi)$ are well behaved in the vicinity of $\xi = 0$ and therefore can be approximately represented by a quadratic equation in ξ in that region. It is assumed also that $y(\xi)$ is approximately a quadratic equation in the same region. Since $y(0) = E_n(0) = s(0) = 0$, we may write

$$E_n(\xi) = a_1\xi + a_2\xi^2 \qquad \text{(D-5)}$$

$$s(\xi) = b_1\xi + b_2\xi^2 \qquad \text{(D-6)}$$

$$y(\xi) = c_1\xi + c_2\xi^2 \qquad \text{(D-7)}$$

The constants a_1, a_2, b_1, and b_2 are determined by passing Eqs. D-5 and D-6 through the known values of $E_n(\xi_0)$, $E_n(\xi_1)$, $s(\xi_0)$, and $s(\xi_1)$, where $0 < \xi_0 < \xi_1$. The constants c_1 and c_2 are determined by constraining Eq. D-7 to yield the known values of $y'(0)$ and $y(\xi_1)$. Determining the constants as specified, substituting Eqs. D-5 and D-7 in Eq. D-1, and substituting Eqs. D-6 and D-7 in Eq. D-2 yields

$$(H_n)_{LE} = \left[\ell_0 E_n(\xi_0) + \ell_1 E_n(\xi_1)\right] y(\xi_1) + \left[m_0 E_n(\xi_0) + m_1 E_n(\xi_1)\right] y'(0) \qquad \text{(D-8)}$$

$$\alpha_{LE} + \left[\ell_0 s(\xi_0) + \ell_1 s(\xi_1)\right] y(\xi_1) + \left[m_0 s(\xi_0) + m_1 s(\xi_1)\right] y'(0) \qquad \text{(D-9)}$$

where

$$\ell_0 = \frac{J_3\xi_1 - J_4}{\xi_0\xi_1^2(\xi_1-\xi_0)} \qquad \ell_1 = \frac{-J_3\xi_0 + J_4}{\xi_1^3(\xi_1-\xi_0)} \qquad \text{(D-10)}$$

$$m_0 = \frac{J_2\xi_1^2 - 2J_3\xi_1 + J_4}{\xi_0\xi_1(\xi_1-\xi_0)} \qquad m_1 = \frac{-J_2\xi_0\xi_1 + J_3(\xi_0+\xi_1) - J_4}{\xi_1^2(\xi_1-\xi_0)} \qquad \text{(D-11)}$$

$$J_n = \int_0^{\xi_1} \xi^n \left[\xi(1-\xi)\right]^{-3/2} d\xi \qquad \text{(D-12)}$$

$$J_1 = 2\sqrt{\xi_1/(1-\xi_1)} \qquad \text{(for } n=1\text{)}$$

$$J_n = J_{n-1} - j_{n-2} \qquad \text{(for } n>1\text{)}$$

where

$$j_0 = -\sin^{-1}(1-2\xi_1) + \pi/2$$

$$j_1 = -\sqrt{\xi_1(1-\xi_1)} + I_0/2$$

$$j_2 = -(\tfrac{1}{2})\left[\xi_1 + (3/2)\right]\sqrt{\xi_1(1-\xi_1)} + 3I_0/8 \qquad \text{(D-13)}$$

In the present application ξ_0 and ξ_1 were taken as $\xi_0 = 0.025$ and $\xi_1 = 0.050$. These values yield

$$\left.\begin{array}{ll} \ell_0 = 2.1337 & \ell_1 = 0.82274 \\ m_0 = 0.13977 & m_1 = -0.0082727 \end{array}\right\} \quad \text{(D-14)}$$

Numerical values of $E_n(c_j,\xi_0)$, $E_n(c_j,\xi_1)$, $s(c_j,\xi_0)$, and $s(c_j,\xi_1)$ for the above values of ξ_0 and ξ_1 are given in Table III.

TRAILING EDGE

Evaluation of the following integrals is required:

$$(H_n)_{TE} = \int_{\xi_2}^{1} y(\xi)\, D_n''(\xi)\, d\xi \quad \text{(D-15)}$$

$$(\mathcal{A})_{TE} = \int_{\xi_2}^{1} y(\xi)\, S_D''(\xi)\, d\xi \quad \text{(D-16)}$$

where $(1 - \xi_2) \ll 1$ and D_n'' and S_D'' are defined by Eqs. D-3 and D-4 respectively.

Analogous to the leading-edge development, $E_n(\xi)$, $s(\xi)$, and $y(\xi)$ are approximately represented by quadratic equations in the vicinity of the trailing edge.

Since $y(1) = 0$, we may write

$$E_n(\xi) = E_n(1) + a_1(1-\xi) + a_2(1-\xi)^2 \quad \text{(D-17)}$$

$$s(\xi) = s(1) + b_1(1-\xi) + b_2(1-\xi)^2 \quad \text{(D-18)}$$

$$y(\xi) = c_1(1-\xi) + c_2(1-\xi)^2 \quad \text{(D-19)}$$

The constants a_1, a_2, b_1, and b_2 are determined by passing Eqs. D-17 and D-18 through the known values of $E_n(\xi_2)$, $E_n(\xi_3)$, $s(\xi_2)$, and $s(\xi_3)$, where $\xi_2 < \xi_3 < 1$. The constants c_1 and c_2 are determined by constraining

Eq. D-19 to yield the known values $y(\xi_2)$ and $y'(1)$. Determining the constants as specified, substituting Eqs. D-17 and D-18 in Eq. D-15, and Eqs. D-17 and D-19 in D-16 yields

$$(H_n)_{TE} = \left[\ell_2 E_n(\xi_2) + \ell_3 E_n(\xi_3) + \ell_4 E_n(1)\right] y(\xi_2) + \left[m_2 E_n(\xi_2) + m_3 E_n(\xi_3) + m_4 E_n(1)\right] y'(1) \tag{D-20}$$

$$\mathcal{J}_{TE} = \left[\ell_2 s(\xi_2) + \ell_3 s(\xi_3) + \ell_4 s(1)\right] y(\xi_2) + \left[m_2 s(\xi_2) + m_3 s(\xi_3) + m_4 s(1)\right] y'(1) \tag{D-21}$$

where

$$\left.\begin{aligned} \ell_2 &= \frac{-J_3'(1-\xi_3)+J_4'}{(1-\xi_2)^3(\xi_3-\xi_2)} \\ \ell_3 &= \frac{J_3'(1-\xi_2)-J_4'}{(1-\xi_2)^2(1-\xi_3)(\xi_3-\xi_2)} \\ \ell_4 &= \frac{J_4'(1-\xi_2)(1-\xi_3)-J_3'(2-\xi_2-\xi_3)+J_4'}{(1-\xi_2)^3(1-\xi_3)} \end{aligned}\right\} \tag{D-22}$$

$$\left.\begin{aligned} m_2 &= \frac{J_2'(1-\xi_2)(1-\xi_3)-J_3'(2-\xi_2-\xi_3)+J_4'}{(1-\xi_2)^2(\xi_3-\xi_2)} \\ m_3 &= \frac{-J_2'(1-\xi_2)^2+2J_3'(1-\xi_2)-J_4'}{(1-\xi_2)(1-\xi_3)(\xi_3-\xi_2)} \\ m_4 &= \frac{-J_1'(1-\xi_2)^2(1-\xi_3)+J_2'(1-\xi_2)(3-\xi_2-2\xi_3)-J_3'(3-2\xi_2-\xi_3)+J_4'}{(1-\xi_2)^2(1-\xi_3)} \end{aligned}\right\} \tag{D-23}$$

$$J_n' \equiv \int_{\xi_2}^{1} (1-\xi)^n \left[\xi(1-\xi)\right]^{-3/2} d\xi \tag{D-24}$$

$$J_1' = 2\sqrt{(1-\xi_2)/\xi_2}$$

$$J_2' = J_1' - j_0'$$

$$J_3' = J_1' - 2j_0' + j_1'$$

$$J_4' = J_1' - 3j_0' + 3j_1' - j_2' \qquad \text{(D-25)}$$

where

$$j_0' = \pi/2 + \sin^{-1}(1-2\xi_2)$$

$$j_1' = \sqrt{\xi_2(1-\xi_2)} + j_0'/2$$

$$j_2' = (\tfrac{1}{2})(\xi_2 + \tfrac{3}{2})\sqrt{\xi_2(1-\xi_2)} + (3/8)j_0'$$

In the present application ξ_2 and ξ_3 were taken as $\xi_2 = 0.975$ and $\xi_3 = 0.9875$. These values yield

$$\ell_2 = 0.82274; \qquad \ell_3 = 2.1337; \qquad \ell_4 = 0.16545$$

$$m_2 = 0.0082727; \qquad m_3 = -0.13977; \qquad m_4 = -0.17124 \qquad \text{(D-26)}$$

Numerical values of $E_n(c_j,\xi_2)$, $E_n(c_j,\xi_3)$, $E_n(c_j,1)$, $s(c_j,\xi_2)$, $s(c_j,\xi_3)$, and $s(c_j,1)$ for the above values of ξ_2 and ξ_3 are given in Table III.

APPENDIX E

NUMERICAL QUADRATURE ALGORITHM

A numerical quadrature formula for an arbitrary number of unequally spaced abscissae is developed in this appendix.

Referring to Fig. 4, the integral under consideration is

$$I(x_N, x_O) \equiv \int_{x_O}^{x_N} f(x)\,dx \tag{E-1}$$

This is approximated by

$$I(x_N, x_O) = \sum_{n=0}^{N-1} \Delta I_{n+1} \tag{E-2}$$

where

$$\Delta I_{n+1} = \int_{x_n}^{x_{n+1}} f(x)\,dx \tag{E-3}$$

and

$$f(x) = f_n + b(x-x_n) + c(x-x_n)^2 \tag{E-4}$$

yielding

$$\Delta I_{n+1} = f_n(x_{n+1}-x_n) + (b/2)(x_{n+1}-x_n)^2 + (c/3)(x_{n+1}-x_n)^3 \tag{E-5}$$

Two of the collocation points for the approximating parabola of Eq. E-4 are taken to be the ordinates of the sides of the elemental area ΔI_{n+1}. The form of Eq. E-4 assures collocation at x_n, whereas collocation at x_{n+1} will be achieved by proper determination of the coefficients b and c. A third collocation point is needed, say at x_i, to ensure the determinacy of b and c. These coefficients are determined such that

$$b = b(x_{n+1}, x_i)\,;\; c = (x_{n+1}, x_i) \tag{E-6}$$

where

$$i = \begin{cases} n+2 & \text{"Forward collocation"} \\ n-1 & \text{"Backward collocation"} \end{cases} \qquad \text{(E-7)}$$

With this scheme, there are two options available in applying the composite quadrature formula of Eq. E-2. For the first option backward collocation is applied to all the elements except the first, at which forward collocation is used. For the second option forward collocation is applied to all the elements except the last, at which backward collocation is used. The first option is employed in the present application, since in an automatic hand computation errors of omission are less apt to occur if exceptional operations are performed at the beginning of the computation rather than at the end. Collocation at x_n, x_{n+1}, and x_i yields the result

$$I(x_N, x_O) = \sum_{n=O}^{N-1} \frac{(x_{n+1}-x_n)}{6} \left\{ 6f_n + \left[2 + \frac{(x_i - x_n)}{(x_i - x_{n+1})} \right] (f_{n+1} - f_n) - \left[\frac{(x_{n+1}-x_n)^2}{(x_i - x_n)(x_i - x_{n+1})} \right] (f_i - f_n) \right\} \qquad \text{(E-8)}$$

with

$$i = 2 \text{ for } n = 0$$
$$i = n-1 \text{ for } n > 0$$

A closely related quadrature formula is given by Davis and Rabinowitz on page 48 of Ref. 11. The Davis-Rabinowitz formula uses forward collocation for the first element, backward collocation for the last element, and an average of forward and backward collocation (called "overlapping parabolas" in Ref. 11) for the central elements. The method of Eq. E-8 entails considerably less computational labor than the method of overlapping parabolas, and is to be preferred from that standpoint. Also, it is demonstrated in the numerical evaluations section of this report that the present method is more than adequate for most applications. Additionally, it was surprising to discover that for the examples on page 50 of Ref. 11 the present method yields errors smaller than the overlapping-parabolas and the cubic-interpolation methods in that reference. Depending upon the case, errors of 10 to 50 percent smaller were obtained by the present method.

It is not the intention here to explore the merits of various numerical quadrature methods in depth. It is believed that the present method represents a reasonable compromise between accuracy and complexity suitable for the purpose of this report. The user may, of course, employ any other method of his choice.

The selection of the quadrature formula of this appendix was governed by considerations of use in automatic hand computations. As a matter of convenience and to ensure a consistent basis of comparison for hand and machine computations, however, the same formula is also used in the digital computer program.

APPENDIX F

NUMERICAL QUADRATURE PROGRAMS FOR THE HP-25 AND SR-56 CALCULATORS

The algorithm presented in Appendix E is implemented in this appendix with program listings for the Hewlett-Packard HP-25 and Texas Instruments SR-56 calculators. These calculators typify the commonly used Reverse-Polish and algebraic logic systems.

In the run instructions given below for the aforementioned programs, the following symbology is used. A nonunderlined term is the symbolic representation of numeric data to be input. An underlined term is an exact or abbreviated representation of the symbol on the calculator key to be pressed.

HEWLETT-PACKARD HP-25

Program Listing

1	x	11	STO-0	21	RCL 1	31	-	41	÷
2	STO 6	12	RCL 1	22	RCL 2	32	x	42	x
3	RCL 5	13	-	23	-	33	+	43	STO+7
4	-	14	x⇄y	24	÷	34	RCL 5	44	RCL 2
5	x⇄y	15	÷	25	RCL 1	35	STO 4	45	STO 1
6	STO 0	16	2	26	RCL 3	36	6	46	RCL 6
7	STO 3	17	+	27	-	37	x	47	STO 5
8	RCL 1	18	x	28	÷	38	+	48	RCL 3
9	-	19	RCL 0	29	RCL 5	39	RCL 0	49	STO 2
10	RCL 2	20	g(x^2)	30	RCL 4	40	6		

Run Instructions

To initialize, key:

1. x_2, STO 1, y_2, ↑, g_2, x, STO 4

2. x_0, STO 2, y_0, ↑, g_0, x, STO 5

To run, key:

3. x_1, ↑, y_1, ↑, g_1, R/S (**x_1 is displayed**)

4. Repeat run step 3 for x_2, x_3, - - - -, x_N and corresponding values of y and

The current abscissa input, x_n, is displayed each time run step 3 is performed. This serves as an orientation aid in inputing the data.

5. Press RCL 7, read $I(x_N, x_0)$.

TEXAS INSTRUMENTS SR-56

Program Listing

0	R/S	15	RCL	30	RCL	45	RCL	60	STO	75	5
1	STO	16	5	31	4	46	8	61	1	76	STO
2	3	17	=	32	-	47	)	62	SUM	77	4
3	SUM	18	x	33	RCL	48	+	63	0	78	RCL
4	9	19	(	34	5	49	6	64	RCL	79	3
5	INV	20	2	35	)	50	x	65	3	80	+/-
6	SUM	21	+	36	x	51	RCL	66	EXC	81	SUM
7	8	22	RCL	37	(	52	5	67	2	82	7
8	R/S	23	7	38	RCL	53	=	68	STO	83	STO
9	x	24	÷	39	9	54	x	69	7	84	9
10	R/S	25	RCL	40	x^2	55	RCL	70	STO	85	+/-
11	=	26	8	41	+	56	9	71	8	86	RST
12	STO	27	)	42	RCL	57	÷	72	RCL		
13	6	28	-	43	7	58	6	73	6		
14	-	29	(	44	+	59	=	74	EXC		

Run Instructions

To initialize, key:

1. x_2, STO 7, STO 8, y_2, x, g_2, =, STO 4

2. x_0, STO 2, +/-, SUM 7, STO 9, y_0, x, g_0, =, STO 5

To run, key:

3. x_1, R/S, y_1, R/S, g_1, R/S   (x_1 is displayed)

4. Repeat run step 3 for x_2, x_3, - - - -, x_N and corresponding values of y and g.

   The current abscissa input, x_n, is displayed each time run step 3 is performed. This serves as an orientation aid in inputing the data.

5. Press RCL 0, read $I(x_N,x_0)$.

APPENDIX G

COMPUTER PROGRAM SYMBOLS*

Since the symbols used in the computer printout and in the program internal logic are not necessarily related or compatible, separate PRINTOUT and FORTRAN symbol listings are given in this appendix.

PRINTOUT SYMBOLS USED IN TABLES I, II, III, IV, AND IX

Symbol	Definition
A	power-law camber line exponent a, see analysis symbols
A(0),A(1),etc.	see analysis A_n
BETA(0),BETA(1),etc.	see analysis β_n
C	denotes the central portion of the airfoil $.05 \leq x \leq .975$ over which a numerical integration is performed (Table VII), see analysis $(\ )^{(c)}$
CJ	see analysis c_j
C(0),C(1),etc.	see analysis C_n
DCM	see analysis Δc_m
DD(0),DD(1),etc.	see analysis ΔD_n
DDP(0),DDP(1),etc.	read as "dee double prime," see D_n
DELTA D(N)	see analysis ΔD_n

*Generally, the computer symbols have been defined in terms of the analysis symbols for which definitions are given at the beginning of the report.

PRINTOUT SYMBOLS (Contd)

DELTA S	see analysis ΔS
D(N)	see analysis D_n
DS	see analysis ΔS
E(0),E(1),etc.	see analysis E_n
ET(M)	see analysis e_m
FT(M)	see analysis f_m
H(0),H(1),etc.	see analysis H_n
H(N)	see analysis H_n
HC	see analysis $H_n^{(c)}$
I(N)	see analysis I_n
ISCRPT	see analysis $\mathcal{J}$
KAPPA	see analysis κ
LCS	read as "lower case sum," see analysis s
LE	denotes the airfoil leading-edge region, $0 \leq x \leq .05$ (Table VII)
RA	see analysis r_a
SDP	read as "S double prime," see analysis S"
SUMI(N)A(N)	$\sum_{n=0}^{N-1} I_n A_n$, see analysis symbols
SUMI(N)C(N)	$\sum_{n=0}^{N-1} I_n C_n$, see analysis symbols
TE	denotes the airfoil trailing-edge region, $.975 \leq 0 \leq 10$ (Table VII)
TOT	denotes a total value
XI	see analysis ξ

PRINTOUT SYMBOLS (Contd)

YPDD(0),YPDD(1),etc.	read as "y prime delta dee zero," etc. i.e., $y'(1)\Delta D_0$, see Eq. 11
YPILDS	equals $y'(1)(I_\ell + \Delta S)$, see Eq. 25

FORTRAN SYMBOLS USED IN PROGRAM LOGIC AND PRINTOUT

Symbol	Definition
A	exponent "a" for basis power-law camber line
A(M,N)	see analysis a_{mn}
B(M,N)	see analysis b_{mn}
BETA	see analysis β_n
BETAC	program logic flag for collocation solution BETA calculations
BETAQ	program logic flag for quadrature method BETA calculations
BISUM	$\sum_{n=0}^{N-1} \beta_n I_n$, see analysis symbols
B1	$4/(4n^2 - 1)$, see analysis symbols
C	same as C in PRINTOUT SYMBOLS
C	$a_{mn} + \lambda b_{mn}$
CC	same as C
CJ	see analysis c_j
CJVSE	see program input definitions
CMPHAI	see program input definitions
CONST	array of constants used in H and ISCRPT calculations
DCM	see analysis Δc_m
DDP	E( )/DIVSR( )
DDT	see EA below

FORTRAN SYMBOLS (Contd)

DIVSR	divisor value array
DIVSRI	divisor value input
E(LSE)	denotes $e_m + \lambda f_m$ (in analysis symbols) before simultaneous equations are solved and the Fourier coefficients A_n, D_n, E_n, etc. after the simultaneous equations are solved
EA(LSE)	alternative symbol for Fourier coefficients, A_n, D_n, E_n, etc.
EB(LSE)	alternative symbol for $e_m + \lambda f_m$
EPS(LE,LSE)	see analysis e_m
EPSI(LSE)	see analysis e_m
ET(M)	see analysis e_m
FIRST	program logic flag identifying the first pass through the program
FLAG	program logic flag related to BETAQ
FN	n, n = 1, 2, ---, N-1 in analysis symbols
FT(LE,LSE)	see analysis f_m
FTI(LSE)	see analysis f_m
H	see analysis H_n
HC	see analysis $H_n^{(c)}$
HCINTR	incremental HC value
HEAD	array containing all of the output page headings
HEADE	see program input definitions
HEADH	see program input definitions
HEADI	see program input definitions
HLE	see analysis $(H_n)_{LE}$
HTE	see analysis $(H_n)_{TE}$
IER	error flag returned from simultaneous equation solver

FORTRAN SYMBOLS (Contd)

IINTR	incremental ISPTC value
IL	see analysis I_ℓ
IN	see analysis I_n
ISCRPT	see analysis $\mathcal{J}$
ISPTC	see analysis $\mathcal{J}^{(c)}$
ISPTLE	see analysis $\mathcal{J}_{LE}$
ISPTTE	see analysis $\mathcal{J}_{TE}$
KAPPA	see analysis κ
KHLE	bracketed factor of $y'(0)$ in Eq. D-8
KHTE	bracketed factor of $y'(1)$ in Eq. D-20
KTLE	bracketed factor of $y(\xi_1)$ in Eq. D-8
KTTE	bracketed factor of $y(\xi_2)$ in Eq. D-20
LAMBDA	see analysis λ
LE	a program loop variable related to XI or A
LL	a program loop variable related to LAMBDA
LSE	a program loop variable related to the number of simultaneous equations
LSEA	see LSE above
NE	the number of XI's or A's
NEM3	NE-3
NEM4	NE-4
NL	the number of LAMBDA values
NSE	the number of simultaneous equations, see analysis N
OPTION	see program input definitions
PHI	see analysis φ_m

FORTRAN SYMBOLS (Contd)

PI	π (to 13 decimal places)
PICLA	power-law camber line exponent a, see analysis a
RA	see analysis r_a
SDP	same as in PRINTOUT SYMBOLS
SKHLE	bracketed factor of $y'(0)$ in Eq. D-9
SKHTE	bracketed factor of $y'(1)$ in Eq. D-21
SKTLE	bracketed factor of $y(\xi_1)$ in Eq. D-9
SKTTE	bracketed factor of $y(\xi_2)$ in Eq. D-21
SN	$\sin n\varphi_m$, see analysis symbols
SUMIE	$\sum_{n=0}^{N-1} I_n E_n$ where E_n may be any one of the Fourier coefficients, A_n, B_n, C_n, D_n, etc.
SWS	SUMIE( )/DIVSR( )
TE	same as in PRINTOUT SYMBOLS
TOT	same as in PRINTOUT SYMBOLS
VAR(IE)	XI or A value array
VARI	XI or A input value
XI	see analysis ξ
Y	array of airfoil camber-line displacement coordinates
YPDD	$y'(1)\Delta D_n$
YPLE	slope of the camber line at the airfoil leading edge
YPTE	slope of the camber line at the airfoil trailing edge
YPILDS	equals $y'(1)(I_\ell + \Delta S)$, see Eq. 25

APPENDIX H

DIGITAL-COMPUTER PROGRAM

A listing of the program written to calculate the parameters discussed in this report is given in this appendix. The program is written in FORTRAN IV language and consists of a main program and two subroutines. The program MAIN reads the input and performs the calculations. The subroutine WRITE handles all of the output printing. The subroutine SIEQ solves a set of simultaneous equations*. Since most computer systems have a simultaneous-equations library routine, a listing of SIEQ is not given. A discussion of the output options and input parameters follows.

PROGRAM OUTPUT OPTIONS

(1) Expanded output (A(M,N) and B(M,N) along with some intermediate calculations are printed). This option is principally for diagnostic purposes. There is no example in the report. The option is implemented by setting OPTION = .TRUE.. All other logic flags must equal the default values.

(2) Standard output (see Tables I, II, and IV). This is the default output. All logic flags must equal the default values.

(3) Output similar to standard output but with XI varying at a constant value of CJ (see Table III). This option is implemented by setting CJVSE = .FALSE.. All other logic flags must equal the default values.

(4) Output as in option (3) with values of the airfoil ordinates and

*The reader should note that in the argument list for subroutine SIEQ the array, E, containing the column matrix is redefined during the subroutine execution and is used to return the Fourier coefficients.

the parameters H and ISCRPT computed and printed (no example in report). This option is implemented by setting CJVSE = .FALSE. and CMPHAI = .TRUE.. All other logic flags must equal the default values.

(5) Airfoil ordinates and the parameters H, ISCRPT, YPDD, and BETA for the quadrature method computed and printed (Table VII is an example of this type of printout except that the airfoil coordinates have been omitted). This option is implemented by setting CMPHAI = .TRUE. and BETAQ = .TRUE.. All other logic flags must equal the default values. For this output option the first set of HEADI and $PARAM3 cards must be for the case of ΔD_n, where ΔD_n is defined in Eq. B-27.

(6) BETA output for the collocation solution in the same format as option (2). This option is implemented by setting BETAC = .TRUE.. All other logic flags must equal the default values.

PROGRAM INPUT

For ease in use, the NAMELIST input format is employed to input all numerical values. The input namelists and heading cards must be in the following order:

<u>The NAMELIST Group-Name $PARAM1</u>

NSE	number of simultaneous equations
NL	number of lambda values (maximum of 30)
LAMBDA(1)	list of lambda values

Various output options are implemented by the following logic flags when used in accordance with the PROGRAM OUTPUT OPTIONS described above.

CJVSE	.TRUE. - output in the form of one XI for range of CJ's (default)
	.FALSE. - output in the form of one CJ for range of XI's

CMPHAI	.TRUE. - H's and ISCRPT's are calculated, requires $PARAM2	
	.FALSE. - H's and ISCRPT's are not calculated, $PARAM2 must not be present (default)	
BETAC	.TRUE. - Beta values for collocation solution are calculated	
	.FALSE. - Beta values for collocation solution are not calculated (default)	
BETAQ	.TRUE. - Beta values for quadrature method are calculated, requires CMPHAI = .TRUE.	
	.FALSE. - Beta values for quadrature method are not calculated (default)	
OPTION	.TRUE. - A(M,N) and B(M,N) arrays are printed along with some intermediate calculations	
	.FALSE. - A(M,N) and B(M,N) arrays and intermediate calculations are not printed (default)	

The Heading Card HEADH

This card contains the heading used for the printout of the airfoil coordinates and the parameters H and ISCRPT (maximum of 80 characters centered on card)

The NAMELIST Group-Name $PARAM2

Y(1)	airfoil camber-line ordinates used with XI's, beginning with XI = .05 and ending with XI = .975 (maximum of 30 values)
YPLE	slope of the camber line at the airfoil leading edge
YPTE	slope of the camber line at the airfoil trailing edge
PLCLA	power-law camber-line value

The Heading Card HEADE

This card contains two headings; one for the Fourier-coefficient array (maximum of 5 characters right justified in columns 1-5) and a second one for the summation array (maximum of 15 characters in columns 11-25 centered about column 20)

The Heading Cards HEADI

Two mandatory cards are required to provide the heading for the output pages (maximum of 136 characters; 80 columns of the first card and 56 columns of the second card). These cards must precede each occurrence of the $PARAM3 namelist.

The NAMELIST Group-Name $PARAM3

VARI	XI or the parameter A for the power-law camber line
DIVSRI	divisor value for corresponding VARI value
EPSI(1)	represents the analysis symbol e_m
FTI(1)	represents the analysis symbol f_m

The HEADI and $PARAM3 namelist cards are repeated for each XI or A.

PROGRAM LISTING

The program listing is given on the following pages.

PROGRAM MAIN

```
      PROGRAM MAIN(INPUT,OUTPUT,TAPE5=INPUT,TAPE6=OUTPUT,PUNCH)
      REAL LAMBDA,KAPPA,IL,IN
      REAL ISPTC,IINTR,ISPTLE,ISPTTE,ISCRPT,KTLE,KHLE,KTTE,KHTE
      COMMON/ALL/A(9,9),B(9,9),C(9,9),CC(9,9),E(9),EB(9),CJ(9)
     1,EA(30,9),EPS(30,9),FT(30,9),HEAD(30,17),DDP(30,9),SUMIE(30),SDP(3
     20),DIVSR(30),VAR(30),CJVSE,LAMBDA(30),NSE,NL,NE,OPTION,FIRST
     3,HC(9),ISPTC,Y(30),CMPHAI,HLE(9),HTE(9),H(9),ISPTLE,ISPTTE,ISCRPT
     4,HEADE(5),PLCLA,HEADH(10),BETAQ,BETAC,BETA(9),YPDD(9),FLAG,DCM
     5,KAPPA,RA,DS(30),DCMASK,YPILDS
      INTEGER PLCLA
      DIMENSION EPSI(9),FTI(9),IN(9),HEADI(17),CONST(10),DDT(30,9)
      LOGICAL OPTION,CJVSE,FIRST,CMPHAI,BETAQ,BETAC,FLAG
      NAMELIST /PARAM1/NSE,NL,OPTION,LAMBDA,CJVSE,CMPHAI,BETAQ,BETAC
      NAMELIST /PARAM2/Y,YPLE,YPTE,PLCLA
      NAMELIST /PARAM3/DIVSRI,EPSI,FTI,VARI,KAPPA
      DATA CONST/2.1337,0.82274,0.13977,-0.0082727,1.12293,
     A2.95269,0.23779,0.00594475,-0.0975962,-0.12077/
      DATA IN/1.716815,1.132741,0.401184,0.198224,0.116654,0.076405,
     A0.053769,0.039834,0.030666/
C
C*****      INITIALIZE LOGIC FLAGS
C
      FLAG=.FALSE.
      OPTION=.FALSE.
      CJVSE=.TRUE.
      CMPHAI=.FALSE.
      BETAC=.FALSE.
      BETAQ=.FALSE.
      FIRST=.TRUE.
      KAPPA=1.E60
C
C*****      DEFINITIONS
C
      NE=0
      PI=3.1415926535896
      IL=(16./PI)*(1.-ALOG(2.))


C
C*****      READ INPUT DATA
C
      READ(5,PARAM1)
      IF(BETAQ) FLAG=.TRUE.
      IF(CMPHAI) READ(5,1100) (HEADH(I),I=1,10)
      IF(CMPHAI) READ(5,PARAM2)
      READ(5,1110) (HEADE(I),I=1,5)
   10 READ(5,1100) (HEADI(I),I=1,17)
      IF(EOF(5)) 40,12
   12 NE=NE+1
      READ(5,PARAM3)
C
C*****      DEFINE INPUT DATA ARRAYS
C
      VAR(NE)=VARI
      DIVSR(NE)=DIVSRI
      DO 20 LSE=1,NSE
      EPS(NE,LSE)=EPSI(LSE)
```

PROGRAM MAIN

```
   20 FT(NE,LSE)=FTI(LSE)
      DO 30 K=1,17
   30 HEAD(NE,K)=HEADI(K)
      IF(FLAG) GO TO 40
   35 IF(EOF(5)) 40,10
   40 CONTINUE
C
C*****     CALCULATE A(M,N)'S AND B(M,N)'S
C
      DO 90 M=1,NSE
      PHI = ((M-1)*PI)/NSE
      A(M,1) = SIN(PHI)
      B(M,1) = -4.
      DO 90 N=2,NSE
      FN = N-1
      SN = SIN(FN*PHI)
      A(M,N) = (1. + COS(PHI))*SN
      B1 = 4./(4.*FN*FN - 1.)
   90 B(M,N) = B1*(COS(FN*PHI) + 2.*FN*(TAN(PHI/2.)*SN))
C
C*****     TEST FOR EXTENDED OUTPUT OPTION
      IF(OPTION) GO TO 95
C
C*****     TEST FOR OUTPUT IN FORM ALL CJ'S FOR SINGLE XI
      IF(.NOT.CJVSE) GO TO 180
C
C*****     HERE FOR LAMBDA'S VARYING FIRST THEN XI'S
C
   95 CONTINUE
      DO 160 LE=1,NE
      DO 150 LL=1,NL
      CJ(LL)=4./LAMBDA(LL)
      DO 110 LSE=1,NSE
      DO 100 LSEA=1,NSE
      C(LSE,LSEA)=A(LSE,LSEA)+LAMBDA(LL)*B(LSE,LSEA)
  100 CC(LSE,LSEA)=C(LSE,LSEA)
      E(LSE)=EPS(LE,LSE)+LAMBDA(LL)*FT(LE,LSE)
  110 EB(LSE)=E(LSE)
C*****     CALL SIMULTANEOUS EQUATION SOLVER
      CALL SLEQ(C,E,NSE,IER)
      IF(IER.EQ.1) WRITE(6,1008)
      SUMIE(LL)=0.
      DO 120 LSE=1,NSE
      EA(LL,LSE)=E(LSE)
      IF(FLAG) DOT(LL,LSE)=E(LSE)
      SUMIE(LL)=SUMIE(LL)+IN(LSE)*E(LSE)
      IF(FLAG) DS(LL)=SUMIE(LL)
      IF(.NOT.BETAC) GO TO 120
      PLCLA=VAR(LE)
      RA=1./(-KAPPA*((1./PLCLA)**(PLCLA/(PLCLA-1.))-(1./PLCLA)**
     1(1./(PLCLA-1.))))
      EA(LL,LSE)=(RA/4.)*EA(LL,LSE)
  120 CONTINUE
      IF(BETAC) SUMIE(LL)=-RA*((1.-PLCLA)*IL+.25*SUMIE(LL))
      IF(DIVSR(LE).EQ.1.) GO TO 140
      DO 130 LSE=1,NSE
  130 DDP(LL,LSE)=E(LSE)/DIVSR(LE)
```

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PROGRAM MAIN

```
      SDP(LL)=SUMIE(LL)/DIVSR(LE)
  140 CONTINUE
C*****      IF OPTION IS TRUE EXTENDED OUTPUT IS GIVEN
      IF(OPTION) CALL WRITE(LE,LL)
  150 CONTINUE
C*****      IF OPTION IS FALSE STANDARD OUTPUT IN FORM
C*****               ALL CJ'S FOR SINGLE XI IS GIVEN
      IF(.NOT.OPTION) CALL WRITE(LE,NL)
  160 CONTINUE
      IF(.NOT.FLAG) GO TO 280
      FLAG=.FALSE.
      NE=0
      CJVSE=.FALSE.
      GO TO 10
  180 CONTINUE
C
C*****      HERE FOR STANDARD OUTPUT IN FORM
C*****               ALL XI'S FOR SINGLE CJ
C
      DO 260 LL=1,NL
      CJ(LL)=4./LAMBDA(LL)
      DO 250 LE=1,NE
      DO 210 LSE=1,NSE
      DO 200 LSEA=1,NSE
      C(LSE,LSEA)=A(LSE,LSEA)+LAMBDA(LL)*B(LSE,LSEA)
  200 CC(LSE,LSEA)=C(LSE,LSEA)
      E(LSE)=EPS(LE,LSE)+LAMBDA(LL)*FT(LE,LSE)
  210 EB(LSE)=E(LSE)
C*****      CALL SIMULTANEOUS EQUATION SOLVER
      CALL SLEQ(C,E,NSE,IER)
      IF(IER.EQ.1) WRITE(6,1008)
      SUMIE(LE)=0.
      DO 220 LSE=1,NSE
      EA(LE,LSE)=E(LSE)
  220 SUMIE(LE)=SUMIE(LE)+IN(LSE)*E(LSE)
      IF(DIVSR(LE).EQ.1.) GO TO 250
      DO 230 LSE=1,NSE
  230 DDP(LE,LSE)=E(LSE)/DIVSR(LE)
      SDP(LE)=SUMIE(LE)/DIVSR(LE)
  250 CONTINUE
      IF(.NOT.CMPHAI) GO TO 258
C
C*****      HERE FOR CALCULATION OF H(C)'S AND SCRIPT I'S
C
      NEM4=NE-4
      DO 254 LSE=1,NSE
      HC(LSE)=0.
      DO 253 JN=1,NEM4
      IF(JN.NE.1) GO TO 252
      YD1=Y(JN)*DDP(JN+1,LSE)
      YD2=Y(JN+1)*DDP(JN+2,LSE)
      YD3=Y(JN+2)*DDP(JN+3,LSE)
      X21=VAR(JN+2)-VAR(JN+1)
      X32=VAR(JN+3)-VAR(JN+2)
      X31=VAR(JN+3)-VAR(JN+1)
      HCINTR=(X21/6.)*(6.*YD1+(2.+(X31/X32))*(YD2-YD1)-(X21**2
     A/(X31*X32))*(YD3-YD1))
```

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PROGRAM MAIN

```
      GO TO 253
  252 YD1=Y(JN-1)*DDP(JN,LSE)
      YD2=Y(JN)*DDP(JN+1,LSE)
      YD3=Y(JN+1)*DDP(JN+2,LSE)
      X12=VAR(JN)-VAR(JN+1)
      X13=VAR(JN)-VAR(JN+2)
      X32=VAR(JN+2)-VAR(JN+1)
      HCINTR=(X32/6.)*(6.*YD2+(2+(X12/X13))*(YD3-YD2)-(X32**2
     A/(X12*X13))*(YD1-YD2))
  253 HC(LSE)=HC(LSE)+HCINTR
      KTLE=CONST(1)*EA(1,LSE)+CONST(2)*EA(2,LSE)
      KHLE=CONST(3)*EA(1,LSE)+CONST(4)*EA(2,LSE)
      HLE(LSE)=KTLE*Y(1)+KHLE*YPLE
      KTTE=CONST(5)*EA(NE-2,LSE)+CONST(6)*EA(NE-1,LSE)+CONST(7)*EA(NE,
     ALSE)
      KHTE=CONST(8)*EA(NE-2,LSE)+CONST(9)*EA(NE-1,LSE)+CONST(10)*EA(NE,
     ALSE)
      HTE(LSE)=KTTE*Y(NE-3)+KHTE*YPTE
      H(LSE)=HLE(LSE)+HC(LSE)+HTE(LSE)
  254 CONTINUE
      ISPTC=0.
      DO 256 JN=1,NEM4
      IF(JN.NE.1) GO TO 255
      YS1=Y(JN)*SDP(JN+1)
      YS2=Y(JN+1)*SDP(JN+2)
      YS3=Y(JN+2)*SDP(JN+3)
      X21=VAR(JN+2)-VAR(JN+1)
      X32=VAR(JN+3)-VAR(JN+2)
      X31=VAR(JN+3)-VAR(JN+1)
      IINTR=(X21/6.)*(6.*YS1+(2.+(X31/X32))*(YS2-YS1)-(X21**2
     A/(X31-X32))*(YS3-YS1))
      GO TO 256
  255 YS1=Y(JN-1)*SDP(JN)
      YS2=Y(JN)*SDP(JN+1)
      YS3=Y(JN+1)*SDP(JN+2)
      X12=VAR(JN)-VAR(JN+1)
      X13=VAR(JN)-VAR(JN+2)
      X32=VAR(JN+2)-VAR(JN+1)
      IINTR=(X32/6.)*(6.*YS2+(2.+(X12/X13))*(YS3-YS2)-(X32**2
     A/(X12*X13))*(YS1-YS2))
  256 ISPTC=ISPTC+IINTR
      SKTLE=CONST(1)*SUMIE(1)+CONST(2)*SUMIE(2)
      SKHLE=CONST(3)*SUMIE(1)+CONST(4)*SUMIE(2)
      ISPTLE=SKTLE*Y(1)+SKHLE*YPLE
      SKTTE=CONST(5)*SUMIE(NE-2)+CONST(6)*SUMIE(NE-1)+CONST(7)*SUMIE(NE)
      SKHTE=CONST(8)*SUMIE(NE-2)+CONST(9)*SUMIE(NE-1)+CONST(10)*SUMIE(NE
     1)
      ISPTTE=SKTTE*Y(NE-3)+SKHTE*YPTE
      ISCRPT=ISPTLE+ISPTC+ISPTTE
      IF(.NOT.BETAQ) GO TO 258
C
C*****        HERE FOR QUADRATURE METHOD BETA CALCULATIONS
C
      YPILOS=YPTE*(IL+DS(LL))
      DCM=-YPILOS+ISCRPT
      BISUM=0.
      DO 257 LSE=1,NSE
```

```
      PROGRAM MAIN

      YPDD(LSE)=YPTE*DDT(LL,LSE)
      BETA(LSE)=YPDD(LSE)-H(LSE)
  257 BISUM=BISUM+BETA(LSE)*IN(LSE)
      DCMASK=-YPTE*IL-BISUM
C
C
  258 CONTINUE
      CALL WRITE(NE,LL)
  260 CONTINUE
  280 CONTINUE
C
C
C
 1008 FORMAT (8H IER = 1)
 1100 FORMAT(10A8)
 1110 FORMAT(A5,5X,A10,A5,5X,A5,5X,A5)
 1120 FORMAT(1X,A5,5X,A10,A5,5X,A5,5X,A5)
 1130 FORMAT(1X,10A8)
      STOP
      END
```

SUBROUTINE WRITE

```
      SUBROUTINE WRITE(LE,LL)
      COMMON/ALL/A(9,9),B(9,9),C(9,9),CC(9,9),E(9),EB(9),CJ(9)
     1,EA(30,9),EPS(30,9),FT(30,9),HEAD(30,17),DDP(30,9),SUMIE(30),SDP(3
     20),DIVSR(30),VAR(30),CJVSE,LAMBDA(30),NSE,NL,NE,OPTION,FIRST
     3,HL(9),ISPTC,Y(30),CMPHAI,HLE(9),HTE(9),H(9),ISPTLE,ISPTTE,ISCRPT
     4,HEADE(5),PLCLA,HEADH(10),BETAQ,BETAC,BETA(9),YPDD(9),FLAG,DCM
     5,KAPPA,RA,DS(30),DCMASK,YPILDS
      INTEGER HEADE,PLCLA,HEADH
      LOGICAL OPTION,CJVSE,FIRST,CMPHAI,BETAQ,BETAC,FLAG
      REAL LAMBDA,KAPPA
      REAL ISPTC,ISPTLE,ISPTTE,ISCRPT
C
      NEM3=NE-3
C
C*****      TEST FOR EXTENDED OUTPUT OPTION
C
      IF(.NOT.OPTION) GO TO 200
      IF(.NOT.FIRST) GO TO 130
      FIRST=.FALSE.
      IH=0
C
C*****      PRINTS A(M,N)'S ANDB(M,N)'S  (ONLY ONCE)
C
      WRITE(6,1010)
      DO 110 LSE=1,NSE
  110 WRITE(6,1003) (A(LSE,LSEA),LSEA=1,NSE)
      WRITE(6,1011)
      DO 120 LSE=1,NSE
  120 WRITE(6,1003) (B(LSE,LSEA),LSEA=1,NSE)
C
C*****      HERE TO PRINT OUTPUT IN EXTENDED FORM
C
  130 IF(2*(LL/2).NE.LL) WRITE(6,1095)
      WRITE(6,1102)
      WRITE(6,1101) (HEAD(LE,I),I=1,17)
      WRITE(6,1099) VAR(LE),DIVSR(LE),LAMBDA(LL),CJ(LL)
      WRITE(6,1098) (EPS(LE,LSE),LSE=1,NSE)
      WRITE(6,1097) (FT(LE,LSE),LSE=1,NSE)
      WRITE(6,1096) (EB(LSE),LSE=1,NSE)
      WRITE(6,1012)
      WRITE(6,1003) ((CC(LSE,LSEA),LSEA=1,NSE),LSE=1,NSE)
      WRITE(6,1013) (HEADE(1),I=1,9),(HEADE(I),I=2,3)
      WRITE(6,1030) (EA(LL,LSE),LSE=1,NSE),SUMIE(LL)
      IF(DIVSR(LE).EQ.1.) GO TO 150
      WRITE(6,1016)
      WRITE(6,1030) (DDP(LL,LSE),LSE=1,NSE),SDP(LL)
  150 CONTINUE
      RETURN
C
C
  200 CONTINUE
      IF(.NOT.FIRST) GO TO 204
      IF(FLAG) GO TO 205
      FIRST=.FALSE.
      IF(.NOT.CMPHAI) GO TO 205
C
C*****      HERE TO PRINT AIRFOIL CAMBER LINE COORDINATES
```

SUBROUTINE WRITE

```
C
      WRITE(6,1095)
      WRITE(6,1001) (HEADH(I),I=1,10)
      DO 203 J=1,NEM3
  203 WRITE(6,1002) VAR(J+1),Y(J)
  204 IF(BETAQ) GO TO 400
C
C*****       HERE TO PRINT STANDARD OUTPUT
C
  205 CONTINUE
      WRITE(6,1095)
      IF(.NOT.CJ/SE) GO TO 300
C
C*****       HERE FOR ALL CJ'S FOR SINGLE XI
C
      WRITE(6,1101) (HEAD(LE,I),I=1,17)
      WRITE(6,1103) VAR(LE),DIVSR(LE)
      IF(BETAC) WRITE(6,1128) RA
      WRITE(6,1098) (EPS(LE,LSE),LSE=1,NSE)
      WRITE(6,1097) (FT(LE,LSE),LSE=1,NSE)
      IF(.NOT.BETAC) GO TO 207
      HEADE(1)=5H BETA
      HEADE(2)=10H       DCM
      HEADE(3)=5H
  207 WRITE(6,1114) (HEADE(1),I=1,9),(HEADE(I),I=2,3)
      DO 210 N=1,NL
  210 WRITE(6,1033) CJ(N),(EA(N,LSE),LSE=1,NSE),SUMIE(N)
      IF(DIVSR(LE).EQ.1.) GO TO 250
      WRITE(6,1095)
      WRITE(6,1101) (HEAD(LE,I),I=1,17)
      WRITE(6,1103) VAR(LE),DIVSR(LE)
      WRITE(6,1098) (EPS(LE,LSE),LSE=1,NSE)
      WRITE(6,1097) (FT(LE,LSE),LSE=1,NSE)
      WRITE(6,1112)
      DO 220 N=1,NL
  220 WRITE(6,1033) CJ(N),(DDP(N,LSE),LSE=1,NSE),SDP(N)
  250 CONTINUE
      RETURN
C
C
C*****       HERE FOR ALL XI'S FOR SINGLE CJ
C
  300 WRITE(6,1101) (HEAD(LE,I),I=1,17)
      WRITE(6,1107) CJ(LL)
      WRITE(6,1115) (HEADE(1),I=1,9),(HEADE(I),I=2,3)
      DO 310 N=1,NE
  310 WRITE(6,1033) VAR(N),(EA(N,LSE),LSE=1,NSE),SUMIE(N)
      IF(DIVSR(LE).EQ.1.) GO TO 380
      WRITE(6,1095)
      WRITE(6,1101) (HEAD(LE,I),I=1,17)
      IF(HEADE(1).EQ.5H BETA) WRITE(6,1125)
      IF(CMPHAI) WRITE(6,1004)
      WRITE(6,1107) CJ(LL)
      WRITE(6,1113)
      DO 340 N=1,NE
  340 WRITE(6,1033) VAR(N),(DDP(N,LSE),LSE=1,NSE),SDP(N)
      IF(.NOT.CMPHAI) GO TO 380
```

SUBROUTINE WRITE

```
                WRITE(6,1120)
                WRITE(6,1121)  (HLE(LSE),LSE=1,NSE),ISPTLE
                WRITE(6,1122)  (HC(LSE),LSE=1,NSE),ISPTC
                WRITE(6,1123)  (HTE(LSE),LSE=1,NSE),ISPTTE
                WRITE(6,1124)  (H(LSE),LSE=1,NSE),ISCRPT
            380 CONTINUE
                RETURN
      C
      C
      C*****          HERE IF PRINTING ONLY H,ISCRPT,YPDD,BETA,AND DCM
      C
            400 CONTINUE
                IF((IH/3)*3.NE.IH.AND.IH.NE.0) GO TO 410
                WRITE(6,1095)
                WRITE(6,1129)
                WRITE(6,1004)
                WRITE(6,1000)  (HEADH(I),I=1,10)
            410 CONTINUE
                IH=IH+1
                WRITE(6,1117)  CJ(LL)
                WRITE(6,1120)
                WRITE(6,1121)  (HLE(LSE),LSE=1,NSE),ISPTLE
                WRITE(6,1122)  (HC(LSE),LSE=1,NSE),ISPTC
                WRITE(6,1123)  (HTE(LSE),LSE=1,NSE),ISPTTE
                WRITE(6,1124)  (H(LSE),LSE=1,NSE),ISCRPT
                WRITE(6,1126)  (YPDD(LSE),LSE=1,NSE),YPILDS
                WRITE(6,1127)  (BETA(LSE),LSE=1,NSE),DCM
                WRITE(6,1130)  DCMASK
            500 CONTINUE
                RETURN
      C
      C
            999 FORMAT(1X,10A8)
           1000 FORMAT(10A8)
           1001 FORMAT(26X,10A8/
               A50X,31HAIRFOIL CAMBER LINE COORDINATES/
               B52X,27HFOR HC RANGE OF INTEGRATION//
               C57X,1HX,16X,1HY)
           1002 FORMAT(48X,F14.9,5X,F12.7)
           1003 FORMAT (1X,9F12.6)
           1004 FORMAT(/26H HC RANGE: XI= .05 TO .975)
           1010 FORMAT(7H1A(9,9),104X,1A10,4X,1A10,/)
           1011 FORMAT (//7H B(9,9) /)
           1012 FORMAT (23H A(I,J) + LAMBDA*B(I,J)/)
           1013 FORMAT(/4X,A5,3H(0),5X,A5,3H(1),5X,A5,3H(2),5X,A5,3H(3),
               A5X,A5,3H(4),5X,A5,3H(5),5X,A5,3H(6),5X,A5,3H(7),5X,A5,3H(8),
               B4X,A10,A5/)
           1016 FORMAT(/6X,6HDDP(0),7X,6HDDP(1),7X,6HDDP(2),7X,6HDDP(3),
               A7X,6HDDP(4),7X,6HDDP(5),7X,6HDDP(6),7X,6HDDP(7),7X,6HDDP(8),
               B12X,3HSDP/)
           1030 FORMAT(1X,9F13.7,3X,F13.7)
           1033 FORMAT(1X,F9.5,2X,9F12.7,4X,F11.6)
           1095 FORMAT(1H1,110X,1A10,4X,1A10,/////)
           1096 FORMAT(/19H ET(M)+LAMBDA*FT(M),/1X,9F12.5/)
           1097 FORMAT(/6H FT(M),9F12.5)
           1098 FORMAT(/6H ET(M),9F12.5)
           1099 FORMAT(1X,14H(XI) OR (A)   =,F12.7,
```

SUBROUTINE WRITE

```
      B       28X,7HDIVSR =,F12.9,5X,10H LAMBDA = ,F12.5,10X,6H CJ = ,
      AF12.5)
 1101 FORMAT(1X,17A8)
 1102 FORMAT(1X,136H++++++++++++++++++++++++++++++++++++++++++++++++++++
      A++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
      B+++++++++++++++++)
 1103 FORMAT(10X,9HXI OR A =,F12.9,10X,8HDIVSR = ,F12.9)
 1107 FORMAT(5X,5HCJ = ,F10.6)
 1112 FORMAT(/6X,2HCJ,9X,6HDDP(0),6X,6HDDP(1),6X,6HDDP(2),6X,6HDDP(3),
      A6X,6HDDP(4),6X,6HDDP(5),6X,6HDDP(6),6X,6HDDP(7),6X,6HDDP(8),
      B10X,4H SDP/)
 1113 FORMAT(/6X,2HXI,9X,6HDDP(0),6X,6HDDP(1),6X,6HDDP(2),6X,6HDDP(3),
      A6X,6HDDP(4),6X,6HDDP(5),6X,6HDDP(6),6X,6HDDP(7),6X,6HDDP(8),
      B10X,4H SDP/)
 1114 FORMAT(/6X,2HCJ,7X,A5,3H(0),4X,A5,3H(1),4X,A5,3H(2),4X,A5,3H(3)
      A,4X,A5,3H(4),4X,A5,3H(5),4X,A5,3H(6),4X,A5,3H(7),4X,A5,3H(8),
      B3X,A10,A5/)
 1115 FORMAT(/6X,2HXI,7X,A5,3H(0),4X,A5,3H(1),4X,A5,3H(2),4X,A5,3H(3)
      A,4X,A5,3H(4),4X,A5,3H(5),4X,A5,3H(6),4X,A5,3H(7),4X,A5,3H(8),
      B3X,A10,A5/)
 1117 FORMAT(/1X5HCJ = ,F10.6)
 1120 FORMAT(/10X,4HH(0),8X,4HH(1),8X,4HH(2),8X,4HH(3),8X,4HH(4),
      A8X,4HH(5),8X,4HH(6),8X,4HH(7),8X,4HH(8),14X,6HISCRPT)
 1121 FORMAT(4H  LE,9F12.7,3X,3HLE ,F13.6)
 1122 FORMAT(4H  C ,9F12.7,3X,3HC  ,F13.6)
 1123 FORMAT(4H  TE,9F12.7,3X,3HTE ,F13.6)
 1124 FORMAT(4H TOT,9F12.7,3X,3HTOT,F13.6,/)
 1125 FORMAT(1X,9HKAPPA = 1)
 1126 FORMAT(9X,7HYPDD(0),5X,7HYPDD(1),5X,7HYPDD(2),5X,7HYPDD(3),
      A5X,7HYPDD(4),5X,7HYPDD(5),5X,7HYPDD(6),5X,7HYPDD(7),5X,
      B7HYPDD(8),12X,6HYPILDS,/4X,9F12.7,6X,F13.6/)
 1127 FORMAT(9X,7HBETA(0),5X,7HBETA(1),5X,7HBETA(2),5X,7HBETA(3),
      A5X,7HBETA(4),5X,7HBETA(5),5X,7HBETA(6),5X,7HBETA(7),5X,
      B7HBETA(8),14X,3HDCM/4X,9F12.7,6X,F13.6)
 1128 FORMAT(/10X,4HRA =,F12.7)
 1129 FORMAT(39H H(N) AND BETA(N) COEFFECIENTS AND SUMS )
 1130 FORMAT(118X,F13.6,1H*)
      END
```

TABLE I

INCREMENTAL COEFFICIENTS DELTA D(N) AND DELTA S.

ET(M)	0.00000	-1.93969	-1.76604	-1.50000	-1.17365	-.82635	-.50000	-.23396	-.06031
FT(M)	-1.76508	-1.88036	-2.12913	-2.47361	-2.91299	-3.46907	-4.19639	-5.22707	-6.99175

CJ	DD(0)	DD(1)	DD(2)	DD(3)	DD(4)	DD(5)	DD(6)	DD(7)	DD(8)	DS
.00100	.0249575	-1.2229435	.0482922	-.3686063	.0431643	-.1860133	.0332782	-.0884856	.0155774	-1.406558
.00200	.0248392	-1.2231938	.0480237	-.3688801	.0428983	-.1862552	.0330761	-.0886330	.0154958	-1.407276
.00400	.0246092	-1.2236807	.0475017	-.3694121	.0423823	-.1867234	.0326854	-.0889174	.0153386	-1.408670
.00600	.0243876	-1.2241499	.0469985	-.3699242	.0418866	-.1871720	.0323119	-.0891886	.0151888	-1.410013
.00800	.0241740	-1.2246025	.0465132	-.3704174	.0414100	-.1876023	.0319547	-.0894475	.0150458	-1.411307
.01000	.0239678	-1.2250395	.0460447	-.3708930	.0409515	-.1880153	.0316126	-.0896948	.0149092	-1.412556
.01200	.0237688	-1.2254618	.0455921	-.3713518	.0405100	-.1884120	.0312848	-.0899312	.0147788	-1.413761
.01400	.0235764	-1.2258701	.0451544	-.3717948	.0400845	-.1887934	.0309705	-.0901574	.0146540	-1.414926
.01600	.0233903	-1.2262652	.0447309	-.3722229	.0396741	-.1891603	.0306689	-.0903739	.0145346	-1.416052
.01800	.0232102	-1.2266478	.0443208	-.3726369	.0392782	-.1895135	.0303793	-.0905813	.0144202	-1.417142
.02000	.0230356	-1.2270186	.0439235	-.3730375	.0388958	-.1898538	.0301010	-.0907801	.0143105	-1.418197
.02500	.0226226	-1.2278977	.0429817	-.3739846	.0379947	-.1906521	.0294508	-.0912428	.0140556	-1.420695
.03000	.0222391	-1.2287148	.0421066	-.3748616	.0371645	-.1913832	.0288591	-.0916612	.0138250	-1.423012
.03500	.0218818	-1.2294769	.0412905	-.3756765	.0363970	-.1920550	.0283188	-.0920411	.0136157	-1.425169
.04000	.0215480	-1.2301901	.0405272	-.3764361	.0356852	-.1926742	.0278238	-.0923869	.0134252	-1.427184
.05000	.0209409	-1.2314895	.0391373	-.3778119	.0344054	-.1937776	.0269499	-.0929920	.0130916	-1.430843
.06000	.0204020	-1.2326460	.0379014	-.3790265	.0332868	-.1947305	.0262044	-.0935019	.0128101	-1.434087
.07000	.0199192	-1.2336848	.0367924	-.3801084	.0323001	-.1955610	.0255625	-.0939354	.0125701	-1.436990
.08000	.0194832	-1.2346252	.0357896	-.3810796	.0314230	-.1962907	.0250053	-.0943070	.0123636	-1.439607
.09000	.0190869	-1.2354823	.0348767	-.3819574	.0306379	-.1969363	.0245181	-.0946277	.0121846	-1.441984
.10000	.0187243	-1.2362682	.0340407	-.3827553	.0299310	-.1975111	.0240895	-.0949064	.0120281	-1.444156
.20000	.0162390	-1.2417160	.0282898	-.3880512	.0254410	-.2003794	.0216321	-.0964071	.0111444	-1.458958
.30000	.0147917	-1.2449526	.0249370	-.3909250	.0231975	-.2025540	.0206188	-.0969362	.0107654	-1.467493
.40000	.0138037	-1.2471986	.0226595	-.3927492	.0218691	-.2034167	.0201023	-.0971543	.0105455	-1.473273
.50000	.0130688	-1.2488925	.0209803	-.3940101	.0210035	-.2039443	.0198017	-.0972455	.0103922	-1.477543
.60000	.0124921	-1.2502382	.0196768	-.3949296	.0204029	-.2042918	.0196090	-.0972765	.0102726	-1.480874
.70000	.0120224	-1.2513460	.0186286	-.3956257	.0199669	-.2045334	.0194757	-.0972761	.0101726	-1.483574
.80000	.0116294	-1.2522817	.0177637	-.3961670	.0196393	-.2047085	.0193775	-.0972579	.0100853	-1.485821
.90000	.0112938	-1.2530879	.0170358	-.3965968	.0193861	-.2048397	.0193012	-.0972294	.0100070	-1.487733
1.00000	.0110026	-1.2537934	.0164136	-.3969437	.0191858	-.2049405	.0192392	-.0971946	.0099353	-1.489386

TABLE I (CONCLUDED)

INCREMENTAL COEFFICIENTS DELTA D(N) AND DELTA S.

CJ	DD(0)	DD(1)	DD(2)	DD(3)	DD(4)	DD(5)	DD(6)	DD(7)	DD(8)	DS
ET(M)	0.00000	-1.93969	-1.76604	-1.50000	-1.17365	-.82635	-.50000	-.23396	-.06031	
FT(M)	-1.76508	-1.88036	-2.12913	-2.47361	-2.91299	-3.46907	-4.19639	-5.22707	-6.99175	
1.20000	.0105187	-1.2549780	.0154037	-.3974616	.0188912	-.2050830	.0191413	-.0971149	.0098067	-1.492117
1.40000	.0101296	-1.2559432	.0146180	-.3978210	.0186863	-.2051762	.0190636	-.0970294	.0096926	-1.494300
1.60000	.0098073	-1.2567517	.0139890	-.3980771	.0185355	-.2052395	.0189969	-.0969425	.0095893	-1.496098
1.80000	.0095345	-1.2574435	.0134745	-.3982631	.0184189	-.2052831	.0189367	-.0968562	.0094945	-1.497613
2.00000	.0092994	-1.2580453	.0130465	-.3983998	.0183248	-.2053129	.0188807	-.0967716	.0094067	-1.498913
2.20000	.0090939	-1.2585758	.0126856	-.3985009	.0182462	-.2053325	.0188273	-.0966891	.0093247	-1.500044
2.40000	.0089122	-1.2590485	.0123778	-.3985757	.0181783	-.2053443	.0187759	-.0966087	.0092478	-1.501041
2.60000	.0087499	-1.2594738	.0121129	-.3986308	.0181182	-.2053499	.0187257	-.0965307	.0091753	-1.501927
2.80000	.0086039	-1.2598592	.0118832	-.3986710	.0180637	-.2053505	.0186766	-.0964549	.0091066	-1.502723
3.00000	.0084715	-1.2602110	.0116826	-.3986998	.0180134	-.2053469	.0186282	-.0963813	.0090413	-1.503442
3.20000	.0083506	-1.2605339	.0115064	-.3987196	.0179664	-.2053397	.0185603	-.0963096	.0089791	-1.504097
3.40000	.0082398	-1.2608318	.0113509	-.3987324	.0179218	-.2053295	.0185330	-.0962400	.0089197	-1.504695
3.60000	.0081376	-1.2611079	.0112131	-.3987398	.0178793	-.2053167	.0184860	-.0961721	.0088627	-1.505246
3.80000	.0080430	-1.2613648	.0110905	-.3987428	.0178383	-.2053017	.0184393	-.0961059	.0088080	-1.505754
4.00000	.0079551	-1.2616048	.0109810	-.3987424	.0177987	-.2052846	.0183930	-.0960414	.0087554	-1.506226
4.50000	.0077598	-1.2621419	.0107547	-.3987307	.0177041	-.2052349	.0182781	-.0958865	.0086319	-1.507269
5.00000	.0075927	-1.2626063	.0105808	-.3987093	.0176143	-.2051771	.0181647	-.0957397	.0085181	-1.508157

TABLE II

FOURIER COEFFICIENTS A(N) AND THE PARAMENTER SUMI(N)A(N) FOR A SINGULARLY BLOWN JET-FLAPPED FLAT PLATE.

ET(M)	-2.00000	-1.93969	-1.76604	-1.50000	-1.17365	-.82635	-.50000	-.23396	-.06031
FT(M)	-1.76508	-1.88036	-2.12913	-2.43761	-2.91299	-3.46907	-4.19639	-5.22707	-6.99175

CJ	A(0)	A(1)	A(2)	A(3)	A(4)	A(5)	A(6)	A(7)	A(8)	SUMI(N)A(N)
.00100	.0320348	-1.2058206	.0653299	-.3666966	.0238921	-.2055543	.0463651	-.0368208	.0668697	-1.367205
.00200	.0329791	-1.2039791	.0670659	-.3650955	.0253192	-.2043694	.0472224	-.0363235	.0670698	-1.362155
.00400	.0348319	-1.2003713	.0704568	-.3619773	.0280901	-.2020766	.0488723	-.0353757	.0674451	-1.352272
.00600	.0366391	-1.1968593	.0737447	-.3589658	.0307553	-.1998815	.0504403	-.0344870	.0677892	-1.342666
.00800	.0384034	-1.1934378	.0769354	-.3560551	.0333210	-.1977780	.0519317	-.0336532	.0681043	-1.333322
.01000	.0401271	-1.1901018	.0800341	-.3532396	.0357928	-.1957607	.0533513	-.0328708	.0683924	-1.324224
.01200	.0418123	-1.1868470	.0830455	-.3505142	.0381758	-.1938247	.0547036	-.0321363	.0686554	-1.315359
.01400	.0434611	-1.1836691	.0859741	-.3478742	.0404750	-.1919653	.0559925	-.0314468	.0688949	-1.306716
.01600	.0450752	-1.1805643	.0888241	-.3453152	.0426947	-.1901783	.0572219	-.0307992	.0691127	-1.298284
.01800	.0466564	-1.1775290	.0915993	-.3428332	.0448392	-.1884595	.0583952	-.0301911	.0693101	-1.290051
.02000	.0482062	-1.1745599	.0943033	-.3404244	.0469122	-.1868055	.0595156	-.0296199	.0694885	-1.282008
.02500	.0519534	-1.1674068	.1007733	-.3346999	.0518052	-.1829312	.0621048	-.0283391	.0698592	-1.262673
.03000	.0555346	-1.1606053	.1068651	-.3293625	.0563232	-.1793928	.0644232	-.0272445	.0701356	-1.244344
.03500	.0589672	-1.1541187	.1126180	-.3243705	.0605084	-.1761502	.0665056	-.0263102	.0703319	-1.226915
.04000	.0622663	-1.1479159	.1180657	-.3196886	.0643967	-.1731696	.0683811	-.0255144	.0704598	-1.210293
.05000	.0685134	-1.1362577	.1281574	-.3111372	.0714007	-.1678822	.0710073	-.0242679	.0705488	-1.179172
.06000	.0743593	-1.1254555	.1373286	-.3035103	.0775346	-.1633442	.0742606	-.0233886	.0704651	-1.150471
.07000	.0798681	-1.1153757	.1457238	-.2966565	.0829495	-.1594149	.0764591	-.0227912	.0702539	-1.123801
.08000	.0850892	-1.1059136	.1534557	-.2904577	.0877629	-.1559865	.0782921	-.0224123	.0699485	-1.098861
.09000	.0900623	-1.0969865	.1606141	-.2848202	.0920671	-.1529750	.0798285	-.0222037	.0695736	-1.075410
.10000	.0948191	-1.0885272	.1672714	-.2796687	.0959361	-.1503139	.0811219	-.0221285	.0691480	-1.053255
.20000	.1345707	-1.0210380	.2156458	-.2452183	.1199813	-.1348545	.0869592	-.0246288	.0640640	-.878281
.30000	.1663356	-.9713706	.2453778	-.2271284	.1310151	-.1284017	.0879673	-.0283257	.0594626	-.750426
.40000	.1939184	-.9313123	.2654242	-.2165855	.1367472	-.1251043	.0878091	-.0315594	.0557670	-.646894
.50000	.2188615	-.8974688	.2794787	-.2101557	.1399011	-.1231635	.0873531	-.0342057	.0528046	-.558527
.60000	.2419588	-.8680654	.2894562	-.2061679	.1416780	-.1218816	.0868452	-.0363590	.0503918	-.480655
.70000	.2636782	-.8420401	.2964885	-.2037000	.1426769	-.1209492	.0863571	-.0381253	.0483912	-.410547
.80000	.2843212	-.8186989	.3013030	-.2022011	.1432204	-.1202169	.0859063	-.0395901	.0467048	-.346454
.90000	.3040948	-.7975587	.3043969	-.2013232	.1434906	-.1196071	.0854930	-.0408181	.0452624	-.287182
1.00000	.3231483	-.7782677	.3061250	-.2008378	.1435936	-.1190781	.0851126	-.0416574	.0440128	-.231877

TABLE II (CONCLUDED)

FOURIER COEFFICIENTS A(N) AND THE PARAMENTER SUMI(N)A(N) FOR A SINGULARLY BLOWN JET-FLAPPED FLAT PLATE.

ET(M)	-2.00000	-1.93969	-1.76604	-1.50000	-1.17365	-.82635	-.50000	-.23396	-.06031
FT(M)	-1.76508	-1.88036	-2.12913	-2.43761	-2.91299	-3.46907	-4.19639	-5.22707	-6.99175

CJ	A(0)	A(1)	A(2)	A(3)	A(4)	A(5)	A(6)	A(7)	A(8)	SUMI(N)A(N)
1.20000	.3595148	-.7442287	.3064706	-.2004739	.1435241	-.1181753	.0844300	-.0435061	.0419497	-.130779
1.40000	.3940463	-.7159677	.3037883	-.2003573	.1432644	-.1174069	.0838250	-.0447365	.0403078	-.039619
1.60000	.4271438	-.6897953	.2989787	-.2001146	.1428954	-.1167264	.0832758	-.0456719	.0389616	.043849
1.80000	.4590821	-.6677218	.2926376	-.1995585	.1424327	-.1161053	.0827686	-.0463922	.0378309	.121154
2.00000	.4900587	-.6483429	.2851773	-.1985992	.1418675	-.1155214	.0822935	-.0469518	.0368626	.193385
2.20000	.5202215	-.6312763	.2768937	-.1971998	.1411839	-.1149558	.0818430	-.0473887	.0360202	.261351
2.40000	.5496841	-.6162238	.2680044	-.1953533	.1403650	-.1143913	.0814103	-.0477299	.0352775	.325671
2.60000	.5785365	-.6029470	.2586734	-.1930692	.1393965	-.1138127	.0809891	-.0479950	.0346156	.386832
2.80000	.6068509	-.5912520	.2490265	-.1903660	.1382669	-.1132063	.0805732	-.0481985	.0340200	.445221
3.00000	.6346865	-.5809780	.2391613	-.1872671	.1369677	-.1125599	.0801567	-.0483508	.0334796	.501157
3.20000	.6620925	-.5719904	.2291550	-.1837981	.1354932	-.1118629	.0797340	-.0484594	.0329854	.554901
3.40000	.6891105	-.5641747	.2190686	-.1799850	.1338401	-.1111062	.0792995	-.0485298	.0325303	.606673
3.60000	.7157756	-.5574327	.2089512	-.1758535	.1320069	-.1102818	.0788481	-.0485657	.0321083	.656660
3.80000	.7421182	-.5516793	.1988424	-.1714284	.1299938	-.1093832	.0783748	-.0485696	.0317141	.705020
4.00000	.7681644	-.5468404	.1887744	-.1667334	.1278022	-.1084046	.0778750	-.0485433	.0313434	.751891
4.50000	.8321271	-.5383332	.1639431	-.1539576	.1215606	-.1055797	.0764821	-.0483492	.0304947	.863305
5.00000	.8946640	-.5343165	.1398129	-.1399405	.1142773	-.1021768	.0748394	-.0479715	.0297186	.967630

TABLE III

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = .001000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0000008	.0000020	.0000017	.0000011	.0000009	.0000007	.0000005	.0000003	.0000002	.000005
.05000	.0000018	.0000043	.0000036	.0000024	.0000020	.0000015	.0000011	.0000007	.0000004	.000010
.97500	.0008368	.0017681	.0018987	.0019448	.0018947	.0017275	.0014477	.0010584	.0005717	.005077
.98750	.0009068	.0019119	.0020529	.0021138	.0020773	.0019136	.0016197	.0011939	.0006485	.005508
1.00000	.0008240	.0017399	.0018658	.0019130	.0018728	.0017202	.0014533	.0010702	.0005810	.005002

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0001741	.0004149	.0003516	.0002335	.0001904	.0001416	.0001086	.0000712	.0000376	.000999
.12500	.0001505	.0003558	.0003112	.0002120	.0001690	.0001263	.0000961	.0000633	.0000332	.000866
.20000	.0001633	.0003833	.0003444	.0002408	.0001888	.0001414	.0001068	.0000706	.0000369	.000943
.30000	.0002067	.0004808	.0004460	.0003231	.0002497	.0001871	.0001401	.0000928	.0000483	.001199
.40000	.0002869	.0006610	.0006308	.0004744	.0003649	.0002731	.0002028	.0001345	.0000696	.001670
.50000	.0004332	.0009883	.0009683	.0007583	.0005861	.0004387	.0003233	.0002142	.0001104	.002533
.60000	.0007247	.0016356	.0016423	.0013450	.0010558	.0007945	.0005820	.0003849	.0001975	.004259
.65000	.0009866	.0022133	.0022486	.0018868	.0014999	.0011356	.0008311	.0005492	.0002811	.005814
.70000	.0014067	.0031354	.0032216	.0027738	.0022417	.0017135	.0012558	.0008301	.0004241	.008315
.75000	.0021335	.0047212	.0049040	.0043400	.0035811	.0027763	.0020454	.0013554	.0006920	.012653
.80000	.0035306	.0077503	.0081328	.0074123	.0062763	.0049651	.0036981	.0024667	.0012615	.021020
.85000	.0066770	.0145236	.0153815	.0144677	.0126461	.0102881	.0078107	.0052785	.0027162	.039928
.90000	.0159214	.0342673	.0365708	.0355769	.0323240	.0273115	.0213703	.0147762	.0077040	.095705
.91250	.0210115	.0450917	.0481985	.0472990	.0434425	.0371199	.0293248	.0204304	.0107015	.126485
.92500	.0287679	.0615519	.0658846	.0652256	.0605874	.0523912	.0418236	.0293829	.0154713	.173437
.93750	.0413459	.0881895	.0945101	.0943923	.0887112	.0776841	.0627172	.0444652	.0235483	.249655
.95000	.0635652	.1351533	.1449793	.1460677	.1389320	.1232771	.1007259	.0721148	.0384311	.384434
.96250	.1081295	.2291782	.2460109	.2499616	.2406311	.2164161	.1790459	.1295078	.0694749	.655004
.97500	.2199022	.4646241	.4989423	.5110375	.4978723	.4539453	.3804152	.2781077	.1502298	1.334200

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = .002000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0000017	.0000040	.0000034	.0000022	.0000018	.0000013	.0000010	.0000007	.0000004	.000010
.05000	.0000036	.0000085	.0000072	.0000048	.0000039	.0000029	.0000022	.0000015	.0000008	.000021
.97500	.0016576	.0035026	.0037613	.0038514	.0037504	.0034175	.0028622	.0020913	.0011293	.010056
.98750	.0017959	.0037867	.0040660	.0041857	.0041117	.0037859	.0032026	.0023597	.0012812	.010908
1.00000	.0016321	.0034464	.0036957	.0037381	.0037070	.0034031	.0028736	.0021150	.0011478	.009906

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0003464	.0008258	.0006989	.0004626	.0003766	.0002795	.0002141	.0001401	.0000740	.001987
.12500	.0002993	.0007081	.0006185	.0004202	.0003343	.0002493	.0001894	.0001245	.0000654	.001723
.20000	.0003247	.0007626	.0006845	.0004773	.0003734	.0002791	.0002105	.0001389	.0000726	.001874
.30000	.0004110	.0009564	.0008864	.0006404	.0004940	.0003693	.0002761	.0001827	.0000950	.002382
.40000	.0005702	.0013145	.0012536	.0009405	.0007220	.0005390	.0003997	.0002647	.0001369	.003319
.50000	.0008608	.0019650	.0019239	.0015037	.0011596	.0008661	.0006372	.0004215	.0002171	.005033
.60000	.0014397	.0032507	.0032624	.0026672	.0020895	.0015690	.0011474	.0007576	.0003884	.008459
.65000	.0019596	.0043980	.0044662	.0037417	.0029689	.0022430	.0016386	.0010812	.0005529	.011545
.70000	.0027935	.0062286	.0063977	.0055007	.0044375	.0033851	.0024765	.0016345	.0008343	.016508
.75000	.0042356	.0093762	.0097366	.0086060	.0070896	.0054861	.0040348	.0026697	.0013617	.025116
.80000	.0070070	.0153865	.0161426	.0146966	.0124263	.0098135	.0072975	.0048605	.0024835	.041710
.85000	.0132460	.0288207	.0305188	.0286805	.0250384	.0203400	.0154199	.0104075	.0053509	.079199
.90000	.0315689	.0679613	.0725243	.0705064	.0639977	.0540106	.0422122	.0291566	.0151907	.189741
.91250	.0416553	.0894138	.0955688	.0937284	.0860092	.0734123	.0579333	.0403228	.0211069	.250728
.92500	.0570230	.1220313	.1306155	.1292385	.1199504	.1036212	.0826383	.0580055	.0305233	.343747
.93750	.0819406	.1748091	.1873319	.1870078	.1756236	.1536562	.1239410	.0878008	.0464719	.494728
.95000	.1259525	.2678465	.2873139	.2893491	.2750357	.2438520	.1990848	.1424323	.0758658	.761680
.96250	.2142151	.4540900	.4874373	.4950882	.4763407	.4281157	.3539388	.2558500	.1371898	1.297531
.97500	.4355642	.9204027	.9883839	1.0120448	.9855076	.8980329	.7521194	.5495483	.2967427	2.642505

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = .004000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0000033	.0000080	.0000066	.0000043	.0000035	.0000026	.0000020	.0000013	.0000007	.000019
.05000	.0000071	.0000169	.0000143	.0000094	.0000076	.0000056	.0000043	.0000028	.0000015	.000041
.97500	.0032526	.0068747	.0073825	.0075548	.0073498	.0066897	.0055961	.0040845	.0022038	.019730
.98750	.0035231	.0074301	.0079780	.0082088	.0080572	.0074112	.0062629	.0046101	.0025014	.021396
1.00000	.0032021	.0067634	.0072524	.0074294	.0072641	.0066615	.0056192	.0041318	.0022409	.019433

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0006853	.0016357	.0013808	.0009081	.0007370	.0005444	.0004162	.0002713	.0001432	.003928
.12500	.0005920	.0014022	.0012219	.0008252	.0006541	.0004857	.0003681	.0002412	.0001265	.003405
.20000	.0006421	.0015097	.0013524	.0009377	.0007307	.0005437	.0004090	.0002690	.0001404	.003705
.30000	.0008125	.0018926	.0017509	.0012587	.0009669	.0007196	.0005365	.0003538	.0001837	.004707
.40000	.0011267	.0025999	.0024758	.0018492	.0014134	.0010506	.0007766	.0005127	.0002649	.006555
.50000	.0017001	.0038843	.0037986	.0029572	.0022710	.0016887	.0012381	.0008167	.0004200	.009935
.60000	.0028417	.0064216	.0064388	.0052462	.0040936	.0030607	.0022304	.0014682	.0007513	.016689
.65000	.0038663	.0086845	.0088121	.0073596	.0058175	.0043770	.0031862	.0020959	.0010699	.022770
.70000	.0055092	.0122934	.0126188	.0108190	.0086970	.0066082	.0048174	.0031699	.0016150	.032545
.75000	.0083490	.0184953	.0191958	.0169249	.0138974	.0107142	.0078529	.0051807	.0026374	.049489
.80000	.0138032	.0303300	.0318074	.0288966	.0243623	.0191752	.0142134	.0094401	.0048144	.082137
.85000	.0260729	.0567619	.0600897	.0563716	.0490925	.0397648	.0300602	.0202373	.0103868	.155846
.90000	.0620751	.1336973	.1426528	.1385008	.1254736	.1056469	.0823802	.0567836	.0295419	.373007
.91250	.0818836	.1758415	.1879235	.1840830	.1686228	.1436193	.1130949	.0785652	.0410697	.492757
.92500	.1120567	.2399017	.2567541	.2537722	.2351530	.2027446	.1613724	.1130707	.0594258	.675362
.93750	.1609673	.3435276	.3681130	.3671235	.3442732	.3006804	.2421018	.1712329	.0905296	.971682
.95000	.2473369	.5261507	.5643690	.5678921	.5391066	.4772356	.3890065	.2779126	.1478796	1.495484
.96250	.4205043	.8916343	.9570941	.9714267	.9336037	.8379440	.6917998	.4994526	.2675744	2.546680
.97500	.8546884	1.8065071	1.9399269	1.9851997	1.9313365	1.7578768	1.4705116	1.0732981	.5791083	5.184618

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = .006000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0000049	.0000118	.0000098	.0000064	.0000052	.0000038	.0000029	.0000019	.0000010	.000028
.05000	.0000105	.0000252	.0000212	.0000138	.0000112	.0000082	.0000063	.0000041	.0000022	.000060
.97500	.0047887	.0101242	.0108718	.0111190	.0108074	.0098255	.0082097	.0059857	.0032272	.029045
.98750	.0051856	.0109386	.0117453	.0120790	.0118464	.0108859	.0091899	.0067584	.0036645	.031489
1.00000	.0047138	.0099587	.0106784	.0109327	.0106804	.0097844	.0082448	.0060567	.0032826	.028603

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0010172	.0024307	.0020466	.0013376	.0010821	.0007956	.0006068	.0003942	.0002079	.005828
.12500	.0008785	.0020830	.0018111	.0012159	.0009604	.0007099	.0005366	.0003505	.0001837	.005050
.20000	.0009525	.0022421	.0020044	.0013822	.0010729	.0007948	.0005963	.0003909	.0002038	.005493
.30000	.0012048	.0028095	.0025948	.0018561	.0014199	.0010521	.0007821	.0005143	.0002666	.006977
.40000	.0016701	.0038578	.0036683	.0027278	.0020761	.0015365	.0011323	.0007452	.0003845	.009711
.50000	.0025190	.0057605	.0056269	.0043633	.0033368	.0024705	.0018053	.0011872	.0006096	.014713
.60000	.0042079	.0095171	.0095338	.0077418	.0060172	.0044799	.0032532	.0021351	.0010907	.024702
.65000	.0057232	.0128656	.0130444	.0108607	.0085530	.0064088	.0046488	.0030487	.0015535	.033692
.70000	.0081516	.0182035	.0186730	.0159653	.0127891	.0096793	.0070316	.0046129	.0023458	.048136
.75000	.0123472	.0273717	.0283932	.0249728	.0204402	.0157006	.0114686	.0075436	.0038331	.073163
.80000	.0204006	.0448554	.0470214	.0426284	.0358370	.0281132	.0207724	.0137576	.0070032	.121356
.85000	.0385046	.0838737	.0887667	.0831303	.0722208	.0583311	.0439714	.0295282	.0151294	.230089
.90000	.0915807	.1973375	.2105243	.2041302	.1845787	.1550615	.1206349	.0829620	.0431102	.550175
.91250	.1207689	.2594573	.2772512	.2712618	.2480443	.2108190	.1656616	.1148639	.0599652	.726600
.92500	.1652182	.3538553	.3786778	.3738784	.3458931	.2976478	.2364505	.1653860	.0868156	.995562
.93750	.2372528	.5065148	.5427290	.5407553	.5063689	.4414820	.3548490	.2505865	.1323330	1.431915
.95000	.3644251	.7754785	.8317721	.8362720	.7928748	.7007968	.5703447	.4068904	.2162944	2.203074
.96250	.6193419	1.3136196	1.4100285	1.4301367	1.3729440	1.2306131	1.0145962	.7315953	.3915975	3.750344
.97500	1.2583606	2.6603698	2.8568337	2.9218009	2.8398953	2.5818869	2.1572953	1.5720964	.8480274	7.632380

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = .006000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0000065	.0000156	.0000130	.0000083	.0000068	.0000050	.0000038	.0000024	.0000013	.000037
.05000	.0000139	.0000332	.0000279	.0000181	.0000146	.0000107	.0000081	.0000053	.0000028	.000080
.97500	.0062696	.0132581	.0142371	.0145524	.0141315	.0128332	.0107104	.0078008	.0042027	.038023
.98750	.0067874	.0143203	.0153764	.0158054	.0154888	.0142190	.0119917	.0088108	.0047742	.041211
1.00000	.0061706	.0130395	.0139814	.0143063	.0139642	.0127797	.0107578	.0078955	.0042763	.037439

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0013424	.0032114	.0026972	.0017518	.0014128	.0010340	.0007870	.0005095	.0002685	.007686
.12500	.0011591	.0027513	.0023868	.0015931	.0012539	.0009227	.0006958	.0004530	.0002372	.006659
.20000	.0012564	.0029605	.0026414	.0018116	.0014008	.0010333	.0007732	.0005053	.0002632	.007241
.30000	.0015887	.0037083	.0034191	.0024338	.0018542	.0013679	.0010140	.0006648	.0003442	.009194
.40000	.0022013	.0050895	.0048328	.0035780	.0027117	.0019982	.0014680	.0009634	.0004964	.012794
.50000	.0033186	.0075958	.0074110	.0057246	.0043598	.0032140	.0023409	.0015349	.0007869	.019375
.60000	.0055404	.0125412	.0125517	.0101586	.0078651	.0058312	.0042199	.0027612	.0014082	.032510
.65000	.0075328	.0169470	.0171691	.0142515	.0111818	.0083445	.0060319	.0039439	.0020061	.044327
.70000	.0107247	.0239672	.0245692	.0209490	.0167234	.0126078	.0091274	.0059698	.0030303	.063306
.75000	.0162365	.0360186	.0373429	.0327648	.0267332	.0204599	.0148949	.0097685	.0049543	.096175
.80000	.0268103	.0589859	.0618093	.0559180	.0468772	.0366531	.0269974	.0178307	.0090599	.159434
.85000	.0505636	.1102026	.1165996	.1090092	.0944773	.0760910	.0571998	.0383158	.0195986	.302063
.90000	.1201430	.2590009	.2762666	.2675298	.2414517	.2023831	.1570963	.1078445	.0559477	.721597
.91250	.1583881	.3404219	.3637242	.3554473	.3244612	.2751934	.2157959	.1493444	.0778636	.952727
.92500	.2166156	.4641172	.4966277	.4898127	.4524333	.3885862	.3081011	.2151338	.1127918	1.305008
.93750	.3109560	.6641016	.7115345	.7082788	.6622971	.5764372	.4625195	.3261043	.1720287	1.876400
.95000	.4774674	1.0163509	1.0900820	1.0950806	1.0369494	.9151294	.7436315	.5297785	.2813425	2.885980
.96250	.8111639	1.7209538	1.8472141	1.8722494	1.7954238	1.6071602	1.3232590	.9530010	.5096665	4.911191
.97500	1.6474901	3.4838828	3.7411329	3.8239979	3.7133993	3.3722290	2.8144176	2.0498635	1.1043541	9.991350

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TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = .010000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0000081	.0000194	.0000160	.0000102	.0000083	.0000060	.0000046	.0000030	.0000016	.000046
.05000	.0000172	.0000412	.0000345	.0000223	.0000179	.0000130	.0000099	.0000064	.0000034	.000098
.97500	.0076983	.0162831	.0174853	.0178624	.0173300	.0157203	.0131050	.0095351	.0051332	.046681
.98750	.0083318	.0175825	.0188791	.0193962	.0189929	.0174191	.0146759	.0107733	.0058338	.050583
1.00000	.0075757	.0160124	.0171686	.0175575	.0171234	.0156551	.0131650	.0096533	.0052250	.045958

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DCP(7)	DDP(8)	SDP
.05000	.0016612	.0039787	.0033333	.0021516	.0017300	.0012604	.0009572	.0006177	.0003253	.009507
.12500	.0014340	.0034076	.0029497	.0019574	.0015353	.0011249	.0008462	.0005492	.0002873	.008234
.20000	.0015541	.0036657	.0032642	.0022267	.0017153	.0012598	.0009402	.0006126	.0003187	.008952
.30000	.0019644	.0045897	.0042248	.0029927	.0022708	.0016681	.0012330	.0008060	.0004168	.011363
.40000	.0027208	.0062965	.0059706	.0044011	.0033218	.0024373	.0017851	.0011681	.0006010	.015806
.50000	.0040999	.0093924	.0091534	.0070435	.0053424	.0039215	.0028470	.0018613	.0009528	.023925
.60000	.0068409	.0154976	.0154967	.0125008	.0096414	.0071185	.0051340	.0033494	.0017052	.040125
.65000	.0092978	.0209339	.0211917	.0175377	.0137101	.0101901	.0073406	.0047853	.0024298	.054691
.70000	.0132321	.0295923	.0303158	.0257788	.0205089	.0154023	.0111122	.0072464	.0036715	.078078
.75000	.0200228	.0444482	.0460581	.0403148	.0327905	.0250057	.0181438	.0118646	.0060062	.118561
.80000	.0330425	.0727426	.0761939	.0687897	.0575076	.0448189	.0329094	.0216754	.0109933	.196433
.85000	.0622703	.1357912	.1436341	.1340569	.1159116	.0930925	.0697878	.0466328	.0238126	.371894
.90000	.1478146	.3187974	.3399976	.3288245	.2962208	.2477380	.1918751	.1314563	.0681021	.887593
.91250	.1948123	.4188833	.4475014	.4368077	.3980460	.3369103	.2636474	.1821222	.0948297	1.171573
.92500	.2663484	.5708944	.6108263	.6018103	.5550154	.4757951	.3765339	.2624703	.1374454	1.604307
.93750	.3822232	.8165928	.8748567	.8700405	.8124140	.7058928	.5654233	.3980443	.2097513	2.306031
.95000	.5866943	1.2492481	1.3398136	1.3448632	1.2718916	1.1207805	.9093569	.6469565	.3432375	3.545612
.96250	.9963724	2.1144738	2.2695483	2.2987155	2.2020222	1.9685405	1.6186454	1.1643350	.6221559	6.031678
.97500	2.0229146	4.2787898	4.5946939	4.6937713	4.5538899	4.1308977	3.4436707	2.5055867	1.3488740	12.266652

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = .012000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0000096	.0000230	.0000190	.0000121	.0000098	.0000071	.0000054	.0000035	.0000018	.000055
.05000	.0000204	.0000490	.0000410	.0000263	.0000211	.0000153	.0000116	.0000074	.0000039	.000117
.97500	.0090778	.0192055	.0206232	.0210559	.0204101	.0184939	.0153999	.0111935	.0060216	.055040
.98750	.0098222	.0207320	.0222607	.0228592	.0223665	.0204937	.0172495	.0126512	.0068463	.059625
1.00000	.0089320	.0188835	.0202463	.0206934	.0201650	.0184176	.0154726	.0113352	.0061313	.054180

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DCP(7)	DDP(8)	SDP
.05000	.0019741	.0047331	.0039556	.0025377	.0020344	.0014755	.0011181	.0007191	.0003785	.011291
.12500	.0017037	.0040525	.0035003	.0023097	.0018054	.0013170	.0009884	.0006394	.0003342	.009778
.20000	.0018458	.0043583	.0038734	.0026284	.0020171	.0014751	.0010981	.0007133	.0003707	.010628
.30000	.0023323	.0054548	.0050128	.0035339	.0026707	.0019535	.0014400	.0009385	.0004848	.013485
.40000	.0032292	.0074800	.0070830	.0051988	.0039077	.0028550	.0020847	.0013602	.0006989	.018751
.50000	.0048638	.0111521	.0108561	.0083221	.0062868	.0045953	.0033254	.0021678	.0011080	.028371
.60000	.0081110	.0183898	.0183723	.0147724	.0113502	.0083457	.0059987	.0039021	.0019833	.047555
.65000	.0110203	.0248311	.0251176	.0207250	.0161434	.0119508	.0085796	.0055765	.0028266	.064798
.70000	.0156772	.0350860	.0359204	.0304629	.0241537	.0180705	.0129931	.0084480	.0042726	.092472
.75000	.0237114	.0526717	.0545509	.0476356	.0386253	.0293505	.0212264	.0138402	.0069934	.140354
.80000	.0391065	.0861452	.0901962	.0812657	.0677509	.0526324	.0385278	.0253064	.0128117	.232410
.85000	.0736436	.1606792	.1699128	.1583183	.1365696	.1093800	.0817748	.0545091	.0277881	.439698
.90000	.1746443	.3768285	.4018262	.3881294	.3490040	.2912408	.2250731	.1538958	.0796172	1.048462
.91250	.2301072	.4949785	.5287296	.5154983	.4689584	.3961243	.3093538	.2133032	.1109230	1.383540
.92500	.3145084	.6743786	.7214790	.7100888	.6538628	.5594914	.4419427	.3075469	.1608602	1.894022
.93750	.4511897	.9642701	1.0329377	1.0263602	.9570484	.8301687	.6638461	.4666212	.2456249	2.721635
.95000	.6923187	1.4746134	1.5814427	1.5861236	1.4982196	1.3182548	1.0679725	.7587741	.4021760	4.183272
.96250	1.1753385	2.4949523	2.6778598	2.7104127	2.5936428	2.3156356	1.9015453	1.3662100	.7294107	7.114076
.97500	2.3854074	5.0467004	5.4192429	5.5329498	5.3632510	4.8597329	4.0467073	2.9413521	1.5823106	14.463014

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = .014000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0000111	.0000266	.0000219	.0000139	.0000112	.0000081	.0000061	.0000039	.0000021	.000063
.05000	.0000236	.0000567	.0000473	.0000301	.0000241	.0000174	.0000132	.0000084	.0000044	.000135
.97500	.0104108	.0220307	.0236567	.0241394	.0233783	.0211605	.0176009	.0127803	.0068703	.063114
.98750	.0112616	.0237749	.0255278	.0262014	.0256171	.0234500	.0197188	.0144495	.0078145	.068355
1.00000	.0102422	.0216584	.0232207	.0237202	.0230956	.0210736	.0176864	.0129455	.0069979	.062121

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0022812	.0054753	.0045649	.0029108	.0023266	.0016800	.0012704	.0008143	.0004283	.013040
.12500	.0019682	.0046867	.0040394	.0026504	.0020647	.0014997	.0011229	.0007241	.0003781	.011290
.20000	.0021319	.0050389	.0044698	.0030171	.0023069	.0016799	.0012474	.0008078	.0004194	.012269
.30000	.0026929	.0063042	.0057840	.0040583	.0030549	.0022251	.0016356	.0010629	.0005484	.015563
.40000	.0037271	.0086411	.0081713	.0059722	.0044708	.0032527	.0023680	.0015406	.0007905	.021632
.50000	.0056113	.0128768	.0125210	.0095626	.0071951	.0052371	.0037778	.0024556	.0012532	.032717
.60000	.0093523	.0212208	.0211819	.0169768	.0129950	.0095163	.0068172	.0044216	.0022436	.054811
.65000	.0127026	.0286431	.0289515	.0238183	.0184867	.0136316	.0097532	.0063206	.0031983	.074662
.70000	.0180633	.0404547	.0413901	.0350088	.0276655	.0206199	.0147763	.0095793	.0048360	.106508
.75000	.0273074	.0606998	.0628326	.0547390	.0442496	.0335061	.0241527	.0157032	.0079203	.161586
.80000	.0450112	.0992119	.1038360	.0933667	.0776282	.0601138	.0438703	.0287375	.0145226	.267420
.85000	.0847011	.1849031	.1954750	.1818348	.1564937	.1243943	.0931969	.0619725	.0315407	.505582
.90000	.2006770	.4331880	.4618534	.4455512	.3999109	.3329973	.2567845	.1752353	.0905335	1.204480
.91250	.2643335	.5688338	.6075447	.5916629	.5373456	.4529784	.3530423	.2429856	.1261983	1.588997
.92500	.3611808	.7747468	.8287760	.8148495	.7491821	.6398755	.5045061	.3505014	.1831135	2.174671
.93750	.5179805	1.1073939	1.1862370	1.1775339	1.0965043	.9495602	.7580516	.5320388	.2797639	3.123977
.95000	.7945377	1.6928569	1.8154091	1.8193275	1.7164122	1.5080184	1.2198953	.8655539	.4583391	4.800163
.96250	1.3484053	2.8631037	3.0729148	3.1081527	2.9711208	2.6492595	2.1726883	1.5591915	.8317490	8.160480
.97500	2.7356835	5.7891030	6.2163756	6.3432241	6.1432239	5.5604349	4.6250531	3.3583444	1.8053315	16.584806

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = .016000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0000125	.0000302	.0000248	.0000156	.0000125	.0000090	.0000068	.0000043	.0000023	.000072
.05000	.0000267	.0000642	.0000534	.0000339	.0000270	.0000194	.0000146	.0000094	.0000049	.000153
.97500	.0116998	.0247641	.0265915	.0271189	.0262408	.0237260	.0197132	.0142999	.0076817	.070920
.98750	.0126526	.0267171	.0286867	.0294295	.0287514	.0262947	.0220898	.0161729	.0087410	.076791
1.00000	.0115089	.0243423	.0260973	.0266440	.0259213	.0236290	.0198118	.0144884	.0078270	.069795

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0025829	.0062058	.0051616	.0032716	.0026074	.0018744	.0014145	.0009037	.0004750	.014757
.12500	.0022280	.0053105	.0045674	.0029801	.0023138	.0016734	.0012501	.0008037	.0004193	.012773
.20000	.0024127	.0057081	.0050538	.0033937	.0025853	.0018747	.0013886	.0008966	.0004650	.013878
.30000	.0030466	.0071387	.0065391	.0045667	.0034241	.0024836	.0018207	.0011797	.0006079	.017598
.40000	.0042150	.0097809	.0092367	.0067225	.0050123	.0036315	.0026360	.0017101	.0008763	.024453
.50000	.0063430	.0145682	.0141499	.0107667	.0080692	.0058490	.0042059	.0027261	.0013892	.036968
.60000	.0105662	.0239938	.0239288	.0191176	.0145794	.0106336	.0075924	.0049101	.0024875	.061902
.65000	.0143467	.0323741	.0326979	.0268224	.0207450	.0152369	.0108653	.0070209	.0035465	.084294
.70000	.0203933	.0457046	.0467316	.0394235	.0310514	.0230571	.0164679	.0106450	.0053645	.120204
.75000	.0308154	.0685420	.0709135	.0616362	.0496746	.0374830	.0269323	.0174606	.0087907	.182284
.80000	.0507645	.1119596	.1171313	.1051119	.0871591	.0672820	.0489535	.0319810	.0161330	.301511
.85000	.0954591	.2084967	.2203570	.2046451	.1757234	.1339734	.1040875	.0690485	.0350845	.569644
.90000	.2259547	.4879631	.5201724	.5011888	.4490426	.3731054	.2870962	.1955416	.1008883	1.355900
.91250	.2975476	.6405667	.6840725	.6654346	.6033443	.5076050	.3948306	.2712598	.1407062	1.788290
.92500	.4064443	.8721632	.9328935	.9162787	.8411647	.7171333	.5643893	.3914612	.2042765	2.446737
.93750	.5827116	1.2462056	1.3348337	1.3238356	1.2310632	1.0643410	.8482840	.5944855	.3122738	3.513764
.95000	.8935337	1.9043587	2.0421204	2.0449065	1.9269132	1.6905030	1.3655110	.9675942	.5118943	5.397401
.96250	1.5158909	3.2195901	3.4554234	3.4926875	3.3352298	2.9701661	2.4327494	1.7438022	.9294646	9.172837
.97500	3.0744052	6.5073761	6.9875707	7.1261603	6.8954216	6.2345774	5.1801200	3.7576594	2.0185535	18.636079

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = .018000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0000140	.0000337	.0000276	.0000172	.0000138	.0000099	.0000075	.0000047	.0000025	.000080
.05000	.0000298	.0000717	.0000595	.0000375	.0000298	.0000213	.0000161	.0000102	.0000054	.000170
.97500	.0129472	.0274106	.0294328	.0299999	.0290034	.0261959	.0217419	.0157561	.0084580	.078473
.98750	.0139980	.0295639	.0317431	.0325494	.0317757	.0290338	.0243680	.0178256	.0096283	.084948
1.00000	.0127342	.0269401	.0288814	.0294702	.0286478	.0260894	.0218538	.0159678	.0086209	.077218

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0028793	.0069252	.0057463	.0036206	.0028774	.0020594	.0015510	.0009876	.0005188	.016442
.12500	.0024831	.0059245	.0050849	.0032994	.0025533	.0018388	.0013706	.0008784	.0004579	.014229
.20000	.0026883	.0063664	.0056262	.0037587	.0028529	.0020602	.0015222	.0009799	.0005078	.015456
.30000	.0033936	.0079590	.0072790	.0050598	.0037791	.0027297	.0019958	.0012895	.0006637	.019593
.40000	.0046934	.0109003	.0102801	.0074509	.0055334	.0039923	.0028895	.0018693	.0009567	.027216
.50000	.0070598	.0162278	.0157445	.0119363	.0089109	.0064325	.0046111	.0029803	.0015166	.041129
.60000	.0117541	.0267113	.0266159	.0211977	.0161065	.0117004	.0083267	.0053695	.0027158	.068834
.65000	.0159543	.0360279	.0363608	.0297417	.0229226	.0167711	.0119197	.0076799	.0038729	.093705
.70000	.0226698	.0508416	.0519509	.0437133	.0343179	.0253885	.0180733	.0116490	.0058601	.133576
.75000	.0342397	.0762074	.0788034	.0683372	.0549108	.0412912	.0295738	.0191191	.0096084	.202474
.80000	.0563741	.1244041	.1300991	.1165191	.0963616	.0741543	.0537927	.0350488	.0176493	.334729
.85000	.1059326	.2314916	.2445927	.2267847	.1942950	.1543523	.1144777	.0757607	.0384327	.631978
.90000	.2505160	.5412346	.5768701	.5551339	.4964930	.4116560	.3160886	.2148764	.1107160	1.502961
.91250	.3298016	.7102859	.7584300	.7369372	.6670813	.5601265	.4348275	.2982094	.1544934	1.981738
.92500	.4503721	.9667802	1.0339948	1.0145494	.9299878	.7914365	.6217454	.4305438	.2244151	2.710667
.93750	.6454903	1.3809292	1.4790279	1.4655198	1.3609863	1.1747645	.9347691	.6541353	.3432522	3.891653
.95000	.9894758	2.1094710	2.2619548	2.2632611	2.1301340	1.8661086	1.5051767	1.0651707	.5629964	5.976019
.96250	1.6780900	3.5650252	3.8260441	3.8647142	3.6866871	3.2790539	2.6823533	1.9205258	1.0228294	10.152946
.97500	3.4021865	7.2027982	7.7341988	7.8832105	7.6213388	6.8836186	5.7132153	4.1403108	2.2225473	20.620586

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = .020000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0000154	.0000372	.0000304	.0000188	.0000151	.0000107	.0000081	.0000051	.0000027	.000068
.05000	.0000328	.0000790	.0000654	.0000410	.0000325	.0000231	.0000174	.0000110	.0000058	.000187
.97500	.0141551	.0299746	.0321855	.0327875	.0316711	.0285755	.0236916	.0171525	.0092012	.085784
.98750	.0153002	.0323203	.0347024	.0355669	.0346957	.0316732	.0265586	.0194116	.0104786	.092840
1.00000	.0139205	.0294562	.0315777	.0322040	.0312804	.0284599	.0238168	.0173873	.0093815	.084402

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SOP
.05000	.0031708	.0076339	.0063197	.0039584	.0031371	.0022354	.0016803	.0010664	.0005599	.018098
.12500	.0027338	.0065292	.0055922	.0036088	.0027836	.0019962	.0014846	.0009485	.0004941	.015658
.20000	.0029591	.0070142	.0061873	.0041126	.0031104	.0022368	.0016487	.0010582	.0005478	.017004
.30000	.0037342	.0087657	.0080042	.0055384	.0041207	.0029643	.0021615	.0013926	.0007160	.021550
.40000	.0051626	.0120003	.0113026	.0081584	.0060350	.0043364	.0031295	.0020189	.0010319	.029924
.50000	.0077624	.0178571	.0173064	.0130731	.0097219	.0069893	.0049947	.0032192	.0016358	.045204
.60000	.0129170	.0293761	.0292460	.0232201	.0175791	.0127196	.0090226	.0058017	.0029298	.075616
.65000	.0175272	.0396081	.0399443	.0325802	.0250236	.0182381	.0129197	.0083004	.0041788	.102906
.70000	.0248955	.0558707	.0570538	.0478843	.0374712	.0276199	.0195975	.0125954	.0063251	.146640
.75000	.0375845	.0837044	.0865113	.0748516	.0599677	.0449400	.0320853	.0206847	.0103767	.222182
.80000	.0618469	.1365598	.1427548	.1276048	.1052526	.0807468	.0584019	.0379514	.0190775	.367116
.85000	.1161356	.2539171	.2682136	.2482870	.2122426	.1681637	.1243961	.0821311	.0415974	.692668
.90000	.2743970	.5930775	.6320272	.6074718	.5423495	.4487334	.3438364	.2332970	.1200486	1.645682
.91250	.3611442	.7780927	.8307258	.8062855	.7286741	.6106570	.4731340	.3239118	.1676032	2.169637
.92500	.4930319	1.0587393	1.1322320	1.1098224	1.0158165	.8629449	.6767162	.4678585	.2435902	2.966874
.93750	.7064167	1.5117728	1.6190431	1.6028227	1.4865162	1.2810660	1.0177163	.7111497	.3727893	4.258255
.95000	1.0825212	2.3085213	2.4752635	2.4747630	2.3264565	2.0352064	1.6392236	1.1585391	.6117887	6.536979
.96250	1.8352764	3.8999793	4.1853886	4.2248807	4.0261588	3.5765710	2.9220797	2.0898106	1.1120950	11.102482
.97500	3.7195976	7.8765564	8.4575336	8.6157234	8.3223639	7.5089119	6.2255515	4.5072387	2.4178416	22.541814

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = .025000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0000188	.0000456	.0000370	.0000226	.0000180	.0000127	.0000095	.0000060	.0000031	.000107
.05000	.0000402	.0000969	.0000798	.0000493	.0000388	.0000273	.0000204	.0000129	.0000067	.000229
.97500	.0170152	.0360508	.0387083	.0393786	.0379576	.0341597	.0282477	.0204028	.0109263	.103088
.98750	.0183802	.0388456	.0417074	.0426962	.0415746	.0378685	.0316816	.0231083	.0124555	.111502
1.00000	.0167280	.0354160	.0379631	.0386640	.0374818	.0340232	.0284068	.0206949	.0111495	.101396

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0038793	.0093622	.0077064	.0047574	.0037445	.0026397	.0019747	.0012431	.0006519	.022114
.12500	.0033427	.0080022	.0068193	.0043417	.0033223	.0023578	.0017442	.0011058	.0005750	.019123
.20000	.0036162	.0085911	.0075444	.0049522	.0037126	.0026428	.0019366	.0012339	.0006373	.020756
.30000	.0045597	.0107269	.0097576	.0066758	.0049202	.0035037	.0025385	.0016239	.0008327	.026285
.40000	.0062985	.0146709	.0137732	.0098419	.0072102	.0051286	.0036754	.0023546	.0011998	.036469
.50000	.0094606	.0218062	.0210773	.0157808	.0116245	.0082734	.0058678	.0037558	.0019018	.055038
.60000	.0157229	.0358221	.0355880	.0280409	.0210401	.0150759	.0106089	.0067739	.0034074	.091957
.65000	.0213180	.0482580	.0485781	.0393473	.0299659	.0216345	.0152023	.0096980	.0048623	.125053
.70000	.0302523	.0680040	.0693358	.0578280	.0448951	.0327950	.0230832	.0147312	.0073660	.178045
.75000	.0456218	.1017601	.1050387	.0903780	.0718836	.0534193	.0378431	.0242287	.0121014	.269485
.80000	.0749721	.1657729	.1731232	.1540112	.1262178	.0961000	.0690029	.0445490	.0222977	.444709
.85000	.1405438	.3076641	.3247635	.2994524	.2545830	.2004027	.1472981	.0966908	.0487783	.837717
.90000	.3313375	.7168821	.7636598	.7317930	.6505368	.5354824	.4082036	.2756870	.1414024	1.986382
.91250	.4358018	.9398454	1.0030923	.9709154	.8739762	.7289483	.5621037	.3831708	.1976702	2.616873
.92500	.5945392	1.2778514	1.3661994	1.3358473	1.2182678	1.0304369	.8045492	.5540564	.2876740	3.576081
.93750	.8512228	1.8231451	1.9521274	1.9283191	1.7825631	1.5301842	1.2108495	.8431116	.4408621	5.129012
.95000	1.3033975	2.7815750	2.9820771	2.9757510	2.7893557	2.4316851	1.9517244	1.3750652	.7245133	7.867840
.96250	2.2079413	4.6949036	5.0380572	5.0772631	4.8263623	4.2744702	3.4816222	2.4831360	1.3188176	13.352525
.97500	4.4711485	9.4732365	10.1715385	10.3476796	9.9742789	8.9762911	7.4227713	5.3613432	2.8711515	27.088774

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = .030000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0000221	.0000537	.0000434	.0000261	.0000207	.0000144	.0000108	.0000067	.0000035	.000126
.05000	.0000472	.0001142	.0000935	.0000569	.0000445	.0000310	.0000231	.0000144	.0000076	.000269
.97500	.0196688	.0416956	.0447668	.0454811	.0437498	.0392743	.0323953	.0233452	.0124816	.119132
.98750	.0212340	.0448982	.0482042	.0492901	.0479101	.0435452	.0363510	.0264612	.0142422	.128784
1.00000	.0193311	.0409487	.0438893	.0446405	.0431933	.0391195	.0325887	.0236937	.0127467	.117143

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0045610	.0110332	.0090318	.0054968	.0042980	.0029979	.0022326	.0013942	.0007304	.025970
.12500	.0039281	.0094246	.0079920	.0050217	.0038130	.0026786	.0019714	.0012404	.0006440	.022446
.20000	.0042471	.0101121	.0088412	.0057328	.0042613	.0030031	.0021883	.0013842	.0007135	.024350
.30000	.0053512	.0126152	.0114324	.0077359	.0056493	.0039832	.0028679	.0018220	.0009319	.030815
.40000	.0073856	.0172373	.0161314	.0114141	.0082836	.0058339	.0041523	.0026422	.0013424	.042721
.50000	.0110826	.0255927	.0246727	.0183136	.0133658	.0094194	.0066314	.0042159	.0021277	.064414
.60000	.0183962	.0419857	.0416248	.0325548	.0242153	.0171860	.0119998	.0076093	.0038131	.107497
.65000	.0249240	.0565148	.0567870	.0456853	.0345062	.0246831	.0172080	.0109015	.0054439	.146082
.70000	.0353386	.0795627	.0809965	.0671412	.0517245	.0374523	.0261550	.0165764	.0082540	.207812
.75000	.0532362	.1189194	.1225966	.1049154	.0828590	.0610727	.0429370	.0273046	.0135792	.314227
.80000	.0873724	.1934531	.2018340	.1787163	.1455490	.1100031	.0784275	.0503116	.0250760	.517907
.85000	.1635228	.3583966	.3780561	.3472524	.2936523	.2296977	.1677805	.1095154	.0550351	.974090
.90000	.3846949	.8331533	.8871618	.8476531	.7503807	.6145832	.4661690	.3134148	.1602470	2.305093
.91250	.5056636	1.0915241	1.1645907	1.1242144	1.0080602	.8363010	.6423714	.4360613	.2242981	3.034932
.92500	.6893829	1.4829791	1.5850873	1.5461206	1.4050592	1.1834149	.9200924	.6312123	.3268572	4.144728
.93750	.9863041	2.1141283	2.2632376	2.2308181	2.0556478	1.7578931	1.3857385	.9615741	.5015890	5.940544
.95000	1.5090850	3.2228150	3.4546243	3.4408091	3.2162212	2.7943586	2.2352236	1.5700015	.8254397	9.106152
.96250	2.5543537	5.4348960	5.8315954	5.8675305	5.5639964	4.9132931	3.9901355	2.8382341	1.5045570	15.442516
.97500	5.1684554	10.9565204	11.7635681	11.9512791	11.4963329	10.3202879	8.5126505	6.1345139	3.2798321	31.304847

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = .035000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0000253	.0000616	.0000495	.0000294	.0000231	.0000159	.0000118	.0000073	.0000038	.000144
.05000	.0000540	.0001310	.0001066	.0000640	.0000497	.0000343	.0000255	.0000158	.0000083	.000307
.97500	.0221396	.0469579	.0504139	.0511511	.0491053	.0439752	.0361842	.0260180	.0138886	.134062
.98750	.0238876	.0505323	.0542509	.0554102	.0537655	.0487648	.0406218	.0295130	.0158626	.144843
1.00000	.0217532	.0461031	.0494086	.0501890	.0484717	.0438041	.0364123	.0264220	.0141946	.131767

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0052187	.0126523	.0103017	.0061827	.0048037	.0033158	.0024589	.0015233	.0007973	.029681
.12500	.0044921	.0108012	.0091157	.0056542	.0042612	.0029635	.0021705	.0013555	.0007027	.025641
.20000	.0048544	.0115823	.0100836	.0064606	.0047625	.0033235	.0024087	.0015128	.0007783	.027803
.30000	.0061120	.0144376	.0130362	.0087267	.0063159	.0044100	.0031561	.0019915	.0010162	.035161
.40000	.0084288	.0197097	.0183883	.0128866	.0092664	.0064629	.0045697	.0028885	.0014634	.048709
.50000	.0126362	.0292327	.0281100	.0206896	.0149638	.0104442	.0073002	.0046103	.0023192	.073376
.60000	.0209503	.0478950	.0473867	.0367938	.0271370	.0190802	.0132212	.0083274	.0041576	.122318
.65000	.0283640	.0644181	.0646135	.0516389	.0386898	.0274263	.0189734	.0119384	.0059385	.166109
.70000	.0401822	.0906053	.0920988	.0758901	.0580260	.0416547	.0288673	.0181716	.0090114	.236113
.75000	.0604717	.1352747	.1392845	.1185683	.0929994	.0680003	.0474533	.0299770	.0148459	.356677
.80000	.0991243	.2197604	.2290595	.2019018	.1634301	.1226307	.0868273	.0553534	.0274754	.587177
.85000	.1852262	.4064355	.4284363	.3920509	.3298203	.2564016	.1861515	.1208381	.0604965	1.102724
.90000	.4348625	.9427118	1.0034150	.9559840	.8428321	.6869489	.5185357	.3470917	.1769217	2.604419
.91250	.5712594	1.2342337	1.3164083	1.2674372	1.1322076	.9357482	.7150239	.4834124	.2479479	3.427051
.92500	.7783040	1.6756673	1.7905551	1.7423966	1.5779845	1.3236083	1.0248738	.7004944	.3617900	4.677341
.93750	1.1127491	2.3869913	2.5548102	2.5128967	2.3084086	1.9667416	1.5446409	1.0682671	.5559351	6.699502
.95000	1.7012957	3.6358092	3.8967349	3.8739891	3.6112070	3.1272483	2.4932925	1.7460920	.9161012	10.262373
.96250	2.8774937	6.1261647	6.5726661	6.6027347	6.2462990	5.5000771	4.4538729	3.1599220	1.6720105	17.390667
.97500	5.8177193	12.3393413	13.2474792	13.4411929	12.9036031	11.5555622	9.5082794	6.8368618	3.6495563	35.227937

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = .040000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0000284	.0000693	.0000554	.0000324	.0000253	.0000172	.0000128	.0000078	.0000041	.000161
.05000	.0000606	.0001473	.0001193	.0000706	.0000545	.0000373	.0000275	.0000169	.0000088	.000344
.97500	.0244476	.0518797	.0556943	.0564358	.0540726	.0483097	.0396566	.0284538	.0151655	.147999
.98750	.0263630	.0557939	.0598970	.0611086	.0591946	.0535795	.0445408	.0322998	.0173370	.159816
1.00000	.0240143	.0509207	.0545655	.0553566	.0533655	.0481243	.0399196	.0289123	.0155115	.145448

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DCP(7)	DDP(8)	SDP
.05000	.0058546	.0142243	.0115210	.0068205	.0052668	.0035983	.0026577	.0016334	.0008544	.033261
.12500	.0050369	.0121362	.0101948	.0062440	.0046714	.0032170	.0023451	.0014537	.0007527	.028720
.20000	.0054404	.0130065	.0112765	.0071408	.0052214	.0036087	.0026019	.0016226	.0008334	.031127
.30000	.0068450	.0162001	.0145757	.0096550	.0069268	.0047906	.0034086	.0021364	.0010877	.039339
.40000	.0094324	.0220967	.0205532	.0142692	.0101686	.0070248	.0049351	.0030992	.0015659	.054457
.50000	.0141277	.0327399	.0314037	.0229241	.0164339	.0113621	.0078865	.0049481	.0024814	.081966
.60000	.0233967	.0535742	.0528997	.0407851	.0298322	.0207839	.0142950	.0089441	.0044497	.136490
.65000	.0316542	.0720016	.0720941	.0572466	.0425549	.0299000	.0205292	.0128313	.0063585	.185233
.70000	.0448069	.1011816	.1026965	.0841313	.0638564	.0454556	.0312658	.0195508	.0096567	.263093
.75000	.0673660	.1509045	.1551871	.1314259	.1023949	.0742867	.0514649	.0323005	.0159310	.397064
.80000	.1102934	.2448315	.2549470	.2237224	.1800178	.1341311	.0943304	.0597703	.0295482	.652919
.85000	.2057850	.4520543	.4761985	.4341585	.3634018	.2808138	.2026714	.1308547	.0652703	1.224418
.90000	.4821754	1.0462567	1.1131712	1.0575793	.9286992	.7533538	.5659824	.3772323	.1917113	2.886402
.91250	.6330401	1.3689152	1.4595562	1.4016519	1.2475077	1.0265354	.7809800	.5259224	.2690067	3.795982
.92500	.8619328	1.8572307	1.9840153	1.9261682	1.7385683	1.4524833	1.1201851	.7628873	.3930195	5.177769
.93750	1.2314836	2.6436646	2.8289187	2.7767469	2.5430870	2.1588907	1.6894657	1.1646496	.6047124	7.411541
.95000	1.8814850	4.0235913	4.3116666	4.2787368	3.9778412	3.4337635	2.7289516	1.9056517	.9977890	11.345397
.96250	3.1798936	6.7739866	7.2669338	7.2888694	6.8794164	6.0407607	4.8781245	3.4522661	1.8234513	19.212451
.97500	6.4242079	13.6326543	14.6350471	14.8298854	14.2088890	12.6945424	10.4207352	7.4769275	3.9851093	38.890235

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = .050000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0000343	.0000840	.0000664	.0000378	.0000293	.0000195	.0000144	.0000087	.0000046	.000194
.05000	.0000732	.0001785	.0001431	.0000825	.0000630	.0000422	.0000309	.0000187	.0000098	.000415
.97500	.0286415	.0608393	.0653034	.0660063	.0630036	.0560349	.0457903	.0327209	.0173889	.173300
.98750	.0308520	.0653515	.0701497	.0714129	.0689505	.0621664	.0514763	.0371963	.0199139	.186946
1.00000	.0281190	.0596824	.0639391	.0647044	.0621588	.0558259	.0461230	.0332852	.0178117	.170226

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0070683	.0172422	.0138252	.0079690	.0060825	.0040729	.0029862	.0018068	.0009445	.040074
.12500	.0060752	.0146952	.0122340	.0073106	.0053936	.0036435	.0026332	.0016087	.0008313	.034572
.20000	.0065556	.0157320	.0135306	.0083753	.0060292	.0040895	.0029199	.0017961	.0009197	.037436
.30000	.0082371	.0195657	.0174832	.0113467	.0080037	.0054335	.0038235	.0023653	.0011994	.047253
.40000	.0113340	.0266435	.0246381	.0167970	.0117633	.0079770	.0055357	.0034324	.0017257	.065322
.50000	.0169467	.0394013	.0376101	.0270203	.0190419	.0129251	.0088515	.0054835	.0027338	.098157
.60000	.0280049	.0643222	.0632656	.0481154	.0346342	.0237039	.0160708	.0099264	.0049049	.163120
.65000	.0378390	.0863223	.0861390	.0675509	.0494570	.0341574	.0231129	.0142598	.0070151	.221096
.70000	.0534792	.1211019	.1225570	.0992781	.0742920	.0520283	.0352711	.0217716	.0106712	.313571
.75000	.0802564	.1802504	.1849191	.1550521	.1192485	.0852151	.0582129	.0360771	.0176532	.472414
.80000	.1310998	.2917196	.3031970	.2637841	.2098310	.1542377	.1070655	.0670407	.0328849	.775141
.85000	.2439029	.5369401	.5648467	.5113301	.4238466	.3237489	.2310103	.1476077	.0731053	1.449638
.90000	.5693461	1.2376223	1.3156834	1.2431916	1.0833521	.8708309	.6483404	.4285846	.2165624	3.405116
.91250	.7466490	1.6173095	1.7231927	1.6465934	1.4551653	1.1873728	.8958151	.5987001	.3046124	4.473392
.92500	1.0153988	2.1913351	2.3395910	2.2611384	2.0277469	1.6811071	1.2866352	.8702227	.4461507	6.094802
.93750	1.4488824	3.1148279	3.3316053	3.2570136	2.9655992	2.5002068	1.9431471	1.3312541	.6882093	8.713554
.95000	2.2106099	4.7335504	5.0707684	5.0143262	4.6377028	3.9788985	3.1429573	2.1827552	1.1384604	13.321234
.96250	3.7308385	7.9567283	8.5337847	8.5337357	8.0183792	7.0034471	5.6255451	3.9622421	2.0857252	22.528028
.97500	7.5262513	15.9870144	17.1600527	17.3447705	16.5557343	14.7245466	12.0325209	8.5982063	4.5693586	45.538739

AD-A048 528   AIR FORCE FLIGHT DYNAMICS LAB WRIGHT-PATTERSON AFB OHIO   F/G 20/4
CAMBERED JET-FLAPPED AIRFOIL THEORY WITH TABLES AND COMPUTER PR--ETC(U)
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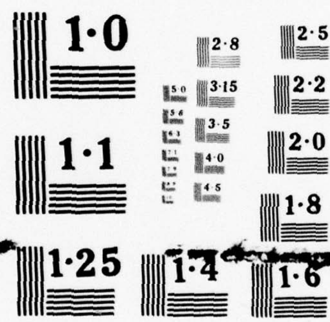

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TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = .060000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0000399	.0000981	.0000768	.0000425	.0000326	.0000213	.0000156	.0000093	.0000049	.000226
.05000	.0000850	.0002082	.0001654	.0000929	.0000701	.0000460	.0000335	.0000200	.0000104	.000481
.97500	.0323612	.0688054	.0738418	.0744550	.0708117	.0627102	.0510272	.0363235	.0192506	.195713
.98750	.0348232	.0738249	.0792350	.0804919	.0774741	.0695930	.0574131	.0413477	.0220831	.210919
1.00000	.0317553	.0674629	.0722561	.0729443	.0698404	.0624832	.0514291	.0369894	.0197463	.192149

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DCP(7)	DDP(8)	SDP
.05000	.0082146	.0201133	.0159727	.0089718	.0067742	.0044482	.0032405	.0019307	.0010093	.046485
.12500	.0070541	.0171249	.0141349	.0082477	.0060053	.0039817	.0028552	.0017196	.0008875	.040068
.20000	.0076050	.0183147	.0156315	.0094656	.0067137	.0044717	.0031644	.0019205	.0009811	.043351
.30000	.0095436	.0227461	.0201916	.0128493	.0089180	.0059464	.0041417	.0025299	.0012784	.054655
.40000	.0131138	.0309269	.0284391	.0190528	.0131222	.0087406	.0059960	.0036724	.0018381	.075456
.50000	.0195762	.0456541	.0433752	.0306894	.0212758	.0141874	.0095927	.0058705	.0029111	.113213
.60000	.0322853	.0743656	.0728690	.0546989	.0387733	.0260863	.0174450	.0106422	.0052252	.187780
.65000	.0435691	.0996670	.0991271	.0768131	.0554261	.0376530	.0251254	.0153088	.0074795	.254224
.70000	.0614892	.1396039	.1408808	.1128986	.0833474	.0574635	.0384186	.0234207	.0113958	.360060
.75000	.0921181	.2073990	.2122693	.1762939	.1339201	.0943235	.0635760	.0389252	.0189031	.541561
.80000	.1501570	.3348826	.3474090	.2997681	.2358585	.1711374	.1173275	.0726367	.0353651	.886799
.85000	.2786072	.6145820	.6456463	.5804995	.4767332	.3601491	.2542123	.1608282	.0791152	1.654203
.90000	.6480698	1.4111417	1.4988858	1.4089056	1.2188174	.9712719	.7169413	.4702518	.2363287	3.872600
.91250	.8489954	1.8419390	1.9611282	1.8649768	1.6370644	1.3251624	.9918862	.6581712	.3331962	5.082452
.92500	1.1532797	2.4925965	2.6596684	2.5593225	2.2810308	1.8773499	1.4264916	.9585499	.4891954	6.917186
.93750	1.6436340	3.5383311	3.7828125	3.6837806	3.3355806	2.7937248	2.1572072	1.4692990	.7564605	9.877926
.95000	2.5045221	5.3695101	5.7500000	5.6666740	5.2153045	4.4485119	3.4937475	2.4138845	1.2544338	15.082897
.96250	4.2212021	9.0123403	9.6635315	9.6353129	9.0148280	7.8340940	6.2613290	4.3902799	2.3036919	25.474847
.97500	8.5037045	18.0802958	19.4037427	19.5648655	18.6075048	16.4786360	13.4086325	9.5448729	5.0585530	51.428272

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = .070000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0000452	.0001115	.0000864	.0000467	.0000355	.0000227	.0000166	.0000097	.0000051	.000255
.05000	.0000963	.0002366	.0001862	.0001020	.0000762	.0000491	.0000356	.0000209	.0000109	.000544
.97500	.0356906	.0759526	.0814974	.0819802	.0776998	.0685311	.0555400	.0393936	.0208240	.215749
.98750	.0383687	.0814063	.0873593	.0885635	.0849889	.0760755	.0625427	.0449005	.0239263	.232299
1.00000	.0350062	.0744354	.0797026	.0802732	.0766116	.0682906	.0560102	.0401569	.0213888	.211725

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0093032	.0228580	.0179856	.0098517	.0073639	.0047443	.0034369	.0020168	.0010551	.052551
.12500	.0079821	.0194433	.0159170	.0090756	.0065261	.0042494	.0030260	.0017971	.0009269	.045261
.20000	.0085982	.0207746	.0176010	.0104342	.0072965	.0047751	.0033516	.0020077	.0010239	.048931
.30000	.0107776	.0257676	.0227293	.0141924	.0096982	.0063555	.0043846	.0026456	.0013329	.061622
.40000	.0147898	.0349848	.0319972	.0210790	.0142867	.0093530	.0063468	.0038415	.0019152	.084969
.50000	.0220445	.0515577	.0487633	.0339981	.0232011	.0152084	.0101592	.0061445	.0030320	.127303
.60000	.0362876	.0838087	.0818227	.0606529	.0423651	.0280363	.0185051	.0111547	.0054443	.210772
.65000	.0489140	.1121819	.1112162	.0851980	.0606249	.0405351	.0266902	.0160675	.0077995	.285039
.70000	.0689394	.1569028	.1579001	.1252356	.0912628	.0619814	.0408921	.0246311	.0119017	.403185
.75000	.1031125	.2326890	.2376032	.1955341	.1467896	.1019621	.0678475	.0410580	.0197954	.605488
.80000	.1677444	.3749060	.3882146	.3323366	.2587610	.1854424	.1256330	.0769359	.0371924	.989595
.85000	.3104546	.6861460	.7198544	.6429872	.5233867	.3912526	.2733310	.1712924	.0837207	1.841505
.90000	.7197622	1.5697756	1.6659664	1.5580792	1.3384865	1.0578799	.7745441	.5042909	.2521344	4.297489
.91250	.9419820	2.0467809	2.1776439	2.0613138	1.7977707	1.4442299	1.0729332	.7071339	.3562911	5.634767
.92500	1.2782306	2.7665621	2.9502163	2.8270148	2.5048026	2.0472784	1.5450202	1.0318238	.5243263	7.661118
.93750	1.8196304	3.9223017	4.1912822	4.0662726	3.6624049	3.0483850	2.3394386	1.5846606	.8127040	10.928410
.95000	2.7693283	5.9442166	6.3630652	6.2502509	5.7253823	4.8567082	3.7936701	2.6083910	1.3508787	16.667668
.96250	4.6615886	9.9629449	10.6799472	10.6187210	9.8943988	8.5573291	6.8071334	4.7528535	2.4864883	28.117663
.97500	9.3785807	19.9583989	21.4154195	21.5422993	20.4175154	18.0082165	14.5944821	10.3516271	5.4720029	56.693293

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = .080000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0000503	.0001244	.0000955	.0000503	.0000379	.0000238	.0000173	.0000099	.0000052	.000283
.05000	.0001071	.0002639	.0002058	.0001100	.0000815	.0000515	.0000371	.0000215	.0000113	.000604
.97500	.0386942	.0824157	.0884147	.0887349	.0838240	.0736476	.0594606	.0420316	.0221648	.233803
.98750	.0415593	.0882436	.0946815	.0957958	.0916666	.0817794	.0670113	.0479665	.0255058	.251518
1.00000	.0379358	.0807338	.0864222	.0868426	.0826274	.0733973	.0599979	.0428881	.0227952	.229345

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SOP
.05000	.0103416	.0254923	.0198812	.0106266	.0078689	.0049763	.0035879	.0020739	.0010867	.058320
.12500	.0088659	.0216647	.0175957	.0098100	.0069713	.0044602	.0031563	.0018489	.0009537	.050192
.20000	.0095426	.0231276	.0194562	.0112986	.0077948	.0050148	.0034939	.0020662	.0010525	.054221
.30000	.0119481	.0286508	.0251187	.0153989	.0103667	.0066804	.0045681	.0027237	.0013689	.068212
.40000	.0163761	.0388467	.0353444	.0229088	.0152889	.0098430	.0066115	.0039562	.0019656	.093947
.50000	.0243738	.0571590	.0538249	.0369987	.0248686	.0160337	.0105880	.0063316	.0031104	.140562
.60000	.0400507	.0927333	.0902152	.0660695	.0454993	.0296345	.0193168	.0115106	.0055870	.232332
.65000	.0539280	.1239815	.1225301	.0928343	.0651794	.0423174	.0279003	.0166021	.0080100	.313872
.70000	.0759098	.1731671	.1737972	.1364789	.0982247	.0657509	.0428302	.0255018	.0122416	.443431
.75000	.1133656	.2563853	.2612072	.2130713	.1581516	.1083991	.0712492	.0426347	.0204145	.664960
.80000	.1840793	.4122465	.4261071	.3620059	.2790502	.1976222	.1323727	.0802203	.0385174	1.084850
.85000	.3398779	.7525398	.7884508	.6998208	.5648319	.4180087	.2891653	.1795828	.0872350	2.014180
.90000	.7855212	1.7158217	1.8194017	1.6933166	1.4449785	1.1331109	.8232460	.5322518	.2648206	4.686473
.91250	1.0270828	2.2349188	2.3760617	2.2391009	1.9408085	1.5478919	1.1418002	.7476985	.3750461	6.139325
.92500	1.3923062	3.0175285	3.2158615	3.0690890	2.7039863	2.1955441	1.6462283	1.0930313	.5531752	8.339131
.93750	1.9798808	4.2730288	4.5637833	4.4116257	3.9532996	3.2710428	2.4957761	1.6817836	.8593765	11.883364
.95000	3.0097456	6.4675223	6.9205628	6.7762390	6.1792907	5.2143028	4.0521359	2.7733583	1.4316931	18.104332
.96250	5.0601807	10.8256230	11.6013972	11.5033517	10.6768324	9.1920362	7.2794763	5.0624607	2.6410181	30.506427
.97500	10.1678487	21.6567239	23.2331245	23.3172700	22.0267926	19.3527036	15.6247316	11.0448339	5.8243293	61.437426

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = .090000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0000551	.0001368	.0001041	.0000535	.0000400	.0000247	.0000179	.0000101	.0000053	.000310
.05000	.0001174	.0002902	.0002244	.0001171	.0000860	.0000534	.0000383	.0000218	.0000115	.000661
.97500	.0414227	.0883003	.0947076	.0948392	.0893064	.0781767	.0628915	.0443150	.0233157	.250184
.98750	.0444508	.0944528	.1013262	.1023207	.0976418	.0868339	.0709324	.0506322	.0268693	.268917
1.00000	.0405942	.0864625	.0925272	.0927714	.0880091	.0779197	.0634943	.0452605	.0240083	.245316

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0113360	.0280292	.0216736	.0113106	.0083026	.0051560	.0037028	.0021087	.0011075	.063828
.12500	.0097110	.0238004	.0191833	.0104637	.0073530	.0046244	.0032547	.0018809	.0009708	.054893
.20000	.0104443	.0253862	.0212107	.0120730	.0082219	.0052026	.0036004	.0021028	.0010705	.059256
.30000	.0130633	.0314123	.0273777	.0164873	.0109412	.0069365	.0047047	.0027728	.0013910	.074473
.40000	.0178838	.0425365	.0385066	.0245688	.0161544	.0102327	.0068078	.0040288	.0019957	.102458
.50000	.0265818	.0624951	.0586005	.0397331	.0263185	.0166984	.0109074	.0064515	.0031567	.153099
.60000	.0436056	.1012049	.0981174	.0710221	.0482468	.0309437	.0199303	.0117449	.0056715	.252649
.65000	.0586546	.1351573	.1331680	.0998247	.0691890	.0448884	.0288269	.0169625	.0081372	.340986
.70000	.0824642	.1885311	.1887175	.1467796	.1043799	.0689033	.0443391	.0261076	.0124544	.481185
.75000	.1229774	.2786985	.2833093	.2291429	.1682383	.1138434	.0739512	.0437753	.0208237	.720586
.80000	.1993344	.4472670	.4614791	.3891853	.2971291	.2080423	.1378471	.0827042	.0394532	1.173615
.85000	.3672198	.8144827	.8522123	.7518133	.6018754	.4411570	.3023305	.1861428	.0898941	2.174313
.90000	.8462127	1.8510948	1.9611491	1.8166736	1.5403511	1.1988795	.8646664	.5553197	.2750262	5.044827
.91250	1.1054596	2.4087857	2.5590049	2.4010953	2.0689449	1.6387341	1.2006851	.7814820	.3903359	6.603204
.92500	1.4971247	3.2488824	3.4602538	3.2893847	2.8824459	2.3257740	1.7332153	1.1444643	.5769864	8.961087
.93750	2.1267529	4.5954640	4.9056491	4.7254558	4.2139329	3.4670432	2.6308132	1.7640835	.8983401	12.757225
.95000	3.2294811	6.9471755	7.4308332	7.2534297	6.5859288	5.5297283	4.2764352	2.9142386	1.4998622	19.415501
.96250	5.4234021	11.6137916	12.4423155	12.3044332	11.3775901	9.7529386	7.6911639	5.3287364	2.7725807	32.680338
.97500	10.8848148	23.2030447	24.8867182	24.9213100	23.4674465	20.5428275	16.5262755	11.6448514	6.1267809	65.741901

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = .100000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0000596	.0001488	.0001123	.0000563	.0000418	.0000253	.0000183	.0000102	.0000054	.000336
.05000	.0001272	.0003155	.0002420	.0001234	.0000898	.0000548	.0000392	.0000220	.0000116	.000715
.97500	.0439163	.0936906	.1004664	.1003885	.0942443	.0822108	.0659131	.0463045	.0243103	.265138
.98750	.0470874	.1001263	.1073926	.1082428	.1030210	.0913410	.0743956	.0529650	.0280544	.284765
1.00000	.0430215	.0917050	.0981075	.0981544	.0928529	.0813499	.0665798	.0473350	.0250618	.259881

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0122914	.0304790	.0233740	.0119153	.0086760	.0052929	.0037889	.0021261	.0011200	.069105
.12500	.0105217	.0258599	.0206900	.0110469	.0076808	.0047503	.0033275	.0018975	.0009807	.059390
.20000	.0113080	.0275609	.0228759	.0127688	.0085885	.0053475	.0036785	.0021222	.0010805	.064068
.30000	.0141296	.0340657	.0295211	.0174725	.0114356	.0071361	.0048037	.0027994	.0014025	.080444
.40000	.0193221	.0460735	.0415048	.0260805	.0169034	.0105399	.0069495	.0040688	.0020105	.110557
.50000	.0286827	.0675965	.0631230	.0422350	.0275829	.0172304	.0111391	.0065193	.0031784	.164998
.60000	.0469772	.1092765	.1055870	.0755698	.0506642	.0320133	.0203848	.0118847	.0057117	.271874
.65000	.0631287	.1457834	.1432103	.1062522	.0727335	.0465178	.0295253	.0171869	.0082007	.366593
.70000	.0886540	.2031035	.2027789	.1562595	.1098462	.0715422	.0455015	.0265055	.0125699	.516760
.75000	.1320288	.2997991	.3040941	.2439405	.1772356	.1184599	.0760858	.0445721	.0210709	.772855
.80000	.2136487	.4802604	.4946476	.4142047	.3133200	.2169918	.1422903	.0845518	.0400859	1.256733
.85000	.3927555	.8725536	.9117651	.7996184	.6351613	.4612826	.3133073	.1913143	.0918786	2.323578
.90000	.9025305	1.9770502	2.0927799	1.9297973	1.6262450	1.2567003	.9000735	.5744140	.2832430	5.376775
.91250	1.1780422	2.5703309	2.7285770	2.5495045	2.1843854	1.7188020	1.2513108	.8097399	.4028348	7.032067
.92500	1.5939800	3.4633342	3.6863160	3.4909728	3.0432594	2.4408371	1.8084126	1.1879053	.5967217	9.534870
.93750	2.2621373	4.8935655	5.2211459	5.0122503	4.4488168	3.6406148	2.7481564	1.8342214	.9310374	13.561517
.95000	3.4314922	7.3893625	7.9005402	7.6888395	6.9523760	5.8096561	4.4722966	3.0352870	1.5577042	20.619210
.96250	5.7563718	12.3381503	13.2142193	13.0341060	12.0089629	10.2516850	8.0522683	5.5592135	2.8853008	34.670623
.97500	11.5400710	24.6194819	26.3999953	26.3795280	24.7649844	21.6029011	17.3202845	12.1676238	6.3881340	69.671357

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = .200000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0000992	.0002523	.0001769	.0000708	.0000505	.0000258	.0000189	.0000090	.0000052	.000551
.05000	.0002106	.0005341	.0003814	.0001565	.0001082	.0000560	.0000403	.0000196	.0000110	.001171
.97500	.0609378	.1308707	.1399555	.1372259	.1256380	.1066114	.0833057	.0572230	.0295714	.366678
.98750	.0649046	.1388363	.1485701	.1472945	.1371818	.1187668	.0946063	.0660492	.0345000	.391349
1.00000	.0595257	.1277321	.1361808	.1336887	.1235642	.1063908	.0845190	.0589255	.0307722	.358394

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0203455	.0515861	.0368380	.0151149	.0104523	.0054131	.0038973	.0018887	.0010631	.113091
.12500	.0173146	.0434912	.0326445	.0143403	.0092036	.0048972	.0033878	.0016998	.0009192	.096655
.20000	.0185015	.0460598	.0360992	.0168928	.0102813	.0055495	.0037146	.0019121	.0010020	.103698
.30000	.0229340	.0564357	.0465335	.0236043	.0137547	.0074738	.0048115	.0025355	.0012853	.129223
.40000	.0310883	.0756019	.0652476	.0358447	.0205526	.0111755	.0069316	.0037002	.0018245	.176119
.50000	.0456817	.1096977	.0987798	.0588697	.0340754	.0186058	.0111355	.0059625	.0028633	.260305
.60000	.0738888	.1749506	.1640503	.1064828	.0638347	.0354985	.0206565	.0110132	.0051418	.423815
.65000	.0985437	.2314940	.2214045	.1503161	.0926292	.0524570	.0303145	.0161294	.0074227	.567338
.70000	.1371704	.3194499	.3115460	.2216808	.1414296	.0822372	.0475925	.0253593	.0115229	.792984
.75000	.2021364	.4661936	.4634902	.3465087	.2306522	.1390933	.0815647	.0438596	.0197774	1.174012
.80000	.3228815	.7364323	.7461054	.5878891	.4118342	.2606743	.1573016	.0864644	.0390840	1.885434
.85000	.5838604	1.3143528	1.3561057	1.1306545	.8419587	.5673983	.3591260	.2054356	.0945399	3.431335
.90000	1.3127950	2.9085402	3.0522379	2.7063680	2.1682597	1.5821718	1.0735859	.6526586	.3114496	7.776521
.91250	1.7023412	3.7543857	3.9552512	3.5646792	2.9148883	2.1760261	1.5077789	.9336476	.4508155	10.107120
.92500	2.2871094	5.0196638	5.3077881	4.8640230	4.0631844	3.1068436	2.2012167	1.3899108	.6796748	13.612019
.93750	3.2210433	7.0332733	7.4625900	6.9557452	5.9410004	4.6580345	3.3786088	2.1774383	1.0791172	19.219911
.95000	4.8461259	10.5248315	11.2020621	10.6218853	9.2827057	7.4696887	5.5518945	3.6543931	1.8363402	28.995399
.96250	8.0595032	17.4066263	18.5761500	17.9158083	16.0251776	13.2405001	10.0888072	6.7835037	3.4566733	48.357396
.97500	16.0128915	34.3894775	36.7767075	36.0594450	33.0144609	28.0147467	21.8906157	15.0367356	7.7706081	96.353656

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = .300000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0001305	.0003371	.0002223	.0000718	.0000517	.0000225	.0000177	.0000071	.0000047	.000718
.05000	.0002766	.0007122	.0004796	.0001605	.0001103	.0000491	.0000376	.0000156	.0000099	.001525
.97500	.0707738	.1527598	.1628549	.1572475	.1413626	.1177422	.0905378	.0613533	.0314106	.424810
.98750	.0750310	.1612259	.1720625	.1683073	.1542966	.1314634	.1032793	.0712558	.0369101	.451400
1.00000	.0690117	.1488425	.1580938	.1528188	.1388828	.1176187	.0921563	.0635014	.0328935	.414479

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0267183	.0687982	.0463288	.0155037	.0106582	.0047431	.0036358	.0015051	.0009587	.147351
.12500	.0226413	.0577336	.0411176	.0151184	.0093060	.0043378	.0031219	.0013744	.0008168	.125425
.20000	.0240917	.0608659	.0455011	.0181991	.0103616	.0049555	.0033882	.0015617	.0008794	.134027
.30000	.0296916	.0741125	.0586454	.0260235	.0139011	.0067415	.0043410	.0020897	.0011123	.166099
.40000	.0399960	.0986087	.0821227	.0402571	.0209787	.0102101	.0062080	.0030668	.0015600	.225021
.50000	.0583474	.1419681	.1239984	.0671180	.0353302	.0173210	.0099624	.0049772	.0024242	.330288
.60000	.0935497	.2242844	.2050250	.1228573	.0674958	.0339531	.0186724	.0093111	.0043344	.533245
.65000	.1241084	.2950931	.2758411	.1742541	.0989906	.0510238	.0277207	.0138018	.0062764	.710218
.70000	.1717018	.4045434	.3866078	.2579611	.1527869	.0815053	.0442554	.0220995	.0098399	.986870
.75000	.2511905	.5857827	.5722315	.4042960	.2518412	.1406804	.0775463	.0392319	.0172282	1.450887
.80000	.3976910	.9165487	.9149997	.6867702	.4542102	.2692934	.1530625	.0800537	.0351677	2.310282
.85000	.7110987	1.6161122	1.6480714	1.3197986	.9369029	.5987575	.3617589	.1982465	.0889191	4.159374
.90000	1.5753043	3.5191768	3.6622558	3.1472575	2.4296720	1.7038910	1.1167919	.6585904	.3082867	9.293276
.91250	2.0335810	4.5204086	4.7266957	4.1388358	3.2706166	2.3546658	1.5809600	.9526238	.4520265	12.026680
.92500	2.7188403	6.0117241	6.3149557	5.6367239	4.5640606	3.3774356	2.3261110	1.4336290	.6901764	16.122079
.93750	3.8068896	8.3746270	8.8353166	8.0425803	6.6790688	5.0860748	3.5974691	2.2696678	1.1093043	22.649864
.95000	5.6980336	12.4538092	13.1917121	12.2493086	10.4420227	8.1839878	5.9547052	3.8476606	1.9099134	33.985696
.96250	9.4194194	20.4602521	21.7493842	20.5390545	18.0317150	14.5727043	10.8950234	7.2097343	3.6346005	56.357664
.97500	18.5975458	40.1413594	42.7940954	41.3206104	37.1464618	30.9396212	23.7910118	16.1220822	8.2539104	111.629118

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = .400000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0001569	.0004102	.0002565	.0000666	.0000507	.0000187	.0000166	.0000055	.0000043	.000659
.05000	.0003323	.0008658	.0005538	.0001508	.0001076	.0000411	.0000351	.0000121	.0000092	.001822
.97500	.0774445	.1678334	.1783471	.1699937	.1506989	.1238653	.0942406	.0633064	.0322182	.463937
.98750	.0818165	.1764499	.1877758	.1816033	.1644897	.1385642	.1078650	.0738501	.0380481	.491350
1.00000	.0754277	.1633522	.1728473	.1649064	.1479567	.1238485	.0961660	.0657660	.0338902	.452115

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0320980	.0836305	.0534986	.0145700	.0103953	.0039723	.0033915	.0011697	.0008856	.175961
.12500	.0271080	.0699259	.0475657	.0147011	.0089713	.0036880	.0028738	.0010928	.0007429	.149293
.20000	.0287486	.0734562	.0526905	.0181551	.0099304	.0042570	.0030838	.0012614	.0007893	.159024
.30000	.0352699	.0890056	.0679403	.0266474	.0133293	.0058580	.0039010	.0017120	.0009832	.196221
.40000	.0472767	.1177979	.0950853	.0420634	.0202934	.0089919	.0055254	.0025382	.0013609	.264579
.50000	.0685823	.1685736	.1433385	.0712637	.0346995	.0155511	.0088323	.0041514	.0020913	.386265
.60000	.1092187	.2643897	.2363030	.1321109	.0675839	.0313262	.0166730	.0078706	.0037153	.619583
.65000	.1443132	.3463588	.3172379	.1883469	.1001595	.0478635	.0249961	.0118053	.0053880	.822020
.70000	.1987292	.4724611	.4433974	.2800294	.1562283	.0778555	.0404974	.0192348	.0085125	1.137128
.75000	.2891391	.6801100	.6539340	.4403650	.2601827	.1369743	.0723624	.0349806	.0151557	1.662991
.80000	.4547304	1.0565403	1.0406952	.7497056	.4738452	.2673418	.1468006	.0735968	.0317936	2.631097
.85000	.8062869	1.8461625	1.8624262	1.4417648	.9859821	.6057970	.3546494	.1887275	.0833407	4.698885
.90000	1.7664985	3.9721411	4.1009331	3.4329348	2.5753447	1.7546215	1.1237476	.6496197	.3005579	10.387892
.91250	2.2727610	5.0836242	5.2776036	4.5107966	3.4717515	2.4347180	1.6008229	.9476497	.4449335	13.400264
.92500	3.0275708	6.7338717	7.0284748	6.1366894	4.8509678	3.5060005	2.3697510	1.4378743	.6856660	17.901145
.93750	4.2246659	9.3399909	9.7988920	8.7442453	7.1067109	5.2994304	3.6865664	2.2942946	1.1118489	25.054877
.95000	6.2931201	13.8241873	14.5735274	13.2964771	11.1204044	8.5634931	6.1363991	3.9182831	1.9303117	37.442451
.96250	10.3561782	22.5980097	23.9264200	22.3176843	19.2155021	15.2862913	11.2861019	7.3924663	3.7017523	61.824478
.97500	20.3504186	44.1023068	46.8650561	44.6699983	39.5998017	32.5486358	24.7640064	16.6353023	8.4661158	121.910734

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = .500000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0001800	.0004753	.0002831	.0000579	.0000492	.0000152	.0000158	.0000041	.0000042	.000981
.05000	.0003809	.0010020	.0006119	.0001338	.0001038	.0000337	.0000333	.0000092	.0000087	.002078
.97500	.0823777	.1791267	.1897353	.1788394	.1567995	.1276229	.0963908	.0643654	.0326251	.492690
.98750	.0867890	.1877477	.1992295	.1907967	.1711826	.1429981	.1106138	.0753331	.0386681	.520447
1.00000	.0801671	.1742191	.1836559	.1732411	.1538791	.1277085	.0985550	.0670528	.0344311	.479732

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0367954	.0967900	.0591060	.0129273	.0100254	.0032556	.0032144	.0008901	.0008412	.200736
.12500	.0309874	.0806854	.0526546	.0136328	.0085251	.0030879	.0026873	.0008613	.0006948	.169852
.20000	.0327718	.0845080	.0584000	.0173665	.0093550	.0036131	.0028504	.0010176	.0007282	.180444
.30000	.0400544	.1019835	.0753609	.0262670	.0125296	.0050394	.0035574	.0014096	.0008930	.221849
.40000	.0534727	.1343875	.1054613	.0423947	.0192164	.0078467	.0049837	.0021191	.0012191	.297973
.50000	.0772150	.1913665	.1588245	.0730658	.0333382	.0138404	.0079187	.0035048	.0018514	.433105
.60000	.1222938	.2983804	.2612944	.1372702	.0661657	.0285496	.0150128	.0067445	.0032642	.691064
.65000	.1610657	.3895287	.3502413	.1967686	.0990543	.0444872	.0226899	.0102381	.0047361	.913998
.70000	.2209730	.5292274	.4885276	.2939068	.1560782	.0736263	.0372300	.0169656	.0075285	1.259837
.75000	.3200975	.7582520	.7185702	.4639326	.2625049	.1313625	.0676620	.0315547	.0135955	1.834702
.80000	.5007608	1.1712472	1.1395040	.7920289	.4825180	.2613493	.1400589	.0682197	.0291869	2.888029
.85000	.8820289	2.0319976	2.0293795	1.5255080	1.0124178	.6036425	.3457659	.1801773	.0788009	5.124963
.90000	1.9156572	4.3307862	4.4377567	3.6317120	2.6628558	1.7753426	1.1191056	.6381465	.2930828	11.235596
.91250	2.4581709	5.5266783	5.6985506	4.7699336	3.5949548	2.4721207	1.6022365	.9370967	.4370354	14.457332
.92500	3.2651831	7.2977930	7.5706298	6.4853751	5.0297392	3.5718013	2.3833709	1.4308895	.6781987	19.260587
.93750	4.5420642	10.0875449	10.5263033	9.2337356	7.3771834	5.4160427	3.7249976	2.2968752	1.1070059	26.877913
.95000	6.7431905	14.8752139	15.6087868	14.0265368	11.5550348	8.7779307	6.2276252	3.9447478	1.9337517	40.038875
.96250	11.0572269	24.2196964	25.5431609	23.5138781	19.9822251	15.7116299	11.5005223	7.4807864	3.7292591	65.888555
.97500	21.6467453	47.0698957	49.8575726	46.9944240	41.2028952	33.5360203	25.3290338	16.9135720	8.5730407	129.466296

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = .600000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0002007	.0005342	.0003043	.0000474	.0000479	.0000121	.0000153	.0000029	.0000041	.081089
.05000	.0004243	.0011251	.0006582	.0001127	.0001003	.0000271	.0000321	.0000068	.0000085	.002305
.97500	.0862300	.1880459	.1985540	.1853232	.1610437	.1301049	.0977527	.0649961	.0328497	.515020
.98750	.0906441	.1966044	.2080417	.1975215	.1758668	.1459793	.1124085	.0762639	.0390401	.542886
1.00000	.0838672	.1828060	.1920047	.1793144	.1579986	.1302848	.1001072	.0678563	.0347547	.501167

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0409851	.1086811	.0635790	.0108854	.0096880	.0026221	.0030974	.0006537	.0008171	.222684
.12500	.0344320	.0903644	.0567591	.0121894	.0080945	.0025643	.0025558	.0006682	.0006650	.187984
.20000	.0363284	.0944059	.0630403	.0161403	.0087810	.0030557	.0026801	.0008167	.0006877	.199252
.30000	.0442584	.1135361	.0814328	.0252840	.0117001	.0043325	.0033000	.0011646	.0008301	.244217
.40000	.0588814	.1490589	.1139852	.0418255	.0180435	.0068510	.0045703	.0017839	.0011176	.326933
.50000	.0846957	.2113789	.1715685	.0734167	.0317305	.0123296	.0072085	.0029940	.0016764	.473430
.60000	.1335253	.3279572	.2818507	.1398661	.0641246	.0262187	.0136938	.0058609	.0029313	.752071
.65000	.1753817	.4268972	.3773554	.2016245	.0969342	.0413520	.0208320	.0090088	.0042519	.992094
.70000	.2398687	.5780713	.5255309	.3026180	.1542194	.0695648	.0345517	.0151797	.0067922	1.363412
.75000	.3462117	.8250138	.7714070	.4796014	.2618049	.1266556	.0637159	.0288358	.0124159	1.978626
.80000	.5392556	1.2684031	1.2199172	.8213319	.4854333	.2556490	.1341753	.0638803	.0271845	3.101546
.85000	.9446728	2.1876506	2.1643546	1.5851842	1.0265141	.5979439	.3373018	.1730212	.0752116	5.475164
.90000	2.0371316	4.6265339	4.7072446	3.7760832	2.7177547	1.7820763	1.1108905	.6272572	.2866921	11.921730
.91250	2.6084200	5.8901957	6.0341437	4.9588361	3.6742105	2.4889747	1.5969554	.9259794	.4299342	15.308721
.92500	3.4566583	7.7578485	8.0010695	6.7402505	5.1472215	3.6064694	2.3848139	1.4210040	.6707750	20.349456
.93750	4.7962059	10.6934480	11.1010417	9.5922589	7.5581878	5.4834269	3.7411500	2.2917549	1.1004291	28.328929
.95000	7.1009388	15.7207169	16.4221282	14.5619228	11.8504160	8.9096001	6.2765805	3.9531832	1.9312801	42.090634
.96250	11.6098540	25.5130994	26.8049211	24.3913776	20.5100508	15.9840768	11.6284658	7.5267095	3.7403831	69.073983
.97500	22.6590387	49.4136465	52.1749153	48.6981924	42.3181473	34.1882440	25.6869153	17.0793182	8.6320465	135.334074

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = .700000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0002194	.0005881	.0003212	.0000358	.0000470	.0000093	.0000150	.0000019	.0000040	.001186
.05000	.0004636	.0012378	.0006956	.0000892	.0000977	.0000214	.0000313	.0000046	.0000084	.002510
.97500	.0893530	.1953495	.2056322	.1902594	.1641319	.1318356	.0986728	.0653985	.0329815	.533035
.98750	.0937510	.2038134	.2150781	.2026365	.1792983	.1480947	.1136559	.0768894	.0392795	.560884
1.00000	.0868676	.1898448	.1986920	.1839118	.1609980	.1321006	.1011820	.0683936	.0349024	.518460

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0447776	.1195645	.0671886	.0086189	.0094382	.0020659	.0030260	.0004490	.0008071	.242438
.12500	.0375379	.0991889	.0601155	.0105268	.0077314	.0021130	.0024659	.0005030	.0006478	.204241
.20000	.0395230	.1033958	.0668696	.0146508	.0082691	.0025814	.0025576	.0006469	.0006616	.216051
.30000	.0480150	.1239743	.0864849	.0239269	.0109260	.0037354	.0031084	.0009604	.0007853	.264092
.40000	.0636877	.1622412	.1211143	.0406836	.0169065	.0060082	.0042559	.0015088	.0010439	.352523
.50000	.0913017	.2292459	.1822577	.0728261	.0300989	.0110374	.0066587	.0025802	.0015464	.508642
.60000	.1433703	.3541705	.2991060	.1407719	.0618795	.0240997	.0126526	.0051525	.0026799	.805252
.65000	.1878760	.4598718	.4001047	.2041140	.0944054	.0385800	.0193488	.0080257	.0038839	1.059879
.70000	.2562780	.6209569	.5565418	.3078817	.1515717	.0659015	.0323848	.0137515	.0062289	1.452867
.75000	.3687573	.8832886	.8155992	.4899775	.2595670	.1218097	.0604687	.0266538	.0115061	2.102208
.80000	.5722545	1.3526053	1.2869630	.8418894	.4852005	.2494153	.1292125	.0603650	.0256224	3.283593
.85000	.9978876	2.3213255	2.2763456	1.6286950	1.0334886	.5910614	.3298128	.1671006	.0723577	5.771058
.90000	2.1390333	4.8773300	4.9290946	3.8840937	2.7530599	1.7813845	1.1019897	.6176390	.2813717	12.494263
.91250	2.7339530	6.1972084	6.3096615	5.1008375	3.7268484	2.4953053	1.5894478	.9157010	.4238640	16.016310
.92500	3.6159100	8.1446080	8.3533366	6.9326323	5.2273112	3.6245519	2.3811874	1.4109173	.6641240	21.250342
.93750	5.0064857	11.2001430	11.5696533	9.8637989	7.6842532	5.5237148	3.7467952	2.2840864	1.0938542	29.523300
.95000	7.3951899	16.4235005	17.0823714	14.9684927	12.0598087	8.9944595	6.3039533	3.9537116	1.9267879	43.769617
.96250	12.0613209	26.5807045	27.8238728	25.0589371	20.8896673	16.1680968	11.7097962	7.5515717	3.7440890	71.663322
.97500	23.4796755	51.3328553	54.0348731	49.9952840	43.1296660	34.6430098	25.9286743	17.1850507	8.6666969	140.067909

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = .800000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0002366	.0006380	.0003349	.0000237	.0000466	.0000068	.0000149	.0000010	.0000040	.001275
.05000	.0004995	.0013419	.0007259	.0000645	.0000962	.0000163	.0000309	.0000028	.0000084	.002696
.97500	.0919549	.2014900	.2114643	.1941236	.1664575	.1330940	.0993261	.0656689	.0330623	.547979
.98750	.0963270	.2098445	.2208514	.2066406	.1819013	.1496595	.1145655	.0773319	.0394418	.575743
1.00000	.0893692	.1957706	.2041924	.1874909	.1632597	.1334356	.1019633	.0687718	.0351030	.532810

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0482485	.1296209	.0701190	.0062335	.0092950	.0015726	.0029877	.0002681	.0008069	.260428
.12500	.0403707	.1073155	.0628842	.0087396	.0074547	.0017216	.0024060	.0003588	.0006396	.218995
.20000	.0424269	.1116468	.0700629	.0130042	.0078432	.0021768	.0024697	.0005000	.0006456	.231246
.30000	.0514141	.1335112	.0907390	.0223357	.0102432	.0032327	.0029645	.0007862	.0007561	.281988
.40000	.0680155	.1742265	.1271553	.0391702	.0158645	.0053003	.0040144	.0012770	.0009900	.375454
.50000	.0972177	.2454022	.1913504	.0716076	.0285489	.0093447	.0062290	.0022362	.0014482	.540402
.60000	.1521308	.3777225	.3138102	.1405256	.0596396	.0222820	.0118250	.0045705	.0024861	.852347
.65000	.1989522	.4893877	.4194927	.2049759	.0917776	.0361769	.0181585	.0072212	.0035982	1.119683
.70000	.2707630	.6591807	.5829576	.3107561	.1486152	.0626809	.0306268	.0125853	.0057884	1.531455
.75000	.3885599	.9349697	.8531966	.4966622	.2565818	.1174613	.0577992	.0248708	.0107893	2.210238
.80000	.6010643	1.4268304	1.3438781	.8563184	.4832351	.2436170	.1250589	.0574783	.0243805	3.441777
.85000	1.0439924	2.4382603	2.3710707	1.6608487	1.0362168	.5840320	.3233465	.1621745	.0700565	6.026211
.90000	2.2263958	5.0944135	5.1156105	3.9665777	2.7760327	1.7785462	1.0934612	.6093100	.2769469	12.982816
.91250	2.8412135	6.4620527	6.5408052	5.2099437	3.7625556	2.4960795	1.5815106	.9065683	.4187312	16.618092
.92500	3.7514657	8.4769705	8.6481335	7.0812426	5.2833905	3.6333864	2.3755576	1.4014976	.6583427	22.013634
.93750	5.1847045	11.6336701	11.9606623	10.0745275	7.7747424	5.5482532	3.7472951	2.2758557	1.0878041	30.530926
.95000	7.6433426	17.0217722	17.6313538	15.2852246	12.2131056	9.0512152	6.3195810	3.9506715	1.9217672	45.179147
.96250	12.4399045	27.4842800	28.6676044	25.5805326	21.1719889	16.2976586	11.7641280	7.5651733	3.7442491	73.824983
.97500	24.1633978	52.9464163	55.5673897	51.0107161	43.7407771	34.9736906	26.1003508	17.2560945	8.6879265	143.994851

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD

CJ = .900000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0002525	.0006645	.0003459	.0000114	.0000468	.0000045	.0000149	.0000002	.0000041	.001357
.05000	.0005327	.0014388	.0007506	.0000393	.0000959	.0000117	.0000308	.0000011	.0000084	.002867
.97500	.0941686	.2067574	.2163670	.1972143	.1682575	.1340405	.0998089	.0656580	.0331132	.560643
.98750	.0985097	.2149967	.2256878	.2098452	.1839312	.1508559	.1152542	.0776576	.0395564	.588283
1.00000	.0914994	.2008618	.2088092	.1903375	.1650138	.1344506	.1025535	.0690489	.0352021	.544979

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0514524	.1389827	.0725020	.0037956	.0092611	.0011274	.0029738	.0001056	.0008138	.276960
.12500	.0429776	.1148579	.0651796	.0068878	.0072688	.0013770	.0023678	.0002305	.0006379	.232512
.20000	.0450911	.1192820	.0727444	.0112680	.0075100	.0018279	.0024065	.0003707	.0006369	.245126
.30000	.0545200	.1423003	.0943525	.0206001	.0096645	.0028068	.0028551	.0006344	.0007356	.298270
.40000	.0719529	.1852246	.1323249	.0374151	.0149418	.0047045	.0038258	.0010776	.0009505	.396225
.50000	.1025740	.2601563	.1991688	.0699645	.0271292	.0090223	.0058881	.0019439	.0013732	.568852
.60000	.1600178	.3991096	.3264875	.1394773	.0575100	.0207305	.0111588	.0040814	.0023344	.894565
.65000	.2088913	.5161026	.4362177	.2046912	.0892129	.0341086	.0171926	.0065486	.0033723	1.173118
.70000	.2837124	.6936482	.6057451	.3119301	.1456096	.0598789	.0291873	.0116136	.0054374	1.601413
.75000	.4061866	.9813703	.8856092	.5006970	.2532899	.1136208	.0555900	.0233868	.0102141	2.305990
.80000	.6265748	1.4931246	1.3928719	.8663181	.4803463	.2383700	.1215735	.0550702	.0233754	3.581254
.85000	1.0845488	2.5420141	2.4523936	1.6847553	1.0363781	.5773094	.3177981	.1580306	.0681729	6.249713
.90000	2.3025555	5.2852967	5.2749854	4.0304919	2.7909891	1.7735416	1.0856570	.6021146	.2732414	13.406940
.91250	2.9344515	6.6942618	6.7379808	5.2951246	3.7871102	2.4939071	1.5738665	.8985475	.4143832	17.139020
.92500	3.8689192	8.7674309	8.8991084	7.1980349	5.3234666	3.6363191	2.3693053	1.3929717	.6533545	22.672251
.93750	5.3385562	12.0111346	12.2927613	10.2410944	7.8412724	5.5632689	3.7452534	2.2678425	1.0823965	31.397194
.95000	7.8566619	17.5404474	18.0963081	15.5368107	12.3282802	9.0903146	6.3285025	3.9460571	1.9168120	46.385871
.96250	12.7637735	28.2637820	29.3797786	25.9964971	21.3876777	16.3920217	11.8019096	7.5724143	3.7426805	75.666789
.97500	24.7450847	54.3305568	56.8557055	51.8228705	44.2137652	35.2224213	26.2272103	17.3057945	8.7012969	147.322603

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = 1.000000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0002672	.0007281	.0003548	-.0000009	.0000475	.0000024	.0000150	-.0000005	.0000042	.001432
.05000	.0005635	.0015296	.0007706	.0000140	.0000966	.0000074	.0000308	-.0000004	.0000085	.003026
.97500	.0960832	.2113481	.2205545	.1997286	.1696827	.1347727	.1001773	.0659946	.0331457	.571557
.98750	.1003908	.2194711	.2298063	.2124552	.1855507	.1517958	.1157916	.0779053	.0396401	.599053
1.00000	.0933439	.2053063	.2127467	.1926398	.1664063	.1352442	.1030132	.0692586	.0352743	.555474

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0544302	.1477503	.0744353	.0013484	.0093316	.0007171	.0029781	.0000422	.0008255	.292266
.12500	.0453938	.1219022	.0670865	.0050108	.0071709	.0010674	.0023456	.0001150	.0006407	.244992
.20000	.0475538	.1263937	.0750063	.0094871	.0072681	.0015217	.0023614	.0002552	.0006335	.257905
.30000	.0573803	.1504571	.0974413	.0187798	.0091911	.0024417	.0027704	.0005004	.0007225	.313205
.40000	.0755647	.1953917	.1367823	.0355053	.0141453	.0041996	.0036757	.0009031	.0009218	.415205
.50000	.1074662	.2737371	.2059487	.0680336	.0258592	.0082408	.0056128	.0016908	.0013155	.594738
.60000	.1671853	.4186971	.3375190	.1378637	.0555419	.0194053	.0106142	.0036628	.0022141	.932783
.65000	.2178974	.5404985	.4507854	.2035858	.0867949	.0323302	.0163980	.0059756	.0031913	1.221351
.70000	.2954074	.7250200	.6256024	.3118709	.1426966	.0574485	.0279943	.0107891	.0051536	1.664350
.75000	.4220446	1.0234422	.9138494	.5027893	.2499423	.1102504	.0537435	.0221305	.0097451	2.391805
.80000	.6494204	1.5529590	1.4355203	.8730415	.4770122	.2336818	.1186282	.0530306	.0225494	3.705683
.85000	1.1206592	2.6351196	2.5230462	1.7025203	1.0349951	.5710763	.3130294	.1545025	.0666095	6.447957
.90000	2.3698363	5.4552518	5.4129414	4.0805220	2.8006179	1.7679085	1.0786475	.5958728	.2701101	13.780198
.91250	3.0166144	6.9004961	6.9084269	5.3624100	3.8041293	2.4902142	1.5667817	.8915095	.4106772	17.596335
.92500	3.9721313	9.0246750	9.1157128	7.2910256	5.3525735	3.6373716	2.3630584	1.3853377	.6490459	23.248827
.93750	5.4733220	12.3443606	12.5788296	10.3746348	7.8911746	5.5723559	3.7419905	2.2603366	1.0776114	32.153152
.95000	8.0428343	17.9966409	18.4958894	15.7397110	12.4167135	9.1179140	6.3334496	3.9408300	1.9121524	47.435109
.96250	13.0452425	28.9464636	29.9901122	26.3336141	21.5562020	16.4627320	11.8290626	7.5759126	3.7402882	77.261589
.97500	25.2482039	55.5368649	57.9560627	52.4835646	44.5882564	35.4148242	26.3240309	17.3416908	8.7098449	150.190496

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = 1.200000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0002940	.0008080	.0003673	-.0000251	.0000502	-.0000015	.0000153	-.0000019	.0000044	.001569
.05000	.0006194	.0016957	.0007996	-.0000359	.0001010	-.0000004	.0000313	-.0000031	.0000089	.003311
.97500	.0992492	.2190161	.2273455	.2035324	.1717774	.1358212	.1006975	.0661725	.0331798	.589517
.98750	.1034880	.2269129	.2364618	.2164143	.1879577	.1531696	.1165724	.0782525	.0397507	.616700
1.00000	.0963992	.2127492	.2191194	.1960926	.1684634	.1363971	.1036798	.0695505	.0353697	.572770

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0598277	.1638012	.0772362	-.0034696	.0097527	-.0000394	.0030267	-.0003040	.0008586	.319867
.12500	.0497573	.1347519	.0699798	.0012775	.0072138	.0005169	.0023349	-.0000866	.0006554	.267414
.20000	.0519852	.1393204	.0785363	.0059016	.0070356	.0009967	.0023082	.0000563	.0006374	.280783
.30000	.0625024	.1652121	.1023779	.0150355	.0085410	.0013413	.0026515	.0002726	.0007110	.339813
.40000	.0819995	.2136899	.1440162	.0314427	.0129185	.0033907	.0034537	.0006104	.0008867	.448846
.50000	.1161329	.2980419	.2170638	.0636609	.0237774	.0063936	.0051967	.0012716	.0012368	.640361
.60000	.1797997	.4535244	.3557230	.1335540	.0521600	.0172885	.0097802	.0029790	.0020401	.999705
.65000	.2336878	.5837123	.4748761	.1997602	.0825380	.0294691	.0151728	.0050461	.0029244	1.305490
.70000	.3158253	.7803555	.6584852	.3092713	.1374137	.0535002	.0261409	.0094595	.0047287	1.773678
.75000	.4495949	1.0972884	.9606395	.5029920	.2435924	.1047026	.0508481	.0201128	.0090338	2.540141
.80000	.6888784	1.6573716	1.5061524	.8796713	.4700482	.2258148	.1139548	.0497587	.0212819	3.919514
.85000	1.1825731	2.7964107	2.6398521	1.7251207	1.0299290	.5602281	.3053251	.1488187	.0641791	6.786156
.90000	2.4840618	5.7467892	5.6401355	4.1511155	2.8102535	1.7565143	1.0668173	.5856307	.2651404	14.410735
.91250	3.1556714	7.2531643	7.1887092	5.4589502	3.8241805	2.4811112	1.5544769	.8798290	.4047406	18.366467
.92500	4.1462016	9.4630302	9.4712582	7.4263764	5.3899575	3.6336817	2.3515172	1.3724173	.6420477	24.216415
.93750	5.6997048	12.9099250	13.0473733	10.5714222	7.9587928	5.5805416	3.7342308	2.2470967	1.0696488	33.416752
.95000	8.3541449	18.7673523	19.1466130	16.0418807	12.5409758	9.1523685	6.3369810	3.9302044	1.9039552	49.180991
.96250	13.5134481	30.0937183	30.9838730	26.8400989	21.7992197	16.5595999	11.8642694	7.5769781	3.7346908	79.901547
.97500	26.0801355	57.5518276	59.7405802	53.4831116	45.1387081	35.6903436	26.4607225	17.3884255	8.7167965	154.910003

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = 1.400000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0003178	.0008800	.0003746	-.0000482	.0000545	-.0003053	.0000159	-.0000030	.0000046	.001690
.05000	.0006690	.0018452	.0008173	-.0000837	.0001085	-.0000078	.0000323	-.0000055	.0000093	.003564
.97500	.1017802	.2252226	.2326268	.2062268	.1732289	.1365280	.1010430	.0662776	.0331925	.603792
.98750	.1059522	.2329079	.2416174	.2192327	.1896498	.1541193	.1171095	.0784808	.0398178	.630658
1.00000	.0980480	.2187947	.2240616	.1985069	.1699013	.1371881	.1041375	.0697405	.0354277	.586546

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DCP(7)	DDP(8)	SDP
.05000	.0646257	.1782366	.0789499	-.0080894	.0104854	-.0007581	.0031158	-.0005322	.0008987	.344255
.12500	.0536193	.1462591	.0719337	-.0023369	.0075263	.0000141	.0023567	-.0002586	.0006770	.287140
.20000	.0558905	.1508481	.0810524	.0023919	.0070908	.0005389	.0022891	-.0001105	.0006498	.300824
.30000	.0669905	.1782958	.1060501	.0113013	.0082369	.0013494	.0025766	.0000852	.0007117	.362987
.40000	.0876038	.2298188	.1495399	.0272792	.0121295	.0027599	.0032984	.0003733	.0008707	.477970
.50000	.1236311	.3193246	.2256986	.0589665	.0222632	.0060568	.0048962	.0009369	.0011900	.679596
.60000	.1906301	.4837904	.3700268	.1284361	.0495126	.0156867	.0091697	.0024410	.0019253	1.056817
.65000	.2471855	.6211029	.4938808	.1946637	.0791003	.0272936	.0142711	.0043203	.0027428	1.376981
.70000	.3331922	.8280000	.6845021	.3046378	.1330052	.0504718	.0247681	.0084285	.0044323	1.866112
.75000	.4728956	1.1605130	.9977289	.4998247	.2380680	.1003933	.0486861	.0185572	.0085279	2.664846
.80000	.7220254	1.7461689	1.5621769	.8803841	.4635349	.2195895	.1104269	.0472431	.0203651	4.098070
.85000	1.2341499	2.9324424	2.7324168	1.7362754	1.0238593	.5513554	.2994095	.1444378	.0623920	7.066208
.90000	2.5781525	5.9899386	5.8195863	4.1952447	2.8130185	1.7460899	1.0573664	.5776072	.2614015	14.927021
.91250	3.2698112	7.5462627	7.4097812	5.5212419	3.8337497	2.4718171	1.5444052	.8705843	.4002321	18.994825
.92500	4.2885136	9.8259009	9.7512058	7.5160267	5.4111299	3.6275894	2.3416036	1.3620116	.6366603	25.002750
.93750	5.8839515	13.3759924	13.4154956	10.7046445	8.0005932	5.5820324	3.7264690	2.2360541	1.0633797	34.439036
.95000	8.6062033	19.3991884	19.6600597	16.2502187	12.6220004	9.1713483	6.3364665	3.9203839	1.8971871	50.586193
.96250	13.8902981	31.0286530	31.7599378	27.1946022	21.9634161	16.6212030	11.8850595	7.5743781	3.7291425	82.013888
.97500	26.7452354	59.1827265	61.1283542	54.1911309	45.5201084	35.8760523	26.5515189	17.4160525	8.7221354	158.661108

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = 1.600000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0003394	.0009456	.0003779	-.0000700	.0000599	-.0000090	.0000166	-.0000041	.0000048	.001799
.05000	.0007138	.0019612	.0008267	-.0001289	.0001186	-.0000153	.0000335	-.0000076	.0000098	.003790
.97500	.1038655	.2303922	.2368551	.2081947	.1742880	.1370319	.1012866	.0663433	.0331952	.615492
.98750	.1079746	.2378828	.2457327	.2213045	.1909006	.1548112	.1174998	.0786400	.0398610	.642054
1.00000	.1008709	.2238479	.2280072	.2002450	.1709619	.1377605	.1044696	.0698716	.0354650	.597862

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DCP(7)	DDP(8)	SDP
.05000	.0689481	.1913723	.0798550	-.0124552	.0114610	-.0014755	.0032390	-.0007366	.0009418	.366112
.12500	.0570852	.1566917	.0731886	-.0057769	.0080526	-.0004750	.0024042	-.0004092	.0007018	.304750
.20000	.0593824	.1612612	.0828138	-.0009743	.0073776	.0001088	.0022951	-.0002536	.0006662	.318649
.30000	.0709834	.1900567	.1087312	.0076751	.0082167	.0009132	.0025317	-.0000722	.0007189	.383497
.40000	.0925637	.2442422	.1537926	.0231661	.0117074	.0022320	.0031863	.0001771	.0008655	.503610
.50000	.1302293	.3382495	.2324937	.0542015	.0212381	.0053005	.0046684	.0006633	.0011623	.713941
.60000	.2000981	.5105295	.3814480	.1229033	.0475270	.0144263	.0087003	.0020062	.0018475	1.106485
.65000	.2589410	.6540140	.5091359	.1389316	.0764292	.0255845	.0135755	.0037370	.0026150	1.438920
.70000	.3482544	.8697627	.7054724	.2988357	.1294693	.0480862	.0237058	.0076042	.0042183	1.945861
.75000	.4930071	1.2156693	1.0277149	.4947055	.2334870	.0963749	.0470061	.0173190	.0081551	2.771920
.80000	.7504735	1.6232007	1.6075572	.8775124	.4576815	.2145925	.1076679	.0452463	.0196781	4.250513
.85000	1.2781062	3.0496347	2.8074336	1.7402596	1.0179781	.5440792	.2947330	.1409572	.0610326	7.303632
.90000	2.6575976	6.1974894	5.9648046	4.2223807	2.8127116	1.7369693	1.0496994	.5711666	.2585040	15.360663
.91250	3.3659035	7.7957256	7.5885321	5.5614344	3.8381364	2.4632419	1.5361086	.8631135	.3967134	19.521059
.92500	4.4079324	10.1337468	9.9773127	7.5760603	5.4237117	3.6210148	2.3331990	1.3535072	.6324147	25.659135
.93750	6.0379860	13.7699299	13.7123932	10.7965135	8.0280034	5.5805964	3.7193544	2.2268303	1.0583625	35.289220
.95000	8.8160362	19.9309807	20.0717863	16.3973314	12.6779887	9.1822403	6.3343016	3.9116932	1.8916031	51.749889
.96250	14.2024063	31.8117334	32.3831996	27.4497092	22.0806192	16.6628266	11.8980796	7.5704275	3.7240971	83.754753
.97500	27.2931962	60.5411807	62.2394599	54.7082434	45.7984268	36.0084770	26.6155286	17.4333302	8.7228518	161.735630

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = 1.800000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0003590	.0010059	.0003783	-.0000904	.0000662	-.0000129	.0000175	-.0000051	.0000051	.001897
.05000	.0007545	.0021060	.0008297	-.0001713	.0001307	-.0000229	.0000351	-.0000096	.0000102	.003995
.97500	.1056232	.2347928	.2403162	.2096650	.1750951	.1374067	.1014661	.0663863	.0331931	.625309
.98750	.1096739	.2421048	.2490928	.2228646	.1918639	.1553355	.1177952	.0787563	.0398900	.651585
1.00000	.1025804	.2281638	.2312271	.2015228	.1717801	.1381910	.1047209	.0699664	.0354902	.607377

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0728827	.2034353	.0801432	-.0165480	.0126217	-.0022118	.0033943	-.0009248	.0009862	.385917
.12500	.0602296	.1662410	.0739091	-.0090201	.0087450	-.0009704	.0024750	-.0005444	.0007278	.320654
.20000	.0625399	.1707622	.0839976	-.0041668	.0078471	-.0003174	.0023231	-.0003793	.0006845	.334693
.30000	.0745780	.2007410	.1107916	.0042045	.0084248	.0004997	.0025109	-.0002070	.0007292	.401876
.40000	.0970084	.2572860	.1570722	.0191822	.0115857	.0017585	.0031061	.0000122	.0008662	.526481
.50000	.1361123	.3552798	.2378825	.0495029	.0206214	.0046565	.0044914	.0004361	.0011459	.744422
.60000	.2084917	.5344563	.3906709	.1173917	.0461098	.0133885	.0083272	.0016404	.0017928	1.150313
.65000	.2693287	.6833691	.5215362	.1829281	.0744307	.0241893	.0130202	.0032589	.0025220	1.493399
.70000	.3615155	.9068795	.7226091	.2925828	.1267243	.0461450	.0228557	.0069312	.0040584	2.015749
.75000	.5106404	1.2644894	1.0523204	.4884675	.2298129	.0941898	.0456584	.0163112	.0078712	2.865366
.80000	.7752950	1.8910559	1.6449057	.8724403	.4531828	.2104959	.1054461	.0436241	.0191472	4.382906
.85000	1.3162299	3.1522577	2.8692771	1.7396296	1.0127718	.5380308	.2909402	.1381280	.0599680	7.508596
.90000	2.7259579	6.3778231	6.0845169	4.2382111	2.8112097	1.7290601	1.0433684	.5658927	.2562001	15.732060
.91250	3.4483841	8.0119467	7.7358285	5.5868272	3.8400376	2.4555645	1.5291850	.8569671	.3939000	19.970644
.92500	4.5101523	10.3998429	10.1635166	7.6161409	5.4316801	3.6146364	2.3260487	1.3464555	.6289946	26.218364
.93750	6.1694246	14.1093886	13.9566768	10.8603870	8.0471171	5.5778593	3.7130029	2.2190680	1.0542745	36.011303
.95000	8.9944491	20.3876056	20.4101306	16.5027838	12.7188257	9.1885742	6.3314910	3.9041055	1.8869542	52.734722
.96250	14.4668646	32.4813982	32.8945178	27.6369247	22.1683834	16.6922381	11.9065716	7.5661027	3.7196294	85.222057
.97500	27.7550640	61.6975336	63.1489344	55.0945937	46.0105137	36.1069495	26.6626990	17.4446067	8.7222862	164.315104

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = 2.000000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0003770	.0010617	.0003763	-.0001094	.0000731	-.0000170	.0000186	-.0000060	.0000053	.001987
.05000	.0007919	.0022216	.0008277	-.0002108	.0001441	-.0000308	.0000371	-.0000114	.0000107	.004183
.97500	.1071315	.2386030	.2431968	.2107825	.1757334	.1376941	.1016031	.0664152	.0331885	.633697
.98750	.1111283	.2457513	.2518858	.2240616	.1926317	.1557447	.1180262	.0788444	.0399101	.659708
1.00000	.1040511	.2319129	.2339002	.2024765	.1724356	.1383241	.1049173	.0700376	.0355078	.615526

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0764942	.2145952	.0799510	-.0203668	.0139209	-.0029776	.0035813	-.0011029	.0010311	.404022
.12500	.0631071	.1750496	.0742125	-.0120609	.0095646	-.0014832	.0025686	-.0006691	.0007543	.335148
.20000	.0654208	.1795011	.0847299	-.0071748	.0084593	-.0007534	.0023719	-.0004923	.0007034	.349272
.30000	.0778450	.2105304	.1122381	.0009109	.0088145	.0000886	.0025121	-.0003248	.0007410	.418510
.40000	.1010312	.2691891	.1595899	.0153673	.0117069	.0013087	.0030528	-.0001289	.0008700	.547096
.50000	.1414132	.3707526	.2421706	.0449454	.0203407	.0040760	.0043543	.0002448	.0011350	.771774
.60000	.2160166	.5560866	.3981758	.1118692	.0451703	.0124928	.0080256	.0013499	.0017528	1.189442
.65000	.2786145	.7098317	.5317083	.1768686	.0730060	.0230024	.0125678	.0028613	.0024515	1.541896
.70000	.3733321	.9402338	.7367584	.2860225	.1246681	.0445092	.0221599	.0063731	.0039347	2.077765
.75000	.5262958	1.3082036	1.0727424	.4816206	.2269552	.0913525	.0445519	.0154771	.0076482	2.947984
.80000	.7972385	1.9515600	1.6760272	.8660260	.4494051	.2070544	.1036164	.0422830	.0187251	4.499460
.85000	1.3497579	3.2432946	2.9209492	1.7359876	1.0084078	.5323084	.2878003	.1357870	.0591126	7.688098
.90000	2.7856676	6.5367225	6.1846532	4.2463291	2.8094598	1.7221598	1.0380571	.5615042	.2543259	16.055095
.91250	3.5202740	8.2020686	7.8590314	5.6020374	3.8408741	2.4487178	1.5233312	.8518344	.3916013	20.360851
.92500	4.5990354	10.6332719	10.3192256	7.6423875	5.4372035	3.6086513	2.3199169	1.3405328	.6261838	26.702580
.93750	6.2834079	14.4063853	14.1608531	10.9047044	8.0613505	5.5745393	3.7073760	2.2124788	1.0508847	36.634848
.95000	9.1486941	20.7859022	20.6927162	16.5789750	12.7501816	9.1921458	6.3284908	3.8975001	1.8830359	53.582557
.96250	14.6946235	33.0634994	33.3210860	27.7762076	22.2369681	16.7136789	11.9122736	7.5616318	3.7156964	86.480844
.97500	28.1514019	62.6987486	63.9064101	55.3882455	46.1782318	36.1824835	26.6986838	17.4522238	8.7210814	166.519293

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = 2.200000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0003936	.0011137	.0003725	-.0001270	.0000805	-.0000212	.0000198	-.0000069	.0000056	.002070
.05000	.0008265	.0023291	.0008218	-.0002476	.0001586	-.0000391	.0000393	-.0000132	.0000111	.004355
.97500	.1084446	.2419475	.2456335	.2116431	.1762545	.1379196	.1017106	.0664354	.0331827	.640972
.98750	.1123916	.2489455	.2542409	.2249936	.1932620	.1560711	.1182115	.0789132	.0399244	.666736
1.00000	.1053347	.2352141	.2361501	.2031957	.1729780	.1387870	.1050751	.0700926	.0355203	.622609

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0798321	.2249828	.0793791	-.0239196	.0153213	-.0037770	.0038000	-.0012757	.0010768	.420693
.12500	.0657593	.1832269	.0741852	-.0149025	.0104802	-.0020186	.0026852	-.0007873	.0007811	.348458
.20000	.0680692	.1875926	.0851034	-.0099979	.0091814	-.0012069	.0024416	-.0005968	.0007225	.362625
.30000	.0808374	.2195630	.1132353	-.0021989	.0093474	-.0003320	.0025345	-.0004303	.0007532	.433690
.40000	.1047023	.2801321	.1615001	.0117394	.0120234	.0008633	.0030244	-.0002518	.0008752	.565838
.50000	.1462313	.3849214	.2455809	.0405685	.0203347	.0035270	.0042514	.0000811	.0011299	.796541
.60000	.2228249	.5758058	.4043115	.1064316	.0446286	.0116846	.0077816	.0010975	.0017221	1.224712
.65000	.2869945	.7338954	.5401060	.1708820	.0720642	.0219517	.0121960	.0025265	.0023960	1.585498
.70000	.3839655	.9704794	.7485317	.2794141	.1232002	.0430812	.0215832	.0059041	.0038356	2.133362
.75000	.5403381	1.3477177	1.0898425	.4744853	.2248104	.0898306	.0436300	.0147773	.0074677	3.021810
.80000	.8168467	2.0060482	1.7022155	.8588189	.4464653	.2040881	.1020854	.0411584	.0183806	4.603216
.85000	1.3795805	3.3249105	2.9645890	1.7303742	1.0049063	.5284787	.2851603	.1338221	.0584092	7.847154
.90000	2.8384600	6.6783398	6.2694054	4.2490941	2.8079350	1.7160615	1.0335440	.5578030	.2527702	16.339614
.91250	3.5837173	8.3712025	7.9633310	5.6101036	3.8414043	2.4425651	1.5183276	.8474936	.3896866	20.703890
.92500	4.6773126	10.8405087	10.4510534	7.6588344	5.4414968	3.6030704	2.3146247	1.3355018	.6238314	27.127378
.93750	6.3835550	14.6694501	14.3337026	10.9350532	8.0726889	5.5709521	3.7024001	2.2068370	1.0480274	37.180593
.95000	9.2838542	21.1377655	20.9318425	16.6341017	12.7754465	9.1939184	6.3255231	3.8917409	1.8796900	54.322624
.96250	14.8935953	33.5761975	33.6817967	27.8807606	22.2926443	16.7296104	11.9161929	7.5577979	3.7122254	87.576287
.97500	28.4964595	63.5776094	64.5461894	55.6143774	46.3151785	36.2417462	26.7269287	17.4575188	8.7195615	168.430895

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = 2.400000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0004091	.0011624	.0003672	-.0001434	.0000883	-.0000256	.0000212	-.0000078	.0000058	.002147
.05000	.0008586	.0024297	.0008127	-.0002818	.0001739	-.0000477	.0000419	-.0000150	.0000116	.004515
.97500	.1096015	.2449167	.2477137	.2123123	.1766920	.1380994	.1017970	.0664497	.0331764	.647358
.98750	.1135026	.2517761	.2562502	.2257277	.1937923	.1563358	.1183635	.0789682	.0399346	.672894
1.00000	.1064684	.2381535	.2380652	.2037417	.1734394	.1383973	.1052048	.0701362	.0355293	.628840

XI	DDP(0)	DDP(1)	DDP(2)	DDF(3)	DDF(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0829348	.2347010	.0785033	-.0272193	.0167935	-.0046110	.0040502	-.0014472	.0011236	.436139
.12500	.0682166	.1908589	.0738922	-.0175526	.0114669	-.0025789	.0028246	-.0009023	.0008083	.360759
.20000	.0705188	.1951266	.0851877	-.0126410	.0099875	-.0016815	.0025322	-.0006962	.0007419	.374934
.30000	.0835963	.2279467	.1138696	-.0051258	.0099927	-.0007688	.0025780	-.0005273	.0007658	.447639
.40000	.1080755	.2902554	.1629188	.0083042	.0124960	.0004104	.0030200	-.0003615	.0008810	.583000
.50000	.1506422	.3979820	.2482802	.0363917	.0205523	.0029889	.0041799	-.0000614	.0011259	.819138
.60000	.2290323	.5939095	.4093384	.1012777	.0444160	.0109273	.0075871	.0008810	.0016972	1.256759
.65000	.2946171	.7559374	.5470676	.1650453	.0715262	.0209871	.0118918	.0022406	.0023503	1.625023
.70000	.3936131	.9961142	.7583833	.2728812	.1222299	.0417931	.0211037	.0055051	.0037536	2.183629
.75000	.5530416	1.3837183	1.1042589	.4672666	.2232785	.0880298	.0428560	.0141829	.0073175	3.088365
.80000	.8345256	2.0555270	1.7244256	.8511788	.4442663	.2014661	.1007919	.0402035	.0180928	4.696436
.85000	1.4063585	3.3987254	3.0017680	1.7234837	1.0022208	.5245652	.2829167	.1321520	.0578189	7.989472
.90000	2.8856102	6.8057525	6.3418318	4.2481036	2.8068584	1.7105853	1.0296729	.5546447	.2514557	16.592829
.91250	3.6402865	8.5231262	8.0525054	5.6130889	3.8420291	2.4369645	1.5140156	.8437813	.3380642	21.008681
.92500	4.7469803	11.0263232	10.5638027	7.6682284	5.4452497	3.5978391	2.3100259	1.3311843	.6218305	27.504117
.93750	6.4725031	14.9048431	14.4815575	10.9552429	8.0823155	5.5672302	3.6980025	2.2019657	1.0455827	37.663592
.95000	9.4036172	21.4518884	21.1363856	16.6737678	12.7967131	9.1944340	6.3227020	3.8867000	1.8767967	54.976056
.96250	15.0694290	34.0327002	33.9902326	27.9596234	22.3393850	16.7415394	11.9189518	7.5540678	3.7091439	88.540902
.97500	26.8004733	64.3578284	65.0928253	55.7902431	46.4301385	36.2883867	26.7496531	17.4612885	8.7176966	170.109120

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = 2.600000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0004236	.0012082	.0003608	-.0001586	.0000962	-.0000302	.0000228	-.0000087	.0000061	.002219
.05000	.0008886	.0025243	.0008011	-.0003135	.0001896	-.0000567	.0000448	-.0000168	.0000121	.004664
.97500	.1106311	.2475777	.2495084	.2128366	.1770681	.1382442	.1018682	.0664601	.0331698	.653023
.98750	.1144896	.2543391	.2579816	.2263114	.1942483	.1565530	.1184906	.0790132	.0399420	.678347
1.00000	.1074797	.2407953	.2397107	.2041574	.1738411	.1391671	.1053138	.0701714	.0355359	.634378

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0858333	.2438331	.0773821	-.0302803	.0183144	-.0054780	.0043316	-.0016208	.0011722	.450524
.12500	.0705106	.1980147	.0733836	-.0200210	.0125050	-.0031639	.0029868	-.0010168	.0008365	.372187
.20000	.0727968	.2021751	.0850366	-.0151120	.0108565	-.0021784	.0026437	-.0007930	.0007617	.386344
.30000	.0861541	.2357673	.1142073	-.0078752	.0107253	-.0012252	.0026426	-.0006190	.0007786	.460530
.40000	.1111932	.2996702	.1639348	.0050605	.0130931	-.0000568	.0030392	-.0004618	.0008874	.598813
.50000	.1547054	.4100888	.2503964	.0324218	.0209513	.0024488	.0041383	-.0001882	.0011232	.839887
.60000	.2347290	.6106297	.4134555	.0962840	.0444752	.0101960	.0074372	.0006923	.0016764	1.286075
.65000	.3015977	.7762528	.5528507	.1594036	.0713244	.0200747	.0116466	.0019930	.0023117	1.661104
.70000	.4024275	1.0235262	.7666587	.2665004	.1216781	.0405969	.0207071	.0051609	.0036838	2.229410
.75000	.5646174	1.4167379	1.1164761	.4600968	.2222689	.0863828	.0422056	.0136716	.0071896	3.148818
.80000	.8505860	2.1007733	1.7433796	.8433451	.4427114	.1990927	.0996937	.0393831	.0178473	4.780850
.85000	1.4305952	3.4659823	3.0336698	1.7157894	1.0002777	.5210358	.2809975	.1307102	.0573145	8.117868
.90000	2.9280817	6.9213028	6.4042228	4.2444658	2.8063191	1.7055852	1.0263319	.5519207	.2503275	16.820175
.91250	3.6911671	8.6607066	8.1293787	5.6124303	3.8429512	2.4317913	1.5102797	.8405738	.3866688	21.281927
.92500	4.8095393	11.1943250	10.6610555	7.6724886	5.4488525	3.5928860	2.3060172	1.3274435	.6201043	27.841307
.93750	6.5522277	15.1172866	14.6091452	10.9679434	8.0909469	5.5634230	3.6941208	2.1977244	1.0434634	38.095085
.95000	9.5107360	21.7348038	21.3129308	16.7019114	12.8153054	9.1940126	6.3200892	3.8822645	1.8742660	55.558577
.96250	15.2263241	34.4428911	34.2564374	28.0191620	22.3797822	16.7504342	11.9209545	7.5506511	3.7063895	89.398780
.97500	29.0710179	65.0570643	65.5644044	55.9280124	46.5289695	36.3270369	26.7683518	17.4640226	8.7161795	171.597645

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = 2.800000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0004372	.0012514	.0003534	-.0001726	.0001043	-.0000349	.0000245	-.0000097	.0000064	.002286
.05000	.0009167	.0026134	.0007874	-.0003428	.0002057	-.0000660	.0000481	-.0000186	.0000127	.004803
.97500	.1115552	.2499817	.2510693	.2132494	.1773981	.1383615	.1019280	.0664678	.0331633	.658091
.98750	.1153742	.2565945	.2594859	.2267789	.1946474	.1567330	.1185987	.0790504	.0399474	.683218
1.00000	.1083893	.2431886	.2411357	.2044740	.1741976	.1393046	.1054071	.0702003	.0355407	.639344

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0885524	.2524468	.0760613	-.0331177	.0198653	-.0063755	.0046434	-.0017990	.0012234	.463981
.12500	.0726562	.2047504	.0726986	-.0223184	.0135785	-.0037726	.0031715	-.0011329	.0008661	.362856
.20000	.0749248	.2087967	.0846920	-.0174200	.0117718	-.0026972	.0027758	-.0008697	.0007826	.396974
.30000	.0885371	.2430943	.1143004	-.0104549	.0115249	-.0017024	.0027282	-.0007080	.0007921	.472505
.40000	.1140894	.3084662	.1646176	.0020028	.0137885	-.0005420	.0030818	-.0005560	.0008944	.613460
.50000	.1584682	.4213661	.2520290	.0286586	.0214970	.0018984	.0041255	-.0003037	.0011217	.859047
.60000	.2399863	.6261517	.4168174	.0915127	.0447582	.0094744	.0073287	.0005246	.0016586	1.313051
.65000	.3080275	.7950769	.5576556	.1539820	.0714018	.0191910	.0114549	.0017749	.0022782	1.694240
.70000	.4105291	1.0470237	.7736259	.2603181	.1214773	.0394593	.0203837	.0048598	.0036233	2.271363
.75000	.5752315	1.4471981	1.1268688	.4530611	.2217023	.0848415	.0416620	.0132261	.0070786	3.204085
.80000	.8652711	2.1423990	1.7596350	.8354787	.4417116	.1968984	.0987616	.0386697	.0176345	4.857806
.85000	1.4526821	3.5276549	3.0612044	1.7076187	.9989946	.5177918	.2793512	.1294682	.0568770	8.234523
.90000	2.9666185	7.0268118	6.4583307	4.2389650	2.8063340	1.7003462	1.0234386	.5495474	.2493464	17.025834
.91250	3.7372725	8.7861681	8.1961080	5.6091489	3.8442616	2.4269427	1.5070342	.8377751	.3854534	21.528777
.92500	4.8661433	11.3473074	10.7455429	7.6729846	5.4525218	3.5881428	2.3025186	1.3241721	.6185968	28.145469
.93750	6.6242432	15.3104239	14.7200585	10.9750672	8.0990203	5.5595434	3.6907036	2.1940006	1.0416050	38.483662
.95000	9.6073142	21.9915349	21.4664762	16.7213630	12.8320779	9.1928534	6.3177184	3.8783368	1.8720299	56.082164
.96250	15.3674779	34.8143412	34.4880127	28.0639650	22.4155684	16.7563459	11.9224746	7.5475297	3.7039111	90.168211
.97500	29.3138365	65.6887865	65.9745701	56.0364767	46.6156831	36.3578599	26.7840674	17.4660281	8.7144633	172.929493

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = 3.000000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0004500	.0012924	.0003452	-.0001856	.0001124	-.0000398	.0000263	-.0000107	.0000067	.002350
.05000	.0009432	.0026978	.0007720	-.0003701	.0002219	-.0000756	.0000516	-.0000205	.0000132	.004934
.97500	.1123906	.2521687	.2524364	.2135753	.1776927	.1384567	.1019793	.0664734	.0331569	.662660
.98750	.1161729	.2586713	.2608023	.2271556	.1950024	.1568828	.1186922	.0790818	.0399512	.687604
1.00000	.1092136	.2453714	.2423780	.2047140	.1745193	.1394160	.1054885	.0702242	.0355442	.643829

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0911128	.2605986	.0745770	-.0357465	.0214318	-.0073003	.0049846	-.0019839	.0012780	.476618
.12500	.0746726	.2111129	.0718682	-.0244555	.0146750	-.0044029	.0033780	-.0012525	.0008976	.392855
.20000	.0769208	.2150396	.0841872	-.0195745	.0127197	-.0032369	.0029283	-.0009881	.0008048	.406917
.30000	.0907663	.2499851	.1141899	-.0128734	.0123752	-.0022002	.0028345	-.0007965	.0008066	.483678
.40000	.1167916	.3167172	.1650222	-.0008763	.0145611	-.0010468	.0031475	-.0006471	.0009023	.627088
.50000	.1619691	.4319152	.2532571	.0250976	.0221608	.0013331	.0041409	-.0004117	.0011213	.876824
.60000	.2448621	.6406264	.4195465	.0869672	.0452250	.0087516	.0072594	.0003723	.0016434	1.338001
.65000	.3139800	.8126002	.5616404	.1487923	.0717108	.0183201	.0113127	.0015792	.0022490	1.724832
.70000	.4180145	1.0688555	.7794962	.2543612	.1215702	.0383571	.0201268	.0045919	.0035701	2.310019
.75000	.5850167	1.4754381	1.1357321	.4462138	.2215101	.0833716	.0412132	.0128323	.0069810	3.254894
.80000	.8787748	2.1808949	1.7736294	.8276879	.4411872	.1948326	.0979740	.0380416	.0174476	4.928373
.85000	1.4729298	3.5845198	3.0850845	1.6992009	.9982907	.5147598	.2779397	.1283711	.0564932	8.341165
.90000	3.0018067	7.1237223	6.5055213	4.2321650	2.8068820	1.6965791	1.0209314	.5474586	.2484840	17.213090
.91250	3.7793206	8.9012693	8.2543725	5.6039829	3.8459885	2.4223371	1.5042141	.8353093	.3843835	21.753263
.92500	4.9176967	11.4874734	10.8193875	7.6707116	5.4563709	3.5835510	2.2994684	1.3212845	.6172672	28.421702
.93750	6.6897342	15.4871214	14.8170849	10.9780100	8.1068021	5.5555894	3.6877085	2.1907027	1.0399600	38.836022
.95000	9.6949921	22.2260222	21.6008910	16.7341963	12.8475896	9.1910870	6.3156079	3.8748330	1.8700375	56.556134
.96250	15.4953757	35.1529697	34.6908281	28.0974063	22.4479262	16.7615308	11.9237027	7.5446727	3.7016682	90.863369
.97500	29.5333764	66.2634845	66.3338266	56.1221180	46.6930914	36.3828646	26.7975487	17.4675004	8.7127798	174.130162

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = 3.200000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0004622	.0013312	.0003364	-.0001976	.0001206	-.0000447	.0000283	-.0000117	.0000070	.002409
.05000	.0009683	.0027779	.0007553	-.0003953	.0002381	-.0000854	.0000554	-.0000225	.0000138	.005057
.97500	.1131508	.2541704	.2536412	.2138329	.1779595	.1385336	.1020242	.0664774	.0331507	.666807
.98750	.1168989	.2605700	.2619614	.2274604	.1953221	.1570079	.1187742	.0791084	.0399539	.691579
1.00000	.1099651	.2473743	.2434673	.2048945	.1748133	.1395058	.1055608	.0702441	.0355467	.647907

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0935317	.2663360	.0729584	-.0381808	.0230022	-.0082490	.0053540	-.0021770	.0013365	.488528
.12500	.0765740	.2171411	.0709176	-.0264429	.0157843	-.0050527	.0036056	-.0013768	.0009316	.482260
.20000	.0787996	.2209442	.0835491	-.0215353	.0136896	-.0037956	.0031005	-.0010897	.0008289	.416252
.30000	.0928596	.2564875	.1139090	-.0151400	.0132628	-.0027176	.0029611	-.0008863	.0008225	.494143
.40000	.1193227	.3244842	.1651930	-.0035854	.0153937	-.0015714	.0032356	-.0007372	.0009115	.639822
.50000	.1652395	.4418200	.2541440	.0217316	.0229193	.0007505	.0041835	-.0005152	.0011225	.893389
.60000	.2494034	.6541778	.4217407	.0826456	.0458425	.0080210	.0072275	.0002308	.0016307	1.361180
.65000	.3195151	.8289794	.5649317	.1438383	.0722113	.0174515	.0112170	.0013998	.0022236	1.753205
.70000	.4249623	1.0892257	.7844388	.2486437	.1219083	.0372740	.0199309	.0043492	.0035233	2.345806
.75000	.5940806	1.5017352	1.1433014	.4395882	.2216335	.0819485	.0408499	.0124788	.0068947	3.301835
.80000	.8912536	2.2166600	1.7857116	.8200453	.4410685	.1928581	.0973148	.0374813	.0172823	4.993414
.85000	1.4915880	3.6372059	3.1058764	1.6906975	.9980902	.5118850	.2767342	.1273956	.0561535	8.439176
.90000	3.0341152	7.2131955	6.5468764	4.2244762	2.8079231	1.6924156	1.0187628	.5456018	.2477194	17.384564
.91250	3.8178848	9.0074229	8.3055003	5.5974733	3.8481248	2.4173108	1.5017689	.8331156	.3834339	21.958599
.92500	4.9649206	11.6165894	10.8842657	7.6664029	5.4604516	3.5790634	2.2968180	1.3187116	.6160848	28.674057
.93750	6.7496424	15.6496714	14.9024221	10.9778060	8.1144523	5.5515549	3.6851006	2.1877559	1.0384928	39.157477
.95000	9.7750709	22.4414087	21.7192200	16.7419554	12.8622106	9.1838048	6.3137663	3.8716820	1.8682502	56.987853
.96250	15.6119824	35.4634827	34.8694929	28.1220078	22.4776770	16.7645216	11.9247742	7.5420444	3.6996293	91.495436
.97500	29.7331423	66.7894697	66.6504017	56.1897965	46.7632054	36.4030940	26.8093448	17.4685648	8.7111495	175.219701

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = 3.400000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0004736	.0013683	.0003270	-.0002086	.0001286	-.0000498	.0000305	-.0000128	.0000073	.002465
.05000	.0009920	.0028541	.0007374	-.0004186	.0002543	-.0000954	.0000595	-.0000246	.0000145	.005174
.97500	.1138465	.2560121	.2547084	.2140362	.1782042	.1385955	.1020642	.0664802	.0331447	.670591
.98750	.1175625	.2623155	.2629875	.2277078	.1956135	.1571126	.1188472	.0791311	.0399557	.695203
1.00000	.1106543	.2492215	.2444271	.2050284	.1750850	.1395776	.1056259	.0702606	.0355486	.651635

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0958234	.2756992	.0712293	-.0404341	.0245675	-.0092182	.0057500	-.0023797	.0013995	.499787
.12500	.0783724	.2228682	.0698670	-.0282906	.0168985	-.0057195	.0038533	-.0015070	.0009685	.411136
.20000	.0805735	.2265448	.0827995	-.0234614	.0146726	-.0043715	.0032916	-.0011955	.0008553	.425047
.30000	.0948317	.2626415	.1134846	-.0172637	.0141770	-.0032534	.0031073	-.0009788	.0008403	.503978
.40000	.1217017	.3318187	.1651658	-.0061338	.0162720	-.0021151	.0033458	-.0008282	.0009223	.651762
.50000	.1683058	.4511505	.2547411	.0185524	.0237530	.0001498	.0042527	-.0006169	.0011255	.908863
.60000	.2536495	.6669094	.4234797	.0785423	.0465829	.0072783	.0072312	.0000963	.0016207	1.382800
.65000	.3246823	.8443445	.5676322	.1391183	.0728699	.0165783	.0111653	.0012319	.0022021	1.779629
.70000	.4314374	1.1083034	.7885903	.2431710	.1224508	.0361991	.0197918	.0041253	.0034823	2.379077
.75000	.6025118	1.5263183	1.1497676	.4332038	.2220226	.0805548	.0405650	.0121563	.0068184	3.345393
.80000	.9028361	2.2500232	1.7961636	.8125989	.4412947	.1909479	.0967713	.0369744	.0171353	5.053634
.85000	1.5088607	3.6862293	3.1240365	1.6822227	.9983245	.5091266	.2757121	.1265179	.0558511	8.529684
.90000	3.0639247	7.2961794	6.5832647	4.2162007	2.8094090	1.6884037	1.0168951	.5439340	.2470373	17.542377
.91250	3.8534297	9.1057800	8.3505568	5.5900210	3.8506450	2.4136151	1.4996585	.8311443	.3825857	22.147383
.92500	5.0083981	11.7360917	10.9415206	7.6606059	5.4647798	3.5746433	2.2945278	1.3163970	.6150269	28.905805
.93750	6.8047282	15.7999342	14.9778281	10.9752317	8.1220641	5.5474339	3.6828502	2.1850981	1.0371764	39.452305
.95000	9.8485981	22.6402383	21.8238951	16.7458056	12.8761873	9.1860741	6.3121965	3.8688228	1.8666387	57.383239
.96250	15.7188761	35.7496794	35.0276811	28.1396825	22.5054005	16.7661692	11.9257870	7.5396084	3.6977701	92.073366
.97500	29.9159403	67.2734300	66.9308386	56.2432206	46.8274902	36.4193409	26.8198664	17.4693020	8.7095864	176.214117

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = 3.600000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0004846	.0014036	.0003173	-.0002189	.0001367	-.0000550	.0000327	-.0000140	.0000077	.002519
.05000	.0010145	.0029269	.0007185	-.0004402	.0002704	-.0001056	.0000639	-.0000268	.0000152	.005284
.97500	.1144862	.2577147	.2556581	.2141961	.1784308	.1386445	.1021006	.0664820	.0331391	.674063
.98750	.1181722	.2639278	.2639001	.2279090	.1958815	.1571999	.1189131	.0791505	.0399570	.698525
1.00000	.1112893	.2509330	.2452763	.2051254	.1753385	.1396342	.1056855	.0702744	.0355500	.655062

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.0980005	.2827227	.0694090	-.0425190	.0261205	-.0102044	.0061712	-.0025927	.0014676	.510459
.12500	.0800779	.2283226	.0687331	-.0300079	.0180110	-.0064011	.0041202	-.0016440	.0010087	.419535
.20000	.0822533	.2318704	.0819561	-.0252118	.0156616	-.0049625	.0035009	-.0013066	.0008844	.433356
.30000	.0966951	.2684814	.1129386	-.0192534	.0151089	-.0038057	.0032724	-.0010753	.0008604	.513251
.40000	.1239446	.3387641	.1649703	-.0085304	.0171843	-.0026768	.0034772	-.0009216	.0009353	.662994
.50000	.1711900	.4599662	.2550908	.0155507	.0246457	-.0004691	.0043475	-.0007189	.0011307	.923424
.60000	.2576331	.6789082	.4248288	.0746500	.0474231	.0065215	.0072690	-.0000344	.0016137	1.403037
.65000	.3295231	.8588052	.5698260	.1346272	.0736584	.0156962	.0111551	.0010715	.0021844	1.804327
.70000	.4374939	1.1262304	.7920631	.2379431	.1231631	.0351248	.0197061	.0039146	.0034470	2.410125
.75000	.6103839	1.5493791	1.1552863	.4270702	.2226346	.0791784	.0403524	.0118570	.0067512	3.385969
.80000	.9136285	2.2812588	1.8052152	.8053796	.4418134	.1890824	.0963333	.0365092	.0170047	5.109617
.85000	1.5249163	3.7320186	3.1399369	1.6738570	.9989324	.5064541	.2748553	.1257186	.0555811	8.613617
.90000	3.0915479	7.3734567	6.6153919	4.2075624	2.8112894	1.6845042	1.0152981	.5424205	.2464261	17.688270
.91250	3.8863367	9.1972900	8.3904068	5.5819259	3.8535140	2.4094133	1.4978501	.8293551	.3818248	22.321740
.92500	5.0486068	11.8471628	10.9922414	7.6537330	5.4693497	3.5702628	2.2925656	1.3142943	.6140763	29.119617
.93750	6.8556130	15.9394382	15.0447273	10.9708765	8.1296886	5.5432221	3.6809318	2.1826780	1.0359905	39.723994
.95000	9.9164283	22.8245968	21.9168832	16.7466372	12.8896844	9.1829479	6.3108970	3.8662040	1.8551806	57.747109
.96250	15.8173410	36.0146662	35.1683592	28.1518995	22.5315117	16.7666690	11.9268121	7.5373300	3.6960716	92.604429
.97500	30.0840470	67.7208183	67.1804098	56.2852406	46.8870307	36.4322231	26.8294245	17.4697640	8.7061008	177.126370

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = 3.800000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0004950	.0014374	.0003071	-.0002283	.0001446	-.0000602	.0000351	-.0000151	.0000081	.002570
.05000	.0010360	.0029964	.0006989	-.0004601	.0002863	-.0001160	.0000685	-.0000292	.0000160	.005389
.97500	.1150772	.2592952	.2565068	.2143211	.1786424	.1386826	.1021342	.0664828	.0331337	.677262
.98750	.1187350	.2654235	.2647151	.2280728	.1961300	.1572726	.1189731	.0791671	.0399579	.701583
1.00000	.1118769	.2525253	.2460305	.2051933	.1755766	.1396777	.1057408	.0702857	.0355510	.658225

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.1000734	.2894363	.0675136	-.0444470	.0276554	-.0112045	.0066161	-.0028165	.0015411	.520600
.12500	.0816994	.2335287	.0675296	-.0316037	.0191168	-.0070950	.0044052	-.0017881	.0010524	.427503
.20000	.0838478	.2369463	.0810339	-.0268446	.0166511	-.0055665	.0037274	-.0014237	.0009165	.441227
.30000	.0984604	.2740367	.1122896	-.0211175	.0160514	-.0043728	.0034557	-.0011765	.0008831	.522018
.40000	.1260652	.3453578	.1646309	-.0107842	.0181212	-.0032550	.0036291	-.0010187	.0009508	.673590
.50000	.1739109	.4683177	.2552279	.0127173	.0255843	-.0011053	.0044670	-.0008229	.0011385	.937112
.60000	.2613819	.6902484	.4258419	.0709600	.0483440	.0057496	.0073396	-.0001640	.0016100	1.422040
.65000	.3340724	.8724541	.5715829	.1303580	.0745534	.0148028	.0111845	.0009150	.0021709	1.827487
.70000	.4431773	1.1431270	.7949498	.2329559	.1240161	.0340465	.0196706	.0037127	.0034175	2.439197
.75000	.6177589	1.5710793	1.1599864	.4211906	.2234333	.0778108	.0402073	.0115746	.0066928	3.423899
.80000	.9237202	2.3105976	1.8130564	.7984060	.4425796	.1872475	.0959922	.0360761	.0168892	5.161849
.85000	1.5398954	3.7749331	3.1538838	1.6656568	.9998599	.5038451	.2741487	.1249817	.0553400	8.691748
.90000	3.1172448	7.4456811	6.6438380	4.1987280	2.8135152	1.6806875	1.0139465	.5410323	.2458771	17.823682
.91250	3.9169220	9.2827441	8.4257602	5.5734138	3.8566931	2.4052776	1.4963165	.8277145	.3811404	22.483428
.92500	5.0859425	11.9507869	11.0373211	7.6460978	5.4741441	3.5659016	2.2909039	1.3123649	.6132198	29.317700
.93750	6.9028108	16.0694532	15.1042860	10.9651918	8.1373502	5.5389179	3.6793228	2.1804525	1.0349194	39.975422
.95000	9.9792667	22.9962132	21.9997933	16.7451372	12.9028120	9.1794695	6.3098639	3.8637815	1.8638584	58.083425
.96250	15.9084341	36.2610127	35.2939499	28.1597994	22.5563112	16.7661772	11.9279011	7.5351772	3.6945193	93.094598
.97500	30.2393318	68.1361330	67.4034136	56.3180870	46.9426422	36.4422318	26.8382574	17.4699842	8.7067006	177.967078

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = 4.000000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0005049	.0014698	.0002967	-.0002371	.0001523	-.0000655	.0000376	-.0000164	.0000085	.002618
.05000	.0010565	.0030629	.0006787	-.0004786	.0003020	-.0001265	.0000733	-.0000316	.0000168	.005489
.97500	.1156252	.2607679	.2572678	.2144178	.1788414	.1387113	.1021658	.0664828	.0331288	.680222
.98750	.1192565	.2668163	.2654456	.2282062	.1963620	.1573326	.1190286	.0791813	.0399585	.704411
1.00000	.1124229	.2540121	.2467023	.2052381	.1758016	.1397100	.1057927	.0702948	.0355520	.661157

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.1020515	.2958661	.0655563	-.0462290	.0291678	-.0122155	.0070830	-.0030516	.0016203	.530258
.12500	.0832444	.2385077	.0662681	-.0330862	.0202117	-.0077991	.0047072	-.0019400	.0011000	.435081
.20000	.0853649	.2417941	.0800451	-.0283676	.0176364	-.0061817	.0039703	-.0015471	.0009518	.448702
.30000	.1001368	.2793327	.1115526	-.0228638	.0169986	-.0049528	.0036561	-.0012832	.0009088	.530327
.40000	.1280751	.3516320	.1641680	-.0129036	.0190746	-.0033480	.0038004	-.0011204	.0009692	.683613
.50000	.1764843	.4762485	.2551819	.0100431	.0265575	-.0017577	.0046101	-.0009303	.0011494	.950033
.60000	.2649196	.7009935	.4265042	.0674632	.0493292	.0049626	.0074413	-.0002945	.0016100	1.439937
.65000	.3383600	.8853709	.5729609	.1263021	.0755348	.0138970	.0112515	.0007599	.0021618	1.849271
.70000	.4485262	1.1590955	.7973277	.2282034	.1249851	.0329612	.0196824	.0035157	.0033938	2.466503
.75000	.6246891	1.5915569	1.1639753	.4155638	.2243878	.0764461	.0401251	.0113038	.0066430	3.459468
.80000	.9331865	2.3382357	1.8198452	.7916885	.4435545	.1854329	.0957406	.0356669	.0167878	5.210742
.85000	1.5539164	3.8152774	3.1661319	1.6576609	1.0010598	.5012829	.2735798	.1242938	.0551252	8.764728
.90000	3.1412334	7.5134039	6.6690841	4.1898223	2.8160401	1.6763317	1.0128190	.5397457	.2453839	17.949822
.91250	3.9454507	9.3628090	8.4572056	5.5646555	3.8601434	2.4011877	1.4950345	.8261947	.3805243	22.633921
.92500	5.1207363	12.0477916	11.0774996	7.6379402	5.4791392	3.5615451	2.2895190	1.3105769	.6124472	29.501898
.93750	6.9467509	16.1910452	15.1574694	10.9585265	8.1450566	5.5345219	3.6780033	2.1783857	1.0339509	40.208986
.95000	10.0377013	23.1565364	22.0739550	16.7418403	12.9156432	9.1756760	6.3090909	3.8615179	1.8626588	58.395489
.96250	15.9930351	36.4906671	35.4064528	28.1642760	22.5800195	16.7648218	11.9290914	7.5331214	3.6931015	93.548830
.97500	30.3833470	68.5231257	67.6033915	56.3435165	46.9949467	36.4497649	26.8465495	17.4699839	8.7053920	178.745040

TABLE III (CONTINUED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = 4.500000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0005279	.0015452	.0002697	-.0002560	.0001711	-.0000788	.0000443	-.0000198	.0000098	.002730
.05000	.0011039	.0032180	.0006259	-.0005187	.0003399	-.0001529	.0000863	-.0000382	.0000191	.005720
.97500	.1168384	.2640526	.2588562	.2145686	.1792950	.1387494	.1022389	.0664794	.0331180	.686752
.98750	.1204096	.2699198	.2669691	.2284396	.1968838	.1574380	.1191524	.0792080	.0399594	.710640
1.00000	.1136351	.2573398	.2480872	.2052776	.1763177	.1397509	.1059124	.0703093	.0355542	.667641

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DDP(7)	DDP(8)	SDP
.05000	.1066316	.3108419	.0604618	-.0501083	.0328297	-.0147739	.0083364	-.0036891	.0018443	.552552
.12500	.0868134	.2500783	.0629199	-.0363450	.0228822	-.0095912	.0055292	-.0023543	.0012371	.452533
.20000	.0888616	.2530351	.0773460	-.0317408	.0200590	-.0077563	.0046423	-.0018857	.0010556	.465875
.30000	.1039889	.2915772	.1094053	-.0267626	.0193581	-.0064476	.0042265	-.0015769	.0009872	.549358
.40000	.1326789	.3660944	.1625773	-.0176668	.0214909	-.0053844	.0043080	-.0013994	.0010292	.706500
.50000	.1823597	.4944712	.2544174	.0039963	.0290855	-.0034497	.0050641	-.0012203	.0011917	.979436
.60000	.2729668	.7255955	.4273326	.0595050	.0519899	.0029338	.0078223	-.0006358	.0016283	1.480514
.65000	.3480935	.9148872	.5750511	.1170363	.0782630	.0115779	.0115708	.0003637	.0021608	1.898560
.70000	.4606423	1.1955075	.8014492	.2172955	.1277859	.0302091	.0199014	.0030265	.0033618	2.528148
.75000	.6403482	1.6381399	1.1713940	.4025694	.2272921	.0730269	.0401693	.0106508	.0065562	3.539570
.80000	.9545157	2.4009369	1.8330344	.7760316	.4466972	.1809442	.0954630	.0347083	.0165928	5.320537
.85000	1.5854030	3.9065104	3.1906412	1.6387134	1.0049934	.4950102	.2726908	.1227213	.0546923	8.928060
.90000	3.1948771	7.6659286	6.7206877	4.1678004	2.8233909	1.6677131	1.0108659	.5368512	.2443640	18.230928
.91250	4.0091654	9.5429093	8.5217631	5.5424595	3.8697148	2.3910767	1.4928044	.8227811	.3792443	22.968863
.92500	5.1983338	12.2657020	11.1603224	7.6163692	5.4923319	3.5506183	2.2871376	1.3065602	.6108349	29.911273
.93750	7.0445924	16.4637768	15.2675134	10.9392082	8.1644882	5.5231507	3.6758543	2.1737267	1.0319207	40.727249
.95000	10.1675875	23.5155332	22.2279329	16.7282758	12.9466993	9.1650169	6.3082445	3.8563584	1.8601309	59.086694
.96250	16.1807101	37.0045840	35.6407320	28.1647797	22.6354917	16.7583167	11.9326646	7.5282466	3.6900911	94.552910
.97500	30.7021279	69.3862597	68.0207735	56.3831422	47.1141422	36.4597838	26.8657767	17.4690963	8.7025531	180.460918

TABLE III (CONCLUDED)

INFLUENCE FUNCTIONS FOR QUADRATURE METHOD.

CJ = 5.000000

XI	E(0)	E(1)	E(2)	E(3)	E(4)	E(5)	E(6)	E(7)	E(8)	LCS
.02500	.0005487	.0016140	.0002419	-.0002713	.0001888	-.0000921	.0000514	-.0000236	.0000112	.002831
.05000	.0011467	.0033590	.0005712	-.0005515	.0003758	-.0001796	.0001004	-.0000455	.0000218	.005928
.97500	.1178714	.2668783	.2600943	.2146320	.1796999	.1387505	.1023081	.0664715	.0331097	.692286
.98750	.1213902	.2725866	.2681558	.2285752	.1973414	.1574943	.1192620	.0792241	.0399604	.715911
1.00000	.1146716	.2602157	.2491441	.2052512	.1767811	.1397477	.1060233	.0703136	.0355572	.673157

XI	DDP(0)	DDP(1)	DDP(2)	DDP(3)	DDP(4)	DDP(5)	DDP(6)	DCP(7)	DDP(8)	SDP
.05000	.1107673	.3244692	.0551780	-.0532697	.0362965	-.0173482	.0096938	-.0043959	.0021065	.572603
.12500	.0900263	.2605762	.0593793	-.0390447	.0254323	-.0114073	.0064334	-.0028181	.0014010	.468178
.20000	.0919998	.2632046	.0744148	-.0345700	.0223943	-.0093632	.0053948	-.0022682	.0011831	.481224
.30000	.1074324	.3026120	.1069367	-.0300743	.0216661	-.0079867	.0048841	-.0019117	.0010879	.566299
.40000	.1367775	.3790766	.1605208	-.0217541	.0238987	-.0069775	.0049164	-.0017185	.0011119	.726788
.50000	.1875677	.5107606	.2529457	-.0012387	.0316694	-.0052099	.0056414	-.0015492	.0012588	1.005387
.60000	.2800658	.7474860	.4269592	.0525539	.0548135	.0008321	.0083657	-.0010122	.0016760	1.516155
.65000	.3566573	.9410835	.5756436	.1089033	.0812351	.0091902	.0120843	-.0000627	.0021936	1.941738
.70000	.4712716	1.2277342	.8035481	.2076658	.1309399	.0274017	.0203615	.0025164	.0033713	2.581993
.75000	.6540420	1.6792412	1.1759718	.3910135	.2306986	.0695811	.0405278	.0099955	.0065242	3.609309
.80000	.9730999	2.4560657	1.8420048	.7619609	.4505421	.1764829	.0956218	.0337853	.0164783	5.415775
.85000	1.6127188	3.9863923	3.2083239	1.6213767	1.0098736	.4888489	.2724570	.1212650	.0543944	9.069118
.90000	3.2411613	7.7987798	6.7594225	4.1467668	2.8317974	1.6586338	1.0099722	.5342456	.2436087	18.472358
.91250	4.0640485	9.6995321	8.5706078	5.5207650	3.8802384	2.3810383	1.4917711	.8197187	.3782854	23.256049
.92500	5.2650538	12.4548777	11.2234475	7.5944841	5.5062110	3.5395963	2.2860938	1.3029584	.6096151	30.261632
.93750	7.1285487	16.7000886	15.3519533	10.9181604	8.1840134	5.5113005	3.6751545	2.1695288	1.0303719	41.169890
.95000	10.2787874	23.8259175	22.3468129	16.7103715	12.9765441	9.1530045	6.3088344	3.8516309	1.8581896	59.675680
.96250	16.3409764	37.4476669	35.8225823	28.1556129	22.6867004	16.7483267	11.9372415	7.5235134	3.6877688	95.406291
.97500	30.9735965	70.1287730	68.3461114	56.3997872	47.2205282	36.4600758	26.8839420	17.4670171	8.7003721	181.915134

TABLE IV

AERODYNAMIC COEFFICIENTS FOR POWER-LAW SUPERPOSITION METHOD.

A = 2.000000000

ET(M)	0.00000	2.03917	2.89013	2.92080	2.42378	1.65666	.85125	.20859	-.11140
FT(M)	7.06034	7.52142	8.51652	9.89445	11.65195	13.87630	16.78556	20.90827	27.96698

CJ	C(0)	C(1)	C(2)	C(3)	C(4)	C(5)	C(6)	C(7)	C(8)	SUMI(N)C(N)
.00100	-.1025063	4.8860363	-.1992551	1.4684509	-.1782474	.7391346	-.1371299	.3510601	-.0638504	5.610106
.00200	-.1046614	4.8814004	-.2041598	1.4636856	-.1826586	.7352922	-.1402430	.3488400	-.0650252	5.597143
.00400	-.1088600	4.8723617	-.2137184	1.4544179	-.1912158	.7278591	-.1462500	.3445653	-.0672832	5.571896
.00600	-.1129174	4.8636185	-.2229592	1.4454837	-.1994371	.7207442	-.1519804	.3404995	-.0694259	5.547510
.00800	-.1168417	4.8551538	-.2319003	1.4368637	-.2073423	.7139283	-.1574512	.3366293	-.0714607	5.523935
.01000	-.1206405	4.8469521	-.2405586	1.4285400	-.2149496	.7073935	-.1626785	.3329423	-.0733946	5.501125
.01200	-.1243206	4.8389988	-.2489495	1.4204963	-.2222760	.7011236	-.1676769	.3294272	-.0752339	5.479038
.01400	-.1278885	4.8312806	-.2570873	1.4127175	-.2293369	.6951033	-.1724598	.3260737	-.0769844	5.457635
.01600	-.1313501	4.8237851	-.2649855	1.4051893	-.2361469	.6893186	-.1770397	.3228720	-.0786515	5.436880
.01800	-.1347110	4.8165008	-.2726562	1.3978989	-.2427192	.6837567	-.1814283	.3198133	-.0802403	5.416738
.02000	-.1379763	4.8094171	-.2801111	1.3908340	-.2490665	.6784053	-.1856362	.3168893	-.0817553	5.397178
.02500	-.1457516	4.7925213	-.2978717	1.3740863	-.2640235	.6658767	-.1954292	.3101197	-.0852477	5.350640
.03000	-.1530244	4.7766806	-.3144957	1.3585232	-.2778039	.6544415	-.2042911	.3040399	-.0883643	5.307161
.03500	-.1598505	4.7617784	-.3301082	1.3440125	-.2905430	.6439690	-.2123373	.2985613	-.0911545	5.266399
.04000	-.1662775	4.7477155	-.3448157	1.3304415	-.3023556	.6343487	-.2196655	.2936094	-.0936597	5.228064
.05000	-.1780916	4.7217793	-.3718684	1.3057464	-.3235814	.6173000	-.2324887	.2850414	-.0979510	5.157713
.06000	-.1887304	4.6983213	-.3962461	1.2838131	-.3421171	.6026869	-.2432938	.2779314	-.1014622	5.094498
.07000	-.1983941	4.6769233	-.4183984	1.2641675	-.3584436	.5900516	-.2524793	.2719790	-.1043589	5.037198
.08000	-.2072375	4.6572616	-.4386741	1.2464424	-.3729315	.5790435	-.2603485	.2669571	-.1067656	4.984868
.09000	-.2153826	4.6390808	-.4573480	1.2303489	-.3858719	.5693890	-.2671359	.2626912	-.1087775	4.936764
.10000	-.2229269	4.6221770	-.4746402	1.2156560	-.3974961	.5608719	-.2730258	.2590455	-.1104684	4.892294
.20000	-.2775615	4.4976598	-.5993358	1.1167441	-.4700674	.5119354	-.3044867	.2408498	-.1181836	4.572960
.30000	-.3123735	4.4160725	-.6775387	1.0625012	-.5044573	.4923794	-.3153076	.2354795	-.1197820	4.372301
.40000	-.3377767	4.3552500	-.7333606	1.0284197	-.5233942	.4832388	-.3197179	.2336140	-.1198929	4.227419
.50000	-.3576834	4.3067548	-.7760163	1.0054454	-.5346870	.4786308	-.3216592	.2329371	-.1195734	4.114853
.60000	-.3739859	4.2664570	-.8100189	.9893060	-.5417548	.4762328	-.3225246	.2327126	-.1191303	4.023327
.70000	-.3877438	4.2320179	-.8379199	.9776790	-.5463196	.4749900	-.3228825	.2326698	-.1186652	3.946565
.80000	-.3996108	4.2019803	-.8613028	.9691801	-.5493318	.4743786	-.3229876	.2326991	-.1182136	3.880712
.90000	-.4100187	4.1753731	-.8812181	.9629280	-.5513504	.4741218	-.3229621	.2327533	-.1177873	3.823237
1.00000	-.4192676	4.1515153	-.8983973	.9583338	-.5527204	.4740669	-.3228674	.2328114	-.1173893	3.772387

TABLE IV (CONTINUED)

AERODYNAMIC COEFFICIENTS FOR POWER-LAW SUPERPOSITION METHOD.

A = 2.000000000

ET(M)	0.00000	2.03917	2.89013	2.92080	2.42378	1.65666	.85125	.20859	-.11140	
FT(M)	7.06034	7.52142	8.51652	9.89445	11.65195	13.87630	16.78556	20.90827	27.96698	
CJ	C(0)	C(1)	C(2)	C(3)	C(4)	C(5)	C(6)	C(7)	C(8)	SUMI(N)C(N)
1.20000	-.4351012	4.1101873	-.9265308	.9526013	-.5543197	.4742532	-.3225848	.2329066	-.1166735	3.685835
1.40000	-.4482834	4.0752922	-.9485598	.9498951	-.5551396	.4745959	-.3222583	.2329585	-.1160498	3.614272
1.60000	-.4595239	4.0451704	-.9662077	.9490611	-.5556417	.4749805	-.3219262	.2329666	-.1154995	3.553614
1.80000	-.4692846	4.0187291	-.9805886	.9494168	-.5560454	.4753716	-.3216026	.2329370	-.1150073	3.501221
2.00000	-.4770827	3.9952102	-.9924608	.9505383	-.5564555	.4757622	-.3212937	.2328763	-.1145615	3.455288
2.20000	-.4855447	3.9740663	-1.0023610	.9521524	-.5569197	.4761547	-.3210033	.2327912	-.1141533	3.414532
2.40000	-.4924365	3.9548691	-1.0106815	.9540781	-.5574565	.4765537	-.3207337	.2326874	-.1137761	3.378007
2.60000	-.4986911	3.9373662	-1.0177166	.9561931	-.5580698	.4769635	-.3204866	.2325700	-.1134251	3.345000
2.80000	-.5044014	3.9212534	-1.0236918	.9584131	-.5587555	.4773875	-.3202634	.2324434	-.1130968	3.314957
3.00000	-.5096474	3.9063558	-1.0287830	.9606799	-.5595067	.4778277	-.3200647	.2323112	-.1127884	3.287443
3.20000	-.5144921	3.8925159	-1.0331296	.9629526	-.5603144	.4782854	-.3198910	.2321768	-.1124979	3.262109
3.40000	-.5189866	3.8796045	-1.0368438	.9652029	-.5611699	.4787607	-.3197423	.2320427	-.1122238	3.238671
3.60000	-.5231732	3.8675141	-1.0400168	.9674108	-.5620647	.4792533	-.3196185	.2319110	-.1119648	3.216895
3.80000	-.5270872	3.8561547	-1.0427234	.9695628	-.5629910	.4797626	-.3195191	.2317837	-.1117201	3.196588
4.00000	-.5307582	3.8454500	-1.0450259	.9716497	-.5639415	.4802876	-.3194437	.2316621	-.1114887	3.177585
4.50000	-.5390304	3.8211464	-1.0493358	.9765494	-.5663851	.4816600	-.3193550	.2313905	-.1109652	3.134926
5.00000	-.5462408	3.7997506	-1.0520416	.9809727	-.5688653	.4831012	-.3193981	.2311736	-.1105137	3.097926

TABLE IV (CONTINUED)

AERODYNAMIC COEFFICIENTS FOR POWER-LAW SUPERPOSITION METHOD.

A = 3.000000000

ET(M)	0.00000	4.58888	6.39964	6.41895	5.33150	3.69182	1.97800	.59598	-.13499	
FT(M)	14.12068	15.04284	17.03303	19.78891	23.30390	27.75260	33.57112	41.81653	55.93397	
CJ	C(0)	C(1)	C(2)	C(3)	C(4)	C(5)	C(6)	C(7)	C(8)	SUM(N)C(N)
.00100	-.2047585	9.7726365	-.3979356	2.9374066	-.3560652	1.4786156	-.2739942	.7023016	-.1276064	11.221720
.00200	-.2088181	9.7639207	-.4071788	2.9283719	-.3644670	1.4712691	-.2799616	.6980374	-.1298644	11.197277
.00400	-.2167256	9.7469321	-.4251889	2.9108026	-.3807656	1.4570557	-.2914783	.6898257	-.1342053	11.149683
.00600	-.2243645	9.7305052	-.4425948	2.8938674	-.3964245	1.4434491	-.3024667	.6820131	-.1383257	11.103726
.00800	-.2317505	9.7146077	-.4594314	2.8775296	-.4114816	1.4304125	-.3129597	.6745741	-.1422398	11.059312
.01000	-.2388978	9.6992097	-.4757305	2.8617554	-.4259715	1.4179120	-.3229877	.6674855	-.1459608	11.016353
.01200	-.2458196	9.6842838	-.4915217	2.8465135	-.4399266	1.4059164	-.3325786	.6607255	-.1495008	10.974767
.01400	-.2525282	9.6698044	-.5068322	2.8317750	-.4533763	1.3943969	-.3417580	.6542743	-.1528711	10.934482
.01600	-.2590349	9.6557481	-.5216875	2.8175131	-.4663483	1.3833268	-.3505499	.6481134	-.1560818	10.895426
.01800	-.2653502	9.6420928	-.5361110	2.8037030	-.4788680	1.3726812	-.3589762	.6422260	-.1591426	10.857537
.02000	-.2714838	9.6288183	-.5501245	2.7903215	-.4909592	1.3624373	-.3670574	.6365961	-.1620622	10.820754
.02500	-.2860812	9.5971769	-.5834946	2.7586056	-.5194530	1.3384482	-.3858723	.6235553	-.1687961	10.733283
.03000	-.2997245	9.5675377	-.6147076	2.7291403	-.5457074	1.3165441	-.4029079	.6118342	-.1748102	10.651620
.03500	-.3125200	9.5396790	-.6440016	2.7016737	-.5699800	1.2964764	-.4183848	.6012641	-.1801989	10.575116
.04000	-.3245582	9.5134121	-.6715796	2.6759915	-.5924897	1.2780341	-.4324894	.5917023	-.1850415	10.503217
.05000	-.3466621	9.4650287	-.7222581	2.6292716	-.6329437	1.2453311	-.4571928	.5751379	-.1933472	10.371410
.06000	-.3665383	9.4213398	-.7678696	2.5877915	-.6682800	1.2172752	-.4780356	.5613684	-.2001557	10.253133
.07000	-.3845677	9.3815499	-.8092695	2.5506494	-.6994141	1.1929940	-.4957782	.5498199	-.2057835	10.146063
.08000	-.4010446	9.3450434	-.8471204	2.5171472	-.7270518	1.1718189	-.5109997	.5400580	-.2104689	10.048404
.09000	-.4162008	9.3113355	-.8819447	2.4867356	-.7517465	1.1532284	-.5241481	.5317493	-.2143941	9.958743
.10000	-.4302215	9.2800382	-.9141604	2.4589755	-.7739389	1.1368105	-.5355752	.5246338	-.2177003	9.875950
.20000	-.5312061	9.0508817	-1.1455093	2.2721330	-.9128452	1.0419284	-.5970953	.4887316	-.2329708	9.284494
.30000	-.5949927	8.9021459	-1.2897129	2.1695055	-.9791543	1.0034023	-.6187238	.4777673	-.2363025	8.915929
.40000	-.6412428	8.7920206	-1.3922409	2.1047697	-1.0160280	.9849980	-.6278108	.4737350	-.2366697	8.651449
.50000	-.6773054	8.7046788	-1.4703763	2.0608742	-1.0382888	.9754365	-.6319908	.4721089	-.2361500	8.446952
.60000	-.7067183	8.6324115	-1.5325453	2.0297948	-1.0524296	.9702411	-.6339890	.4714298	-.2353575	8.281337
.70000	-.7314553	8.5708722	-1.5834925	2.0071790	-1.0617264	.9673652	-.6349312	.4711512	-.2345008	8.142899
.80000	-.7527296	8.5173631	-1.6261531	1.9904354	-1.0679914	.9657831	-.6353302	.4710464	-.2336557	8.024477
.90000	-.7713398	8.4700920	-1.6624680	1.9779162	-1.0722947	.9649469	-.6354364	.4710147	-.2328497	7.921382
1.00000	-.7878396	8.4278066	-1.6937857	1.9685209	-1.0752988	.9645503	-.6353788	.4710092	-.2320911	7.830375

TABLE IV (CONTINUED)

AERODYNAMIC COEFFICIENTS FOR POWER-LAW SUPERPOSITION METHOD.

A = 3.000000000

ET(M)	0.00000	4.58688	6.39964	6.41895	5.33150	3.69182	1.97800	.59598	-.13499
FT(M)	14.12068	15.04284	17.03303	19.78891	23.30390	27.75260	33.57112	41.81653	55.93397

CJ	C(0)	C(1)	C(2)	C(3)	C(4)	C(5)	C(6)	C(7)	C(8)	SUMI(N)C(N)
1.20000	-.8160027	8.3547802	-1.7450759	1.9562652	-1.0789678	.9644406	-.6350197	.4709982	-.2307152	7.675923
1.40000	-.8393688	8.2933390	-1.7852644	1.9497657	-1.0809670	.9647370	-.6345197	.4709413	-.2295054	7.548651
1.60000	-.8592347	8.2404612	-1.8175023	1.9468623	-1.0822127	.9651805	-.6339719	.4708264	-.2284313	7.441085
1.80000	-.8764414	8.1941646	-1.8438212	1.9462744	-1.0831530	.9656785	-.6334146	.4706577	-.2274659	7.348408
2.00000	-.8915643	8.1530787	-1.8656006	1.9472039	-1.0840112	.9662011	-.6328661	.4704435	-.2265884	7.267340
2.20000	-.9050139	8.1162163	-1.8838154	1.9491341	-1.0848970	.9667424	-.6323371	.4701931	-.2257827	7.195550
2.40000	-.9170929	8.0828437	-1.8991767	1.9517210	-1.0858608	.9673044	-.6318346	.4699151	-.2250367	7.131330
2.60000	-.9280305	8.0524003	-1.9122173	1.9547300	-1.0869219	.9678909	-.6313635	.4696171	-.2243413	7.073388
2.80000	-.9380043	8.0244489	-1.9233448	1.9579989	-1.0880826	.9685053	-.6309272	.4693061	-.2236896	7.020729
3.00000	-.9471546	7.9986414	-1.9328772	1.9614136	-1.0893369	.9691500	-.6305280	.4689879	-.2230764	6.972570
3.20000	-.9555938	7.9746971	-1.9410660	1.9648934	-1.0906747	.9698260	-.6301673	.4686676	-.2224977	6.928283
3.40000	-.9634136	7.9523857	-1.9481137	1.9683812	-1.0920843	.9705333	-.6298460	.4683493	-.2219504	6.887360
3.60000	-.9706895	7.9315164	-1.9541844	1.9718362	-1.0935537	.9712712	-.6295643	.4680365	-.2214320	6.849382
3.80000	-.9774844	7.9119293	-1.9594131	1.9752295	-1.0950715	.9720382	-.6293220	.4677322	-.2209406	6.814002
4.00000	-.9838514	7.8934891	-1.9639118	1.9785410	-1.0966271	.9728325	-.6291183	.4674387	-.2204746	6.780927
4.50000	-.9981756	7.8516881	-1.9725439	1.9863821	-1.1006214	.9749234	-.6287724	.4667638	-.2194122	6.706795
5.00000	-1.0106355	7.8149627	-1.9782718	1.9935270	-1.1046731	.9771359	-.6286441	.4661869	-.2184835	6.642630

TABLE IV (CONTINUED)

AERODYNAMIC COEFFICIENTS FOR POWER-LAW SUPERPOSITICN METHOD.

A = 4.000000000

ET(M)	0.00000	7.49911	10.30548	10.25923	8.50964	5.92945	3.24760	1.07420	-.11450
FT(M)	21.18102	22.56427	25.54955	29.68336	34.95585	41.62890	50.35668	62.72480	83.90095

CJ	C(0)	C(1)	C(2)	C(3)	C(4)	C(5)	C(6)	C(7)	C(8)	SUMI(N)C(N)
.00100	-.3068346	14.6596233	-.5962151	4.4067271	-.5335665	2.2183561	-.4106577	1.0536810	-.1912903	16.834382
.00200	-.3126255	14.6472084	-.6094022	4.3937810	-.5456489	2.2077588	-.4192840	1.0475071	-.1945616	16.799491
.00400	-.3239032	14.6230147	-.6350924	4.3686077	-.5690872	2.1872548	-.4359339	1.0356156	-.2008516	16.731565
.00600	-.3347953	14.5996276	-.6599151	4.3443453	-.5916059	2.1676243	-.4518227	1.0242997	-.2068233	16.665991
.00800	-.3453240	14.5770006	-.6839203	4.3209411	-.6132591	2.1488142	-.4669978	1.0135227	-.2124975	16.602632
.01000	-.3555100	14.5550908	-.7071538	4.2983464	-.6340970	2.1307759	-.4815026	1.0032509	-.2178929	16.541364
.01200	-.3653722	14.5338587	-.7296583	4.2765162	-.6541657	2.1134644	-.4953774	.9934531	-.2230272	16.482068
.01400	-.3749282	14.5132676	-.7514730	4.2554091	-.6735080	2.0968382	-.5086594	.9841008	-.2279164	16.424639
.01600	-.3841944	14.4932837	-.7726342	4.2349864	-.6921634	2.0808589	-.5213826	.9751674	-.2325754	16.368976
.01800	-.3931857	14.4738753	-.7931758	4.2152123	-.7101686	2.0654909	-.5335791	.9666285	-.2370178	16.314988
.02000	-.4019164	14.4550134	-.8131292	4.1960538	-.7275576	2.0507010	-.5452781	.9584613	-.2412564	16.262588
.02500	-.4226859	14.4100749	-.8606258	4.1506525	-.7685375	2.0160596	-.5725241	.9395352	-.2510367	16.138026
.03000	-.4420862	14.3680085	-.9050285	4.1084817	-.8062983	1.9844202	-.5972048	.9225144	-.2597773	16.021801
.03500	-.4602703	14.3284953	-.9466797	4.0691793	-.8412107	1.9554248	-.6196377	.9071553	-.2676141	15.912977
.04000	-.4773684	14.2912641	-.9858708	4.0324373	-.8735895	1.9287698	-.6400911	.8932527	-.2746614	15.810760
.05000	-.5087367	14.2227495	-1.0578374	3.9656155	-.9317860	1.8814814	-.6759401	.8691452	-.2867611	15.623518
.06000	-.5369128	14.1609587	-1.1225470	3.9063075	-.9826290	1.8408859	-.7062174	.8490780	-.2966940	15.455671
.07000	-.5624437	14.1047492	-1.1812284	3.8532171	-1.0274347	1.8057278	-.7320183	.8322236	-.3049169	15.303879
.08000	-.5857525	14.0532367	-1.2348333	3.8053418	-1.0672177	1.7750446	-.7541774	.8179558	-.3117738	15.165561
.09000	-.6071720	14.0057249	-1.2841115	3.7618926	-1.1027736	1.7480862	-.7733402	.8057929	-.3175279	15.038688
.10000	-.6269682	13.9616571	-1.3296629	3.7222392	-1.1347356	1.7242590	-.7900140	.7953599	-.3223832	14.921639
.20000	-.7689623	13.6404645	-1.6557157	3.4554560	-1.3351522	1.5859618	-.8803276	.7422749	-.3450190	14.088733
.30000	-.8580606	13.4334825	-1.8579648	3.3088246	-1.4313229	1.5291478	-.9126102	.7256457	-.3501489	13.572990
.40000	-.9223512	13.2810230	-2.0013077	3.2161148	-1.4851783	1.5015820	-.9264785	.7192839	-.3508609	13.204625
.50060	-.9722916	13.1605876	-2.1103091	3.1530182	-1.5179750	1.4869620	-.9330559	.7165490	-.3502183	12.920841
.60000	-1.0128984	13.0612600	-2.1969022	3.1081208	-1.5390275	1.4787927	-.9363433	.7152764	-.3491393	12.691700
.70000	-1.0469618	12.9769051	-2.2677859	3.0752414	-1.5530398	1.4740899	-.9380089	.7146437	-.3479415	12.500641
.80000	-1.0761921	12.9037264	-2.3270937	3.0507043	-1.5626190	1.4713485	-.9388213	.7143043	-.3467439	12.337561
.90000	-1.1017125	12.8392086	-2.3775527	3.0321741	-1.5693079	1.4697581	-.9391610	.7141004	-.3455915	12.195856
1.00000	-1.1243000	12.7815978	-2.4210538	3.0180917	-1.5740648	1.4688612	-.9392274	.7139565	-.3444998	12.070976

TABLE IV (CONTINUED)

AERODYNAMIC COEFFICIENTS FOR POWER-LAW SUPERPOSITICN METHOD.

A = 4.000000000

ET(M)	0.00000	7.49911	10.30548	10.25923	8.50964	5.92945	3.24760	1.07420	-.11450
FT(M)	21.18102	22.56427	25.54955	29.68336	34.95585	41.62890	50.35668	62.72480	83.90095

CJ	C(0)	C(1)	C(2)	C(3)	C(4)	C(5)	C(6)	C(7)	C(8)	SUMI(N)C(N)
1.20000	-1.1627693	12.6823304	-2.4922853	2.9992527	-1.5800457	1.4681851	-.9389311	.7137158	-.3425056	11.859494
1.40000	-1.1946044	12.5990302	-2.5481107	2.9886596	-1.5834362	1.4682167	-.9383635	.7134523	-.3407399	11.685667
1.60000	-1.2216117	12.5274988	-2.5929212	2.9832503	-1.5855909	1.4685388	-.9376834	.7131349	-.3391639	11.539070
1.80000	-1.2449599	12.4649898	-2.6295423	2.9812069	-1.5871841	1.4688897	-.9369592	.7127614	-.3377422	11.412998
2.00000	-1.2654466	12.4096087	-2.6593888	2.9813937	-1.5885609	1.4693083	-.9362252	.7123387	-.3364461	11.302898
2.20000	-1.2836397	12.3599945	-2.6853123	2.9830738	-1.5898983	1.4700740	-.9355018	.7118761	-.3352535	11.205541
2.40000	-1.2999570	12.3151371	-2.7067973	2.9857542	-1.5912841	1.4706818	-.9348018	.7113833	-.3341474	11.118564
2.60000	-1.3147147	12.2742663	-2.7250806	2.9890979	-1.5927581	1.4713318	-.9341342	.7108692	-.3331149	11.040184
2.80000	-1.3281572	12.2367822	-2.7407255	2.9928698	-1.5943337	1.4720257	-.9335056	.7103421	-.3321461	10.969029
3.00000	-1.3404771	12.2022083	-2.7541708	2.9969041	-1.5960104	1.4727644	-.9329202	.7098090	-.3312334	10.904020
3.20000	-1.3518290	12.1701603	-2.7657639	3.0010822	-1.5977802	1.4735481	-.9323811	.7092759	-.3303710	10.844293
3.40000	-1.3623386	12.1403236	-2.7757835	3.0053194	-1.5996315	1.4743759	-.9318900	.7087482	-.3295542	10.789151
3.60000	-1.3721092	12.1124379	-2.7844561	3.0095543	-1.6015516	1.4752461	-.9314480	.7082300	-.3287795	10.738019
3.80000	-1.3812270	12.0862853	-2.7919676	3.0137429	-1.6035277	1.4761565	-.9310552	.7077251	-.3280437	10.690421
4.00000	-1.3897643	12.0616814	-2.7984722	3.0178537	-1.6055476	1.4771044	-.9307113	.7072363	-.3273444	10.645956
4.50000	-1.4089496	12.0059706	-2.8111253	3.0276608	-1.6107179	1.4796182	-.9300593	.7060988	-.3257433	10.546409
5.00000	-1.4256130	11.9570957	-2.8197675	3.0366078	-1.6159488	1.4822991	-.9296870	.7050991	-.3243328	10.460374

TABLE IV (CONTINUED)

AERODYNAMIC COEFFICIENTS FOR POWER-LAW SUPERPOSITION METHOD.

A = 5.000000000

ET(M)	0.00000	10.68990	14.49799	14.33428	11.86666	8.29775	4.60794	1.60955	-.06642
FT(M)	28.24136	30.08569	34.06607	39.57782	46.60779	55.50520	67.14224	83.63306	111.86794

CJ	C(0)	C(1)	C(2)	C(3)	C(4)	C(5)	C(6)	C(7)	C(8)	SUMI(N)C(N)
.00100	-.4087753	19.5469055	-.7941854	5.8763347	-.7108148	2.9583066	-.5471576	1.4051736	-.2549150	22.447852
.00200	-.4161644	19.5310822	-.8110122	5.8597595	-.7263297	2.9446638	-.5582832	1.3972000	-.2591420	22.403309
.00400	-.4305523	19.5002517	-.8437881	5.8275314	-.7564268	2.9182658	-.5797593	1.3818401	-.2672709	22.316603
.00600	-.4444454	19.4704559	-.8754515	5.7964723	-.7853429	2.8929903	-.6002563	1.3672211	-.2749899	22.232915
.00800	-.4578724	19.4416351	-.9060663	5.7665142	-.8131478	2.8687694	-.6198352	1.3532957	-.2823257	22.152070
.01000	-.4708597	19.4137341	-.9356916	5.7375948	-.8399057	2.8455403	-.6385519	1.3400207	-.2893026	22.073906
.01200	-.4834317	19.3867022	-.9643818	5.7096563	-.8656759	2.8232455	-.6564581	1.3273561	-.2959430	21.998273
.01400	-.4956110	19.3604923	-.9921876	5.6826452	-.8905135	2.8018315	-.6736015	1.3152649	-.3022677	21.925034
.01600	-.5074186	19.3350609	-1.0191556	5.6565122	-.9144691	2.7812490	-.6900262	1.3037133	-.3082958	21.854061
.01800	-.5188738	19.3103675	-1.0453292	5.6312112	-.9375899	2.7614521	-.7057730	1.2926695	-.3140449	21.785235
.02000	-.5299946	19.2863745	-1.0707487	5.6066996	-.9599197	2.7423984	-.7208797	1.2821046	-.3195314	21.718446
.02500	-.5564413	19.2292332	-1.1312382	5.5486205	-1.0125440	2.6977632	-.7560708	1.2576138	-.3321957	21.559730
.03000	-.5811328	19.1757728	-1.1877628	5.4946840	-1.0610357	2.6569870	-.7879604	1.2355775	-.3435197	21.411702
.03500	-.6042655	19.1255840	-1.2407621	5.4444250	-1.1058709	2.6196095	-.8169566	1.2156824	-.3536782	21.273163
.04000	-.6260066	19.0783183	-1.2906103	5.3974482	-1.1474541	2.5852408	-.8434044	1.1976645	-.3628185	21.143090
.05000	-.6658661	18.9914038	-1.3820915	5.3120327	-1.2221998	2.5242450	-.8897873	1.1663962	-.3785251	20.904974
.06000	-.7016377	18.9130964	-1.4642837	5.2362439	-1.2875083	2.4718547	-.9289936	1.1403393	-.3914344	20.691698
.07000	-.7340235	18.8419299	-1.5387638	5.1684183	-1.3450698	2.4264566	-.9624323	1.1184285	-.4021347	20.498977
.08000	-.7635663	18.7767698	-1.6067525	5.1072696	-1.3961871	2.3868138	-.9911766	1.0998576	-.4110692	20.323500
.09000	-.7906931	18.7167231	-1.6692116	5.0517857	-1.4418816	2.3519622	-1.0160574	1.0840064	-.4185771	20.162662
.10000	-.8157450	18.6610759	-1.7269101	5.0011581	-1.4829658	2.3211393	-1.0377271	1.0703916	-.4249213	20.014386
.20000	-.9948407	18.2569709	-2.1388031	4.6607065	-1.7409289	2.1416274	-1.1556800	1.0006429	-.4547240	18.962592
.30000	-1.1066207	17.9980604	-2.3932704	4.4735478	-1.8652019	2.0672071	-1.1984048	.9783491	-.4616803	18.314639
.40000	-1.1869635	17.8081447	-2.5731454	4.3550326	-1.9351663	2.0306665	-1.2170794	.9695637	-.4627950	17.853583
.50000	-1.2491836	17.6586020	-2.7096743	4.2741666	-1.9780549	2.0109863	-1.2261414	.9656169	-.4620835	17.499437
.60000	-1.2996509	17.5355876	-2.8179920	4.2164237	-2.0058028	1.9997670	-1.2308150	.9636573	-.4607631	17.214166
.70000	-1.3418983	17.4313418	-2.9065731	4.1739479	-2.0244416	1.9931346	-1.2332949	.9625898	-.4592613	16.976784
.80000	-1.3780871	17.3410741	-2.9806360	4.1420725	-2.0373185	1.9891253	-1.2346012	.9619462	-.4577415	16.774515
.90000	-1.4096341	17.2616171	-3.0436169	4.1178344	-2.0464177	1.9866754	-1.2352444	.9615102	-.4562678	16.599024
1.00000	-1.4375174	17.1907668	-3.0978950	4.0992565	-2.0529747	1.9851801	-1.2354955	.9611758	-.4548640	16.444577

TABLE I (CONTINUED)

AERODYNAMIC COEFFICIENTS FOR POWER-LAW SUPERPOSITION METHOD.

A = 5.000000000

ET(M)	0.00000	10.68990	14.49799	14.33428	11.86666	8.29775	4.60794	1.60955	-.06642	
FT(M)	28.24136	30.08569	34.06607	39.57782	46.60779	55.50520	67.14224	83.63306	111.86794	
CJ	C(0)	C(1)	C(2)	C(3)	C(4)	C(5)	C(6)	C(7)	C(8)	SUM(N)C(N)
1.20000	-1.4849228	17.0685066	-3.1867518	4.0739876	-2.0613885	1.9837668	-1.2353608	.9606192	-.4522840	16.183473
1.40000	-1.5240731	16.9668606	-3.2563911	4.0592575	-2.0662913	1.9833934	-1.2348021	.9600810	-.4499860	15.969288
1.60000	-1.5572292	16.8793854	-3.3123096	4.0511821	-2.0694578	1.9834778	-1.2340503	.9595059	-.4479261	15.788962
1.80000	-1.5858503	16.8030585	-3.3580378	4.0474532	-2.0717826	1.9837829	-1.2332086	.9588821	-.4460617	15.634111
2.00000	-1.6109311	16.7355244	-3.3959652	4.0466267	-2.0737320	1.9842112	-1.2323301	.9582126	-.4443581	15.499052
2.20000	-1.6331780	16.6750933	-3.4277760	4.0477634	-2.0755519	1.9847234	-1.2314460	.9575055	-.4427876	15.379763
2.40000	-1.6531105	16.6205131	-3.4546963	4.0502337	-2.0773701	1.9853046	-1.2305765	.9567700	-.4413289	15.273301
2.60000	-1.6711207	16.5708306	-3.4776423	4.0536054	-2.0792496	1.9859494	-1.2297356	.9560157	-.4399656	15.177454
2.80000	-1.6875115	16.5253042	-3.4973144	4.0575760	-2.0812174	1.9866560	-1.2289331	.9552510	-.4386853	15.090515
3.00000	-1.7025218	16.4833454	-3.5142575	4.0619312	-2.0832805	1.9874231	-1.2281760	.9544837	-.4374780	15.011148
3.20000	-1.7163425	16.4444804	-3.5289030	4.0665169	-2.0854353	1.9882491	-1.2274690	.9537204	-.4363361	14.938284
3.40000	-1.7291289	16.4083215	-3.5415967	4.0712219	-2.0876723	1.9891319	-1.2268153	.9529670	-.4352535	14.871059
3.60000	-1.7410088	16.3745482	-3.5526196	4.0759654	-2.0899794	1.9900686	-1.2262167	.9522281	-.4342255	14.808762
3.80000	-1.7520882	16.3428924	-3.5622021	4.0806885	-2.0923439	1.9910560	-1.2256741	.9515077	-.4332479	14.750804
4.00000	-1.7624565	16.3131276	-3.5705353	4.0853487	-2.0947532	1.9920904	-1.2251876	.9508092	-.4323176	14.696693
4.50000	-1.7857358	16.2457896	-3.5868903	4.0965432	-2.1008961	1.9948564	-1.2242122	.9491735	-.4301811	14.575656
5.00000	-1.8059317	16.1867806	-3.5982647	4.1068975	-2.1070885	1.9978311	-1.2235638	.9477148	-.4282887	14.471170

TABLE IV (CONTINUED)

AERODYNAMIC COEFFICIENTS FOR POWER-LAW SUPERPOSITION METHOD.

A = 6.000000000

ET(M)	0.00000	14.11042	18.91178	18.58352	15.35306	10.75907	6.03229	2.18501	.00098
FT(M)	35.30170	37.60711	42.58258	49.47227	58.25974	69.38150	83.92780	104.54133	139.83492

CJ	C(0)	C(1)	C(2)	C(3)	C(4)	C(5)	C(6)	C(7)	C(8)	SUMI(N)C(N)
.00100	-.5106060	24.4344265	-.9919043	7.3461795	-.8878518	3.6984342	-.6835187	1.7567627	-.3184892	28.061981
.00200	-.5194852	24.4154298	-1.0121234	7.3262078	-.9065923	3.6819189	-.6970084	1.7470832	-.3236228	28.008432
.00400	-.5367723	24.3784215	-1.0515025	7.2873780	-.9429466	3.6493612	-.7230498	1.7284352	-.3334963	27.904209
.00600	-.5534622	24.3426620	-1.0895388	7.2499594	-.9778743	3.6193606	-.7479070	1.7106839	-.3428735	27.803628
.00800	-.5695894	24.3080791	-1.1263097	7.2138702	-1.0114596	3.5900348	-.7716533	1.6937723	-.3517866	27.706480
.01000	-.5851859	24.2746063	-1.1618866	7.1790346	-1.0437802	3.5619081	-.7943566	1.6776481	-.3602651	27.612567
.01200	-.6002812	24.2421822	-1.1963352	7.1453831	-1.0749079	3.5349109	-.8160793	1.6622627	-.3683361	27.521710
.01400	-.6149026	24.2107500	-1.2297167	7.1128510	-1.1049089	3.5089785	-.8368790	1.6475718	-.3760247	27.433742
.01600	-.6290754	24.1802569	-1.2620874	7.0813786	-1.1338447	3.4840512	-.8568090	1.6335341	-.3833539	27.348508
.01800	-.6428230	24.1506543	-1.2934998	7.0509104	-1.1617722	3.4600739	-.8759187	1.6201115	-.3903451	27.265866
.02000	-.6561672	24.1218967	-1.3240025	7.0213949	-1.1887444	3.4369950	-.8942539	1.6072687	-.3970182	27.185682
.02500	-.6878924	24.0534295	-1.3965696	6.9514674	-1.2523096	3.3829236	-.9369749	1.5774889	-.4124261	26.995184
.03000	-.7175003	23.9894017	-1.4643551	6.8865381	-1.3108840	3.3335179	-.9757000	1.5506823	-.4262096	26.817580
.03500	-.7452281	23.9293188	-1.5278901	6.8260454	-1.3650427	3.2882216	-1.0109228	1.5264700	-.4385803	26.651421
.04000	-.7712778	23.8727598	-1.5876266	6.7695116	-1.4152744	3.2465632	-1.0430605	1.5045324	-.4497163	26.495474
.05000	-.8190099	23.7688221	-1.6971986	6.6667410	-1.5055701	3.1726076	-1.0994501	1.4664362	-.4688661	26.210142
.06000	-.8618152	23.6752546	-1.7955802	6.5755772	-1.5844719	3.1090585	-1.1471481	1.4346591	-.4846214	25.954752
.07000	-.9005414	23.5902869	-1.8846745	6.4940116	-1.6540214	3.0539660	-1.1878587	1.4079119	-.4976946	25.724130
.08000	-.9358438	23.5125498	-1.9659550	6.4204913	-1.7157921	3.0058349	-1.2228804	1.3852183	-.5086225	25.514279
.09000	-.9682379	23.4409655	-2.0405822	6.3537948	-1.7710174	2.9634999	-1.2532184	1.3658275	-.5178161	25.322056
.10000	-.9981350	23.3746727	-2.1094839	6.2929465	-1.8206789	2.9260391	-1.2796622	1.3491538	-.5255943	25.144951
.20000	-1.2112768	22.8947323	-2.6002311	5.8839681	-2.1328232	2.7072597	-1.4241959	1.2632430	-.5623649	23.891979
.30000	-1.3437130	22.5887177	-2.9023720	5.6591465	-2.2836663	2.6153867	-1.4771256	1.2353242	-.5711542	23.123391
.40000	-1.4385919	22.3650315	-3.1154603	5.5166312	-2.3689496	2.5705932	-1.5005870	1.2240612	-.5727100	22.578218
.50000	-1.5118834	22.1893693	-3.2769408	5.4192064	-2.4215023	2.5459029	-1.5121781	1.2188331	-.5719686	22.160489
.60000	-1.5712083	22.0451806	-3.4049058	5.3494577	-2.4557135	2.5316114	-1.5182988	1.2161207	-.5704407	21.824675
.70000	-1.6207852	21.9232107	-3.5094648	5.2979787	-2.4788589	2.5229965	-1.5216541	1.2145600	-.5686632	21.545702
.80000	-1.6631900	21.8177572	-3.5968315	5.2591864	-2.4949799	2.5176555	-1.5235104	1.2135616	-.5668446	21.308337
.90000	-1.7001082	21.7250564	-3.6710913	5.2295383	-2.5064754	2.5142805	-1.5245071	1.2128495	-.5650692	21.102654
1.00000	-1.7327018	21.6424937	-3.7350688	5.2066717	-2.5148418	2.5121236	-1.5249866	1.2122860	-.5633697	20.921838

TABLE IV (CONTINUED)

AERODYNAMIC COEFFICIENTS FOR POWER-LAW SUPERPOSITION METHOD.

A = 6.000000000

ET(M)	0.00000	14.11042	18.91178	18.58352	15.35306	10.75907	6.03229	2.18501	.00098
FT(M)	35.30170	37.60711	42.58258	49.47227	58.25974	69.38150	83.92780	104.54133	139.83492

CJ	C(0)	C(1)	C(2)	C(3)	C(4)	C(5)	C(6)	C(7)	C(8)	SUM(N)C(N)
1.20000	-1.7880351	21.5007004	-3.8397759	5.1751971	-2.5257414	2.5098593	-1.5250859	1.2113498	-.5602299	20.616590
1.40000	-1.8336556	21.3821666	-3.9218303	5.1563896	-2.5322230	2.5089854	-1.5245927	1.2104861	-.5574186	20.366608
1.60000	-1.8722365	21.2607046	-3.9877303	5.1456078	-2.5364632	2.5087521	-1.5238150	1.2096121	-.5548892	20.156438
1.80000	-1.9054996	21.1922834	-4.0416438	5.1400911	-2.5395699	2.5088433	-1.5228933	1.2087041	-.5525937	19.976179
2.00000	-1.9346168	21.1141328	-4.0863881	5.1381106	-2.5421286	2.5091218	-1.5219012	1.2077594	-.5504915	19.819125
2.20000	-1.9604196	21.0442689	-4.1239470	5.1385399	-2.5444539	2.5095271	-1.5208826	1.2067836	-.5485506	19.680541
2.40000	-1.9835181	20.9812232	-4.1557635	5.1406226	-2.5467145	2.5100325	-1.5198656	1.2057849	-.5467457	19.556965
2.60000	-2.0043729	20.9238792	-4.1829153	5.1438380	-2.5489981	2.5106256	-1.5188697	1.2047723	-.5450572	19.445793
2.80000	-2.0233392	20.8713691	-4.2062251	5.1478210	-2.5513466	2.5113001	-1.5179086	1.2037543	-.5434699	19.345027
3.00000	-2.0406966	20.8230053	-4.2263333	5.1523114	-2.5537763	2.5120517	-1.5169920	1.2027387	-.5419721	19.253095
3.20000	-2.0566689	20.7782339	-4.2437462	5.1571219	-2.5562889	2.5128767	-1.5161268	1.2017325	-.5405544	19.168747
3.40000	-2.0714377	20.7366029	-4.2588698	5.1621162	-2.5588779	2.5137713	-1.5153175	1.2007416	-.5392093	19.090969
3.60000	-2.0851522	20.6977383	-4.2720334	5.1671947	-2.5615334	2.5147312	-1.5145673	1.1997710	-.5379308	19.018931
3.80000	-2.0979365	20.6613279	-4.2835075	5.1722845	-2.5642432	2.5157519	-1.5138777	1.1988249	-.5367139	18.951943
4.00000	-2.1098947	20.6271078	-4.2935161	5.1773322	-2.5669950	2.5168288	-1.5132494	1.1979066	-.5355546	18.889430
4.50000	-2.1367245	20.5497449	-4.3132833	5.1895369	-2.5739822	2.5197354	-1.5119442	1.1957485	-.5328863	18.749698
5.00000	-2.1599788	20.4820131	-4.3272043	5.2008997	-2.5809975	2.5223899	-1.5110032	1.1938062	-.5305136	18.629188

TABLE IV (CONTINUED)

AERODYNAMIC COEFFICIENTS FOR POWER-LAW SUPERPOSITION METHOD.

A = 7.00000000

ET(M)	0.00000	17.72516	23.50362	22.96859	18.93846	13.29084	7.50485	2.79060	.08289
FT(M)	42.36204	45.12853	51.09910	59.36673	69.91169	83.25780	100.71336	125.44960	167.80191

CJ	C(0)	C(1)	C(2)	C(3)	C(4)	C(5)	C(6)	C(7)	C(8)	SUMI(N)C(N)
.00100	-.6123444	29.3221475	-1.1894119	8.8162256	-1.0647075	4.4387148	-.8197592	2.1084361	-.3820191	33.676663
.00200	-.6226229	29.3001741	-1.2128156	8.7930553	-1.0864960	4.4194766	-.8354951	2.0971326	-.3880163	33.614653
.00400	-.6426320	29.2573720	-1.2583923	8.7480087	-1.1287630	4.3822486	-.8658752	2.0753539	-.3995519	33.493974
.00600	-.6619471	29.2160208	-1.3024088	8.7046022	-1.1693712	4.3465995	-.8948764	2.0546198	-.4105093	33.377528
.00800	-.6806085	29.1760367	-1.3449553	8.6627405	-1.2084185	4.3124338	-.9225844	2.0348639	-.4209258	33.265070
.01000	-.6986532	29.1373423	-1.3861145	8.6223358	-1.2459953	4.2796633	-.9490779	2.0160251	-.4308359	33.156372
.01200	-.7161156	29.0998662	-1.4259633	8.5833069	-1.2821850	4.2482068	-.9744297	1.9980472	-.4402710	33.051224
.01400	-.7330274	29.0635423	-1.4645723	8.5455787	-1.3170649	4.2179894	-.9987067	1.9808784	-.4492604	32.949434
.01600	-.7494180	29.0283093	-1.5020074	8.5090818	-1.3507062	4.1889416	-1.0219711	1.9644706	-.4578309	32.850820
.01800	-.7653147	28.9941105	-1.5383295	8.4737515	-1.3831753	4.1609990	-1.0442801	1.9487796	-.4660075	32.755217
.02000	-.7807427	28.9608932	-1.5735951	8.4395282	-1.4145337	4.1341020	-1.0656872	1.9337642	-.4738131	32.662470
.02500	-.8174135	28.8818294	-1.6574745	8.3584553	-1.4884361	4.0710783	-1.1155750	1.8983381	-.4918409	32.442174
.03000	-.8516252	28.8079206	-1.7358021	8.2831884	-1.5565366	4.0134837	-1.1608088	1.8675773	-.5079744	32.236855
.03500	-.8836539	28.7385916	-1.8091953	8.2130743	-1.6195041	3.9606712	-1.2019629	1.8392409	-.5224600	32.044827
.04000	-.9137341	28.6733531	-1.8781795	8.1475577	-1.6779068	3.9120921	-1.2395230	1.8135568	-.5355053	31.864656
.05000	-.9688251	28.5535300	-2.0046588	8.0284803	-1.7828941	3.8258282	-1.3054553	1.7689282	-.5579524	31.535152
.06000	-1.0181986	28.4457380	-2.1181559	7.9228765	-1.8746392	3.7516758	-1.3612585	1.7316716	-.5764366	31.240401
.07000	-1.0628399	28.3479197	-2.2208829	7.8284119	-1.9555159	3.6873664	-1.4089168	1.7002852	-.5917883	30.974388
.08000	-1.1035107	28.2584839	-2.3145519	7.7432819	-2.0273536	3.6311606	-1.4499418	1.6736317	-.6046332	30.732467
.09000	-1.1408097	28.1761784	-2.4005109	7.6660670	-2.0915862	3.5817025	-1.4855039	1.6508362	-.6154503	30.510985
.10000	-1.1752150	28.1000030	-2.4798377	7.5956339	-2.1493547	3.5379197	-1.5165227	1.6312160	-.6246115	30.307030
.20000	-1.4199126	27.5499593	-3.0437161	7.1224672	-2.5127602	3.2816176	-1.6866607	1.5296232	-.6681547	28.867355
.30000	-1.5713738	27.2006988	-3.3898408	6.8624051	-2.6888205	3.1739099	-1.7495483	1.4961421	-.6787698	27.987484
.40000	-1.6795788	26.9461636	-3.6334627	6.6974260	-2.7887063	3.1200980	-1.7777505	1.4823733	-.6807924	27.365063
.50000	-1.7629828	26.7467345	-3.8178227	6.5844823	-2.8505204	3.0904761	-1.7918886	1.4758167	-.6800500	26.889149
.60000	-1.8303741	26.5833399	-3.9637686	6.5034588	-2.8909634	3.0731210	-1.7994937	1.4723038	-.6783404	26.507215
.70000	-1.8866092	26.4453359	-4.0829286	6.4435020	-2.9184833	3.0625013	-1.8037657	1.4702065	-.6763090	26.190384
.80000	-1.9346484	26.3261755	-4.1824385	6.3981749	-2.9377763	3.0557925	-1.8062115	1.4688150	-.6742103	25.921139
.90000	-1.9764262	26.2215442	-4.2669837	6.3633954	-2.9516332	3.0514514	-1.8075977	1.4677932	-.6721488	25.688082
1.00000	-2.0132744	26.1284488	-4.3398001	6.3364420	-2.9617971	3.0485912	-1.8083380	1.4669712	-.6701668	25.483396

TABLE IV (CONTINUED)

AERODYNAMIC COEFFICIENTS FOR POWER-LAW SUPERPOSITION METHOD.

A = 7.000000000

ET(M)	0.00000	17.72516	23.50362	22.96859	18.93846	13.29084	7.50485	2.79060	.08289
FT(M)	42.36204	45.12653	51.09910	59.36673	69.91169	83.25780	100.71336	125.44960	167.80191

CJ	C(0)	C(1)	C(2)	C(3)	C(4)	C(5)	C(6)	C(7)	C(8)	SUMI(N)C(N)
1.20000	-2.0757532	25.9687697	-4.4589402	6.2390059	-2.9751952	3.0453983	-1.8087255	1.4656063	-.6664880	25.138269
1.40000	-2.1271913	25.8354794	-4.5522923	6.2762251	-2.9832883	3.0439568	-1.8083410	1.4643779	-.6631792	24.856028
1.60000	-2.1706395	25.7215261	-4.6272731	6.2627543	-2.9886376	3.0433489	-1.8075722	1.4631732	-.6601923	24.619019
1.80000	-2.2080603	25.6223234	-4.6886333	6.2554124	-2.9925571	3.0431774	-1.8065993	1.4619545	-.6574750	24.415948
2.00000	-2.2407870	25.5347240	-4.7395810	6.2522055	-2.9957483	3.0432633	-1.8055179	1.4607126	-.6549821	24.239179
2.20000	-2.2697651	25.4564765	-4.7823733	6.2518328	-2.9985939	3.0435233	-1.8043852	1.4594494	-.6526770	24.083323
2.40000	-2.2956873	25.3859164	-4.8186504	6.2534194	-3.0013036	3.0439175	-1.8032381	1.4581714	-.6505312	23.944444
2.60000	-2.3190763	25.3217796	-4.8496368	6.2563619	-3.0039905	3.0444255	-1.8021018	1.4568866	-.6485220	23.819586
2.80000	-2.3403345	25.2630841	-4.8762669	6.2602363	-3.0067123	3.0450359	-1.8009943	1.4556031	-.6466320	23.706465
3.00000	-2.3597789	25.2090526	-4.8992673	6.2647395	-3.0094950	3.0457409	-1.7999284	1.4543284	-.6448472	23.603354
3.20000	-2.3776625	25.1590595	-4.9192124	6.2696525	-3.0123467	3.0465341	-1.7989131	1.4530695	-.6431568	23.508779
3.40000	-2.3941908	25.1125945	-4.9365626	6.2748155	-3.0152650	3.0474098	-1.7979548	1.4518322	-.6415519	23.421611
3.60000	-2.4095326	25.0692359	-4.9516914	6.2801112	-3.0182421	3.0483622	-1.7970576	1.4506216	-.6400253	23.340910
3.80000	-2.4238279	25.0286313	-4.9649052	6.2854528	-3.0212675	3.0493854	-1.7962241	1.4494418	-.6385713	23.265899
4.00000	-2.4371945	24.9904838	-4.9764579	6.2907766	-3.0243298	3.0504739	-1.7954555	1.4482962	-.6371849	23.195924
4.50000	-2.4671659	24.9042929	-4.9993830	6.3037299	-3.0320722	3.0534423	-1.7938189	1.4455978	-.6339883	23.039609
5.00000	-2.4931226	24.8288898	-5.0156788	6.3158645	-3.0398134	3.0566963	-1.7925759	1.4431543	-.6311372	22.904905

TABLE IV (CONTINUED)

AERODYNAMIC COEFFICIENTS FOR POWER-LAW SUPERPOSITION METHOD.

A = 8.000000000

ET(M)	0.00000	21.50779	28.24297	27.46334	22.60267	15.87828	9.01537	3.41988	.17619
FT(M)	49.42237	52.64996	59.61562	69.26118	81.56364	97.13410	117.49892	146.35786	195.76889

CJ	C(0)	C(1)	C(2)	C(3)	C(4)	C(5)	C(6)	C(7)	C(8)	SUMI(N)C(N)
.00100	-.7140034	34.2100400	-1.3867377	10.2864465	-1.2414047	5.1791302	-.9558928	2.4601841	-.4455096	39.291823
.00200	-.7256029	34.1852586	-1.4131471	10.2602491	-1.2660860	5.1573009	-.9737709	2.4473296	-.4523321	39.221820
.00400	-.7481819	34.1369919	-1.4645727	10.2093197	-1.3139644	5.1150574	-1.0082889	2.4225602	-.4654564	39.085598
.00600	-.7699749	34.0903680	-1.5142320	10.1602476	-1.3599634	5.0746036	-1.0412429	2.3989760	-.4779244	38.954170
.00800	-.7910277	34.0452918	-1.5622270	10.1129247	-1.4041942	5.0358312	-1.0727302	2.3765018	-.4897785	38.827258
.01000	-.8113824	34.0016756	-1.6086517	10.0672515	-1.4467590	4.9986405	-1.1028400	2.3550685	-.5010576	38.704603
.01200	-.8310777	33.9594385	-1.6535929	10.0231361	-1.4877526	4.9623394	-1.1316547	2.3346121	-.5117976	38.585968
.01400	-.8501496	33.9185057	-1.6971310	9.9804935	-1.5272623	4.9286428	-1.1592503	2.3150739	-.5220316	38.471134
.01600	-.8686316	33.8788077	-1.7393403	9.9392448	-1.5653689	4.8956721	-1.1856972	2.2963995	-.5317900	38.359896
.01800	-.8865547	33.8402803	-1.7802899	9.8993170	-1.6021477	4.8639543	-1.2110604	2.2785386	-.5411010	38.252067
.02000	-.9039472	33.8028636	-1.8200439	9.8606422	-1.6376682	4.8334216	-1.2354004	2.2614447	-.5499909	38.147470
.02500	-.9452784	33.7136255	-1.9145803	9.7690329	-1.7213797	4.7618728	-1.2921322	2.2217888	-.5705276	37.899077
.03000	-.9838268	33.6306205	-2.0028349	9.6839954	-1.7985194	4.6964787	-1.3435838	2.1860673	-.5889128	37.667636
.03500	-1.0199048	33.5525970	-2.0855072	9.6047897	-1.8698452	4.6365059	-1.3904063	2.1537799	-.6054261	37.451236
.04000	-1.0537784	33.4792009	-2.1631922	9.5307868	-1.9360011	4.5813326	-1.4331503	2.1245047	-.6203028	37.248254
.05000	-1.1157906	33.3444580	-2.3055690	9.3963086	-2.0549285	4.4833375	-1.5082104	2.0736097	-.6459151	36.877176
.06000	-1.1713365	33.2233188	-2.4332675	9.2770727	-2.1588600	4.3990747	-1.5717728	2.0310910	-.6670222	36.545408
.07000	-1.2215320	33.1134532	-2.5487931	9.1704354	-2.2504850	4.3259729	-1.6260872	1.9952445	-.6845663	36.246137
.08000	-1.2672396	33.0130597	-2.6540839	9.0743530	-2.3318756	4.2620606	-1.6728683	1.9647796	-.6992578	35.974102
.09000	-1.3091372	32.9207207	-2.7506661	8.9872165	-2.4046562	4.2058009	-1.7134438	1.9387030	-.7116408	35.725167
.10000	-1.3477659	32.8353039	-2.8397593	8.9077489	-2.4701189	4.1553763	-1.7488569	1.9162398	-.7221379	35.496034
.20000	-1.6219305	32.2199411	-3.4719517	8.3741313	-2.8822114	3.8637327	-1.9436946	1.7994229	-.7722637	33.881828
.30000	-1.7910626	31.8306199	-3.8589782	8.0809177	-3.0822811	3.7402711	-2.0162915	1.7604558	-.7846884	32.898460
.40000	-1.9115961	31.5476299	-4.1309067	7.8948048	-3.1961178	3.6781778	-2.0491722	1.7441703	-.7871943	32.204470
.50000	-2.0043263	31.3263514	-4.3364297	7.7672482	-3.2668171	3.6437177	-2.0658571	1.7362533	-.7864723	31.674810
.60000	-2.0791382	31.1453477	-4.4989795	7.6755925	-3.3132674	3.6233271	-2.0749680	1.7319049	-.7846011	31.250378
.70000	-2.1414854	30.9926756	-4.6316046	7.6076249	-3.3450265	3.6106990	-2.0801842	1.7292382	-.7823335	30.898735
.80000	-2.1946875	30.8610002	-4.7423014	7.5561076	-3.3674109	3.6026042	-2.0832477	1.7274242	-.7799695	30.600227
.90000	-2.2409111	30.7454940	-4.8363144	7.5164529	-3.3835830	3.5972723	-2.0850498	1.7260665	-.7776345	30.342081
1.00000	-2.2816461	30.6428118	-4.9172616	7.4856035	-3.3955200	3.5936819	-2.0860749	1.7249629	-.7753808	30.115547

TABLE IV (CONCLUDED)

AERODYNAMIC COEFFICIENTS FOR POWER-LAW SUPERPOSITION METHOD.

A = 8.000000000

ET(M)	0.00000	21.50779	28.24297	27.46334	22.60267	15.87828	9.01537	3.41988	.17619
FT(M)	49.42237	52.64996	59.61562	69.26118	81.56364	97.13410	117.49892	146.35786	195.76889

CJ	C(0)	C(1)	C(2)	C(3)	C(4)	C(5)	C(6)	C(7)	C(8)	SUMI(N)C(N)
1.20000	-2.3506411	30.4668837	-5.0496692	7.4424497	-3.4114049	3.5895071	-2.0867916	1.7231304	-.7711803	29.733986
1.40000	-2.4073734	30.3202161	-5.1534002	7.4158183	-3.4211204	3.5874504	-2.0865490	1.7215065	-.7673870	29.422331
1.60000	-2.4552433	30.1949594	-5.2367206	7.3997053	-3.4275967	3.5864265	-2.0858163	1.7199456	-.7639527	29.160891
1.80000	-2.4964352	30.0860156	-5.3049191	7.3905366	-3.4323463	3.5859564	-2.0848148	1.7183952	-.7608215	28.937088
2.00000	-2.5324317	29.9898907	-5.3615641	7.3860696	-3.4361836	3.5858180	-2.0836632	1.7168385	-.7579443	28.742423
2.20000	-2.5642826	29.9040879	-5.4091641	7.3848406	-3.4395581	3.5859041	-2.0824326	1.7152730	-.7552805	28.570907
2.40000	-2.5927574	29.8267631	-5.4495410	7.3858633	-3.4427204	3.5861609	-2.0811691	1.7137029	-.7527983	28.418169
2.60000	-2.6184346	29.7565168	-5.4840539	7.3884567	-3.4458088	3.5865592	-2.0799042	1.7121348	-.7504724	28.280930
2.80000	-2.6417606	29.6922630	-5.5137395	7.3921411	-3.4488974	3.5870817	-2.0786604	1.7105760	-.7482829	28.156673
3.00000	-2.6630865	29.6331424	-5.5394030	7.3965731	-3.4520228	3.5877169	-2.0774534	1.7090336	-.7462142	28.043425
3.20000	-2.6826920	29.5784642	-5.5616835	7.4015036	-3.4551995	3.5884555	-2.0762949	1.7075141	-.7442538	27.939617
3.40000	-2.7008044	29.5276649	-5.5810889	7.4067506	-3.4584298	3.5892896	-2.0751929	1.7060233	-.7423915	27.843978
3.60000	-2.7176102	29.4802791	-5.5980338	7.4121795	-3.4617086	3.5902117	-2.0741529	1.7045661	-.7406191	27.755468
3.80000	-2.7332642	29.4359185	-5.6128575	7.4176910	-3.4650275	3.5912147	-2.0731784	1.7031465	-.7389298	27.673226
4.00000	-2.7478964	29.3942556	-5.6258413	7.4232109	-3.4683760	3.5922917	-2.0722715	1.7017678	-.7373179	27.596532
4.50000	-2.7806885	29.3001696	-5.6517022	7.4367234	-3.4768073	3.5952637	-2.0703034	1.6985151	-.7335963	27.425297
5.00000	-2.8090690	29.2179136	-5.6702177	7.4494566	-3.4852023	3.5985578	-2.0687529	1.6955568	-.7302686	27.277834

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TABLE V

ABSCISSAE FOR DENSE AND SPARSE ABSCISSA-STATION DISTRIBUTIONS IN THE NUMERICAL QUADRATURE RANGE

DENSE	SPARSE
.0500	.0500
.1250	
.2000	
.3000	
.4000	.4000
.5000	
.6000	
.6500	.6500
.7000	
.7500	
.8000	
.8500	.8500
.9000	.9000
.9125	
.9250	.9250
.9375	.9375
.9500	.9500
.9625	.9625
.9750	.9750

TABLE VI

PERCENTAGE RELATIVE DIFFERENCES FOR $H_0^{(c)}$ AND $\mathcal{J}^{(c)}$ CALCULATED BY ALTERNATIVE QUADRATURE RULES AND ABSCISSA-STATION DISTRIBUTIONS FOR NORMALIZED BASIC POWER-LAW CAMBER LINES OF a = 2, 4, AND 8

a	c_j	Abscissa-Station Density	$H_0^{(c)}$ Approximating Integrand Linear	$H_0^{(c)}$ Approximating Integrand Quadratic	$\mathcal{J}^{(c)}$ Approximating Integrand Linear	$\mathcal{J}^{(c)}$ Approximating Integrand Quadratic
2	0.01	Dense	0.99	-0.03	1.00	0.00
	0.01	Sparse	7.01	2.68	7.06	4.22
	0.10	Dense	0.96	0.01	0.97	0.04
	0.10	Sparse	6.78	2.48	6.86	4.16
	4.00	Dense	0.75	0.11	0.78	0.15
	4.00	Sparse	5.31	1.54	5.51	3.82
4	0.01	Dense	1.13	-0.02	1.14	-0.01
	0.01	Sparse	7.76	3.14	7.80	4.40
	0.10	Dense	1.11	0.02	1.12	0.03
	0.10	Sparse	7.65	2.97	7.69	4.36
	4.00	Dense	0.95	0.14	0.97	0.16
	4.00	Sparse	6.70	2.05	6.83	4.06
8	0.01	Dense	1.35	0.02	1.35	0.01
	0.01	Sparse	8.33	3.86	8.34	4.72
	0.10	Dense	1.34	0.07	1.34	0.07
	0.10	Sparse	8.34	3.76	8.35	4.74
	4.00	Dense	1.23	0.23	1.25	0.23
	4.00	Sparse	7.93	3.08	8.01	4.58

TABLE VII

H(N), BETA(N), ISCRPT, AND THE INCREMENTAL PITCHING MOMENT COEFFICIENT BY THE QUADRATURE METHOD FOR NORMALIZED BASIC POWER-LAW CAMBER LINES OF A=2,4, AND 8.

HC RANGE: XI= .05 TO .975

POWER-LAW CAMBER LINE, KAPPA=1, A=2

CJ = .006000

	H(0)	H(1)	H(2)	H(3)	H(4)	H(5)	H(6)	H(7)	H(8)		ISCRPT
LE	.0000061	.0000145	.0000121	.0000073	.0000064	.0000047	.0000036	.0000023	.0000012	LE	.000035
C	.0090447	.0196349	.0206454	.0195167	.0175012	.0147386	.0115936	.0080672	.0042322	C	.054175
TE	.0063141	.0133288	.0143044	.0146807	.0143684	.0131792	.0111109	.0081634	.0044240	TE	.038328
TOT	.0153648	.0329782	.0349619	.0342052	.0318760	.0279225	.0227081	.0162329	.0086574	TOT	.092539
	YPDD(0)	YPDD(1)	YPDD(2)	YPDD(3)	YPDD(4)	YPDD(5)	YPDD(6)	YPDD(7)	YPDD(8)		YPILDS
	-.0975504	4.8965995	-.1879942	1.4796967	-.1675463	.7486881	-.1292478	.3567545	-.0607551		-.611103
	BETA(0)	BETA(1)	BETA(2)	BETA(3)	BETA(4)	BETA(5)	BETA(6)	BETA(7)	BETA(8)		DCM
	-.1129152	4.8636213	-.2229561	1.4454915	-.1994224	.7207656	-.1519558	.3405216	-.0694125		.703642
											.703629*

CJ = .010000

	H(0)	H(1)	H(2)	H(3)	H(4)	H(5)	H(6)	H(7)	H(8)		ISCRPT
LE	.0000099	.0000237	.0000197	.0000126	.0000102	.0000074	.0000057	.0000036	.0000019	LE	.000057
C	.0146097	.0317505	.0333600	.0314317	.0280734	.0235381	.0184404	.0127860	.0066919	C	.087462
TE	.0101463	.0214278	.0229956	.0235756	.0230366	.0210878	.0177424	.0130116	.0070421	TE	.061577
TOT	.0247659	.0532021	.0563754	.0550193	.0511202	.0446333	.0361885	.0258012	.0137359	TOT	.149095
	YPDD(0)	YPDD(1)	YPDD(2)	YPDD(3)	YPDD(4)	YPDD(5)	YPDD(6)	YPDD(7)	YPDD(8)		YPILDS
	-.0958714	4.9001580	-.1841789	1.4835719	-.1638060	.7520612	-.1264504	.3587792	-.0596370		-.600932
	BETA(0)	BETA(1)	BETA(2)	BETA(3)	BETA(4)	BETA(5)	BETA(6)	BETA(7)	BETA(8)		DCM
	-.1206373	4.8469559	-.2405543	1.4285520	-.2149263	.7074279	-.1626389	.3329780	-.0733729		.750027
											.750006*

CJ = .050000

	H(0)	H(1)	H(2)	H(3)	H(4)	H(5)	H(6)	H(7)	H(8)		ISCRPT
LE	.0000421	.0001030	.0000817	.0000466	.0000360	.0000240	.0000177	.0000107	.0000056	LE	.000239
C	.0566676	.1243298	.1296985	.1185762	.1022100	.0824276	.0623294	.0418926	.0214798	C	.337646
TE	.0376165	.0797555	.0855476	.0868521	.0836356	.0752310	.0621899	.0448848	.0240148	TE	.227832
TOT	.0943263	.2041883	.2153278	.2054749	.1858819	.1576826	.1245370	.0867881	.0455003	TOT	.565717
	YPDD(0)	YPDD(1)	YPDD(2)	YPDD(3)	YPDD(4)	YPDD(5)	YPDD(6)	YPDD(7)	YPDD(8)		YPILDS
	-.0837637	4.9259580	-.1565494	1.5112475	-.1376217	.7751102	-.1077996	.3719681	-.0523663		-.527783
	BETA(0)	BETA(1)	BETA(2)	BETA(3)	BETA(4)	BETA(5)	BETA(6)	BETA(7)	BETA(8)		DCM
	-.1780900	4.7217697	-.3718772	1.3057725	-.3235036	.6174276	-.2323366	.2851800	-.0978666		1.093500
											1.093413*

TABLE VII (CONTINUED)

H(N), BETA(N), ISCRPT, AND THE INCREMENTAL PITCHING MOMENT COEFFICIENT BY THE QUADRATURE METHOD
FOR NORMALIZED BASIC POWER-LAW CAMBER LINES OF A=2,4, AND 8.

HG RANGE: XI= .05 TO .975
POWER-LAW CAMBER LINE, KAPPA=1, A=2

CJ = .100000

	H(0)	H(1)	H(2)	H(3)	H(4)	H(5)	H(6)	H(7)	H(8)		ISCRPT
LE	.0000734	.0001824	.0001381	.0000695	.0000514	.0000312	.0000225	.0000125	.0000066	LE	.000412
C	.0904870	.2003942	.2072689	.1835672	.1526514	.1184568	.0865894	.0564909	.0284159	C	.536668
TE	.0574822	.1223698	.1311204	.1317141	.1249618	.1104884	.0898166	.0638574	.0338000	TE	.347441
TOT	.1480426	.3229464	.3385274	.3153509	.2776645	.2289764	.1764285	.1203608	.0622226	TOT	.884521
	YPDD(0)	YPDD(1)	YPDD(2)	YPDD(3)	YPDD(4)	YPDD(5)	YPDD(6)	YPDD(7)	YPDD(8)		YPILDS
	-.0748971	4.9450727	-.1361626	1.5310213	-.1197239	.7900444	-.0963578	.3796255	-.0481124		-.474531
	BETA(0)	BETA(1)	BETA(2)	BETA(3)	BETA(4)	BETA(5)	BETA(6)	BETA(7)	BETA(8)		DCM
	-.2229397	4.6221264	-.4745901	1.2156704	-.3973884	.5610680	-.2727863	.2592648	-.1103350		1.359051
											1.358903*

CJ = 1.000000

	H(0)	H(1)	H(2)	H(3)	H(4)	H(5)	H(6)	H(7)	H(8)		ISCRPT
LE	.0003272	.0008907	.0004371	.0000003	.0000577	.0000033	.0000182	-.0000006	.0000051	LE	.001754
C	.2515587	.5924190	.5503392	.3706582	.2510879	.1622543	.1060638	.0619215	.0297743	C	1.448589
TE	.1235840	.2709143	.2824803	.2587472	.2246424	.1829791	.1392760	.0935603	.0475857	TE	.736524
TOT	.3754698	.8642241	.8332566	.6296063	.4757881	.3452366	.2453580	.1554813	.0773651	TOT	2.186867
	YPDD(0)	YPDD(1)	YPDD(2)	YPDD(3)	YPDD(4)	YPDD(5)	YPDD(6)	YPDD(7)	YPDD(8)		YPILDS
	-.0440102	5.0151736	-.0656544	1.5877748	-.0767431	.8197620	-.0769566	.3887784	-.0397412		-.293612
	BETA(0)	BETA(1)	BETA(2)	BETA(3)	BETA(4)	BETA(5)	BETA(6)	BETA(7)	BETA(8)		DCM
	-.4194801	4.1509495	-.8989110	.9581685	-.5525311	.4745254	-.3223147	.2332971	-.1171063		2.480479
											2.479897*

CJ = 4.000000

	H(0)	H(1)	H(2)	H(3)	H(4)	H(5)	H(6)	H(7)	H(8)		ISCRPT
LE	.0006171	.0017950	.0003698	-.0002876	.0001841	-.0000787	.0000453	-.0000197	.0000103	LE	.003202
C	.3509768	.8682505	.6745019	.3466995	.2548072	.1510459	.1021500	.0569896	.0282082	C	1.976272
TE	.1477139	.3319209	.3269905	.2770677	.2375168	.1893330	.1430492	.0949923	.0479408	TE	.870802
TOT	.4993079	1.2019664	1.0018622	.6234796	.4925082	.3403003	.2452444	.1519622	.0761593	TOT	2.850275
	YPDD(0)	YPDD(1)	YPDD(2)	YPDD(3)	YPDD(4)	YPDD(5)	YPDD(6)	YPDD(7)	YPDD(8)		YPILDS
	-.0318203	5.0464190	-.0439241	1.5949696	-.0711948	.8211386	-.0735718	.3841656	-.0350218		-.226252
	BETA(0)	BETA(1)	BETA(2)	BETA(3)	BETA(4)	BETA(5)	BETA(6)	BETA(7)	BETA(8)		DCM
	-.5311282	3.8444526	-1.0457863	.9714695	-.5637029	.4808383	-.3188163	.2322035	-.1111811		3.076527
											3.075536*

TABLE VII (CONTINUED)

H(N), BETA(N), ISCRPT, AND THE INCREMENTAL PITCHING MOMENT COEFFICIENT BY THE QUADRATURE METHOD
FOR NORMALIZED BASIC POWER-LAW CAMBER LINES OF A=2,4, AND 8.

HC RANGE: XI= .05 TO .975
POWER-LAW CAMBER LINE, KAPPA=1, A=4

CJ = .006000

	H(0)	H(1)	H(2)	H(3)	H(4)	H(5)	H(6)	H(7)	H(8)		ISCRPT
LE	.0000033	.0000079	.0000066	.0000043	.0000035	.0000026	.0000020	.0000013	.0000007	LE	.000019
C	.0123546	.0267204	.0282344	.0270081	.0244314	.0207231	.0163753	.0114339	.0060082	C	.074121
TE	.0099394	.0209815	.0225172	.0231094	.0226180	.0207460	.0174905	.0128507	.0069643	TE	.060335
TOT	.0222972	.0477099	.0507582	.0501218	.0470528	.0414716	.0338677	.0242858	.0129731	TOT	.134475

YPDD(0)	YPDD(1)	YPDD(2)	YPDD(3)	YPDD(4)	YPDD(5)	YPDD(6)	YPDD(7)	YPDD(8)	YPILDS
-.1548516	7.7728672	-.2984221	2.3488721	-.2659632	1.1884683	-.2051680	.5663125	-.0964426	-.970066

BETA(0)	BETA(1)	BETA(2)	BETA(3)	BETA(4)	BETA(5)	BETA(6)	BETA(7)	BETA(8)	DCM
-.1771489	7.7251573	-.3491803	2.2987503	-.3130161	1.1469966	-.2390357	.5420267	-.1094158	1.104541
									1.104532*

CJ = .010000

	H(0)	H(1)	H(2)	H(3)	H(4)	H(5)	H(6)	H(7)	H(8)		ISCRPT
LE	.0000054	.0000130	.0000108	.0000069	.0000056	.0000041	.0000031	.0000020	.0000011	LE	.000031
C	.0199451	.0431807	.0456004	.0434890	.0391921	.0331040	.0260562	.0181311	.0095054	C	.119600
TE	.0159718	.0337306	.0361984	.0371112	.0362628	.0331955	.0279296	.0204827	.0110856	TE	.096931
TOT	.0359223	.0769243	.0818096	.0806071	.0754605	.0663035	.0539889	.0386158	.0205920	TOT	.216562

YPDD(0)	YPDD(1)	YPDD(2)	YPDD(3)	YPDD(4)	YPDD(5)	YPDD(6)	YPDD(7)	YPDD(8)	YPILDS
-.1521863	7.7785161	-.2923658	2.3550235	-.2600259	1.1938228	-.2007276	.5695265	-.0946678	-.953919

BETA(0)	BETA(1)	BETA(2)	BETA(3)	BETA(4)	BETA(5)	BETA(6)	BETA(7)	BETA(8)	DCM
-.1881086	7.7015918	-.3741754	2.2744164	-.3354864	1.1275193	-.2547164	.5309107	-.1152598	1.170482
									1.170467*

CJ = .050000

	H(0)	H(1)	H(2)	H(3)	H(4)	H(5)	H(6)	H(7)	H(8)		ISCRPT
LE	.0000230	.0000562	.0000446	.0000255	.0000196	.0000131	.0000097	.0000058	.0000031	LE	.000130
C	.0769896	.1681608	.1765502	.1638412	.1427861	.1162164	.0883921	.0596840	.0306661	C	.459634
TE	.0592139	.1255469	.1346638	.1367166	.1316543	.1184251	.0978977	.0706574	.0378044	TE	.358641
TOT	.1362265	.2937639	.3112586	.3005833	.2744600	.2346546	.1862995	.1303472	.0684736	TOT	.818405

YPDD(0)	YPDD(1)	YPDD(2)	YPDD(3)	YPDD(4)	YPDD(5)	YPDD(6)	YPDD(7)	YPDD(8)	YPILDS
-.1329665	7.8194709	-.2485066	2.3989558	-.2184609	1.2304108	-.1711212	.5904625	-.0831263	-.837803

BETA(0)	BETA(1)	BETA(2)	BETA(3)	BETA(4)	BETA(5)	BETA(6)	BETA(7)	BETA(8)	DCM
-.2691930	7.5257070	-.5597653	2.0983725	-.4929208	.9957562	-.3574207	.4601153	-.1515999	1.656208
									1.656147*

TABLE VII (CONTINUED)

H(N), BETA(N), ISCRPT, AND THE INCREMENTAL PITCHING MOMENT COEFFICIENT BY THE QUADRATURE METHOD
FOR NORMALIZED BASIC POWER-LAW CAMBER LINES OF A=2,4, AND 8.

HC RANGE: XI= .05 TO .975
POWER-LAW CAMBER LINE, KAPPA=1, A=4

CJ = .100000

	H(0)	H(1)	H(2)	H(3)	H(4)	H(5)	H(6)	H(7)	H(8)		ISCRPT
LE	.0000400	.0000995	.0000754	.0000380	.0000280	.0000170	.0000123	.0000068	.0000036	LE	.000225
C	.1223632	.2696071	.2810512	.2534832	.2134790	.1675013	.1232827	.0808839	.0407840	C	.727360
TE	.0904854	.1926282	.2064015	.2073346	.1967065	.1739256	.1413874	.1005245	.0532087	TE	.546922
TOT	.2128886	.4623348	.4875282	.4607758	.4102135	.3414439	.2646824	.1814152	.0939963	TOT	1.274507
	YPDD(0)	YPDD(1)	YPDD(2)	YPDD(3)	YPDD(4)	YPDD(5)	YPDD(6)	YPDD(7)	YPDD(8)		YPILDS
	-.1188917	7.8498137	-.2161447	2.4303443	-.1900498	1.2541172	-.1529585	.6026180	-.0763737		-.753270
	BETA(0)	BETA(1)	BETA(2)	BETA(3)	BETA(4)	BETA(5)	BETA(6)	BETA(7)	BETA(8)		DCM
	-.3317804	7.3874789	-.7036729	1.9695689	-.6002632	.9126733	-.4176409	.4212028	-.1703700		2.027778
											2.027674*

CJ = 1.000000

	H(0)	H(1)	H(2)	H(3)	H(4)	H(5)	H(6)	H(7)	H(8)		ISCRPT
LE	.0001786	.0004862	.0002386	.0000005	.0000315	.0000018	.0000100	-.0000003	.0000028	LE	.000958
C	.3307007	.7719630	.7328460	.5164677	.3571270	.2352919	.1546671	.0912996	.0438294	C	1.911914
TE	.1945408	.4264652	.4446615	.4072922	.3536125	.2880373	.2192493	.1472876	.0749135	TE	1.159402
TOT	.5254200	1.1989144	1.1777461	.9237604	.7107710	.5233310	.3739264	.2385869	.1187456	TOT	3.072274
	YPDD(0)	YPDD(1)	YPDD(2)	YPDD(3)	YPDD(4)	YPDD(5)	YPDD(6)	YPDD(7)	YPDD(8)		YPILDS
	-.0698619	7.9610918	-.1042199	2.5204353	-.1218220	1.3012911	-.1221610	.6171473	-.0630852		-.466080
	BETA(0)	BETA(1)	BETA(2)	BETA(3)	BETA(4)	BETA(5)	BETA(6)	BETA(7)	BETA(8)		DCM
	-.5952819	6.7621774	-1.2819660	1.5966749	-.8325930	.7779601	-.4960874	.3785604	-.1818309		3.538354
											3.537943*

CJ = 4.000000

	H(0)	H(1)	H(2)	H(3)	H(4)	H(5)	H(6)	H(7)	H(8)		ISCRPT
LE	.0003368	.0009796	.0002020	-.0001563	.0001005	-.0000429	.0000247	-.0000108	.0000056	LE	.001747
C	.4526418	1.1066970	.8974461	.4993221	.3621703	.2230086	.1494552	.0851981	.0416407	C	2.562419
TE	.2325294	.5225134	.5147241	.4361209	.3738788	.2980398	.2251911	.1495431	.0754734	TE	1.370797
TOT	.6855080	1.6301900	1.4123721	.9352860	.7361496	.5210054	.3746710	.2347305	.1171197	TOT	3.934963
	YPDD(0)	YPDD(1)	YPDD(2)	YPDD(3)	YPDD(4)	YPDD(5)	YPDD(6)	YPDD(7)	YPDD(8)		YPILDS
	-.0505116	8.0106909	-.0697252	2.5318564	-.1130146	1.3034763	-.1167880	.6098249	-.0555936		-.359152
	BETA(0)	BETA(1)	BETA(2)	BETA(3)	BETA(4)	BETA(5)	BETA(6)	BETA(7)	BETA(8)		DCM
	-.7360196	6.3805009	-1.4820973	1.5965703	-.8491642	.7824708	-.4914590	.3750944	-.1727133		4.294115
											4.293413*

TABLE VII (CONTINUED)

H(N), BETA(N), ISCRPT, AND THE INCREMENTAL PITCHING MOMENT COEFFICIENT BY THE QUADRATURE METHOD
FOR NORMALIZED BASIC POWER-LAW CAMBER LINES OF A=2,4, AND 8.

HC RANGE: XI= .05 TO .975
POWER-LAW CAMBER LINE, KAPPA=1, A=8

CJ = .006000

	H(0)	H(1)	H(2)	H(3)	H(4)	H(5)	H(6)	H(7)	H(8)		ISCRPT
LE	.0000024	.0000056	.0000048	.0000031	.0000025	.0000019	.0000014	.0000009	.0000005	LE	.000014
C	.0169173	.0364536	.0386780	.0374303	.0341956	.0292514	.0232495	.0163047	.0085871	C	.101666
TE	.0165845	.0350092	.0375713	.0385591	.0377393	.0346164	.0291849	.0214432	.0116211	TE	.100672
TOT	.0335042	.0714686	.0762540	.0759925	.0719374	.0638697	.0524358	.0377489	.0202086	TOT	.202353
	YPDD(0)	YPDD(1)	YPDD(2)	YPDD(3)	YPDD(4)	YPDD(5)	YPDD(6)	YPDD(7)	YPDD(8)		YPILDS
	-.2625862	13.1806684	-.5060428	3.9830482	-.4510013	2.0153189	-.3479091	.9603120	-.1635485		-1.644968
	BETA(0)	BETA(1)	BETA(2)	BETA(3)	BETA(4)	BETA(5)	BETA(6)	BETA(7)	BETA(8)		DCM
	-.2960904	13.1091996	-.5822968	3.9070557	-.5229387	1.9514492	-.4003450	.9225631	-.1837491		1.847320
											1.847314*

CJ = .010000

	H(0)	H(1)	H(2)	H(3)	H(4)	H(5)	H(6)	H(7)	H(8)		ISCRPT
LE	.0000039	.0000094	.0000078	.0000050	.0000041	.0000030	.0000022	.0000014	.0000008	LE	.000022
C	.0272949	.0588702	.0624335	.0602563	.0548569	.0467402	.0370108	.0258700	.0135943	C	.163955
TE	.0266501	.0562819	.0603991	.0619216	.0605065	.0553893	.0466037	.0341784	.0184982	TE	.161736
TOT	.0539489	.1151615	.1228405	.1221835	.1153675	.1021324	.0836167	.0600498	.0320933	TOT	.325714
	YPDD(0)	YPDD(1)	YPDD(2)	YPDD(3)	YPDD(4)	YPDD(5)	YPDD(6)	YPDD(7)	YPDD(8)		YPILDS
	-.2580666	13.1902473	-.4957729	3.9934793	-.4409332	2.0243988	-.3403793	.9657620	-.1605308		-1.617588
	BETA(0)	BETA(1)	BETA(2)	BETA(3)	BETA(4)	BETA(5)	BETA(6)	BETA(7)	BETA(8)		DCM
	-.3120155	13.0750858	-.6186133	3.8712958	-.5563006	1.9222663	-.4239961	.9057122	-.1926242		1.943302
											1.943291*

CJ = .050000

	H(0)	H(1)	H(2)	H(3)	H(4)	H(5)	H(6)	H(7)	H(8)		ISCRPT
LE	.0000167	.0000409	.0000324	.0000185	.0000143	.0000095	.0000070	.0000042	.0000022	LE	.000095
C	.1048211	.2279329	.2406038	.2265888	.1939452	.1645142	.1260698	.0856188	.0441223	C	.627070
TE	.0988023	.2094836	.2246937	.2281165	.2196713	.1976016	.1633545	.1179035	.0630840	TE	.598416
TOT	.2036401	.4374576	.4653300	.4547238	.4196308	.3621253	.2894313	.2035265	.1072086	TOT	1.225581
	YPDD(0)	YPDD(1)	YPDD(2)	YPDD(3)	YPDD(4)	YPDD(5)	YPDD(6)	YPDD(7)	YPDD(8)		YPILDS
	-.2254751	13.2596956	-.4213997	4.0679765	-.3704502	2.0864420	-.2901750	1.0012638	-.1409597		-1.420687
	BETA(0)	BETA(1)	BETA(2)	BETA(3)	BETA(4)	BETA(5)	BETA(6)	BETA(7)	BETA(8)		DCM
	-.4291152	12.8222380	-.8867296	3.6132527	-.7900810	1.7243167	-.5796063	.7977373	-.2481683		2.646267
											2.646222*

TABLE VII (CONCLUDED)

H(N), BETA(N), ISCRPT, AND THE INCREMENTAL PITCHING MOMENT COEFFICIENT BY THE QUADRATURE METHOD FOR NORMALIZED BASIC POWER-LAW CAMBER LINES OF A=2,4, AND 8.

HC RANGE: XI= .05 TO .975

POWER-LAW CAMBER LINE, KAPPA=1, A=8

CJ = .100000

	H(0)	H(1)	H(2)	H(3)	H(4)	H(5)	H(6)	H(7)	H(8)		ISCRPT
LE	.0000291	.0000723	.0000548	.0000276	.0000204	.0000124	.0000089	.0000050	.0000026	LE	.000163
C	.1657716	.3633975	.3813634	.3499411	.2991942	.2378296	.1766165	.1156962	.0590483	C	.987704
TE	.1509807	.3214137	.3443910	.3459431	.3282125	.2902085	.2359236	.1677436	.0887906	TE	.912574
TOT	.3167814	.6848836	.7258091	.6959118	.6274270	.5280505	.4125490	.2844448	.1478415	TOT	1.900441
	YPDD(0)	YPDD(1)	YPDD(2)	YPDD(3)	YPDD(4)	YPDD(5)	YPDD(6)	YPDD(7)	YPDD(8)		YPILOS
	-.2016081	13.3111487	-.3665227	4.1212036	-.3222727	2.1266417	-.2593760	1.0218762	-.1295090		-1.277342
	BETA(0)	BETA(1)	BETA(2)	BETA(3)	BETA(4)	BETA(5)	BETA(6)	BETA(7)	BETA(8)		DCM
	-.5183895	12.6262651	-1.0923318	3.4252918	-.9496998	1.5985912	-.6719250	.7374314	-.2773505		3.177783
											3.177706*

CJ = 1.000000

	H(0)	H(1)	H(2)	H(3)	H(4)	H(5)	H(6)	H(7)	H(8)		ISCRPT
LE	.0001298	.0003533	.0001734	.0000004	.0000229	.0000013	.0000072	-.0000002	.0000020	LE	.000696
C	.4349996	1.0065112	.9739824	.7166607	.5038020	.3429684	.2277347	.1361175	.0654176	C	2.525269
TE	.3246092	.7116064	.7419348	.6795494	.5900012	.4806142	.3658599	.2457914	.1250197	TE	1.934559
TOT	.7597385	1.7184710	1.7160906	1.3962105	1.0938261	.8235839	.5936019	.3819087	.1904393	TOT	4.460524
	YPDD(0)	YPDD(1)	YPDD(2)	YPDD(3)	YPDD(4)	YPDD(5)	YPDD(6)	YPDD(7)	YPDD(8)		YPILOS
	-.1184668	13.4998461	-.1767265	4.2739727	-.2065770	2.2066357	-.2071518	1.0465139	-.1069754		-.730345
	BETA(0)	BETA(1)	BETA(2)	BETA(3)	BETA(4)	BETA(5)	BETA(6)	BETA(7)	BETA(8)		DCM
	-.8782053	11.7813751	-1.8928191	2.8777621	-1.3054031	1.3830518	-.8007537	.6646053	-.2974147		5.250869
											5.250567*

CJ = 4.000000

	H(0)	H(1)	H(2)	H(3)	H(4)	H(5)	H(6)	H(7)	H(8)		ISCRPT
LE	.0002448	.0007120	.0001468	-.0001141	.0000730	-.0000312	.0000180	-.0000078	.0000041	LE	.001270
C	.5841169	1.4115181	1.1888983	.7120156	.5177427	.3302915	.2213943	.1287034	.0624758	C	3.324907
TE	.3880103	.8719175	.8588292	.7276181	.6238174	.4973054	.3757815	.2495598	.1259569	TE	2.287355
TOT	.9723719	2.2841475	2.0478743	1.4395197	1.1416331	.8275657	.5971937	.3782554	.1884368	TOT	5.613531
	YPDD(0)	YPDD(1)	YPDD(2)	YPDD(3)	YPDD(4)	YPDD(5)	YPDD(6)	YPDD(7)	YPDD(8)		YPILOS
	-.0856540	13.5839526	-.1182349	4.2933396	-.1916421	2.2103412	-.1980407	1.0340971	-.0942716		-.609024
	BETA(0)	BETA(1)	BETA(2)	BETA(3)	BETA(4)	BETA(5)	BETA(6)	BETA(7)	BETA(8)		DCM
	-1.0580259	11.2998051	-2.1661093	2.8538200	-1.3332751	1.3827754	-.7952344	.6558417	-.2827084		6.222556
											6.222039*

TABLE VIII

RELATIVE CONTRIBUTION OF $H_n^{(c)}$ TO β_n AND $\mathcal{Q}^{(c)}$ TO Δc_m FOR NORMALIZED BASIC POWER-LAW CAMBER LINES OF a = 2, 4, AND 8

		$H_n^{(c)}/\beta_n$									$\mathcal{Q}^{(c)}/\Delta c_m$
a	c_j	n=0	n=1	n=2	n=3	n=4	n=5	n=6	n=7	n=8	
2	0.01	-.12	.01	-.14	.02	-.13	.03	-.11	.04	-.09	.12
	0.10	-.41	.04	-.43	.15	-.38	.21	-.32	.22	-.26	.39
	4.00	-.66	.23	-.65	.36	-.45	.31	-.32	.24	-.25	.64
4	0.01	-.11	.01	-.12	.02	-.12	.03	-.13	.03	-.08	.10
	0.10	-.37	.04	-.40	.13	-.36	.18	-.30	.19	-.24	.36
	4.00	-.62	.17	-.61	.31	-.43	.29	-.30	.23	-.24	.60
8	0.01	-.09	.01	-.10	.02	-.10	.02	-.09	.03	-.07	.08
	0.10	-.32	.03	-.35	.10	-.32	.15	-.26	.16	-.21	.31
	4.00	-.55	.12	-.55	.25	-.39	.24	-.28	.20	-.22	.53

TABLE IX

BETA(N) AND THE INCREMENTAL PITCHING MOMENT COEFFICIENT FROM COLLOCATION SOLUTIONS FOR THE NORMALIZED BASIC POWER-LAW CAMBER LINES OF A=2,4, AND 8.

A = 2.000000000

RA = 4.0000000

ET(M)	0.00000	2.03917	2.89013	2.92080	2.42378	1.65666	.85125	.20859	-.11140
FT(M)	7.06034	7.52142	8.51652	9.89445	11.65195	13.87630	16.78556	20.90827	27.96698

CJ	BETA(0)	BETA(1)	BETA(2)	BETA(3)	BETA(4)	BETA(5)	BETA(6)	BETA(7)	BETA(8)	DCM
.00500	-.1129174	4.8636185	-.2229592	1.4454837	-.1994371	.7207442	-.1519804	.3404995	-.0694259	.703645
.01000	-.1206405	4.8469521	-.2405586	1.4285400	-.2149496	.7073935	-.1626785	.3329423	-.0733946	.750029
.05000	-.1780916	4.7217793	-.3718684	1.3057464	-.3235814	.6173000	-.2324887	.2850414	-.0979510	1.093441
.10000	-.2229269	4.6221770	-.4746402	1.2156560	-.3974961	.5608719	-.2730258	.2590455	-.1104684	1.358660
1.00000	-.4192676	4.1515153	-.8983973	.9583338	-.5527204	.4740669	-.3228674	.2328114	-.1173893	2.478768
4.00000	-.5307582	3.8454500	-1.0450259	.9716497	-.5639415	.4802876	-.3194437	.2316621	-.1114887	3.073569

TABLE IX (CONTINUED)

BETA(N) AND THE INCREMENTAL PITCHING MOMENT COEFFICIENT FROM COLLOCATION SOLUTIONS FOR THE NORMALIZED BASIC POWER-LAW CAMBER LINES OF A=2,4, AND 8.

A = 4.000000000

RA = 2.1165347

ET(M)	0.00000	7.49911	10.30548	10.25323	8.50964	5.92945	3.24760	1.07420	-.11450
FT(M)	21.18102	22.56427	25.54355	29.68336	34.95585	41.62890	50.35668	62.72480	83.90095

CJ	BETA(0)	BETA(1)	BETA(2)	BETA(3)	BETA(4)	BETA(5)	BETA(6)	BETA(7)	BETA(8)	DCM
.00600	-.1771515	7.7251547	-.3491833	2.2987394	-.3130386	1.1469630	-.2390746	.5419915	-.1094372	1.104552
.01000	-.1881123	7.7015888	-.3741789	2.2743399	-.3355221	1.1274653	-.2547792	.5308538	-.1152945	1.170496
.05000	-.2691897	7.5257358	-.5597374	2.0983408	-.4930394	.9955552	-.3576627	.4598940	-.1517350	1.656159
.10000	-.3317500	7.3875831	-.7035694	1.9695621	-.6004268	.9123635	-.4180230	.4208517	-.1705838	2.027547
1.00000	-.5949050	6.7631740	-1.2810611	1.5969740	-.8328907	.7772239	-.4969768	.3777784	-.1822864	3.535929
4.00000	-.7353711	6.3822419	-1.4807659	1.5968480	-.8495493	.7815857	-.4924707	.3742225	-.1732090	4.289955

TABLE IX (CONCLUDED)

BETA(N) AND THE INCREMENTAL PITCHING MOMENT COEFFICIENT FROM COLLOCATION SOLUTIONS FOR THE NORMALIZED BASIC POWER-LAW CAMBER LINES OF A=2,4, AND 8.

A = 8.000000000

RA = 1.5381716

ET(M)	0.00000	21.50779	28.24297	27.46334	22.60267	15.87828	9.01537	3.41988	.17619
FT(M)	49.42237	52.64996	59.01562	69.20118	81.56364	97.13410	117.49892	146.35786	195.76889

CJ	BETA(0)	BETA(1)	BETA(2)	BETA(3)	BETA(4)	BETA(5)	BETA(6)	BETA(7)	BETA(8)	DCM
.00500	-.2960884	13.1092094	-.5822872	3.9070512	-.5229643	1.9514028	-.4004026	.9225092	-.1837824	1.847309
.01000	-.3120113	13.0751034	-.6165956	3.8712902	-.5563409	1.9221918	-.4240393	.9056249	-.1920782	1.943279
.05000	-.4290694	12.8223750	-.8865902	3.6132839	-.7902082	1.7240356	-.5799716	.7973919	-.2483821	2.646003
.10000	-.5162736	12.6265834	-1.0920093	3.4254117	-.9498667	1.5981520	-.6725105	.7368764	-.2776930	3.177111
1.00000	-.3773908	11.7834761	-1.5908981	2.3785358	-1.3057232	1.3813249	-.8021853	.6633223	-.2981672	5.246139
4.00000	-1.0566841	11.3033526	-2.1633774	2.8545432	-1.3337394	1.3613903	-.7968773	.6544027	-.2835304	6.214809

TABLE X

PERCENTAGE RELATIVE DIFFERENCE FOR Δc_ℓ, Δc_m, and β_n AS CALCULATED BY QUADRATURE AND COLLOCATION FOR NORMALIZED BASIC POWER-LAW CAMBER LINES OF a = 2, 4, and 8

		PERCENTAGE RELATIVE DIFFERENCE IN:										
a	c_j	Δc_ℓ	Δc_m	β_0	β_1	β_2	β_3	β_4	β_5	β_6	β_7	β_8
2	0.01	.00	.00	.00	.00	.00	.00	-.01	.00	-.02	.01	.03
	0.10	.01	.01	.01	.00	.01	.00	-.03	.03	-.09	.08	.12
	4.00	.07	.10	.07	-.03	.07	.02	-.04	.11	-.20	.23	.22
4	0.01	.00	.00	.00	.00	.00	.00	-.01	.00	-.02	.01	.03
	0.10	.01	.01	.01	.00	.01	.00	-.03	.03	-.09	.08	.13
	4.00	.09	.10	.09	.03	.09	-.02	-.05	.11	-.21	.23	.29
8	0.01	.00	.00	.00	.00	.00	.00	-.01	.00	-.02	.01	.03
	0.10	.02	.02	.02	.00	.03	.00	-.02	.03	-.09	.08	.12
	4.00	.13	.12	.13	-.03	.13	-.03	-.03	.10	-.21	.22	.29

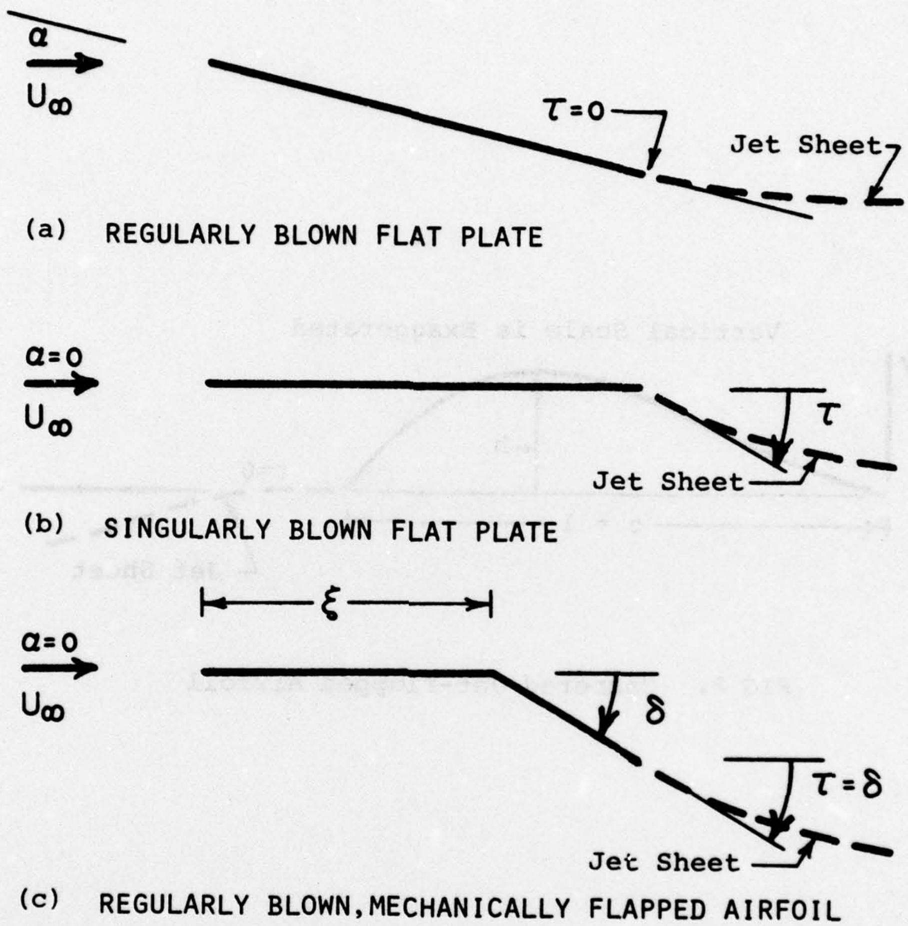

FIG 1. Fundamental Jet-Flapped Airfoil Cases

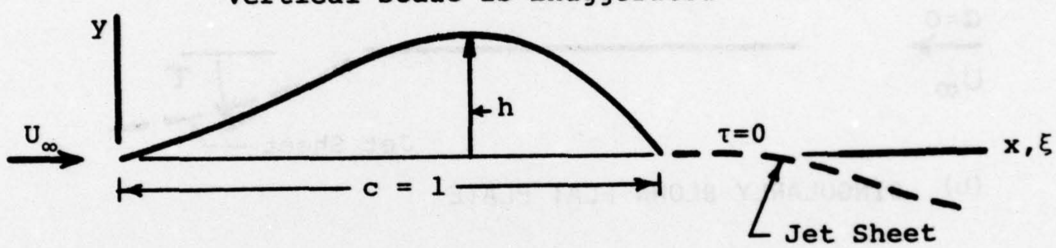

FIG 2. Cambered Jet-Flapped Airfoil

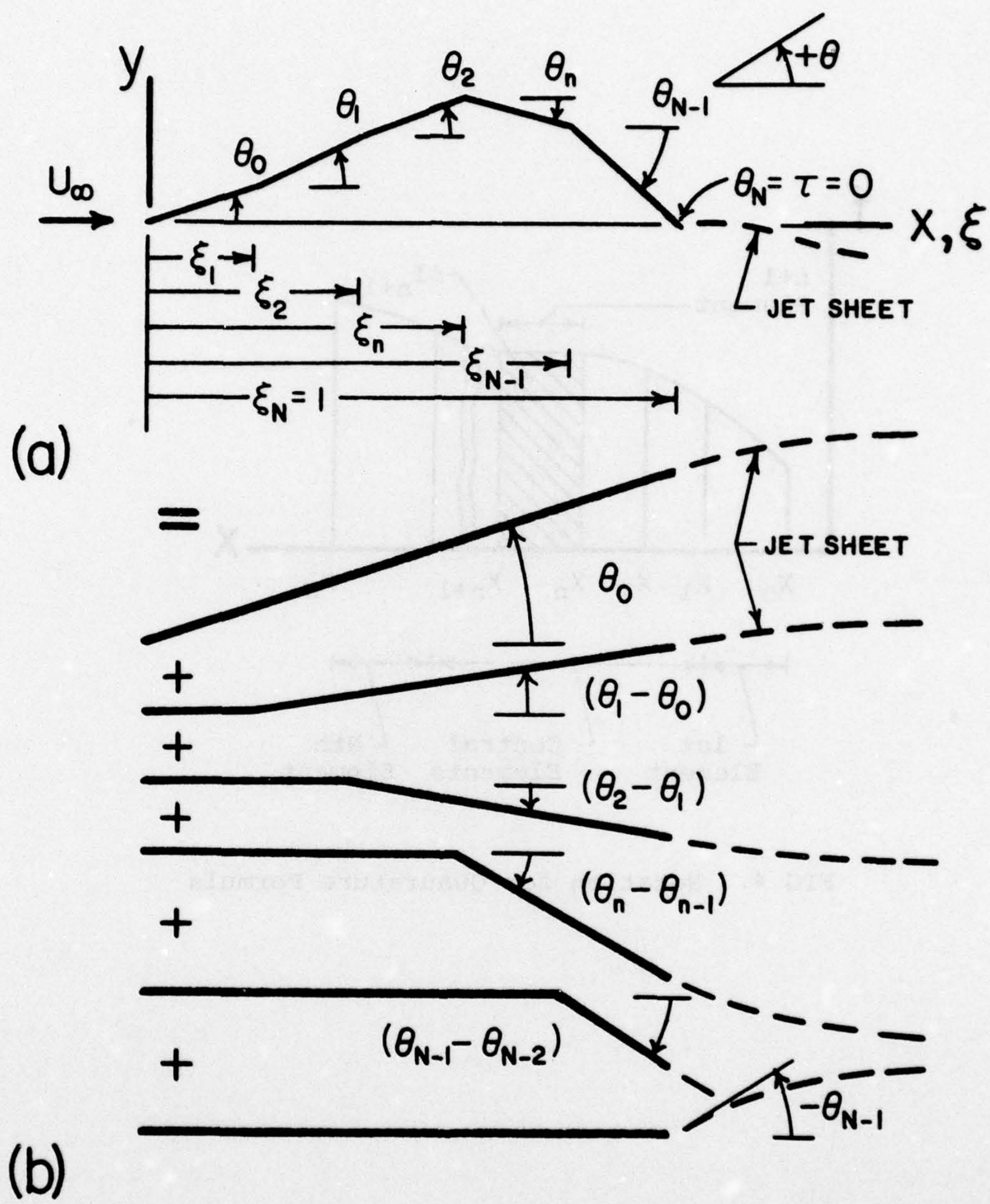

FIG 3. Superposition Principle

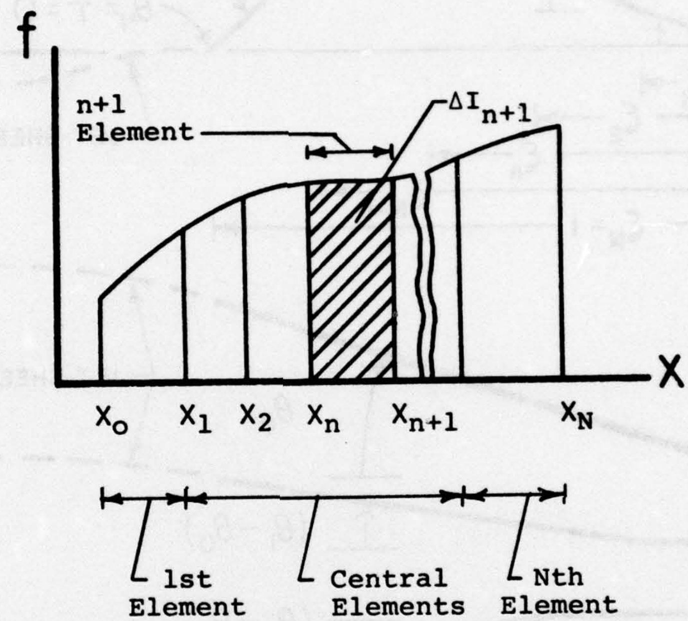

FIG 4. Notation for Quadrature Formula

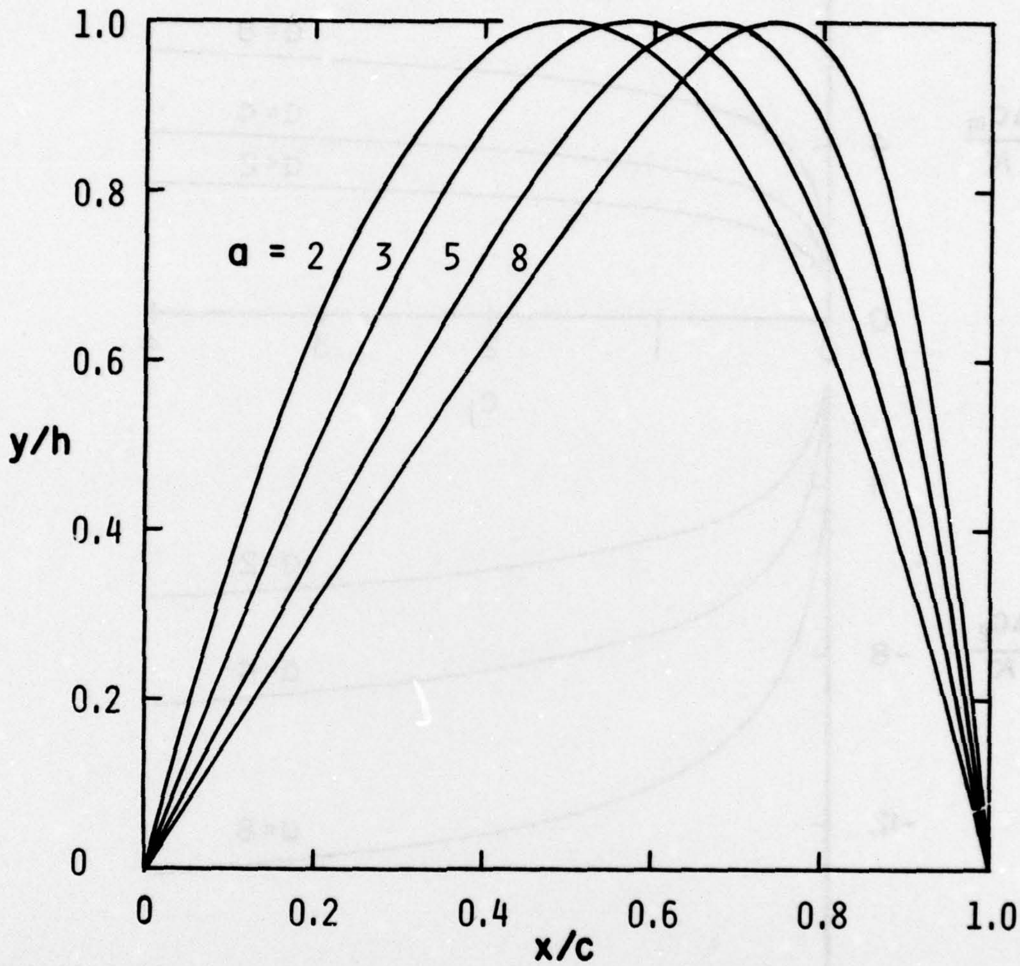

FIG 5. Normalized Power-Law Camber Lines

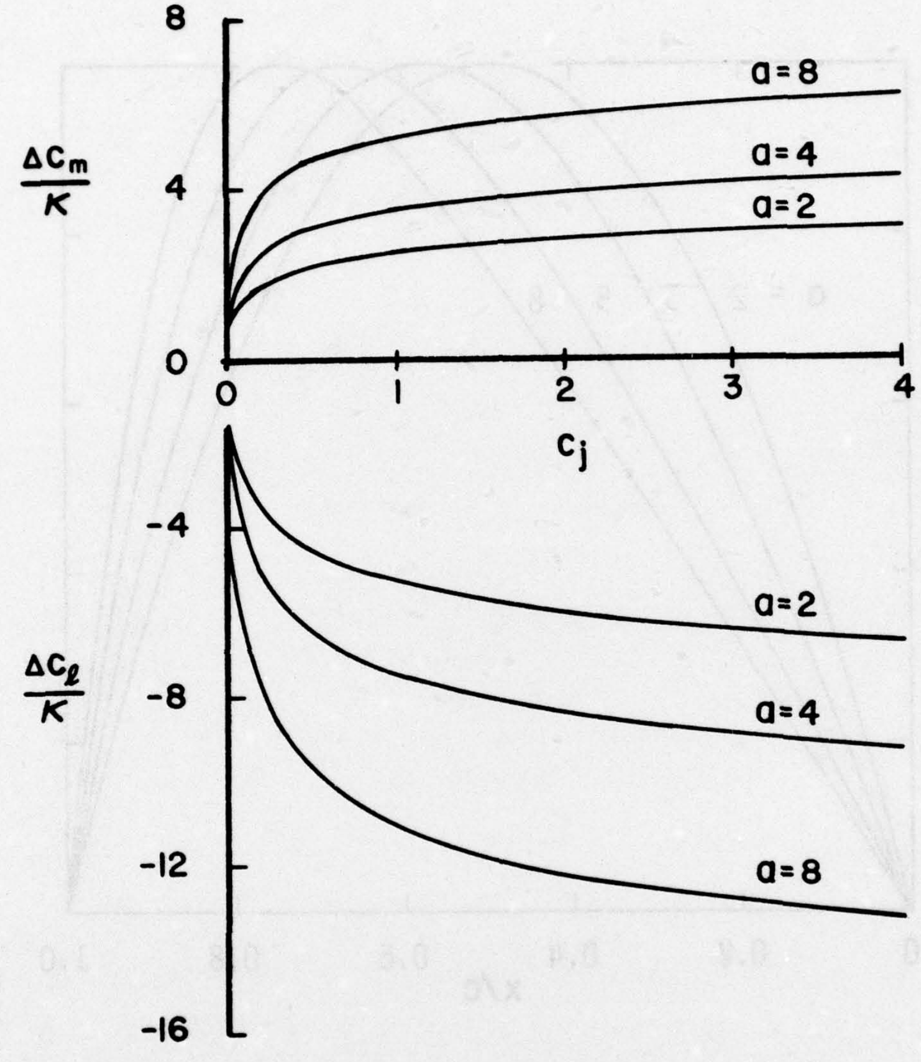

FIG 6. Interference Lift and Pitching-Moment Coefficients for Basic Power-Law Camber Lines of a = 2, 4, and 8

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