# TABULAR DISPLAYS OF GEOMAGNETIC GEOMETRY

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Walter F. Dudziak,
David C. Kleinecke and
Theodore J. Kostigen,

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SANTA BARBARA, CALIFORNIA

## ABSTRACT

~~This report contains~~ Tables presenting computational data pertaining to the geometric properties of the geomagnetic field are given, and a brief related theoretical description to make this material more meaningful. The tables include:

1. The values of total field intensity (B) and McIlwain's magnetic shell parameter (L) for altitudes from zero to two thousand kilometers,

2. The detailed value of total field intensity near the South Atlantic anomaly,

3. The traces in both hemispheres of points with a fixed value of B and L.

The description includes tables of the geomagnetic coefficients used and a description of the codes utilized. The tables have been carefully checked. Because of the magnitude of this task and the wide distribution, notification of any detectable errors which may have been overlooked would be appreciated. The material presented here has been presented in another form in TEMPO report RM 63TMP-2, DASA 1372 "Graphical Displays of Geomagnetic Geometry."

## ACKNOWLEDGMENTS

It is difficult in a brief summary to justly acknowledge the help of everyone whose work played a part in molding the ideas that have led to the presentation of the results of this study. To all of those who are not mentioned we apologize, for to all we are equally indebted.

It is a pleasure to express our sincerest appreciation to Lt. Col. Billy McCormac of DASA for his encouragement and stimulating discussions. Similarly it is our pleasure to express our sincere appreciation to Major R. Pennington of DDRE and Dr. C.E. McIlwain of U.C. San Diego for contributing their computer codes, as well as F.H. Sage for the code which locates the geomagnetic equator.

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*As computed with the Jensen and Whitaker coefficients.
†As computed with both the Jensen and Cain coefficients and the Jensen and and Whitaker coefficients.

# FOREWORD

The material presented in this report has been presented in the form of maps in another TEMPO report (RM 63TMP-2 or DASA 1372 "Graphical Displays of Geomagnetic Geometry" April, 1963). References to this material will be found in the footnotes attached to each of the tables in this report.

Conversely the maps are related to the tables in the following way:

| Map | Table | Map | Table | Map | Table |
|---|---|---|---|---|---|
| 1 | 1, 2 | 18 | 34 | 35 | 53 |
| 2 | 3, 4 | 19 | 35 | 36 | 54 |
| 3 | 5, 6 | 20 | 36 | 37 | 55 |
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# DESCRIPTIVE MATERIAL

## INTRODUCTION

The earth's magnetic field has been studied since the dawn of modern physics. There are authoritative descriptions of the older work in References 1 and 2. Naturally enough the earlier students were interested only in the field on the surface of the earth—field which affected the compass. This interest led Gauss to devise the method of expansion in spherical harmonics which has dominated descriptions of the geomagnetic field for a century and a half.

More recently, inspired by Birkelund's terrella experiments which so spectacularly simulate auroral displays, geophysicists began to investigate the causes of the aurora and so initiated the study of the behavior of charged particles in space. There is an excellent description of the older work on this problem in Reference 3 and the newer ideas are collected in Reference 4.

Astrophysicists soon recognized the importance of this work to problems of stellar evolution and related astronomical phenomena. The background to modern work in this direction is well summarized in Reference 5. More recently still it has been widely recognized that these effects, originally observed in an astronomic context, could be of great use in practical applications of fusion processes. The literature on plasma physics is already immense and mostly not too relevant to geomagnetic phenomena but some work which originated in plasma physics is of great importance (for example, References 6 and 19).

Finally, the work of Van Allen and his collegues (see, for example, Reference 7) has clarified the physical picture involved in radiation belt and shell formation and placed the mathematical models of charged particles in space on a firm observational basis.

## PHYSICAL BACKGROUND

For an adequate description of the tables in this report there are three separate stages in the development of the subject which must be considered: first, the basic geometry of the earth's geomagnetic field; second, the motion of charged particles in that field; and third, those special properties of the geomagnetic field of particular interest to studies of particle motion. Each of these is discussed separately below.

### The Geomagnetic Field

The geomagnetic field unquestionably exists but its fundamental cause has not been satisfactorily explained. Paleomagnetic studies[9] indicate that it has been present since the beginning of geologic history. In the absence of any fundamental theoretical derivation it has been necessary to determine the geomagnetic field strictly from observational data. This is permissible because good observations exist over a wide range of time and location.

The geomagnetic induction $\vec{B}$ is a vector quantity which is conventionally measured in a variety of ways. $\vec{B}$ is related to the force $\vec{F}$ exerted on a particle of charge e moving with velocity $\vec{u}$ by

$$\vec{F} = e\vec{u} \times \vec{B} \quad .$$

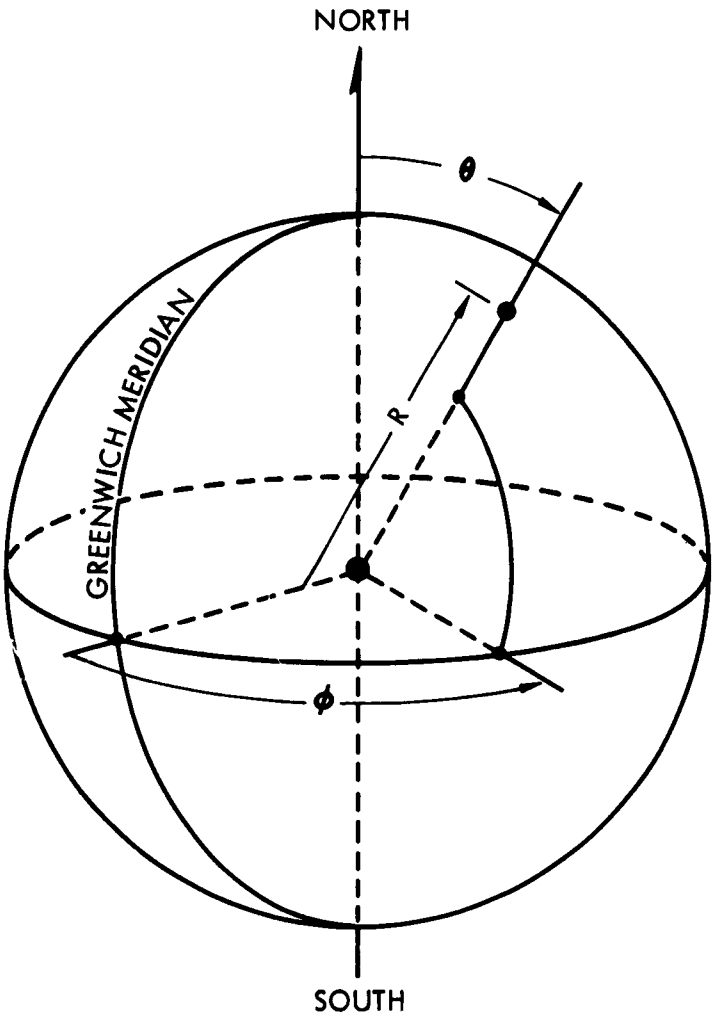
The geomagnetic field $\vec{H}$ is equal to $\vec{B}$ divided by the permeability of free space which is equal to one in electromagnetic units. Thus in electromagnetic units $\vec{H}$ and $\vec{B}$ are numerically equal but physically distinct fields. In this discussion the three magnetic induction components.

$$B_r, B_\theta, B_\varphi$$

are used where r, $\theta$, and $\varphi$ are spherical coordinates with respect to the earth's center. The polar axis will be identified with the geographic axis in such a way that $\theta = 0$ at the north pole (thus $\theta$ measures south co-latitude rather than latitude). The azimuthal coordinate $\varphi$ is taken as geographic longitude, east of Greenwich meridian. The earth's radius is symbolized by R and was taken to be 6371.2 kilometers in these calculations.

Charts of the magnetic field at different epochs are available from various agencies. The United States Naval Hydrographic Office has undertaken to produce up-to-date compilations at regular intervals. The data on these charts are used as input to analyses described below.

Other agencies (especially in the Soviet Union) have also produced up-to-date charts of the magnetic field and these charts have sometimes been used to modify the standard navy charts. Satellite information has also been used to modify surface observations (see Reference 10).




Spherical Coordinate System

The classical Gaussian analysis of the geomagnetic field requires the use of some rather ponderous classical mathematical analysis since it works with expansions in series of spherical surface harmonics. These classical mathematical techniques are presented in various manners in many different sources. The discussion in Reference 11 is rigorous and complete and provides an excellent introduction to the literature. A more conventional description is given in Reference 12.

The spherical surface harmonics are a double series of functions defined on the surface or a unit sphere with coordinates $\theta$ and $\varphi$

$$G_{mn} = \cos(m\varphi)\, P_n^m(\cos\theta) \quad ,$$

$$H_{mn} = \sin(m\varphi)\, P_n^m(\cos\theta) \quad ,$$

where $P_n^m$ are associated Legendre polynomials as described below; n ranges from zero to infinity and m from 0 to n. It should be noted that $H_{0n} = 0$ for all n. These functions are all mutually orthogonal over the surface of the unit sphere, that is for all m, m′, n and n′

$$\int\partial\theta \sin\theta \int\partial\varphi\, G_{mn} H_{m',n'} = 0 \quad ,$$

$$\int\partial\theta \sin\theta \int\partial\varphi\, G_{mn} G_{m',n'} = 0 \text{ if } m' \neq m \text{ or } n' \neq n \quad ,$$

$$\int\partial\theta \sin\theta \int\partial\varphi\, H_{mn} H_{m',n'} = 0 \text{ if } m' \neq m \text{ or } n' \neq n,$$

Thus any function on the surface of the sphere can be expressed as the sum of series in terms of these functions

$$f(\theta,\varphi) = \sum_{n=o}^{\infty} \left( \sum_{m=o}^{n} g_{mn} G_{mn} + \sum_{m=1}^{n} h_{mn} H_{mn} \right)$$

and this expression is unique (with the usual restrictions on discontinuities). As is shown below the coefficients $g_{mn}$ and $h_{mn}$ are easily obtained by integration.

The associated Legendre polynomials are defined in many different ways. Perhaps the most convenient form is the Rodrigues' formula

$$P_n^m(\cos\theta) = (-)^n \frac{(n-m)!}{2n!} \sin^m\theta \left( \frac{\partial}{\partial\cos\theta} \right)^{m+n} \sin^n\theta \quad .$$

The normalization factor $(n-m)!/2n!$ is that of Reference 13 which has become conventional in a large part of geophysical literature. A factor of $1/2^n n!$ is used in References 11 [also with a $(-)^m$ multiplier] and 12 and most standard references. A change in normalization does not effect the basic procedure but it does change the values of the geomagnetic coefficients $g_{mn}$ and $h_{mn}$; for example, the more usual normalization would lead to coefficients which are

$$\frac{2^n n!\,(n-m)!}{2n!}$$

times the conventional geomagnetic coefficients.

The coefficients $g_{mn}$ and $h_{mn}$ can be obtained in the standard fashion

$$\int\partial\theta \sin\theta \int\partial\varphi f(\theta,\varphi)\, G_{mn} = g_{mn} \int\partial\theta \sin\theta \int\partial\theta \sin\theta \int\partial\varphi\, G_{mn}^2$$

$$= g_{mn} \frac{2\pi}{2n+1} \frac{(n+m)!}{(n-m)!^3} \frac{2n!^2}{2^{2n} n!^2}$$

so that

$$g_{mn} = \frac{\int\partial\theta \sin\theta \int\partial\varphi G_{mn} f(\theta,\varphi)}{\frac{2\pi}{2n+1} \frac{(n+m)!}{(n-m)!^3} \frac{2n!^2}{2^{2n} n!^2}} ,$$

$$h_{mn} = \frac{\int\partial\theta \sin\theta \int\partial\varphi H_{mn} f(\theta,\varphi)}{\frac{2\pi}{2n+1} \frac{(n+m)!}{(n-m)!^3} \frac{2n!^2}{2^{2n} n!^2}} .$$

The particular application of these mathematical results which is of interest here is the case where $f(\theta,\varphi)$ is one of the geomagnetic quantities. Since all of the various forces and inductions can be obtained from a geomagnetic potential (if one exists) it is conventional to take f as the geomagnetic potential V on the surface of the earth and use "geomagnetic coefficient" to mean the coefficients in the expansion of V. For example, Gauss described the earth's magnetic field (in Gauss) in the year 1835 by

$$g_{00} = 0, \quad g_{01} = +.3235, \quad g_{11} = -.0311, \quad g_{02} = -.0051,$$

$$g_{12} = -.0292, \quad g_{22} = +.0002, \quad h_{11} = -.0625,$$

$$h_{12} = -.0012, \quad h_{22} = -.0157.$$

The geomagnetic potential V is not itself directly observable. The individual forces and inductions, however, are observable and, in electromagnetic units,

$$B_r = -\frac{\partial}{\partial r} V \quad ,$$

$$B_\theta = -\frac{1}{r}\frac{\partial}{\partial \theta} V \quad ,$$

$$B_\varphi = -\frac{1}{r \sin\theta}\frac{\partial}{\partial \varphi} V \quad .$$

Since

$$V = \sum_{n=o}^{\infty} \sum_{m=o}^{n} (g_{mn} G_{mn} + h_{mn} H_{mn}) \quad ;$$

it follows, for example, that

$$B_\varphi = -\frac{1}{R \sin\theta} \sum_{n=o}^{\infty} \sum_{m=o}^{n} \left( g_{mn} \frac{\partial}{\partial \varphi} G_{mn} + h_{mn} \frac{\partial}{\partial \varphi} H_{mn} \right) \quad ,$$

and, since $\frac{\partial}{\partial \varphi} G_{mn} = -mH_{mn}$, and $\frac{\partial}{\partial \varphi} H_{mn} = mG_{mn}$ ,

$$B_\varphi = -\frac{1}{R \sin\theta} \sum_{n=o}^{\infty} \sum_{m=o}^{n} m(-g_{mn} H_{mn} + h_{mn} G_{mn}) \quad ,$$

so that

$$g_{mn} = \frac{R \sin\theta}{m} \frac{\int \partial\theta \sin\theta \int \partial\varphi G_{mn} B_\varphi}{\frac{2\pi}{2n+1} \frac{(n+m)!}{(n-m)!^3} \frac{2n!^2}{2^{2n} n!^2}} \quad ,$$

and so on. There is a similar approach based on $B_\theta$. For $B_r$ as will be discussed below it is necessary to introduce a radial dependence.

The analysis just described is an excellent means of studying the geomagnetic field and its changes so long as attention is confined to the surface of the earth. In order to describe the behavior of charged particles in space it is necessary to extend this knowledge above the earth's surface. For this purpose, some additional assumptions are required because the analysis given above is valid for any function whatsoever defined over the earth's surface. If there were no geomagnetic potential the only defect in the surface analysis would be that the coefficients derived from $B_\theta$ would not equal those from $B_\varphi$. Since Maxwell's equations virtually insure the existence of a potential this is a priori unlikely to occur and experience shows that the minor differences which do arise are well within the observational uncertainties.

In order to make an extension of the analysis into space (or to evaluate $B_r$) it is necessary to assume that the values on the surface are boundary

values of some field which fills space and whose behavior is known. If the field is constant and there are no magnetic sources in space then the potential must, by Maxwell's equations, be magnetostatic and satisfy Laplace's equation:

$$0 = \frac{\partial}{\partial r}\left(r^2 \frac{\partial}{\partial r} V\right) + \frac{1}{\sin^2\theta}\frac{\partial^2}{\partial \varphi^2} V + \frac{1}{\sin\theta}\frac{\partial}{\partial \theta}\left(\sin\theta \frac{\partial}{\partial \theta} V\right) .$$

The solutions of Laplace's equation (and related material) are well known as the subject matter of potential theory (see, for example, Reference 14). One of the theorems of potential theory states that the potential is uniquely determined by its boundary values.

The magnetic field is definitely not constant. However, the hope is that it can be assumed (a) to be approximately constant (an adiabatic constant in the sense used in the discussion below on the behavior of charged particles) with respect to very long term changes and (b) to smooth over short term changes. The smoothing has not been very carefully standardized—"it is usual to take an annual mean based on quiet days as the value of the main field at any station" (Reference 2). Many of the irregularities arise because the second assumption—no sources in space—is also invalid. Ionospheric currents are easily detectable but these alone do not cause all the variations; some sources of irregularity have never been explained. It is the hope that smoothing will permit the discussion of any adiabatic constant geomagnetic field. In the absence of a definitive treatment of this problem it seems best to proceed with magnetostatic assumption.

The computer codes used in making these computations apply equally well to all the points on the earth's surface. For this reason the data has been extended into close proximity to the magnet and geographic poles. Many geophysicists believe that computations based on the magnetostatic assumption are very inaccurate in the "auroral zone" (say, above about $50^\circ$ in latitude) because this zone is subject to interference from interplanetary magnetic disturbances and the lines of force originating here extend so far into space that they may not close or may be persistently broken. Until this question is settled the data presented here for the region near the poles should be used with caution.

In this case the extension from boundary value to potential in space is formally immediate because

$$V = \sum_{n=o}^{\infty} \frac{R^{n+1}}{r^{n+1}} \sum_{m=o}^{n} \left(g_{mn} G_{mn} + h_{mn} H_{mn}\right)$$

is the unique solution of Laplace's equation which vanishes at infinity such that

$$V = \sum_{n=o}^{\infty} \sum_{m=o}^{n} (g_{mn} G_{mn} + h_{mn} H_{mn})$$

on the surface. This shows how $B_r$ can be used to determine the coefficients since

$$B_r = -\frac{\partial V}{\partial r} = \sum_{n=o}^{\infty} (n+1) \frac{R^{n+1}}{r^{n+2}} \sum_{m=o}^{n} (g_{mn} G_{mn} + h_{mn} H_{mn})$$

in general and on the surface

$$B_r = \frac{1}{R} \sum_{n=o}^{\infty} (n+1) \sum_{m=o}^{n} (g_{mn} G_{mn} + h_{mn} H_{mn}) \quad ,$$

so that

$$g_{mn} = \frac{R}{n+1} \frac{\int \partial\theta \sin\theta \int \partial\varphi G_{mn} B_r}{\frac{2\pi}{2n+1} \frac{(n+m)!}{(n-m)!^3} \frac{2n!^2}{2^{2n} n!^2}} \quad ,$$

and so on. The general formulas for $B_\varphi$ and $B_\theta$ are easily obtained and closely resemble those for points on the surface.

$$B_\varphi = -\frac{1}{\sin\theta} \sum_{n=o}^{\infty} \frac{R^{n+1}}{r^{n+2}} \sum_{m=o}^{n} m(-g_{mn} H_{mn} + h_{mn} G_{mn}) \quad ,$$

$$B_\theta = -\sum_{n=o}^{\infty} \frac{R^{n+1}}{r^{n+2}} \sum_{m=o}^{n} (g_{mn} \frac{\partial}{\partial\theta} G_{mn} + h_{mn} \frac{\partial}{\partial\theta} H_{mn}) \quad .$$

It is most convenient to work with a system of units which measure r in earth radii so that R = 1 in all the equations given above.

It is easy to conceive how the formulas given could be embodied in a computer program. There is such a program—a subroutine called MAGNET—which originated with Air Force Special Weapons Center, Kirtland A.F.B. This subroutine exists in several different versions depending on the values used for the geomagnetic coefficients. Another form of this subroutine utilizing identical mathematical procedures but written in FAP for speed and convenience in changing geomagnetic coefficients has been prepared at TEMPO. These versions give identical (to five significant figures) results when used with the same coefficients except at poles where the AFSWC version fails to compute $B_\theta$ correctly.

Most of the computations reported here used a set of 48 coefficients obtained by D.C. Jensen and J.C. Cain (Reference 15) for epoch 1960; these were compared in some computations to a set of 512 (nominally, actually 568 were used) due to D.C. Jensen and W.A. Whitaker (Reference 16) for epoch 1955. The difference is relatively small. The 48 coefficients of Jensen and Cain are shown in Table A; the Jensen and Whitaker coefficients are shown in Table B. The Jensen and Whitaker coefficients are also reproduced in Reference 10; the version in Table B differs slightly but the difference is probably not significant.

## Motion of Charged Particles

The motion of charged particles in a magnetic field is a well-known phenomena. In particular, all the experience of plasma physics is available as well as work in aurora and stellar physics. The motion has been studied in detail (see, for example, Reference 17). Suppose a particle has relativistic mass m and charge e and it moves with (vector) velocity $\vec{u}$ in a magnetic (induction) field $\vec{B}$ then its acceleration $\vec{a}$ is given (in rational electromagnetic units) by

$$\vec{a} = \frac{e}{m} \vec{u} \otimes \vec{B}$$

where $\otimes$ is the vector outer product. If $\vec{B}$ is uniform of strength B in the direction of the z-axis then

$$a_x = \frac{e}{m} B u_y \quad ,$$

$$a_y = \frac{e}{m} B u_x \quad ,$$

$$a_z = 0 \quad ,$$

and the particle moves in the trajectory (assuming it is initially at the origin with velocity $\vec{w}$)

$$x = (w_y + w_x \sin \lambda t - w_y \cos \lambda t)/\lambda \quad ,$$

$$y = (-w_x + w_y \sin \lambda t - w_x \cos \lambda t)/\lambda \quad ,$$

$$z = w_z t \quad ,$$

where the angular frequency $\lambda = \frac{e}{m} B$. The projection on the x - y plane is a circle with its center at $x = w_y/\lambda$, $y = -w_x/\lambda$ and radius $w_\perp/\lambda$ where

Table A. Geomagnetic Coefficients as Given by Jensen and Cain (in Gauss)

$g_{00} = 0$

$g_{01} = +.304112$

$g_{02} = +.024035$

$g_{03} = -.031518$

$g_{04} = -.041794$

$g_{05} = +.016256$

$g_{06} = -.019523$

| | |
|---|---|
| $g_{11} = +.021474$ | $h_{11} = -.057989$ |
| $g_{12} = -.051253$ | $h_{12} = +.033124$ |
| $g_{13} = +.062130$ | $h_{13} = +.014870$ |
| $g_{14} = -.045298$ | $h_{14} = -.011825$ |
| $g_{15} = -.034407$ | $h_{15} = -.000796$ |
| $g_{16} = -.004853$ | $h_{16} = -.005758$ |

Table A. (Cont.)

| | |
|---|---|
| $g_{22} = -.013381$ | $h_{22} = -.001579$ |
| $g_{23} = -.024898$ | $h_{23} = -.004075$ |
| $g_{24} = -.021795$ | $h_{24} = +.010006$ |
| $g_{25} = -.019447$ | $h_{25} = -.002000$ |
| $g_{26} = +.003212$ | $h_{26} = -.008735$ |
| $g_{33} = -.006496$ | $h_{33} = +.000210$ |
| $g_{34} = +.007008$ | $h_{34} = +.000430$ |
| $g_{35} = -.000608$ | $h_{35} = +.004597$ |
| $g_{36} = +.021413$ | $h_{36} = -.003406$ |
| $g_{44} = -.002044$ | $h_{44} = +.001385$ |
| $g_{45} = +.002775$ | $h_{45} = +.002421$ |
| $g_{46} = +.001051$ | $h_{46} = -.000118$ |
| $g_{55} = +.000697$ | $h_{55} = -.001218$ |
| $g_{56} = +.000227$ | $h_{56} = -.001116$ |
| $g_{66} = +.001115$ | $h_{66} = -.000325$ |

Table B. Geomagnetic Coefficients as Given by Jensen and Whitaker

| | | | |
|---|---|---|---|
| G 0 0 = | -1.81868757E-04 | | |
| G 0 1 = | 3.03954965E-01 | | |
| G 0 2 = | 2.33116880E-02 | | |
| G 0 3 = | -2.94613826E-02 | | |
| G 0 4 = | -3.84925836E-02 | | |
| G 0 5 = | 1.40194169E-02 | | |
| G 0 6 = | -5.53376138E-04 | | |
| G 0 7 = | -2.82791689E-02 | | |
| G 0 8 = | 3.96758285E-02 | | |
| G 0 9 = | -5.80275220E-02 | | |
| G 010 = | 7.16070324E-02 | | |
| G 011 = | -1.42793787E-01 | | |
| G 012 = | 6.65231597E-02 | | |
| G 013 = | 2.59923062E-02 | | |
| G 014 = | -3.89992028E-01 | | |
| G 015 = | 4.54625410E-01 | | |
| G 016 = | -7.67623520E-01 | | |
| G 017 = | 1.13768254E+00 | | |
| G 018 = | 6.71064389E-01 | | |
| G 019 = | -4.41675669E-01 | | |
| G 020 = | 2.55144835E+00 | | |
| G 021 = | 9.11195302E-01 | | |
| G 022 = | 6.29949319E+00 | | |
| G 023 = | 1.80562043E+01 | | |
| G 024 = | -1.43265873E+01 | | |
| G 1 1= | 1.95516829E-02 | H 1 1 = | -.56772422E-01 |
| G 1 2= | -5.00696254E-02 | H 1 2 = | .31326689E-01 |
| G 1 3= | 5.67198098E-02 | H 1 3 = | .13461722E-01 |
| G 1 4= | -4.29228514E-02 | H 1 4 = | -.42734104E-02 |
| G 1 5= | -3.92501289E-02 | H 1 5 = | .60307883E-03 |
| G 1 6= | -1.51519343E-02 | H 1 6 = | .69540757E-02 |
| G 1 7= | 9.88630116E-04 | H 1 7 = | .21372991E-02 |
| G 1 8= | -2.60652316E-02 | H 1 8 = | .22308741E-01 |
| G 1 9= | -1.36711310E-02 | H 1 9 = | -.38442398E-01 |
| G 110= | 7.58558434E-02 | H 110 = | .47657927E-01 |
| G 111= | -2.36752740E-01 | H 111 = | -.13708930E+00 |
| G 112= | 3.28001598E-01 | H 112 = | .87569359E-01 |
| G 113= | -4.07894486E-01 | H 113 = | .11263226E+00 |
| G 114= | -1.21878576E-02 | H 114 = | .35060196E+00 |
| G 115= | 9.51373816E-01 | H 115 = | .13410333E+00 |
| G 116= | -1.60000132E+00 | H 116 = | .94253541E+00 |
| G 117= | 1.62543717E+00 | H 117 = | .44449853E+00 |
| G 118= | 1.87724178E-01 | H 118 = | -.16294888E+00 |
| G 119= | -8.28943944E-01 | H 119 = | -.22336922E+00 |
| G 120= | 1.30357011E+00 | H 120 = | -.10106994E+01 |
| G 121= | -2.85698953E-01 | H 121 = | .52921404E-02 |
| G 122= | -1.25369941E+00 | H 122 = | -.10813708E+01 |
| G 123= | 9.11831880E+00 | H 123 = | .95924255E+00 |
| G 124= | -1.21354425E+01 | H 124 = | .25457914E+01 |

Table B. (Cont.)

| | | | |
|---|---|---|---|
| G 2 2= | -1.44362517E-02 | H 2 2= | -.39770070E-02 |
| G 2 3= | -2.18119371E-02 | H 2 3= | -.40692630E-02 |
| G 2 4= | -2.30735725E-02 | H 2 4= | .87596376E-02 |
| G 2 5= | -9.90265870E-03 | H 2 5= | -.68792437E-02 |
| G 2 6= | -1.33617684E-02 | H 2 6= | -.19722961E-01 |
| G 2 7= | 2.80319178E-02 | H 2 7= | -.31370295E-02 |
| G 2 8= | -5.54907614E-02 | H 2 8= | -.50937451E-02 |
| G 2 9= | 5.79421985E-02 | H 2 9= | -.23562953E-01 |
| G 210= | -9.57042813E-02 | H 210= | -.44653744E-01 |
| G 211= | 1.10184102E-01 | H 211= | -.26703096E-01 |
| G 212= | -3.07802543E-01 | H 212= | -.17468439E+00 |
| G 213= | 3.15454930E-01 | H 213= | -.11858796E+00 |
| G 214= | -7.38183868E-01 | H 214= | .19509618E+00 |
| G 215= | 1.29783694E+00 | H 215= | -.59673567E+00 |
| G 216= | -1.59470893E+00 | H 216= | .17438091E+01 |
| G 217= | 6.86960286E+00 | H 217= | -.40989000E+01 |
| G 218= | -3.88578549E+00 | H 218= | .44624547E+01 |
| G 219= | -4.33715057E-01 | H 219= | .25762977E+00 |
| G 220= | -4.51282966E+00 | H 220= | .52052133E+01 |
| G 221= | 4.81428140E+00 | H 221= | -.29131021E+01 |
| G 222= | -1.02758293E+01 | H 222= | .12025600E+02 |
| G 223= | 1.54551627E+01 | H 223= | -.90117842E+01 |
| G 224= | -2.61509347E+01 | H 224= | .28835645E+02 |

| | | | |
|---|---|---|---|
| G 3 3= | -7.87599021E-03 | H 3 3= | .37069506E-03 |
| G 3 4= | 7.69684792E-03 | H 3 4= | .29573649E-02 |
| G 3 5= | 4.64784771E-03 | H 3 5= | -.82332600E-03 |
| G 3 6= | 1.83292185E-02 | H 3 6= | .34563800E-02 |
| G 3 7= | 1.16323982E-02 | H 3 7= | -.92663568E-02 |
| G 3 8= | -1.21336505E-02 | H 3 8= | .13198289E-01 |
| G 3 9= | 6.20017439E-02 | H 3 9= | .44506361E-03 |
| G 310= | -1.04773767E-02 | H 310= | -.17950016E-01 |
| G 311= | 1.69627547E-01 | H 311= | .13344460E+00 |
| G 312= | -3.33588099E-02 | H 312= | -.13154834E+00 |
| G 313= | 3.93287235E-01 | H 313= | .27327400E+00 |
| G 314= | 8.75455499E-02 | H 314= | -.45138622E+00 |
| G 315= | 6.29087347E-01 | H 315= | .72092323E+00 |
| G 316= | -7.85736656E-01 | H 316= | -.21753822E+00 |
| G 317= | 2.54874733E+00 | H 317= | .38167326E+00 |
| G 318= | -1.06856495E+01 | H 318= | .14819237E+02 |
| G 319= | 7.36168706E+00 | H 319= | -.85143019E+01 |
| G 320= | -9.39381993E+00 | H 320= | .13051635E+02 |
| G 321= | 2.17313221E+01 | H 321= | -.23914570E+02 |
| G 322= | -8.09967613E+00 | H 322= | .10810833E+02 |
| G 323= | 5.67008585E+01 | H 323= | -.63910954E+02 |
| G 324= | 4.85954058E+00 | H 324= | -.72432314E+01 |

• Table B. (Cont.)

| | | | |
|---|---|---|---|
| G 4 4= | -2.68995824E-03 | H 4 4= | .14357304E-02 |
| G 4 5= | 2.36998877E-03 | H 4 5= | .19446669E-02 |
| G 4 6= | 2.07940811E-03 | H 4 6= | .26233475E-02 |
| G 4 7= | 1.26910639E-03 | H 4 7= | -.57251951E-02 |
| G 4 8= | -6.11431164E-03 | H 4 8= | .69763496E-02 |
| G 4 9= | -1.14259993E-04 | H 4 9= | -.19227442E-02 |
| G 410= | -1.78115948E-02 | H 410= | .14025690E-01 |
| G 411= | 2.49092811E-02 | H 411= | .14587651E-02 |
| G 412= | -9.04762042E-03 | H 412= | .32060851E-01 |
| G 413= | 3.46934888E-02 | H 413= | .21117154E+00 |
| G 414= | 7.19249713E-02 | H 414= | -.65312709E-01 |
| G 415= | 1.61639129E-01 | H 415= | .13883826E+01 |
| G 416= | 1.09987515E+00 | H 416= | -.98344058E+00 |
| G 417= | -1.69762634E-01 | H 417= | .42977376E+01 |
| G 418= | 3.46227095E-01 | H 418= | -.27706360E+01 |
| G 419= | 2.12356859E+00 | H 419= | -.24920900E+01 |
| G 420= | -8.26668859E+00 | H 420= | .37605141E+01 |
| G 421= | 2.20897472E+01 | H 421= | -.24900554E+02 |
| G 422= | -4.82690144E+01 | H 422= | .30410382E+02 |
| G 423= | 9.25412357E+01 | H 423= | -.10742829E+03 |
| G 424= | -1.74685910E+02 | H 424= | .11363591E+03 |

| | | | |
|---|---|---|---|
| G 5 5= | 1.90808070E-04 | H 5 5= | -.39044273E-03 |
| G 5 6= | -3.41266379E-04 | H 5 6= | -.57703760E-03 |
| G 5 7= | 1.80337308E-03 | H 5 7= | .84937564E-03 |
| G 5 8= | -3.72495374E-03 | H 5 8= | -.45125045E-02 |
| G 5 9= | 6.54090440E-03 | H 5 9= | -.20082999E-02 |
| G 510= | -3.22639897E-02 | H 510= | .16581872E-01 |
| G 511= | 3.00731552E-02 | H 511= | .33973354E-01 |
| G 512= | -8.50520551E-02 | H 512= | .36425515E-01 |
| G 513= | 1.81601094E-01 | H 513= | .66510495E-01 |
| G 514= | -3.09801957E-01 | H 514= | .20757329E+00 |
| G 515= | 2.51311260E-01 | H 515= | -.36455151E+00 |
| G 516= | -9.52850389E-01 | H 516= | .12680572E+00 |
| G 517= | 1.24242945E+00 | H 517= | -.17643484E+01 |
| G 518= | -6.84175873E+00 | H 518= | -.44801130E+01 |
| G 519= | 5.04973274E+00 | H 519= | .15298184E+01 |
| G 520= | -1.06697671E+00 | H 520= | .46542019E-01 |
| G 521= | 9.45154250E+00 | H 521= | .14300774E+01 |
| G 522= | -6.90077794E-01 | H 522= | .16019346E+02 |
| G 523= | 1.28977227E+01 | H 523= | -.13329579E+02 |
| G 524= | -3.41950521E+01 | H 524= | .11937782E+03 |

Table B. (Cont.)

| | | | |
|---|---|---|---|
| G 6 6= | 3.72382683E-04 | H 6 6= | .31110748E-03 |
| G 6 7= | 2.48866597E-04 | H 6 7= | .11967165E-03 |
| G 6 8= | -4.30195636E-04 | H 6 8= | .13508165E-03 |
| G 6 9= | 2.13727152E-03 | H 6 9= | -.59623941E-03 |
| G 610= | 3.92002609E-04 | H 610= | -.39774839E-02 |
| G 611= | 5.91470301E-03 | H 611= | .14304200E-01 |
| G 612= | -3.50500008E-02 | H 612= | -.75366375E-02 |
| G 613= | 1.14717758E-01 | H 613= | .16425152E-01 |
| G 614= | -6.67961460E-02 | H 614= | .19044402E+00 |
| G 615= | 2.63254735E-01 | H 615= | -.18118073E+00 |
| G 616= | -4.68508679E-01 | H 616= | .77385639E+00 |
| G 617= | 3.93588877E-01 | H 617= | -.93185308E+00 |
| G 618= | -9.46770525E-01 | H 618= | .11830100E+01 |
| G 619= | -2.15334615E+00 | H 619= | .45361664E+00 |
| G 620= | 4.70842755E+00 | H 620= | .12137469E+01 |
| G 621= | -3.23913029E+00 | H 621= | .51886065E+00 |
| G 622= | 1.22418870E+01 | H 622= | .34168698E+01 |
| G 623= | -3.41499013E+00 | H 623= | -.22478455E+01 |
| G 624= | 3.47551903E+01 | H 624= | .21725370E+02 |

| | | | |
|---|---|---|---|
| G 7 7= | -3.38034552E-04 | H 7 7= | .21221215E-03 |
| G 7 8= | 3.12339079E-04 | H 7 8= | .40195247E-03 |
| G 7 9= | -1.64081767E-04 | H 7 9= | -.32573011E-03 |
| G 710= | -3.54309604E-05 | H 710= | -.44602487E-03 |
| G 711= | 8.74138987E-03 | H 711= | -.40131347E-02 |
| G 712= | -2.31940338E-02 | H 712= | .11920718E-01 |
| G 713= | 9.79040563E-03 | H 713= | -.21646387E-02 |
| G 714= | -7.82577634E-03 | H 714= | -.25150594E-01 |
| G 715= | 4.23793578E-02 | H 715= | -.47148820E-01 |
| G 716= | 3.14093077E-01 | H 716= | -.70200782E-01 |
| G 717= | 2.35095525E-01 | H 717= | -.63394758E+00 |
| G 718= | -2.27362189E-01 | H 718= | .77351442E+00 |
| G 719= | -8.55997884E-01 | H 719= | -.22506956E+01 |
| G 720= | 2.11810184E-01 | H 720= | .60293251E+00 |
| G 721= | -6.79813421E+00 | H 721= | .24065237E+01 |
| G 722= | 1.59271164E+00 | H 722= | .40884249E+01 |
| G 723= | -2.05063617E+01 | H 723= | .16366798E+02 |
| G 724= | 4.66132146E+00 | H 724= | .11242851E+02 |

Table B. (Cont.)

| | | | |
|---|---|---|---|
| G 8 8= | -7.84447628E-05 | H 8 8= | .78618141E-04 |
| G 8 9= | 3.58204448E-04 | H 8 9= | .26507891E-03 |
| G 810= | -3.29865205E-04 | H 810= | .31687960E-03 |
| G 811= | 6.18262714E-04 | H 811= | -.24796961E-02 |
| G 812= | -5.38137847E-03 | H 812= | .27419954E-02 |
| G 813= | -9.67857158E-03 | H 813= | .46908004E-02 |
| G 814= | -1.77339838E-02 | H 814= | -.14796194E-01 |
| G 815= | 5.60007304E-02 | H 815= | -.25111580E-01 |
| G 816= | 1.26031697E-01 | H 816= | -.15439786E+00 |
| G 817= | -1.30248885E-01 | H 817= | -.10635683E+00 |
| G 818= | 2.65852699E-01 | H 818= | .15451624E+00 |
| G 819= | 3.02515981E+00 | H 819= | -.27101147E+01 |
| G 820= | -1.31322975E+00 | H 820= | -.16310960E+01 |
| G 821= | 1.68301795E+00 | H 821= | -.20618759E+01 |
| G 822= | -6.81312644E+00 | H 822= | -.18742205E+01 |
| G 823= | 1.87334432E+01 | H 823= | -.28089741E+02 |
| G 824= | -2.00761449E+01 | H 824= | .51845120E+01 |
| | | | |
| G 9 9= | 2.27598068E-05 | H 9 9= | .10934553E-03 |
| G 910= | 4.48861927E-04 | H 910= | .21485281E-03 |
| G 911= | -5.43971902E-04 | H 911= | -.51823650E-03 |
| G 912= | 1.20773913E-06 | H 912= | -.10370259E-04 |
| G 913= | -4.17231458E-03 | H 913= | -.18675102E-02 |
| G 914= | -2.40911657E-02 | H 914= | .12845599E-01 |
| G 915= | 1.53373276E-02 | H 915= | .43221558E-02 |
| G 916= | -3.40123063E-03 | H 916= | .68572128E-01 |
| G 917= | -1.36573054E-01 | H 917= | .73340895E-01 |
| G 918= | 5.69084722E-01 | H 918= | -.13342141E+00 |
| G 919= | -3.58062005E-01 | H 919= | .25583037E+00 |
| G 920= | -1.42951311E+00 | H 920= | .32768912E+01 |
| G 921= | 3.46892813E-01 | H 921= | -.17114816E+01 |
| G 922= | -1.14053144E+00 | H 922= | .26847065E+01 |
| G 923= | 1.70650628E+00 | H 923= | -.56829415E+01 |
| G 924= | 5.27083588E+00 | H 924= | -.96297451E+01 |
| | | | |
| G1010= | 2.26452458E-05 | H1010= | .45036482E-04 |
| G1011= | 2.33529708E-04 | H1011= | -.36810529E-04 |
| G1012= | -8.91741598E-04 | H1012= | -.29591757E-03 |
| G1013= | -1.56877363E-04 | H1013= | .22745711E-02 |
| G1014= | -4.35126334E-03 | H1014= | .66920146E-03 |
| G1015= | -3.51159173E-03 | H1015= | -.17879607E-01 |
| G1016= | 3.32822767E-03 | H1016= | .33127994E-01 |
| G1017= | -5.77071053E-03 | H1017= | -.82620066E-01 |
| G1018= | -4.54620612E-02 | H1018= | .41995889E-01 |
| G1019= | 2.35214061E-01 | H1019= | .21141051E-01 |
| G1020= | -5.10877770E-01 | H1020= | .96197826E-01 |
| G1021= | -2.98460230E+00 | H1021= | .26562107E+00 |
| G1022= | -4.12052613E+00 | H1022= | .20263140E+01 |
| G1023= | -7.74724239E+00 | H1023= | .81069597E+00 |
| G1024= | -9.34438992E+00 | H1024= | .43509346E+01 |

Table B. (Cont.)

| | | | |
|---|---|---|---|
| G1111= | 3.11853099E-07 | H1111= | .19943533E-04 |
| G1112= | 4.61401331E-05 | H1112= | .65685716E-04 |
| G1113= | 7.00662887E-04 | H1113= | -.57514181E-03 |
| G1114= | -1.49686325E-03 | H1114= | .19025045E-02 |
| G1115= | 6.20740569E-03 | H1115= | -.38037015E-02 |
| G1116= | -4.78811705E-03 | H1116= | .87781070E-02 |
| G1117= | 5.05607700E-02 | H1117= | -.11860078E-01 |
| G1118= | 2.96481013E-02 | H1118= | -.75516208E-02 |
| G1119= | 3.37778446E-02 | H1119= | -.27742110E+00 |
| G1120= | 2.49035451E-01 | H1120= | .40644831E+00 |
| G1121= | 5.81554365E-01 | H1121= | -.62613786E+00 |
| G1122= | 3.69804353E-01 | H1122= | .96574415E+00 |
| G1123= | 2.05693766E+00 | H1123= | -.49260746E+00 |
| G1124= | 2.26466373E+00 | H1124= | .58899468E+01 |

| | | | |
|---|---|---|---|
| G1212= | 4.97031879E-06 | H1212= | -.11532726E-04 |
| G1214= | 9.32817745E-05 | H1213= | .66208218E-04 |
| G1215= | -1.50069757E-03 | H1214= | -.11560561E-03 |
| G1216= | -3.29807943E-03 | H1215= | .13216347E-02 |
| G1217= | -2.42404020E-02 | H1216= | .39858468E-02 |
| G1218= | -1.18340293E-02 | H1217= | .71293963E-03 |
| G1219= | -2.97000375E-02 | H1218= | .54699325E-01 |
| G1220= | -8.72789907E-02 | H1219= | -.45257668E-01 |
| G1221= | -1.24087340E-01 | H1220= | .24349356E+00 |
| G1222= | -3.67687169E-01 | H1221= | -.43559620E+00 |
| G1223= | 3.53759694E-01 | H1222= | .86030682E+00 |
| G1224= | -4.95835471E+00 | H1223= | -.40262476E+00 |
| | | H1224= | .17689044E+01 |

| | | | |
|---|---|---|---|
| G1313= | 1.53294280E-05 | H1313= | -.38266698E-05 |
| G1314= | 7.45644820E-05 | H1314= | .38828054E-03 |
| G1315= | -1.44238126E-04 | H1315= | -.20612176E-04 |
| G1316= | -5.87090564E-04 | H1316= | .24693960E-02 |
| G1317= | 1.70755588E-05 | H1317= | .21962900E-02 |
| G1318= | -5.34952754E-03 | H1318= | .91944685E-02 |
| G1319= | -6.67326641E-03 | H1319= | .21478447E-01 |
| G1320= | 8.30221927E-02 | H1320= | -.83588941E-01 |
| G1321= | -3.26044178E-01 | H1321= | -.11314857E+00 |
| G1322= | 7.52621979E-01 | H1322= | .23812565E+00 |
| G1323= | -8.81060314E-01 | H1323= | -.85692165E+00 |
| G1324= | 8.95327234E-01 | H1324= | .43386539E+00 |

Table B. (Cont.)

| | | | |
|---|---|---|---|
| G1414= | 1.63016976E-05 | H1414= | -.32505932E-05 |
| G1415= | -2.59073138E-04 | H1415= | .49502956E-04 |
| G1416= | 3.40091488E-04 | H1416= | .48223895E-03 |
| G1417= | -1.41947019E-03 | H1417= | .28346161E-02 |
| G1418= | 5.83098143E-04 | H1418= | .32151694E-02 |
| G1419= | -2.62405512E-03 | H1419= | .20337665E-01 |
| G1420= | 7.40987337E-03 | H1420= | .57944611E-01 |
| G1421= | -5.14948857E-02 | H1421= | .15466959E-01 |
| G1422= | -2.18633866E-02 | H1422= | -.98059527E-01 |
| G1423= | -7.10342449E-01 | H1423= | -.58232037E+00 |
| G1424= | 6.16288781E-01 | H1424= | -.68287732E+00 |

| | | | |
|---|---|---|---|
| G1515= | 1.21820159E-05 | H1515= | .26172433E-04 |
| G1516= | -1.57948726E-04 | H1516= | .30831242E-04 |
| G1517= | 8.58468127E-06 | H1517= | .28322050E-03 |
| G1518= | -3.73096913E-04 | H1518= | .19695519E-02 |
| G1519= | -2.27779779E-04 | H1519= | .10243259E-01 |
| G1520= | 1.47155267E-02 | H1520= | -.64714580E-02 |
| G1521= | 2.42504528E-02 | H1521= | .51676833E-01 |
| G1522= | 1.42425814E-01 | H1522= | .96725937E-01 |
| G1523= | 2.49694762E-03 | H1523= | .43839802E-01 |
| G1524= | 4.54553312E-02 | H1524= | -.48587178E+00 |

| | | | |
|---|---|---|---|
| G1616= | -5.84503371E-06 | H1616= | .89085426E-05 |
| G1617= | -1.27970049E-04 | H1617= | -.96542149E-04 |
| G1618= | -8.93225408E-05 | H1618= | .70450073E-03 |
| G1619= | -6.86292642E-04 | H1619= | .17460934E-02 |
| G1620= | 9.36995876E-04 | H1620= | .19562971E-02 |
| G1621= | 1.42977914E-02 | H1621= | .23798996E-01 |
| G1622= | 4.30475062E-02 | H1622= | .23377695E-01 |
| G1623= | -4.11517870E-02 | H1623= | .15745310E+00 |
| G1624= | 8.54049182E-02 | H1624= | -.14426384E+00 |

| | | | |
|---|---|---|---|
| G1717= | 3.58879706E-06 | H1717= | .12514104E-04 |
| G1718= | -8.84852993E-06 | H1718= | .15768269E-03 |
| G1719= | -6.74888104E-04 | H1719= | .23150870E-03 |
| G1720= | -2.30968866E-05 | H1720= | .18252449E-02 |
| G1721= | 1.10360624E-03 | H1721= | .44591573E-02 |
| G1722= | 1.92448065E-02 | H1722= | -.80045459E-02 |
| G1723= | 8.30055857E-02 | H1723= | .41447697E-01 |
| G1724= | -4.15158582E-03 | H1724= | -.60527826E-02 |

$$w_\perp^2 = w_x^2 + w_y^2 \quad .$$

The projected motion in the x-y plane is therefore a circular path with period $2\pi/\lambda$. If the angular frequency $\lambda$ is very large the particle can then be smoothed out over its circular path and viewed as a ring current of (electromagnetic) intensity $e\lambda/2\pi$ and radius $w_\perp/\lambda$ moving along the z-axis with constant velocity $w_z$. For the geomagnetic field near the earth B is on the order of 0.1 gauss (equals $10^{-5}$ kg/sec-coulombs) and since e/m for the electrons is approximately $2 \times 10^{11}$ coulombs/kg it follows that $\lambda$ is about $2 \times 10^6$ revolutions per sec.

Since the rest mass of an electron is equivalent to 0.51 Mev of energy, relativistic corrections are essential for accurate calculations. A 1 Mev electron is moving at almost 95% the speed of light and its mass is increased to 2.94 times its rest mass. Its period is, however, still almost one revolution per micro-second. Since $\lambda$ depends inversely on particle mass the period of a proton is about 2000 times longer than that of an electron but this is still only a few milliseconds so that the smoothing into a ring current seems to be a valid physical approximation for both particles. The size of the ring is quite modest--even if $w_\perp$ is taken as the speed of light the radius for an electron is only a few hundred meters. For protons the radius is considerable if the energy is large and the theory given here must break down for very high energy protons, say above 1 Bev where the radius is about 10 km.

Thus, the charged particle will behave like a small current whirl with the usual dipole moment (in inductive units)

$$M = \frac{1}{2} m w_\perp^2 / B_0 \quad ,$$

directed, of course, in such a way as to oppose the field.

The physical picture just described is often called the "guiding center approximation." The particle is replaced by a moving dipole whose position describes the trajectory of the guiding center. In the uniform field for which the picture was developed it is exact but it is also applied to situations in which the field is not uniform. If non-uniformity is introduced slowly enough the motion should be adiabatic (see Reference 18 for a more complete discussion; a really thorough rigorous discussion of this point is still needed), and the dipole moment should behave like a physical invariant. Since the field does no work on the

particle the total velocity is a true invariant. If w is the total velocity then, under the adiabatic assumption,

$$w^2 = w_{||}^2 + w_{\perp}^2 \quad ,$$

($w_{||}$ is the velocity along the lines of force of the field and $w_{\perp}$ is the velocity "perpendicular" to these lines) so that

$$w^2 = w_{||}^2 + \frac{BM}{\frac{1}{2}m} \quad .$$

Hence if B becomes as large as $\frac{1}{2}mw^2/M$ it is necessary for $w_{||}$ to go to zero.

If a charged particle is introduced into space in the geomagnetic region say with initial velocity $w_{||}$ parallel to magnetic field and $w_{\perp}$ perpendicular to it, then it acquires a magnet moment

$$M = \tfrac{1}{2}mw_{\perp}^2 /B$$

if $B_0$ is the initial field strength. It will move along the field lines as determined by the initial component $w_{||}$. In general the geomagnetic field is such that higher altitudes correspond to smaller fields but each line of force rises to a maximum and then returns to the surface of the earth.

This means that if the initial velocity w is upward the particle will move along the line of force with increasing speed until a maximum is reached and then begin slowing down until it reaches a point where

$$B = \tfrac{1}{2}mw^2/M = w^2/w_{\perp}^2 \, B_0 \quad .$$

If the initial velocity is downward the particle goes directly to such a point. If $\xi$ is the initial angle between the velocity and field line when $w = w \sin \xi$ and the relationship becomes $B = \sin^2\xi \, B_0$. What happens at this point is not established by earlier discussion. An appeal to the detailed motion of the particle, which will be omitted here, shows that the particle is reflected back into the region of lesser magnetic field.

Such points of velocity direction reversal are called "mirror points." They are defined for any particular particle by the expressions above. Geometrically the mirror points give a method of classifying all the points on a line of force in terms of the value of B at that point. Suppose, for example, the underlying field were given by a dipole of moment $\mathcal{m}$ directed along the polar axis of a set of spherical coordinates r, $\theta$, $\varphi$. Then

$$B_r = \cos\theta/2\pi r^3 \quad ,$$

$$B_\theta = \sin\theta/4\pi r^3 \quad ,$$

$$B_\varphi = 0 \quad .$$

The lines of force are given by $r = L \sin^2\theta$; they are the solutions of the

$$\frac{\partial r}{\partial s} = \frac{B_r}{B} \quad ,$$

$$\frac{\partial \theta}{\partial s} = \frac{B_\theta}{B} \quad ,$$

$$\frac{\partial \varphi}{\partial s} = \frac{B_\varphi}{B} \quad ,$$

where

$$B^2 = B_r^2 + B_\theta^2 = (4\cos^2\theta + \sin^2\theta)\,(m/4\pi r^3)^2 \quad ,$$

so that B is total field strength. If the equation for a line of force is utilized the field strength at colatitude $\theta$ along a line of force is seen to be

$$B = \frac{(3\cos^2\theta + 1)^{\frac{1}{2}} m}{4\pi L^3 \sin^6\theta} \quad .$$

The derivative of this expression with respect to $\varphi$ is proportional to

$$\cos\theta(3 + 2\cos^2\theta)$$

so that there is a unique minimum B at $\theta = \pi/2$ where $B = m/4\pi L^3$. In this situation the pairs of points with equal latitudes (with colatitudes $\theta$ and $\pi/2-\theta$) are mirror points. The equator can be characterized as those points which mirror to themselves.

There is no a priori reason why there should be only a minimum of B along any line of force but observation and calculations have not uncovered any locations where multiple minima occur. If such multiple minima were found it would mean that some particles could go from mirror point to mirror point about one minimum without even coming into contact with particles moving around another minimum.

The oscillation of a particle between mirror points is accompanied by an additional motion as the guiding center drifts across the magnetic field. This motion is rather slow (in the geomagnetic case) and more difficult to study than the basic case outlined above. The basic reasons for the drift arise from the non-uniformity of the geomagnetic force; other fields also contribute to drift but their contributions are very small; a more detailed discussion is given below. Plainly it is necessary to find some other "constant" of motion to describe the process. An adiabatic "invariant" I has been proposed (by M.N. Rosenbluth, see Reference 19 for this purpose. It appears to be based on the analogy between a particle oscillating between mirror points and a pendulum-type motion in a one-dimensional potential where it corresponds to the action integral

$$J = \oint \partial x \sqrt{2[E - V(x)]} \quad ,$$

where E is energy and V(x) is potential energy.

Since $w^2 = w_{||}^2 + \frac{M}{\frac{1}{2}m} B$ can be written in terms of energy as

$$\tfrac{1}{2}mw^2 = \tfrac{1}{2}mw_{||}^2 + MB \quad ,$$

where $\frac{1}{2}mw^2$ can be interpreted as the total energy available for motion and $\frac{1}{2}mw_{||}^2$ as kinetic energy of motion, it follows that MB can be interpreted as potential energy available for motion. Then

$$J = \oint \partial s \sqrt{2\left(\tfrac{1}{2}mw^2 - \tfrac{1}{2}mw^2\frac{B}{B_0}\right)}$$

$$= \sqrt{m}\, w \oint \partial s \sqrt{1 - \frac{B}{B_0}} \quad ,$$

because $M = \frac{1}{2}mw^2/B_0$ if $B_0$ is the field at a mirror point. Since $\sqrt{m}w$ is a constant these can be dropped and

$$I = \oint \partial s \sqrt{1 - \frac{B}{B_0}}$$

(where the integral extends over arc-length from mirror point to mirror point) is an adiabatic invariant (if J is such an invariant, see Reference 19). A proof that I is an adiabatic invariant is presented in Reference 7. Since the argument just presented is highly heuristic such a proof is clearly needed.

The two quantities $B_0$ and I define a pair of lines (each containing the mirror points of the other) around the world and therefore would be adequate to describe the drifting of particles geometrically but not kinematically. That is, they determine where the particles go but not the rate of movement.

For many purposes the geometry alone is adequate and it is this geometry which is presented in the tables of this report. For the sake of completeness, a brief sketch of the details of motion follows (based on Alfvén, Reference 5 see also Reference 20.

There are two main causes for drift perpendicular to the magnetic field which operate in the absence of other fields—a free dipole with movement M in a non-uniform field will drift as it is acted upon by a force

$$\vec{\nabla}\,(\vec{M}\cdot\vec{B}) \quad .$$

In the present case, however, the dipole is not free since it is constrained to move along a line of force and another force term must be included to account for the centripedal effect of this constraint. This centrifugal force is given by:

$$mw_{\|}^2\,\frac{\partial^2\vec{x}}{\partial s^2}$$

where $\vec{x}$ is the position of the guiding center. Since $\vec{x}$ follows a line of force

$$\frac{\partial\vec{x}}{\partial s} = \frac{\vec{B}}{B}$$

and, therefore

$$\frac{\partial^2\vec{x}}{\partial s^2} = \frac{1}{B}\,\vec{\nabla}B \quad .$$

When the non-uniformity force and the constraint force are combined the total effective force is

$$(M+\frac{mw_{\|}^2}{B})\,\vec{\nabla}B \quad .$$

In order to evaluate the drift consider a change of frame to a system moving with drift velocity $\vec{v}$. In this new frame the magnetic field will appear to contribute an electric force given, to the first order approximation of the relativistic correction by

$$\vec{E}' = \frac{1}{c}\,\vec{v}\otimes\vec{B} \quad .$$

Then the force on the particle has been changed to

$$\vec{F}+ce\vec{E}' = \vec{F}+e\vec{v}\otimes\vec{B} \quad ;$$

and this can be made to vanish by taking

$$\vec{v} = \frac{1}{eB^2} \vec{F} \otimes \vec{B} \quad ,$$

which is, therefore, the particle drift velocity.

In terms of the force obtained above

$$\vec{v} = \frac{1}{eB^2}\left(M + \frac{mw_{\parallel}^2}{B}\right)(\vec{\nabla} B \otimes \vec{B}) = \frac{m}{eB^3}\left(\frac{1}{2} w_{\perp}^2 + w_{\parallel}^2\right)(\vec{\nabla} B \otimes \vec{B}) \quad .$$

Note especially that since the charge e appears it follows that positive and negative particle will drift in opposite directions—electrons move eastward and protons westward in the earth's field. Detailed calculations of the drift velocity for a dipole earth have been made several times (see Reference 20). There it is shown that a 1 Mev electron requires about 30 minutes to orbit the earth.

### Geomagnetic Geometry

Since the geometry of motion of trapped particles is governed by the quantities B and I (the subscript zero at mirror point field strengths will be omitted if there is no chance for confusion) it can be visualized in terms of these quantities. I is, however, somewhat awkward to work with; for example, there does not seem to be any closed form expression for

$$I_{DP} = L \int_{\theta_0}^{\frac{1}{2}\pi - \theta_0} \partial\theta \sin\theta \left[3\cos^2\theta + 1\right]^{\frac{1}{2}} \left[1 - \frac{(3\cos^2\theta + 1)^{\frac{1}{2}}}{(3\cos^2\theta_0 + 1)^{\frac{1}{2}}} \frac{\sin^6\theta_0}{\sin^6\theta}\right]^{\frac{1}{2}}$$

the value of I for a particle mirroring at colatitude $\theta_0$ in a dipole field. This is not especially objectionable on the basis of applications because the earth is not exactly a dipole—the deviation about 5%—but rather because it interferes with intuitive understanding. Such understanding is based, naturally enough, on the traditional dipole representation of the earth which has proved very useful. In an effort to preserve the value of such understanding McIlwain (Reference 21) proposed another quantity L be used instead. Roughly speaking L is the radial distance at the equator which a line of force would have if it were a dipole line rather than a realistic one.

Suppose $\Phi(\theta)$ is the function defined by the integral just quoted so that

$$I_{DP} = L\,\Phi(\theta) \quad .$$

Since, as shown earlier

$$B = \frac{H}{L^3 \sin^6\theta} (1 + 3\cos^2\theta)^{\frac{1}{2}} ,$$

$$L^3B/H = \Phi(\theta) = (1 + 3\cos^2\theta)^{\frac{1}{2}} / \sin^6\theta ,$$

and, therefore, if $\Omega$ is the functional inverse of $\Phi$

$$I^3B/H = L^3B/H\ \Phi(\theta) = L^3B/H\,\Phi[\Omega(L^3B/H)]$$

so that there is a functional relationship between $I^3B/H$ and $L^3B/H$. This can be inverted so that, for some function f,

$$L^3B/H = f(I^3B/H) .$$

Thus, if I is known L can be calculated. McIlwain (Reference 21) gives an approximate formula for f and table which is presented in Figure A. A more exact formula, also due to McIlwain (Reference 22) gives

$$\lambda = \log\left(\frac{L^3B}{H} - 1\right)$$

as a function of $\mu = \log\left(\frac{I^3B}{H}\right)$ in the form

$$\lambda = \sum_{n=0}^{9} \alpha_n \mu^n ,$$

where the $\alpha_n$ are as shown in Table C. This formula improves that of Reference 21 and was used (with one small change) for all the calculations reported here. There is a very recent change included in Table C which was not present in the calculations—it seems that the difference due to this change should be quite small (less than 1%) and then only in the immediate neighborhood of the geomagnetic equator.

The idea behind using L instead of I is that L is geometrically simpler than I but carries all the physical significance of I. This happens because L is almost constant along lines of force—McIlwain reports a maximum percentage deviation of 1%. All the particles which begin to move from any one point spread themselves along the line of force through that point. Then as they drift perpendicular to the field their mirror points sweep out a surface defined by all the lines of constant B and L passing through the initial line of force. In general, lines of force do not lie in this surface and the particles moving between the mirror points do not move on the surface. The separation away from the surface is small however and the concept of "magnetic shell" is valid if it is allowed to have a finite, though small thickness. This shell is uniquely characterized by L up to the variation of L along a

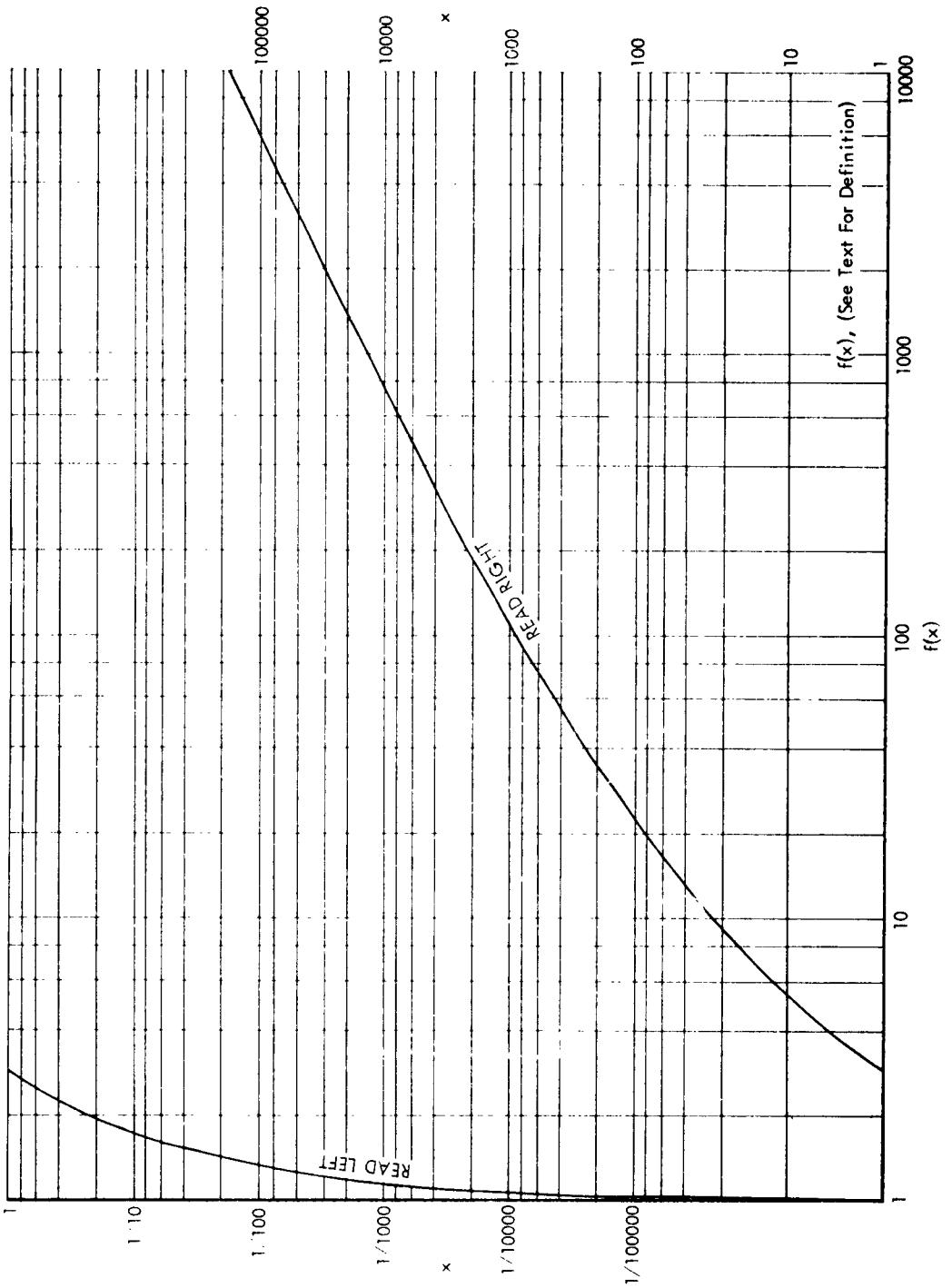



Figure A. Magnetic Shell Function

Table C. Coefficients in polynomial to McIlwain's f

If $\mu \leq -22.0$

$\alpha_0 = +.30062102$ $\alpha_1 = +.333338$

if $-22.0 < \mu \leq -3.0$

$\alpha_0 = +.62337691$ $\alpha_1 = +.43432642$ $\alpha_2 = +.15017245 \cdot 10^{-1}$

$\alpha_3 = +.13714667 \cdot 10^{-2}$ $\alpha_4 = +.82711096 \cdot 10^{-4}$ $\alpha_5 = +.32916354 \cdot 10^{-5}$

$\alpha_6 = +.81048663 \cdot 10^{-7}$ $\alpha_7 = +.10066362 \cdot 10^{-8}$ $\alpha_8 = +.83232531 \cdot 10^{-12}$

$\alpha_9 = -.81537735 \cdot 10^{-13}$

if $-3.0 < \mu \leq +3.0$

$\alpha_0 = +.6228644$ $\alpha_1 = +.43352788$ $\alpha_2 = +.14492441 \cdot 10^{-1}$

$\alpha_3 = +.11784234 \cdot 10^{-2}$ $\alpha_4 = +.38379917 \cdot 10^{-4}$ $\alpha_5 = -.33408822 \cdot 10^{-5}$

$\alpha_6 = -.53977642 \cdot 10^{-6}$ $\alpha_7 = -.21997983 \cdot 10^{-7}$ $\alpha_8 = +.23028767 \cdot 10^{-8}$

$\alpha_9 = +.26047023 \cdot 10^{-9}$

if $+3.0 < \mu \leq +11.7$

$\alpha_0 = +.6222355$ $\alpha_1 = +.43510529$ $\alpha_2 = +.12817956 \cdot 10^{-1}$

$\alpha_3 = +.21680398 \cdot 10^{-2}$ $\alpha_4 = -.32077032 \cdot 10^{-3}$ $\alpha_5 = +.79451313 \cdot 10^{-4}$

$\alpha_6 = -.12531932 \cdot 10^{-4}$ $\alpha_7 = +.99766148 \cdot 10^{-6}$ $\alpha_8 = -.3958306 \cdot 10^{-7}$

$\alpha_9 = +.63271665 \cdot 10^{-9}$

if $+11.7 < \mu \leq 23$

$\alpha_0 = +2.0007187$ $\alpha_1 = -.18461796$ $\alpha_2 = .12038224$

$\alpha_3 = -.67310339 \cdot 10^{-2}$ $\alpha_4 = +.2170224 \cdot 10^{-3}$ $\alpha_5 = -.38049276 \cdot 10^{-5}$

$\alpha_6 = +.28212095 \cdot 10^{-7}$

if $23 < \mu$

$\alpha_0 = -3.0460681$ $\alpha_1 = +1.0$

line of force. Hence L is called the "magnetic shell radius" or "magnetic shell parameter". This parameter is displayed in detail by the graphs in this report.

The first set of maps (1 through 38) show contours of constant B and L at fixed altitudes. These graphs allow data be reduced in the B and L coordinate system and then replotted in geographic coordinate and conversely. The next set of maps (39 through 48) show curves defined by a fixed pair of B and L values.

The B-L mirror point traces show an unexpected geometric feature which deserves emphasis. All the points above any particular point on the earth's surface belong to different traces depending on the values of B and L at these points. There is not a priori reason why the different traces should not circle the world essentially independently of each other. In matter of fact, however, the different traces all pass over virtually the same points on the surface. What is even more startling is that the opposite mirror points to these points also show the same consistency and "stack" over on another.

Thus, the geometry can be visualized by a set of irregular cones originating at the center of the earth. These cones are paired by containing all the mirror points of one another and can be said to form a system of geomagnetic shell latitudes. These relationships can be most easily visualized on the maps included in report RM 63TMP-2.

## DESCRIPTION OF TABLES

The programs used to compute the tables are described very briefly below; more detailed descriptions will appear in the forthcoming TEMPO report. All of the programs are available from the DASA computer library at General Electric, TEMPO.

1. Tables 1 through 32 show the latitude of points with given values of altitude, longitude and either B (the total magnetic field of intensity in gauss) or L (the magnetic shell parameter in earth radii). These positions were obtained from a modified version of the computer program TEST due to C.E. McIlwain which obtains the value of B and L at any specified location. The computations in these tables were all based on the Jensen and Cain set of 48 geomagnetic coefficients.

2. Tables 33 through 48 show the latitude of points with given values of altitude, longitude and B (the total magnetic field intensity in gauss) for value of B especially interesting near the South Atlantic Anomaly where B is minimized. The computational methods used are identical to those used for Tables 1 through 32.

3. Tables 49 through 52 show the same material as Tables 1 through 32 for two altitudes (0 and 500 kilometers) with the difference that these tables were calculated using the Jensen and Whitaker coefficients. Otherwise, the methods are the same as those used for the earlier tables.

4. Tables 53 through 56 show a comparison of the material computed with the Jensen and Cain coefficients and that computed with the Jensen and Whitaker coefficients. The difference is quite small.

5. Tables 57 through 72 show the position and latitude of the traces defined by a fixed pair of B and L for a variety of starting conditions. The invariant I is also preserved along any of the traces. The traces were detained from a slightly modified version of the program MIRROR due to R. Pennington; MIRROR is, in turn, a modification of the TEST program used for Tables 1 through 56 so that all the calculations are based on the same basic codes. These calculations used only the Jensen and Cain coefficients. There is very little difference in latitude dependence between those traces which originate at different altitudes over the same point. This "stacking" effect can be more easily seen on the maps presented in RM 63TMP-2.

6. Table 73 shows the position of the geomagnetic equator at 100 and at 1500 kilometers altitude. These numbers were obtained by a code written by F.H. Sage which utilized the subroutine MAGNET with the Jensen and Cain coefficients. The equator was found by searching iteratively at every longitude step for that point at the set altitude which was a minimum of B along the line of force through itself. The lines of force are not constrained to a given altitude so it was necessary to constantly correct the calculations to return to the set altitude. The equator as defined here is that point which is a mirror point of itself; each pair of mirror points lie one on each side of this equator.

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*Table 1. Constant Magnetic Field Intensity, B (Gauss), at Altitude 0 Kilometers

| LONG (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) | B=0.50 LAT (DEG) | B=0.55 LAT (DEG) | B=0.60 LAT (DEG) | B=0.65 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|
| -180 | 0. | 0. | 22.32 | 36.26 | 45.78 | -28.41 | -37.24 | -47.64 | -62.83 |
| | 0. | 0. | -0.09 | -11.75 | -20.27 | 54.67 | 65.65 | -89.24 | -78.24 |
| -170 | 0. | 0. | 20.18 | 34.58 | 44.51 | -31.58 | -40.54 | -51.05 | -68.58 |
| | 0. | 0. | -2.70 | -14.65 | -23.24 | 53.73 | 64.83 | -88.80 | -75.72 |
| -160 | 0. | 0. | 17.15 | 31.33 | 41.56 | -34.68 | -43.72 | -54.36 | 0. |
| | 0. | 0. | -6.07 | -17.58 | -26.28 | 51.15 | 62.74 | -88.32 | 0. |
| -150 | 0. | 0. | 14.89 | 27.61 | 37.52 | 47.10 | -46.99 | -58.11 | 0. |
| | 0. | 0. | -9.85 | -20.84 | -29.48 | -37.90 | 58.70 | -87.82 | 0. |
| -140 | 0. | 0. | 12.66 | 24.15 | 33.26 | 42.28 | 53.21 | -62.70 | 0. |
| | 0. | 0. | -13.59 | -24.30 | -32.90 | -41.37 | -50.62 | -87.30 | 0. |
| -130 | 0. | 0. | 10.84 | 21.08 | 29.41 | 37.65 | 47.38 | -68.58 | 0. |
| | 0. | 0. | -17.51 | -27.94 | -36.64 | -45.29 | -54.93 | -86.74 | 0. |
| -120 | 0. | 0. | 8.92 | 18.34 | 26.10 | 33.68 | 42.38 | 59.36 | 0. |
| | 0. | 0. | -21.52 | -31.96 | -40.94 | -49.92 | -60.05 | 65.71 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -76.05 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -86.04 | 0. |
| -110 | 0. | 0. | 6.95 | 15.90 | 23.26 | 30.44 | 38.51 | 50.99 | 0. |
| | 0. | 0. | -26.03 | -36.73 | -46.03 | -55.23 | -65.55 | -84.91 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -85.02 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 69.17 | 0. |
| -100 | 0. | 0. | 5.21 | 13.64 | 20.86 | 27.92 | 35.77 | 47.46 | 0. |
| | 0. | 0. | -31.75 | -42.51 | -51.68 | -60.59 | -70.55 | 69.13 | 0. |
| -90 | 0. | -10.57 | 3.61 | 11.82 | 19.00 | 26.19 | 34.28 | 46.77 | 0. |
| | 0. | -21.84 | -38.76 | -48.62 | -57.04 | -65.25 | -74.53 | 67.13 | 0. |
| -80 | 0. | -8.05 | 2.92 | 10.86 | 18.14 | 25.68 | 34.57 | 51.70 | 0. |
| | 0. | -33.25 | -45.47 | -53.94 | -61.47 | -68.97 | -77.53 | 61.05 | 0. |
| -70 | 0. | -6.10 | 3.44 | 11.30 | 18.91 | 27.22 | 37.84 | 0. | 0. |
| | 0. | -41.04 | -50.62 | -58.02 | -64.85 | -71.77 | -79.52 | 0. | 0. |
| -60 | -20.78 | -3.83 | 5.47 | 13.62 | 21.93 | 31.46 | 45.40 | 0. | 0. |
| | -30.16 | -46.01 | -54.26 | -61.04 | -67.37 | -73.81 | -80.99 | 0. | 0. |
| -50 | -16.32 | -0.89 | 8.94 | 17.81 | 27.06 | 38.27 | 62.85 | 0. | 0. |
| | -36.10 | -49.06 | -56.73 | -63.16 | -69.19 | -75.27 | -82.00 | 0. | 0. |
| -40 | -16.36 | 2.36 | 13.24 | 22.83 | 32.93 | 46.02 | -82.66 | 0. | 0. |
| | -37.08 | -50.78 | -58.35 | -64.66 | -70.48 | -76.33 | 80.59 | 0. | 0. |
| -30 | 0. | 5.20 | 17.03 | 27.10 | 37.88 | 53.25 | -83.07 | 0. | 0. |
| | 0. | -51.41 | -59.33 | -65.60 | -71.32 | -77.01 | 83.04 | 0. | 0. |
| -20 | 0. | 6.13 | 19.33 | 29.72 | 41.18 | 58.86 | -83.29 | 0. | 0. |
| | 0. | -51.21 | -59.76 | -66.08 | -71.78 | -77.38 | 84.10 | 0. | 0. |
| -10 | 0. | 4.13 | 20.09 | 30.85 | 42.92 | 62.26 | -81.34 | 0. | 0. |
| | 0. | -50.28 | -59.66 | -66.15 | -71.89 | -77.48 | 84.67 | 0. | 0. |

* REFER TO FIGURE 1 (RM 63 TMP-2)

*Table 1 (Cont.)

| LONG (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) | B=0.50 LAT (DEG) | B=0.55 LAT (DEG) | B=0.60 LAT (DEG) | B=0.65 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|
| -0 | 0. | -25.50 | 19.61 | 30.85 | 43.16 | 63.47 | -83.23 | 0. | 0. |
| | 0. | -47.84 | -59.04 | -65.84 | -71.66 | -77.30 | 84.83 | 0. | 0. |
| 10 | 0. | -38.79 | 18.01 | 29.95 | 42.09 | 62.58 | -82.94 | 0. | 0. |
| | 0. | -41.52 | -57.88 | -65.10 | -71.06 | -76.84 | 84.81 | 0. | 0. |
| 20 | 0. | 0. | 15.41 | 28.12 | 39.71 | 59.16 | -82.43 | 0. | 0. |
| | 0. | 0. | -56.11 | -63.73 | -70.03 | -76.02 | 84.55 | 0. | 0. |
| 30 | 0. | 0. | 11.28 | 25.38 | 36.43 | 52.95 | -81.62 | 0. | 0. |
| | 0. | 0. | -53.02 | -61.67 | -68.40 | -74.76 | 83.94 | 0. | 0. |
| 40 | 0. | 0. | 6.46 | 22.00 | 32.52 | 45.82 | 82.64 | 0. | 0. |
| | 0. | 0. | -47.22 | -58.40 | -65.99 | -72.95 | -80.35 | 0. | 0. |
| 50 | 0. | 0. | 0. | 18.72 | 28.78 | 39.83 | 79.06 | 0. | 0. |
| | 0. | 0. | 0. | -52.73 | -62.23 | -70.20 | -78.56 | 0. | 0. |
| 60 | 0. | 0. | 0. | 15.83 | 25.89 | 35.61 | 50.97 | 0. | 0. |
| | 0. | 0. | 0. | -37.57 | -55.79 | -65.93 | -75.69 | 0. | 0. |
| 70 | 0. | 0. | 0. | 12.64 | 23.88 | 32.90 | 43.98 | 0. | 0. |
| | 0. | 0. | 0. | -9.20 | -39.33 | -58.25 | -70.98 | 0. | 0. |
| 80 | 0. | 0. | 0. | 5.14 | 22.55 | 31.26 | 40.59 | 0. | 0. |
| | 0. | 0. | 0. | 4.92 | -16.35 | -39.03 | -61.97 | 0. | 0. |
| 90 | 0. | 0. | 0. | 0. | 21.81 | 30.39 | 38.97 | 54.60 | 0. |
| | 0. | 0. | 0. | 0. | -9.39 | -22.22 | -40.84 | 61.38 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -73.40 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -86.08 | 0. |
| 100 | 0. | 0. | 0. | 0. | 21.79 | 30.29 | 38.61 | -47.20 | 0. |
| | 0. | 0. | 0. | 0. | -7.38 | -17.64 | -28.62 | 51.66 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 66.09 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -87.16 | 0. |
| 110 | 0. | 0. | 0. | 0. | 22.77 | 31.24 | 39.62 | -36.18 | 0. |
| | 0. | 0. | 0. | 0. | -7.72 | -16.62 | -25.25 | 53.28 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 66.65 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -88.04 | 0. |
| 120 | 0. | 0. | 0. | 11.94 | 25.16 | 33.59 | 42.58 | -33.39 | -49.07 |
| | 0. | 0. | 0. | 3.87 | -8.84 | -16.83 | -24.47 | -88.77 | -71.28 |
| 130 | 0. | 0. | 0. | 17.91 | 28.85 | 37.58 | 47.39 | -33.04 | -45.51 |
| | 0. | 0. | 0. | -0.11 | -10.03 | -17.45 | -24.71 | -89.34 | -76.33 |
| 140 | 0. | 0. | 0. | 23.69 | 33.74 | 42.71 | -25.71 | -34.07 | -46.50 |
| | 0. | 0. | 0. | -2.18 | -11.13 | -18.43 | 53.41 | -89.73 | -78.30 |
| 150 | 0. | 0. | 0. | 29.20 | 38.77 | 47.82 | -27.57 | -36.45 | -49.55 |
| | 0. | 0. | 0. | -4.30 | -12.61 | -19.97 | 58.98 | -89.89 | -79.33 |
| 160 | 0. | 0. | 19.19 | 33.47 | 42.81 | -22.29 | -30.27 | -39.83 | -53.91 |
| | 0. | 0. | 6.74 | -6.48 | -14.73 | 51.77 | 62.98 | -89.84 | -79.69 |
| 170 | 0. | 0. | 22.44 | 35.95 | 45.23 | -25.20 | -33.69 | -43.84 | -58.37 |
| | 0. | 0. | 3.02 | -9.02 | -17.34 | 54.05 | 64.93 | -89.61 | -79.39 |

* REFER TO FIGURE 1 (RM 63 IMP-2)

*Table 2. Constant Magnetic Shell Parameter, L (Earth Radii), at Altitude 0 Kilometers

| LONG (DEG) | L=1.00 LAT (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| -180 | 11.94 | 22.90 | 31.91 | 40.97 | 46.63 | -40.32 | -45.70 | -49.60 | 65.20 | 68.19 | 70.64 |
| | -6.58 | -16.03 | -23.53 | -31.24 | -36.37 | 50.78 | 56.30 | 60.24 | -54.83 | -58.07 | -60.76 |
| -170 | 9.87 | 20.72 | 29.98 | 39.17 | 45.18 | 49.34 | -47.73 | 58.88 | 63.92 | 67.04 | 69.70 |
| | -8.26 | -17.76 | -25.47 | -33.13 | -38.34 | -42.18 | 55.16 | -51.64 | -56.97 | -60.72 | -63.37 |
| -160 | 7.49 | 18.76 | 27.82 | 37.11 | 43.10 | 47.35 | 53.24 | 57.14 | 62.26 | 65.73 | 68.02 |
| | -9.54 | -19.43 | -27.06 | -35.16 | -40.42 | -44.36 | -50.12 | -54.03 | -59.65 | -63.31 | -66.24 |
| -150 | 5.61 | 17.07 | 26.13 | 35.31 | 41.12 | 45.46 | 51.24 | 55.36 | 60.55 | 63.91 | 66.28 |
| | -10.14 | -20.67 | -28.71 | -36.83 | -42.26 | -46.34 | -52.14 | -56.32 | -62.03 | -66.09 | -69.22 |
| -140 | 3.16 | 15.69 | 24.66 | 33.38 | 39.16 | 43.24 | 49.13 | 52.99 | 58.26 | 61.66 | 64.35 |
| | -10.17 | -21.69 | -30.28 | -38.62 | -44.29 | -48.40 | -54.55 | -58.75 | -64.83 | -68.84 | -71.97 |
| -130 | 0.93 | 14.34 | 23.10 | 31.64 | 37.13 | 41.19 | 46.78 | 50.77 | 55.95 | 59.53 | 61.80 |
| | -9.58 | -22.57 | -31.47 | -40.40 | -46.17 | -50.57 | -56.70 | -61.14 | -67.15 | -71.37 | -74.72 |
| -120 | -2.06 | 13.00 | 21.69 | 30.12 | 35.39 | 39.22 | 44.78 | 48.41 | 53.55 | 56.88 | 59.63 |
| | -7.77 | -23.29 | -32.70 | -42.00 | -48.11 | -52.59 | -59.07 | -63.47 | -69.66 | -73.65 | -76.71 |
| -110 | -4.52 | 11.68 | 20.33 | 28.22 | 33.38 | 37.11 | 42.45 | 46.22 | 51.26 | 54.88 | 57.03 |
| | -5.76 | -24.11 | -34.10 | -43.87 | -50.27 | -54.90 | -61.19 | -65.66 | -71.48 | -75.56 | -78.42 |
| -100 | 0. | 10.12 | 18.39 | 26.33 | 31.44 | 35.32 | 40.60 | 44.34 | 49.41 | 52.57 | 55.28 |
| | 0. | -25.20 | -35.65 | -45.79 | -52.14 | -56.74 | -63.08 | -67.36 | -73.08 | -76.84 | -79.88 |
| -90 | 0. | 7.27 | 16.13 | 24.35 | 29.62 | 33.33 | 38.83 | 42.55 | 47.68 | 51.14 | 53.67 |
| | 0. | -26.23 | -37.20 | -47.51 | -53.99 | -58.47 | -64.83 | -68.87 | -74.47 | -77.89 | -80.65 |
| -80 | 0. | 3.73 | 13.47 | 22.20 | 27.78 | 31.84 | 37.55 | 41.55 | 46.86 | 50.55 | 52.96 |
| | 0. | -26.87 | -38.51 | -48.95 | -55.37 | -59.88 | -65.83 | -70.05 | -75.33 | -78.69 | -81.16 |
| -70 | 0. | -0.40 | 11.06 | 20.88 | 26.89 | 31.29 | 37.34 | 41.54 | 47.07 | 50.82 | 53.40 |
| | 0. | -26.39 | -39.00 | -49.72 | -56.00 | -60.51 | -66.42 | -70.55 | -75.76 | -79.22 | -81.50 |
| -60 | 0. | -3.68 | 10.20 | 21.05 | 27.52 | 32.13 | 38.50 | 42.75 | 48.46 | 52.09 | 55.07 |
| | 0. | -24.43 | -38.25 | -49.48 | -55.99 | -60.58 | -66.58 | -70.73 | -75.96 | -79.49 | -81.67 |
| -50 | 0. | -0.27 | 12.58 | 23.35 | 30.05 | 34.60 | 40.81 | 45.18 | 50.70 | 54.44 | 56.87 |
| | 0. | -21.28 | -36.18 | -48.09 | -55.24 | -60.08 | -66.29 | -70.57 | -75.90 | -79.47 | -81.67 |
| -40 | 0. | 7.24 | 18.30 | 27.28 | 33.16 | 37.48 | 43.56 | 47.62 | 53.09 | 56.66 | 59.47 |
| | 0. | -18.09 | -32.73 | -45.66 | -53.32 | -58.58 | -65.52 | -70.07 | -75.60 | -79.17 | -81.51 |
| -30 | 0. | 13.56 | 23.12 | 31.36 | 36.56 | 40.57 | 46.26 | 50.36 | 55.63 | 59.15 | 61.55 |
| | 0. | -14.95 | -28.43 | -41.86 | -50.51 | -56.32 | -64.00 | -68.82 | -75.05 | -78.59 | -81.18 |
| -20 | 0. | 18.24 | 26.90 | 34.79 | 39.66 | 43.12 | 48.65 | 52.46 | 57.64 | 61.13 | 63.67 |
| | 0. | -11.76 | -24.11 | -37.27 | -46.46 | -53.07 | -61.70 | -67.09 | -73.78 | -77.72 | -80.67 |
| -10 | 0. | 21.96 | 30.10 | 37.16 | 41.79 | 45.37 | 50.66 | 54.53 | 59.68 | 62.85 | 65.50 |
| | 0. | -9.56 | -20.49 | -32.67 | -41.84 | -48.99 | -58.73 | -65.03 | -72.15 | -76.59 | -79.95 |

* REFER TO FIGURE 1 (RM 63 TMP-2)

*Table 2 (Cont.)

| LONG (DEG) | L=1.00 LAT (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| -0 | 11.79 | 25.11 | 32.13 | 39.16 | 43.63 | 46.91 | 52.01 | 55.92 | 60.99 | 64.53 | 66.76 |
| | 6.98 | -7.80 | -17.67 | -28.85 | -37.43 | -44.57 | -55.11 | -61.85 | -70.28 | -75.22 | -78.43 |
| 10 | 17.09 | 26.85 | 33.70 | 40.46 | 45.00 | 47.95 | 53.22 | 57.00 | 62.05 | 65.59 | 67.91 |
| | 4.36 | -6.73 | -15.84 | -26.08 | -33.99 | -40.65 | -51.08 | -58.43 | -67.46 | -72.90 | -76.65 |
| 20 | 19.49 | 27.82 | 34.52 | 41.04 | 45.55 | 48.79 | -47.65 | 57.84 | 62.93 | 66.35 | 68.94 |
| | 3.35 | -6.57 | -15.09 | -24.55 | -31.78 | -37.86 | 54.19 | -55.06 | -64.53 | -70.38 | -74.47 |
| 30 | 20.06 | 27.83 | 34.52 | 41.17 | 45.83 | 49.44 | -45.27 | 58.46 | 63.62 | 66.98 | 69.79 |
| | 1.73 | -7.34 | -15.34 | -24.18 | -30.85 | -36.36 | 54.83 | -51.93 | -61.21 | -67.14 | -71.45 |
| 40 | 19.37 | 27.20 | 34.04 | 41.06 | 45.92 | 49.73 | -43.62 | -49.74 | 64.14 | 67.48 | 70.28 |
| | -0.46 | -8.83 | -16.25 | -24.61 | -30.74 | -35.73 | 55.16 | 58.88 | -58.17 | -63.97 | -68.14 |
| 50 | 18.91 | 26.79 | 33.74 | 41.05 | 46.04 | 49.96 | -42.45 | -47.82 | 64.53 | 67.87 | 70.60 |
| | -2.22 | -10.34 | -17.25 | -25.19 | -30.84 | -35.44 | 55.37 | 59.20 | -55.58 | -60.85 | -64.93 |
| 60 | 20.12 | 27.35 | 34.22 | 41.38 | 46.32 | -35.09 | -41.42 | -46.25 | 64.85 | 68.19 | 70.88 |
| | -3.77 | -11.14 | -17.86 | -25.45 | -30.79 | 50.20 | 55.57 | 59.47 | -53.12 | -57.90 | -61.52 |
| 70 | 21.84 | 28.69 | 35.19 | 41.95 | 46.75 | -34.44 | -40.43 | -44.89 | 65.09 | 68.48 | 71.12 |
| | -4.58 | -11.38 | -17.94 | -25.33 | -30.46 | 50.51 | 55.81 | 59.75 | -51.00 | -55.41 | -58.56 |
| 80 | 23.61 | 30.06 | 35.97 | 42.56 | 47.21 | -33.67 | -39.36 | -43.35 | -49.13 | 68.75 | 71.34 |
| | -4.77 | -11.30 | -17.74 | -25.04 | -30.01 | 50.85 | 56.08 | 60.04 | 65.27 | -52.95 | -55.95 |
| 90 | 24.61 | 30.64 | 36.48 | 43.01 | 47.60 | -33.10 | -38.44 | -42.20 | -47.47 | 69.03 | 71.56 |
| | -5.02 | -11.36 | -17.69 | -24.81 | -29.59 | 51.17 | 56.36 | 60.27 | 65.48 | -51.12 | -53.83 |
| 100 | 24.51 | 30.66 | 36.62 | 43.26 | 47.88 | -32.90 | -37.95 | -41.55 | -46.47 | 69.32 | 71.77 |
| | -5.47 | -11.80 | -18.05 | -24.99 | -29.56 | 51.44 | 56.64 | 60.52 | 65.72 | -50.07 | -52.20 |
| 110 | 23.57 | 30.27 | 36.49 | 43.37 | 48.10 | -33.06 | -37.90 | -41.35 | -46.05 | -49.31 | 71.97 |
| | -6.06 | -12.48 | -18.69 | -25.36 | -29.90 | 51.70 | 56.94 | 60.80 | 65.96 | 69.62 | -51.42 |
| 120 | 22.40 | 29.71 | 36.30 | 43.48 | 48.35 | -33.43 | -38.16 | -41.50 | -46.08 | -49.23 | 72.14 |
| | -6.36 | -12.99 | -19.26 | -25.77 | -30.27 | 51.98 | 57.27 | 61.09 | 66.21 | 69.91 | -51.27 |
| 130 | 21.46 | 29.22 | 36.23 | 43.67 | 48.65 | -33.93 | -38.69 | -41.96 | -46.50 | -49.80 | 72.24 |
| | -6.01 | -13.00 | -19.52 | -26.09 | -30.63 | 52.29 | 57.60 | 61.37 | 66.42 | 70.07 | -51.65 |
| 140 | 20.65 | 28.85 | 36.20 | 43.84 | 48.90 | -34.61 | -39.52 | -42.76 | -47.35 | 70.12 | 72.24 |
| | -5.08 | -12.56 | -19.49 | -26.37 | -31.05 | 52.56 | 57.86 | 61.57 | 66.55 | -50.57 | -52.60 |
| 150 | 19.35 | 28.23 | 35.96 | 43.79 | 48.95 | -35.45 | -40.53 | -44.04 | -48.75 | 70.06 | 72.10 |
| | -3.61 | -12.18 | -19.61 | -26.85 | -31.73 | 52.63 | 57.94 | 61.61 | 66.52 | -51.77 | -54.26 |
| 160 | 17.15 | 27.04 | 35.29 | 43.33 | 48.62 | -36.59 | -41.82 | -45.60 | 66.30 | 69.75 | 71.79 |
| | -3.26 | -12.55 | -20.31 | -27.83 | -32.87 | 52.39 | 57.74 | 61.42 | -50.51 | -53.66 | -56.00 |
| 170 | 14.82 | 25.31 | 33.85 | 42.35 | 47.84 | -38.26 | -43.66 | -47.32 | 65.86 | 69.11 | 71.30 |
| | -4.84 | -14.14 | -21.64 | -29.49 | -34.62 | 51.77 | 57.19 | 60.96 | -52.34 | -55.80 | -58.18 |

* REFER TO FIGURE 1 (RM 63 TMP-2)

*Table 3. Constant Magnetic Field Intensity, B (Gauss), at Altitude 100 Kilometers

| LONG (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) | B=0.50 LAT (DEG) | B=0.55 LAT (DEG) | B=0.60 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|
| -180 | 0. | 0. | 27.57 | 39.69 | 49.22 | -32.70 | -42.62 | -55.29 |
| | 0. | 0. | -5.12 | -15.38 | -23.95 | 59.10 | 0. | -83.96 |
| -170 | 0. | 0. | 25.62 | 38.15 | 48.11 | -35.93 | -45.99 | -59.14 |
| | 0. | 0. | -7.80 | -18.22 | -27.00 | 58.28 | 0. | -83.29 |
| -160 | 0. | 0. | 22.54 | 35.17 | 45.39 | -39.08 | -49.25 | -63.52 |
| | 0. | 0. | -10.92 | -21.23 | -30.06 | 55.90 | 74.86 | -82.10 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 80.80 | 0. |
| -150 | 0. | 0. | 19.66 | 31.37 | 41.44 | -42.35 | 69.79 | -69.64 |
| | 0. | 0. | -14.26 | -24.42 | -33.27 | 52.04 | -52.77 | -79.64 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 81.62 | 0. |
| -140 | 0. | 0. | 16.95 | 27.65 | 37.06 | 47.12 | 63.08 | 0. |
| | 0. | 0. | -17.78 | -27.81 | -36.71 | -45.90 | -56.82 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 0. | 82.11 | 0. |
| -130 | 0. | 0. | 14.67 | 24.35 | 32.97 | 42.15 | 55.17 | 0. |
| | 0. | 0. | -21.52 | -31.48 | -40.51 | -49.99 | -61.75 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 0. | 82.29 | 0. |
| -120 | 0. | 0. | 12.38 | 21.44 | 29.45 | 37.86 | 48.98 | 0. |
| | 0. | 0. | -25.48 | -35.59 | -44.94 | -54.86 | -67.51 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 0. | 82.18 | 0. |
| -110 | 0. | -4.76 | 10.37 | 18.87 | 26.51 | 34.40 | 44.39 | 0. |
| | 0. | -12.41 | -30.02 | -40.46 | -50.11 | -60.21 | -73.32 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 0. | 81.74 | 0. |
| -100 | 0. | -4.55 | 8.31 | 16.62 | 24.09 | 31.88 | 41.58 | 0. |
| | 0. | -20.25 | -35.67 | -46.14 | -55.60 | -65.36 | -78.20 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 0. | 80.86 | 0. |
| -90 | 0. | -4.46 | 6.72 | 14.85 | 22.35 | 30.25 | 40.31 | 0. |
| | 0. | -28.60 | -42.15 | -51.86 | -60.61 | -69.67 | -81.56 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 0. | 79.37 | 0. |
| -80 | 0. | -4.02 | 5.95 | 13.93 | 21.67 | 30.10 | 41.76 | 0. |
| | 0. | -37.06 | -48.19 | -56.75 | -64.66 | -73.04 | -83.65 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 0. | 76.95 | 0. |
| -70 | 0. | -2.90 | 6.41 | 14.50 | 22.74 | 32.31 | 47.77 | 0. |
| | 0. | -43.62 | -52.88 | -60.53 | -67.78 | -75.44 | -84.86 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 0. | 71.73 | 0. |
| -60 | -14.44 | -0.78 | 8.46 | 17.03 | 26.12 | 37.51 | -85.93 | 0. |
| | -35.18 | -48.03 | -56.29 | -63.31 | -70.06 | -77.25 | 0. | 0. |
| -50 | -11.42 | 2.24 | 12.11 | 21.43 | 31.66 | 45.58 | -86.42 | 0. |
| | -39.39 | -50.92 | -58.63 | -65.33 | -71.75 | -78.49 | 0. | 0. |
| -40 | -9.77 | 5.91 | 16.58 | 26.60 | 37.89 | 55.33 | -86.68 | 0. |
| | -40.74 | -52.52 | -60.23 | -66.71 | -72.92 | -79.32 | 0. | 0. |
| -30 | -12.20 | 9.09 | 20.49 | 30.96 | 43.23 | 64.28 | -86.85 | 0. |
| | -39.24 | -53.27 | -61.13 | -67.59 | -73.68 | -79.86 | 0. | 0. |
| -20 | 0. | 10.85 | 22.91 | 33.79 | 47.08 | 69.47 | -86.98 | 0. |
| | 0. | -53.25 | -61.52 | -68.05 | -74.09 | -80.15 | 0. | 0. |

* REFER TO FIGURE 2 (RM 63 TMP-2)

*Table 3 (Cont.)

| LONG (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) | B=0.50 LAT (DEG) | B=0.55 LAT (DEG) | B=0.60 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|
| -10 | 0. | 10.74 | 23.89 | 35.09 | 49.26 | 71.88 | -87.09 | 0. |
| | 0. | -52.49 | -61.46 | -68.12 | -74.18 | -80.22 | 0. | 0. |
| -0 | 0. | 7.99 | 23.78 | 35.26 | 49.81 | 72.74 | -87.18 | 0. |
| | 0. | -51.09 | -60.95 | -67.80 | -73.95 | -80.05 | 0. | 0. |
| 10 | 0. | -26.36 | 22.76 | 34.43 | 48.80 | 72.45 | -87.25 | 0. |
| | 0. | -48.47 | -59.99 | -67.05 | -73.37 | -79.65 | 0. | 0. |
| 20 | 0. | -36.32 | 20.85 | 32.65 | 46.16 | 70.84 | -87.26 | 0. |
| | 0. | -42.31 | -58.14 | -65.82 | -72.40 | -78.96 | 0. | 0. |
| 30 | 0. | 0. | 17.86 | 29.88 | 42.37 | 66.70 | -87.07 | 0. |
| | 0. | 0. | -55.48 | -63.84 | -70.90 | -77.91 | 0. | 0. |
| 40 | 0. | 0. | 14.50 | 26.56 | 37.95 | 57.79 | -85.73 | 0. |
| | 0. | 0. | -50.69 | -60.85 | -68.65 | -76.31 | 0. | 0. |
| 50 | 0. | 0. | 10.74 | 23.28 | 33.78 | 48.31 | -84.08 | 0. |
| | 0. | 0. | -38.09 | -55.91 | -65.29 | -73.91 | 0. | 0. |
| 60 | 0. | 0. | 4.72 | 20.62 | 30.55 | 42.16 | -82.21 | 0. |
| | 0. | 0. | -4.97 | -45.72 | -59.77 | -70.22 | 0. | 0. |
| 70 | 0. | 0. | 0. | 18.41 | 28.38 | 38.38 | -78.66 | 0. |
| | 0. | 0. | 0. | -19.03 | -48.34 | -64.02 | 0. | 0. |
| 80 | 0. | 0. | 0. | 16.60 | 27.03 | 36.17 | 49.08 | 0. |
| | 0. | 0. | 0. | -6.85 | -24.81 | -50.87 | 72.80 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 0. | -71.95 | 0. |
| 90 | 0. | 0. | 0. | 15.42 | 26.31 | 34.98 | 45.87 | 0. |
| | 0. | 0. | 0. | -1.28 | -15.40 | -30.16 | 76.69 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 0. | -56.65 | 0. |
| 100 | 0. | 0. | 0. | 15.30 | 26.26 | 34.79 | 44.94 | 0. |
| | 0. | 0. | 0. | -0.06 | -12.46 | -23.14 | -37.00 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 0. | 78.72 | 0. |
| 110 | 0. | 0. | 0. | 16.49 | 27.15 | 35.80 | 46.30 | -48.39 |
| | 0. | 0. | 0. | -1.06 | -12.10 | -21.09 | -31.04 | -76.82 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 79.85 | 0. |
| 120 | 0. | 0. | 0. | 19.28 | 29.37 | 38.31 | 49.70 | -41.17 |
| | 0. | 0. | 0. | -2.90 | -12.69 | -20.78 | -29.32 | -81.15 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 80.59 | 0. |
| 130 | 0. | 0. | 0. | 23.15 | 33.03 | 42.48 | -29.27 | -39.73 |
| | 0. | 0. | 0. | -4.79 | -13.53 | -21.21 | 55.91 | -82.75 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 80.89 | 0. |
| 140 | 0. | 0. | 0. | 28.04 | 37.78 | 47.69 | -30.25 | -40.80 |
| | 0. | 0. | 0. | -6.24 | -14.59 | -22.17 | 63.88 | -83.64 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 80.81 | 0. |
| 150 | 0. | 0. | 20.19 | 32.99 | 42.61 | -23.82 | -32.36 | -43.53 |
| | 0. | 0. | 3.86 | -7.90 | -16.09 | 52.70 | 71.58 | -84.12 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 80.41 | 0. |
| 160 | 0. | 0. | 25.25 | 36.97 | 46.43 | -26.29 | -35.32 | -47.36 |
| | 0. | 0. | 0.46 | -10.08 | -18.23 | 56.41 | 0. | -84.32 |
| 170 | 0. | 0. | 27.57 | 39.29 | 48.67 | -29.36 | -38.96 | -51.46 |
| | 0. | 0. | -2.20 | -12.55 | -20.95 | 58.52 | 0. | -84.27 |

• REFER TO FIGURE 2 (RM 63 TMP-21)

*Table 4. Constant Magnetic Shell Parameter, L (Earth Radii), at Altitude 100 Kilometers

| LONG (DEG) | L=1.00 LAT (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| -180 | 8.87 | 21.63 | 31.07 | 40.39 | 46.13 | -39.94 | -45.40 | -49.25 | 65.01 | 67.96 | 70.49 |
| | -3.44 | -14.90 | -22.65 | -30.69 | -35.92 | 50.37 | 55.96 | 59.97 | -54.53 | -57.85 | -60.60 |
| -170 | 6.39 | 19.47 | 29.00 | 38.46 | 44.60 | 48.79 | -47.37 | 58.50 | 63.61 | 66.82 | 69.45 |
| | -5.31 | -16.51 | -24.64 | -32.50 | -37.82 | -41.75 | 54.76 | -51.36 | -56.73 | -60.53 | -63.16 |
| -160 | 3.68 | 17.41 | 26.94 | 36.48 | 42.53 | 46.88 | -49.74 | 56.80 | 61.99 | 65.54 | 67.80 |
| | -5.81 | -18.00 | -26.24 | -34.50 | -39.98 | -43.87 | 52.82 | -53.68 | -59.35 | -63.06 | -66.04 |
| -150 | 1.05 | 15.82 | 25.33 | 34.67 | 40.63 | 45.05 | 50.89 | 55.08 | 60.32 | 63.63 | 66.09 |
| | -5.63 | -19.35 | -27.79 | -36.24 | -41.76 | -45.93 | -51.78 | -56.03 | -61.77 | -65.87 | -68.95 |
| -140 | 0. | 14.32 | 23.67 | 32.71 | 38.57 | 42.75 | 48.69 | 52.64 | 57.96 | 61.44 | 64.10 |
| | 0. | -20.45 | -29.35 | -37.95 | -43.72 | -47.93 | -54.13 | -58.39 | -64.49 | -68.54 | -71.71 |
| -130 | 0. | 12.78 | 22.17 | 31.03 | 36.61 | 40.77 | 46.43 | 50.49 | 55.72 | 59.25 | 61.61 |
| | 0. | -21.20 | -30.64 | -39.79 | -45.68 | -50.16 | -56.33 | -60.83 | -66.85 | -71.10 | -74.38 |
| -120 | 0. | 11.53 | 20.82 | 29.41 | 34.91 | 38.71 | 44.35 | 48.08 | 53.28 | 56.68 | 59.41 |
| | 0. | -21.82 | -31.80 | -41.37 | -47.55 | -52.11 | -58.61 | -63.07 | -69.27 | -73.30 | -76.42 |
| -110 | 0. | 10.32 | 19.34 | 27.53 | 32.82 | 36.67 | 42.09 | 45.96 | 51.06 | 54.63 | 56.87 |
| | 0. | -22.53 | -33.10 | -43.14 | -49.70 | -54.32 | -60.79 | -65.33 | -71.17 | -75.29 | -78.07 |
| -100 | 0. | 8.34 | 17.39 | 25.73 | 30.95 | 34.92 | 40.30 | 44.01 | 49.15 | 52.39 | 55.16 |
| | 0. | -23.50 | -34.72 | -45.15 | -51.55 | -56.24 | -62.61 | -66.96 | -72.71 | -76.53 | -79.50 |
| -90 | 0. | 5.72 | 15.26 | 23.62 | 29.03 | 32.87 | 38.45 | 42.26 | 47.46 | 50.99 | 53.51 |
| | 0. | -24.63 | -36.20 | -46.76 | -53.30 | -57.88 | -64.27 | -68.41 | -74.04 | -77.55 | -80.40 |
| -80 | 0. | 1.81 | 12.44 | 21.56 | 27.26 | 31.43 | 37.22 | 41.29 | 46.66 | 50.41 | 52.80 |
| | 0. | -25.14 | -37.38 | -48.10 | -54.73 | -59.21 | -65.41 | -69.55 | -75.04 | -78.32 | -80.90 |
| -70 | 0. | -2.79 | 10.15 | 20.29 | 26.40 | 30.89 | 37.00 | 41.27 | 46.85 | 50.66 | 53.22 |
| | 0. | -24.19 | -37.77 | -48.79 | -55.39 | -60.00 | -65.96 | -70.18 | -75.46 | -78.83 | -81.23 |
| -60 | 0. | -6.37 | 9.07 | 20.42 | 26.98 | 31.68 | 38.10 | 42.42 | 48.18 | 51.88 | 54.87 |
| | 0. | -21.41 | -37.02 | -48.53 | -55.35 | -60.05 | -66.10 | -70.35 | -75.64 | -79.08 | -81.39 |
| -50 | 0. | -3.61 | 11.55 | 22.60 | 29.40 | 34.03 | 40.46 | 44.84 | 50.46 | 54.13 | 56.65 |
| | 0. | -17.70 | -35.06 | -47.19 | -54.47 | -59.36 | -65.81 | -70.18 | -75.58 | -79.05 | -81.39 |
| -40 | 0. | 4.82 | 17.08 | 26.57 | 32.56 | 36.97 | 43.11 | 47.25 | 52.77 | 56.41 | 59.17 |
| | 0. | -15.58 | -31.52 | -44.82 | -52.53 | -57.86 | -65.05 | -69.51 | -75.27 | -78.75 | -81.22 |
| -30 | 0. | 11.30 | 21.97 | 30.69 | 36.03 | 40.16 | 45.89 | 50.07 | 55.38 | 58.83 | 61.32 |
| | 0. | -12.55 | -27.27 | -41.02 | -49.78 | -55.68 | -63.35 | -68.25 | -74.54 | -78.16 | -80.89 |
| -20 | 0. | 16.33 | 25.92 | 33.97 | 39.03 | 42.68 | 48.23 | 52.11 | 57.34 | 60.90 | 63.39 |
| | 0. | -10.08 | -23.05 | -36.49 | -45.77 | -52.36 | -61.12 | -66.56 | -73.26 | -77.31 | -80.38 |
| -10 | 0. | 20.45 | 28.98 | 36.51 | 41.29 | 44.89 | 50.35 | 54.14 | 59.34 | 62.58 | 65.32 |
| | 0. | -7.83 | -19.58 | -31.99 | -41.21 | -48.31 | -58.06 | -64.36 | -71.67 | -76.19 | -79.45 |

* REFER TO FIGURE 2 (RM 63 TMP-2)

*Table 4 (Cont.)

| LONG (DEG) | L=1.00 LAT (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| -0 | 0. | 23.38 | 31.24 | 38.45 | 43.09 | 46.54 | 51.70 | 55.65 | 60.76 | 64.23 | 66.55 |
| | 0. | -6.41 | -16.85 | -28.25 | -36.90 | -43.98 | -54.47 | -61.29 | -69.77 | -74.74 | -77.95 |
| 10 | 0. | 25.59 | 32.75 | 39.92 | 44.43 | 47.61 | 52.87 | 56.71 | 61.80 | 65.40 | 67.69 |
| | 0. | -5.55 | -15.13 | -25.59 | -33.53 | -40.22 | -50.59 | -57.83 | -66.91 | -72.36 | -76.20 |
| 20 | 15.87 | 26.53 | 33.56 | 40.52 | 45.17 | 48.47 | -47.19 | 57.55 | 62.68 | 66.16 | 68.71 |
| | 7.11 | -5.49 | -14.33 | -24.05 | -31.40 | -37.48 | 53.83 | -54.49 | -63.90 | -69.89 | -73.86 |
| 30 | 16.74 | 26.60 | 33.60 | 40.67 | 45.44 | 49.03 | -44.89 | 58.17 | 63.38 | 66.79 | 69.57 |
| | 4.32 | -6.26 | -14.64 | -23.70 | -30.49 | -36.01 | 54.47 | -51.49 | -60.73 | -66.61 | -70.94 |
| 40 | 16.61 | 26.08 | 33.19 | 40.58 | 45.54 | 49.31 | -43.23 | -49.29 | 63.91 | 67.30 | 70.16 |
| | 2.25 | -7.67 | -15.60 | -24.11 | -30.37 | -35.39 | 54.89 | 58.60 | -57.68 | -63.42 | -67.60 |
| 50 | 16.58 | 25.77 | 32.96 | 40.59 | 45.67 | 49.55 | -42.09 | -47.43 | 64.31 | 67.71 | 70.49 |
| | -0.28 | -9.21 | -16.57 | -24.70 | -30.46 | -35.10 | 55.13 | 58.93 | -55.21 | -60.45 | -64.38 |
| 60 | 17.90 | 26.33 | 33.43 | 40.91 | 45.96 | 49.88 | -41.10 | -45.94 | 64.64 | 68.04 | 70.78 |
| | -1.76 | -10.22 | -17.15 | -25.01 | -30.41 | -34.69 | 55.35 | 59.22 | -52.74 | -57.49 | -61.14 |
| 70 | 20.32 | 27.62 | 34.45 | 41.48 | 46.38 | -34.04 | -40.15 | -44.54 | 64.95 | 68.34 | 71.03 |
| | -2.69 | -10.48 | -17.24 | -24.86 | -30.09 | 50.23 | 55.59 | 59.51 | -50.72 | -55.14 | -58.19 |
| 80 | 21.98 | 28.94 | 35.36 | 42.08 | 46.83 | -33.30 | -39.03 | -43.06 | -48.84 | 68.63 | 71.26 |
| | -3.01 | -10.44 | -17.06 | -24.49 | -29.55 | 50.57 | 55.86 | 59.83 | 65.16 | -52.68 | -55.72 |
| 90 | 22.92 | 29.76 | 35.86 | 42.53 | 47.22 | -32.74 | -38.14 | -41.96 | -47.25 | 68.91 | 71.48 |
| | -3.32 | -10.50 | -17.02 | -24.26 | -29.14 | 50.88 | 56.14 | 60.11 | 65.38 | -50.94 | -53.60 |
| 100 | 22.84 | 29.78 | 35.99 | 42.77 | 47.50 | -32.55 | -37.67 | -41.33 | -46.30 | -49.90 | 71.69 |
| | -3.91 | -10.91 | -17.35 | -24.42 | -29.10 | 51.15 | 56.42 | 60.37 | 65.60 | 69.20 | -52.05 |
| 110 | 21.99 | 29.26 | 35.86 | 42.87 | 47.71 | -32.69 | -37.61 | -41.14 | -45.90 | -49.13 | 71.89 |
| | -4.62 | -11.51 | -17.93 | -24.90 | -29.41 | 51.40 | 56.72 | 60.63 | 65.85 | 69.49 | -51.30 |
| 120 | 20.89 | 28.60 | 35.67 | 42.96 | 47.94 | -33.04 | -37.86 | -41.28 | -45.93 | -49.05 | 72.04 |
| | -4.93 | -11.94 | -18.45 | -25.31 | -29.87 | 51.66 | 57.03 | 60.91 | 66.08 | 69.76 | -51.17 |
| 130 | 19.92 | 28.09 | 35.57 | 43.11 | 48.20 | -33.51 | -38.36 | -41.72 | -46.33 | -49.60 | 72.11 |
| | -4.28 | -11.91 | -18.66 | -25.60 | -30.25 | 51.95 | 57.33 | 61.17 | 66.28 | 69.96 | -51.54 |
| 140 | 18.59 | 27.69 | 35.50 | 43.25 | 48.42 | -34.17 | -39.16 | -42.49 | -47.15 | 70.02 | 72.12 |
| | -2.81 | -11.47 | -18.62 | -25.86 | -30.65 | 52.18 | 57.56 | 61.34 | 66.38 | -50.45 | -52.45 |
| 150 | 16.90 | 27.04 | 35.24 | 43.16 | 48.43 | -35.12 | -40.27 | -43.73 | -48.51 | 69.90 | 71.97 |
| | -1.33 | -11.08 | -18.72 | -26.31 | -31.29 | 52.22 | 57.61 | 61.37 | 66.34 | -51.61 | -54.07 |
| 160 | 14.77 | 25.88 | 34.42 | 42.68 | 48.08 | -36.21 | -41.51 | -45.36 | 66.10 | 69.52 | 71.65 |
| | -0.76 | -11.39 | -19.49 | -27.25 | -32.39 | 51.96 | 57.38 | 61.16 | -50.33 | -53.45 | -55.86 |
| 170 | 11.60 | 23.97 | 32.93 | 41.73 | 47.30 | -37.82 | -43.29 | -47.03 | 65.66 | 68.87 | 71.15 |
| | -1.55 | -12.79 | -20.87 | -28.82 | -34.07 | 51.34 | 56.83 | 60.70 | -52.11 | -55.64 | -57.98 |

• REFER TO FIGURE 2 (RM 63 TMP-2)

*Table 5. Constant Magnetic Field Intensity, B (Gauss), at Altitude 200 Kilometers

| LONG (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) | B=0.50 LAT (DEG) | B=0.55 LAT (DEG) | B=0.60 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|
| -180 | 0. | 0. | 31.68 | 42.98 | -27.78 | -37.35 | -48.84 | 0. |
| | 0. | 0. | -9.06 | -18.84 | 52.94 | 64.58 | -88.08 | 0. |
| -170 | 0. | 0. | 29.99 | 41.67 | -30.89 | -40.64 | -52.41 | 0. |
| | 0. | 0. | -11.87 | -21.78 | 51.95 | 63.90 | -87.67 | 0. |
| -160 | 0. | 0. | 26.93 | 38.82 | 49.42 | -43.88 | -55.97 | 0. |
| | 0. | 0. | -14.94 | -24.80 | -34.00 | 61.82 | -87.21 | 0. |
| -150 | 0. | 0. | 23.70 | 35.08 | 45.60 | -47.26 | -59.97 | 0. |
| | 0. | 0. | -18.05 | -27.95 | -37.24 | 58.11 | -86.71 | 0. |
| -140 | 0. | 3.87 | 20.74 | 31.19 | 41.13 | 53.04 | -65.16 | 0. |
| | 0. | -5.73 | -21.51 | -31.36 | -40.71 | -51.01 | -86.14 | 0. |
| -130 | 0. | 3.66 | 18.02 | 27.64 | 36.81 | 47.60 | -72.61 | 0. |
| | 0. | -10.84 | -25.19 | -35.06 | -44.64 | -55.42 | -85.46 | 0. |
| -120 | 0. | 2.73 | 15.65 | 24.57 | 33.07 | 42.82 | 0. | 0. |
| | 0. | -15.43 | -29.07 | -39.26 | -49.25 | -60.61 | 0. | 0. |
| -110 | 0. | 1.57 | 13.37 | 21.90 | 29.96 | 39.05 | 55.10 | 0. |
| | 0. | -20.13 | -33.66 | -44.22 | -54.47 | -66.09 | 66.31 | 0. |
| -100 | 0. | 0.46 | 11.34 | 19.63 | 27.57 | 36.46 | 51.10 | 0. |
| | 0. | -25.85 | -39.30 | -49.79 | -59.77 | -71.03 | 66.98 | 0. |
| -90 | 0. | -0.42 | 9.74 | 17.89 | 25.92 | 34.99 | 50.93 | 0. |
| | 0. | -33.05 | -45.46 | -55.18 | -64.44 | -74.87 | 64.84 | 0. |
| -80 | 0. | -0.62 | 8.88 | 17.12 | 25.47 | 35.40 | 0. | 0. |
| | 0. | -40.41 | -50.96 | -59.68 | -68.17 | -77.82 | 0. | 0. |
| -70 | -14.13 | 0.21 | 9.38 | 17.86 | 26.94 | 38.57 | 0. | 0. |
| | -31.14 | -46.11 | -55.28 | -63.15 | -70.97 | -79.74 | 0. | 0. |
| -60 | -10.17 | 2.14 | 11.54 | 20.61 | 30.80 | 45.52 | 0. | 0. |
| | -38.22 | -50.18 | -58.39 | -65.74 | -73.05 | -81.17 | 0. | 0. |
| -50 | -7.42 | 5.37 | 15.35 | 25.24 | 36.92 | 57.97 | 0. | 0. |
| | -41.84 | -52.74 | -60.63 | -67.61 | -74.52 | -82.13 | 0. | 0. |
| -40 | -4.88 | 9.20 | 19.93 | 30.58 | 43.67 | -82.76 | 0. | 0. |
| | -43.32 | -54.41 | -62.09 | -68.90 | -75.57 | 72.68 | 0. | 0. |
| -30 | -4.05 | 12.62 | 23.91 | 35.07 | 49.60 | -83.15 | 0. | 0. |
| | -42.83 | -55.24 | -62.99 | -69.75 | -76.25 | 77.96 | 0. | 0. |
| -20 | -8.73 | 14.80 | 26.49 | 38.17 | 54.16 | -83.34 | 0. | 0. |
| | -39.45 | -55.34 | -63.40 | -70.19 | -76.60 | 80.02 | 0. | 0. |
| -10 | 0. | 15.38 | 27.65 | 39.70 | 56.97 | -83.38 | 0. | 0. |
| | 0. | -54.87 | -63.36 | -70.25 | -76.67 | 81.01 | 0. | 0. |

* REFER TO FIGURE 3 (RM 63 TMP-2)

*Table 5 (Cont.)

| LONG (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) | B=0.50 LAT (DEG) | B=0.55 LAT (DEG) | B=0.60 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|
| -0 | 0. | 14.55 | 27.75 | 40.00 | 57.94 | -83.24 | 0. | 0. |
| | 0. | -53.58 | -62.85 | -69.94 | -76.45 | 81.40 | 0. | 0. |
| 10 | 0. | 11.92 | 26.97 | 39.23 | 57.06 | -82.93 | 0. | 0. |
| | 0. | -51.61 | -61.87 | -69.20 | -75.91 | 81.35 | 0. | 0. |
| 20 | 0. | 5.67 | 25.31 | 37.39 | 54.21 | -82.39 | 0. | 0. |
| | 0. | -2.61 | -60.32 | -67.98 | -74.99 | 80.83 | 0. | 0. |
| | 0. | -22.98 | 0. | C. | 0. | 0. | 0. | 0. |
| | 0. | -48.29 | 0. | C. | 0. | 0. | 0. | 0. |
| 30 | 0. | -33.80 | 22.66 | 34.50 | 49.62 | 79.64 | 0. | 0. |
| | 0. | -40.42 | -57.66 | -66.15 | -73.63 | -81.53 | 0. | 0. |
| 40 | 0. | 0. | 19.56 | 31.09 | 44.34 | 76.90 | 0. | 0. |
| | 0. | 0. | -53.49 | -63.35 | -71.62 | -80.19 | 0. | 0. |
| 50 | 0. | 0. | 16.30 | 27.73 | 39.41 | 67.02 | 0. | 0. |
| | 0. | 0. | -45.32 | -58.97 | -68.58 | -78.32 | 0. | 0. |
| 60 | 0. | 0. | 12.97 | 25.02 | 35.59 | 51.85 | 0. | 0. |
| | 0. | 0. | -18.67 | -50.95 | -63.79 | -75.24 | 0. | 0. |
| 70 | 0. | 0. | 7.92 | 23.02 | 33.04 | 45.24 | 0. | 0. |
| | 0. | 0. | -2.01 | -30.02 | -55.10 | -70.22 | 0. | 0. |
| 80 | 0. | 0. | 0. | 21.67 | 31.45 | 42.05 | 0. | 0. |
| | 0. | 0. | 0. | -14.00 | -35.15 | -60.67 | 0. | 0. |
| 90 | 0. | 0. | 0. | 20.91 | 30.60 | 40.27 | 0. | 0. |
| | 0. | 0. | 0. | -7.91 | -21.69 | -40.72 | 0. | 0. |
| 100 | 0. | 0. | 0. | 20.84 | 30.51 | 39.89 | -51.16 | 0. |
| | 0. | 0. | C. | -6.03 | -17.40 | -29.38 | -85.71 | 0. |
| 110 | 0. | 0. | C. | 21.74 | 31.41 | 41.01 | -38.61 | C. |
| | 0. | 0. | 0. | -6.30 | -16.32 | -25.95 | -86.67 | 0. |
| 120 | 0. | 0. | 0. | 23.97 | 33.64 | 43.77 | -35.18 | 0. |
| | 0. | 0. | C. | -7.34 | -16.46 | -24.99 | -87.43 | 0. |
| 130 | 0. | 0. | 11.71 | 27.50 | 37.35 | 48.31 | -34.64 | -52.15 |
| | 0. | 0. | 6.23 | -8.54 | -17.07 | -25.19 | -88.02 | -70.07 |
| 140 | 0. | 0. | 19.74 | 32.04 | 42.05 | -26.19 | -35.66 | -51.85 |
| | 0. | 0. | 1.50 | -9.85 | -18.06 | 53.77 | -88.41 | -73.25 |
| 150 | 0. | 0. | 25.32 | 36.68 | 46.70 | -28.00 | -38.00 | -54.57 |
| | 0. | 0. | -1.24 | -11.36 | -19.60 | 58.75 | -88.60 | -74.78 |
| 160 | 0. | 0. | 29.41 | 40.41 | -21.86 | -30.63 | -41.30 | -59.04 |
| | 0. | 0. | -3.71 | -13.42 | 50.27 | 62.28 | -88.58 | -74.91 |
| 170 | 0. | 0. | 31.57 | 42.56 | -24.66 | -33.90 | -45.04 | -64.43 |
| | 0. | 0. | -6.32 | -16.01 | 52.40 | 64.10 | -88.39 | -72.83 |

* REFER TO FIGURE 3 (RM 63 TMP-2)

## *Table 6. Constant Magnetic Shell Parameter, L (Earth Radii), at Altitude 200 Kilometers.

| LONG (DEG) | L=1.00 LAT (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| -180 | 0. | 20.38 | 30.26 | 39.76 | 45.64 | 49.97 | -45.11 | -48.90 | 64.69 | 67.73 | 70.35 |
| | 0. | -13.36 | -21.79 | -30.15 | -35.47 | -39.44 | 55.62 | 59.57 | -54.24 | -57.64 | -60.45 |
| -170 | 0. | 18.00 | 28.05 | 37.77 | 43.98 | 48.27 | -47.02 | 58.13 | 63.31 | 66.61 | 69.21 |
| | 0. | -15.30 | -23.66 | -31.89 | -37.31 | -41.34 | 54.29 | -51.08 | -56.49 | -60.35 | -62.95 |
| -160 | 0. | 16.09 | 26.09 | 35.86 | 41.99 | 46.42 | -49.32 | 56.48 | 61.73 | 65.35 | 67.58 |
| | 0. | -16.61 | -25.44 | -33.81 | -39.40 | -43.39 | 52.42 | -53.35 | -59.06 | -62.82 | -65.85 |
| -150 | 0. | 14.45 | 24.41 | 33.94 | 4C.15 | 44.52 | 50.54 | 54.70 | 60.10 | 63.36 | 65.91 |
| | 0. | -17.79 | -26.90 | -35.66 | -41.27 | -45.53 | -51.44 | -55.74 | -61.51 | -65.65 | -68.69 |
| -140 | 0. | 12.72 | 22.71 | 32.05 | 38.00 | 42.28 | 48.27 | 52.30 | 57.68 | 61.23 | 63.85 |
| | 0. | -18.90 | -28.36 | -37.31 | -43.17 | -47.47 | -53.71 | -58.04 | -64.16 | -68.26 | -71.46 |
| -130 | 0. | 11.28 | 21.27 | 30.44 | 36.11 | 40.36 | 46.08 | 50.22 | 55.51 | 58.99 | 61.43 |
| | 0. | -19.81 | -29.77 | -39.07 | -45.21 | -49.69 | -55.98 | -6C.52 | -66.55 | -70.84 | -74.05 |
| -120 | 0. | 10.11 | 19.98 | 28.67 | 34.29 | 38.22 | 43.93 | 47.75 | 53.01 | 56.49 | 59.18 |
| | 0. | -20.38 | -30.92 | -40.75 | -47.01 | -51.64 | -58.18 | -62.69 | -68.91 | -72.98 | -76.14 |
| -110 | 0. | 8.51 | 18.27 | 26.87 | 32.28 | 36.25 | 41.75 | 45.69 | 50.85 | 54.39 | 56.71 |
| | 0. | -20.97 | -32.13 | -42.44 | -49.07 | -53.76 | -60.41 | -65.00 | -70.87 | -75.04 | -77.75 |
| -100 | 0. | 6.59 | 16.43 | 25.15 | 30.48 | 34.39 | 4C.01 | 43.68 | 48.89 | 52.20 | 55.05 |
| | 0. | -21.75 | -33.62 | -44.38 | -50.99 | -55.75 | -62.16 | -66.57 | -72.36 | -76.24 | -79.14 |
| -90 | 0. | 3.79 | 14.19 | 22.91 | 28.46 | 32.42 | 38.09 | 41.98 | 47.24 | 50.85 | 53.34 |
| | 0. | -22.58 | -35.25 | -46.04 | -52.64 | -57.31 | -63.74 | -67.96 | -73.64 | -77.23 | -80.17 |
| -80 | 0. | -0.05 | 11.44 | 20.95 | 26.75 | 31.03 | 36.89 | 41.04 | 46.46 | 50.27 | 52.64 |
| | 0. | -22.74 | -36.30 | -47.29 | -53.99 | -58.57 | -65.01 | -69.06 | -74.63 | -77.97 | -80.66 |
| -70 | 0. | -5.20 | 8.99 | 19.61 | 25.91 | 30.50 | 36.67 | 41.01 | 46.63 | 50.50 | 53.03 |
| | 0. | -21.30 | -36.60 | -47.92 | -54.74 | -59.30 | -65.53 | -69.75 | -75.17 | -78.46 | -80.98 |
| -60 | 0. | -10.88 | 7,91 | 19.75 | 26.45 | 31.24 | 37.71 | 42.11 | 47.91 | 51.67 | 54.62 |
| | 0. | -16.48 | -35.85 | -47.63 | -54.66 | -59.36 | -65.65 | -69.98 | -75.34 | -78.70 | -81.13 |
| -50 | 0. | -9.81 | 10.53 | 21.88 | 28.74 | 33.48 | 4C.12 | 44.43 | 50.22 | 53.84 | 56.44 |
| | 0. | -10.30 | -33.67 | -46.34 | -53.66 | -58.64 | -65.35 | -69.72 | -75.27 | -78.66 | -81.12 |
| -40 | 0. | 0.93 | 15.93 | 25.88 | 31.97 | 36.48 | 42.67 | 46.89 | 52.46 | 56.17 | 58.88 |
| | 0. | -11.48 | -30.35 | -43.84 | -51.78 | -57.19 | -64.42 | -68.95 | -74.93 | -78.35 | -80.95 |
| -30 | 0. | 8.56 | 20.87 | 30.04 | 35.52 | 39.65 | 45.53 | 49.66 | 55.13 | 58.52 | 61.10 |
| | 0. | -10.10 | -26.13 | -4C.22 | -48.94 | -55.08 | -62.73 | -67.71 | -74.03 | -77.76 | -80.62 |
| -20 | 0. | 14.19 | 24.97 | 33.19 | 38.42 | 42.22 | 47.82 | 51.77 | 57.04 | 60.68 | 63.12 |
| | 0. | -7.70 | -21.98 | -35.74 | -45.11 | -51.69 | -60.58 | -66.06 | -72.78 | -76.91 | -80.10 |
| -10 | 0. | 18.37 | 27.87 | 35.88 | 4C.85 | 44.57 | 50.04 | 53.76 | 59.01 | 62.32 | 65.14 |
| | 0. | -6.07 | -18.57 | -31.33 | -4C.61 | -47.65 | -57.43 | -63.72 | -71.22 | -75.81 | -78.98 |

* REFER TO FIGURE 3 (RM 63 TMP-2)

*Table 6 (Cont.)

| LONG (DEG) | L=1.00 LAT (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| -0 | 0. | 21.67 | 30.39 | 37.76 | 42.56 | 46.17 | 51.41 | 55.38 | 60.53 | 63.94 | 66.35 |
| | 0. | -4.99 | -16.01 | -27.65 | -36.38 | -43.42 | -53.83 | -60.76 | -69.16 | -74.18 | -77.50 |
| 10 | 0. | 24.03 | 31.85 | 39.19 | 43.87 | 47.27 | 52.55 | 56.43 | 61.56 | 65.23 | 67.48 |
| | 0. | -4.11 | -14.28 | -25.09 | -33.07 | -39.78 | -50.11 | -57.26 | -66.39 | -71.86 | -75.77 |
| 20 | 0. | 25.29 | 32.64 | 40.01 | 44.70 | 48.14 | -46.76 | 57.26 | 62.44 | 65.98 | 68.49 |
| | 0. | -4.16 | -13.54 | -23.54 | -31.00 | -37.09 | 53.50 | -53.95 | -63.32 | -69.28 | -73.30 |
| 30 | 0. | 25.41 | 32.72 | 40.17 | 45.06 | 48.62 | -44.48 | 57.88 | 63.13 | 66.61 | 69.36 |
| | 0. | -5.16 | -13.85 | -23.20 | -30.13 | -35.66 | 54.12 | -51.07 | -60.28 | -66.12 | -70.47 |
| 40 | 12.23 | 24.99 | 32.36 | 40.10 | 45.17 | 48.90 | -42.85 | -48.86 | 63.67 | 67.13 | 70.04 |
| | 6.17 | -6.50 | -14.94 | -23.60 | -30.01 | -35.06 | 54.54 | 58.33 | -57.23 | -62.91 | -67.09 |
| 50 | 13.46 | 24.65 | 32.19 | 40.13 | 45.31 | 49.15 | -41.74 | -47.06 | 64.09 | 67.54 | 70.38 |
| | 3.10 | -7.95 | -15.88 | -24.15 | -30.09 | -34.71 | 54.86 | 58.66 | -54.82 | -60.07 | -63.87 |
| 60 | 15.66 | 25.33 | 32.67 | 40.46 | 45.60 | 49.49 | -40.79 | -45.63 | 64.44 | 67.89 | 70.67 |
| | 0.40 | -9.01 | -16.45 | -24.44 | -30.04 | -34.28 | 55.13 | 58.97 | -52.38 | -57.12 | -60.78 |
| 70 | 18.09 | 26.57 | 33.65 | 41.01 | 46.02 | 49.93 | -39.83 | -44.19 | 64.76 | 68.20 | 70.93 |
| | -0.83 | -9.41 | -16.54 | -24.29 | -29.64 | -33.64 | 55.38 | 59.27 | -50.46 | -54.82 | -57.85 |
| 80 | 20.39 | 27.85 | 34.67 | 41.60 | 46.47 | -32.93 | -38.70 | -42.77 | -48.55 | 68.50 | 71.17 |
| | -1.28 | -9.42 | -16.39 | -23.93 | -29.10 | 50.29 | 55.65 | 59.60 | 65.05 | -52.42 | -55.51 |
| 90 | 21.27 | 28.61 | 35.24 | 42.04 | 46.84 | -32.39 | -37.84 | -41.72 | -47.04 | 68.79 | 71.40 |
| | -1.63 | -9.52 | -16.37 | -23.72 | -28.70 | 50.60 | 55.93 | 59.94 | 65.26 | -50.77 | -53.38 |
| 100 | 21.22 | 28.64 | 35.37 | 42.28 | 47.12 | -32.20 | -37.39 | -41.11 | -46.13 | -49.69 | 71.61 |
| | -2.14 | -10.03 | -16.66 | -23.85 | -28.65 | 50.87 | 56.21 | 60.21 | 65.49 | 69.08 | -51.90 |
| 110 | 20.44 | 28.15 | 35.24 | 42.38 | 47.32 | -32.33 | -37.32 | -40.93 | -45.74 | -48.94 | 71.80 |
| | -2.66 | -10.56 | -17.19 | -24.29 | -28.93 | 51.11 | 56.49 | 60.47 | 65.72 | 69.36 | -51.19 |
| 120 | 19.07 | 27.51 | 35.04 | 42.45 | 47.53 | -32.66 | -37.56 | -41.07 | -45.77 | -48.87 | 71.95 |
| | -2.75 | -10.93 | -17.66 | -24.79 | -29.36 | 51.35 | 56.78 | 60.73 | 65.95 | 69.61 | -51.06 |
| 130 | 17.61 | 27.00 | 34.90 | 42.57 | 47.76 | -33.11 | -38.04 | -41.49 | -46.16 | -49.41 | 72.02 |
| | -2.02 | -10.86 | -17.83 | -25.13 | -29.82 | 51.61 | 57.06 | 60.97 | 66.13 | 69.79 | -51.42 |
| 140 | 16.20 | 26.55 | 34.77 | 42.67 | 47.95 | -33.73 | -38.81 | -42.24 | -46.96 | 69.83 | 71.99 |
| | -0.61 | -10.42 | -17.78 | -25.37 | -30.26 | 51.81 | 57.26 | 61.12 | 66.21 | -50.32 | -52.32 |
| 150 | 13.98 | 25.89 | 34.38 | 42.56 | 47.93 | -34.70 | -40.01 | -43.44 | -48.28 | 69.68 | 71.83 |
| | 1.74 | -10.03 | -17.86 | -25.79 | -30.87 | 51.83 | 57.29 | 61.12 | 66.16 | -51.45 | -53.89 |
| 160 | 10.56 | 24.67 | 33.47 | 42.06 | 47.56 | -35.84 | -41.21 | -45.14 | 65.91 | 69.30 | 71.50 |
| | 3.66 | -10.26 | -18.57 | -26.68 | -31.92 | 51.55 | 57.04 | 60.90 | -50.16 | -53.24 | -55.73 |
| 170 | 5.13 | 22.55 | 32.04 | 41.12 | 46.79 | -37.40 | -42.93 | -46.75 | 65.46 | 68.64 | 71.00 |
| | 4.88 | -11.49 | -20.13 | -28.18 | -33.54 | 50.93 | 56.49 | 60.44 | -51.88 | -55.47 | -57.80 |

* REFER TO FIGURE 3 (RM 63 TMP-2)

## *Table 7. Constant Magnetic Field Intensity, B (Gauss), at Altitude 300 Kilometers

| LONG (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) | B=0.50 LAT (DEG) | B=0.55 LAT (DEG) |
|---|---|---|---|---|---|---|---|
| -180 | 0. | 18.35 | 35.35 | 46.36 | -31.82 | -42.52 | -56.98 |
| | 0. | 1.88 | -12.64 | -22.35 | 57.09 | 74.03 | -82.10 |
| | 0. | 0. | 0. | 0. | 0. | 86.90 | 0. |
| -170 | 0. | 16.53 | 33.72 | 45.19 | -34.98 | -45.90 | -61.20 |
| | 0. | -1.29 | -15.54 | -25.34 | 56.20 | 73.39 | -81.20 |
| | 0. | 0. | 0. | 0. | 0. | 86.99 | 0. |
| -160 | 0. | 14.38 | 30.86 | 42.52 | -38.18 | -49.26 | -66.75 |
| | 0. | -4.87 | -18.46 | -28.37 | 53.88 | 71.28 | -79.09 |
| | 0. | 0. | 0. | 0. | 0. | 87.07 | 0. |
| -150 | 0. | 12.29 | 27.46 | 38.81 | -41.46 | 67.62 | 0. |
| | 0. | -8.30 | -21.62 | -31.56 | 50.18 | -52.92 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 87.10 | 0. |
| -140 | 0. | 10.69 | 24.24 | 34.79 | 45.65 | 61.92 | 0. |
| | 0. | -12.18 | -25.05 | -34.97 | -45.02 | -57.13 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 87.08 | 0. |
| -130 | 0. | 9.00 | 21.30 | 31.06 | 41.07 | 55.04 | 0. |
| | 0. | -16.18 | -28.60 | -38.74 | -49.17 | -62.20 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 86.97 | 0. |
| -120 | 0. | 7.29 | 18.69 | 27.80 | 37.09 | 49.30 | 0. |
| | 0. | -20.25 | -32.58 | -43.08 | -53.99 | -68.03 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 86.72 | 0. |
| -110 | 0. | 5.72 | 16.35 | 25.03 | 33.82 | 44.89 | 0. |
| | 0. | -24.67 | -37.28 | -48.12 | -59.27 | -73.82 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 86.24 | 0. |
| -100 | 0. | 4.11 | 14.27 | 22.75 | 31.38 | 42.27 | 0. |
| | 0. | -30.24 | -42.82 | -53.54 | -64.37 | -78.62 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 85.33 | 0. |
| -90 | 0. | 2.85 | 12.62 | 21.09 | 29.83 | 41.14 | 0. |
| | 0. | -36.82 | -48.62 | -58.60 | -68.71 | -81.90 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 84.17 | 0. |
| -80 | -13.58 | 2.41 | 11.83 | 20.44 | 29.70 | 42.52 | 0. |
| | -25.62 | -43.32 | -53.70 | -62.76 | -72.08 | -83.86 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 82.15 | 0. |
| -70 | -9.42 | 3.06 | 12.39 | 21.43 | 31.70 | 48.01 | 0. |
| | -35.42 | -48.48 | -57.67 | -65.96 | -74.52 | -85.00 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 77.68 | 0. |
| -60 | -6.76 | 5.10 | 14.69 | 24.46 | 36.30 | -86.06 | 0. |
| | -40.98 | -52.16 | -60.62 | -68.34 | -76.35 | 0. | 0. |
| -50 | -3.83 | 8.36 | 18.66 | 29.39 | 43.27 | -86.50 | 0. |
| | -44.22 | -54.71 | -62.68 | -70.05 | -77.64 | 0. | 0. |
| -40 | -0.88 | 12.37 | 23.36 | 34.90 | 51.01 | -86.74 | 0. |
| | -45.73 | -56.23 | -64.11 | -71.26 | -78.50 | 0. | 0. |
| -30 | 1.28 | 15.99 | 27.42 | 39.64 | 57.99 | -86.90 | 0. |
| | -45.75 | -57.01 | -65.01 | -72.03 | -79.05 | 0. | 0. |
| -20 | 1.44 | 18.29 | 30.09 | 43.03 | 62.88 | -87.02 | 0. |
| | -44.06 | -57.19 | -65.41 | -72.42 | -79.33 | 0. | 0. |
| -10 | -6.03 | 19.24 | 31.45 | 44.84 | 65.60 | -87.13 | 0. |
| | -37.74 | -56.81 | -65.38 | -72.46 | -79.36 | 0. | 0. |

* REFER TO FIGURE 4 (RM 63 TMP-2)

*Table 7 (Cont.)

| LONG (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) | B=0.50 LAT (DEG) | B=0.55 LAT (DEG) |
|---|---|---|---|---|---|---|---|
| -0 | 0. | 19.02 | 31.70 | 45.36 | 66.62 | -87.22 | 0. |
| | 0. | -55.90 | -64.93 | -72.16 | -79.16 | 0. | 0. |
| 10 | 0. | 17.71 | 31.03 | 44.57 | 66.17 | -87.29 | 0. |
| | 0. | -54.27 | -63.94 | -71.48 | -78.70 | 0. | 0. |
| 20 | 0. | 15.45 | 29.43 | 42.62 | 64.04 | -87.29 | 0. |
| | 0. | -51.53 | -62.37 | -70.35 | -77.92 | 0. | 0. |
| 30 | 0. | 11.70 | 26.96 | 39.50 | 59.56 | -87.06 | 0. |
| | 0. | -46.78 | -60.08 | -68.61 | -76.72 | 0. | 0. |
| 40 | 0. | 6.97 | 23.91 | 35.87 | 53.05 | -85.47 | 0. |
| | 0. | -12.82 | -56.25 | -66.06 | -74.89 | 0. | 0. |
| 50 | 0. | 0. | 20.88 | 32.31 | 46.51 | -83.97 | 0. |
| | 0. | 0. | -49.67 | -62.10 | -72.28 | 0. | 0. |
| 60 | 0. | 0. | 18.11 | 29.38 | 41.53 | -81.95 | 0. |
| | 0. | 0. | -32.05 | -55.47 | -68.15 | 0. | 0. |
| 70 | 0. | 0. | 15.71 | 27.36 | 38.21 | 63.47 | 0. |
| | 0. | 0. | -12.04 | -40.73 | -61.11 | 65.53 | 0. |
| | 0. | 0. | 0. | 0. | 0. | -78.16 | 0. |
| 80 | 0. | 0. | 12.82 | 26.05 | 36.16 | 50.50 | 0. |
| | 0. | 0. | -1.91 | -21.17 | -46.27 | 77.18 | 0. |
| | 0. | 0. | 0. | 0. | 0. | -70.83 | 0. |
| 90 | 0. | 0. | 9.15 | 25.35 | 35.05 | 47.49 | 0. |
| | 0. | 0. | 4.82 | -13.59 | -28.80 | -54.99 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 80.97 | 0. |
| 100 | 0. | 0. | 0. | 25.30 | 34.88 | 46.64 | 0. |
| | 0. | 0. | 0. | -10.96 | -22.58 | -37.44 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 83.23 | 0. |
| 110 | 0. | 0. | 11.15 | 26.13 | 35.85 | 47.83 | -53.28 |
| | 0. | 0. | 4.45 | -10.65 | -20.61 | -31.63 | -72.12 |
| | 0. | 0. | 0. | 0. | 0. | 84.43 | 0. |
| 120 | 0. | 0. | 15.47 | 28.18 | 38.21 | -29.77 | -43.72 |
| | 0. | 0. | 1.27 | -11.23 | -20.29 | 51.15 | -78.81 |
| | 0. | 0. | 0. | 0. | 0. | 85.31 | 0. |
| 130 | 0. | 0. | 19.85 | 31.60 | 42.03 | -29.67 | -41.93 |
| | 0. | 0. | -1.24 | -12.09 | -20.71 | 56.78 | -80.98 |
| | 0. | 0. | 0. | 0. | 0. | 85.92 | 0. |
| 140 | 0. | 0. | 24.66 | 35.96 | 46.74 | -30.65 | -42.75 |
| | 0. | 0. | -3.19 | -13.18 | -21.68 | 63.37 | -81.99 |
| | 0. | 0. | 0. | 0. | 0. | 86.28 | 0. |
| 150 | 0. | 0. | 29.36 | 40.37 | -23.29 | -32.65 | -45.13 |
| | 0. | 0. | -5.26 | -14.72 | 51.24 | 68.78 | -82.51 |
| | 0. | 0. | 0. | 0. | 0. | 86.50 | 0. |
| 160 | 0. | 0. | 33.03 | 43.86 | -25.65 | -35.48 | -48.86 |
| | 0. | 0. | -7.36 | -16.81 | 54.58 | 72.24 | -82.69 |
| | 0. | 0. | 0. | 0. | 0. | 86.66 | 0. |
| 170 | 0. | 18.14 | 35.17 | 45.93 | -28.62 | -38.95 | -52.93 |
| | 0. | 4.81 | -9.99 | -19.44 | 56.57 | 73.75 | -82.57 |
| | 0. | 0. | 0. | 0. | 0. | 86.79 | 0. |

* REFER TO FIGURE 4 (RM 63 TMP-2)

## *Table 8. Constant Magnetic Shell Parameter, L (Earth Radii), at Altitude 300 Kilometers

| LONG (DEG) | L=1.00 LAT (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| -180 | 0. | 18.84 | 29.31 | 39.02 | 45.17 | 49.42 | -44.75 | -48.57 | 64.37 | 67.51 | 70.21 |
| | 0. | -11.88 | -20.96 | -29.50 | -35.04 | -38.95 | 55.31 | 59.19 | -53.96 | -57.43 | -60.30 |
| -170 | 0. | 16.55 | 27.13 | 37.10 | 43.38 | 47.77 | -46.68 | 57.78 | 63.02 | 66.41 | 68.97 |
| | 0. | -13.69 | -22.72 | -31.30 | -36.81 | -40.94 | 53.85 | -50.81 | -56.27 | -60.18 | -62.75 |
| -160 | 0. | 14.70 | 25.26 | 35.27 | 41.47 | 45.98 | -48.92 | 56.17 | 61.47 | 65.17 | 67.37 |
| | 0. | -15.27 | -24.54 | -33.14 | -38.83 | -42.93 | 52.03 | -53.07 | -58.77 | -62.59 | [illegible] |
| -150 | 0. | 12.77 | 23.41 | 33.23 | 39.58 | 43.98 | 50.21 | 54.30 | 59.82 | 63.10 | 65.74 |
| | 0. | -16.28 | -26.04 | -35.10 | -40.80 | -45.15 | -51.10 | -55.46 | -61.27 | -65.44 | -68.44 |
| -140 | 0. | 11.17 | 21.77 | 31.42 | 37.45 | 41.82 | 47.87 | 51.97 | 57.40 | 61.03 | 63.61 |
| | 0. | -17.20 | -27.39 | -36.68 | -42.63 | -47.02 | -53.31 | -57.70 | -63.85 | -67.98 | -71.22 |
| -130 | 0. | 9.75 | 20.41 | 29.83 | 35.63 | 39.96 | 45.75 | 49.94 | 55.29 | 58.73 | 61.25 |
| | 0. | -17.94 | -28.73 | -38.37 | -44.68 | -49.17 | -55.63 | -60.23 | -66.27 | -70.59 | -73.74 |
| -120 | 0. | 8.12 | 18.87 | 27.96 | 33.69 | 37.74 | 43.52 | 47.43 | 52.75 | 56.30 | 58.96 |
| | 0. | -18.52 | -30.06 | -40.16 | -46.48 | -51.19 | -57.75 | -62.32 | -68.55 | -72.66 | -75.88 |
| -110 | 0. | 6.62 | 17.24 | 26.24 | 31.76 | 35.84 | 41.41 | 45.44 | 50.65 | 54.16 | 56.55 |
| | 0. | -19.17 | -31.18 | -41.77 | -48.45 | -53.23 | -60.05 | -64.56 | -70.58 | -74.68 | -77.44 |
| -100 | 0. | 4.85 | 15.50 | 24.42 | 30.03 | 33.89 | 39.60 | 43.36 | 48.63 | 52.03 | 54.89 |
| | 0. | -20.03 | -32.56 | -43.60 | -50.45 | -55.29 | -61.72 | -66.20 | -72.02 | -75.96 | -78.80 |
| -90 | 0. | 1.57 | 13.06 | 22.23 | 27.90 | 31.99 | 37.73 | 41.71 | 47.03 | 50.70 | 53.17 |
| | 0. | -20.56 | -34.11 | -45.36 | -52.02 | -56.77 | -63.24 | -67.54 | -73.25 | -76.92 | -79.91 |
| -80 | 0. | -3.00 | 10.48 | 20.35 | 26.26 | 30.64 | 36.57 | 40.79 | 46.27 | 50.13 | 52.49 |
| | 0. | -20.30 | -35.25 | -46.52 | -53.28 | -57.96 | -64.45 | -68.59 | -74.22 | -77.64 | -80.43 |
| -70 | 0. | -9.55 | 7.82 | 18.86 | 25.44 | 30.12 | 36.34 | 40.75 | 46.42 | 50.35 | 52.85 |
| | 0. | -16.66 | -35.49 | -47.08 | -53.97 | -58.64 | -65.12 | -69.25 | -74.83 | -78.11 | -80.74 |
| -60 | 0. | 0. | 6.78 | 18.96 | 25.94 | 30.81 | 37.34 | 41.80 | 47.64 | 51.46 | 54.38 |
| | 0. | 0. | -34.64 | -46.79 | -53.88 | -58.67 | -65.23 | -69.45 | -75.05 | -78.33 | -80.88 |
| -50 | 0. | 0. | 9.34 | 21.18 | 28.11 | 32.95 | 39.69 | 44.03 | 50.01 | 53.56 | 56.24 |
| | 0. | 0. | -32.31 | -45.54 | -52.90 | -57.97 | -64.88 | -69.18 | -74.96 | -78.28 | -80.87 |
| -40 | 0. | 0. | 14.74 | 25.21 | 31.40 | 36.00 | 42.25 | 46.54 | 52.16 | 55.94 | 58.60 |
| | 0. | 0. | -28.99 | -42.91 | -51.08 | -56.55 | -63.81 | -68.42 | -74.44 | -77.97 | -80.69 |
| -30 | 0. | 5.06 | 19.75 | 29.18 | 35.00 | 39.09 | 45.18 | 49.24 | 54.84 | 58.22 | 60.89 |
| | 0. | -6.07 | -25.00 | -39.33 | -48.15 | -54.34 | -62.16 | -67.20 | -73.55 | -77.38 | -80.36 |
| -20 | 0. | 11.28 | 23.64 | 32.43 | 37.82 | 41.76 | 47.42 | 51.44 | 56.76 | 60.46 | 62.86 |
| | 0. | -5.22 | -20.92 | -35.00 | -44.35 | -51.05 | -60.06 | -65.59 | -72.32 | -76.54 | -79.72 |
| -10 | 0. | 16.16 | 26.80 | 35.27 | 40.37 | 44.06 | 49.62 | 53.39 | 58.68 | 62.07 | 64.95 |
| | 0. | -3.90 | -17.56 | -30.67 | -40.03 | -47.03 | -56.84 | -63.13 | -70.80 | -75.46 | -78.53 |

* REFER TO FIGURE 4 (RM 63 TMP-2)

*Table 8 (Cont.)

| LONG (DEG) | L=1.00 LAT (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| -0 | 0. | 20.05 | 29.37 | 37.09 | 42.04 | 45.78 | 51.10 | 55.12 | 60.31 | 63.66 | 66.15 |
| | 0. | -2.94 | -15.17 | -27.05 | -35.86 | -42.87 | -53.23 | -60.27 | -68.59 | -73.66 | -77.07 |
| 10 | 0. | 22.21 | 30.97 | 38.49 | 43.33 | 46.93 | -49.59 | 56.15 | 61.33 | 65.05 | 67.27 |
| | 0. | -2.41 | -13.39 | -24.53 | -32.61 | -39.30 | 52.26 | -56.74 | -65.91 | -71.40 | -75.38 |
| 20 | 0. | 23.56 | 31.75 | 39.31 | 44.16 | 47.73 | -46.34 | 56.98 | 62.20 | 65.80 | 68.28 |
| | 0. | -2.62 | -12.73 | -23.03 | -30.61 | -36.70 | 53.15 | -53.44 | -62.78 | -68.71 | -72.78 |
| 30 | 0. | 23.86 | 31.84 | 39.55 | 44.55 | 48.21 | -44.07 | 57.60 | 62.90 | 66.43 | 69.15 |
| | 0. | -3.67 | -13.07 | -22.69 | -29.74 | -35.32 | 53.77 | -5C.67 | -59.81 | -65.67 | -70.04 |
| 40 | 0. | 23.39 | 31.56 | 39.50 | 44.72 | 48.50 | -42.48 | -48.45 | 63.44 | 66.95 | 69.87 |
| | 0. | -5.33 | -14.10 | -23.08 | -29.57 | -34.67 | 54.20 | 58.05 | -56.80 | -62.44 | -66.62 |
| 50 | 0. | 23.19 | 31.43 | 39.56 | 44.93 | 48.76 | -41.40 | -46.72 | 63.87 | 67.38 | 70.27 |
| | 0. | -6.71 | -15.20 | -23.60 | -29.65 | -34.31 | 54.53 | 58.40 | -54.38 | -59.62 | -63.40 |
| 60 | 11.69 | 24.05 | 31.91 | 4C.01 | 45.24 | 49.10 | -4C.48 | -45.33 | 64.24 | 67.74 | 70.57 |
| | 4.15 | -7.73 | -15.76 | -23.87 | -29.57 | -33.87 | 54.86 | 58.72 | -52.04 | -56.77 | -60.45 |
| 70 | 15.69 | 25.55 | 32.86 | 4C.56 | 45.65 | 49.54 | -39.46 | -43.85 | 64.57 | 68.06 | 70.84 |
| | 1.88 | -8.17 | -15.85 | -23.72 | -29.17 | -33.24 | 55.16 | 59.04 | -50.20 | -54.47 | -57.53 |
| 80 | 17.99 | 26.76 | 33.85 | 41.13 | 46.10 | -32.56 | -38.37 | -42.49 | -48.28 | 68.36 | 71.08 |
| | 0.76 | -8.23 | -15.72 | -23.39 | -28.65 | 50.01 | 55.44 | 59.37 | 64.90 | -52.17 | -55.31 |
| 90 | 19.43 | 27.49 | 34.50 | 41.57 | 46.48 | -32.04 | -37.55 | -41.48 | -46.83 | 68.66 | 71.31 |
| | 0.04 | -8.35 | -15.72 | -23.18 | -28.26 | 50.32 | 55.72 | 59.71 | 65.15 | -50.60 | -53.17 |
| 100 | 19.39 | 27.53 | 34.68 | 41.80 | 46.74 | -31.85 | -37.11 | -4C.91 | -45.96 | -49.48 | 71.52 |
| | -0.40 | -8.83 | -15.99 | -23.30 | -28.21 | 50.58 | 55.99 | 60.04 | 65.37 | 68.95 | -51.75 |
| 110 | 18.23 | 27.07 | 34.49 | 41.89 | 46.94 | -31.97 | -37.04 | -40.72 | -45.59 | -48.76 | 71.71 |
| | -0.76 | -9.49 | -16.47 | -23.70 | -28.47 | 50.81 | 56.26 | 60.30 | 65.60 | 69.23 | -51.07 |
| 120 | 16.75 | 26.45 | 34.22 | 41.95 | 47.13 | -32.28 | -37.27 | -40.86 | -45.62 | -48.70 | 71.85 |
| | -0.68 | -9.93 | -16.89 | -24.16 | -28.87 | 51.04 | 56.54 | 60.55 | 65.81 | 69.46 | -50.95 |
| 130 | 15.34 | 25.92 | 34.04 | 42.04 | 47.34 | -32.71 | -37.73 | -41.26 | -46.00 | -49.22 | 71.91 |
| | 0.26 | -9.78 | -17.04 | -24.52 | -29.30 | 51.28 | 56.79 | 60.76 | 65.98 | 69.62 | -51.31 |
| 140 | 12.64 | 25.45 | 33.87 | 42.11 | 47.49 | -33.31 | -38.47 | -41.98 | -46.77 | 69.64 | 71.87 |
| | 3.07 | -9.13 | -16.97 | -24.84 | -29.83 | 51.45 | 56.97 | 60.90 | 66.05 | -50.20 | -52.18 |
| 150 | 0. | 24.67 | 33.46 | 41.97 | 47.44 | -34.23 | -39.63 | -43.15 | -48.05 | 69.47 | 71.70 |
| | 0. | -8.54 | -17.03 | -25.28 | -3C.46 | 51.44 | 56.98 | 60.89 | 65.98 | -51.30 | -53.71 |
| 160 | 0. | 23.13 | 32.57 | 41.47 | 47.06 | -35.48 | -4C.92 | -44.87 | -49.98 | 69.08 | 71.36 |
| | 0. | -8.78 | -17.68 | -26.12 | -31.47 | 51.15 | 56.72 | 60.66 | 65.72 | -53.03 | -55.60 |
| 170 | C. | 21.16 | 31.18 | 4C.54 | 46.29 | -36.98 | -42.58 | -46.48 | 65.27 | 68.41 | 70.86 |
| | 0. | -10.23 | -19.18 | -27.56 | -33.02 | 50.53 | 56.16 | 60.19 | -51.66 | -55.32 | -57.62 |

• REFER TC FIGURE 4 (RM 63 TMP-2)

*Table 9. Constant Magnetic Field Intensity, B (Gauss), at Altitude 400 Kilometers

| LONG (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) | B=0.50 LAT (DEG) | B=0.55 LAT (DEG) |
|---|---|---|---|---|---|---|---|
| -180 | 0. | 24.32 | 38.69 | 49.86 | -36.16 | -48.52 | 0. |
| | 0. | -3.81 | -16.09 | -25.93 | 62.01 | -88.06 | 0. |
| -170 | 0. | 22.43 | 37.27 | 48.81 | -39.42 | -52.14 | 0. |
| | 0. | -6.68 | -18.95 | -28.97 | 61.21 | -87.65 | 0. |
| -160 | 0. | 20.01 | 34.54 | 46.34 | -42.70 | -55.83 | 0. |
| | 0. | -9.88 | -21.91 | -32.07 | 59.09 | -87.19 | 0. |
| -150 | 0. | 17.32 | 31.10 | 42.72 | -46.09 | -60.03 | 0. |
| | 0. | -13.02 | -25.08 | -35.27 | 55.60 | -86.68 | 0. |
| -140 | 0. | 15.13 | 27.64 | 38.60 | -49.85 | -65.51 | 0. |
| | 0. | -16.57 | -28.41 | -38.75 | 51.00 | -86.10 | 0. |
| -130 | 0. | 12.90 | 24.52 | 34.64 | 46.09 | -73.21 | 0. |
| | 0. | -20.32 | -32.04 | -42.64 | -54.29 | -85.39 | 0. |
| -120 | 0. | 10.97 | 21.73 | 31.22 | 41.73 | 0. | 0. |
| | 0. | -24.13 | -36.11 | -47.13 | -59.39 | 0. | 0. |
| -110 | 0. | 9.07 | 19.29 | 28.34 | 38.24 | 55.44 | 0. |
| | 0. | -28.54 | -40.89 | -52.24 | -64.74 | 68.94 | 0. |
| -100 | 0. | 7.29 | 17.17 | 26.04 | 35.71 | 51.76 | 0. |
| | 0. | -34.01 | -46.35 | -57.51 | -69.66 | 69.24 | 0. |
| -90 | -10.40 | 5.98 | 15.58 | 24.45 | 34.36 | 51.59 | 0. |
| | -20.93 | -40.30 | -51.82 | -62.25 | -73.66 | 66.91 | 0. |
| -80 | -7.86 | 5.41 | 14.84 | 24.01 | 34.63 | 0. | 0. |
| | -31.25 | -46.17 | -56.53 | -66.07 | -76.59 | 0. | 0. |
| -70 | -5.80 | 5.95 | 15.51 | 25.24 | 37.41 | 0. | 0. |
| | -38.54 | -50.87 | -60.21 | -68.98 | -78.65 | 0. | 0. |
| -60 | -3.52 | 7.96 | 17.99 | 28.70 | 43.22 | 0. | 0. |
| | -43.37 | -54.28 | -62.91 | -71.15 | -80.04 | 0. | 0. |
| -50 | -0.54 | 11.39 | 22.13 | 33.98 | 52.00 | 0. | 0. |
| | -46.33 | -56.60 | -64.88 | -72.72 | -81.10 | 0. | 0. |
| -40 | 2.66 | 15.53 | 26.93 | 39.77 | 61.90 | 0. | 0. |
| | -47.79 | -58.10 | -66.21 | -73.79 | -81.78 | 0. | 0. |
| -30 | 5.54 | 19.22 | 31.07 | 44.82 | 69.04 | 0. | 0. |
| | -48.07 | -58.94 | -67.03 | -74.47 | -82.20 | 0. | 0. |
| -20 | 6.86 | 21.67 | 33.88 | 48.58 | -82.40 | 0. | 0. |
| | -47.12 | -59.19 | -67.42 | -74.82 | 72.71 | 0. | 0. |

* REFER TO FIGURE 5 (RM 63 TMP-2)

*Table 9 (Cont.)

| LONG (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) | B=0.50 LAT (DEG) | B=0.55 LAT (DEG) |
|---|---|---|---|---|---|---|---|
| -10 | 6.'5 | 22.81 | 35.36 | 5C.76 | 74.48 | 0. | 0. |
| | -44.30 | -58.88 | -67.39 | -74.85 | -82.42 | 0. | 0. |
| -0 | -3.63 | 22.90 | 35.74 | 51.54 | -82.25 | 0. | 0. |
| | -6.06 | -58.00 | -66.95 | -74.56 | 75.17 | 0. | 0. |
| 10 | 0. | 22.09 | 35.11 | 5C.77 | -81.86 | 0. | 0. |
| | 0. | -56.55 | -66.07 | -73.92 | 75.04 | 0. | 0. |
| 20 | 0. | 20.41 | 33.58 | 48.65 | 74.01 | 0. | 0. |
| | 0. | -54.29 | -64.63 | -72.88 | -81.21 | 0. | 0. |
| 30 | 0. | 17.63 | 31.13 | 45.22 | 71.59 | 0. | 0. |
| | 0. | -50.52 | -62.35 | -71.30 | -80.18 | 0. | 0. |
| 40 | C. | 14.46 | 28.10 | 41.24 | 66.33 | 0. | 0. |
| | 0. | -42.83 | -58.96 | -68.94 | -78.75 | 0. | 0. |
| 50 | 0. | 10.69 | 25.10 | 37.28 | 57.25 | 0. | 0. |
| | 0. | -18.11 | -53.26 | -65.44 | -76.56 | 0. | 0. |
| 60 | 0. | 2.13 | 22.49 | 33.99 | 49.31 | 0. | 0. |
| | 0. | -1.02 | -41.42 | -59.76 | -73.10 | 0. | 0. |
| 70 | 0. | 0. | 20.55 | 31.72 | 44.43 | 0. | 0. |
| | 0. | 0. | -20.15 | -48.78 | -67.34 | 0. | 0. |
| 80 | 0. | 0. | 18.94 | 30.26 | 41.66 | 0. | 0. |
| | 0. | 0. | -9.42 | -29.21 | -56.32 | 0. | 0. |
| 90 | 0. | 0. | 17.81 | 29.47 | 40.08 | -78.52 | 0. |
| | 0. | 0. | -4.15 | -19.22 | -37.64 | -81.32 | 0. |
| 100 | 0. | 0. | 17.61 | 29.39 | 39.78 | -5C.07 | 0. |
| | 0. | 0. | -2.29 | -15.62 | -28.37 | -85.85 | 0. |
| 110 | 0. | 0. | 18.68 | 3C.26 | 40.83 | -38.92 | 0. |
| | 0. | 0. | -2.74 | -14.70 | -25.20 | -86.78 | 0. |
| 120 | 0. | 0. | 20.99 | 32.32 | 43.40 | -35.58 | 0. |
| | 0. | 0. | -4.16 | -14.91 | -24.36 | -87.53 | 0. |
| 130 | 0. | 0. | 24.47 | 35.71 | 47.46 | -34.93 | -58.30 |
| | 0. | 0. | -5.62 | -15.56 | -24.55 | -88.09 | -64.31 |
| 140 | 0. | 0. | 28.72 | 35.95 | -25.50 | -35.91 | -54.99 |
| | 0. | 0. | -6.99 | -16.56 | 52.29 | -88.46 | -70.22 |
| 150 | 0. | 16.56 | 33.03 | 44.19 | -27.26 | -38.09 | -57.94 |
| | 0. | 6.35 | -8.68 | -18.08 | 56.67 | -88.62 | -71.35 |
| 160 | 0. | 22.00 | 36.49 | 47.51 | -29.73 | -41.20 | -63.09 |
| | 0. | 2.18 | -1C.81 | -2C.25 | 59.71 | -88.58 | -70.71 |
| 170 | 0. | 24.41 | 38.44 | 49.42 | -32.87 | -44.78 | 0. |
| | 0. | -0.98 | -13.30 | -22.95 | 61.54 | -88.38 | 0. |

* REFER TC FIGURE 5 (RM 63 TMP-2)

*Table 10. Constant Magnetic Shell Parameter, L (Earth Radii), at Altitude 400 Kilometers

| LONG (DEG) | L=1.00 LAT (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| -180 | 0. | 17.18 | 28.31 | 38.31 | 44.61 | 48.89 | -44.35 | -48.25 | 64.07 | 67.30 | 70.08 |
| | 0. | -10.44 | -20.15 | -28.81 | -34.48 | -38.48 | 55.00 | 58.82 | -53.69 | -57.22 | -60.16 |
| -170 | 0. | 15.11 | 26.24 | 36.46 | 42.81 | 47.28 | -46.34 | 57.44 | 62.74 | 66.21 | 68.74 |
| | 0. | -12.00 | -21.80 | -30.72 | -36.33 | -40.55 | 53.42 | -50.54 | -56.04 | -60.01 | -62.55 |
| -160 | 0. | 12.88 | 24.29 | 34.60 | 40.96 | 45.56 | -48.53 | 55.87 | 61.22 | 65.00 | 67.17 |
| | 0. | -13.44 | -23.51 | -32.49 | -38.28 | -42.48 | 51.65 | -52.69 | -58.49 | -62.36 | -65.49 |
| -150 | 0. | 11.12 | 22.43 | 32.55 | 38.98 | 43.46 | 49.84 | 53.91 | 59.49 | 62.85 | 65.57 |
| | 0. | -14.72 | -25.20 | -34.40 | -40.34 | -44.69 | -50.77 | -55.20 | -61.03 | -65.24 | -68.19 |
| -140 | 0. | 9.47 | 20.87 | 30.81 | 36.92 | 41.38 | 47.48 | 51.66 | 57.13 | 60.83 | 63.38 |
| | 0. | -15.55 | -26.46 | -36.07 | -42.11 | -46.58 | -52.92 | -57.37 | -63.54 | -67.71 | -70.99 |
| -130 | 0. | 7.63 | 19.41 | 29.07 | 35.16 | 39.42 | 45.43 | 49.56 | 55.09 | 58.46 | 61.08 |
| | 0. | -16.12 | -27.71 | -37.69 | -44.08 | -48.66 | -55.30 | -59.91 | -66.00 | -70.35 | -73.44 |
| -120 | 0. | 6.16 | 17.80 | 27.28 | 33.12 | 37.28 | 43.13 | 47.12 | 52.50 | 56.11 | 58.74 |
| | 0. | -16.53 | -28.97 | -39.45 | -45.97 | -50.75 | -57.35 | -61.97 | -68.21 | -72.36 | -75.62 |
| -110 | 0. | 4.70 | 16.25 | 25.62 | 31.25 | 35.44 | 41.08 | 45.19 | 50.46 | 53.93 | 56.40 |
| | 0. | -16.96 | -30.26 | -41.11 | -47.86 | -52.71 | -59.58 | -64.12 | -70.30 | -74.32 | -77.15 |
| -100 | 0. | 2.25 | 14.46 | 23.66 | 29.42 | 33.40 | 39.19 | 43.04 | 48.38 | 51.85 | 54.69 |
| | 0. | -17.48 | -31.53 | -42.84 | -49.91 | -54.78 | -61.31 | -65.85 | -71.69 | -75.69 | -78.47 |
| -90 | 0. | -1.00 | 11.97 | 21.56 | 27.36 | 31.56 | 37.38 | 41.44 | 46.82 | 50.55 | 53.01 |
| | 0. | -17.70 | -32.92 | -44.61 | -51.42 | -56.26 | -62.76 | -67.13 | -72.88 | -76.62 | -79.55 |
| -80 | 0. | -6.92 | 9.36 | 19.68 | 25.78 | 30.26 | 36.25 | 40.54 | 46.07 | 49.99 | 52.33 |
| | 0. | -16.23 | -34.00 | -45.79 | -52.61 | -57.38 | -63.91 | -68.14 | -73.80 | -77.32 | -80.21 |
| -70 | 0. | 0. | 6.68 | 18.12 | 24.98 | 29.65 | 36.02 | 40.50 | 46.21 | 50.19 | 52.67 |
| | 0. | 0. | -34.22 | -46.30 | -53.25 | -58.02 | -64.60 | -68.76 | -74.40 | -77.78 | -80.51 |
| -60 | 0. | 0. | 5.67 | 18.19 | 25.44 | 30.39 | 36.97 | 41.50 | 47.38 | 51.26 | 54.14 |
| | 0. | 0. | -33.19 | -45.98 | -53.13 | -58.03 | -64.74 | -68.95 | -74.64 | -77.99 | -80.65 |
| -50 | 0. | 0. | 7.98 | 20.50 | 27.51 | 32.44 | 39.22 | 43.64 | 49.66 | 53.28 | 56.05 |
| | 0. | 0. | -31.00 | -44.70 | -52.17 | -57.33 | -64.28 | -68.67 | -74.50 | -77.92 | -80.63 |
| -40 | 0. | 0. | 13.23 | 24.40 | 30.85 | 35.54 | 41.84 | 46.21 | 51.87 | 55.72 | 58.33 |
| | 0. | 0. | -27.58 | -42.02 | -50.41 | -55.95 | -63.22 | -67.92 | -73.98 | -77.60 | -80.45 |
| -30 | 0. | 0. | 18.31 | 28.33 | 34.33 | 38.55 | 44.76 | 48.83 | 54.47 | 57.93 | 60.69 |
| | 0. | 0. | -23.62 | -38.42 | -47.40 | -53.62 | -61.61 | -66.72 | -73.10 | -77.02 | -80.11 |
| -20 | 0. | 6.67 | 22.38 | 31.71 | 37.24 | 41.30 | 47.02 | 51.12 | 56.48 | 60.26 | 62.60 |
| | 0. | -0.67 | -19.84 | -34.16 | -43.61 | -50.45 | -59.42 | -65.15 | -71.89 | -76.19 | -79.29 |

* REFER TO FIGURE 5 (RM 63 TMP-2)

*Table 10 (Cont.)

| LONG (DEG) | L=1.00 LAT (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| -10 | 0. | 13.16 | 25.79 | 34.55 | 39.87 | 43.55 | 49.19 | 53.03 | 58.37 | 61.83 | 64.65 |
| | 0. | -1.10 | -16.53 | -30.02 | -39.36 | -46.44 | -56.28 | -62.57 | -70.40 | -75.12 | -78.11 |
| -0 | 0. | 17.38 | 28.21 | 36.45 | 41.53 | 45.39 | 50.78 | 54.79 | 60.10 | 63.39 | 65.97 |
| | 0. | -0.86 | -14.16 | -26.45 | -35.35 | -42.33 | -52.67 | -59.73 | -68.06 | -73.16 | -76.67 |
| 10 | 0. | 20.48 | 30.12 | 37.81 | 42.80 | 46.53 | -49.06 | 55.88 | 61.10 | 64.81 | 67.07 |
| | 0. | -0.68 | -12.50 | -23.94 | -32.14 | -38.83 | 51.93 | -56.24 | -65.46 | -70.96 | -75.00 |
| 20 | 0. | 21.76 | 30.89 | 38.62 | 43.62 | 47.31 | -45.93 | 56.70 | 61.96 | 65.62 | 68.07 |
| | 0. | -1.06 | -11.91 | -22.51 | -30.21 | -36.31 | 52.80 | -52.95 | -62.27 | -68.17 | -72.29 |
| 30 | 0. | 22.13 | 31.02 | 38.88 | 44.04 | 47.80 | -43.67 | 57.32 | 62.66 | 66.26 | 68.94 |
| | 0. | -2.10 | -12.27 | -22.18 | -29.30 | -34.97 | 53.42 | -50.29 | -59.30 | -65.25 | -69.49 |
| 40 | 0. | 21.84 | 30.77 | 38.87 | 44.22 | 48.10 | -42.13 | -48.06 | 63.22 | 66.78 | 69.67 |
| | 0. | -3.76 | -13.25 | -22.55 | -29.12 | -34.28 | 53.86 | 57.78 | -56.39 | -61.99 | -66.19 |
| 50 | 0. | 21.77 | 30.69 | 38.95 | 44.44 | 48.36 | -41.07 | -46.38 | 63.66 | 67.22 | 70.16 |
| | 0. | -5.47 | -14.37 | -23.05 | -29.19 | -33.90 | 54.20 | 58.15 | -53.96 | -59.17 | -62.96 |
| 60 | 0. | 22.64 | 31.17 | 39.40 | 44.84 | 48.72 | -40.18 | -45.05 | 64.03 | 67.59 | 70.47 |
| | 0. | -6.46 | -15.08 | -23.30 | -29.09 | -33.47 | 54.55 | 58.47 | -51.71 | -56.44 | -60.15 |
| 70 | 11.08 | 24.31 | 32.09 | 40.11 | 45.30 | 49.16 | -39.10 | -43.53 | -49.95 | 67.92 | 70.74 |
| | 6.48 | -6.94 | -15.17 | -23.17 | -28.71 | -32.85 | 54.92 | 58.80 | 64.38 | -54.14 | -57.23 |
| 80 | 15.38 | 25.69 | 33.05 | 40.67 | 45.74 | 49.63 | -38.05 | -42.21 | -48.02 | 68.23 | 70.99 |
| | 3.74 | -7.05 | -15.07 | -22.85 | -28.20 | -32.20 | 55.23 | 59.14 | 64.71 | -51.94 | -55.12 |
| 90 | 16.66 | 26.39 | 33.68 | 41.10 | 46.11 | -31.70 | -37.26 | -41.25 | -46.62 | 68.53 | 71.22 |
| | 2.89 | -7.20 | -15.08 | -22.65 | -27.83 | 50.04 | 55.50 | 59.48 | 65.03 | -50.44 | -52.97 |
| 100 | 16.72 | 26.44 | 33.85 | 41.32 | 46.37 | -31.52 | -36.84 | -40.70 | -45.79 | -49.28 | 71.44 |
| | 2.30 | -7.63 | -15.34 | -22.76 | -27.78 | 50.30 | 55.77 | 59.84 | 65.26 | 68.82 | -51.61 |
| 110 | 15.78 | 26.01 | 33.67 | 41.41 | 46.56 | -31.63 | -36.77 | -40.52 | -45.44 | -48.58 | 71.62 |
| | 2.03 | -8.20 | -15.77 | -23.13 | -28.01 | 50.52 | 56.04 | 60.13 | 65.48 | 69.09 | -50.96 |
| 120 | 13.85 | 25.41 | 33.40 | 41.45 | 46.74 | -31.91 | -36.98 | -40.65 | -45.47 | -48.52 | 71.75 |
| | 2.61 | -8.54 | -16.14 | -23.55 | -28.38 | 50.74 | 56.29 | 60.37 | 65.68 | 69.31 | -50.84 |
| 130 | 11.00 | 24.82 | 33.20 | 41.53 | 46.92 | -32.32 | -37.42 | -41.04 | -45.84 | -49.03 | 71.80 |
| | 4.44 | -8.35 | -16.26 | -23.88 | -28.79 | 50.95 | 56.53 | 60.57 | 65.83 | 69.45 | -51.19 |
| 140 | 0. | 24.09 | 33.00 | 41.56 | 47.04 | -32.89 | -38.14 | -41.74 | -46.58 | 69.45 | 71.75 |
| | 0. | -7.70 | -16.18 | -24.17 | -29.29 | 51.10 | 56.69 | 60.69 | 65.88 | -50.08 | -52.04 |
| 150 | 0. | 23.11 | 32.56 | 41.40 | 46.97 | -33.79 | -39.26 | -42.86 | -47.83 | 69.27 | 71.56 |
| | 0. | -7.10 | -16.22 | -24.70 | -30.06 | 51.07 | 56.67 | 60.66 | 65.80 | -51.14 | -53.54 |
| 160 | 0. | 21.64 | 31.69 | 40.89 | 46.58 | -35.14 | -40.63 | -44.54 | -49.71 | 68.86 | 71.23 |
| | 0. | -7.23 | -16.81 | -25.59 | -31.03 | 50.77 | 56.40 | 60.41 | 65.54 | -52.84 | -55.47 |
| 170 | 0. | 19.72 | 30.35 | 39.98 | 45.81 | -36.58 | -42.24 | -46.22 | 65.08 | 68.19 | 70.72 |
| | 0. | -8.52 | -18.21 | -26.95 | -32.51 | 50.15 | 55.84 | 59.92 | -51.45 | -55.17 | -57.44 |

* REFER TO FIGURE 5 (RM 63 TMP-2)

*Table 11. Constant Magnetic Field Intensity, B (Gauss), at Altitude 500 Kilometers

| LONG (DEG) | B=0.20 LAT (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) | B=0.50 LAT (DEG) |
|---|---|---|---|---|---|---|---|
| -180 | 0. | 0. | 28.58 | 42.00 | -29.65 | -40.95 | -56.30 |
| | 0. | 0. | -7.89 | -19.42 | 53.64 | 68.67 | -82.23 |
| -170 | 0. | 0. | 26.89 | 40.74 | -32.79 | -44.32 | -60.58 |
| | 0. | 0. | -10.80 | -22.32 | 52.71 | 68.01 | -81.29 |
| -160 | 0. | 0. | 24.31 | 38.10 | -35.93 | -47.75 | -66.31 |
| | 0. | 0. | -13.73 | -25.33 | 50.39 | 66.08 | -79.22 |
| -150 | 0. | 0. | 21.45 | 34.68 | 46.92 | 62.87 | 0. |
| | 0. | 0. | -16.88 | -28.46 | -39.20 | -51.38 | 0. |
| -140 | 0. | 0. | 18.80 | 31.08 | 42.74 | 58.12 | 0. |
| | 0. | 0. | -20.34 | -31.83 | -42.79 | -55.52 | 0. |
| -130 | 0. | 0. | 16.39 | 27.74 | 38.57 | 52.64 | 0. |
| | 0. | 0. | -23.85 | -35.52 | -46.83 | -60.44 | 0. |
| -120 | 0. | 0. | 14.20 | 24.81 | 34.88 | 47.61 | 0. |
| | 0. | 0. | -27.69 | -39.69 | -51.50 | -66.11 | 0. |
| -110 | 0. | -6.93 | 12.12 | 22.26 | 31.92 | 43.66 | 0. |
| | 0. | -11.34 | -32.18 | -44.55 | -56.67 | -71.78 | 0. |
| -100 | 0. | -4.79 | 10.35 | 20.14 | 29.57 | 41.04 | 0. |
| | 0. | -19.63 | -37.56 | -49.92 | -61.78 | -76.49 | 0. |
| -90 | 0. | -4.44 | 8.88 | 18.56 | 28.14 | 39.85 | 0. |
| | 0. | -27.38 | -43.48 | -55.09 | -66.19 | -79.77 | 0. |
| -80 | 0. | -3.85 | 8.22 | 17.94 | 27.93 | 40.90 | 0. |
| | 0. | -35.28 | -48.92 | -59.45 | -69.66 | -82.13 | 0. |
| -70 | 0. | -2.64 | 8.80 | 18.77 | 29.51 | 44.91 | 0. |
| | 0. | -41.38 | -53.22 | -62.83 | -72.32 | -83.55 | 0. |
| -60 | 0. | -0.47 | 10.90 | 21.45 | 33.45 | 54.11 | 0. |
| | 0. | -45.71 | -56.40 | -65.37 | -74.22 | -84.45 | 0. |
| -50 | -20.24 | 2.47 | 14.43 | 25.77 | 39.21 | -85.04 | 0. |
| | -26.04 | -48.39 | -58.61 | -67.18 | -75.59 | 72.13 | 0. |
| -40 | 0. | 6.00 | 18.66 | 30.68 | 45.50 | -85.47 | 0. |
| | 0. | -49.98 | -60.10 | -68.43 | -76.55 | 80.21 | 0. |
| -30 | 0. | 9.13 | 22.42 | 34.90 | 51.03 | -85.72 | 0. |
| | 0. | -50.39 | -60.89 | -69.21 | -77.15 | 82.56 | 0. |
| -20 | 0. | 11.06 | 24.99 | 37.92 | 55.05 | -85.85 | 0. |
| | 0. | -49.92 | -61.15 | -69.59 | -77.44 | 83.65 | 0. |
| -10 | 0. | 11.44 | 26.30 | 39.54 | 57.61 | -85.89 | 0. |
| | 0. | -48.14 | -60.93 | -69.56 | -77.45 | 84.20 | 0. |

* REFER TO FIGURE 6 (RM 63 TMP-2)

*Table 11 (Cont.)

| LONG (DEG) | B=0.20 LAT (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) | B=0.50 LAT (DEG) |
|---|---|---|---|---|---|---|---|
| -0 | 0. | 10.26 | 26.58 | 40.01 | 58.55 | 84.44 | 0. |
| | 0. | -45.17 | -60.23 | -69.14 | -77.18 | -85.83 | 0. |
| 10 | 0. | 5.37 | 25.98 | 39.46 | 57.99 | 84.45 | 0. |
| | 0. | -7.34 | -58.82 | -68.28 | -76.60 | -85.59 | 0. |
| 20 | 0. | 0. | 24.50 | 37.91 | 55.84 | -85.00 | 0. |
| | 0. | 0. | -56.69 | -66.90 | -75.65 | 84.22 | 0. |
| 30 | 0. | 0. | 22.10 | 35.39 | 52.26 | 83.68 | 0. |
| | 0. | 0. | -53.37 | -64.86 | -74.22 | -84.39 | 0. |
| 40 | 0. | 0. | 19.21 | 32.34 | 47.64 | 82.59 | 0. |
| | 0. | 0. | -47.60 | -61.70 | -72.13 | -83.44 | 0. |
| 50 | 0. | 0. | 16.10 | 29.23 | 42.98 | 80.23 | 0. |
| | 0. | 0. | -33.93 | -56.74 | -68.99 | -81.88 | 0. |
| 60 | 0. | 0. | 12.71 | 26.65 | 39.09 | 68.60 | 0. |
| | 0. | 0. | -13.87 | -47.61 | -64.09 | -79.21 | 0. |
| 70 | 0. | 0. | 7.01 | 24.76 | 36.39 | 54.22 | 0. |
| | 0. | 0. | -0.49 | -28.87 | -55.47 | -74.64 | 0. |
| 80 | 0. | 0. | 0. | 23.40 | 34.61 | 49.00 | 0. |
| | 0. | 0. | 0. | -15.69 | -38.50 | -66.22 | 0. |
| 90 | 0. | 0. | 0. | 22.61 | 33.71 | 46.63 | 0. |
| | 0. | 0. | 0. | -9.83 | -25.29 | -49.29 | 0. |
| 100 | 0. | 0. | 0. | 22.51 | 33.58 | 45.96 | 0. |
| | 0. | 0. | 0. | -7.56 | -20.37 | -35.32 | 0. |
| 110 | 0. | 0. | 0. | 23.35 | 34.45 | 47.12 | -52.09 |
| | 0. | 0. | 0. | -7.42 | -18.75 | -30.45 | -74.22 |
| 120 | 0. | 0. | 0. | 25.41 | 36.61 | 49.87 | -43.76 |
| | 0. | 0. | 0. | -8.18 | -18.56 | -28.90 | -79.45 |
| 130 | 0. | 0. | 0. | 28.53 | 39.99 | -28.83 | -42.00 |
| | 0. | 0. | 0. | -9.25 | -19.03 | 54.50 | -81.30 |
| 140 | 0. | 0. | 17.28 | 32.56 | 44.23 | -29.71 | -42.69 |
| | 0. | 0. | 3.43 | -10.47 | -19.99 | 59.64 | -82.23 |
| 150 | 0. | 0. | 22.85 | 36.63 | 48.33 | -31.61 | -44.87 |
| | 0. | 0. | 0.00 | -11.99 | -21.57 | 64.02 | -82.71 |
| 160 | 0. | 0. | 26.68 | 39.88 | -23.81 | -34.27 | -48.38 |
| | 0. | 0. | -2.44 | -14.07 | 51.44 | 66.91 | -82.86 |
| 170 | 0. | 0. | 28.60 | 41.72 | -26.61 | -37.55 | -52.29 |
| | 0. | 0. | -5.25 | -16.61 | 53.23 | 68.36 | -82.71 |

* REFER TO FIGURE 6 (RM 63 TMP-2)

*Table 12. Constant Magnetic Shell Paramter, L (Earth Radii), at Altitude 500 Kilometers

| LONG (DEG) | L=1.00 LAT (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| -180 | 0. | 15.54 | 27.33 | 37.63 | 44.00 | 48.39 | -43.95 | -47.93 | 63.78 | 67.09 | 69.90 |
| | 0. | -8.52 | -19.13 | -28.13 | -33.92 | -38.02 | 54.55 | 58.46 | -53.43 | -57.02 | -60.02 |
| -170 | 0. | 13.09 | 25.36 | 35.84 | 42.25 | 46.82 | -46.02 | 57.11 | 62.47 | 66.02 | 68.51 |
| | 0. | -10.37 | -20.90 | -30.16 | -35.86 | -40.18 | 53.01 | -50.28 | -55.83 | -59.75 | -62.35 |
| -160 | 0. | 11.09 | 23.26 | 33.87 | 40.47 | 45.15 | -48.15 | 55.58 | 60.99 | 64.70 | 66.97 |
| | 0. | -11.54 | -22.52 | -31.85 | -37.75 | -42.04 | 51.29 | -52.38 | -58.21 | -62.14 | -65.31 |
| -150 | 0. | 9.22 | 21.48 | 31.89 | 38.39 | 42.97 | 49.39 | 53.54 | 59.16 | 62.60 | 65.41 |
| | 0. | -12.51 | -24.15 | -33.69 | -39.85 | -44.18 | -50.45 | -54.90 | -60.79 | -65.04 | -67.95 |
| -140 | 0. | 7.20 | 19.98 | 30.21 | 36.40 | 40.95 | 47.10 | 51.35 | 56.87 | 60.64 | 63.15 |
| | 0. | -13.32 | -25.55 | -35.48 | -41.60 | -46.16 | -52.54 | -57.05 | -63.24 | -67.45 | -70.77 |
| -130 | 0. | 5.58 | 18.29 | 28.34 | 34.60 | 38.91 | 45.11 | 49.18 | 54.83 | 58.23 | 60.91 |
| | 0. | -13.90 | -26.72 | -37.02 | -43.51 | -48.17 | -54.96 | -59.52 | -65.74 | -70.12 | -73.15 |
| -120 | 0. | 3.74 | 16.77 | 26.61 | 32.56 | 36.83 | 42.75 | 46.82 | 52.25 | 55.94 | 58.53 |
| | 0. | -14.27 | -27.88 | -38.71 | -45.48 | -50.33 | -56.95 | -61.62 | -67.88 | -72.07 | -75.41 |
| -110 | 0. | 1.80 | 15.30 | 25.03 | 30.76 | 35.05 | 40.77 | 44.92 | 50.27 | 53.70 | 56.25 |
| | 0. | -14.59 | -29.16 | -40.48 | -47.28 | -52.21 | -59.11 | -63.71 | -70.04 | -73.97 | -76.87 |
| -100 | 0. | -0.43 | 13.25 | 22.93 | 28.81 | 32.92 | 38.79 | 42.73 | 48.13 | 51.67 | 54.49 |
| | 0. | -14.84 | -30.53 | -42.11 | -49.24 | -54.19 | -60.91 | -65.51 | -71.38 | -75.45 | -78.16 |
| -90 | 0. | -4.72 | 10.92 | 20.92 | 26.84 | 31.15 | 37.04 | 41.18 | 46.62 | 50.41 | 52.85 |
| | 0. | -13.74 | -31.77 | -43.77 | -50.85 | -55.76 | -62.30 | -66.75 | -72.53 | -76.34 | -79.21 |
| -80 | 0. | 0. | 8.08 | 18.90 | 25.31 | 29.84 | 35.95 | 40.30 | 45.88 | 49.76 | 52.18 |
| | 0. | 0. | -32.71 | -45.09 | -51.97 | -56.83 | -63.40 | -67.71 | -73.42 | -77.02 | -80.00 |
| -70 | 0. | 0. | 5.58 | 17.41 | 24.37 | 29.15 | 35.71 | 40.25 | 46.01 | 50.04 | 52.49 |
| | 0. | 0. | -32.82 | -45.54 | -52.56 | -57.43 | -64.05 | -68.31 | -73.99 | -77.46 | -80.30 |
| -60 | 0. | 0. | 4.44 | 17.45 | 24.94 | 29.99 | 36.61 | 41.21 | 47.13 | 51.07 | 53.90 |
| | 0. | 0. | -31.81 | -45.22 | -52.43 | -57.42 | -64.17 | -68.47 | -74.21 | -77.65 | -80.42 |
| -50 | 0. | 0. | 6.64 | 19.79 | 26.92 | 31.94 | 38.78 | 43.27 | 49.32 | 53.02 | 55.86 |
| | 0. | 0. | -29.65 | -43.74 | -51.49 | -56.73 | -63.70 | -68.18 | -74.06 | -77.58 | -80.40 |
| -40 | 0. | 0. | 11.81 | 23.54 | 30.31 | 35.10 | 41.44 | 45.89 | 51.59 | 55.50 | 58.07 |
| | 0. | 0. | -26.19 | -41.18 | -49.71 | -55.39 | -62.67 | -67.44 | -73.55 | -77.26 | -80.22 |
| -30 | 0. | 0. | 16.93 | 27.51 | 33.67 | 38.01 | 44.29 | 48.43 | 54.12 | 57.65 | 60.49 |
| | 0. | 0. | -22.25 | -37.54 | -46.68 | -52.93 | -61.10 | -66.27 | -72.68 | -76.68 | -79.78 |
| -20 | 0. | 0. | 21.19 | 31.00 | 36.67 | 40.84 | 46.64 | 50.81 | 56.22 | 60.06 | 62.36 |
| | 0. | 0. | -18.53 | -33.33 | -42.89 | -49.85 | -58.79 | -64.62 | -71.48 | -75.86 | -78.87 |
| -10 | 0. | 6.95 | 24.71 | 33.74 | 39.22 | 43.07 | 48.77 | 52.68 | 58.06 | 61.59 | 64.36 |
| | 0. | 4.18 | -15.51 | -29.27 | -38.70 | -45.87 | -55.76 | -62.04 | -70.02 | -74.69 | -77.71 |

* REFER TO FIGURE 6 (RM 63 TMP-2)

*Table 12 (Cont.)

| LONG (DEG) | L=1.00 LAT (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| -0 | C. | 14.69 | 27.11 | 35.83 | 41.04 | 45.01 | 50.46 | 54.41 | 59.83 | 63.13 | 65.78 |
| | 0. | 2.27 | -13.11 | -25.84 | -34.82 | -41.81 | -52.13 | -59.13 | -67.56 | -72.70 | -76.29 |
| 10 | C. | 17.81 | 28.97 | 37.15 | 42.29 | 46.13 | -48.56 | 55.61 | 60.88 | 64.53 | 66.87 |
| | C. | 1.74 | -11.61 | -23.35 | -31.68 | -38.36 | 51.59 | -55.78 | -65.04 | -70.55 | -74.47 |
| 20 | C. | 20.04 | 30.05 | 37.95 | 43.10 | 46.91 | -45.54 | 56.43 | 61.74 | 65.45 | 67.86 |
| | C. | 0.83 | -11.09 | -22.00 | -29.78 | -35.93 | 52.46 | -52.49 | -61.80 | -67.68 | -71.83 |
| 30 | C. | 20.48 | 30.20 | 38.23 | 43.52 | 47.40 | -43.27 | -49.91 | 62.43 | 66.09 | 68.73 |
| | C. | -0.51 | -11.47 | -21.67 | -28.86 | -34.56 | 53.08 | 57.05 | -58.80 | -64.81 | -68.96 |
| 40 | 0. | 20.34 | 30.00 | 38.25 | 43.72 | 47.70 | -41.78 | -47.67 | 62.99 | 66.62 | 69.47 |
| | 0. | -2.03 | -12.41 | -22.03 | -28.68 | -33.88 | 53.52 | 57.52 | -56.01 | -61.58 | -65.78 |
| 50 | 0. | 20.38 | 29.94 | 38.35 | 43.95 | 47.98 | -40.75 | -46.06 | 63.45 | 67.06 | 70.06 |
| | 0. | -3.83 | -13.47 | -22.51 | -28.73 | -33.50 | 53.88 | 57.89 | -53.57 | -58.75 | -62.55 |
| 60 | C. | 21.25 | 30.44 | 38.81 | 44.36 | 48.34 | -39.85 | -44.70 | 63.84 | 67.44 | 70.37 |
| | 0. | -5.22 | -14.18 | -22.75 | -28.62 | -33.06 | 54.23 | 58.23 | -51.40 | -56.13 | -59.81 |
| 70 | 0. | 22.85 | 31.35 | 39.53 | 44.92 | 48.78 | -38.75 | -43.21 | -49.61 | 67.78 | 70.65 |
| | C. | -5.73 | -14.33 | -22.61 | -28.25 | -32.47 | 54.62 | 58.56 | 64.19 | -53.82 | -56.95 |
| 80 | 0. | 24.47 | 32.27 | 40.21 | 45.38 | 49.25 | -37.74 | -41.95 | -47.76 | 68.10 | 70.90 |
| | 0. | -5.90 | -14.22 | -22.32 | -27.76 | -31.84 | 55.01 | 58.91 | 64.53 | -51.71 | -54.89 |
| 90 | 12.14 | 25.32 | 32.88 | 40.63 | 45.75 | 49.68 | -36.97 | -41.02 | -46.42 | 68.40 | 71.13 |
| | 7.34 | -6.07 | -14.23 | -22.13 | -27.41 | -31.37 | 55.29 | 59.25 | 64.88 | -50.28 | -52.77 |
| 100 | 12.64 | 25.38 | 33.04 | 40.85 | 46.00 | -31.19 | -36.57 | -40.49 | -45.63 | -49.07 | 71.35 |
| | 5.95 | -6.47 | -14.57 | -22.23 | -27.35 | 50.02 | 55.56 | 59.60 | 65.14 | 68.69 | -51.47 |
| 110 | 11.12 | 24.97 | 32.87 | 40.93 | 46.18 | -31.28 | -36.50 | -40.32 | -45.29 | -48.41 | 71.52 |
| | 6.82 | -6.95 | -15.09 | -22.57 | -27.57 | 50.23 | 55.81 | 59.95 | 65.35 | 68.94 | -50.84 |
| 120 | 0. | 24.11 | 32.59 | 40.97 | 46.35 | -31.56 | -36.70 | -40.44 | -45.32 | -48.35 | 71.65 |
| | C. | -7.20 | -15.42 | -22.96 | -27.91 | 50.44 | 56.06 | 60.19 | 65.54 | 69.15 | -50.74 |
| 130 | C. | 23.33 | 32.37 | 41.02 | 46.51 | -31.94 | -37.12 | -40.82 | -45.68 | -48.84 | 71.69 |
| | 0. | -6.96 | -15.51 | -23.26 | -28.29 | 50.63 | 56.27 | 60.38 | 65.68 | 69.28 | -51.08 |
| 140 | C. | 22.58 | 32.14 | 41.03 | 46.60 | -32.49 | -37.81 | -41.50 | -46.40 | -49.93 | 71.63 |
| | 0. | -6.32 | -15.41 | -23.53 | -28.77 | 50.75 | 56.40 | 60.47 | 65.72 | 69.26 | -51.91 |
| 150 | C. | 21.59 | 31.70 | 40.85 | 46.51 | -33.35 | -38.90 | -42.59 | -47.61 | 69.07 | 71.43 |
| | C. | -5.70 | -15.43 | -24.03 | -29.54 | 50.70 | 56.37 | 60.43 | 65.63 | -51.00 | -53.37 |
| 160 | 0. | 20.18 | 30.84 | 40.33 | 46.11 | -34.71 | -40.35 | -44.21 | -49.44 | 68.64 | 71.09 |
| | C. | -5.73 | -15.97 | -25.06 | -30.60 | 50.39 | 56.09 | 60.18 | 65.36 | -52.64 | -55.35 |
| 170 | C. | 17.79 | 29.39 | 39.24 | 45.35 | 49.68 | -41.91 | -45.96 | 64.84 | 67.98 | 70.58 |
| | 0. | -6.76 | -17.27 | -26.36 | -32.02 | -36.18 | 55.53 | 59.55 | -51.24 | -55.02 | -57.27 |

• REFER TC FIGURE 6 (RM 63 TMP-2)

*Table 13. Constant Magnetic Field Intensity, B (Gauss), at Altitude 600 Kilometers

| LONG (DEG) | B=0.20 LAT (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) | B=0.50 LAT (DEG) |
|---|---|---|---|---|---|---|---|
| -180 | 0. | 0. | 32.27 | 45.34 | -33.64 | -46.45 | 0. |
| | 0. | 0. | -11.49 | -22.76 | 57.89 | -89.41 | 0. |
| -170 | 0. | 0. | 30.78 | 44.18 | -36.84 | -49.94 | 0. |
| | 0. | 0. | -14.35 | -25.72 | 57.05 | -88.96 | 0. |
| -160 | 0. | 0. | 28.14 | 41.70 | -40.02 | -53.72 | 0. |
| | 0. | 0. | -17.24 | -28.74 | 54.87 | -88.48 | 0. |
| -150 | 0. | 0. | 25.21 | 38.30 | -43.45 | -57.93 | 0. |
| | 0. | 0. | -20.42 | -31.93 | 51.59 | -87.99 | 0. |
| -140 | 0. | 1.85 | 22.25 | 34.59 | 47.38 | -63.00 | 0. |
| | 0. | -5.04 | -23.70 | -35.33 | -47.19 | -87.48 | 0. |
| -130 | 0. | 2.26 | 19.65 | 31.08 | 43.00 | 64.77 | 0. |
| | 0. | -10.21 | -27.24 | -39.10 | -51.46 | -69.26 | 0. |
| | 0. | 0. | C. | C. | 0. | 77.23 | 0. |
| | 0. | 0. | 0. | C. | 0. | -86.91 | 0. |
| -120 | 0. | 1.75 | 17.21 | 27.99 | 39.05 | 57.10 | 0. |
| | 0. | -14.80 | -31.16 | -43.41 | -56.37 | -77.23 | 0. |
| | 0. | 0. | 0. | C. | 0. | 78.44 | 0. |
| | 0. | C. | 0. | C. | 0. | -86.18 | 0. |
| -110 | 0. | 0.95 | 15.11 | 25.35 | 35.88 | 51.73 | 0. |
| | 0. | -19.48 | -35.71 | -48.34 | -61.62 | -84.95 | 0. |
| | 0. | 0. | 0. | C. | 0. | 78.47 | 0. |
| | 0. | 0. | 0. | 0. | 0. | -85.02 | 0. |
| -100 | 0. | 0.16 | 13.16 | 23.20 | 33.55 | 48.67 | 0. |
| | 0. | -25.19 | -41.03 | -53.58 | -66.54 | 77.75 | 0. |
| -90 | 0. | -0.50 | 11.72 | 21.70 | 32.24 | 48.11 | 0. |
| | 0. | -31.78 | -46.63 | -58.47 | -70.60 | 76.06 | 0. |
| -80 | 0. | -0.49 | 11.09 | 21.20 | 32.33 | 51.01 | 0. |
| | 0. | -38.51 | -51.66 | -62.51 | -73.74 | 72.37 | 0. |
| -70 | 0. | 0.42 | 11.70 | 22.23 | 34.39 | 0. | 0. |
| | 0. | -44.00 | -55.67 | -65.64 | -76.02 | 0. | 0. |
| -60 | -17.04 | 2.36 | 13.88 | 25.11 | 39.01 | 0. | 0. |
| | -28.15 | -47.86 | -58.60 | -67.97 | -77.67 | 0. | 0. |
| -50 | -12.69 | 5.47 | 17.54 | 29.66 | 45.57 | 0. | 0. |
| | -33.10 | -50.48 | -60.70 | -69.64 | -78.80 | 0. | 0. |
| -40 | -10.61 | 9.10 | 21.85 | 34.73 | 52.73 | -89.91 | 0. |
| | -33.68 | -51.87 | -62.06 | -70.80 | -79.55 | 0. | 0. |
| -30 | -13.07 | 12.39 | 25.66 | 39.13 | 58.73 | -89.85 | 0. |
| | -28.16 | -52.40 | -62.85 | -71.52 | -80.02 | 0. | 0. |
| -20 | 0. | 14.67 | 28.31 | 42.31 | 62.91 | -89.94 | 0. |
| | 0. | -52.10 | -63.14 | -71.85 | -80.25 | 0. | 0. |
| -10 | 0. | 15.57 | 29.74 | 44.13 | 65.25 | 0. | 0. |
| | 0. | -51.03 | -62.94 | -71.82 | -80.25 | 0. | 0. |

* REFER TO FIGURE 7 (RM 63 TMP-2)

*Table 13 (Cont.)

| LONG (DEG) | B=0.20 LAT (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) | B=0.50 LAT (DEG) |
|---|---|---|---|---|---|---|---|
| -0 | 0. | 15.29 | 30.15 | 44.72 | 66.22 | 0. | 0. |
| | 0. | -48.89 | -62.26 | -71.43 | -80.01 | 0. | 0. |
| 10 | 0. | 13.57 | 29.66 | 44.20 | 65.91 | 0. | 0. |
| | 0. | -45.25 | -61.06 | -70.64 | -79.52 | 0. | 0. |
| 20 | 0. | 10.44 | 28.28 | 42.60 | 64.26 | 0. | 0. |
| | 0. | -13.67 | -59.12 | -69.35 | -78.73 | 0. | 0. |
| 30 | 0. | 0.63 | 26.10 | 39.94 | 60.93 | 0. | 0. |
| | 0. | -0.29 | -56.13 | -67.41 | -77.52 | 0. | 0. |
| 40 | 0. | 0. | 23.31 | 36.80 | 55.83 | 0. | 0. |
| | 0. | 0. | -51.29 | -64.58 | -75.69 | 0. | 0. |
| 50 | 0. | 0. | 20.50 | 33.54 | 50.00 | 0. | 0. |
| | 0. | 0. | -41.94 | -60.21 | -73.00 | 0. | 0. |
| 60 | 0. | 0. | 17.76 | 30.81 | 45.11 | 0. | 0. |
| | 0. | 0. | -23.12 | -52.69 | -68.79 | 0. | 0. |
| 70 | 0. | 0. | 15.35 | 28.81 | 41.74 | 0. | 0. |
| | 0. | 0. | -9.94 | -37.74 | -61.75 | 0. | 0. |
| 80 | 0. | 0. | 12.12 | 27.50 | 39.46 | -81.26 | 0. |
| | 0. | 0. | -0.89 | -22.08 | -48.24 | -85.68 | 0. |
| 90 | 0. | 0. | 0. | 26.77 | 38.32 | 59.74 | 0. |
| | 0. | 0. | 0. | -14.97 | -32.39 | 67.09 | 0. |
| | 0. | 0. | 0. | 0. | 0. | -65.41 | 0. |
| | 0. | 0. | 0. | 0. | 0. | -86.94 | 0. |
| 100 | 0. | 0. | 0. | 26.69 | 38.12 | -45.16 | 0. |
| | 0. | 0. | 0. | -12.13 | -25.49 | 56.74 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 72.08 | 0. |
| | 0. | 0. | 0. | 0. | 0. | -87.91 | 0. |
| 110 | 0. | 0. | 0. | 27.47 | 39.01 | -37.00 | 0. |
| | 0. | 0. | 0. | -11.50 | -23.03 | 58.08 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 73.44 | 0. |
| | 0. | 0. | 0. | 0. | 0. | -88.70 | 0. |
| 120 | 0. | 0. | 13.58 | 29.41 | 41.29 | -34.21 | 0. |
| | 0. | 0. | 3.43 | -11.86 | -22.40 | 63.59 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 72.51 | 0. |
| | 0. | 0. | 0. | 0. | 0. | -89.35 | 0. |
| 130 | 0. | 0. | 18.17 | 32.48 | 44.77 | -33.74 | -55.10 |
| | 0. | 0. | 0.25 | -12.63 | -22.67 | -89.82 | -67.19 |
| 140 | 0. | 0. | 22.83 | 36.36 | 49.02 | -34.56 | -53.94 |
| | 0. | 0. | -1.79 | -13.71 | -23.59 | 0. | -71.39 |
| 150 | 0. | 0. | 27.18 | 40.22 | -25.20 | -36.59 | -56.27 |
| | 0. | 0. | -3.94 | -15.26 | 52.98 | 0. | -72.53 |
| 160 | 0. | 0. | 30.54 | 43.27 | -27.59 | -39.43 | -60.41 |
| | 0. | 0. | -6.22 | -17.32 | 55.84 | 0. | -72.06 |
| 170 | 0. | 0. | 32.24 | 45.03 | -30.47 | -42.90 | 0. |
| | 0. | 0. | -8.76 | -19.91 | 57.51 | -89.79 | 0. |

• REFER TO FIGURE 7 (RM 63 TMP-2)

*Table 14. Constant Magnetic Shell Parameter, L (Earth Radii), at Altitude 600 Kilometers

| LONG (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|
| -180 | 13.33 | 26.38 | 36.96 | 43.41 | 47.90 | -43.57 | -47.62 | 63.49 | 66.88 | 69.66 |
| | -6.43 | -18.08 | -27.48 | -33.37 | -37.58 | 54.12 | 58.12 | -53.17 | -56.82 | -59.80 |
| -170 | 11.04 | 24.35 | 35.24 | 41.72 | 46.37 | -45.71 | 56.79 | 62.21 | 65.83 | 68.29 |
| | -7.99 | -20.04 | -29.48 | -35.40 | -39.73 | 52.61 | -50.03 | -55.61 | -59.49 | -62.16 |
| -160 | 8.87 | 22.25 | 33.16 | 40.00 | 44.66 | -47.77 | 55.30 | 60.76 | 64.41 | 66.78 |
| | -9.47 | -21.55 | -31.23 | -37.22 | -41.61 | 50.94 | -52.08 | -57.95 | -61.92 | -65.14 |
| -150 | 6.71 | 20.55 | 31.25 | 37.82 | 42.48 | 48.95 | 53.18 | 58.85 | 62.36 | 65.24 |
| | -10.39 | -23.06 | -33.00 | -39.26 | -43.69 | -50.14 | -54.54 | -60.57 | -64.78 | -67.72 |
| -140 | 4.97 | 18.83 | 29.51 | 35.91 | 40.53 | 46.73 | 51.05 | 56.62 | 60.45 | 62.92 |
| | -10.84 | -24.54 | -34.86 | -41.11 | -45.75 | -52.17 | -56.74 | -62.95 | -67.20 | -70.55 |
| -130 | 2.46 | 17.21 | 27.64 | 33.99 | 38.40 | 44.72 | 48.82 | 54.51 | 57.99 | 60.75 |
| | -11.02 | -25.76 | -36.38 | -42.95 | -47.70 | -54.52 | -59.14 | -65.49 | -69.85 | -72.88 |
| -120 | 0.59 | 15.78 | 25.97 | 32.02 | 36.39 | 42.38 | 46.53 | 52.01 | 55.76 | 58.32 |
| | -10.98 | -26.82 | -38.00 | -45.00 | -49.89 | -56.57 | -61.29 | -67.56 | -71.80 | -75.15 |
| -110 | -2.27 | 14.14 | 24.24 | 30.29 | 34.54 | 40.45 | 44.56 | 50.08 | 53.48 | 56.10 |
| | -10.70 | -28.00 | -39.82 | -46.73 | -51.73 | -58.65 | -63.31 | -69.67 | -73.64 | -76.61 |
| -100 | 0. | 12.10 | 22.22 | 28.23 | 32.46 | 38.41 | 42.43 | 47.90 | 51.50 | 54.29 |
| | 0. | -29.39 | -41.41 | -48.60 | -53.62 | -60.53 | -65.19 | -71.09 | -75.21 | -77.86 |
| -90 | 0. | 9.87 | 20.30 | 26.33 | 30.74 | 36.70 | 40.92 | 46.42 | 50.27 | 52.69 |
| | 0. | -30.66 | -42.96 | -50.30 | -55.29 | -61.87 | -66.38 | -72.20 | -76.08 | -78.88 |
| -80 | 0. | 6.86 | 18.15 | 24.80 | 29.33 | 35.64 | 40.07 | 45.69 | 49.54 | 52.02 |
| | 0. | -31.46 | -44.22 | -51.36 | -56.31 | -62.91 | -67.30 | -73.06 | -76.73 | -79.65 |
| -70 | 0. | 4.30 | 16.71 | 23.77 | 28.65 | 35.41 | 40.01 | 45.80 | 49.83 | 52.32 |
| | 0. | -31.48 | -44.77 | -51.90 | -56.87 | -63.53 | -67.87 | -73.60 | -77.16 | -80.09 |
| -60 | 0. | 2.97 | 16.72 | 24.29 | 29.44 | 36.26 | 40.92 | 46.88 | 50.88 | 53.68 |
| | 0. | -30.47 | -44.33 | -51.76 | -56.84 | -63.63 | -68.02 | -73.81 | -77.34 | -80.21 |
| -50 | 0. | 5.33 | 18.93 | 26.35 | 31.46 | 38.34 | 42.91 | 49.00 | 52.76 | 55.68 |
| | 0. | -27.98 | -42.82 | -50.84 | -56.16 | -63.16 | -67.73 | -73.65 | -77.26 | -80.18 |
| -40 | 0. | 10.45 | 22.70 | 29.72 | 34.53 | 41.06 | 45.58 | 51.32 | 55.30 | 57.81 |
| | 0. | -24.78 | -40.36 | -48.92 | -54.79 | -62.14 | -66.99 | -73.13 | -76.94 | -80.00 |
| -30 | 0. | 15.61 | 26.73 | 33.03 | 37.49 | 43.82 | 48.05 | 53.78 | 57.38 | 60.30 |
| | 0. | -20.89 | -36.69 | -46.00 | -52.28 | -60.62 | -65.84 | -72.27 | -76.36 | -79.38 |
| -20 | 0. | 20.05 | 30.33 | 36.12 | 40.40 | 46.27 | 50.51 | 55.96 | 59.77 | 62.12 |
| | 0. | -17.22 | -32.52 | -42.19 | -49.15 | -58.19 | -64.04 | -71.10 | -75.55 | -78.48 |
| -10 | 0. | 23.32 | 32.95 | 38.60 | 42.58 | 48.35 | 52.34 | 57.76 | 61.36 | 64.09 |
| | 0. | -14.34 | -28.52 | -38.06 | -45.32 | -55.27 | -61.54 | -69.50 | -74.21 | -77.33 |

* REFER TO FIGURE 7 (RM 63 TMP-2)

*Table 14 (Cont.)

| LONG (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0. | 27.04 | 35.22 | 40.56 | 44.49 | 50.16 | 54.05 | 59.50 | 62.87 | 65.60 |
| | 0. | -12.05 | -25.24 | -34.25 | -41.30 | -51.61 | -58.57 | -67.09 | -72.26 | -75.93 |
| 10 | 14.81 | 27.81 | 36.51 | 41.78 | 45.73 | -48.07 | 55.35 | 60.66 | 64.26 | 66.68 |
| | 4.65 | 10.70 | -22.76 | -31.22 | -37.90 | 51.27 | -55.34 | -64.50 | -70.17 | -73.97 |
| 20 | 16.97 | 28.88 | 37.29 | 42.59 | 46.51 | -45.16 | 56.16 | 61.51 | 65.29 | 67.67 |
| | 3.46 | -10.25 | -21.47 | -29.31 | -35.55 | 52.12 | -52.04 | -61.35 | -67.21 | -71.40 |
| 30 | 17.95 | 29.13 | 37.60 | 43.01 | 47.00 | -42.89 | -49.47 | 62.21 | 65.92 | 68.53 |
| | 1.87 | 10.65 | -21.16 | -28.41 | -34.16 | 52.75 | 56.78 | -58.34 | -64.29 | -68.46 |
| 40 | 18.10 | 28.93 | 37.64 | 43.23 | 47.31 | -41.43 | -47.31 | 62.77 | 66.45 | 69.28 |
| | 0.30 | 11.57 | -21.50 | -28.23 | -33.48 | 53.20 | 57.26 | -55.65 | -61.19 | -65.41 |
| 50 | 18.39 | 28.93 | 37.76 | 43.47 | 47.60 | -40.43 | -45.74 | 63.24 | 66.90 | 69.91 |
| | -1.95 | -12.59 | -21.97 | -28.27 | -33.09 | 53.56 | 57.64 | -53.19 | -58.35 | -62.16 |
| 60 | 19.83 | 29.61 | 38.22 | 43.88 | 47.96 | -39.47 | -44.34 | 63.63 | 67.29 | 70.27 |
| | -3.43 | -13.27 | -22.20 | -28.16 | -32.67 | 53.92 | 57.98 | -51.11 | -55.84 | -59.42 |
| 70 | 21.41 | 30.60 | 38.93 | 44.45 | 48.41 | -38.40 | -42.90 | -49.29 | 67.64 | 70.55 |
| | 4.30 | -13.44 | -22.07 | -27.80 | -32.09 | 54.31 | 58.33 | 64.00 | -53.51 | -56.68 |
| 80 | 22.95 | 31.50 | 39.68 | 45.03 | 48.88 | -37.43 | -41.69 | -47.51 | 67.96 | 70.81 |
| | -4.64 | -13.37 | -21.79 | -27.33 | -31.49 | 54.72 | 58.68 | 64.35 | -51.49 | -54.62 |
| 90 | 23.90 | 32.09 | 40.18 | 45.39 | 49.30 | -36.69 | -40.80 | -46.23 | 68.26 | 71.04 |
| | -4.94 | -13.38 | -21.62 | -26.99 | -31.04 | 55.08 | 59.02 | 64.69 | -50.13 | -52.58 |
| 100 | 24.02 | 32.25 | 40.39 | 45.64 | 49.64 | -36.30 | -40.29 | -45.46 | -48.88 | 71.26 |
| | -5.32 | -13.69 | -21.71 | -26.93 | -30.86 | 55.34 | 59.36 | 65.01 | 68.55 | -51.33 |
| 110 | 23.46 | 32.08 | 40.47 | 45.82 | 49.92 | -36.23 | -40.13 | -45.14 | -48.23 | 71.43 |
| | -5.73 | -14.19 | -22.02 | -27.13 | -30.95 | 55.59 | 59.70 | 65.23 | 68.80 | -50.73 |
| 120 | 22.65 | 31.80 | 40.49 | 45.96 | -31.20 | -36.42 | -40.24 | -45.17 | -48.18 | 71.54 |
| | -5.91 | -14.61 | -22.38 | -27.45 | 50.14 | 55.82 | 60.01 | 65.41 | 69.00 | -50.64 |
| 130 | 21.87 | 31.57 | 40.52 | 46.10 | -31.57 | -36.83 | -40.61 | -45.52 | -48.66 | 71.58 |
| | -5.63 | -14.70 | -22.65 | -27.81 | 50.31 | 56.02 | 60.19 | 65.53 | 69.11 | -50.97 |
| 140 | 21.10 | 31.31 | 40.51 | 46.17 | -32.10 | -37.50 | -41.26 | -46.22 | -49.72 | 71.51 |
| | -4.98 | -14.54 | -22.91 | -28.26 | 50.42 | 56.13 | 60.27 | 65.56 | 69.08 | -51.78 |
| 150 | 20.11 | 30.85 | 40.31 | 46.06 | -32.92 | -38.55 | -42.31 | -47.40 | 68.87 | 71.31 |
| | -3.97 | -14.54 | -23.38 | -29.00 | 50.35 | 56.08 | 60.21 | 65.46 | -50.85 | -53.20 |
| 160 | 18.10 | 30.01 | 39.71 | 45.65 | -34.23 | -40.08 | -43.89 | -49.18 | 68.44 | 70.95 |
| | -3.83 | -15.15 | -24.38 | -30.18 | 50.03 | 55.78 | 59.93 | 65.18 | -52.46 | -55.23 |
| 170 | 15.89 | 28.33 | 38.52 | 44.87 | 49.16 | -41.59 | -45.70 | 64.54 | 67.77 | 70.45 |
| | -5.06 | -16.35 | -25.78 | -31.55 | -35.80 | 55.22 | 59.19 | -51.04 | -54.79 | -57.10 |

• REFER TO FIGURE 7 (RM 63 TMP-2)

*Table 15. Constant Magnetic Field Intensity, B (Gauss), at Altitude 700 Kilometers

| LONG (DEG) | B=0.20 LAT (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) |
|---|---|---|---|---|---|---|
| -180 | 0. | 15.80 | 35.72 | 48.77 | -37.95 | -53.26 |
| | 0. | 2.61 | -14.85 | -26.18 | 62.95 | -84.67 |
| -170 | 0. | 14.60 | 34.31 | 47.73 | -41.23 | -57.35 |
| | 0. | -0.93 | -17.63 | -29.19 | 62.20 | -84.01 |
| -160 | 0. | 12.59 | 31.75 | 45.40 | -44.55 | -62.08 |
| | 0. | -4.41 | -20.61 | -32.28 | 60.18 | -82.80 |
| -150 | 0. | 11.01 | 28.68 | 42.07 | -48.16 | -68.71 |
| | 0. | -7.85 | -23.69 | -35.50 | 57.14 | -80.52 |
| -140 | 0. | 9.52 | 25.61 | 38.28 | 52.91 | 0. |
| | 0. | -11.68 | -27.00 | -38.98 | -52.17 | 0. |
| -130 | 0. | 7.88 | 22.74 | 34.58 | 48.25 | 0. |
| | 0. | -15.65 | -30.58 | -42.89 | -56.81 | 0. |
| -120 | 0. | 6.44 | 20.23 | 31.34 | 43.95 | 0. |
| | 0. | -19.63 | -34.55 | -47.34 | -62.07 | 0. |
| -110 | 0. | 5.13 | 17.93 | 28.60 | 40.50 | 0. |
| | 0. | -23.97 | -39.16 | -52.34 | -67.45 | 0. |
| -100 | 0. | 3.67 | 16.01 | 26.44 | 38.16 | 0. |
| | 0. | -29.32 | -44.42 | -57.45 | -72.19 | 0. |
| -90 | 0. | 2.69 | 14.57 | 24.97 | 37.00 | 0. |
| | 0. | -35.52 | -49.77 | -62.05 | -75.82 | 0. |
| -80 | 0. | 2.44 | 13.95 | 24.64 | 37.53 | 0. |
| | 0. | -41.53 | -54.45 | -65.78 | -78.48 | 0. |
| -70 | -16.79 | 3.20 | 14.65 | 25.93 | 40.32 | 0. |
| | -25.44 | -46.47 | -58.13 | -68.64 | -80.25 | 0. |
| -60 | -11.26 | 5.23 | 16.96 | 29.14 | 46.17 | 0. |
| | -33.30 | -50.12 | -60.89 | -70.76 | -81.56 | 0. |
| -50 | -8.07 | 8.32 | 20.73 | 33.97 | 54.33 | 0. |
| | -36.82 | -52.43 | -62.84 | -72.29 | -82.42 | 0. |
| -40 | -5.35 | 12.08 | 25.11 | 39.24 | 62.83 | 0. |
| | -37.68 | -53.88 | -64.16 | -73.33 | -82.97 | 0. |
| -30 | -4.14 | 15.54 | 28.98 | 43.82 | 68.69 | 0. |
| | -35.78 | -54.53 | -64.96 | -73.97 | -83.30 | 0. |
| -20 | -7.56 | 17.88 | 31.72 | 47.20 | -83.45 | 0. |
| | -25.41 | -54.40 | -65.25 | -74.26 | 71.97 | 0. |
| -10 | 0. | 19.08 | 33.26 | 49.20 | 73.66 | 0. |
| | 0. | -53.49 | -65.10 | -74.23 | -83.44 | 0. |

* REFER TO FIGURE 8 (RM 63 TMP-2)

*Table 15 (Cont.)

| LONG (DEG) | B=0.20 LAT (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) |
|---|---|---|---|---|---|---|
| -0 | 0. | 19.19 | 33.76 | 49.92 | 74.35 | 0. |
| | 0. | -51.84 | -64.46 | -73.87 | -83.25 | 0. |
| 10 | 0. | 18.27 | 33.35 | 49.46 | 74.26 | 0. |
| | 0. | -49.24 | -63.27 | -73.13 | -82.88 | 0. |
| 20 | 0. | 16.39 | 32.04 | 47.83 | 73.37 | 0. |
| | 0. | -44.73 | -61.48 | -71.95 | -82.26 | 0. |
| 30 | 0. | 13.41 | 29.90 | 45.02 | 71.33 | 0. |
| | 0. | -31.01 | -58.76 | -70.19 | -81.30 | 0. |
| 40 | 0. | 9.70 | 27.21 | 41.69 | 67.39 | 0. |
| | 0. | -12.43 | -54.57 | -67.59 | -79.80 | 0. |
| 50 | 0. | 0.11 | 24.45 | 38.19 | 60.68 | 0. |
| | 0. | -0.09 | -47.14 | -63.68 | -77.69 | 0. |
| 60 | 0. | 0. | 21.98 | 35.15 | 53.64 | 0. |
| | 0. | 0. | -32.15 | -57.35 | -74.18 | 0. |
| 70 | 0. | 0. | 20.08 | 32.99 | 48.54 | 0. |
| | 0. | 0. | -16.80 | -45.66 | -68.42 | 0. |
| 80 | 0. | 0. | 18.30 | 31.56 | 45.30 | 0. |
| | 0. | 0. | -7.99 | -29.04 | -57.82 | 0. |
| 90 | 0. | 0. | 17.09 | 30.77 | 43.73 | 0. |
| | 0. | 0. | -3.02 | -20.16 | -41.04 | 0. |
| 100 | 0. | 0. | 16.77 | 30.69 | 43.38 | 0. |
| | 0. | 0. | -1.17 | -16.53 | -31.38 | 0. |
| 110 | 0. | 0. | 17.68 | 31.48 | 44.30 | -46.57 |
| | 0. | 0. | -1.40 | -15.39 | -27.72 | -80.56 |
| 120 | 0. | 0. | 20.07 | 33.39 | 46.82 | -41.16 |
| | 0. | 0. | -2.61 | -15.42 | -26.53 | -82.79 |
| 130 | 0. | 0. | 23.13 | 36.46 | -26.57 | -39.77 |
| | 0. | 0. | -4.18 | -15.99 | 50.48 | -83.96 |
| 140 | 0. | 0. | 27.06 | 40.22 | -27.48 | -40.50 |
| | 0. | 0. | -5.74 | -16.98 | 54.72 | -84.62 |
| 150 | 0. | 0. | 30.96 | 43.93 | -29.16 | -42.68 |
| | 0. | 0. | -7.43 | -18.50 | 58.55 | -84.97 |
| 160 | 0. | 0. | 33.97 | 46.82 | -31.66 | -45.72 |
| | 0. | 0. | -9.62 | -20.63 | 61.17 | -85.07 |
| 170 | 0. | 15.24 | 35.64 | 48.46 | -34.65 | -49.35 |
| | 0. | 6.59 | -12.07 | -23.26 | 62.63 | -85.00 |

* REFER TO FIGURE 8 (RM 63 TMP-2)

*Table 16. Constant Magnetic Shell Parameter, L (Earth Radii), at Altitude 700 Kilometers

| LONG (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|
| -180 | 10.82 | 25.45 | 36.32 | 42.85 | 47.42 | -43.20 | -47.33 | 63.22 | 66.69 | 69.43 |
| | -3.86 | -17.05 | -26.84 | -32.84 | -37.15 | 53.70 | 57.78 | -52.92 | -56.63 | -59.58 |
| -170 | 8.18 | 23.25 | 34.55 | 41.20 | 45.94 | -45.40 | -49.69 | 61.95 | 65.65 | 68.08 |
| | -5.47 | -18.89 | -28.75 | -34.95 | -39.23 | 52.23 | 56.48 | -55.41 | -59.25 | -61.98 |
| -160 | 5.96 | 21.26 | 32.46 | 39.38 | 44.13 | -47.41 | 55.03 | 60.53 | 64.14 | 66.59 |
| | -6.30 | -20.61 | -30.63 | -36.72 | -41.20 | 50.60 | -51.78 | -57.69 | -61.71 | -64.97 |
| -150 | 2.67 | 19.53 | 30.63 | 37.27 | 42.02 | 48.53 | 52.83 | 58.54 | 62.13 | 65.09 |
| | -6.76 | -22.00 | -32.32 | -38.68 | -43.21 | -49.78 | -54.18 | -60.35 | -64.50 | -67.50 |
| -140 | 0.82 | 17.70 | 28.76 | 35.42 | 40.13 | 46.37 | 50.77 | 56.37 | 60.27 | 62.71 |
| | -6.61 | -23.38 | -34.11 | -40.62 | -45.35 | -51.82 | -56.43 | -62.67 | -66.95 | -70.35 |
| -130 | -4.02 | 16.16 | 26.95 | 33.40 | 37.92 | 44.29 | 48.47 | 54.21 | 57.76 | 60.60 |
| | -5.50 | -24.76 | -35.75 | -42.40 | -47.23 | -54.10 | -58.77 | -65.24 | -69.53 | -72.61 |
| -120 | 0. | 14.74 | 25.36 | 31.50 | 35.97 | 42.02 | 46.24 | 51.77 | 55.58 | 58.12 |
| | 0. | -25.79 | -37.30 | -44.38 | -49.35 | -56.20 | -60.97 | -67.26 | -71.53 | -74.91 |
| -110 | 0. | 12.89 | 23.47 | 29.76 | 34.02 | 40.15 | 44.21 | 49.84 | 53.26 | 55.95 |
| | 0. | -26.86 | -39.03 | -46.19 | -51.26 | -58.21 | -62.92 | -69.30 | -73.32 | -76.35 |
| -100 | 0. | 10.99 | 21.53 | 27.66 | 32.01 | 38.03 | 42.14 | 47.66 | 51.33 | 54.10 |
| | 0. | -28.12 | -40.72 | -47.97 | -53.08 | -60.17 | -64.83 | -70.80 | -74.96 | -77.57 |
| -90 | 0. | 8.47 | 19.58 | 25.83 | 30.35 | 36.38 | 40.67 | 46.22 | 50.13 | 52.52 |
| | 0. | -29.42 | -42.19 | -49.69 | -54.78 | -61.45 | -66.03 | -71.88 | -75.82 | -78.56 |
| -80 | 0. | 5.67 | 17.42 | 24.19 | 28.84 | 35.35 | 39.76 | 45.51 | 49.32 | 51.87 |
| | 0. | -30.25 | -43.36 | -50.77 | -55.80 | -62.45 | -66.91 | -72.71 | -76.46 | -79.31 |
| -70 | 0. | 2.82 | 16.03 | 23.19 | 28.17 | 35.11 | 39.66 | 45.61 | 49.59 | 52.15 |
| | 0. | -30.19 | -43.85 | -51.28 | -56.33 | -63.03 | -67.45 | -73.23 | -76.87 | -79.81 |
| -60 | 0. | 1.54 | 16.02 | 23.67 | 28.92 | 35.92 | 40.64 | 46.64 | 50.69 | 53.45 |
| | 0. | -28.84 | -43.41 | -51.12 | -56.28 | -63.12 | -67.59 | -73.42 | -77.03 | -80.01 |
| -50 | 0. | 3.62 | 18.10 | 25.80 | 30.99 | 37.92 | 42.55 | 48.68 | 52.51 | 55.50 |
| | 0. | -26.37 | -41.95 | -50.22 | -55.62 | -62.65 | -67.29 | -73.25 | -76.95 | -79.96 |
| -40 | 0. | 8.71 | 21.89 | 29.03 | 33.96 | 40.69 | 45.27 | 51.06 | 55.10 | 57.57 |
| | 0. | -23.00 | -39.47 | -48.16 | -54.09 | -61.65 | -66.56 | -72.74 | -76.63 | -79.62 |
| -30 | 0. | 14.02 | 25.98 | 32.40 | 36.98 | 43.37 | 47.67 | 53.45 | 57.12 | 60.12 |
| | 0. | -19.40 | -35.87 | -45.35 | -51.66 | -60.16 | -65.43 | -71.89 | -76.05 | -79.00 |
| -20 | 0. | 18.42 | 29.53 | 35.59 | 39.97 | 45.90 | 50.21 | 55.71 | 59.45 | 61.89 |
| | 0. | -15.91 | -31.73 | -41.53 | -48.48 | -57.63 | -63.50 | -70.74 | -75.25 | -78.11 |
| -10 | 0. | 21.98 | 32.20 | 37.99 | 42.10 | 47.95 | 52.01 | 57.47 | 61.14 | 63.82 |
| | 0. | -13.03 | -27.77 | -37.43 | -44.75 | -54.73 | -61.07 | -68.99 | -73.75 | -76.97 |

* REFER TO FIGURE 8 (RM 63 TMP-2)

*Table 16 (Cont.)

| LONG (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|
| -0 | 0. | 25.03 | 34.47 | 40.09 | 43.97 | 49.79 | 53.68 | 59.19 | 62.62 | 65.43 |
| | 0. | -10.98 | -24.58 | -33.68 | -40.81 | -51.13 | -58.04 | -66.64 | -71.85 | -75.60 |
| 10 | 0. | 26.69 | 35.89 | 41.29 | 45.35 | -47.60 | 55.10 | 60.45 | 63.99 | 66.49 |
| | 0. | -9.73 | -22.16 | -30.76 | -37.45 | 50.95 | -54.90 | -63.98 | -69.72 | -73.50 |
| 20 | 12.03 | 27.72 | 36.66 | 42.09 | 46.12 | -44.75 | 55.90 | 61.29 | 65.12 | 67.47 |
| | 8.19 | -9.23 | -20.94 | -28.85 | -35.17 | 51.80 | -51.62 | -60.94 | -66.77 | -70.99 |
| 30 | 15.19 | 28.02 | 36.98 | 42.52 | 46.61 | -42.51 | -49.05 | 61.99 | 65.75 | 68.34 |
| | 4.58 | -9.78 | -20.65 | -27.96 | -33.76 | 52.42 | 56.52 | -57.89 | -63.81 | -68.00 |
| 40 | 15.70 | 27.88 | 37.04 | 42.75 | 46.93 | -41.09 | -46.95 | 62.56 | 66.29 | 69.09 |
| | 2.52 | -10.74 | -20.97 | -27.78 | -33.08 | 52.87 | 57.00 | -55.31 | -60.83 | -65.05 |
| 50 | 16.22 | 27.94 | 37.18 | 43.00 | 47.22 | -40.13 | -45.44 | 63.03 | 66.75 | 69.73 |
| | -0.10 | -11.71 | -21.43 | -27.81 | -32.69 | 53.25 | 57.39 | -52.83 | -57.97 | -61.80 |
| 60 | 17.67 | 28.62 | 37.64 | 43.42 | 47.59 | -39.10 | -43.99 | 63.44 | 67.14 | 70.16 |
| | -1.54 | -12.37 | -21.65 | -27.70 | -32.28 | 53.62 | 57.74 | -50.83 | -55.57 | -59.05 |
| 70 | 20.01 | 29.83 | 38.34 | 43.98 | 48.04 | -38.07 | -42.60 | -48.99 | 67.50 | 70.45 |
| | -2.51 | -12.58 | -21.54 | -27.35 | -31.72 | 54.01 | 58.09 | 63.81 | -53.22 | -56.43 |
| 80 | 21.46 | 30.74 | 39.07 | 44.56 | 48.50 | -37.13 | -41.43 | -47.27 | 67.83 | 70.72 |
| | -2.95 | -12.52 | -21.28 | -26.90 | -31.14 | 54.42 | 58.44 | 64.16 | -51.29 | -54.36 |
| 90 | 22.37 | 31.32 | 39.63 | 45.04 | 48.92 | -36.42 | -40.58 | -46.04 | -49.97 | 70.95 |
| | -3.30 | -12.54 | -21.12 | -26.58 | -30.71 | 54.81 | 58.79 | 64.51 | 68.13 | -52.40 |
| 100 | 22.50 | 31.47 | 39.92 | 45.28 | 49.25 | -36.04 | -40.10 | -45.31 | -48.68 | 71.16 |
| | -3.79 | -12.83 | -21.20 | -26.52 | -30.54 | 55.12 | 59.13 | 64.84 | 68.41 | -51.20 |
| 110 | 21.99 | 31.31 | 40.00 | 45.45 | 49.53 | -35.97 | -39.90 | -45.00 | -48.07 | 71.33 |
| | -4.30 | -13.28 | -21.49 | -26.71 | -30.62 | 55.36 | 59.45 | 65.10 | 68.66 | -50.63 |
| 120 | 21.21 | 31.03 | 40.02 | 45.59 | 49.78 | -36.15 | -40.04 | -45.03 | -48.01 | 71.44 |
| | -4.46 | -13.64 | -21.81 | -27.01 | -30.86 | 55.58 | 59.75 | 65.27 | 68.85 | -50.53 |
| 130 | 20.44 | 30.78 | 40.04 | 45.71 | -31.21 | -36.54 | -40.40 | -45.37 | -48.48 | 71.47 |
| | -3.96 | -13.70 | -22.07 | -27.34 | 50.00 | 55.77 | 59.99 | 65.39 | 68.94 | -50.86 |
| 140 | 19.46 | 30.50 | 40.00 | 45.76 | -31.71 | -37.19 | -41.03 | -46.05 | -49.51 | 71.39 |
| | -2.93 | -13.53 | -22.30 | -27.77 | 50.09 | 55.86 | 60.06 | 65.41 | 68.90 | -51.65 |
| 150 | 17.88 | 30.03 | 39.71 | 45.63 | -32.51 | -38.20 | -42.05 | -47.19 | 68.67 | 71.18 |
| | -1.90 | -13.50 | -22.75 | -28.47 | 50.01 | 55.79 | 59.99 | 65.29 | -50.71 | -53.04 |
| 160 | 15.97 | 28.91 | 39.00 | 45.21 | 49.54 | -39.72 | -43.58 | -48.92 | 68.23 | 70.82 |
| | -1.56 | -14.11 | -23.70 | -29.67 | -33.77 | 55.49 | 59.58 | 65.01 | -52.27 | -55.11 |
| 170 | 13.34 | 27.30 | 37.83 | 44.27 | 48.66 | -41.27 | -45.46 | 64.26 | 67.57 | 70.32 |
| | -2.25 | -15.46 | -25.23 | -31.08 | -35.43 | 54.90 | 58.84 | -50.84 | -54.55 | -56.94 |

* REFER TO FIGURE 8 (RM 63 TMP-2)

*Table 17. Constant Magnetic Field Intensity, B (Gauss), at Altitude 800 Kilometers

| LONG (DEG) | B=0.20 LAT (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) |
|---|---|---|---|---|---|---|
| -180 | 0. | 21.82 | 38.98 | -29.72 | -42.74 | -64.73 |
| | 0. | -3.32 | -18.00 | 52.44 | 69.74 | -74.15 |
| -170 | 0. | 20.41 | 37.67 | -32.82 | -46.16 | 0. |
| | 0. | -6.30 | -20.88 | 51.49 | 69.14 | 0. |
| -160 | 0. | 18.12 | 35.25 | 49.30 | -49.68 | 0. |
| | 0. | -9.43 | -23.83 | -35.96 | 67.56 | 0. |
| -150 | 0. | 15.94 | 32.11 | 46.08 | 64.50 | 0. |
| | 0. | -12.56 | -26.94 | -39.26 | -53.63 | 0. |
| -140 | 0. | 13.82 | 28.89 | 42.25 | 60.22 | 0. |
| | 0. | -16.06 | -30.29 | -42.89 | -58.17 | 0. |
| -130 | 0. | 11.85 | 25.88 | 38.40 | 55.08 | 0. |
| | 0. | -19.71 | -33.89 | -46.95 | -63.50 | 0. |
| -120 | 0. | 10.15 | 23.17 | 34.92 | 50.21 | 0. |
| | 0. | -23.44 | -37.95 | -51.58 | -69.40 | 0. |
| -110 | 0. | 8.34 | 20.83 | 32.11 | 46.46 | 0. |
| | 0. | -27.78 | -42.64 | -56.64 | -75.07 | 0. |
| -100 | 0. | 6.82 | 18.85 | 29.88 | 43.90 | 0. |
| | 0. | -32.97 | -47.82 | -61.61 | -79.61 | 0. |
| -90 | 0. | 5.75 | 17.43 | 28.57 | 43.04 | 0. |
| | 0. | -38.82 | -52.90 | -65.91 | -82.67 | 0. |
| -80 | -19.63 | 5.36 | 16.90 | 28.44 | 44.24 | 0. |
| | -20.07 | -44.41 | -57.27 | -69.32 | -84.34 | 0. |
| -70 | -10.23 | 6.00 | 17.71 | 29.96 | 48.80 | 0. |
| | -31.20 | -48.91 | -60.71 | -71.92 | -85.58 | 0. |
| -60 | -7.37 | 7.96 | 20.15 | 33.62 | 58.26 | 0. |
| | -36.73 | -52.21 | -63.26 | -73.79 | -86.33 | 0. |
| -50 | -4.28 | 11.19 | 24.07 | 38.80 | -86.67 | 0. |
| | -39.90 | -54.52 | -65.11 | -75.12 | 72.54 | 0. |
| -40 | -1.40 | 15.05 | 28.53 | 44.35 | -86.87 | 0. |
| | -40.85 | -55.89 | -66.34 | -76.06 | 79.17 | 0. |
| -30 | 0.92 | 18.53 | 32.46 | 49.18 | -87.02 | 0. |
| | -40.02 | -56.51 | -67.07 | -76.62 | 81.66 | 0. |
| -20 | 1.50 | 21.03 | 35.25 | 52.77 | -87.13 | 0. |
| | -35.83 | -56.49 | -67.35 | -76.87 | 82.89 | 0. |
| -10 | -2.50 | 22.35 | 36.93 | 54.90 | 83.52 | 0. |
| | -17.64 | -55.86 | -67.21 | -76.83 | -87.23 | 0. |

* REFER TO FIGURE 9 (RM 63 TMP-2)

*Table 17 (Cont.)

| LONG (DEG) | B=0.20 LAT (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) |
|---|---|---|---|---|---|---|
| -0 | 0. | 22.68 | 37.53 | 55.81 | 83.81 | 0. |
| | 0. | -54.57 | -66.64 | -76.50 | -87.32 | 0. |
| 10 | 0. | 22.12 | 37.15 | 55.41 | 83.84 | 0. |
| | 0. | -52.26 | -65.60 | -75.83 | -87.38 | 0. |
| 20 | 0. | 20.72 | 35.85 | 53.80 | 83.62 | 0. |
| | 0. | -48.86 | -63.90 | -74.76 | -87.36 | 0. |
| 30 | 0. | 18.33 | 33.73 | 50.96 | 83.07 | 0. |
| | 0. | -42.71 | -61.39 | -73.18 | -87.05 | 0. |
| 40 | 0. | 15.47 | 31.06 | 47.32 | 82.00 | 0. |
| | 0. | -28.69 | -57.57 | -70.86 | -84.94 | 0. |
| 50 | 0. | 11.82 | 28.30 | 43.41 | 79.84 | 0. |
| | 0. | -14.54 | -51.41 | -67.40 | -83.66 | 0. |
| 60 | 0. | 6.12 | 25.92 | 39.93 | 73.71 | 0. |
| | 0. | -2.46 | -39.89 | -61.97 | -81.25 | 0. |
| 70 | 0. | 0. | 24.07 | 37.47 | 60.49 | 0. |
| | 0. | 0. | -23.61 | -52.53 | -76.80 | 0. |
| 80 | 0. | 0. | 22.71 | 35.77 | 54.08 | 0. |
| | 0. | 0. | -13.72 | -36.89 | -68.26 | 0. |
| 90 | 0. | 0. | 21.89 | 34.85 | 51.16 | 0. |
| | 0. | 0. | -8.52 | -25.77 | -52.51 | 0. |
| 100 | 0. | 0. | 21.74 | 34.73 | -38.65 | 0. |
| | 0. | 0. | -6.37 | -21.03 | 50.23 | 0. |
| 110 | 0. | 0. | 22.48 | 35.57 | -33.14 | 0. |
| | 0. | 0. | -6.13 | -19.27 | 51.42 | 0. |
| 120 | 0. | 0. | 24.38 | 37.56 | -31.17 | -54.02 |
| | 0. | 0. | -6.79 | -18.95 | 54.21 | -69.13 |
| 130 | 0. | 0. | 27.23 | 40.62 | -30.90 | -49.08 |
| | 0. | 0. | -7.82 | -19.35 | 58.50 | -74.54 |
| 140 | 0. | 0. | 30.87 | 44.33 | -31.77 | -49.03 |
| | 0. | 0. | -9.11 | -20.30 | 62.96 | -76.41 |
| 150 | 0. | 14.25 | 34.46 | 47.91 | -33.56 | -51.18 |
| | 0. | 8.21 | -10.73 | -21.86 | 66.38 | -77.18 |
| 160 | 0. | 20.03 | 37.27 | -24.04 | -36.18 | -54.57 |
| | 0. | 2.94 | -12.76 | 50.58 | 68.60 | -77.21 |
| 170 | 0. | 21.86 | 38.85 | -26.76 | -39.32 | -59.04 |
| | 0. | -0.50 | -15.29 | 52.15 | 69.58 | -76.47 |

* REFER TO FIGURE 9 (RM 63 TMP-2)

*Table 18. Constant Magnetic Shell Parameter, L (Earth Radii), at Altitude 800 Kilometers

| LONG (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|
| -180 | 6.35 | 24.39 | 35.70 | 42.30 | 46.97 | -42.84 | -47.04 | 62.95 | 66.49 | 69.20 |
| | -0.10 | -16.06 | -26.22 | -32.32 | -36.72 | 53.30 | 57.46 | -52.67 | -56.45 | -59.36 |
| -170 | 1.90 | 22.16 | 33.80 | 40.71 | 45.52 | -45.10 | -49.34 | 61.70 | 65.47 | 67.87 |
| | -0.47 | -17.76 | -28.05 | -34.35 | -38.75 | 51.86 | 56.19 | -55.21 | -59.00 | -61.80 |
| -160 | 0. | 20.30 | 31.79 | 38.77 | 43.61 | -47.06 | 54.66 | 60.32 | 63.87 | 66.41 |
| | 0. | -19.58 | -30.05 | -36.22 | -40.79 | 50.28 | -51.49 | -57.43 | -61.50 | -64.72 |
| -150 | 0. | 18.34 | 30.03 | 36.74 | 41.57 | 48.12 | 52.49 | 58.25 | 61.91 | 64.89 |
| | 0. | -20.97 | -31.66 | -38.12 | -42.75 | -49.36 | -53.83 | -60.13 | -64.23 | -67.28 |
| -140 | 0. | 16.61 | 28.03 | 34.94 | 39.64 | 46.03 | 50.49 | 56.14 | 60.09 | 62.50 |
| | 0. | -22.24 | -33.38 | -40.15 | -44.94 | -51.47 | -56.13 | -62.39 | -66.71 | -70.15 |
| -130 | 0. | 15.15 | 26.29 | 32.83 | 37.44 | 43.87 | 48.13 | 53.91 | 57.53 | 60.43 |
| | 0. | -23.49 | -35.14 | -41.87 | -46.78 | -53.68 | -58.41 | -65.00 | -69.23 | -72.35 |
| -120 | 0. | 13.42 | 24.66 | 31.00 | 35.56 | 41.67 | 45.97 | 51.54 | 55.41 | 57.92 |
| | 0. | -24.70 | -36.62 | -43.77 | -48.83 | -55.85 | -60.67 | -66.96 | -71.28 | -74.59 |
| -110 | 0. | 11.70 | 22.72 | 29.14 | 33.52 | 39.79 | 43.87 | 49.55 | 53.05 | 55.80 |
| | 0. | -25.76 | -38.27 | -45.67 | -50.81 | -57.79 | -62.55 | -68.95 | -73.02 | -76.11 |
| -100 | 0. | 9.88 | 20.87 | 27.12 | 31.57 | 37.67 | 41.86 | 47.43 | 51.17 | 53.90 |
| | 0. | -26.87 | -40.06 | -47.37 | -52.55 | -59.74 | -64.39 | -70.53 | -74.61 | -77.30 |
| -90 | 0. | 7.13 | 18.78 | 25.35 | 29.95 | 36.06 | 40.43 | 46.02 | 49.98 | 52.37 |
| | 0. | -27.99 | -41.44 | -49.00 | -54.18 | -61.05 | -65.69 | -71.57 | -75.58 | -78.26 |
| -80 | 0. | 4.30 | 16.71 | 23.60 | 28.35 | 35.06 | 39.42 | 45.33 | 49.10 | 51.72 |
| | 0. | -28.72 | -42.54 | -50.21 | -55.32 | -62.00 | -66.54 | -72.37 | -76.20 | -78.99 |
| -70 | 0. | 1.38 | 15.37 | 22.63 | 27.70 | 34.75 | 39.32 | 45.41 | 49.35 | 51.98 |
| | 0. | -28.49 | -42.97 | -50.68 | -55.81 | -62.55 | -67.05 | -72.87 | -76.59 | -79.47 |
| -60 | 0. | 0.13 | 15.33 | 23.07 | 28.40 | 35.59 | 40.37 | 46.41 | 50.51 | 53.24 |
| | 0. | -27.07 | -42.52 | -50.51 | -55.76 | -62.62 | -67.18 | -73.05 | -76.75 | -79.67 |
| -50 | 0. | 1.82 | 17.29 | 25.27 | 30.54 | 37.51 | 42.21 | 48.38 | 52.27 | 55.33 |
| | 0. | -24.70 | -41.11 | -49.49 | -55.10 | -62.16 | -66.87 | -72.87 | -76.66 | -79.60 |
| -40 | 0. | 6.84 | 21.11 | 28.37 | 33.39 | 40.33 | 44.97 | 50.80 | 54.84 | 57.33 |
| | 0. | -21.25 | -38.51 | -47.43 | -53.42 | -61.17 | -66.15 | -72.36 | -76.33 | -79.26 |
| -30 | 0. | 12.22 | 25.25 | 31.80 | 36.49 | 42.93 | 47.31 | 53.13 | 56.87 | 59.90 |
| | 0. | -17.63 | -35.08 | -44.65 | -51.07 | -59.61 | -65.05 | -71.52 | -75.76 | -78.64 |
| -20 | 0. | 16.85 | 28.64 | 35.07 | 39.40 | 45.55 | 49.89 | 55.47 | 59.14 | 61.67 |
| | 0. | -14.45 | -30.95 | -40.88 | -47.84 | -57.09 | -62.99 | -70.39 | -74.95 | -77.76 |
| -10 | 0. | 20.72 | 31.47 | 37.40 | 41.64 | 47.55 | 51.68 | 57.19 | 60.93 | 63.56 |
| | 0. | -11.70 | -27.03 | -36.82 | -44.13 | -54.14 | -60.62 | -68.51 | -73.32 | -76.63 |

* REFER TO FIGURE 9 (RM 63 TMP-2)

*Table 18 (Cont.)

| LONG (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|
| -0 | 0. | 23.52 | 33.66 | 39.48 | 43.47 | 49.36 | 53.33 | 58.88 | 62.38 | 65.27 |
| | 0. | -9.87 | -23.87 | -33.12 | -40.34 | -50.66 | -57.54 | -66.22 | -71.46 | -75.28 |
| 10 | 0. | 25.62 | 35.28 | 40.81 | 44.96 | -47.15 | 54.78 | 60.24 | 63.73 | 66.31 |
| | 0. | -8.52 | -21.56 | -30.30 | -37.00 | 50.63 | -54.38 | -63.48 | -69.21 | -73.05 |
| 20 | 0. | 26.61 | 36.04 | 41.60 | 45.73 | -44.32 | 55.64 | 61.08 | 64.94 | 67.28 |
| | 0. | -8.13 | -20.40 | -28.39 | -34.76 | 51.48 | -51.22 | -60.55 | -66.36 | -70.62 |
| 30 | 0. | 26.94 | 36.37 | 42.03 | 46.22 | -42.14 | -48.64 | 61.77 | 65.59 | 68.15 |
| | 0. | -8.67 | -20.14 | -27.52 | -33.36 | 52.09 | 56.26 | -57.48 | -63.36 | -67.56 |
| 40 | 10.92 | 26.86 | 36.44 | 42.27 | 46.55 | -40.77 | -46.61 | 62.34 | 66.13 | 68.90 |
| | 7.68 | -9.87 | -20.45 | -27.34 | -32.69 | 52.55 | 56.74 | -54.99 | -60.48 | -64.61 |
| 50 | 13.03 | 26.96 | 36.60 | 42.54 | 46.85 | -39.77 | -45.14 | 62.82 | 66.59 | 69.55 |
| | 3.27 | -10.84 | -20.89 | -27.36 | -32.31 | 52.94 | 57.14 | -52.49 | -57.62 | -61.46 |
| 60 | 15.56 | 27.65 | 37.06 | 42.95 | 47.22 | -38.74 | -43.65 | 63.24 | 66.99 | 70.06 |
| | 0.61 | -11.49 | -21.12 | -27.25 | -31.89 | 53.31 | 57.50 | -50.57 | -55.30 | -58.71 |
| 70 | 17.76 | 28.82 | 37.76 | 43.51 | 47.67 | -37.73 | -42.30 | -48.69 | 67.36 | 70.36 |
| | -0.75 | -11.72 | -21.01 | -26.91 | -31.36 | 53.71 | 57.86 | 63.62 | -52.95 | -56.19 |
| 80 | 20.02 | 30.01 | 38.48 | 44.09 | 48.13 | -36.83 | -41.18 | -47.04 | 67.69 | 70.62 |
| | -1.29 | -11.69 | -20.77 | -26.49 | -30.80 | 54.12 | 58.21 | 63.97 | -51.09 | -54.10 |
| 90 | 20.88 | 30.56 | 39.02 | 44.57 | 48.55 | -36.15 | -40.36 | -45.86 | -49.73 | 70.86 |
| | -1.69 | -11.72 | -20.62 | -26.18 | -30.39 | 54.51 | 58.56 | 64.32 | 67.99 | -52.22 |
| 100 | 21.01 | 30.72 | 39.31 | 44.90 | 48.87 | -35.79 | -39.85 | -45.15 | -48.49 | 71.07 |
| | -2.13 | -11.98 | -20.70 | -26.12 | -30.23 | 54.87 | 58.89 | 64.66 | 68.27 | -51.06 |
| 110 | 20.55 | 30.55 | 39.39 | 45.09 | 49.14 | -35.72 | -39.61 | -44.76 | -47.90 | 71.23 |
| | -2.51 | -12.39 | -20.96 | -26.29 | -30.30 | 55.14 | 59.21 | 64.96 | 68.51 | -50.52 |
| 120 | 19.69 | 30.27 | 39.39 | 45.21 | 49.38 | -35.89 | -39.77 | -44.81 | -47.84 | 71.33 |
| | -2.55 | -12.70 | -21.27 | -26.57 | -30.53 | 55.35 | 59.49 | 65.14 | 68.69 | -50.43 |
| 130 | 18.47 | 30.00 | 39.40 | 45.32 | 49.58 | -36.26 | -40.19 | -45.21 | -48.30 | 71.35 |
| | -1.99 | -12.73 | -21.50 | -26.88 | -30.86 | 55.52 | 59.71 | 65.24 | 68.77 | -50.75 |
| 140 | 17.18 | 29.61 | 39.33 | 45.35 | 49.67 | -36.88 | -40.80 | -45.88 | -49.30 | 71.27 |
| | -0.96 | -12.55 | -21.71 | -27.29 | -31.34 | 55.60 | 59.80 | 65.25 | 68.72 | -51.52 |
| 150 | 15.63 | 28.95 | 39.01 | 45.20 | 49.53 | -37.86 | -41.79 | -46.99 | 68.48 | 71.05 |
| | 0.18 | -12.50 | -22.13 | -27.96 | -32.10 | 55.51 | 59.66 | 65.13 | -50.57 | -52.88 |
| 160 | 12.83 | 27.84 | 38.30 | 44.70 | 49.05 | -39.34 | -43.27 | -48.67 | 68.03 | 70.69 |
| | 1.39 | -13.03 | -23.03 | -29.12 | -33.32 | 55.20 | 59.25 | 64.74 | -52.09 | -54.99 |
| 170 | 10.19 | 26.29 | 37.16 | 43.69 | 48.18 | -40.96 | -45.22 | 63.98 | 67.37 | 70.19 |
| | 1.31 | -14.43 | -24.56 | -30.63 | -35.07 | 54.48 | 58.51 | -50.64 | -54.31 | -56.78 |

* REFER TO FIGURE 9 (RM 63 TMP-2)

*Table 19. Constant Magnetic Field Intensity, B (Gauss), at Altitude 900 Kilometers

| LONG (DEG) | B=0.20 LAT (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) |
|---|---|---|---|---|---|
| -180 | 0. | 26.18 | 42.21 | -33.50 | -48.32 |
| | 0. | -7.38 | -21.18 | 56.47 | -87.98 |
| -170 | 0. | 24.73 | 41.03 | -36.67 | -52.05 |
| | 0. | -10.35 | -24.07 | 55.58 | -87.57 |
| -160 | 0. | 22.36 | 38.66 | -39.87 | -56.04 |
| | 0. | -13.20 | -27.07 | 53.59 | -87.10 |
| -150 | 0. | 19.97 | 35.56 | -43.34 | -60.71 |
| | 0. | -16.35 | -30.22 | 50.46 | -86.57 |
| -140 | 0. | 17.48 | 32.22 | 46.64 | -66.78 |
| | 0. | -19.72 | -33.58 | -47.13 | -85.96 |
| -130 | 0. | 15.34 | 29.04 | 42.63 | -74.87 |
| | 0. | -23.15 | -37.28 | -51.41 | -85.17 |
| -120 | 0. | 13.23 | 26.22 | 38.96 | 62.55 |
| | 0. | -26.95 | -41.46 | -56.27 | 76.23 |
| -110 | 0. | 11.39 | 23.77 | 35.97 | 56.23 |
| | 0. | -31.32 | -46.22 | -61.41 | 76.88 |
| -100 | 0. | 9.81 | 21.78 | 33.76 | 53.14 |
| | 0. | -36.42 | -51.31 | -66.21 | 76.28 |
| -90 | -14.51 | 8.54 | 20.39 | 32.55 | 52.95 |
| | -15.56 | -41.96 | -56.14 | -70.17 | 74.29 |
| -80 | -6.75 | 8.07 | 19.94 | 32.68 | 58.19 |
| | -27.88 | -47.12 | -60.21 | -73.28 | 68.70 |
| -70 | -6.45 | 8.74 | 20.91 | 34.60 | 0. |
| | -35.09 | -51.32 | -63.39 | -75.51 | 0. |
| -60 | -3.97 | 10.77 | 23.54 | 38.76 | 0. |
| | -39.69 | -54.43 | -65.77 | -77.16 | 0. |
| -50 | -1.06 | 14.05 | 27.61 | 44.45 | 0. |
| | -42.30 | -56.54 | -67.48 | -78.28 | 0. |
| -40 | 2.07 | 17.95 | 32.16 | 50.44 | 0. |
| | -43.44 | -57.87 | -68.63 | -79.02 | 0. |
| -30 | 4.95 | 21.51 | 36.14 | 55.54 | 0. |
| | -43.00 | -58.54 | -69.32 | -79.47 | 0. |
| -20 | 6.44 | 24.07 | 39.04 | 59.21 | 0. |
| | -40.77 | -58.60 | -69.60 | -79.66 | 0. |
| -10 | 6.29 | 25.54 | 40.79 | 61.44 | 0. |
| | -34.54 | -58.05 | -69.48 | -79.62 | 0. |

* REFER TO FIGURE 10 (RM 63 TMP-2)

*Table 19 (Cont.)

| LONG (DEG) | B=0.20 LAT (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) |
|---|---|---|---|---|---|
| -0 | 2.42 | 26.02 | 41.48 | 62.37 | 0. |
| | -12.18 | -56.91 | -68.94 | -79.33 | 0. |
| 10 | 0. | 25.65 | 41.14 | 62.13 | 0. |
| | 0. | -55.15 | -67.93 | -78.77 | 0. |
| 20 | 0. | 24.40 | 39.82 | 60.66 | 0. |
| | 0. | -52.11 | -66.39 | -77.87 | 0. |
| 30 | 0. | 22.30 | 37.73 | 57.99 | 0. |
| | 0. | -47.46 | -64.08 | -76.50 | 0. |
| 40 | 0. | 19.75 | 34.99 | 54.07 | 0. |
| | 0. | -39.05 | -60.67 | -74.46 | 0. |
| 50 | 0. | 16.79 | 32.23 | 49.59 | 0. |
| | 0. | -24.17 | -55.33 | -71.47 | 0. |
| 60 | 0. | 13.71 | 29.77 | 45.56 | 0. |
| | 0. | -12.19 | -45.98 | -66.81 | 0. |
| 70 | 0. | 9.49 | 27.92 | 42.55 | 0. |
| | 0. | -1.40 | -30.72 | -59.04 | 0. |
| 80 | 0. | 0. | 26.67 | 40.43 | 0. |
| | 0. | 0. | -19.23 | -45.45 | 0. |
| 90 | 0. | 0. | 25.96 | 39.33 | -70.51 |
| | 0. | 0. | -13.33 | -32.12 | -84.85 |
| 100 | 0. | 0. | 25.86 | 39.15 | -49.22 |
| | 0. | 0. | -10.76 | -25.85 | -86.11 |
| 110 | 0. | 0. | 26.56 | 39.97 | -39.88 |
| | 0. | 0. | -10.14 | -23.37 | -87.00 |
| 120 | 0. | 0. | 28.28 | 42.10 | -36.76 |
| | 0. | 0. | -10.46 | -22.66 | -87.69 |
| 130 | 0. | 0. | 31.07 | 45.17 | -35.98 |
| | 0. | 0. | -11.21 | -22.88 | -88.20 |
| 140 | 0. | 16.27 | 34.50 | 48.88 | -36.75 |
| | 0. | 4.17 | -12.30 | -23.78 | -88.51 |
| 150 | 0. | 21.36 | 37.89 | -25.35 | -38.63 |
| | 0. | 0.81 | -13.84 | 52.30 | -88.61 |
| 160 | 0. | 24.78 | 40.58 | -27.65 | -41.41 |
| | 0. | -1.87 | -15.90 | 54.74 | -88.54 |
| 170 | 0. | 26.28 | 42.06 | -30.42 | -44.68 |
| | 0. | -4.73 | -18.39 | 56.19 | -88.31 |

* REFER TO FIGURE 10 (RM 63 TMP-2)

*Table 20. Constant Magnetic Shell Parameter, L (Earth Radii), at Altitude 900 Kilometers

| LONG (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|
| -180 | 0. | 23.19 | 35.10 | 41.77 | 46.53 | -42.49 | -46.75 | 62.69 | 66.30 | 68.99 |
| | 0. | -15.10 | -25.62 | -31.81 | -36.31 | 52.91 | 57.15 | -52.43 | -56.27 | -59.15 |
| -170 | 0. | 21.10 | 33.08 | 40.23 | 45.12 | -44.73 | -49.00 | 61.47 | 65.30 | 67.67 |
| | 0. | -16.67 | -27.37 | -33.78 | -38.27 | 51.50 | 55.90 | -55.01 | -58.77 | -61.62 |
| -160 | 0. | 19.12 | 31.14 | 38.19 | 43.11 | 49.95 | 54.27 | 60.11 | 63.61 | 66.23 |
| | 0. | -18.32 | -29.30 | -35.74 | -40.40 | -46.72 | -51.21 | -57.19 | -61.30 | -64.49 |
| -150 | 0. | 17.17 | 29.26 | 36.22 | 41.13 | 47.73 | 52.17 | 57.97 | 61.70 | 64.64 |
| | 0. | -19.96 | -31.03 | -37.58 | -42.29 | -48.96 | -53.49 | -59.88 | -63.97 | -67.06 |
| -140 | 0. | 15.55 | 27.32 | 34.32 | 39.12 | 45.70 | 50.22 | 55.91 | 59.87 | 62.29 |
| | 0. | -21.14 | -32.67 | -39.59 | -44.42 | -51.12 | -55.85 | -62.13 | -66.48 | -69.93 |
| -130 | 0. | 13.83 | 25.65 | 32.28 | 36.99 | 43.47 | 47.80 | 53.62 | 57.31 | 60.28 |
| | 0. | -22.26 | -34.40 | -41.35 | -46.34 | -53.28 | -58.06 | -64.67 | -68.93 | -72.10 |
| -120 | 0. | 12.14 | 23.87 | 30.50 | 35.16 | 41.33 | 45.70 | 51.31 | 55.25 | 57.73 |
| | 0. | -23.34 | -35.95 | -43.18 | -48.32 | -55.50 | -60.37 | -66.68 | -71.03 | -74.28 |
| -110 | 0. | 10.54 | 22.00 | 28.53 | 33.03 | 39.37 | 43.53 | 49.27 | 52.84. | 55.66 |
| | 0. | -24.55 | -37.53 | -45.16 | -50.37 | -57.38 | -62.19 | -68.60 | -72.72 | -75.88 |
| -100 | 0. | 8.37 | 20.23 | 26.58 | 31.14 | 37.31 | 41.58 | 47.20 | 51.00 | 53.71 |
| | 0. | -25.64 | -39.24 | -46.79 | -52.04 | -59.25 | -63.97 | -70.27 | -74.27 | -77.03 |
| -90 | 0. | 5.84 | 18.00 | 24.84 | 29.43 | 35.75 | 40.18 | 45.83 | 49.75 | 52.21 |
| | 0. | -26.60 | -40.72 | -48.34 | -53.60 | -60.66 | -65.36 | -71.28 | -75.35 | -77.97 |
| -80 | 0. | 2.68 | 16.02 | 23.02 | 27.88 | 34.68 | 39.10 | 45.15 | 48.89 | 51.57 |
| | 0. | -27.13 | -41.74 | -49.56 | -54.81 | -61.58 | -66.18 | -72.05 | -75.95 | -78.69 |
| -70 | 0. | -0.05 | 14.63 | 22.07 | 27.24 | 34.34 | 38.99 | 45.22 | 49.12 | 51.82 |
| | 0. | -26.77 | -42.13 | -50.11 | -55.32 | -62.10 | -66.67 | -72.53 | -76.33 | -79.14 |
| -60 | 0. | -1.90 | 14.55 | 22.48 | 27.90 | 35.27 | 40.11 | 46.18 | 50.34 | 53.03 |
| | 0. | -25.36 | -41.67 | -49.90 | -55.25 | -62.15 | -66.78 | -72.69 | -76.47 | -79.33 |
| -50 | 0. | 0.06 | 16.50 | 24.66 | 30.10 | 37.11 | 41.88 | 48.08 | 52.03 | 55.16 |
| | 0. | -22.42 | -40.31 | -48.73 | -54.45 | -61.69 | -66.47 | -72.51 | -76.38 | -79.25 |
| -40 | 0. | 5.06 | 20.35 | 27.72 | 32.85 | 39.98 | 44.55 | 50.56 | 54.53 | 57.10 |
| | 0. | -19.29 | -37.59 | -46.74 | -52.78 | -60.72 | -65.77 | -72.01 | -76.05 | -78.91 |
| -30 | 0. | 10.51 | 24.36 | 31.21 | 36.01 | 42.51 | 46.96 | 52.82 | 56.63 | 59.60 |
| | 0. | -15.87 | -34.14 | -43.88 | -50.51 | -59.02 | -64.53 | -71.17 | -75.49 | -78.29 |
| -20 | 0. | 15.36 | 27.78 | 34.39 | 38.84 | 45.21 | 49.48 | 55.23 | 58.85 | 61.45 |
| | 0. | -12.70 | -30.18 | -40.26 | -47.22 | -56.58 | -62.50 | -70.07 | -74.51 | -77.42 |
| -10 | 0. | 19.21 | 30.76 | 36.83 | 41.18 | 47.16 | 51.37 | 56.92 | 60.72 | 63.30 |
| | 0. | -10.36 | -26.29 | -36.22 | -43.52 | -53.57 | -60.20 | -68.05 | -72.91 | -76.31 |

* REFER TO FIGURE 10 (RM 63 TMP-2)

*Table 20 (Cont.)

| LONG (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|
| -0 | 0. | 22.08 | 32.87 | 38.85 | 42.97 | 48.95 | 52.99 | 58.57 | 62.15 | 65.10 |
| | 0. | -8.44 | -23.15 | -32.56 | -39.84 | -50.21 | -57.06 | -65.82 | -71.09 | -74.96 |
| 10 | 0. | 24.36 | 34.56 | 40.33 | 44.45 | -46.71 | 54.42 | 60.04 | 63.48 | 66.13 |
| | 0. | -7.29 | -20.96 | -29.82 | -36.56 | 50.33 | -53.89 | -63.01 | -68.74 | -72.64 |
| 20 | 0. | 25.54 | 35.43 | 41.12 | 45.36 | -43.90 | 55.39 | 60.87 | 64.68 | 67.09 |
| | 0. | -7.02 | -19.81 | -27.93 | -34.33 | 51.16 | -50.83 | -60.17 | -65.97 | -70.26 |
| 30 | 0. | 25.89 | 35.78 | 41.55 | 45.85 | -41.78 | -48.24 | 61.56 | 65.43 | 67.96 |
| | 0. | -7.57 | -19.55 | -27.08 | -32.95 | 51.78 | 56.01 | -57.08 | -62.93 | -67.15 |
| 40 | 0. | 25.86 | 35.87 | 41.81 | 46.18 | -40.44 | -46.28 | 62.13 | 65.97 | 68.71 |
| | 0. | -8.71 | -19.91 | -26.89 | -32.30 | 52.24 | 56.49 | -54.58 | -60.16 | -64.18 |
| 50 | 0. | 26.01 | 36.04 | 42.08 | 46.49 | -39.39 | -44.82 | 62.62 | 66.44 | 69.37 |
| | 0. | -9.98 | -20.36 | -26.91 | -31.92 | 52.63 | 56.90 | -52.16 | -57.28 | -61.15 |
| 60 | 11.75 | 26.70 | 36.50 | 42.50 | 46.86 | -38.38 | -43.32 | 63.04 | 66.85 | 69.93 |
| | 4.12 | -10.62 | -20.58 | -26.80 | -31.51 | 53.01 | 57.26 | -50.31 | -55.06 | -58.38 |
| 70 | 15.55 | 27.83 | 37.19 | 43.05 | 47.31 | -37.41 | -42.02 | -48.40 | 67.22 | 70.26 |
| | 1.87 | -10.86 | -20.49 | -26.48 | -31.00 | 53.42 | 57.63 | 63.43 | -52.68 | -55.96 |
| 80 | 17.60 | 28.97 | 37.89 | 43.62 | 47.77 | -36.54 | -40.94 | -46.81 | 67.55 | 70.53 |
| | 0.63 | -10.87 | -20.28 | -26.07 | -30.47 | 53.82 | 57.98 | 63.80 | -50.89 | -53.86 |
| 90 | 18.99 | 29.74 | 38.42 | 44.10 | 48.18 | -35.89 | -40.15 | -45.68 | -49.50 | 70.76 |
| | -0.09 | -10.91 | -20.14 | -25.78 | -30.08 | 54.21 | 58.33 | 64.14 | 67.86 | -52.04 |
| 100 | 19.25 | 29.97 | 38.70 | 44.42 | 48.50 | -35.53 | -39.56 | -45.00 | -48.31 | 70.97 |
| | -0.50 | -11.16 | -20.21 | -25.73 | -29.88 | 54.57 | 58.66 | 64.47 | 68.13 | -50.94 |
| 110 | 18.56 | 29.73 | 38.78 | 44.64 | 48.76 | -35.47 | -39.32 | -44.53 | -47.73 | 71.13 |
| | -0.78 | -11.52 | -20.45 | -25.88 | -29.98 | 54.88 | 58.97 | 64.77 | 68.37 | -50.41 |
| 120 | 17.45 | 29.34 | 38.77 | 44.79 | 48.98 | -35.63 | -39.47 | -44.58 | -47.68 | 71.23 |
| | -0.71 | -11.79 | -20.73 | -26.14 | -30.20 | 55.12 | 59.23 | 65.01 | 68.53 | -50.33 |
| 130 | 16.26 | 28.96 | 38.76 | 44.92 | 49.16 | -35.99 | -39.98 | -45.06 | -48.13 | 71.24 |
| | -0.09 | -11.79 | -20.94 | -26.44 | -30.51 | 55.28 | 59.43 | 65.10 | 68.60 | -50.64 |
| 140 | 14.90 | 28.54 | 38.67 | 44.93 | 49.22 | -36.59 | -40.58 | -45.71 | -49.11 | 71.15 |
| | 1.86 | -11.60 | -21.14 | -26.83 | -30.97 | 55.34 | 59.50 | 65.09 | 68.53 | -51.39 |
| 150 | 11.70 | 27.88 | 38.34 | 44.71 | 49.06 | -37.54 | -41.54 | -46.79 | 68.29 | 70.93 |
| | 4.03 | -11.53 | -21.53 | -27.47 | -31.71 | 55.24 | 59.35 | 64.94 | -50.43 | -52.72 |
| 160 | 0. | 26.80 | 37.63 | 44.12 | 48.58 | -38.97 | -42.98 | -48.43 | 67.84 | 70.56 |
| | 0. | -11.99 | -22.38 | -28.57 | -32.88 | 54.89 | 58.92 | 64.48 | -51.91 | -54.78 |
| 170 | 0. | 25.32 | 36.52 | 43.12 | 47.72 | -40.67 | -44.98 | 63.71 | 67.17 | 70.07 |
| | 0. | -13.25 | -23.84 | -30.19 | -34.60 | 54.07 | 58.18 | -50.45 | -54.08 | -56.62 |

* REFER TO FIGURE 10 (RM 63 TMP-2)

*Table 21. Constant Magnetic Field Intensity, B (Gauss), at Altitude 1000 Kilometers

| LONG (DEG) | B=0.20 LAT (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) |
|---|---|---|---|---|---|
| -180 | 0. | 29.91 | 45.49 | -37.58 | -55.48 |
| | 0. | -10.92 | -24.37 | 61.10 | -82.35 |
| -170 | 0. | 28.40 | 44.39 | -4C.82 | -59.96 |
| | 0. | -13.71 | -27.32 | 6C.27 | -81.33 |
| -160 | 0. | 26.11 | 42.15 | -44.19 | -66.27 |
| | 0. | -16.62 | -3C.36 | 58.50 | -79.00 |
| -150 | 0. | 23.45 | 39.07 | -47.84 | 0. |
| | 0. | -19.75 | -33.55 | 55.53 | 0. |
| -140 | 0. | 20.88 | 35.65 | 51.75 | 0. |
| | 0. | -22.96 | -37.00 | -51.90 | 0. |
| -130 | 0. | 18.43 | 32.34 | 47.56 | 0. |
| | 0. | -26.46 | -4C.80 | -56.53 | 0. |
| -120 | 0. | 16.24 | 29.36 | 43.63 | 0. |
| | 0. | -30.32 | -45.10 | -61.72 | 0. |
| -110 | 0. | 14.27 | 26.84 | 4C.39 | 0. |
| | 0. | -34.70 | -49.92 | -66.98 | 0. |
| -100 | -7.49 | 12.53 | 24.81 | 38.21 | 0. |
| | -16.70 | -39.75 | -54.91 | -71.60 | 0. |
| -90 | -5.59 | 11.30 | 23.49 | 37.13 | 0. |
| | -25.14 | -45.06 | -59.50 | -75.13 | 0. |
| -80 | -4.50 | 10.83 | 23.18 | 37.61 | 0. |
| | -32.19 | -49.88 | -63.30 | -77.83 | 0. |
| -70 | -3.15 | 11.50 | 24.29 | 4C.07 | 0. |
| | -38.03 | -53.73 | -66.24 | -79.60 | 0. |
| -60 | -0.96 | 13.58 | 27.15 | 44.98 | 0. |
| | -42.14 | -56.62 | -68.42 | -8C.89 | 0. |
| -50 | 1.92 | 16.95 | 31.38 | 51.72 | 0. |
| | -44.76 | -58.64 | -69.99 | -81.78 | 0. |
| -40 | 5.30 | 20.91 | 36.03 | 58.36 | 0. |
| | -45.88 | -59.98 | -71.06 | -82.34 | 0. |
| -30 | 8.23 | 24.49 | 4C.07 | 63.52 | 0. |
| | -45.79 | -60.63 | -71.69 | -82.67 | 0. |
| -20 | 10.35 | 27.11 | 43.14 | 66.87 | 0. |
| | -44.34 | -60.73 | -71.94 | -82.81 | 0. |
| -10 | 11.03 | 28.66 | 44.94 | 68.76 | 0. |
| | -40.84 | -60.33 | -71.83 | -82.76 | 0. |

* REFER TO FIGURE 11 (RM 63 TMP-2)

*Table 21 (Cont.)

| LONG (DEG) | B=0.20 LAT (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) |
|---|---|---|---|---|---|
| -0 | 10.38 | 29.25 | 45.72 | 69.57 | 0. |
| | -31.84 | -59.30 | -71.34 | -82.53 | 0. |
| 10 | 7.11 | 28.96 | 45.41 | 69.49 | 0. |
| | -11.06 | -57.57 | -70.43 | -82.09 | 0. |
| 20 | 0. | 27.82 | 44.14 | 68.50 | 0. |
| | 0. | -55.14 | -68.98 | -81.36 | 0. |
| 30 | 0. | 25.94 | 42.00 | 66.35 | 0. |
| | 0. | -51.14 | -66.86 | -80.22 | 0. |
| 40 | 0. | 23.46 | 39.20 | 62.80 | 0. |
| | 0. | -44.75 | -63.75 | -78.62 | 0. |
| 50 | 0. | 20.88 | 36.32 | 57.92 | 0. |
| | 0. | -32.85 | -59.03 | -76.14 | 0. |
| 60 | 0. | 18.32 | 33.74 | 52.85 | 0. |
| | 0. | -19.27 | -51.27 | -72.24 | 0. |
| 70 | 0. | 15.96 | 31.80 | 48.76 | 0. |
| | 0. | -9.32 | -37.99 | -65.77 | 0. |
| 80 | 0. | 13.17 | 30.49 | 46.05 | 0. |
| | 0. | -1.47 | -24.95 | -54.46 | 0. |
| 90 | 0. | 10.12 | 29.76 | 44.52 | 0. |
| | 0. | 4.79 | -18.04 | -39.61 | 0. |
| 100 | 0. | 0. | 29.67 | 44.23 | 0. |
| | 0. | 0. | -14.86 | -31.31 | 0. |
| 110 | 0. | 0. | 30.41 | 45.07 | -50.96 |
| | 0. | 0. | -13.79 | -27.85 | -76.64 |
| 120 | 0. | 13.51 | 32.11 | 47.38 | -44.23 |
| | 0. | 3.89 | -13.84 | -26.64 | -80.39 |
| 130 | 0. | 17.72 | 34.82 | -26.65 | -42.55 |
| | 0. | 1.11 | -14.45 | 50.54 | -81.83 |
| 140 | 0. | 21.92 | 38.14 | -27.51 | -43.00 |
| | 0. | -1.16 | -15.47 | 54.18 | -82.62 |
| 150 | 0. | 25.76 | 41.39 | -29.13 | -44.83 |
| | 0. | -3.27 | -16.96 | 57.43 | -83.01 |
| 160 | 0. | 28.51 | 43.90 | -31.51 | -47.94 |
| | 0. | -5.67 | -19.02 | 59.60 | -83.09 |
| 170 | 0. | 30.01 | 45.33 | -34.38 | -51.54 |
| | 0. | -8.15 | -21.56 | 60.87 | -82.89 |

* REFER TO FIGURE 11 (RM 63 TMP-2)

*Table 22. Constant Magnetic Shell Parameter, L (Earth Radii), at Altitude 1000 Kilometers

| LONG (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|
| -180 | 0. | 22.02 | 34.35 | 41.26 | 46.10 | -42.14 | -46.48 | 62.44 | 66.12 | 68.77 |
| | 0. | -13.81 | -25.03 | -31.32 | -35.91 | 52.53 | 56.85 | -52.20 | -56.09 | -58.95 |
| -170 | 0. | 20.07 | 32.37 | 39.67 | 44.62 | -44.33 | -48.67 | 61.23 | 65.13 | 67.47 |
| | 0. | -15.61 | -26.70 | -33.22 | -37.81 | 51.15 | 55.62 | -54.73 | -58.54 | -61.45 |
| -160 | 0. | 17.86 | 30.51 | 37.62 | 42.62 | 49.49 | 53.90 | 59.84 | 63.36 | 66.06 |
| | 0. | -17.10 | -28.55 | -35.27 | -40.02 | -46.38 | -50.93 | -56.94 | -61.11 | -64.26 |
| -150 | 0. | 16.03 | 28.51 | 35.72 | 40.71 | 47.35 | 51.85 | 57.69 | 61.49 | 64.39 |
| | 0. | -18.58 | -30.40 | -37.05 | -41.85 | -48.57 | -53.17 | -59.58 | -63.72 | -66.86 |
| -140 | 0. | 14.31 | 26.64 | 33.71 | 38.61 | 45.38 | 49.94 | 55.68 | 59.59 | 62.10 |
| | 0. | -20.06 | -31.98 | -39.00 | -43.92 | -50.79 | -55.57 | -61.87 | -66.25 | -69.66 |
| -130 | 0. | 12.48 | 25.02 | 31.74 | 36.54 | 43.07 | 47.48 | 53.35 | 57.10 | 60.13 |
| | 0. | -21.06 | -33.63 | -40.85 | -45.91 | -52.89 | -57.72 | -64.35 | -68.65 | -71.86 |
| -120 | 0. | 10.91 | 23.09 | 30.03 | 34.68 | 41.00 | 45.43 | 51.09 | 55.08 | 57.54 |
| | 0. | -22.02 | -35.31 | -42.61 | -47.83 | -55.16 | -60.08 | -66.41 | -70.79 | -73.99 |
| -110 | 0. | 9.16 | 21.30 | 27.95 | 32.55 | 38.96 | 43.20 | 49.00 | 52.63 | 55.52 |
| | 0. | -23.07 | -36.80 | -44.57 | -49.93 | -56.98 | -61.84 | -68.27 | -72.44 | -75.65 |
| -100 | 0. | 6.92 | 19.46 | 26.07 | 30.73 | 36.96 | 41.30 | 46.98 | 50.84 | 53.53 |
| | 0. | -24.22 | -38.42 | -46.23 | -51.56 | -58.79 | -63.57 | -70.02 | -73.94 | -76.78 |
| -90 | 0. | 4.39 | 17.24 | 24.21 | 28.92 | 35.44 | 39.92 | 45.64 | 49.53 | 52.05 |
| | 0. | -25.23 | -40.02 | -47.70 | -53.04 | -60.29 | -65.05 | -71.00 | -75.12 | -77.70 |
| -80 | 0. | 1.11 | 15.35 | 22.45 | 27.42 | 34.28 | 38.78 | 44.95 | 48.68 | 51.43 |
| | 0. | -25.58 | -40.97 | -48.85 | -54.19 | -61.17 | -65.84 | -71.75 | -75.71 | -78.39 |
| -70 | 0. | -2.16 | 13.78 | 21.53 | 26.79 | 33.95 | 38.66 | 45.04 | 48.89 | 51.66 |
| | 0. | -25.10 | -41.32 | -49.40 | -54.79 | -61.67 | -66.31 | -72.20 | -76.07 | -78.83 |
| -60 | 0. | -3.97 | 13.68 | 21.90 | 27.41 | 34.94 | 39.78 | 45.95 | 50.17 | 52.82 |
| | 0. | -22.93 | -40.86 | -49.14 | -54.68 | -61.70 | -66.40 | -72.35 | -76.21 | -79.01 |
| -50 | 0. | -2.70 | 15.73 | 23.98 | 29.55 | 36.73 | 41.56 | 47.79 | 51.81 | 55.00 |
| | 0. | -20.21 | -39.38 | -48.00 | -53.80 | -61.24 | -66.09 | -72.17 | -76.11 | -78.92 |
| -40 | 0. | 2.29 | 19.47 | 27.09 | 32.32 | 39.50 | 44.15 | 50.32 | 54.22 | 56.88 |
| | 0. | -16.75 | -36.69 | -46.07 | -52.18 | -60.29 | -65.39 | -71.66 | -75.78 | -78.58 |
| -30 | 0. | 8.17 | 23.41 | 30.64 | 35.54 | 42.10 | 46.62 | 52.51 | 56.39 | 59.32 |
| | 0. | -13.68 | -33.19 | -43.14 | -49.96 | -58.46 | -64.01 | -70.84 | -75.22 | -77.97 |
| -20 | 0. | 13.28 | 26.95 | 33.71 | 38.29 | 44.82 | 49.08 | 55.00 | 58.56 | 61.25 |
| | 0. | -10.93 | -29.30 | -39.58 | -46.63 | -56.09 | -62.03 | -69.62 | -74.09 | -77.11 |
| -10 | 0. | 17.37 | 30.08 | 36.27 | 40.74 | 46.78 | 51.06 | 56.65 | 60.51 | 63.06 |
| | 0. | -8.64 | -25.57 | -35.63 | -42.94 | -53.03 | -59.72 | -67.62 | -72.53 | -76.01 |

• REFER TO FIGURE 11 (RM 63 TMP-2)

*Table 22 (Cont.)

| LONG (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|
| -0 | 0. | 20.70 | 32.11 | 38.24 | 42.50 | 48.54 | 52.66 | 58.28 | 61.92 | 64.90 |
| | 0. | -6.99 | -22.44 | -32.01 | -39.30 | -49.72 | -56.60 | -65.44 | -70.74 | -74.52 |
| 10 | 0. | 22.82 | 33.73 | 39.82 | 43.94 | -46.29 | 54.06 | 59.76 | 63.24 | 65.96 |
| | 0. | -6.05 | -20.36 | -29.28 | -36.12 | 50.03 | -53.42 | -62.57 | -68.29 | -72.24 |
| 20 | 0. | 24.24 | 34.78 | 40.64 | 44.98 | -43.49 | 55.15 | 60.66 | 64.42 | 66.91 |
| | 0. | -5.90 | -19.15 | -27.45 | -33.90 | 50.85 | -50.47 | -59.75 | -65.60 | -69.89 |
| 30 | 0. | 24.81 | 35.19 | 41.08 | 45.48 | -41.43 | -47.86 | 61.35 | 65.28 | 67.77 |
| | 0. | -6.47 | -18.91 | -26.64 | -32.55 | 51.46 | 55.76 | -56.71 | -62.53 | -66.76 |
| 40 | 0. | 24.84 | 35.30 | 41.35 | 45.81 | -40.13 | -45.95 | 61.93 | 65.81 | 68.53 |
| | 0. | -7.56 | -19.26 | -26.45 | -31.91 | 51.93 | 56.25 | -54.18 | -59.80 | -63.77 |
| 50 | 0. | 25.07 | 35.49 | 41.63 | 46.13 | -39.02 | -44.45 | 62.42 | 66.29 | 69.19 |
| | 0. | -8.77 | -19.79 | -26.47 | -31.54 | 52.33 | 56.66 | -51.85 | -56.96 | -60.85 |
| 60 | 0. | 25.76 | 35.95 | 42.05 | 46.50 | -38.03 | -43.00 | 62.85 | 66.70 | 69.77 |
| | 0. | -9.66 | -20.06 | -26.36 | -31.14 | 52.71 | 57.03 | -50.06 | -54.75 | -58.07 |
| 70 | 11.21 | 26.85 | 36.62 | 42.60 | 46.95 | -37.10 | -41.74 | -48.12 | 67.07 | 70.16 |
| | 5.60 | -10.02 | -19.97 | -26.05 | -30.65 | 53.12 | 57.39 | 63.24 | -52.42 | -55.74 |
| 80 | 15.24 | 27.96 | 37.31 | 43.17 | 47.41 | -36.25 | -40.70 | -46.59 | 67.41 | 70.43 |
| | 3.52 | -10.07 | -19.70 | -25.67 | -30.14 | 53.53 | 57.75 | 63.61 | -50.71 | -53.62 |
| 90 | 16.50 | 28.70 | 37.83 | 43.63 | 47.81 | -35.63 | -39.92 | -45.50 | -49.28 | 70.67 |
| | 2.59 | -10.11 | -19.53 | -25.39 | -29.68 | 53.92 | 58.10 | 63.96 | 67.72 | -51.87 |
| 100 | 16.80 | 28.93 | 38.11 | 43.95 | 48.13 | -35.28 | -39.27 | -44.76 | -48.12 | 70.88 |
| | 1.96 | -10.35 | -19.62 | -25.34 | -29.45 | 54.27 | 58.43 | 64.28 | 68.00 | -50.81 |
| 110 | 16.24 | 28.71 | 38.18 | 44.15 | 48.38 | -35.22 | -39.04 | -44.30 | -47.56 | 71.03 |
| | 1.67 | -10.68 | -19.94 | -25.48 | -29.54 | 54.57 | 58.72 | 64.57 | 68.22 | -50.30 |
| 120 | 15.25 | 28.33 | 38.17 | 44.30 | 48.58 | -35.37 | -39.18 | -44.34 | -47.52 | 71.12 |
| | 2.07 | -10.91 | -20.21 | -25.72 | -29.83 | 54.84 | 58.97 | 64.80 | 68.38 | -50.23 |
| 130 | 13.02 | 27.94 | 38.14 | 44.40 | 48.74 | -35.72 | -39.67 | -44.86 | -47.95 | 71.13 |
| | 3.41 | -10.88 | -20.40 | -26.00 | -30.18 | 55.04 | 59.15 | 64.93 | 68.44 | -50.54 |
| 140 | 10.18 | 27.50 | 38.02 | 44.39 | 48.78 | -36.30 | -40.36 | -45.54 | -48.91 | 71.03 |
| | 8.85 | -10.68 | -20.58 | -26.37 | -30.62 | 55.08 | 59.20 | 64.91 | 68.36 | -51.27 |
| 150 | 0. | 26.84 | 37.68 | 44.15 | 48.61 | -37.22 | -41.29 | -46.59 | 68.10 | 70.80 |
| | 0. | -10.58 | -20.94 | -26.98 | -31.33 | 54.96 | 59.04 | 64.69 | -50.29 | -52.56 |
| 160 | 0. | 25.79 | 36.97 | 43.56 | 48.12 | -38.60 | -42.69 | -48.19 | 67.64 | 70.44 |
| | 0. | -10.97 | -21.75 | -28.04 | -32.46 | 54.49 | 58.60 | 64.21 | -51.74 | -54.58 |
| 170 | 0. | 24.12 | 35.89 | 42.58 | 47.27 | -40.37 | -44.64 | 63.45 | 66.98 | 69.90 |
| | 0. | -12.10 | -23.13 | -29.66 | -34.11 | 53.68 | 57.86 | -50.27 | -53.86 | -56.47 |

* REFER TO FIGURE 11 (RM 63 TMP-2)

*Table 23. Constant Magnetic Field Intensity, B (Gauss), at Altitude 1200 Kilometers

| LONG (DEG) | B=0.20 LAT (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) |
|---|---|---|---|---|
| -180 | 0. | 36.40 | -31.09 | -47.28 |
| | 0. | -17.12 | 52.51 | 77.48 |
| | 0. | 0. | 0. | 89.30 |
| | 0. | 0. | 0. | -88.85 |
| -170 | 10.18 | 35.15 | -34.15 | -50.93 |
| | 2.50 | -19.99 | 51.58 | 76.61 |
| | 0. | 0. | 0. | 89.43 |
| | 0. | 0. | 0. | -88.41 |
| -160 | 9.04 | 32.87 | 49.55 | 74.78 |
| | -1.75 | -22.88 | -37.36 | -54.88 |
| | 0. | 0. | 0. | 89.57 |
| | 0. | 0. | 0. | -87.94 |
| -150 | 7.83 | 30.12 | 46.66 | 72.67 |
| | -5.90 | -25.98 | -40.72 | -59.55 |
| | 0. | 0. | 0. | 89.70 |
| | 0. | 0. | 0. | -87.44 |
| -140 | 6.76 | 27.20 | 43.16 | 68.78 |
| | -10.04 | -29.26 | -44.40 | -65.21 |
| | 0. | 0. | 0. | 89.83 |
| | 0. | 0. | 0. | -86.88 |
| -130 | 5.74 | 24.47 | 39.54 | 63.70 |
| | -13.75 | -32.81 | -48.55 | -72.74 |
| | 0. | 0. | 0. | 89.93 |
| | 0. | 0. | 0. | -86.19 |
| -120 | 4.61 | 21.99 | 36.32 | 58.38 |
| | -17.76 | -36.78 | -53.19 | -83.42 |
| | 0. | 0. | 0. | -85.21 |
| -110 | 3.33 | 19.84 | 33.59 | 54.00 |
| | -22.22 | -41.28 | -58.14 | 0. |
| -100 | 2.34 | 18.02 | 31.55 | 51.44 |
| | -27.36 | -46.21 | -62.89 | 0. |
| -90 | 1.74 | 16.77 | 30.32 | 50.93 |
| | -33.11 | -51.08 | -66.96 | 89.92 |
| -80 | 1.73 | 16.36 | 30.33 | 53.60 |
| | -38.76 | -55.34 | -70.13 | 89.55 |

* REFER TO FIGURE 12 (RM 63 TMP-2)

*Table 23 (Cont.)

| LONG (DEG) | B=0.20 LAT (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) |
|---|---|---|---|---|
| -70 | 2.60 | 17.17 | 32.00 | 62.11 |
| | -43.42 | -58.70 | -72.59 | 86.45 |
| -60 | 4.61 | 19.44 | 35.35 | 0. |
| | -46.84 | -61.24 | -74.32 | 0. |
| -50 | 7.51 | 22.99 | 40.06 | 0. |
| | -49.10 | -63.03 | -75.57 | 0. |
| -40 | 11.01 | 27.04 | 45.05 | 0. |
| | -50.33 | -64.22 | -76.41 | 0. |
| -30 | 14.25 | 30.67 | 49.39 | 0. |
| | -50.56 | -64.88 | -76.90 | 0. |
| -20 | 16.62 | 33.39 | 52.64 | 0. |
| | -49.94 | -65.05 | -77.09 | 0. |
| -10 | 17.95 | 35.05 | 54.61 | 0. |
| | -48.11 | -64.73 | -76.98 | 0. |
| -0 | 18.30 | 35.79 | 55.51 | 0. |
| | -45.22 | -63.89 | -76.58 | 0. |
| 10 | 17.68 | 35.62 | 55.32 | 0. |
| | -39.86 | -62.49 | -75.84 | 0. |
| 20 | 16.13 | 34.59 | 54.13 | 0. |
| | -28.55 | -60.45 | -74.67 | 0. |
| 30 | 13.48 | 32.83 | 51.97 | 0. |
| | -16.73 | -57.29 | -72.97 | 0. |
| 40 | 10.04 | 30.54 | 48.98 | 0. |
| | -9.42 | -52.57 | -70.47 | 0. |
| 50 | 0. | 28.10 | 45.67 | 0. |
| | 0. | -45.04 | -66.77 | 0. |
| 60 | 0. | 25.93 | 42.66 | 89.99 |
| | 0. | -32.75 | -61.05 | 0. |
| 70 | 0. | 24.18 | 40.17 | 89.94 |
| | 0. | -20.80 | -51.63 | 0. |
| 80 | 0. | 22.84 | 38.57 | 89.95 |
| | 0. | -12.89 | -38.12 | -81.39 |
| | 0. | 0. | 0. | -85.29 |

* REFER TO FIGURE 12 (RM 63 TMP-2)

*Table 23 (Cont.)

| LONG (DEG) | B=0.20 LAT (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) |
|---|---|---|---|---|
| 90 | 0. | 22.01 | 37.67 | 68.67 |
| | 0. | -8.19 | -28.17 | 77.17 |
| | 0. | 0. | 0. | -63.17 |
| | 0. | 0. | 0. | -86.57 |
| 100 | 0. | 21.81 | 37.54 | -46.75 |
| | 0. | -6.05 | -23.29 | 63.78 |
| | 0. | 0. | 0. | 87.25 |
| | 0. | 0. | 0. | -87.55 |
| 110 | 0. | 22.44 | 38.30 | -39.15 |
| | 0. | -5.63 | -21.24 | 64.18 |
| | 0. | 0. | 0. | 88.94 |
| | 0. | 0. | 0. | -88.32 |
| 120 | 0. | 24.12 | 40.04 | -36.28 |
| | 0. | -6.11 | -20.67 | 67.41 |
| | 0. | 0. | 0. | 89.06 |
| | 0. | 0. | 0. | -88.93 |
| 130 | 0. | 26.65 | 42.79 | -35.55 |
| | 0. | -7.04 | -20.95 | 71.15 |
| | 0. | 0. | 0. | 89.07 |
| | 0. | 0. | 0. | -89.36 |
| 140 | 0. | 29.81 | 45.93 | -36.27 |
| | 0. | -8.31 | -21.85 | 74.19 |
| | 0. | 0. | 0. | 89.07 |
| | 0. | 0. | 0. | -89.59 |
| 150 | 0. | 32.81 | 48.89 | -38.04 |
| | 0. | -10.01 | -23.37 | 76.17 |
| | 0. | 0. | 0. | 89.08 |
| | 0. | 0. | 0. | -89.63 |
| 160 | 0. | 35.22 | -25.51 | -40.59 |
| | 0. | -11.99 | 51.11 | 77.34 |
| | 0. | 0. | 0. | 89.12 |
| | 0. | 0. | 0. | -89.50 |
| 170 | 0. | 36.43 | -28.16 | -43.79 |
| | 0. | -14.46 | 52.35 | 77.70 |
| | 0. | 0. | 0. | 89.20 |
| | 0. | 0. | 0. | -89.22 |

* REFER TO FIGURE 12 (RM 63 TMP-2)

## *Table 24. Constant Magnetic Shell Parameter, L (Earth Radii), at Altitude 1200 Kilometers

| LONG (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|
| -180 | 19.64 | 32.84 | 40.28 | 45.28 | -41.48 | -45.94 | 61.95 | 65.77 | 68.36 |
| | -11.26 | -23.51 | -30.38 | -35.14 | 51.81 | 56.27 | -51.75 | -55.74 | -58.55 |
| -170 | 17.31 | 31.01 | 38.46 | 43.58 | -43.55 | -48.03 | 60.79 | 64.67 | 67.10 |
| | -12.91 | -25.43 | -32.14 | -36.92 | 50.49 | 55.09 | -54.17 | -58.09 | -61.11 |
| -160 | 15.40 | 29.06 | 36.53 | 41.69 | 48.65 | 53.19 | 59.22 | 62.88 | 65.73 |
| | -14.66 | -27.11 | -34.15 | -39.01 | -45.74 | -50.40 | -56.48 | -60.73 | -63.81 |
| -150 | 13.32 | 27.05 | 34.67 | 39.86 | 46.61 | 51.24 | 57.16 | 61.09 | 63.91 |
| | -15.94 | -28.93 | -36.03 | -41.00 | -47.82 | -52.53 | -59.00 | -63.23 | -66.46 |
| -140 | 11.48 | 25.32 | 32.56 | 37.63 | 44.65 | 49.19 | 55.25 | 59.06 | 61.72 |
| | -17.09 | -30.64 | -37.85 | -42.95 | -50.15 | -55.03 | -61.37 | -65.82 | -69.13 |
| -130 | 9.87 | 23.42 | 30.71 | 35.69 | 42.32 | 46.86 | 52.81 | 56.68 | 59.73 |
| | -18.18 | -32.14 | -39.83 | -45.09 | -52.13 | -57.06 | -63.73 | -68.10 | -71.40 |
| -120 | 7.86 | 21.62 | 28.78 | 33.65 | 40.36 | 44.88 | 50.67 | 54.62 | 57.17 |
| | -19.20 | -33.77 | -41.51 | -46.88 | -54.34 | -59.33 | -65.89 | -70.34 | -73.43 |
| -110 | 6.03 | 19.97 | 26.82 | 31.64 | 38.18 | 42.57 | 48.46 | 52.22 | 55.24 |
| | -20.20 | -35.41 | -43.32 | -48.84 | -56.22 | -61.18 | -67.65 | -71.91 | -75.23 |
| -100 | 3.70 | 17.81 | 25.07 | 29.90 | 36.29 | 40.77 | 46.55 | 50.52 | 53.16 |
| | -20.94 | -36.85 | -45.16 | -50.62 | -57.91 | -62.80 | -69.30 | -73.34 | -76.32 |
| -90 | 0.79 | 15.80 | 22.99 | 27.94 | 34.80 | 39.24 | 45.27 | 49.09 | 51.75 |
| | -21.50 | -38.27 | -46.50 | -51.99 | -59.42 | -64.21 | -70.47 | -74.52 | -77.18 |
| -80 | -3.05 | 13.71 | 21.36 | 26.53 | 33.51 | 38.15 | 44.42 | 48.27 | 51.14 |
| | -21.35 | -39.36 | -47.53 | -53.04 | -60.40 | -65.20 | -71.17 | -75.26 | -77.84 |
| -70 | -7.37 | 12.15 | 20.49 | 25.93 | 33.18 | 38.02 | 44.50 | 48.45 | 51.34 |
| | -20.05 | -39.71 | -47.99 | -53.56 | -60.85 | -65.62 | -71.59 | -75.60 | -78.25 |
| -60 | -14.31 | 12.01 | 20.80 | 26.48 | 34.09 | 39.06 | 45.52 | 49.73 | 52.42 |
| | -15.17 | -39.09 | -47.71 | -53.43 | -60.86 | -65.69 | -71.71 | -75.72 | -78.40 |
| -50 | 0. | 14.01 | 22.68 | 28.44 | 35.99 | 40.94 | 47.24 | 51.37 | 54.47 |
| | 0. | -37.44 | -46.63 | -52.57 | -60.40 | -65.38 | -71.53 | -75.61 | -78.31 |
| -40 | 0. | 17.55 | 25.88 | 31.31 | 38.58 | 43.37 | 49.79 | 53.65 | 56.46 |
| | 0. | -34.99 | -44.76 | -51.03 | -59.27 | -64.56 | -71.02 | -75.28 | -77.96 |
| -30 | 1.36 | 21.62 | 29.38 | 34.51 | 41.31 | 45.97 | 51.94 | 55.94 | 58.77 |
| | -6.84 | -31.38 | -41.73 | -48.63 | -57.42 | -63.05 | -70.23 | -74.55 | -77.35 |
| -20 | 8.09 | 25.37 | 32.41 | 37.24 | 43.90 | 48.31 | 54.31 | 58.01 | 60.85 |
| | -5.94 | -27.52 | -38.15 | -45.52 | -55.17 | -61.17 | -68.73 | -73.32 | -76.51 |
| -10 | 13.18 | 28.26 | 35.20 | 39.84 | 46.05 | 50.47 | 56.14 | 60.13 | 62.59 |
| | -4.74 | -23.96 | -34.40 | -41.82 | -52.01 | -58.69 | -66.81 | -71.81 | -75.44 |

* REFER TO FIGURE 12 (RM 63 TMP-2)

*Table 24 (Cont.)

| LONG (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | *L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|
| -0 | 16.94 | 30.66 | 37.07 | 41.57 | 47.74 | 52.01 | 57.72 | 61.48 | 64.37 |
| | -3.54 | -21.03 | -30.92 | -38.23 | -48.70 | -55.76 | -64.64 | -70.09 | -73.68 |
| 10 | 19.88 | 32.18 | 38.58 | 42.96 | 49.20 | 53.38 | 59.15 | 62.77 | 65.63 |
| | -2.91 | -18.97 | -28.22 | -35.27 | -45.49 | -52.54 | -61.74 | -67.47 | -71.51 |
| 20 | 21.22 | 33.19 | 39.62 | 43.98 | -42.69 | -49.71 | 60.26 | 63.93 | 66.56 |
| | -3.05 | -17.81 | -26.50 | -33.04 | 50.25 | 54.51 | -58.86 | -64.90 | -68.99 |
| 30 | 21.84 | 33.70 | 40.17 | 44.66 | -40.74 | -47.14 | 60.95 | 64.95 | 67.41 |
| | -3.93 | -17.63 | -25.76 | -31.75 | 50.86 | 55.28 | -56.02 | -61.79 | -66.06 |
| 40 | 22.06 | 33.90 | 40.46 | 45.10 | -39.39 | -45.34 | 61.53 | 65.51 | 68.18 |
| | -5.29 | -17.96 | -25.58 | -31.14 | 51.33 | 55.77 | -53.45 | -59.02 | -63.01 |
| 50 | 22.45 | 34.20 | 40.75 | 45.42 | -38.30 | -43.75 | 62.02 | 65.99 | 68.84 |
| | -6.40 | -18.44 | -25.60 | -30.78 | 51.74 | 56.19 | -51.26 | -56.37 | -60.29 |
| 60 | 23.45 | 34.82 | 41.17 | 45.80 | -37.36 | -42.38 | -49.44 | 66.41 | 69.43 |
| | -7.27 | -18.71 | -25.49 | -30.41 | 52.13 | 56.57 | 62.46 | -54.11 | -57.50 |
| 70 | 24.95 | 35.52 | 41.71 | 46.25 | -36.48 | -41.20 | -47.60 | 66.79 | 69.95 |
| | -7.70 | -18.63 | -25.23 | -29.95 | 52.54 | 56.94 | 62.87 | -51.94 | -55.34 |
| 80 | 25.99 | 36.19 | 42.27 | 46.70 | -35.70 | -40.24 | -46.16 | 67.13 | 70.24 |
| | -7.86 | -18.40 | -24.83 | -29.31 | 52.95 | 57.30 | 63.24 | -50.35 | -53.18 |
| 90 | 26.69 | 36.69 | 42.72 | 47.10 | -35.12 | -39.32 | -45.15 | -48.84 | 70.48 |
| | -7.97 | -18.26 | -24.50 | -28.83 | 53.33 | 57.65 | 63.59 | 67.44 | -51.55 |
| 100 | 26.91 | 36.95 | 43.03 | 47.40 | -34.71 | -38.71 | -44.29 | -47.76 | 70.68 |
| | -8.26 | -18.33 | -24.42 | -28.62 | 53.67 | 57.96 | 63.91 | 67.72 | -50.56 |
| 110 | 26.73 | 37.02 | 43.21 | 47.64 | -34.62 | -38.49 | -43.85 | -47.24 | 70.83 |
| | -8.64 | -18.59 | -24.59 | -28.68 | 53.96 | 58.24 | 64.18 | 67.93 | -50.10 |
| 120 | 26.37 | 36.99 | 43.33 | 47.81 | -34.82 | -38.61 | -43.89 | -47.20 | 70.92 |
| | -8.86 | -18.89 | -24.89 | -28.93 | 54.20 | 58.47 | 64.38 | 68.07 | -50.03 |
| 130 | 25.96 | 36.92 | 43.40 | 47.94 | -35.20 | -39.07 | -44.38 | -47.61 | 70.91 |
| | -8.76 | -19.10 | -25.17 | -29.32 | 54.37 | 58.61 | 64.49 | 68.11 | -50.33 |
| 140 | 25.50 | 36.78 | 43.35 | 47.94 | -35.74 | -39.91 | -45.22 | -48.53 | 70.80 |
| | -8.42 | -19.31 | -25.49 | -29.90 | 54.40 | 58.63 | 64.44 | 68.01 | -51.03 |
| 150 | 24.75 | 36.41 | 43.08 | 47.73 | -36.60 | -40.81 | -46.21 | 67.73 | 70.56 |
| | -8.21 | -19.75 | -26.05 | -30.58 | 54.21 | 58.44 | 64.19 | -50.03 | -52.26 |
| 160 | 23.35 | 35.71 | 42.49 | 47.23 | -37.90 | -42.13 | -47.73 | 67.27 | 70.19 |
| | -8.58 | -20.53 | -27.03 | -31.63 | 53.73 | 57.99 | 63.70 | -51.41 | -54.19 |
| 170 | 21.58 | 34.57 | 41.53 | 46.40 | -39.73 | -43.98 | -49.86 | 66.61 | 69.47 |
| | -9.86 | -21.77 | -28.52 | -33.18 | 52.92 | 57.26 | 62.95 | -53.43 | -56.17 |

* REFER TO FIGURE 12 (RM 63 TMP-2)

*Table 25. Constant Magnetic Field Intensity, B (Gauss), at Altitude 1400 Kilometers

| LONG (DEG) | B=0.15 LAT (DEG) | B=0.20 LAT (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) |
|---|---|---|---|---|---|
| -180 | 0. | 22.70 | 42.65 | -38.68 | -66.24 |
| | 0. | -5.90 | -23.12 | 60.97 | -72.12 |
| -170 | 0. | 21.43 | 41.53 | -41.98 | 0. |
| | 0. | -8.75 | -26.01 | 60.13 | 0. |
| -160 | 0. | 19.54 | 39.42 | -45.39 | 0. |
| | 0. | -11.70 | -29.01 | 58.50 | 0. |
| -150 | 0. | 17.31 | 36.63 | -49.16 | 0. |
| | 0. | -14.93 | -32.18 | 55.83 | 0. |
| -140 | 0. | 15.31 | 33.56 | 52.43 | 0. |
| | 0. | -18.07 | -35.58 | -53.39 | 0. |
| -130 | 0. | 13.25 | 30.57 | 48.60 | 0. |
| | 0. | -21.56 | -39.31 | -58.17 | 0. |
| -120 | 0. | 11.46 | 27.87 | 44.90 | 0. |
| | 0. | -25.35 | -43.48 | -63.37 | 0. |
| -110 | 0. | 9.90 | 25.55 | 42.01 | 0. |
| | 0. | -29.54 | -48.10 | -68.50 | 0. |
| -100 | 0. | 8.41 | 23.69 | 39.81 | 0. |
| | 0. | -34.33 | -52.88 | -72.92 | 0. |
| -90 | 0. | 7.44 | 22.50 | 38.91 | 0. |
| | 0. | -39.50 | -57.34 | -76.27 | 0. |
| -80 | 0. | 7.18 | 22.24 | 39.44 | 0. |
| | 0. | -44.35 | -61.09 | -78.67 | 0. |
| -70 | 0. | 7.91 | 23.28 | 41.98 | 0. |
| | 0. | -48.33 | -64.02 | -80.29 | 0. |
| -60 | -13.48 | 9.89 | 25.81 | 46.42 | 0. |
| | -26.63 | -51.32 | -66.22 | -81.48 | 0. |
| -50 | -9.36 | 12.87 | 29.55 | 52.14 | 0. |
| | -30.41 | -53.32 | -67.78 | -82.26 | 0. |
| -40 | -6.69 | 16.45 | 33.72 | 57.69 | 0. |
| | -30.55 | -54.53 | -68.82 | -82.75 | 0. |
| -30 | -4.93 | 19.79 | 37.43 | 62.07 | 0. |
| | -26.94 | -54.97 | -69.40 | -83.03 | 0. |
| -20 | -8.47 | 22.30 | 40.19 | 64.99 | 0. |
| | -15.52 | -54.64 | -69.57 | -83.12 | 0. |
| -10 | 0. | 23.88 | 42.03 | 66.86 | 0. |
| | 0. | -53.53 | -69.32 | -83.04 | 0. |

* REFER TO FIGURE 13 (RM 63 TMP-2)

*Table 25 (Cont.)

| LONG (DEG) | B=0.15 LAT (DEG) | B=0.20 LAT (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) |
|---|---|---|---|---|---|
| -0 | 0. | 24.56 | 42.85 | 67.70 | 0. |
| | 0. | -51.64 | -68.64 | -82.78 | 0. |
| 10 | 0. | 24.37 | 42.75 | 67.71 | 0. |
| | 0. | -48.71 | -67.48 | -82.31 | 0. |
| 20 | 0. | 23.33 | 41.78 | 66.90 | 0. |
| | 0. | -44.20 | -65.74 | -81.54 | 0. |
| 30 | 0. | 21.56 | 40.00 | 65.13 | 0. |
| | 0. | -36.85 | -63.14 | -80.34 | 0. |
| 40 | 0. | 19.23 | 37.78 | 62.48 | 0. |
| | 0. | -26.85 | -59.40 | -78.65 | 0. |
| 50 | 0. | 16.50 | 35.32 | 58.82 | 0. |
| | 0. | -17.65 | -53.68 | -76.00 | 0. |
| 60 | 0. | 13.40 | 33.11 | 54.77 | 0. |
| | 0. | -9.26 | -44.67 | -71.86 | 0. |
| 70 | 0. | 8.49 | 31.37 | 51.41 | 0. |
| | 0. | -0.01 | -32.40 | -65.05 | 0. |
| 80 | 0. | 0. | 30.17 | 48.90 | 0. |
| | 0. | 0. | -22.61 | -54.03 | 0. |
| 90 | 0. | 0. | 29.47 | 47.53 | 0. |
| | 0. | 0. | -16.85 | -41.06 | 0. |
| 100 | 0. | 0. | 29.38 | 47.20 | 0. |
| | 0. | 0. | -13.95 | -33.23 | 0. |
| 110 | 0. | 0. | 30.03 | 48.00 | 0. |
| | 0. | 0. | -12.87 | -29.57 | 0. |
| 120 | 0. | 0. | 31.52 | 49.81 | -54.78 |
| | 0. | 0. | -12.85 | -28.23 | -70.29 |
| 130 | 0. | 0. | 33.85 | -28.12 | -50.17 |
| | 0. | 0. | -13.42 | 52.65 | -74.81 |
| 140 | 0. | 11.49 | 36.68 | -28.89 | -49.84 |
| | 0. | 8.68 | -14.45 | 55.53 | -76.38 |
| 150 | 0. | 18.27 | 39.41 | -30.46 | -51.78 |
| | 0. | 3.08 | -15.94 | 58.16 | -76.99 |
| 160 | 0. | 21.46 | 41.52 | -32.78 | -54.75 |
| | 0. | -0.29 | -17.93 | 59.87 | -76.88 |
| 170 | 0. | 22.83 | 42.64 | -35.55 | -59.19 |
| | 0. | -2.96 | -20.40 | 60.88 | -75.96 |

* REFER TO FIGURE 13 (RM 63 TMP-2)

## *Table 26. Constant Magnetic Shell Parameter, L (Earth Radii), at Altitude 1400 Kilometers

| LONG (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|
| -180 | 16.54 | 31.42 | 39.13 | 44.33 | -4C.85 | -45.44 | 61.50 | 65.43 | 67.97 |
| | -8.26 | -22.05 | -29.28 | -34.18 | 51.13 | 55.72 | -51.32 | -55.42 | -58.17 |
| -170 | 14.42 | 29.64 | 37.32 | 42.60 | 49.81 | -47.42 | 6C.37 | 64.15 | 66.74 |
| | -1C.10 | -23.93 | -31.11 | -3E.08 | -42.81 | 54.38 | -53.63 | -57.66 | -60.79 |
| -160 | 12.13 | 27.52 | 35.51 | 4C.82 | 47.85 | -49.85 | 58.64 | 62.43 | 65.41 |
| | -11.38 | -25.74 | -32.99 | -38.04 | -45.12 | 52.52 | -56.03 | -60.36 | -63.38 |
| -150 | 1C.29 | 25.67 | 33.45 | 38.80 | 45.92 | 5C.67 | 56.66 | 6C.70 | 63.45 |
| | -12.61 | -27.40 | -35.05 | -4C.19 | -47.10 | -51.93 | -58.45 | -62.76 | -66.08 |
| -140 | 8.10 | 23.75 | 31.46 | 3E.71 | 43.81 | 48.48 | 54.77 | 58.55 | 61.35 |
| | -13.81 | -29.16 | -3E.75 | -42.02 | -49.37 | -54.31 | -60.89 | -65.42 | -68.64 |
| -130 | 6.2C | 21.89 | 29.65 | 34.84 | 41.61 | 46.27 | 52.30 | 5E.29 | 59.26 |
| | -14.95 | -30.73 | -38.60 | -44.07 | -51.42 | -56.44 | -63.14 | -67.59 | -7C.98 |
| -120 | 4.31 | 2C.23 | 27.59 | 32.66 | 3S.64 | 44.16 | 5C.27 | 54.12 | 56.81 |
| | -15.58 | -32.21 | -4C.47 | -45.99 | -53.5C | -58.59 | -65.39 | -69.88 | -72.91 |
| -110 | 1.93 | 18.24 | 25.77 | 3C.78 | 37.44 | 41.97 | 47.96 | 51.84 | 54.97 |
| | -16.11 | -33.79 | -42.13 | -47.81 | -55.51 | -6C.57 | -67.07 | -71.41 | -74.75 |
| -100 | -C.56 | 16.27 | 23.81 | 28.85 | 35.65 | 4C.27 | 46.13 | 5C.21 | 52.80 |
| | -16.46 | -35.37 | -43.87 | -4S.67 | -57.09 | -62.08 | -68.63 | -72.76 | -75.87 |
| -90 | -4.43 | 14.21 | 21.85 | 27.00 | 33.99 | 38.59 | 44.86 | 48.66 | 51.45 |
| | -16.21 | -36.61 | -45.37 | -51.01 | -58.49 | -63.41 | -69.97 | -73.89 | -76.71 |
| -80 | C. | 12.04 | 20.33 | 25.68 | 32.77 | 37.55 | 43.90 | 47.87 | 50.86 |
| | C. | -37.53 | -46.29 | -51.96 | -59.56 | -64.41 | -7C.63 | -74.74 | -77.32 |
| -70 | C. | 1C.59 | 19.33 | 25.1C | 32.45 | 37.41 | 43.96 | 48.02 | 51.03 |
| | 0. | -37.79 | -46.69 | -52.42 | -6C.09 | -64.98 | -71.02 | -75.16 | -77.71 |
| -60 | C. | 1C.41 | 19.67 | 25.59 | 33.28 | 38.37 | 45.11 | 49.22 | 52.04 |
| | C. | -37.17 | -46.40 | -52.27 | -6C.08 | -65.04 | -71.13 | -75.27 | -77.85 |
| -50 | C. | 12.13 | 21.44 | 27.38 | 35.29 | 40.36 | 46.72 | 50.95 | 53.97 |
| | C. | -35.63 | -45.36 | -51.44 | -59.48 | -64.59 | -7C.93 | -75.15 | -77.74 |
| -40 | C. | 15.76 | 24.66 | 3C.35 | 37.71 | 42.63 | 49.12 | 53.10 | 56.06 |
| | C. | -32.90 | -43.24 | -49.98 | -58.23 | -63.62 | -7C.44 | -74.71 | -77.39 |
| -30 | 0. | 19.92 | 27.97 | 33.35 | 4C.57 | 45.36 | 51.40 | 55.52 | 58.26 |
| | C. | -29.55 | -4C.42 | -47.39 | -56.46 | -62.18 | -69.48 | -73.81 | -76.79 |
| -20 | 0. | 23.45 | 31.19 | 36.25 | 43.03 | 47.59 | 53.66 | 57.49 | 6C.48 |
| | 0. | -25.78 | -36.80 | -44.35 | -54.11 | -60.38 | -67.92 | -72.61 | -75.97 |
| -10 | C. | 26.53 | 33.87 | 38.71 | 45.36 | 49.87 | 55.66 | 59.61 | 62.15 |
| | C. | -22.26 | -33.08 | -4C.76 | -51.08 | -57.74 | -66.08 | -71.15 | -74.88 |

* REFER TO FIGURE 13 (RM 63 TMP-2)

*Table 26 (Cont.)

| LONG (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|
| -0 | 11.27 | 28.99 | 35.96 | 4C.68 | 46.99 | 51.40 | 57.18 | 61.07 | 63.87 |
| | 2.68 | -19.55 | -29.84 | -37.21 | -47.74 | -54.97 | -63.74 | -69.26 | -72.93 |
| 10 | 15.35 | 30.72 | 37.39 | 42.02 | 48.40 | 52.72 | 58.58 | 62.32 | 65.31 |
| | 1.30 | -17.50 | -27.16 | -34.33 | -44.66 | -51.72 | -61.00 | -66.72 | -70.85 |
| 20 | 17.23 | 31.69 | 38.41 | 43.02 | 49.53 | -48.88 | 59.81 | 63.46 | 66.22 |
| | 0.50 | -16.48 | -25.56 | -32.18 | -41.92 | 53.84 | -58.05 | -64.04 | -68.19 |
| 30 | 18.40 | 32.20 | 39.04 | 43.70 | -4C.09 | -46.46 | 60.56 | 64.48 | 67.07 |
| | -0.66 | -16.35 | -24.87 | -3C.97 | 50.28 | 54.73 | -55.38 | -61.12 | -65.42 |
| 40 | 19.06 | 32.45 | 39.44 | 44.19 | -38.65 | -44.70 | 61.14 | 65.22 | 67.83 |
| | -2.04 | -16.68 | -24.64 | -3C.40 | 50.75 | 55.31 | -52.78 | -58.31 | -62.33 |
| 50 | 19.86 | 32.78 | 39.86 | 44.65 | -37.60 | -43.09 | 61.64 | 65.70 | 68.50 |
| | -3.59 | -17.12 | -24.67 | -30.05 | 51.16 | 55.73 | -50.72 | -55.83 | -59.71 |
| 60 | 20.90 | 33.40 | 40.32 | 45.12 | -36.71 | -41.79 | -48.83 | 66.13 | 69.10 |
| | -4.92 | -17.38 | -24.55 | -29.62 | 51.56 | 56.12 | 62.09 | -53.53 | -56.98 |
| 70 | 22.29 | 34.26 | 40.85 | 45.56 | -35.89 | -4C.69 | -47.10 | 66.51 | 69.63 |
| | -5.46 | -17.34 | -24.23 | -29.06 | 51.98 | 56.49 | 62.50 | -51.50 | -54.96 |
| 80 | 23.68 | 35.09 | 41.39 | 46.01 | -35.16 | -39.70 | -45.76 | 66.86 | 70.05 |
| | -5.69 | -17.14 | -23.80 | -28.46 | 52.39 | 56.86 | 62.88 | -5C.01 | -52.76 |
| 90 | 24.64 | 35.58 | 41.84 | 46.40 | -34.47 | -38.75 | -44.72 | -48.43 | 7C.29 |
| | -5.86 | -17.02 | -23.49 | -28.02 | 52.76 | 57.20 | 63.22 | 67.17 | -51.24 |
| 100 | 24.96 | 35.83 | 42.13 | 46.70 | -34.03 | -38.16 | -43.83 | -47.42 | 7C.49 |
| | -6.12 | -17.09 | -23.41 | -27.81 | 53.09 | 57.50 | 63.53 | 67.43 | -50.32 |
| 110 | 24.74 | 35.89 | 42.30 | 46.91 | -33.93 | -37.95 | -43.42 | -46.92 | -49.81 |
| | -6.41 | -17.31 | -23.55 | -27.86 | 53.36 | 57.76 | 63.79 | 67.64 | 70.63 |
| 120 | 24.23 | 35.85 | 42.40 | 47.07 | -34.11 | -38.07 | -43.46 | -46.89 | -49.71 |
| | -6.53 | -17.55 | -23.80 | -28.08 | 53.57 | 57.97 | 63.98 | 67.76 | 70.71 |
| 130 | 23.63 | 35.76 | 42.43 | 47.16 | -34.55 | -38.50 | -43.92 | -47.29 | 70.69 |
| | -6.38 | -17.72 | -24.11 | -28.43 | 53.72 | 58.09 | 64.05 | 67.78 | -50.12 |
| 140 | 22.94 | 35.59 | 42.36 | 47.13 | -35.20 | -39.29 | -44.85 | -48.16 | 70.57 |
| | -6.01 | -17.89 | -24.52 | -28.96 | 53.71 | 58.08 | 63.99 | 67.67 | -50.79 |
| 150 | 21.99 | 35.21 | 42.07 | 46.90 | -36.01 | -40.35 | -45.85 | -49.61 | 70.33 |
| | -5.72 | -18.27 | -25.17 | -29.82 | 53.50 | 57.86 | 63.72 | 67.38 | -51.97 |
| 160 | 20.71 | 34.36 | 41.47 | 46.40 | -37.23 | -41.60 | -47.29 | 66.92 | 69.93 |
| | -5.90 | -19.14 | -26.06 | -30.85 | 53.01 | 57.41 | 63.22 | -51.08 | -53.82 |
| 170 | 18.75 | 33.04 | 40.55 | 45.59 | -38.96 | -43.35 | -49.32 | 66.26 | 69.05 |
| | -6.79 | -20.49 | -27.43 | -32.29 | 52.20 | 56.68 | 62.46 | -53.02 | -55.88 |

* REFER TC FIGURE 13 (RM 63 TMP-2)

*Table 27. Constant Magnetic Field Intensity, B(Gauss), at Altitude 1600 Kilometers

| LONG (DEG) | B=0.15 LAT (DEG) | B=0.20 LAT (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) |
|---|---|---|---|---|
| -180 | 0. | 29.81 | 49.15 | -48.20 |
| | 0. | -12.45 | -29.32 | 75.02 |
| | 0. | 0. | 0. | -88.40 |
| -170 | 0. | 28.47 | 48.18 | 74.43 |
| | 0. | -15.31 | -32.33 | -51.99 |
| | 0. | 0. | 0. | -87.97 |
| -160 | 0. | 26.44 | 46.25 | 73.25 |
| | 0. | -18.14 | -35.45 | -56.20 |
| | 0. | 0. | 0. | -87.49 |
| -150 | 0. | 24.05 | 43.54 | 71.03 |
| | 0. | -21.20 | -38.79 | -61.20 |
| | 0. | 0. | 0. | -86.96 |
| -140 | 0. | 21.61 | 40.38 | 67.99 |
| | 0. | -24.42 | -42.42 | -67.50 |
| | 0. | 0. | 0. | -86.34 |
| -130 | 0. | 19.32 | 37.21 | 63.83 |
| | 0. | -27.83 | -46.42 | -75.71 |
| | 0. | 0. | 0. | -85.54 |
| -120 | 0.. | 17.19 | 34.26 | 59.32 |
| | 0. | -31.61 | -50.85 | 0. |
| -110 | 0. | 15.36 | 31.81 | 55.52 |
| | 0. | -35.85 | -55.57 | 0. |
| -100 | 0. | 13.78 | 29.89 | 53.32 |
| | 0. | -40.54 | -60.16 | 0. |
| -90 | 0. | 12.70 | 28.81 | 52.97 |
| | 0. | -45.32 | -64.20 | 0. |
| -80 | -10.50 | 12.38 | 28.78 | 55.04 |
| | -23.55 | -49.65 | -67.47 | 0. |

* REFER TO FIGURE 14 (RM 63 TMP-2)

*Table 27 (Cont.)

| LONG (DEG) | B=0.15 LAT (DEG) | B=0.20 LAT (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) |
|---|---|---|---|---|
| -70 | -7.64 | 13.14 | 30.13 | 61.46 |
| | -30.57 | -53.14 | -69.92 | 0. |
| -60 | -4.81 | 15.17 | 33.09 | 71.96 |
| | -34.90 | -55.79 | -71.78 | 0. |
| -50 | -2.05 | 18.27 | 37.13 | 79.37 |
| | -37.09 | -57.60 | -73.07 | 0. |
| -40 | 1.05 | 21.89 | 41.43 | 82.59 |
| | -37.64 | -58.72 | -73.91 | 0. |
| -30 | 3.72 | 25.25 | 45.16 | 84.05 |
| | -36.34 | -59.20 | -74.38 | 0. |
| -20 | 5.56 | 27.84 | 48.09 | 84.80 |
| | -32.48 | -59.08 | -74.52 | 0. |
| -10 | 5.84 | 29.53 | 49.91 | 85.38 |
| | -24.65 | -58.33 | -74.33 | 0. |
| -0 | 3.55 | 30.34 | 50.84 | 85.75 |
| | -11.77 | -56.95 | -73.78 | 0. |
| 10 | 0. | 30.32 | 50.81 | 85.88 |
| | 0. | -54.89 | -72.83 | 0. |
| 20 | 0. | 29.50 | 49.88 | 85.81 |
| | 0. | -51.60 | -71.39 | 0. |
| 30 | 0. | 27.97 | 48.24 | 85.55 |
| | 0. | -46.86 | -69.27 | 0. |
| 40 | 0. | 25.97 | 45.92 | 85.09 |
| | 0. | -39.83 | -66.23 | 0. |
| 50 | 0. | 23.74 | 43.37 | 84.47 |
| | 0. | -30.10 | -61.74 | 0. |
| 60 | 0. | 21.63 | 40.92 | 83.37 |
| | 0. | -20.50 | -54.93 | 0. |
| 70 | 0. | 19.84 | 38.94 | 81.19 |
| | 0. | -12.49 | -44.61 | 0. |

* REFER TO FIGURE 14 (RM 63 TMP-2)

*Table 27 (Cont.)

| LONG (DEG) | B=0.15 LAT (DEG) | B=0.20 LAT (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) |
|---|---|---|---|---|
| 80 | 0. | 18.04 | 37.57 | 76.61 |
| | 0. | -6.28 | -33.26 | 0. |
| 90 | 0. | 16.73 | 36.80 | 69.96 |
| | 0. | -1.92 | -25.64 | -62.79 |
| | 0. | 0. | 0. | -86.17 |
| 100 | 0. | 16.18 | 36.70 | -48.04 |
| | 0. | 0.05 | -21.62 | 67.47 |
| | 0. | 0. | 0. | -87.16 |
| 110 | 0. | 16.69 | 37.37 | -40.74 |
| | 0. | 0.49 | -19.79 | 67.47 |
| | 0. | 0. | 0. | -87.94 |
| 120 | 0. | 18.45 | 38.88 | -37.80 |
| | 0. | -0.41 | -19.29 | 69.02 |
| | 0. | 0. | 0. | -88.53 |
| 130 | 0. | 21.12 | 41.16 | -36.98 |
| | 0. | -1.66 | -19.58 | 71.24 |
| | 0. | 0. | 0. | -88.94 |
| 140 | 0. | 24.10 | 43.80 | -37.57 |
| | 0. | -3.29 | -20.47 | 73.21 |
| | 0. | 0. | 0. | -89.15 |
| 150 | 0. | 26.88 | 46.29 | -39.16 |
| | 0. | -5.27 | -21.94 | 74.36 |
| | 0. | 0. | 0. | -89.18 |
| 160 | 0. | 28.98 | 48.15 | -41.67 |
| | 0. | -7.32 | -23.98 | 74.97 |
| | 0. | 0. | 0. | -89.04 |
| 170 | 0. | 30.03 | 49.13 | -44.67 |
| | 0. | -9.88 | -26.51 | 75.30 |
| | 0. | 0. | 0. | -88.76 |

* REFER TO FIGURE 14 (RM 63 TMP-2)

*Table 28. Constant Magnetic Shell Parameter, L (Earth Radii), at Altitude 1600 Kilometers

| LONG (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT. (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|
| -180 | 12.63 | 30.07 | 37.94 | 43.32 | -40.24 | -44.93 | 61.06 | 65.11 | 67.60 |
| | -4.64 | -20.67 | -28.11 | -33.21 | 50.49 | 55.21 | -50.91 | -55.10 | -57.80 |
| -170 | 10.47 | 28.00 | 36.24 | 41.68 | 48.96 | -46.84 | 59.95 | 63.66 | 66.39 |
| | -5.91 | -22.36 | -30.13 | -35.27 | -42.11 | 53.67 | -53.12 | -57.25 | -60.48 |
| -160 | 7.89 | 26.05 | 34.38 | 40.00 | 47.10 | -49.15 | 58.08 | 62.00 | 65.12 |
| | -7.05 | -24.24 | -31.88 | -37.12 | -44.35 | 51.89 | -55.61 | -60.02 | -62.97 |
| -150 | 5.75 | 24.13 | 32.29 | 37.81 | 45.27 | 50.13 | 56.19 | 60.34 | 63.02 |
| | -8.13 | -25.95 | -33.83 | -39.21 | -46.41 | -51.34 | -57.92 | -62.32 | -65.71 |
| -140 | 3.23 | 22.14 | 30.43 | 35.83 | 43.02 | 47.81 | 54.17 | 58.08 | 61.01 |
| | -9.02 | -27.52 | -35.71 | -41.14 | -48.57 | -53.62 | -60.44 | -65.03 | -68.17 |
| -130 | 0.92 | 20.45 | 28.39 | 33.78 | 40.93 | 45.72 | 51.81 | 55.91 | 58.82 |
| | -9.36 | -29.18 | -37.43 | -43.07 | -50.74 | -55.85 | -62.59 | -67.10 | -70.58 |
| -120 | -2.38 | 18.52 | 26.47 | 31.73 | 38.82 | 43.48 | 49.82 | 53.65 | 56.47 |
| | -9.54 | -30.72 | -39.31 | -45.13 | -52.70 | -57.89 | -64.91 | -69.29 | -72.42 |
| -110 | 0. | 16.62 | 24.68 | 29.95 | 36.73 | 41.40 | 47.47 | 51.47 | 54.54 |
| | 0. | -32.12 | -41.01 | -46.83 | -54.78 | -59.99 | -66.52 | -70.95 | -74.18 |
| -100 | 0. | 14.75 | 22.58 | 27.85 | 35.04 | 39.68 | 45.73 | 49.86 | 52.46 |
| | 0. | -33.62 | -42.60 | -48.55 | -56.32 | -61.41 | -68.00 | -72.23 | -75.47 |
| -90 | 0. | 12.42 | 20.76 | 26.11 | 33.22 | 37.97 | 44.32 | 48.24 | 51.16 |
| | 0. | -35.05 | -44.07 | -50.09 | -57.63 | -62.66 | -69.27 | -73.30 | -76.26 |
| -80 | 0. | 10.45 | 19.10 | 24.82 | 32.06 | 36.97 | 43.40 | 47.48 | 50.59 |
| | 0. | -35.81 | -45.14 | -50.96 | -58.61 | -63.59 | -70.14 | -74.10 | -76.85 |
| -70 | 0. | 8.79 | 18.05 | 24.06 | 31.74 | 36.83 | 43.44 | 47.61 | 50.74 |
| | 0. | -35.99 | -45.48 | -51.37 | -59.13 | -64.11 | -70.50 | -74.59 | -77.21 |
| -60 | 0. | 8.50 | 18.33 | 24.64 | 32.50 | 37.71 | 44.57 | 48.73 | 51.68 |
| | 0. | -35.37 | -45.17 | -51.20 | -59.09 | -64.16 | -70.59 | -74.75 | -77.33 |
| -50 | 0. | 10.35 | 20.28 | 26.38 | 34.48 | 39.72 | 46.22 | 50.56 | 53.49 |
| | 0. | -33.57 | -43.92 | -50.40 | -58.47 | -63.70 | -70.39 | -74.55 | -77.22 |
| -40 | 0. | 13.72 | 23.21 | 29.25 | 36.89 | 41.94 | 48.49 | 52.59 | 55.69 |
| | 0. | -30.92 | -41.81 | -48.68 | -57.27 | -62.76 | -69.84 | -74.00 | -76.87 |
| -30 | 0. | 17.72 | 26.64 | 32.25 | 39.81 | 44.67 | 50.89 | 55.12 | 57.77 |
| | 0. | -27.45 | -38.97 | -46.24 | -55.58 | -61.37 | -68.68 | -73.13 | -76.28 |
| -20 | 0. | 21.53 | 30.03 | 35.31 | 42.20 | 46.90 | 53.05 | 57.00 | 60.13 |
| | 0. | -23.87 | -35.51 | -43.11 | -53.07 | -59.52 | -67.17 | -71.96 | -75.47 |
| -10 | 0. | 24.90 | 32.54 | 37.64 | 44.58 | 49.09 | 55.21 | 59.03 | 61.73 |
| | 0. | -20.58 | -31.81 | -39.71 | -50.21 | -56.87 | -65.42 | -70.55 | -74.12 |

* REFER TO FIGURE 14 (RM 63 TMP-2)

*Table 28 (Cont.)

| LONG (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|
| -0 | C. | 27.17 | 34.87 | 39.78 | 46.27 | 50.81 | 56.67 | 60.67 | 63.40 |
| | C. | -17.84 | -28.59 | -36.23 | -46.84 | -54.02 | -62.91 | -68.47 | -72.25 |
| 10 | C. | 29.05 | 36.26 | 41.12 | 47.64 | 52.09 | 58.03 | 61.89 | 65.01 |
| | C. | -16.03 | -26.11 | -33.36 | -43.77 | -50.96 | -60.32 | -66.04 | -70.25 |
| 20 | C. | 30.26 | 37.26 | 42.09 | 48.74 | -48.11 | 59.24 | 63.01 | 65.90 |
| | C. | -15.15 | -24.55 | -31.33 | -41.19 | 53.19 | -57.31 | -63.27 | -67.46 |
| 30 | 12.54 | 30.77 | 37.89 | 42.77 | 49.59 | -45.82 | 60.18 | 64.01 | 66.74 |
| | 4.57 | -15.07 | -23.80 | -30.21 | -39.33 | 54.07 | -54.72 | -60.51 | -64.79 |
| 40 | 14.85 | 31.06 | 38.31 | 43.27 | -37.93 | -43.99 | 60.76 | 64.89 | 67.49 |
| | 2.45 | -15.41 | -23.58 | -29.57 | 50.19 | 54.79 | -52.15 | -57.66 | -61.72 |
| 50 | 15.93 | 31.42 | 38.74 | 43.74 | -36.93 | -42.46 | 61.27 | 65.41 | 68.17 |
| | -0.09 | -15.82 | -23.59 | -29.15 | 50.60 | 55.28 | -50.21 | -55.33 | -59.06 |
| 60 | 17.49 | 32.03 | 39.32 | 44.27 | -36.08 | -41.23 | -48.25 | 65.85 | 68.77 |
| | -1.42 | -16.09 | -23.48 | -28.72 | 51.01 | 55.68 | 61.72 | -52.98 | -56.50 |
| 70 | 19.57 | 32.86 | 40.02 | 44.86 | -35.31 | -40.20 | -46.62 | 66.24 | 69.31 |
| | -2.36 | -16.09 | -23.18 | -28.20 | 51.42 | 56.06 | 62.14 | -51.08 | -54.43 |
| 80 | 21.01 | 33.69 | 40.55 | 45.34 | -34.50 | -39.08 | -45.37 | -49.53 | 69.78 |
| | -2.87 | -15.92 | -22.79 | -27.64 | 51.83 | 56.42 | 62.52 | 66.59 | -52.37 |
| 90 | 21.89 | 34.32 | 40.98 | 45.72 | -33.79 | -38.19 | -44.23 | -48.03 | 70.10 |
| | -3.22 | -15.83 | -22.52 | -27.23 | 52.20 | 56.76 | 62.86 | 66.90 | -50.95 |
| 100 | 22.21 | 34.65 | 41.26 | 46.01 | -33.38 | -37.64 | -43.39 | -47.08 | 70.30 |
| | -3.59 | -15.90 | -22.43 | -27.03 | 52.52 | 57.06 | 63.17 | 67.15 | -50.09 |
| 110 | 22.03 | 34.73 | 41.42 | 46.21 | -33.27 | -37.44 | -43.00 | -46.62 | -49.45 |
| | -3.91 | -16.09 | -22.55 | -27.07 | 52.78 | 57.30 | 63.41 | 67.35 | 70.44 |
| 120 | 21.56 | 34.65 | 41.49 | 46.34 | -33.43 | -37.54 | -43.04 | -46.59 | -49.36 |
| | -3.97 | -16.28 | -22.77 | -27.26 | 52.96 | 57.48 | 63.57 | 67.46 | 70.50 |
| 130 | 20.97 | 34.50 | 41.50 | 46.41 | -33.84 | -37.94 | -43.47 | -46.97 | -49.86 |
| | -3.65 | -16.41 | -23.04 | -27.58 | 53.08 | 57.58 | 63.63 | 67.47 | 70.48 |
| 140 | 20.27 | 34.24 | 41.40 | 46.36 | -34.54 | -38.69 | -44.36 | -47.81 | 70.34 |
| | -3.02 | -16.54 | -23.41 | -28.07 | 53.05 | 57.55 | 63.54 | 67.33 | -50.56 |
| 150 | 18.96 | 33.72 | 41.10 | 46.11 | -35.44 | -39.87 | -45.50 | -49.19 | 70.10 |
| | -2.45 | -16.86 | -24.06 | -28.87 | 52.81 | 57.32 | 63.25 | 67.04 | -51.69 |
| 160 | 17.18 | 32.82 | 40.51 | 45.61 | -36.59 | -41.09 | -46.87 | 66.57 | 69.53 |
| | -2.40 | -17.63 | -25.14 | -30.10 | 52.32 | 56.85 | 62.75 | -50.77 | -53.46 |
| 170 | 15.28 | 31.58 | 39.48 | 44.75 | -38.22 | -42.75 | -48.81 | 65.92 | 68.66 |
| | -3.12 | -18.99 | -26.40 | -31.44 | 51.53 | 56.14 | 62.01 | -52.62 | -55.61 |

* REFER TO FIGURE 14 (RM 63 TMP-2)

*Table 29. Constant Magnetic Field Intensity, B (Gauss), at Altitude 1800 Kilometers

| LONG (DEG) | B=0.15 LAT (DEG) | B=0.20 LAT (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) |
|---|---|---|---|---|
| -180 | 0. | 35.87 | -36.16 | 0. |
| | 0. | -18.22 | 56.55 | 0. |
| -170 | 0. | 34.68 | -39.31 | 0. |
| | 0. | -21.03 | 55.67 | 0. |
| -160 | 0. | 32.65 | -42.71 | 0. |
| | 0. | -23.94 | 53.96 | 0. |
| -150 | 0. | 30.19 | -46.33 | 0. |
| | 0. | -27.01 | 51.46 | 0. |
| -140 | 0. | 27.53 | 48.34 | 0. |
| | 0. | -30.30 | -50.30 | 0. |
| -130 | 0. | 25.01 | 44.93 | 0. |
| | 0. | -33.81 | -54.77 | 0. |
| -120 | 0. | 22.66 | 41.85 | 0. |
| | 0. | -37.71 | -59.62 | 0. |
| -110 | -4.19 | 20.66 | 39.16 | 0. |
| | -14.36 | -42.03 | -64.48 | 0. |
| -100 | -3.57 | 19.01 | 37.29 | 0. |
| | -20.57 | -46.61 | -68.84 | 0. |
| -90 | -3.12 | 17.92 | 36.33 | 0. |
| | -26.52 | -51.06 | -72.36 | 0. |
| -80 | -2.41 | 17.66 | 36.66 | 0. |
| | -32.17 | -54.96 | -74.92 | 0. |
| -70 | -1.09 | 18.52 | 38.55 | 0. |
| | -36.85 | -58.06 | -76.89 | 0. |
| -60 | 0.95 | 20.67 | 42.04 | 0. |
| | -40.29 | -60.41 | -78.24 | 0. |
| -50 | 3.69 | 23.89 | 46.51 | 0. |
| | -42.23 | -62.04 | -79.15 | 0. |
| -40 | 6.84 | 27.56 | 51.02 | 0. |
| | -42.97 | -63.06 | -79.73 | 0. |
| -30 | 9.90 | 30.93 | 54.80 | 0. |
| | -42.41 | -63.55 | -80.05 | 0. |
| -20 | 12.09 | 33.55 | 57.71 | 0. |
| | -40.48 | -63.53 | -80.14 | 0. |
| -10 | 13.41 | 35.29 | 59.49 | 0. |
| | -36.46 | -62.99 | -79.98 | 0. |

* REFER TO FIGURE 15 (RM 63 TMP-2)

*Table 29 (Cont.)

| LONG (DEG) | B=0.15 LAT (DEG) | B=0.20 LAT (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) |
|---|---|---|---|---|
| -0 | 13.72 | 36.18 | 60.40 | 0. |
| | -29.70 | -61.90 | -79.59 | 0. |
| 10 | 12.86 | 36.24 | 60.47 | 0. |
| | -20.18 | -60.23 | -78.91 | 0. |
| 20 | 10.87 | 35.52 | 59.73 | 0. |
| | -11.48 | -57.62 | -77.85 | 0. |
| 30 | 6.33 | 34.13 | 58.27 | 0. |
| | -3.56 | -53.98 | -76.26 | 0. |
| 40 | 0. | 32.27 | 56.03 | 0. |
| | 0. | -48.61 | -73.92 | 0. |
| 50 | 0. | 30.23 | 53.34 | 0. |
| | 0. | -40.80 | -70.46 | 0. |
| 60 | 0. | 28.31 | 50.49 | 0. |
| | 0. | -30.91 | -65.24 | 0. |
| 70 | 0. | 26.76 | 48.13 | 0. |
| | 0. | -21.85 | -57.21 | 0. |
| 80 | 0. | 25.63 | 46.32 | 0. |
| | 0. | -15.16 | -46.04 | 0. |
| 90 | 0. | 24.95 | 45.24 | 0. |
| | 0. | -10.83 | -36.03 | 0. |
| 100 | 0. | 24.77 | 45.03 | 0. |
| | 0. | -8.49 | -30.12 | 0. |
| 110 | 0. | 25.29 | 45.77 | 0. |
| | 0. | -7.68 | -27.31 | 0. |
| 120 | 0. | 26.55 | 47.38 | -56.77 |
| | 0. | -7.83 | -26.18 | -69.89 |
| 130 | 0. | 28.58 | 49.53 | -51.73 |
| | 0. | -8.56 | -26.15 | -74.32 |
| 140 | 0. | 31.05 | -26.94 | -51.14 |
| | 0. | -9.74 | 52.03 | -75.98 |
| 150 | 0. | 33.38 | -28.42 | -52.79 |
| | 0. | -11.24 | 54.17 | -76.50 |
| 160 | 0. | 35.20 | -30.54 | -55.75 |
| | 0. | -13.20 | 55.73 | -76.27 |
| 170 | 0. | 36.05 | -33.20 | -60.11 |
| | 0. | -15.61 | 56.56 | -75.18 |

• REFER TO FIGURE 15 (RM 63 TMP-2)

## *Table 30. Constant Magnetic Shell Parameter, L (Earth Radii), at Altitude 1800 Kilometers

| LONG (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|
| -180 | C. | 28.37 | 36.82 | 42.36 | 49.84 | -44.25 | 60.65 | 64.68 | 67.24 |
| | C. | -19.11 | -27.00 | -32.29 | -39.53 | 54.57 | -50.52 | -54.69 | -57.45 |
| -170 | C. | 26.45 | 35.21 | 40.81 | 48.17 | -46.28 | 59.36 | 63.19 | 66.07 |
| | C. | -20.86 | -28.92 | -34.33 | -41.43 | 53.00 | -52.63 | -56.86 | -60.19 |
| -160 | C. | 24.53 | 33.15 | 38.93 | 46.39 | -48.49 | 57.56 | 61.59 | 64.71 |
| | C. | -22.57 | -30.83 | -36.24 | -43.56 | 51.30 | -55.20 | -59.53 | -62.58 |
| -150 | C. | 22.45 | 31.18 | 36.86 | 44.51 | 49.45 | 55.75 | 60.00 | 62.61 |
| | C. | -24.41 | -32.64 | -38.21 | -45.75 | -50.79 | -57.41 | -61.89 | -65.37 |
| -140 | C. | 20.62 | 29.25 | 35.00 | 42.26 | 47.17 | 53.60 | 57.62 | 60.69 |
| | C. | -25.97 | -34.62 | -40.30 | -47.81 | -52.96 | -60.01 | -64.50 | -67.72 |
| -130 | C. | 18.73 | 27.21 | 32.78 | 40.29 | 45.19 | 51.35 | 55.55 | 58.39 |
| | C. | -27.47 | -36.32 | -42.11 | -50.09 | -55.30 | -62.06 | -66.64 | -70.20 |
| -120 | C. | 16.83 | 25.41 | 30.85 | 38.04 | 42.84 | 49.24 | 53.20 | 56.15 |
| | C. | -29.05 | -38.05 | -44.09 | -51.95 | -57.22 | -64.26 | -68.73 | -71.97 |
| -110 | C. | 15.09 | 23.37 | 28.87 | 36.06 | 40.85 | 47.00 | 51.11 | 54.12 |
| | C. | -30.57 | -39.93 | -45.91 | -53.90 | -59.21 | -66.00 | -70.52 | -73.65 |
| -100 | C. | 12.85 | 21.42 | 26.90 | 34.22 | 39.00 | 45.34 | 49.40 | 52.13 |
| | C. | -31.84 | -41.40 | -47.51 | -55.59 | -60.79 | -67.41 | -71.74 | -75.10 |
| -90 | C. | 10.74 | 19.63 | 25.27 | 32.49 | 37.37 | 43.81 | 47.84 | 50.88 |
| | C. | -33.07 | -42.74 | -48.95 | -56.82 | -61.96 | -68.61 | -72.75 | -75.85 |
| -80 | C. | 8.54 | 17.83 | 23.76 | 31.39 | 36.42 | 42.92 | 47.10 | 50.32 |
| | C. | -33.90 | -43.74 | -50.03 | -57.73 | -62.83 | -69.50 | -73.51 | -76.41 |
| -70 | C. | 6.87 | 16.84 | 23.04 | 31.07 | 36.27 | 42.94 | 47.21 | 50.45 |
| | C. | -34.04 | -44.12 | -50.39 | -58.20 | -63.30 | -70.01 | -73.97 | -76.75 |
| -60 | C. | 6.54 | 17.06 | 23.55 | 31.76 | 37.08 | 43.99 | 48.26 | 51.33 |
| | C. | -33.19 | -43.71 | -50.20 | -58.14 | -63.33 | -70.08 | -74.10 | -76.86 |
| -50 | C. | 8.14 | 18.89 | 25.43 | 33.60 | 38.96 | 45.75 | 50.19 | 53.04 |
| | C. | -31.43 | -42.46 | -49.23 | -57.53 | -62.88 | -69.81 | -73.90 | -76.74 |
| -40 | C. | 11.54 | 21.84 | 28.09 | 36.12 | 41.29 | 47.89 | 52.11 | 55.34 |
| | C. | -28.73 | -40.48 | -47.47 | -56.38 | -61.96 | -69.07 | -73.36 | -76.39 |
| -30 | C. | 15.68 | 25.39 | 31.21 | 38.87 | 43.88 | 50.41 | 54.58 | 57.31 |
| | C. | -25.44 | -37.50 | -45.17 | -54.69 | -60.63 | -67.94 | -72.50 | -75.81 |
| -20 | C. | 19.60 | 28.54 | 34.19 | 41.41 | 46.25 | 52.47 | 56.53 | 59.66 |
| | C. | -21.80 | -34.12 | -41.95 | -52.10 | -58.58 | -66.49 | -71.37 | -75.01 |
| -10 | C. | 22.73 | 31.28 | 36.62 | 43.69 | 48.35 | 54.66 | 58.49 | 61.33 |
| | C. | -18.65 | -30.58 | -38.53 | -49.23 | -56.07 | -64.72 | -70.01 | -73.43 |

* REFER TO FIGURE 15 (RM 63 TMP-2)

*Table 30 (Cont.)

| LONG (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|
| -0 | 0. | 25.46 | 33.47 | 38.65 | 45.58 | 50.25 | 56.19 | 60.30 | 62.95 |
| | 0. | -16.12 | -27.37 | -35.28 | -46.00 | -53.14 | -62.16 | -67.74 | -71.62 |
| 10 | 0. | 27.19 | 35.20 | 40.27 | 46.90 | 51.50 | 57.51 | 61.48 | 64.53 |
| | 0. | -14.43 | -25.08 | -32.41 | -42.93 | -50.25 | -59.59 | -65.43 | -69.57 |
| 20 | 0. | 28.44 | 36.17 | 41.21 | 47.98 | -47.37 | 58.70 | 62.58 | 65.60 |
| | 0. | -13.50 | -23.43 | -30.51 | -40.49 | 52.56 | -56.63 | -62.56 | -66.80 |
| 30 | 0. | 29.16 | 36.79 | 41.88 | 48.83 | -45.21 | 59.73 | 63.57 | 66.42 |
| | 0. | -13.42 | -22.73 | -29.34 | -38.57 | 53.44 | -54.00 | -59.94 | -64.05 |
| 40 | 0. | 29.61 | 37.22 | 42.39 | 49.50 | -43.31 | 60.40 | 64.45 | 67.17 |
| | 0. | -13.87 | -22.53 | -28.66 | -37.23 | 54.16 | -51.57 | -57.06 | -61.16 |
| 50 | 0. | 30.11 | 37.65 | 42.86 | -36.28 | -41.86 | -49.65 | 65.14 | 67.85 |
| | 0. | -14.42 | -22.53 | -28.26 | 50.06 | 54.78 | 60.90 | -54.81 | -58.46 |
| 60 | 12.14 | 30.71 | 38.23 | 43.39 | -35.49 | -40.70 | -47.71 | 65.57 | 68.45 |
| | 3.79 | -14.77 | -22.44 | -27.85 | 50.47 | 55.25 | 61.36 | -52.47 | -56.05 |
| 70 | 15.55 | 31.51 | 38.93 | 43.98 | -34.68 | -39.62 | -46.18 | 65.96 | 68.99 |
| | 1.65 | -14.83 | -22.17 | -27.36 | 50.88 | 55.63 | 61.78 | -50.69 | -53.94 |
| 80 | 17.37 | 32.31 | 39.62 | 44.57 | -33.80 | -38.49 | -45.00 | -49.06 | 69.46 |
| | 0.39 | -14.65 | -21.83 | -26.85 | 51.29 | 55.99 | 62.16 | 66.31 | -52.00 |
| 90 | 18.73 | 32.91 | 40.14 | 45.05 | -33.14 | -37.65 | -43.76 | -47.65 | 69.86 |
| | -0.24 | -14.57 | -21.58 | -26.47 | 51.65 | 56.32 | 62.50 | 66.62 | -50.67 |
| 100 | 19.26 | 33.22 | 40.42 | 45.33 | -32.74 | -37.13 | -42.96 | -46.76 | -49.79 |
| | -0.60 | -14.66 | -21.49 | -26.28 | 51.96 | 56.61 | 62.80 | 66.88 | 70.11 |
| 110 | 19.02 | 33.29 | 40.57 | 45.52 | -32.64 | -36.94 | -42.60 | -46.32 | -49.11 |
| | -0.81 | -14.89 | -21.59 | -26.31 | 52.20 | 56.85 | 63.03 | 67.06 | 70.24 |
| 120 | 18.32 | 33.21 | 40.62 | 45.64 | -32.78 | -37.03 | -42.63 | -46.30 | -49.02 |
| | -0.75 | -15.07 | -21.78 | -26.48 | 52.37 | 57.01 | 63.18 | 67.17 | 70.30 |
| 130 | 17.38 | 33.03 | 40.61 | 45.69 | -33.16 | -37.41 | -43.04 | -46.66 | -49.51 |
| | -0.34 | -15.17 | -22.02 | -26.77 | 52.46 | 57.09 | 63.22 | 67.15 | 70.26 |
| 140 | 16.25 | 32.75 | 40.48 | 45.61 | -33.81 | -38.12 | -43.89 | -47.46 | 70.12 |
| | 0.65 | -15.26 | -22.35 | -27.22 | 52.41 | 57.04 | 63.11 | 67.01 | -50.34 |
| 150 | 14.76 | 32.22 | 40.17 | 45.35 | -34.85 | -39.24 | -45.16 | -48.79 | 69.78 |
| | 1.98 | -15.53 | -22.94 | -27.96 | 52.16 | 56.79 | 62.82 | 66.71 | -51.42 |
| 160 | 11.83 | 31.37 | 39.44 | 44.79 | -35.98 | -40.60 | -46.47 | 66.24 | 69.14 |
| | 2.99 | -16.20 | -23.98 | -29.15 | 51.66 | 56.32 | 62.30 | -50.48 | -53.12 |
| 170 | 8.02 | 30.20 | 38.28 | 43.73 | -37.52 | -42.17 | -48.32 | 65.59 | 68.28 |
| | 3.69 | -17.40 | -25.42 | -30.63 | 50.89 | 55.62 | 61.57 | -52.25 | -55.34 |

* REFER TO FIGURE 15 (RM 63 TMP-2)

*Table 31. Constant Magnetic Field Intensity, B (Gauss), at Altitude 2000 Kilometers

| LONG (DEG) | B=0.15 LAT (DEG) | B=0.20 LAT (DEG) | B=0.25 LAT (DEG) |
|---|---|---|---|
| -180 | 13.00 | 41.76 | -44.25 |
| | 1.88 | -23.82 | 66.21 |
| -170 | 12.54 | 40.67 | -47.81 |
| | -1.74 | -26.68 | 65.39 |
| -160 | 11.41 | 38.75 | 64.00 |
| | -5.37 | -29.68 | -51.67 |
| -150 | 10.16 | 36.26 | 61.86 |
| | -8.59 | -32.85 | -55.98 |
| -140 | 8.50 | 33.50 | 58.91 |
| | -12.09 | -36.26 | -60.97 |
| -130 | 7.10 | 30.77 | 55.44 |
| | -15.85 | -39.95 | -66.66 |
| -120 | 5.91 | 28.27 | 52.11 |
| | -19.74 | -44.03 | -72.56 |
| -110 | 4.84 | 26.12 | 49.14 |
| | -23.84 | -48.44 | -77.70 |
| -100 | 3.80 | 24.43 | 47.25 |
| | -28.48 | -52.91 | -81.29 |
| -90 | 3.24 | 23.39 | 46.57 |
| | -33.41 | -57.04 | -83.55 |
| -80 | 3.30 | 23.24 | 47.59 |
| | -38.11 | -60.52 | -84.82 |
| -70 | 4.23 | 24.27 | 50.40 |
| | -42.05 | -63.27 | -85.90 |
| -60 | 6.09 | 26.62 | 54.99 |
| | -45.02 | -65.32 | -86.41 |
| -50 | 8.82 | 29.94 | 60.31 |
| | -46.79 | -66.76 | -86.69 |
| -40 | 12.02 | 33.68 | 64.92 |
| | -47.60 | -67.68 | -86.86 |
| -30 | 15.15 | 37.06 | 68.42 |
| | -47.45 | -68.14 | -86.98 |
| -20 | 17.53 | 39.67 | 70.65 |
| | -46.29 | -68.16 | -87.07 |
| -10 | 19.16 | 41.48 | 72.10 |
| | -43.94 | -67.74 | -87.14 |

| LONG (DEG) | B=0.15 LAT (DEG) | B=0.20 LAT (DEG) | B=0.25 LAT (DEG) |
|---|---|---|---|
| -0 | 19.96 | 42.42 | 72.84 |
| | -40.13 | -66.86 | -87.17 |
| 10 | 19.85 | 42.53 | 73.02 |
| | -34.22 | -65.46 | -87.12 |
| 20 | 18.82 | 41.89 | 72.69 |
| | -26.64 | -63.33 | -86.85 |
| 30 | 17.02 | 40.56 | 71.79 |
| | -19.51 | -60.36 | -85.72 |
| 40 | 14.67 | 38.77 | 70.20 |
| | -13.42 | -56.04 | -84.16 |
| 50 | 11.16 | 36.78 | 68.06 |
| | -6.99 | -49.84 | -82.32 |
| 60 | 0. | 34.87 | 65.08 |
| | 0. | -41.11 | -78.86 |
| 70 | 0. | 33.34 | 62.15 |
| | 0. | -31.35 | -72.84 |
| 80 | 0. | 32.24 | 59.42 |
| | 0. | -23.51 | -62.89 |
| 90 | 0. | 31.61 | 57.84 |
| | 0. | -18.38 | -50.37 |
| 100 | 0. | 31.52 | -41.25 |
| | 0. | -15.52 | 57.27 |
| 110 | 0. | 32.06 | -36.46 |
| | 0. | -14.26 | 57.82 |
| 120 | 0. | 33.31 | -34.30 |
| | 0. | -14.02 | 59.21 |
| 130 | 0. | 35.22 | -33.82 |
| | 0. | -14.46 | 61.22 |
| 140 | 0. | 37.44 | -34.41 |
| | 0. | -15.40 | 63.22 |
| 150 | 0. | 39.55 | -35.95 |
| | 0. | -16.83 | 64.71 |
| 160 | 0. | 41.14 | -38.24 |
| | 0. | -18.77 | 65.83 |
| 170 | 11.31 | 41.92 | -41.05 |
| | 6.94 | -21.16 | 66.34 |

* REFER TO FIGURE 16 (RM 63 TMP-2)

## *Table 32. Constant Magnetic Shell Parameter, L (Earth Radii), at Altitude 2000 Kilometers

| LONG (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|
| -180 | 0. | 26.73 | 35.75 | 41.46 | 49.01 | -43.60 | 60.25 | 64.20 | 66.90 |
| | 0. | -17.39 | -25.94 | -31.42 | -38.75 | 53.88 | -50.14 | -54.23 | -57.11 |
| -170 | 0. | 24.95 | 33.98 | 39.98 | 47.41 | -45.75 | 58.79 | 62.75 | 65.76 |
| | 0. | -19.23 | -27.72 | -33.33 | -40.79 | 52.37 | -52.16 | -56.48 | -59.85 |
| -160 | 0. | 22.75 | 31.98 | 37.92 | 45.72 | -47.86 | 57.06 | 61.21 | 64.25 |
| | 0. | -20.98 | -29.76 | -35.40 | -42.82 | 50.74 | -54.72 | -59.05 | -62.20 |
| -150 | 0. | 20.84 | 30.14 | 35.97 | 43.69 | 48.75 | 55.33 | 59.47 | 62.23 |
| | 0. | -22.60 | -31.51 | -37.26 | -45.12 | -50.26 | -56.93 | -61.48 | -65.04 |
| -140 | 0. | 18.88 | 28.00 | 33.93 | 41.55 | 46.57 | 53.06 | 57.19 | 60.37 |
| | 0. | -24.31 | -33.35 | -39.33 | -47.08 | -52.33 | -59.42 | -63.99 | -67.30 |
| -130 | 0. | 16.94 | 26.08 | 31.83 | 39.54 | 44.54 | 50.91 | 55.21 | 57.98 |
| | 0. | -25.83 | -35.25 | -41.20 | -49.28 | -54.67 | -61.56 | -66.21 | -69.77 |
| -120 | 0. | 15.22 | 24.18 | 30.01 | 37.29 | 42.22 | 48.70 | 52.77 | 55.84 |
| | 0. | -27.21 | -36.86 | -43.06 | -51.23 | -56.59 | -63.66 | -68.21 | -71.54 |
| -110 | 0. | 13.10 | 22.14 | 27.85 | 35.42 | 40.33 | 46.56 | 50.77 | 53.71 |
| | 0. | -28.66 | -38.59 | -45.03 | -53.07 | -58.48 | -65.52 | -70.11 | -73.15 |
| -100 | 0. | 11.06 | 20.32 | 25.99 | 33.43 | 38.34 | 44.95 | 48.95 | 51.81 |
| | 0. | -30.14 | -40.27 | -46.52 | -54.88 | -60.20 | -66.86 | -71.27 | -74.59 |
| -90 | 0. | 8.80 | 18.28 | 24.26 | 31.79 | 36.79 | 43.31 | 47.45 | 50.61 |
| | 0. | -31.17 | -41.48 | -47.85 | -56.06 | -61.30 | -67.99 | -72.24 | -75.47 |
| -80 | 0. | 6.55 | 16.61 | 22.74 | 30.74 | 35.88 | 42.46 | 46.74 | 50.07 |
| | 0. | -31.82 | -42.37 | -48.84 | -56.90 | -62.11 | -68.83 | -72.96 | -76.00 |
| -70 | 0. | 5.04 | 15.67 | 22.06 | 30.43 | 35.73 | 42.46 | 46.83 | 50.18 |
| | 0. | -31.84 | -42.69 | -49.27 | -57.33 | -62.55 | -69.31 | -73.38 | -76.32 |
| -60 | 0. | 4.52 | 15.84 | 22.51 | 31.06 | 36.48 | 43.45 | 47.81 | 51.00 |
| | 0. | -31.02 | -42.28 | -49.01 | -57.26 | -62.56 | -69.40 | -73.50 | -76.42 |
| -50 | 0. | 5.92 | 17.48 | 24.37 | 32.77 | 38.24 | 45.31 | 49.74 | 52.61 |
| | 0. | -29.18 | -41.08 | -48.00 | -56.66 | -62.11 | -69.08 | -73.29 | -76.29 |
| -40 | 0. | 9.26 | 20.54 | 26.99 | 35.39 | 40.67 | 47.33 | 51.65 | 55.00 |
| | 0. | -26.35 | -39.00 | -46.34 | -55.55 | -61.22 | -68.36 | -72.76 | -75.94 |
| -30 | 0. | 13.25 | 23.92 | 30.23 | 37.99 | 43.12 | 49.92 | 54.00 | 56.88 |
| | 0. | -23.00 | -36.10 | -43.92 | -53.65 | -59.91 | -67.26 | -71.92 | -75.37 |
| -20 | 0. | 17.17 | 27.12 | 33.03 | 40.67 | 45.63 | 51.92 | 56.10 | 59.13 |
| | 0. | -19.70 | -32.65 | -40.85 | -51.20 | -57.71 | -65.86 | -70.82 | -74.34 |
| -10 | 0. | 20.70 | 30.10 | 35.66 | 42.84 | 47.65 | 54.02 | 57.98 | 60.96 |
| | 0. | -16.57 | -29.25 | -37.41 | -48.25 | -55.33 | -63.91 | -69.25 | -72.79 |

* REFER TO FIGURE 16 (RM 63 INP-2)

*Table 32 (Cont.)

| LONG (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) | L=6.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|
| -0 | 0. | 23.33 | 32.15 | 37.59 | 44.89 | 49.60 | 55.73 | 59.91 | 62.52 |
| | 0. | -14.25 | -26.17 | -34.23 | -45.20 | -52.32 | -61.46 | -67.07 | -71.05 |
| 10 | 0. | 25.45 | 33.86 | 39.23 | 46.20 | -49.47 | 57.01 | 61.09 | 64.06 |
| | 0. | -12.55 | -23.85 | -31.48 | -42.12 | 50.93 | -58.79 | -64.81 | -68.84 |
| 20 | 0. | 26.61 | 35.12 | 40.36 | 47.25 | -46.67 | 58.17 | 62.17 | 65.30 |
| | 0. | -11.81 | -22.33 | -29.63 | -39.77 | 51.96 | -55.99 | -61.90 | -66.20 |
| 30 | 0. | 27.32 | 35.73 | 41.03 | 48.09 | -44.53 | 59.19 | 63.15 | 66.11 |
| | 0. | -11.78 | -21.67 | -28.42 | -37.83 | 52.83 | -53.32 | -59.23 | -63.38 |
| 40 | 0. | 27.81 | 36.17 | 41.53 | 48.76 | -42.67 | 60.05 | 64.02 | 66.86 |
| | 0. | -12.23 | -21.51 | -27.77 | -36.56 | 53.55 | -51.02 | -56.51 | -60.64 |
| 50 | 0. | 28.37 | 36.61 | 42.01 | 49.35 | -41.28 | -49.03 | 64.79 | 67.54 |
| | 0. | -12.77 | -21.50 | -27.39 | -35.65 | 54.17 | 60.55 | -54.22 | -57.91 |
| 60 | 0. | 29.21 | 37.18 | 42.54 | 49.92 | -40.18 | -47.20 | 65.30 | 68.14 |
| | 0. | -13.12 | -21.43 | -27.01 | -34.88 | 54.75 | 61.01 | -52.00 | -55.64 |
| 70 | 0. | 30.21 | 37.86 | 43.12 | -33.95 | -38.99 | -45.75 | 65.70 | 68.68 |
| | 0. | -13.21 | -21.19 | -26.55 | 50.36 | 55.21 | 61.43 | -50.32 | -53.48 |
| 80 | 10.64 | 30.97 | 38.54 | 43.70 | -33.13 | -37.92 | -44.48 | -48.62 | 69.15 |
| | 8.48 | -13.11 | -20.89 | -26.09 | 50.76 | 55.57 | 61.81 | 66.05 | -51.64 |
| 90 | 13.41 | 31.54 | 39.09 | 44.19 | -32.50 | -37.13 | -43.30 | -47.28 | 69.55 |
| | 4.72 | -13.04 | -20.67 | -25.73 | 51.12 | 55.89 | 62.15 | 66.35 | -50.40 |
| 100 | 14.73 | 31.85 | 39.45 | 44.56 | -32.13 | -36.64 | -42.55 | -46.44 | -49.41 |
| | 4.12 | -13.13 | -20.59 | -25.56 | 51.41 | 56.18 | 62.44 | 66.60 | 69.86 |
| 110 | 14.41 | 31.91 | 39.64 | 44.81 | -32.03 | -36.46 | -42.21 | -46.04 | -48.78 |
| | 3.94 | -13.31 | -20.67 | -25.58 | 51.64 | 56.40 | 62.66 | 66.78 | 70.04 |
| 120 | 13.05 | 31.81 | 39.70 | 44.95 | -32.16 | -36.54 | -42.23 | -46.02 | -48.70 |
| | 4.31 | -13.49 | -20.84 | -25.73 | 51.80 | 56.56 | 62.80 | 66.87 | 70.09 |
| 130 | 11.09 | 31.61 | 39.65 | 44.98 | -32.51 | -36.90 | -42.63 | -46.36 | -49.16 |
| | 6.42 | -13.58 | -21.04 | -25.99 | 51.87 | 56.61 | 62.82 | 66.85 | 70.05 |
| 140 | 0. | 31.31 | 39.46 | 44.86 | -33.12 | -37.57 | -43.44 | -47.13 | 69.85 |
| | 0. | -13.67 | -21.34 | -26.40 | 51.80 | 56.54 | 62.69 | 66.70 | -50.12 |
| 150 | 0. | 30.79 | 39.03 | 44.49 | -34.10 | -38.63 | -44.75 | -48.40 | 69.41 |
| | 0. | -13.97 | -21.88 | -27.09 | 51.53 | 56.28 | 62.39 | 66.39 | -51.16 |
| 160 | 0. | 29.98 | 38.25 | 43.80 | -35.39 | -40.14 | -46.08 | 65.92 | 68.77 |
| | 0. | -14.77 | -22.82 | -28.20 | 51.03 | 55.82 | 61.88 | -50.19 | -52.78 |
| 170 | 0. | 28.47 | 37.13 | 42.77 | -36.84 | -41.62 | -47.85 | 65.28 | 67.92 |
| | 0. | -15.89 | -24.29 | -29.81 | 50.28 | 55.13 | 61.15 | -51.89 | -55.09 |

• REFER TO FIGURE 16 (RM 63 TMP-2)

*Table 33. Constant Magnetic Field Intensity, B(Gauss), in the Region of the South Atlantic Anomaly at Altitude 0 Kilometers

| LONG (DEG) | B=0.24 LAT (DEG) | B=0.25 LAT (DEG) | B=0.26 LAT (DEG) | B=0.28 LAT (DEG) |
|---|---|---|---|---|
| -180 | 0. | 0. | 0. | 0. |
| -170 | 0. | 0. | 0. | 0. |
| -160 | 0. | 0. | 0. | 0. |
| -150 | 0. | 0. | 0. | 0. |
| -140 | 0. | 0. | 0. | 0. |
| -130 | 0. | 0. | 0. | 0. |
| -120 | 0. | 0. | 0. | 0. |
| -110 | 0. | 0. | 0. | 0. |
| -100 | 0. | 0. | 0. | 0. |
| -90 | 0. | 0. | 0. | 0. |
| -80 | 0. | 0. | 0. | -19.96 |
| | 0. | 0. | 0. | -20.06 |
| -70 | 0. | 0. | 0. | -11.65 |
| | 0. | 0. | 0. | -35.48 |
| -60 | 0. | -20.78 | -14.84 | -8.55 |
| | 0. | -30.16 | -35.58 | -41.61 |
| -50 | -24.95 | -16.32 | -11.98 | -5.69 |
| | -25.21 | -36.11 | -40.07 | -45.21 |
| -40 | 0. | -16.36 | -10.63 | -3.19 |
| | 0. | -37.08 | -41.35 | -46.74 |
| -30 | 0. | 0. | -13.87 | -1.81 |
| | 0. | 0. | -40.26 | -46.97 |
| -20 | 0. | 0. | 0. | -4.09 |
| | 0. | 0. | 0. | -45.82 |

* REFER TO FIGURE 17 (RM 63 TMP-2)

*Table 33 (Cont.)

| LONG (DEG) | B=0.24 LAT (DEG) | B=0.25 LAT (DEG) | B=0.26 LAT (DEG) | B=0.28 LAT (DEG) |
|---|---|---|---|---|
| -10 | 0. | 0. | 0. | -30.22 |
| | 0. | 0. | 0. | -41.07 |
| 0 | 0. | 0. | 0. | 0. |
| 10 | 0. | 0. | 0. | 0. |
| 20 | 0. | 0. | 0. | 0. |
| 30 | 0. | 0. | 0. | 0. |
| 40 | 0. | 0. | 0. | 0. |
| 50 | 0. | 0. | 0. | 0. |
| 60 | 0. | 0. | 0. | 0. |
| 70 | 0. | 0. | 0. | 0. |
| 80 | 0. | 0. | 0. | 0. |
| 90 | 0. | 0. | 0. | 0. |
| 100 | 0. | 0. | 0. | 0. |
| 110 | 0. | 0. | 0. | 0. |
| 120 | 0. | 0. | 0. | 0. |
| 130 | 0. | 0. | 0. | 0. |
| 140 | 0. | 0. | 0. | 0. |
| 150 | 0. | 0. | 0. | 0. |
| 160 | 0. | 0. | 0. | 0. |
| 170 | 0. | 0. | 0. | 0. |

* REFER TO FIGURE 17 (RM 63 TMP-2)

*Table 34. Constant Magnetic Field Intensity, B (Gauss), in the Region of the South Atlantic Anomaly at Altitude 100 Kilometers

| LONG (DEG) | B=0.24 LAT (DEG) | B=0.25 LAT (DEG) | B=0.26 LAT (DEG) | B=0.28 LAT (DEG) |
|---|---|---|---|---|
| -180 | 0. | 0. | 0. | 0. |
| -170 | 0. | 0. | 0. | 0. |
| -160 | 0. | 0. | 0. | 0. |
| -150 | 0. | 0. | 0. | 0. |
| -140 | 0. | 0. | 0. | 0. |
| -130 | 0. | 0. | 0. | 0. |
| -120 | 0. | 0. | 0. | 0. |
| -110 | 0. | 0. | 0. | 0. |
| -100 | 0. | 0. | 0. | 0. |
| -90 | 0. | 0. | 0. | 0. |
| -80 | 0. | 0. | 0. | -10.02 |
| | 0. | 0. | 0. | -30.31 |
| -70 | 0. | 0. | -14.63 | -7.73 |
| | 0. | 0. | -31.26 | -38.67 |
| -60 | -21.00 | -14.45 | -10.72 | -5.14 |
| | -28.46 | -35.18 | -38.64 | -43.96 |
| -50 | -16.05 | -11.42 | -7.93 | -2.36 |
| | -35.31 | -39.39 | -42.31 | -47.06 |
| -40 | -15.78 | -9.77 | -5.60 | 0.79 |
| | -36.04 | -40.74 | -43.93 | -48.74 |
| -30 | 0. | -12.20 | -4.99 | 3.19 |
| | 0. | -39.25 | -43.56 | -49.26 |
| -20 | 0. | 0. | -12.42 | 3.83 |
| | 0. | 0. | -40.49 | -48.55 |

* REFER TO FIGURE 18 (RM 63 TMP-2)

*Table 34 (Cont.)

| LONG (DEG) | B=0.24 LAT (DEG) | B=0.25 LAT (DEG) | B=C.26 LAT (DEG) | B=C.28 LAT (CEG) |
|---|---|---|---|---|
| -10 | 0. | 0. | C. | 0.33 |
| | 0. | 0. | 0. | -46.54 |
| 0 | C. | 0. | 0. | -35.65 |
| | C. | 0. | 0. | -4C.52 |
| 10 | 0. | 0. | C. | C. |
| 20 | 0. | 0. | C. | C. |
| 30 | 0. | 0. | C. | C. |
| 40 | 0. | 0. | 0. | C. |
| 50 | C. | 0. | 0. | C. |
| 60 | C. | 0. | 0. | C. |
| 70 | C. | 0. | C. | C. |
| 80 | 0. | 0. | 0. | C. |
| 90 | 0. | 0. | C. | C. |
| 100 | 0. | 0. | C. | C. |
| 110 | C. | 0. | C. | C. |
| 120 | 0. | 0. | C. | C. |
| 130 | 0. | 0. | C. | C. |
| 140 | 0. | 0. | C. | C. |
| 150 | C. | 0. | C. | C. |
| 160 | 0. | 0. | C. | C. |
| 170 | 0. | 0. | C. | C. |

* REFER TC FIGURE 18 (RM 63 TMP-2)

*Table 35. Constant Magnetic Field Intensity, B (Gauss), in the Region of the South Atlantic Anomaly at Altitude 200 Kilometers

| LONG (DEG) | B=0.23 LAT (DEG) | B=0.24 LAT (DEG) | B=0.25 LAT (DEG) | B=0.26 LAT (DEG) | B=0.28 LAT (DEG) |
|---|---|---|---|---|---|
| -180 | 0. | 0. | 0. | 0. | 0. |
| -170 | 0. | 0. | 0. | 0. | 0. |
| -160 | 0. | 0. | 0. | 0. | 0. |
| -150 | 0. | 0. | 0. | 0. | 0. |
| -140 | 0. | 0. | 0. | 0. | 0. |
| -130 | 0. | 0. | 0. | 0. | 0. |
| -120 | 0. | 0. | 0. | 0. | 0. |
| -110 | 0. | 0. | 0. | 0. | 0. |
| -100 | 0. | 0. | 0. | 0. | 0. |
| -90 | 0. | 0. | 0. | 0. | -7.10 |
| | 0. | 0. | 0. | 0. | -25.56 |
| -80 | 0. | 0. | 0. | -14.38 | -5.72 |
| | 0. | 0. | 0. | -25.23 | -34.68 |
| -70 | 0. | 0. | -14.13 | -9.86 | -4.26 |
| | 0. | 0. | -31.14 | -35.58 | -41.49 |
| -60 | -22.63 | -14.23 | -10.17 | -7.23 | -2.16 |
| | -26.35 | -34.42 | -38.22 | -41.29 | -46.14 |
| -50 | -16.15 | -11.06 | -7.42 | -4.27 | 0.88 |
| | -33.92 | -38.55 | -41.85 | -44.68 | -49.05 |
| -40 | -15.66 | -9.31 | -4.87 | -1.47 | 4.34 |
| | -34.80 | -40.03 | -43.32 | -46.16 | -50.69 |
| -30 | 0. | -10.94 | -4.05 | 0.61 | 7.28 |
| | 0. | -37.90 | -42.83 | -46.26 | -51.25 |
| -20 | 0. | 0. | -8.74 | 0.38 | 8.88 |
| | 0. | 0. | -39.46 | -44.99 | -50.97 |

* REFER TO FIGURE 19 (RM 63 TMP-2)

*Table 35 (Cont.)

| LONG (DEG) | B=0.23 LAT (DEG) | B=0.24 LAT (DEG) | B=C.25 LAT (DEG) | B=C.26 LAT (DEG) | B=0.28 LAT (DEG) |
|---|---|---|---|---|---|
| -10 | 0. | C. | C. | -21.83 | 8.41 |
| | 0. | 0. | C. | -39.81 | -49.91 |
| 0 | 0. | 0. | C. | C. | 4.44 |
| | C. | 0. | C. | C. | -47.17 |
| 10 | 0. | 0. | C. | C. | 0. |
| 20 | 0. | C. | C. | C. | 0. |
| 30 | 0. | 0. | 0. | C. | 0. |
| 40 | C. | 0. | C. | 0. | 0. |
| 50 | 0. | 0. | 0. | C. | 0. |
| 60 | 0. | 0. | C. | C. | 0. |
| 70 | 0. | 0. | C. | C. | 0. |
| 80 | C. | 0. | C. | C. | 0. |
| 90 | C. | 0. | C. | C. | 0. |
| 100 | 0. | 0. | C. | C. | 0. |
| 110 | C. | 0. | 0. | C. | 0. |
| 120 | C. | 0. | C. | C. | 0. |
| 130 | 0. | 0. | C. | C. | 0. |
| 140 | C. | 0. | C. | C. | 0. |
| 150 | 0. | 0. | C. | C. | 0. |
| 160 | C. | 0. | C. | C. | 0. |
| 170 | 0. | 0. | C. | C. | 0. |

* REFER TC FIGURE 19 (RM 63 TMP-2)

*Table 36. Constant Magnetic Field Intensity, B (Gauss), in the Region of the South Atlantic Anomaly at Altitude 300 Kilometers

| LONG (DEG) | B=0.22 LAT (DEG) | B=0.23 LAT (DEG) | B=0.24 LAT (DEG) | B=0.25 LAT (DEG) | B=0.26 LAT (DEG) | B=0.28 LAT (DEG) |
|---|---|---|---|---|---|---|
| -180 | 0. | 0. | 0. | 0. | 0. | 0. |
| -170 | 0. | 0. | 0. | 0. | 0. | 0. |
| -160 | 0. | 0. | 0. | 0. | 0. | 0. |
| -150 | 0. | 0. | 0. | 0. | 0. | 0. |
| -140 | 0. | 0. | 0. | 0. | 0. | 0. |
| -130 | 0. | 0. | 0. | 0. | 0. | -4.05 |
| | 0. | 0. | 0. | 0. | 0. | -5.27 |
| -120 | 0. | 0. | 0. | 0. | 0. | -0.76 |
| | 0. | 0. | 0. | 0. | 0. | -11.53 |
| -110 | 0. | 0. | 0. | 0. | 0. | -1.28 |
| | 0. | 0. | 0. | 0. | 0. | -16.85 |
| -100 | 0. | 0. | 0. | 0. | 0. | -2.01 |
| | 0. | 0. | 0. | 0. | 0. | -23.00 |
| -90 | 0. | 0. | 0. | 0. | -12.24 | -2.41 |
| | 0. | 0. | 0. | 0. | -20.14 | -30.61 |
| -80 | 0. | 0. | 0. | -13.58 | -8.40 | -2.23 |
| | 0. | 0. | 0. | -25.61 | -31.13 | -38.07 |
| -70 | 0. | 0. | -13.84 | -9.42 | -6.30 | -1.20 |
| | 0. | 0. | -30.81 | -35.42 | -38.73 | -44.11 |
| -60 | 0. | -14.23 | -9.87 | -6.76 | -3.93 | 0.86 |
| | 0. | -33.37 | -37.66 | -40.98 | -43.68 | -48.24 |
| -50 | -16.73 | -10.96 | -7.09 | -3.83 | -1.01 | 3.93 |
| | -32.17 | -37.58 | -41.27 | -44.22 | -46.67 | -50.98 |
| -40 | -16.20 | -9.11 | -4.48 | -0.88 | 2.20 | 7.60 |
| | -32.50 | -38.79 | -42.60 | -45.73 | -48.21 | -52.51 |
| -30 | 0. | -10.23 | -3.40 | 1.28 | 5.05 | 10.93 |
| | 0. | -36.47 | -41.97 | -45.75 | -48.57 | -53.19 |
| -20 | 0. | 0. | -6.62 | 1.44 | 6.19 | 12.91 |
| | 0. | 0. | -37.80 | -44.07 | -47.72 | -53.08 |

* REFER TO FIGURE 20 (RM 63 TMP-2)

*Table 36 (Cont.)

| LONG (DEG) | B=0.22 LAT (DEG) | B=0.23 LAT (DEG) | B=0.24 LAT (DEG) | B=0.25 LAT (DEG) | B=0.26 LAT (DEG) | B=0.28 LAT (DEG) |
|---|---|---|---|---|---|---|
| -10 | 0. | 0. | 0. | -6.02 | 5.13 | 13.38 |
| | 0. | 0. | 0. | -37.79 | -45.57 | -52.22 |
| 0 | 0. | 0. | 0. | 0. | -33.60 | 12.24 |
| | 0. | 0. | 0. | 0. | -36.34 | -50.67 |
| 10 | 0. | 0. | 0. | 0. | 0. | 8.87 |
| | 0. | 0. | 0. | 0. | 0. | -47.59 |
| 20 | 0. | 0. | 0. | 0. | 0. | -33.79 |
| | 0. | 0. | 0. | 0. | 0. | -40.86 |
| 30 | 0. | 0. | 0. | 0. | 0. | 0. |
| 40 | 0. | 0. | 0. | 0. | 0. | 0. |
| 50 | 0. | 0. | 0. | 0. | 0. | 0. |
| 60 | 0. | 0. | 0. | 0. | 0. | 0. |
| 70 | 0. | 0. | 0. | 0. | 0. | 0. |
| 80 | 0. | 0. | 0. | 0. | 0. | 0. |
| 90 | 0. | 0. | 0. | 0. | 0. | 0. |
| 100 | 0. | 0. | 0. | 0. | 0. | 0. |
| 110 | 0. | 0. | 0. | 0. | 0. | 0. |
| 120 | 0. | 0. | 0. | 0. | 0. | 0. |
| 130 | 0. | 0. | 0. | 0. | 0. | 0. |
| 140 | 0. | 0. | 0. | 0. | 0. | 0. |
| 150 | 0. | 0. | 0. | 0. | 0. | 0. |
| 160 | 0. | 0. | 0. | 0. | 0. | 0. |
| 170 | 0. | 0. | 0. | 0. | 0. | 0. |

* REFER TO FIGURE 20 (RM 63 TMP-2)

*Table 37. Constant Magnetic Field Intensity, B(Gauss), in the Region of the South Atlantic Anomaly at Altitude 400 Kilometers

| LONG (DEG) | B=0.21 LAT (DEG) | B=0.22 LAT (DEG) | B=0.23 LAT (DEG) | B=0.24 LAT (DEG) | B=0.25 LAT (DEG) | B=0.26 LAT (DEG) | B=0.28 LAT (DEG) |
|---|---|---|---|---|---|---|---|
| -180 | 0. | 0. | 0. | 0. | 0. | 0. | 11.00 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 8.65 |
| -170 | 0. | 0. | 0. | 0. | 0. | 0. | 10.82 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 3.67 |
| -160 | 0. | 0. | 0. | 0. | 0. | 0. | 9.82 |
| | 0. | 0. | 0. | 0. | 0. | 0. | -0.78 |
| -150 | 0. | 0. | 0. | 0. | 0. | 0. | 8.42 |
| | 0. | 0. | 0. | 0. | 0. | 0. | -5.27 |
| -140 | 0. | 0. | 0. | 0. | 0. | 0. | 7.36 |
| | 0. | 0. | 0. | 0. | 0. | 0. | -9.51 |
| -130 | 0. | 0. | 0. | 0. | 0. | 0. | 6.28 |
| | 0. | 0. | 0. | 0. | 0. | 0. | -13.57 |
| -120 | 0. | 0. | 0. | 0. | 0. | 0. | 5.13 |
| | 0. | 0. | 0. | 0. | 0. | 0. | -17.68 |
| -110 | 0. | 0. | 0. | 0. | 0. | 0. | 3.54 |
| | 0. | 0. | 0. | 0. | 0. | 0. | -22.21 |
| -100 | 0. | 0. | 0. | 0. | 0. | -5.69 | 2.18 |
| | 0. | 0. | 0. | 0. | 0. | -18.64 | -27.80 |
| -90 | 0. | 0. | 0. | 0. | -10.40 | -4.89 | 1.26 |
| | 0. | 0. | 0. | 0. | -20.93 | -27.02 | -34.62 |
| -80 | 0. | 0. | 0. | -13.10 | -7.86 | -4.27 | 1.01 |
| | 0. | 0. | 0. | -25.67 | -31.24 | -35.26 | -41.22 |
| -70 | 0. | 0. | -13.80 | -9.14 | -5.80 | -3.05 | 1.74 |
| | 0. | 0. | -30.26 | -35.12 | -38.54 | -41.53 | -46.55 |
| -60 | 0. | -14.50 | -9.79 | -6.46 | -3.52 | -0.90 | 3.73 |
| | 0. | -32.14 | -36.95 | -40.56 | -43.37 | -45.96 | -50.41 |
| -50 | -17.97 | -11.15 | -6.96 | -3.54 | -0.54 | 2.07 | 6.92 |
| | -30.29 | -36.47 | -40.57 | -43.64 | -46.33 | -48.71 | -52.88 |
| -40 | -17.68 | -9.20 | -4.31 | -0.50 | 2.66 | 5.62 | 10.79 |
| | -30.18 | -37.40 | -41.75 | -45.19 | -47.79 | -50.31 | -54.47 |
| -30 | 0. | -10.20 | -3.06 | 1.71 | 5.54 | 8.69 | 14.27 |
| | 0. | -34.83 | -40.98 | -45.12 | -48.07 | -50.78 | -55.23 |

* REFER TO FIGURE 21 (RM 63 TMP-2)

*Table 37 (Cont.)

| LONG (DEG) | B=0.21 LAT (DEG) | B=0.22 LAT (DEG) | B=C.23 LAT (DEG) | B=C.24 LAT (CEG) | B=0.25 LAT (DEG) | B=0.26 LAT (CEG) | B=0.28 LAT (DEG) |
|---|---|---|---|---|---|---|---|
| -20 | 0. | 0. | -5.31 | 2.16 | 6.86 | 10.59 | 16.51 |
| | 0. | 0. | -36.08 | -43.00 | -47.12 | -50.39 | -55.27 |
| -10 | 0. | C. | 0. | -2.53 | 6.15 | 10.80 | 17.38 |
| | 0. | 0. | C. | -35.89 | -44.80 | -48.87 | -54.66 |
| 0 | 0. | 0. | C. | C. | -3.62 | 8.99 | 17.08 |
| | 0. | 0. | C. | C. | -6.07 | -45.98 | -53.23 |
| 10 | 0. | 0. | C. | C. | 0. | 0. | 15.72 |
| | 0. | 0. | C. | C. | 0. | 0. | -51.11 |
| 20 | 0. | 0. | C. | 0. | 0. | 0. | 12.78 |
| | 0. | 0. | 0. | C. | 0. | 0. | -47.33 |
| 30 | 0. | 0. | 0. | C. | 0. | 0. | 8.26 |
| | 0. | 0. | C. | C. | 0. | 0. | -9.92 |
| | 0. | 0. | C. | C. | 0. | 0. | -28.94 |
| | 0. | 0. | C. | C. | 0. | 0. | -38.01 |
| 40 | 0. | 0. | C. | C. | 0. | 0. | 0. |
| 50 | 0. | 0. | 0. | C. | 0. | 0. | 0. |
| 60 | 0. | 0. | C. | 0. | 0. | 0. | 0. |
| 70 | C. | 0. | C. | C. | 0. | 0. | 0. |
| 80 | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| 90 | 0. | 0. | 0. | C. | 0. | 0. | 0. |
| 100 | 0. | 0. | 0. | C. | 0. | 0. | 0. |
| 110 | 0. | 0. | 0. | C. | 0. | 0. | 0. |
| 120 | 0. | 0. | C. | 0. | 0. | 0. | 0. |
| 130 | 0. | 0. | C. | C. | 0. | 0. | 0. |
| 140 | 0. | 0. | C. | 0. | 0. | 0. | 0. |
| 150 | 0. | 0. | 0. | C. | 0. | 0. | 0. |
| 160 | 0. | 0. | 0. | C. | 0. | 0. | 0. |
| 170 | 0. | 0. | 0. | C. | 0. | 0. | 0. |

* REFER TC FIGURE 21 (RM 63 TMP-2)

*Table 38. Constant Magnetic Field Intensity, B (Gauss), in the Region of the South Atlantic Anomaly at Altitude 500 Kilometers

| LONG (DEG) | B=0.20 LAT (DEG) | B=0.21 LAT (DEG) | B=0.22 LAT (DEG) | B=0.23 LAT (DEG) | B=0.24 LAT (DEG) | B=0.25 LAT (DEG) | B=0.26 LAT (DEG) | B=0.28 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|
| -180 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 20.81 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -1.24 |
| -170 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 19.09 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -4.30 |
| -160 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 16.73 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -7.33 |
| -150 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 14.64 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -10.84 |
| -140 | 0. | 0. | 0. | 0. | 0. | 0. | 0.62 | 12.51 |
| | 0. | 0. | 0. | 0. | 0. | 0. | -1.62 | -14.47 |
| -130 | 0. | 0. | 0. | 0. | 0. | 0. | 1.62 | 10.75 |
| | 0. | 0. | 0. | 0. | 0. | 0. | -9.26 | -18.09 |
| -120 | 0. | 0. | 0. | 0. | 0. | 0. | 1.30 | 8.93 |
| | 0. | 0. | 0. | 0. | 0. | 0. | -14.05 | -21.99 |
| -110 | 0. | 0. | 0. | 0. | 0. | -6.93 | 0.58 | 7.17 |
| | 0. | 0. | 0. | 0. | 0. | -11.35 | -18.88 | -26.42 |
| -100 | 0. | 0. | 0. | 0. | 0. | -4.79 | -0.28 | 5.67 |
| | 0. | 0. | 0. | 0. | 0. | -19.63 | -24.77 | -31.81 |
| -90 | 0. | 0. | 0. | 0. | -9.72 | -4.44 | -0.96 | 4.47 |
| | 0. | 0. | 0. | 0. | -21.30 | -27.38 | -31.58 | -38.07 |
| -80 | 0. | 0. | 0. | -12.99 | -7.51 | -3.85 | -0.92 | 3.97 |
| | 0. | 0. | 0. | -25.39 | -31.15 | -35.28 | -38.52 | -44.14 |
| -70 | 0. | 0. | -14.06 | -9.05 | -5.48 | -2.64 | 0.06 | 4.63 |
| | 0. | 0. | -29.12 | -34.51 | -38.20 | -41.38 | -44.16 | -48.97 |
| -60 | 0. | -15.15 | -9.90 | -6.34 | -3.26 | -0.47 | 1.98 | 6.59 |
| | 0. | -30.71 | -36.09 | -40.00 | -42.94 | -45.71 | -48.10 | -52.46 |
| -50 | -20.22 | -11.71 | -7.06 | -3.42 | -0.24 | 2.47 | 5.12 | 9.91 |
| | -26.04 | -35.20 | -39.64 | -42.94 | -45.89 | -48.39 | -50.74 | -54.92 |
| -40 | 0. | -9.61 | -4.36 | -0.34 | 2.95 | 6.00 | 8.75 | 13.86 |
| | 0. | -35.86 | -40.76 | -44.38 | -47.26 | -49.98 | -52.18 | -56.35 |
| -30 | 0. | -11.07 | -3.06 | 1.91 | 5.84 | 9.13 | 12.06 | 17.43 |
| | 0. | -31.93 | -39.75 | -44.13 | -47.44 | -50.39 | -52.77 | -57.08 |

* REFER TO FIGURE 22 (RM 63 TMP-2)

*Table 38 (Cont.)

| LONG (DEG) | B=0.20 LAT (DEG) | B=0.21 LAT (DEG) | B=0.22 LAT (DEG) | B=0.23 LAT (DEG) | B=0.24 LAT (DEG) | B=0.25 LAT (DEG) | B=0.26 LAT (DEG) | B=0.28 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|
| -20 | 0. | 0. | -4.96 | 2.54 | 7.29 | 11.06 | 14.27 | 19.89 |
| | 0. | 0. | -33.62 | -41.79 | -46.39 | -49.92 | -52.54 | -57.19 |
| -10 | 0. | 0. | 0. | -0.78 | 6.85 | 11.44 | 15.12 | 21.01 |
| | 0. | 0. | 0. | -32.63 | -43.46 | -48.14 | -51.55 | -56.72 |
| 0 | 0. | 0. | 0. | 0. | 1.96 | 10.26 | 14.61 | 21.09 |
| | 0. | 0. | 0. | 0. | -14.19 | -45.17 | -49.77 | -55.71 |
| 10 | 0. | 0. | 0. | 0. | 0. | 5.37 | 12.53 | 20.28 |
| | 0. | 0. | 0. | 0. | 0. | -7.35 | -46.19 | -53.84 |
| 20 | 0. | 0. | 0. | 0. | 0. | 0. | 8.33 | 18.34 |
| | 0. | 0. | 0. | 0. | 0. | 0. | -8.68 | -50.96 |
| | 0. | 0. | 0. | 0. | 0. | 0. | -34.10 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 0. | -35.52 | 0. |
| 30 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 15.64 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -45.91 |
| 40 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 11.99 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -30.17 |
| 50 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 7.33 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -9.99 |
| 60 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| 70 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| 80 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| 90 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| 100 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| 110 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| 120 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| 130 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| 140 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| 150 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| 160 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| 170 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |

* REFER TO FIGURE 22 (RM 63 TMP-2)

*Table 39. Constant Magnetic Field Intensity, B(Gauss), in the Region of the South Atlantic Anomaly at Altitude 600 Kilometers

| LONG (DEG) | B=0.20 LAT (DEG) | B=0.21 LAT (DEG) | B=0.22 LAT (DEG) | B=0.23 LAT (DEG) | B=0.24 LAT (DEG) | B=0.25 LAT (DEG) | B=0.26 LAT (DEG) | B=0.28 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|
| -180 | 0. | 0. | 0. | 0. | 0. | 0. | 15.40 | 25.68 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 3.41 | -5.89 |
| -170 | 0. | 0. | 0. | 0. | 0. | 0. | 13.93 | 24.00 |
| | 0. | 0. | 0. | 0. | 0. | 0. | -0.31 | -8.72 |
| -160 | 0. | 0. | 0. | 0. | 0. | 0. | 12.08 | 21.52 |
| | 0. | 0. | 0. | 0. | 0. | 0. | -3.55 | -11.70 |
| -150 | 0. | 0. | 0. | 0. | 0. | 0. | 10.63 | 18.95 |
| | 0. | 0. | 0. | 0. | 0. | 0. | -7.25 | -15.02 |
| -140 | 0. | 0. | 0. | 0. | 0. | 1.85 | 9.09 | 16.53 |
| | 0. | 0. | 0. | 0. | 0. | -5.04 | -11.23 | -18.30 |
| -130 | 0. | 0. | 0. | 0. | 0. | 2.26 | 7.56 | 14.37 |
| | 0. | 0. | 0. | 0. | 0. | -10.21 | -15.29 | -21.88 |
| -120 | 0. | 0. | 0. | 0. | 0. | 1.75 | 6.18 | 12.27 |
| | 0. | 0. | 0. | 0. | 0. | -14.80 | -19.19 | -25.75 |
| -110 | 0. | 0. | 0. | 0. | -5.35 | 0.95 | 4.83 | 10.44 |
| | 0. | 0. | 0. | 0. | -12.09 | -19.49 | -23.59 | -30.19 |
| -100 | 0. | 0. | 0. | 0. | -4.49 | 0.16 | 3.34 | 8.68 |
| | 0. | 0. | 0. | 0. | -20.07 | -25.19 | -29.02 | -35.48 |
| -90 | 0. | 0. | 0. | -9.62 | -4.17 | -0.50 | 2.36 | 7.35 |
| | 0. | 0. | 0. | -21.24 | -27.49 | -31.78 | -35.40 | -41.37 |
| -80 | 0. | 0. | -13.31 | -7.41 | -3.59 | -0.49 | 2.10 | 6.81 |
| | 0. | 0. | -24.54 | -30.84 | -35.14 | -38.51 | -41.56 | -46.90 |
| -70 | 0. | -14.68 | -9.16 | -5.35 | -2.38 | 0.42 | 2.84 | 7.41 |
| | 0. | -27.44 | -33.64 | -37.70 | -41.09 | -44.00 | -46.61 | -51.36 |
| -60 | -17.04 | -10.36 | -6.43 | -3.15 | -0.19 | 2.36 | 4.87 | 9.47 |
| | -28.15 | -35.05 | -39.09 | -42.38 | -45.36 | -47.86 | -50.32 | -54.64 |
| -50 | -12.69 | -7.42 | -3.49 | -0.12 | 2.71 | 5.47 | 7.99 | 12.84 |
| | -33.10 | -38.32 | -42.09 | -45.32 | -47.95 | -50.48 | -52.68 | -56.85 |
| -40 | -10.61 | -4.67 | -0.42 | 3.05 | 6.22 | 9.10 | 11.79 | 16.91 |
| | -33.68 | -39.47 | -43.36 | -46.60 | -49.45 | -51.87 | -54.18 | -58.29 |
| -30 | -13.07 | -3.41 | 1.85 | 5.94 | 9.37 | 12.39 | 15.29 | 20.57 |
| | -28.16 | -37.84 | -42.92 | -46.68 | -49.87 | -52.40 | -54.89 | -59.07 |

* REFER TO FIGURE 23 (RM 63 TMP-2)

*Table 39 (Cont.)

| LONG (DEG) | B=0.20 LAT (DEG) | B=0.21 LAT (DEG) | B=0.22 LAT (DEG) | B=0.23 LAT (DEG) | B=0.24 LAT (DEG) | B=0.25 LAT (DEG) | B=0.26 LAT (DEG) | B=0.28 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|
| -20 | 0. | -5.62 | 2.57 | 7.47 | 11.33 | 14.67 | 17.59 | 23.08 |
| | 0. | -30.36 | -40.43 | -45.51 | -49.16 | -52.10 | -54.83 | -59.26 |
| -10 | 0. | 0. | -0.13 | 7.23 | 11.85 | 15.57 | 18.69 | 24.40 |
| | 0. | 0. | -28.29 | -41.97 | -47.26 | -51.03 | -54.01 | -58.86 |
| 0 | 0. | 0. | 0. | 3.56 | 10.87 | 15.29 | 18.69 | 24.70 |
| | 0. | 0. | 0. | -17.43 | -43.63 | -48.89 | -52.43 | -57.89 |
| 10 | 0. | 0. | 0. | 0. | 7.02 | 13.56 | 17.65 | 24.09 |
| | 0. | 0. | 0. | 0. | -11.81 | -45.25 | -50.16 | -56.32 |
| 20 | 0. | 0. | 0. | 0. | 0. | 10.44 | 15.67 | 22.57 |
| | 0. | 0. | 0. | 0. | 0. | -13.67 | -45.83 | -53.82 |
| 30 | 0. | 0. | 0. | 0. | 0. | 0.66 | 12.32 | 20.31 |
| | 0. | 0. | 0. | 0. | 0. | -0.30 | -34.70 | -49.92 |
| 40 | 0. | 0. | 0. | 0. | 0. | 0. | 7.91 | 17.25 |
| | 0. | 0. | 0. | 0. | 0. | 0. | -10.51 | -42.00 |
| 50 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 14.06 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -23.06 |
| 60 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 10.27 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -8.73 |
| 70 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| 80 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| 90 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| 100 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| 110 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| 120 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| 130 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| 140 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| 150 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 19.89 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 3.05 |
| 160 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 23.79 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -0.32 |
| 170 | 0. | 0. | 0. | 0. | 0. | 0. | 14.18 | 25.76 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 7.95 | -2.99 |

* REFER TO FIGURE 23 (RM 63 TMP-2)

*Table 40. Constant Magnetic Field Intensity, B(Gauss), in the Region of the South Atlantic Anomaly at Altitude 700 Kilometers

| LONG (DEG) | B=0.19 LAT (DEG) | B=0.20 LAT (DEG) | B=0.21 LAT (DEG) | B=0.22 LAT (DEG) | B=0.23 LAT (DEG) | B=0.24 LAT (DEG) | B=0.25 LAT (DEG) | B=0.26 LAT (DEG) | B=0.28 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|
| -180 | 0. | 0. | 0. | 0. | 0. | 0. | 15.80 | 21.72 | 29.63 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 2.61 | -2.84 | -9.66 |
| -170 | 0. | 0. | 0. | 0. | 0. | 0. | 14.59 | 20.27 | 28.01 |
| | 0. | 0. | 0. | 0. | 0. | 0. | -0.93 | -5.90 | -12.41 |
| -160 | 0. | 0. | 0. | 0. | 0. | 0. | 12.59 | 17.91 | 25.57 |
| | 0. | 0. | 0. | 0. | 0. | 0. | -4.41 | -8.95 | -15.43 |
| -150 | 0. | 0. | 0. | 0. | 0. | 0. | 11.01 | 15.74 | 22.74 |
| | 0. | 0. | 0. | 0. | 0. | 0. | -7.85 | -12.17 | -18.48 |
| -140 | 0. | 0. | 0. | 0. | 0. | 2.38 | 9.52 | 13.59 | 20.14 |
| | 0. | 0. | 0. | 0. | 0. | -5.43 | -11.68 | -15.74 | -21.80 |
| -130 | 0. | 0. | 0. | 0. | 0. | 2.52 | 7.88 | 11.65 | 17.61 |
| | 0. | 0. | 0. | 0. | 0. | -10.48 | -15.65 | -19.36 | -25.37 |
| -120 | 0. | 0. | 0. | 0. | 0. | 1.92 | 6.44 | 9.95 | 15.44 |
| | 0. | 0. | 0. | 0. | 0. | -15.10 | -19.63 | -23.13 | -29.20 |
| -110 | 0. | 0. | 0. | 0. | -5.39 | 1.12 | 5.13 | 8.10 | 13.35 |
| | 0. | 0. | 0. | 0. | -12.11 | -19.77 | -23.97 | -27.50 | -33.64 |
| -100 | 0. | 0. | 0. | 0. | -4.46 | 0.33 | 3.67 | 6.57 | 11.56 |
| | 0. | 0. | 0. | 0. | -20.06 | -25.34 | -29.33 | -32.76 | -38.89 |
| -90 | 0. | 0. | 0. | -9.85 | -4.11 | -0.25 | 2.69 | 5.48 | 10.25 |
| | 0. | 0. | 0. | -20.75 | -27.32 | -31.79 | -35.52 | -38.73 | -44.54 |
| -80 | 0. | 0. | -14.16 | -7.55 | -3.51 | -0.23 | 2.44 | 5.06 | 9.65 |
| | 0. | 0. | -22.59 | -30.30 | -34.79 | -38.33 | -41.53 | -44.46 | -49.68 |
| -70 | 0. | -16.79 | -9.52 | -5.45 | -2.28 | 0.65 | 3.20 | 5.68 | 10.27 |
| | 0. | -25.44 | -32.54 | -37.02 | -40.66 | -43.70 | -46.47 | -49.05 | -53.76 |
| -60 | -19.96 | -11.26 | -6.77 | -3.22 | -0.08 | 2.59 | 5.23 | 7.64 | 12.35 |
| | -20.52 | -33.30 | -38.00 | -41.66 | -44.86 | -47.51 | -50.12 | -52.40 | -56.79 |
| -50 | -14.16 | -8.07 | -3.77 | -0.21 | 2.80 | 5.68 | 8.32 | 10.90 | 15.85 |
| | -30.70 | -36.81 | -41.09 | -44.53 | -47.38 | -50.11 | -52.43 | -54.76 | -58.92 |
| -40 | -12.54 | -5.34 | -0.77 | 2.94 | 6.27 | 9.28 | 12.08 | 14.80 | 19.98 |
| | -30.84 | -37.68 | -42.19 | -45.81 | -48.78 | -51.44 | -53.88 | -56.14 | -60.33 |
| -30 | 0. | -4.14 | 1.53 | 5.83 | 9.41 | 12.55 | 15.54 | 18.31 | 23.68 |
| | 0. | -35.78 | -41.56 | -45.77 | -49.09 | -51.90 | -54.53 | -56.80 | -61.06 |

* REFER TO FIGURE 24 (RM 63 TMP-2)

*Table 40 (Cont.)

| LONG (DEG) | B=0.19 LAT (DEG) | B=0.20 LAT (DEG) | B=0.21 LAT (DEG) | B=0.22 LAT (DEG) | B=0.23 LAT (DEG) | B=0.24 LAT (DEG) | B=0.25 LAT (DEG) | B=0.26 LAT (DEG) | B=0.28 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|
| -20 | 0. | -7.56 | 2.23 | 7.40 | 11.41 | 14.88 | 17.88 | 20.80 | 26.29 |
| | 0. | -25.41 | -38.31 | -44.25 | -48.25 | -51.54 | -54.40 | -56.83 | -61.27 |
| -10 | 0. | 0. | -0.68 | 7.27 | 12.02 | 15.83 | 19.07 | 22.07 | 27.71 |
| | 0. | 0. | -23.06 | -40.32 | -46.22 | -50.38 | -53.50 | -56.26 | -60.98 |
| 0 | 0. | 0. | 0. | 4.16 | 11.20 | 15.65 | 19.19 | 22.33 | 28.14 |
| | 0. | 0. | 0. | -17.11 | -41.82 | -47.85 | -51.84 | -55.13 | -60.20 |
| 10 | 0. | 0. | 0. | 0. | 8.01 | 14.26 | 18.27 | 21.70 | 27.68 |
| | 0. | 0. | 0. | 0. | -13.94 | -43.54 | -49.24 | -52.93 | -58.68 |
| 20 | 0. | 0. | 0. | 0. | 0. | 11.32 | 16.39 | 20.23 | 26.37 |
| | 0. | 0. | 0. | 0. | 0. | -17.14 | -44.73 | -49.90 | -56.43 |
| 30 | 0. | 0. | 0. | 0. | 0. | 6.01 | 13.41 | 17.66 | 24.22 |
| | 0. | 0. | 0. | 0. | 0. | -4.78 | -31.01 | -44.16 | -52.90 |
| 40 | 0. | 0. | 0. | 0. | 0. | 0. | 9.70 | 14.71 | 21.50 |
| | 0. | 0. | 0. | 0. | 0. | 0. | -12.43 | -29.90 | -46.99 |
| 50 | 0. | 0. | 0. | 0. | 0. | 0. | 0.12 | 10.93 | 18.62 |
| | 0. | 0. | 0. | 0. | 0. | 0. | -0.10 | -13.78 | -34.65 |
| 60 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0.86 | 15.86 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -0.18 | -17.45 |
| 70 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 12.58 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -6.08 |
| 80 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| 90 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| 100 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| 110 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| 120 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| 130 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 15.04 |
| 140 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 20.27 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0.59 |
| 150 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 11.78 | 24.73 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 9.31 | -1.77 |
| 160 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 19.71 | 27.91 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 3.45 | -4.29 |
| 170 | 0. | 0. | 0. | 0. | 0. | 0. | 15.24 | 21.75 | 29.68 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 6.59 | -0.11 | -6.84 |

* REFER TO FIGURE 24 (RM 63 TMP-2)

*Table 41. Constant Magnetic Field Intensity, B (Gauss), in the Region of the South Atlantic Anomaly at Altitude 800 Kilometers

| LONG (DEG) | B=0.18 LAT (DEG) | B=0.19 LAT (DEG) | B=0.20 LAT (DEG) | B=0.21 LAT (DEG) | B=0.22 LAT (DEG) | B=0.23 LAT (DEG) | B=0.24 LAT (DEG) | B=0.25 LAT (DEG) | B=0.26 LAT (DEG) | B=0.28 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|
| -180 | 0. | 0. | 0. | 0. | 0. | 0. | 15.83 | 21.82 | 26.19 | 33.09 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 2.21 | -3.32 | -7.06 | -12.95 |
| -170 | 0. | 0. | 0. | 0. | 0. | 0. | 14.72 | 20.41 | 24.70 | 31.65 |
| | 0. | 0. | 0. | 0. | 0. | 0. | -1.25 | -6.31 | -10.06 | -15.82 |
| -160 | 0. | 0. | 0. | 0. | 0. | 0. | 12.73 | 18.12 | 22.27 | 29.21 |
| | 0. | 0. | 0. | 0. | 0. | 0. | -4.86 | -9.43 | -12.88 | -18.72 |
| -150 | 0. | 0. | 0. | 0. | 0. | 0. | 11.12 | 15.94 | 19.83 | 26.30 |
| | 0. | 0. | 0. | 0. | 0. | 0. | -8.15 | -12.56 | -16.06 | -21.81 |
| -140 | 0. | 0. | 0. | 0. | 0. | 2.21 | 9.63 | 13.82 | 17.33 | 23.41 |
| | 0. | 0. | 0. | 0. | 0. | -5.41 | -11.90 | -16.06 | -19.42 | -25.15 |
| -130 | 0. | 0. | 0. | 0. | 0. | 2.37 | 7.97 | 11.86 | 15.19 | 20.78 |
| | 0. | 0. | 0. | 0. | 0. | -10.44 | -15.81 | -19.71 | -22.88 | -28.63 |
| -120 | 0. | 0. | 0. | 0. | 0. | 1.82 | 6.53 | 10.15 | 13.06 | 18.36 |
| | 0. | 0. | 0. | 0. | 0. | -15.07 | -19.82 | -23.44 | -26.71 | -32.53 |
| -110 | 0. | 0. | 0. | 0. | -7.14 | 1.06 | 5.22 | 8.34 | 11.20 | 16.23 |
| | 0. | 0. | 0. | 0. | -11.34 | -19.73 | -24.13 | -27.78 | -31.10 | -37.05 |
| -100 | 0. | 0. | 0. | 0. | -4.72 | 0.33 | 3.82 | 6.82 | 9.57 | 14.39 |
| | 0. | 0. | 0. | 0. | -19.54 | -25.26 | -29.41 | -32.97 | -36.27 | -42.24 |
| -90 | 0. | 0. | 0. | -11.40 | -4.28 | -0.21 | 2.87 | 5.75 | 8.27 | 12.99 |
| | 0. | 0. | 0. | -19.51 | -26.88 | -31.59 | -35.48 | -38.82 | -41.91 | -47.60 |
| -80 | 0. | 0. | -19.63 | -8.00 | -3.62 | -0.15 | 2.65 | 5.36 | 7.78 | 12.43 |
| | 0. | 0. | -20.07 | -29.33 | -34.16 | -37.97 | -41.35 | -44.41 | -47.18 | -52.39 |
| -70 | 0. | 0. | -10.22 | -5.81 | -2.37 | 0.73 | 3.42 | 6.00 | 8.42 | 13.11 |
| | 0. | 0. | -31.20 | -36.15 | -40.07 | -43.24 | -46.20 | -48.91 | -51.45 | -56.21 |
| -60 | 0. | -12.60 | -7.37 | -3.49 | -0.16 | 2.67 | 5.43 | 7.96 | 10.48 | 15.32 |
| | 0. | -31.31 | -36.73 | -40.80 | -44.12 | -47.03 | -49.78 | -52.21 | -54.61 | -59.03 |
| -50 | -17.59 | -9.04 | -4.28 | -0.51 | 2.70 | 5.73 | 8.50 | 11.19 | 13.79 | 18.90 |
| | -26.42 | -35.13 | -39.90 | -43.50 | -46.67 | -49.55 | -52.07 | -54.52 | -56.75 | -61.04 |
| -40 | -15.75 | -6.58 | -1.40 | 2.62 | 6.14 | 9.29 | 12.21 | 15.05 | 17.75 | 23.10 |
| | -26.12 | -35.71 | -40.85 | -44.83 | -47.97 | -50.89 | -53.46 | -55.89 | -58.11 | -62.34 |
| -30 | 0. | -5.46 | 0.92 | 5.51 | 9.24 | 12.53 | 15.64 | 18.52 | 21.34 | 26.86 |
| | 0. | -32.82 | -40.02 | -44.61 | -48.16 | -51.28 | -54.03 | -56.51 | -58.83 | -63.09 |
| -20 | 0. | -14.25 | 1.51 | 7.06 | 11.27 | 14.88 | 18.00 | 21.03 | 23.89 | 29.52 |
| | 0. | -15.57 | -35.83 | -42.60 | -47.18 | -50.83 | -53.82 | -56.49 | -58.93 | -63.32 |

* REFER TO FIGURE 25 (RM 63 TMP-2)

*Table 41 (Cont.)

| LONG (DEG) | B=0.18 LAT (DEG) | B=0.19 LAT (DEG) | B=0.20 LAT (DEG) | B=0.21 LAT (DEG) | B=0.22 LAT (DEG) | B=0.23 LAT (DEG) | B=0.24 LAT (DEG) | B=0.25 LAT (DEG) | B=0.26 LAT (DEG) | B=0.28 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|
| -10 | 0. | 0. | -2.50 | 6.96 | 11.94 | 15.89 | 19.26 | 22.35 | 25.33 | 31.06 |
| | 0. | 0. | -17.64 | -37.64 | -45.01 | -49.43 | -52.84 | -55.86 | -58.44 | -63.06 |
| 0 | 0. | 0. | 0. | 3.78 | 11.23 | 15.80 | 19.47 | 22.68 | 25.76 | 31.59 |
| | 0. | 0. | 0. | -15.18 | -39.77 | -46.64 | -51.09 | -54.57 | -57.36 | -62.31 |
| 10 | 0. | 0. | 0. | 0. | 8.34 | 14.60 | 18.65 | 22.12 | 25.33 | 31.22 |
| | 0. | 0. | 0. | 0. | -14.20 | -41.50 | -48.07 | -52.26 | -55.67 | -61.02 |
| 20 | 0. | 0. | 0. | 0. | 0. | 11.81 | 16.86 | 20.72 | 23.98 | 29.99 |
| | 0. | 0. | 0. | 0. | 0. | -18.01 | -42.84 | -48.86 | -52.83 | -58.96 |
| 30 | 0. | 0. | 0. | 0. | 0. | 7.08 | 14.16 | 18.33 | 21.83 | 27.93 |
| | 0. | 0. | 0. | 0. | 0. | -6.32 | -27.68 | -42.71 | -48.45 | -55.85 |
| 40 | 0. | 0. | 0. | 0. | 0. | 0. | 10.53 | 15.47 | 19.13 | 25.37 |
| | 0. | 0. | 0. | 0. | 0. | 0. | -13.26 | -28.70 | -40.42 | -50.88 |
| 50 | 0. | 0. | 0. | 0. | 0. | 0. | 4.01 | 11.82 | 16.15 | 22.63 |
| | 0. | 0. | 0. | 0. | 0. | 0. | -2.70 | -14.54 | -24.36 | -41.73 |
| 60 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 6.12 | 12.81 | 20.24 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -2.46 | -11.57 | -25.56 |
| 70 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 7.04 | 17.97 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -0.01 | -13.07 |
| 80 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 16.06 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -5.09 |
| 90 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 14.44 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -0.09 |
| 100 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 13.55 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 2.44 |
| 110 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 15.06 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 1.85 |
| 120 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 17.23 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -0.18 |
| 130 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 20.83 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -1.81 |
| 140 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 15.68 | 24.84 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 4.72 | -3.63 |
| 150 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 14.25 | 21.10 | 28.58 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 8.21 | 1.32 | -5.60 |
| 160 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 20.03 | 24.68 | 31.53 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 2.95 | -1.53 | -7.72 |
| 170 | 0. | 0. | 0. | 0. | 0. | 0. | 15.28 | 21.86 | 26.29 | 33.08 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 5.96 | -0.50 | -4.35 | -10.31 |

* REFER TO FIGURE 25 (RM 63 TMP-2)

*Table 42. Constant Magnetic Field Intensity, B (Gauss), in the Region of the South Atlantic Anomaly at Altitude 900 Kilometers

| LONG (DEG) | B=0.18 LAT (DEG) | B=0.19 LAT (DEG) | B=0.20 LAT (DEG) | B=0.21 LAT (DEG) | B=0.22 LAT (DEG) | B=0.23 LAT (DEG) | B=0.24 LAT (DEG) | B=0.25 LAT (DEG) | B=0.26 LAT (DEG) | B=0.28 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|
| -180 | 0. | 0. | 0. | 0. | 0. | 15.50 | 21.68 | 26.18 | 30.00 | 36.41 |
| | 0. | 0. | 0. | 0. | 0. | 2.26 | -3.54 | -7.38 | -10.67 | -16.17 |
| -170 | 0. | 0. | 0. | 0. | 0. | 14.33 | 20.33 | 24.74 | 28.45 | 35.11 |
| | 0. | 0. | 0. | 0. | 0. | -1.24 | -6.50 | -10.35 | -13.44 | -19.00 |
| -160 | 0. | 0. | 0. | 0. | 0. | 12.50 | 18.09 | 22.36 | 26.10 | 32.65 |
| | 0. | 0. | 0. | 0. | 0. | -4.87 | -9.65 | -13.20 | -16.38 | -21.93 |
| -150 | 0. | 0. | 0. | 0. | 0. | 10.95 | 15.94 | 19.97 | 23.39 | 29.72 |
| | 0. | 0. | 0. | 0. | 0. | -8.13 | -12.73 | -16.35 | -19.49 | -25.06 |
| -140 | 0. | 0. | 0. | 0. | 1.34 | 9.43 | 13.84 | 17.47 | 20.78 | 26.67 |
| | 0. | 0. | 0. | 0. | -4.63 | -11.86 | -16.20 | -19.72 | -22.72 | -28.32 |
| -130 | 0. | 0. | 0. | 0. | 1.81 | 7.81 | 11.88 | 15.34 | 18.30 | 23.84 |
| | 0. | 0. | 0. | 0. | -10.08 | -15.77 | -19.85 | -23.15 | -26.25 | -31.89 |
| -120 | 0. | 0. | 0. | 0. | 1.41 | 6.41 | 10.19 | 13.23 | 16.11 | 21.30 |
| | 0. | 0. | 0. | 0. | -14.60 | -19.75 | -23.56 | -26.95 | -30.12 | -35.88 |
| -110 | 0. | 0. | 0. | 0. | 0.76 | 5.15 | 8.41 | 11.39 | 14.10 | 19.06 |
| | 0. | 0. | 0. | 0. | -19.33 | -24.05 | -27.87 | -31.32 | -34.51 | -40.47 |
| -100 | 0. | 0. | 0. | -5.60 | 0.11 | 3.78 | 6.93 | 9.81 | 12.34 | 17.17 |
| | 0. | 0. | 0. | -18.42 | -24.94 | -29.27 | -33.00 | -36.42 | -39.63 | -45.59 |
| -90 | 0. | 0. | -14.52 | -4.68 | -0.41 | 2.88 | 5.89 | 8.54 | 11.07 | 15.82 |
| | 0. | 0. | -15.56 | -26.16 | -31.17 | -35.25 | -38.73 | -41.96 | -45.04 | -50.71 |
| -80 | 0. | 0. | -8.75 | -3.94 | -0.29 | 2.69 | 5.53 | 8.07 | 10.57 | 15.30 |
| | 0. | 0. | -27.88 | -33.30 | -37.43 | -41.01 | -44.20 | -47.12 | -49.95 | -55.19 |
| -70 | 0. | -11.72 | -6.45 | -2.65 | 0.64 | 3.48 | 6.19 | 8.74 | 11.22 | 16.05 |
| | 0. | -29.38 | -35.09 | -39.16 | -42.63 | -45.80 | -48.63 | -51.32 | -53.86 | -58.71 |
| -60 | -14.46 | -8.27 | -3.97 | -0.45 | 2.58 | 5.48 | 8.15 | 10.77 | 13.31 | 18.37 |
| | -28.37 | -35.26 | -39.69 | -43.22 | -46.40 | -49.28 | -51.90 | -54.43 | -56.79 | -61.36 |
| -50 | -10.58 | -5.06 | -1.06 | 2.41 | 5.61 | 8.52 | 11.33 | 14.05 | 16.73 | 22.08 |
| | -32.45 | -38.14 | -42.30 | -45.82 | -48.83 | -51.57 | -54.15 | -56.54 | -58.85 | -63.23 |
| -40 | -8.28 | -2.34 | 2.07 | 5.82 | 9.12 | 12.18 | 15.14 | 17.95 | 20.75 | 26.34 |
| | -32.87 | -39.10 | -43.44 | -47.01 | -50.21 | -52.90 | -55.52 | -57.87 | -60.20 | -64.50 |
| -30 | -8.00 | 0.02 | 4.95 | 8.85 | 12.33 | 15.58 | 18.58 | 21.51 | 24.37 | 30.10 |
| | -28.97 | -37.66 | -43.00 | -47.06 | -50.52 | -53.40 | -56.09 | -58.54 | -60.88 | -65.23 |
| -20 | 0. | 0.38 | 6.44 | 10.92 | 14.67 | 17.95 | 21.09 | 24.07 | 27.00 | 32.87 |
| | 0. | -32.37 | -40.77 | -45.94 | -49.97 | -53.11 | -56.02 | -58.60 | -61.02 | -65.47 |
| -10 | 0. | 0. | 6.29 | 11.61 | 15.75 | 19.25 | 22.45 | 25.54 | 28.51 | 34.47 |
| | 0. | 0. | -34.54 | -43.01 | -48.16 | -52.02 | -55.33 | -58.05 | -60.66 | -65.27 |

* REFER TO FIGURE 26 (RM 63 TMP-2)

*Table 42 (Cont.)

| LONG (DEG) | B=0.18 LAT (DEG) | B=0.19 LAT (DEG) | B=0.20 LAT (DEG) | B=0.21 LAT (DEG) | B=0.22 LAT (DEG) | B=0.23 LAT (DEG) | B=0.24 LAT (DEG) | B=0.25 LAT (DEG) | B=0.26 LAT (DEG) | B=0.28 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0. | 0. | 2.42 | 10.96 | 15.72 | 19.53 | 22.85 | 26.02 | 29.05 | 35.07 |
| | 0. | 0. | -12.18 | -36.32 | -45.24 | -50.19 | -53.81 | -56.91 | -59.74 | -64.58 |
| 10 | 0. | 0. | 0. | 8.04 | 14.60 | 18.79 | 22.36 | 25.65 | 28.71 | 34.76 |
| | 0. | 0. | 0. | -13.15 | -38.83 | -46.71 | -51.43 | -55.15 | -58.08 | -63.31 |
| 20 | 0. | 0. | 0. | 0. | 11.92 | 17.07 | 21.01 | 24.40 | 27.52 | 33.58 |
| | 0. | 0. | 0. | 0. | -17.18 | -40.82 | -47.64 | -52.11 | -55.71 | -61.43 |
| 30 | 0. | 0. | 0. | 0. | 7.41 | 14.55 | 18.76 | 22.30 | 25.56 | 31.60 |
| | 0. | 0. | 0. | 0. | -6.59 | -24.76 | -41.10 | -47.46 | -51.89 | -58.59 |
| 40 | 0. | 0. | 0. | 0. | 0. | 10.93 | 15.92 | 19.75 | 22.99 | 29.05 |
| | 0. | 0. | 0. | 0. | 0. | -13.25 | -27.16 | -39.05 | -45.73 | -54.27 |
| 50 | 0. | 0. | 0. | 0. | 0. | 5.34 | 12.44 | 16.79 | 20.37 | 26.43 |
| | 0. | 0. | 0. | 0. | 0. | -3.57 | -14.71 | -24.17 | -33.76 | -46.88 |
| 60 | 0. | 0. | 0. | 0. | 0. | 0. | 7.27 | 13.71 | 17.69 | 24.10 |
| | 0. | 0. | 0. | 0. | 0. | 0. | -3.70 | -12.19 | -19.06 | -33.43 |
| 70 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 9.49 | 15.30 | 22.20 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -1.40 | -8.62 | -19.35 |
| 80 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 11.99 | 20.84 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -0.49 | -10.84 |
| 90 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 19.99 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -6.02 |
| 100 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 19.72 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -3.95 |
| 110 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 20.46 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -3.80 |
| 120 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 12.11 | 22.20 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 4.67 | -4.73 |
| 130 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 17.09 | 25.19 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 1.74 | -5.87 |
| 140 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 16.27 | 21.58 | 28.65 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 4.17 | -0.82 | -7.18 |
| 150 | 0. | 0. | 0. | 0. | 0. | 0. | 15.00 | 21.36 | 25.61 | 32.14 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 15.00 | 0.81 | -2.95 | -8.88 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 7.71 | 0. | 0. | 0. |
| 160 | 0. | 0. | 0. | 0. | 0. | 0. | 19.97 | 24.78 | 28.49 | 34.92 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 2.72 | -1.87 | -5.41 | -10.98 |
| 170 | 0. | 0. | 0. | 0. | 0. | 14.79 | 21.72 | 26.28 | 30.07 | 36.36 |
| | 0. | 0. | 0. | 0. | 0. | 6.25 | -0.68 | -4.73 | -7.87 | -13.43 |

* REFER TO FIGURE 26 (RM 63 TMP-2)

*Table 43. Constant Magnetic Field Intensity, B (Gauss), in the Region of the South Atlantic Anomaly at Altitude 1000 Kilometers

| LONG (DEG) | B=0.17 LAT (DEG) | B=0.18 LAT (DEG) | B=0.19 LAT (DEG) | B=0.20 LAT (DEG) | B=0.21 LAT (DEG) | B=0.22 LAT (DEG) | B=0.23 LAT (DEG) | B=0.24 LAT (DEG) | B=0.25 LAT (DEG) | B=0.26 LAT (DEG) | B=0.28 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| -180 | 0. | 0. | 0. | 0. | 0. | 14.62 | 21.30 | 25.97 | 29.91 | 33.32 | 39.63 |
| | 0. | 0. | 0. | 0. | 0. | 2.83 | -3.50 | -7.52 | -10.92 | -13.87 | -19.28 |
| -170 | 0. | 0. | 0. | 0. | 0. | 13.44 | 20.01 | 24.54 | 28.40 | 31.94 | 38.37 |
| | 0. | 0. | 0. | 0. | 0. | -0.89 | -6.47 | -10.47 | -13.70 | -16.68 | -22.13 |
| -160 | 0. | 0. | 0. | 0. | 0. | 11.89 | 17.80 | 22.25 | 26.11 | 29.63 | 36.05 |
| | 0. | 0. | 0. | 0. | 0. | -4.38 | -9.62 | -13.34 | -16.62 | -19.63 | -25.11 |
| -150 | 0. | 0. | 0. | 0. | 0. | 10.49 | 15.73 | 19.90 | 23.45 | 26.81 | 33.05 |
| | 0. | 0. | 0. | 0. | 0. | -7.77 | -12.69 | -16.46 | -19.75 | -22.66 | -28.21 |
| -140 | 0. | 0. | 0. | 0. | 0. | 8.90 | 13.63 | 17.44 | 20.88 | 24.01 | 29.92 |
| | 0. | 0. | 0. | 0. | 0. | -11.55 | -16.14 | -19.83 | -22.96 | -25.96 | -31.55 |
| -130 | 0. | 0. | 0. | 0. | 0.80 | 7.40 | 11.72 | 15.33 | 18.43 | 21.38 | 26.93 |
| | 0. | 0. | 0. | 0. | -8.52 | -15.48 | -19.76 | -23.23 | -26.46 | -29.48 | -35.18 |
| -120 | 0. | 0. | 0. | 0. | 0.69 | 6.08 | 10.07 | 13.25 | 16.24 | 19.01 | 24.25 |
| | 0. | 0. | 0. | 0. | -13.58 | -19.39 | -23.47 | -27.02 | -30.32 | -33.35 | -39.26 |
| -110 | 0. | 0. | 0. | 0. | 0.21 | 4.85 | 8.30 | 11.43 | 14.27 | 16.90 | 21.93 |
| | 0. | 0. | 0. | 0. | -18.53 | -23.71 | -27.76 | -31.36 | -34.70 | -37.82 | -43.91 |
| -100 | 0. | 0. | 0. | -7.49 | -0.47 | 3.53 | 6.87 | 9.89 | 12.53 | 15.15 | 20.02 |
| | 0. | 0. | 0. | -16.70 | -24.19 | -28.89 | -32.82 | -36.40 | -39.75 | -42.88 | -48.95 |
| -90 | 0. | 0. | 0. | -5.59 | -0.86 | 2.70 | 5.87 | 8.66 | 11.30 | 13.81 | 18.66 |
| | 0. | 0. | 0. | -25.14 | -30.52 | -34.81 | -38.45 | -41.84 | -45.06 | -48.04 | -53.83 |
| -80 | 0. | 0. | -9.86 | -4.50 | -0.64 | 2.56 | 5.55 | 8.22 | 10.83 | 13.32 | 18.22 |
| | 0. | 0. | -26.11 | -32.19 | -36.68 | -40.50 | -43.83 | -46.92 | -49.88 | -52.64 | -58.02 |
| -70 | 0. | -13.79 | -7.39 | -3.15 | 0.39 | 3.38 | 6.23 | 8.91 | 11.50 | 14.04 | 19.09 |
| | 0. | -26.46 | -33.42 | -38.04 | -41.84 | -45.24 | -48.20 | -51.06 | -53.73 | -56.32 | -61.32 |
| -60 | -19.59 | -9.49 | -4.68 | -0.96 | 2.31 | 5.38 | 8.18 | 10.93 | 13.58 | 16.23 | 21.56 |
| | -21.10 | -33.01 | -38.14 | -42.14 | -45.62 | -48.63 | -51.45 | -54.11 | -56.62 | -59.06 | -63.77 |
| -50 | -13.33 | -6.44 | -1.87 | 1.92 | 5.32 | 8.37 | 11.32 | 14.16 | 16.96 | 19.73 | 25.37 |
| | -29.11 | -36.17 | -40.91 | -44.76 | -47.95 | -50.94 | -53.65 | -56.21 | -58.64 | -61.00 | -65.54 |
| -40 | -10.89 | -3.61 | 1.27 | 5.30 | 8.75 | 11.97 | 15.07 | 17.99 | 20.91 | 23.80 | 29.69 |
| | -29.20 | -36.83 | -41.86 | -45.88 | -49.25 | -52.20 | -55.02 | -57.50 | -59.98 | -62.25 | -66.72 |
| -30 | -13.05 | -1.68 | 3.95 | 8.23 | 11.94 | 15.34 | 18.46 | 21.51 | 24.49 | 27.47 | 33.54 |
| | -21.93 | -35.10 | -41.21 | -45.79 | -49.51 | -52.62 | -55.55 | -58.12 | -60.63 | -62.94 | -67.39 |
| -20 | 0. | -1.89 | 5.53 | 10.35 | 14.24 | 17.70 | 20.98 | 24.07 | 27.11 | 30.13 | 36.36 |
| | 0. | -27.81 | -38.25 | -44.34 | -48.67 | -52.23 | -55.41 | -58.13 | -60.73 | -63.11 | -67.63 |
| -10 | 0. | 0. | 5.26 | 11.03 | 15.40 | 19.04 | 22.38 | 25.58 | 28.66 | 31.74 | 38.06 |
| | 0. | 0. | -30.15 | -40.84 | -46.70 | -51.04 | -54.58 | -57.52 | -60.33 | -62.78 | -67.44 |

* REFER TO FIGURE 27 (RM 63 TMP-2)

*Table 43 (Cont.)

| LONG (DEG) | B=0.17 LAT (DEG) | B=0.18 LAT (DEG) | B=0.19 LAT (DEG) | B=0.20 LAT (DEG) | B=0.21 LAT (DEG) | B=0.22 LAT (DEG) | B=0.23 LAT (DEG) | B=0.24 LAT (DEG) | B=0.25 LAT (DEG) | B=0.26 LAT (DEG) | B=0.28 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0. | 0. | 0.08 | 10.38 | 15.41 | 19.36 | 22.82 | 26.11 | 29.24 | 32.36 | 38.73 |
| | 0. | 0. | -7.07 | -31.85 | -43.01 | -48.78 | -52.88 | -54.31 | -59.30 | -61.94 | -66.82 |
| 10 | 0. | 0. | 0. | 7.11 | 14.24 | 18.67 | 22.38 | 25.79 | 28.96 | 32.10 | 38.47 |
| | 0. | 0. | 0. | -11.06 | -35.05 | -45.17 | -50.43 | -54.35 | -57.57 | -60.55 | -65.71 |
| 20 | 0. | 0. | 0. | 0. | 11.65 | 17.03 | 21.10 | 24.61 | 27.83 | 30.98 | 37.30 |
| | 0. | 0. | 0. | 0. | -15.39 | -37.74 | -46.23 | -51.21 | -55.14 | -58.29 | -63.94 |
| 30 | 0. | 0. | 0. | 0. | 7.03 | 14.58 | 18.93 | 22.58 | 25.94 | 29.08 | 35.30 |
| | 0. | 0. | 0. | 0. | -5.86 | -22.15 | -38.91 | -46.27 | -51.14 | -55.08 | -61.35 |
| 40 | 0. | 0. | 0. | 0. | 0. | 10.99 | 16.15 | 20.13 | 23.46 | 26.65 | 32.80 |
| | 0. | 0. | 0. | 0. | 0. | -12.57 | -25.36 | -37.30 | -44.76 | -49.86 | -57.43 |
| 50 | 0. | 0. | 0. | 0. | 0. | 5.37 | 12.77 | 17.21 | 20.88 | 24.10 | 30.17 |
| | 0. | 0. | 0. | 0. | 0. | -3.06 | -14.37 | -23.55 | -32.85 | -40.64 | -51.24 |
| 60 | 0. | 0. | 0. | 0. | 0. | 0. | 7.88 | 14.33 | 18.32 | 21.76 | 27.85 |
| | 0. | 0. | 0. | 0. | 0. | 0. | -4.03 | -12.39 | -19.27 | -26.28 | -40.34 |
| 70 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 10.48 | 15.96 | 19.87 | 26.08 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -2.22 | -9.32 | -14.82 | -25.73 |
| 80 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 13.17 | 18.06 | 24.84 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -1.47 | -7.17 | -16.10 |
| 90 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 10.12 | 16.78 | 24.05 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 4.80 | -2.43 | -10.86 |
| 100 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 16.38 | 23.91 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -0.55 | -8.47 |
| 110 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 17.13 | 24.65 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -0.58 | -7.94 |
| 120 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 13.52 | 19.30 | 26.30 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 3.89 | -1.60 | -8.39 |
| 130 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 17.71 | 22.23 | 28.98 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 1.12 | -3.07 | -9.31 |
| 140 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 16.53 | 21.92 | 25.87 | 32.28 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 3.92 | -1.16 | -4.81 | -10.49 |
| 150 | 0. | 0. | 0. | 0. | 0. | 0. | 14.24 | 21.38 | 25.76 | 29.33 | 35.58 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 7.93 | 0.59 | -3.27 | -6.53 | -12.01 |
| 160 | 0. | 0. | 0. | 0. | 0. | 0. | 19.50 | 24.64 | 28.51 | 31.96 | 38.12 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 2.80 | -2.02 | -5.67 | -8.67 | -14.07 |
| 170 | 0. | 0. | 0. | 0. | 0. | 12.61 | 21.33 | 26.09 | 30.01 | 33.35 | 39.55 |
| | 0. | 0. | 0. | 0. | 0. | 7.66 | -0.63 | -4.89 | -8.15 | -11.17 | -16.54 |

* REFER TO FIGURE 27 (RM 63 TMP-2)

## *Table 44. Constant Magnetic Field Intensity, B (Gauss), in the Region of the South Atlantic Anomaly at Altitude 1200 Kilometers

| LONG (DEG) | B=0.16 LAT (DEG) | B=0.17 LAT (DEG) | B=0.18 LAT (DEG) | B=0.19 LAT (DEG) | B=0.20 LAT (DEG) | B=0.21 LAT (DEG) | B=0.22 LAT (DEG) | B=0.23 LAT (DEG) | B=0.24 LAT (DEG) | B=0.25 LAT (DEG) | B=0.26 LAT (DEG) | B=0.28 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -180 | 0. | 0. | 0. | 0. | 0. | 19.70 | 24.96 | 29.15 | 32.89 | 36.40 | 39.72 | 46.08 |
| | 0. | 0. | 0. | 0. | 0. | -2.51 | -7.18 | -10.92 | -14.15 | -17.12 | -20.01 | -25.52 |
| -170 | 0. | 0. | 0. | 0. | 10.18 | 18.28 | 23.47 | 27.73 | 31.57 | 35.15 | 38.50 | 45.01 |
| | 0. | 0. | 0. | 0. | 2.49 | -5.67 | -10.17 | -13.70 | -16.93 | -19.99 | -22.84 | -28.47 |
| -160 | 0. | 0. | 0. | 0. | 9.05 | 16.43 | 21.38 | 25.59 | 29.35 | 32.87 | 36.28 | 42.88 |
| | 0. | 0. | 0. | 0. | -1.75 | -8.65 | -12.98 | -16.61 | -19.89 | -22.88 | -25.82 | -31.53 |
| -150 | 0. | 0. | 0. | 0. | 7.83 | 14.50 | 19.08 | 23.02 | 26.66 | 30.12 | 33.41 | 39.92 |
| | 0. | 0. | 0. | 0. | -5.89 | -11.86 | -16.12 | -19.72 | -22.90 | -25.98 | -28.92 | -34.74 |
| -140 | 0. | 0. | 0. | 0. | 6.76 | 12.48 | 16.80 | 20.56 | 23.96 | 27.20 | 30.37 | 36.63 |
| | 0. | 0. | 0. | 0. | -10.04 | -15.38 | -19.42 | -22.90 | -26.18 | -29.26 | -32.26 | -38.22 |
| -130 | 0. | 0. | 0. | 0. | 5.74 | 10.78 | 14.76 | 18.17 | 21.41 | 24.48 | 27.45 | 33.37 |
| | 0. | 0. | 0. | 0. | -13.75 | -18.85 | -22.83 | -26.39 | -29.69 | -32.81 | -35.90 | -42.07 |
| -120 | 0. | 0. | 0. | -3.94 | 4.61 | 9.09 | 12.74 | 16.06 | 19.10 | 21.99 | 24.83 | 30.43 |
| | 0. | 0. | 0. | -9.47 | -17.77 | -22.61 | -26.60 | -30.22 | -33.53 | -36.78 | -39.97 | -46.40 |
| -110 | 0. | 0. | 0. | -2.94 | 3.33 | 7.50 | 11.03 | 14.14 | 17.03 | 19.84 | 22.54 | 27.96 |
| | 0. | 0. | 0. | -15.72 | -22.22 | -26.89 | -30.89 | -34.52 | -37.94 | -41.28 | -44.56 | -51.17 |
| -100 | 0. | 0. | 0. | -2.77 | 2.34 | 6.22 | 9.54 | 12.49 | 15.34 | 18.02 | 20.69 | 25.99 |
| | 0. | 0. | 0. | -21.64 | -27.36 | -31.85 | -35.81 | -39.44 | -42.86 | -46.21 | -49.48 | -56.03 |
| -90 | 0. | 0. | -9.27 | -2.62 | 1.74 | 5.35 | 8.41 | 11.33 | 14.09 | 16.77 | 19.41 | 24.72 |
| | 0. | 0. | -20.70 | -28.09 | -33.11 | -37.30 | -41.08 | -44.58 | -47.81 | -51.00 | -54.19 | -60.44 |
| -80 | 0. | 0. | -7.00 | -2.09 | 1.73 | 5.11 | 8.05 | 10.92 | 13.66 | 16.36 | 19.03 | 24.49 |
| | 0. | 0. | -28.89 | -34.45 | -38.76 | -42.54 | -46.02 | -49.26 | -52.33 | -55.34 | -58.25 | -64.09 |
| -70 | 0. | -10.59 | -4.89 | -0.86 | 2.60 | 5.82 | 8.77 | 11.62 | 14.41 | 17.17 | 19.93 | 25.68 |
| | 0. | -28.81 | -35.13 | -39.63 | -43.42 | -46.86 | -50.09 | -53.04 | -55.92 | -58.70 | -61.45 | -66.92 |
| -60 | -14.92 | -7.51 | -2.74 | 1.17 | 4.60 | 7.72 | 10.76 | 13.67 | 16.56 | 19.44 | 22.38 | 28.52 |
| | -25.91 | -34.18 | -39.25 | -43.29 | -46.84 | -50.12 | -53.04 | -55.89 | -58.59 | -61.24 | -63.83 | -69.01 |
| -50 | -10.81 | -4.36 | 0.25 | 4.05 | 7.51 | 10.78 | 13.88 | 16.93 | 19.94 | 22.99 | 26.08 | 32.65 |
| | -30.25 | -36.87 | -41.68 | -45.68 | -49.10 | -52.19 | -55.15 | -57.84 | -60.50 | -63.03 | -65.55 | -70.51 |
| -40 | -8.28 | -1.46 | 3.34 | 7.36 | 11.01 | 14.37 | 17.58 | 20.75 | 23.87 | 27.04 | 30.24 | 37.15 |
| | -30.39 | -37.54 | -42.62 | -46.73 | -50.33 | -53.43 | -56.35 | -59.09 | -61.69 | -64.22 | -66.67 | -71.52 |
| -30 | -7.63 | 0.97 | 6.22 | 10.52 | 14.25 | 17.70 | 21.02 | 24.24 | 27.44 | 30.67 | 33.98 | 41.10 |
| | -26.00 | -36.06 | -42.06 | -46.68 | -50.56 | -53.86 | -56.87 | -59.72 | -62.31 | -64.88 | -67.31 | -72.10 |
| -20 | 0. | 1.90 | 8.09 | 12.68 | 16.62 | 20.23 | 23.56 | 26.85 | 30.09 | 33.39 | 36.78 | 44.05 |
| | 0. | -30.99 | -39.82 | -45.50 | -49.94 | -53.51 | -56.74 | -59.74 | -62.41 | -65.05 | -67.49 | -72.31 |
| -10 | 0. | 0.24 | 8.66 | 13.82 | 17.95 | 21.66 | 25.14 | 28.44 | 31.74 | 35.05 | 38.50 | 45.92 |
| | 0. | -17.45 | -34.09 | -42.55 | -48.11 | -52.37 | -56.00 | -59.15 | -62.00 | -64.73 | -67.25 | -72.16 |

* REFER TO FIGURE 28 (RM 63 TMP-2)

*Table 44 (Cont.)

| LONG (DEG) | B=0.16 LAT (DEG) | B=0.17 LAT (DEG) | B=0.18 LAT (DEG) | B=0.19 LAT (DEG) | B=0.20 LAT (DEG) | B=0.21 LAT (DEG) | B=0.22 LAT (DEG) | B=0.23 LAT (DEG) | B=0.24 LAT (DEG) | B=0.25 LAT (DEG) | B=0.26 LAT (DEG) | B=0.28 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0. | 0. | 7.34 | 13.78 | 18.30 | 22.17 | 25.74 | 29.10 | 32.44 | 35.79 | 39.24 | 46.75 |
| | 0. | 0. | -20.38 | -36.81 | -45.22 | -50.47 | -54.55 | -57.94 | -61.06 | -63.89 | -66.56 | -71.63 |
| 10 | 0. | 0. | -0. | 12.44 | 17.68 | 21.82 | 25.50 | 28.91 | 32.26 | 35.62 | 39.06 | 46.55 |
| | 0. | 0. | -0. | -23.47 | -39.86 | -47.12 | -52.09 | -56.08 | -59.49 | -62.49 | -65.38 | -70.69 |
| 20 | 0. | 0. | 0. | 9.87 | 16.13 | 20.64 | 24.41 | 27.88 | 31.26 | 34.59 | 38.03 | 45.36 |
| | 0. | 0. | 0. | -10.32 | -28.55 | -41.83 | -48.49 | -53.17 | -57.02 | -60.45 | -63.49 | -69.20 |
| 30 | 0. | 0. | 0. | 0. | 13.48 | 18.51 | 22.51 | 26.12 | 29.50 | 32.83 | 36.20 | 43.41 |
| | 0. | 0. | 0. | 0. | -16.73 | -32.40 | -42.64 | -48.83 | -53.42 | -57.29 | -60.78 | -67.02 |
| 40 | 0. | 0. | 0. | 0. | 10.04 | 15.85 | 20.18 | 23.80 | 27.22 | 30.54 | 33.84 | 40.80 |
| | 0. | 0. | 0. | 0. | -9.41 | -21.06 | -32.81 | -41.63 | -47.76 | -52.57 | -56.69 | -63.84 |
| 50 | 0. | 0. | 0. | 0. | 0. | 12.43 | 17.37 | 21.32 | 24.83 | 28.10 | 31.36 | 38.05 |
| | 0. | 0. | 0. | 0. | 0. | -12.32 | -21.23 | -30.20 | -38.36 | -45.04 | -50.36 | -59.07 |
| 60 | 0. | 0. | 0. | 0. | 0. | 7.11 | 14.61 | 18.91 | 22.56 | 25.93 | 29.12 | 35.54 |
| | 0. | 0. | 0. | 0. | 0. | -2.26 | -11.62 | -18.61 | -25.56 | -32.74 | -39.73 | -51.42 |
| 70 | 0. | 0. | 0. | 0. | 0. | 0. | 10.79 | 16.59 | 20.72 | 24.18 | 27.38 | 33.61 |
| | 0. | 0. | 0. | 0. | 0. | 0. | -2.21 | -9.60 | -15.29 | -20.80 | -26.56 | -39.12 |
| 80 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 14.30 | 19.15 | 22.84 | 26.17 | 32.30 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -2.26 | -8.09 | -12.89 | -17.44 | -26.93 |
| 90 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 11.40 | 17.92 | 22.01 | 25.48 | 31.57 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 3.48 | -3.59 | -8.19 | -12.24 | -19.91 |
| 100 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 17.51 | 21.81 | 25.36 | 31.48 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -1.51 | -6.05 | -9.82 | -16.56 |
| 110 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 10.81 | 18.23 | 22.44 | 25.98 | 32.18 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 6.77 | -1.34 | -5.63 | -9.09 | -15.30 |
| 120 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 14.56 | 20.23 | 24.12 | 27.53 | 33.82 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 3.46 | -2.19 | -6.11 | -9.38 | -15.19 |
| 130 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 18.04 | 22.84 | 26.65 | 30.08 | 36.37 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0.91 | -3.54 | -7.04 | -10.19 | -15.69 |
| 140 | 0. | 0. | 0. | 0. | 0. | 0. | 15.96 | 21.92 | 26.17 | 29.81 | 33.08 | 39.43 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 4.37 | -1.22 | -5.18 | -8.31 | -11.26 | -16.65 |
| 150 | 0. | 0. | 0. | 0. | 0. | 0. | 20.68 | 25.50 | 29.36 | 32.81 | 36.10 | 42.41 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 1.11 | -3.31 | -6.84 | -10.01 | -12.78 | -18.14 |
| 160 | 0. | 0. | 0. | 0. | 0. | 17.31 | 23.59 | 27.98 | 31.75 | 35.21 | 38.42 | 44.69 |
| | 0. | 0. | 0. | 0. | 0. | 4.03 | -1.65 | -5.69 | -8.99 | -11.99 | -14.85 | -20.20 |
| 170 | 0. | 0. | 0. | 0. | 0. | 19.68 | 25.11 | 29.30 | 32.98 | 36.43 | 39.70 | 45.97 |
| | 0. | 0. | 0. | 0. | 0. | 0.37 | -4.49 | -8.16 | -11.45 | -14.46 | -17.26 | -22.72 |

• REFER TO FIGURE 28 (RM 63 TMP-2)

## *Table 45. Constant Magnetic Field Intensity, B (Gauss), in the Region of the South Atlantic Anomaly at Altitude 1400 Kilometers

| LONG (DEG) | B=0.15 LAT (DEG) | B=0.16 LAT (DEG) | B=0.17 LAT (DEG) | B=0.18 LAT (DEG) | B=0.19 LAT (DEG) | B=0.20 LAT (DEG) | B=0.21 LAT (DEG) | B=0.22 LAT (DEG) | B=0.23 LAT (DEG) | B=0.24 LAT (DEG) | B=0.25 LAT (DEG) | B=0.26 LAT (DEG) | B=0.28 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -180 | 0. | 0. | 0. | 0. | 16.15 | 22.70 | 27.57 | 31.76 | 35.59 | 39.18 | 42.65 | 46.08 | -32.19 |
| | 0. | 0. | 0. | 0. | -0.16 | -5.90 | -10.18 | -13.70 | -16.99 | -20.13 | -23.12 | -26.11 | 0. |
| -170 | 0. | 0. | 0. | 0. | 15.29 | 21.43 | 26.26 | 30.49 | 34.33 | 37.98 | 41.53 | 45.03 | 52.19 |
| | 0. | 0. | 0. | 0. | -3.09 | -8.75 | -12.89 | -16.50 | -19.83 | -22.94 | -26.01 | -29.05 | -35.24 |
| -160 | 0. | 0. | 0. | 0. | 13.51 | 19.54 | 24.19 | 28.31 | 32.16 | 35.85 | 39.42 | 42.98 | 50.25 |
| | 0. | 0. | 0. | 0. | -6.38 | -11.70 | -15.85 | -19.43 | -22.72 | -25.91 | -29.01 | -32.12 | 50.42 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -38.48 |
| -150 | 0. | 0. | 0. | 0. | 11.78 | 17.31 | 21.79 | 25.80 | 29.52 | 33.10 | 36.63 | 40.15 | 47.49 |
| | 0. | 0. | 0. | 0. | -9.92 | -14.93 | -18.87 | -22.44 | -25.81 | -29.02 | -32.18 | -35.35 | -41.92 |
| -140 | 0. | 0. | 0. | 1.05 | 10.29 | 15.31 | 19.45 | 23.18 | 26.74 | 30.18 | 33.56 | 36.98 | 44.11 |
| | 0. | 0. | 0. | -5.00 | -13.18 | -18.07 | -22.08 | -25.71 | -29.07 | -32.34 | -35.58 | -38.84 | -45.65 |
| | 0. | 0. | 0. | -5.00 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| -130 | 0. | 0. | 0. | 1.45 | 8.58 | 13.25 | 17.18 | 20.76 | 24.10 | 27.35 | 30.57 | 33.81 | 40.63 |
| | 0. | 0. | 0. | -10.08 | -16.83 | -21.56 | -25.57 | -29.16 | -32.60 | -35.97 | -39.31 | -42.71 | -49.82 |
| -120 | 0. | 0. | 0. | 1.14 | 7.10 | 11.46 | 15.21 | 18.52 | 21.71 | 24.81 | 27.87 | 30.96 | 37.47 |
| | 0. | 0. | 0. | -14.58 | -20.75 | -25.35 | -29.31 | -32.98 | -36.53 | -40.01 | -43.48 | -47.02 | -54.50 |
| -110 | 0. | 0. | 0. | 0.63 | 5.83 | 9.90 | 13.32 | 16.55 | 19.63 | 22.59 | 25.55 | 28.52 | 34.74 |
| | 0. | 0. | 0. | -19.27 | -25.06 | -29.54 | -33.54 | -37.31 | -40.96 | -44.52 | -48.10 | -51.73 | -59.39 |
| -100 | 0. | 0. | -8.44 | 0.13 | 4.72 | 8.42 | 11.78 | 14.94 | 17.88 | 20.81 | 23.69 | 26.63 | 32.80 |
| | 0. | 0. | -15.75 | -24.61 | -29.94 | -34.33 | -38.33 | -42.11 | -45.77 | -49.33 | -52.88 | -56.48 | -64.04 |
| -90 | 0. | 0. | -6.06 | -0.19 | 3.89 | 7.44 | 10.72 | 13.75 | 16.70 | 19.59 | 22.49 | 25.42 | 31.68 |
| | 0. | 0. | -23.82 | -30.41 | -35.29 | -39.50 | -43.34 | -46.99 | -50.51 | -53.93 | -57.34 | -60.77 | -67.98 |
| -80 | 0. | -13.02 | -4.67 | 0.05 | 3.78 | 7.18 | 10.38 | 13.38 | 16.34 | 19.27 | 22.24 | 25.24 | 31.77 |
| | 0. | -21.75 | -30.69 | -36.02 | -40.46 | -44.35 | -47.94 | -51.37 | -54.67 | -57.88 | -61.09 | -64.31 | -71.04 |
| -70 | 0. | -8.76 | -3.26 | 0.98 | 4.63 | 7.91 | 11.09 | 14.14 | 17.16 | 20.18 | 23.28 | 26.47 | 33.43 |
| | 0. | -30.17 | -36.09 | -40.76 | -44.78 | -48.33 | -51.70 | -54.92 | -57.98 | -61.02 | -64.02 | -67.06 | -73.35 |
| -60 | -13.48 | -5.89 | -1.07 | 2.91 | 6.51 | 9.89 | 13.07 | 16.23 | 19.36 | 22.56 | 25.81 | 29.21 | 36.80 |
| | -26.64 | -34.82 | -40.02 | -44.20 | -47.89 | -51.32 | -54.52 | -57.53 | -60.49 | -63.36 | -66.22 | -69.08 | -74.98 |
| -50 | -9.36 | -2.99 | 1.75 | 5.81 | 9.46 | 12.87 | 16.21 | 19.48 | 22.77 | 26.11 | 29.55 | 33.20 | 41.36 |
| | -30.41 | -37.19 | -42.19 | -46.36 | -50.07 | -53.32 | -56.44 | -59.40 | -62.24 | -65.04 | -67.78 | -70.54 | -76.18 |
| -40 | -6.69 | 0.18 | 5.05 | 9.14 | 12.89 | 16.45 | 19.88 | 23.26 | 26.66 | 30.10 | 33.72 | 37.53 | 46.14 |
| | -30.55 | -37.82 | -43.09 | -47.38 | -51.14 | -54.53 | -57.60 | -60.57 | -63.37 | -66.12 | -68.82 | -71.51 | -76.96 |
| -30 | -4.93 | 2.63 | 7.89 | 12.24 | 16.15 | 19.79 | 23.27 | 26.73 | 30.18 | 33.73 | 37.43 | 41.33 | 50.21 |
| | -26.94 | -36.47 | -42.58 | -47.34 | -51.37 | -54.96 | -58.10 | -61.12 | -63.97 | -66.71 | -69.40 | -72.06 | -77.41 |
| -20 | -8.48 | 4.24 | 10.12 | 14.64 | 18.59 | 22.30 | 25.86 | 29.35 | 32.87 | 36.47 | 40.19 | 44.20 | 53.35 |
| | -15.52 | -32.23 | -40.53 | -46.22 | -50.77 | -54.64 | -57.98 | -61.13 | -64.06 | -66.85 | -69.57 | -72.22 | -77.56 |

* REFER TO FIGURE 29 (RM 63 TMP-21)

*Table 45 (Cont.)

| LONG (DEG) | B=0.15 LAT (DEG) | B=0.16 LAT (DEG) | B=0.17 LAT (DEG) | B=0.18 LAT (DEG) | B=0.19 LAT (DEG) | B=0.20 LAT (DEG) | B=0.21 LAT (DEG) | B=0.22 LAT (DEG) | B=0.23 LAT (DEG) | B=0.24 LAT (DEG) | B=0.25 LAT (DEG) | B=0.26 LAT (DEG) | B=0.28 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -10 | 0. | 3.90 | 11.00 | 15.94 | 20.13 | 23.88 | 27.48 | 31.02 | 34.56 | 38.22 | 42.03 | 46.06 | 55.26 |
| | 0. | -22.64 | -35.88 | -43.69 | -49.22 | -53.53 | -57.24 | -60.61 | -63.64 | -66.54 | -69.32 | -72.03 | -77.43 |
| 0 | 0. | 0. | 10.71 | 16.24 | 20.67 | 24.56 | 28.20 | 31.78 | 35.34 | 39.00 | 42.85 | 46.93 | 56.20 |
| | 0. | 0. | -26.27 | -39.10 | -46.44 | -51.64 | -55.87 | -59.49 | -62.70 | -65.77 | -68.64 | -71.46 | -77.01 |
| 10 | 0. | 0. | 8.54 | 15.60 | 20.36 | 24.37 | 28.08 | 31.69 | 35.25 | 38.91 | 42.75 | 46.82 | 56.11 |
| | 0. | 0. | -12.80 | -30.28 | -41.94 | -48.71 | -53.60 | -57.61 | -61.19 | -64.45 | -67.48 | -70.45 | -76.25 |
| 20 | 0. | 0. | 0. | 13.73 | 19.10 | 23.33 | 27.15 | 30.79 | 34.35 | 37.99 | 41.78 | 45.79 | 55.02 |
| | 0. | 0. | 0. | -18.35 | -34.46 | -44.20 | -50.33 | -55.01 | -58.88 | -62.41 | -65.74 | -68.88 | 0. |
| 30 | 0. | 0. | 0. | 10.75 | 16.98 | 21.55 | 25.52 | 29.15 | 32.73 | 36.32 | 40.00 | 43.98 | 53.14 |
| | 0. | 0. | 0. | -10.29 | -23.95 | -36.85 | -45.22 | -50.90 | -55.53 | -59.52 | -63.14 | -66.61 | 53.26 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -73.33 |
| 40 | 0. | 0. | 0. | 5.29 | 14.25 | 19.23 | 23.28 | 27.01 | 30.59 | 34.13 | 37.78 | 41.62 | 50.38 |
| | 0. | 0. | 0. | -2.06 | -15.79 | -26.85 | -37.02 | -44.69 | -50.43 | -55.21 | -59.40 | -63.30 | -70.80 |
| 50 | 0. | 0. | 0. | 0. | 10.61 | 16.50 | 20.92 | 24.74 | 28.29 | 31.80 | 35.31 | 39.01 | 47.39 |
| | 0. | 0. | 0. | 0. | -8.31 | -17.65 | -26.35 | -34.92 | -42.28 | -48.43 | -53.68 | -58.37 | -67.07 |
| 60 | 0. | 0. | 0. | 0. | 0. | 13.40 | 18.50 | 22.55 | 26.21 | 29.67 | 33.12 | 36.65 | 44.40 |
| | 0. | 0. | 0. | 0. | 0. | -9.26 | -16.63 | -23.61 | -30.78 | -37.94 | -44.66 | -50.68 | -61.35 |
| 70 | 0. | 0. | 0. | 0. | 0. | 8.49 | 16.19 | 20.75 | 24.53 | 27.99 | 31.38 | 34.74 | 42.08 |
| | 0. | 0. | 0. | 0. | 0. | -0.01 | -8.40 | -14.52 | -20.24 | -26.14 | -32.40 | -38.99 | -52.20 |
| 80 | 0. | 0. | 0. | 0. | 0. | 0. | 13.59 | 19.20 | 23.21 | 26.79 | 30.16 | 33.46 | 40.36 |
| | 0. | 0. | 0. | 0. | 0. | 0. | -1.47 | -7.81 | -12.93 | -17.74 | -22.61 | -27.75 | -39.57 |
| 90 | 0. | 0. | 0. | 0. | 0. | 0. | 10.52 | 17.96 | 22.39 | 26.10 | 29.47 | 32.74 | 39.45 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 4.50 | -3.45 | -8.42 | -12.73 | -16.85 | -20.96 | -29.84 |
| 100 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 17.51 | 22.18 | 25.98 | 29.38 | 32.65 | 39.32 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -1.35 | -6.24 | -10.29 | -13.95 | -17.54 | -24.83 |
| 110 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 18.15 | 22.77 | 26.57 | 30.03 | 33.32 | 40.04 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -1.08 | -5.73 | -9.48 | -12.87 | -16.15 | -22.63 |
| 120 | 0. | 0. | 0. | 0. | 0. | 0. | 12.74 | 20.09 | 24.36 | 28.04 | 31.52 | 34.87 | 41.80 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 4.64 | -1.83 | -6.12 | -9.68 | -12.85 | -15.93 | -21.93 |
| 130 | 0. | 0. | 0. | 0. | 0. | 0. | 16.97 | 22.51 | 26.70 | 30.41 | 33.85 | 37.26 | 44.29 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 2.20 | -3.11 | -7.00 | -10.40 | -13.42 | -16.37 | -22.13 |
| 140 | 0. | 0. | 0. | 0. | 0. | 11.49 | 20.90 | 25.67 | 29.62 | 33.20 | 36.67 | 40.09 | 47.24 |
| | 0. | 0. | 0. | 0. | 0. | 8.68 | -0.38 | -4.76 | -8.24 | -11.45 | -14.45 | -17.31 | -22.99 |
| 150 | 0. | 0. | 0. | 0. | 0. | 18.27 | 24.23 | 28.57 | 32.39 | 35.98 | 39.41 | 42.82 | 49.87 |
| | 0. | 0. | 0. | 0. | 0. | 3.08 | -2.43 | -6.46 | -9.92 | -12.96 | -15.94 | -18.79 | -24.49 |
| 160 | 0. | 0. | 0. | 0. | 0. | 21.46 | 26.61 | 30.83 | 34.59 | 38.09 | 41.52 | 44.90 | 51.92 |
| | 0. | 0. | 0. | 0. | 0. | -0.28 | -4.95 | -8.57 | -11.89 | -15.02 | -17.93 | -20.83 | -26.64 |
| 170 | 0. | 0. | 0. | 0. | 15.73 | 22.83 | 27.75 | 31.90 | 35.69 | 39.22 | 42.64 | 46.04 | 53.00 |
| | 0. | 0. | 0. | 0. | 3.70 | -2.96 | -7.36 | -11.05 | -14.34 | -17.40 | -20.40 | -23.32 | 0. |

• REFER TO FIGURE 29 (RM 63 TMP-2)

## *Table 46. Constant Magnetic Field Intensity, B (Gauss), in the Region of the South Atlantic Anomaly at Altitude 1600 Kilometers

| LONG (DEG) | B=0.15 LAT (DEG) | B=0.16 LAT (DEG) | B=0.17 LAT (DEG) | B=0.18 LAT (DEG) | B=0.19 LAT (DEG) | B=0.20 LAT (DEG) | B=0.21 LAT (DEG) | B=0.22 LAT (DEG) | B=0.23 LAT (DEG) | B=0.24 LAT (DEG) | B=0.25 LAT (DEG) | B=0.26 LAT (DEG) | B=0.28 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -180 | 0. | 0. | 0. | 19.11 | 25.09 | 29.81 | 33.99 | 37.91 | 41.70 | 45.42 | 49.15 | 53.02 | 61.67 |
| | 0. | 0. | 0. | -2.98 | -8.30 | -12.45 | -16.14 | -19.56 | -22.83 | -26.08 | -29.32 | -32.66 | -39.73 |
| -170 | 0. | 0. | 5.30 | 17.89 | 23.72 | 28.47 | 32.73 | 36.73 | 40.59 | 44.37 | 48.18 | 52.11 | 60.86 |
| | 0. | 0. | 4.82 | -6.07 | -11.16 | -15.31 | -18.93 | -22.36 | -25.71 | -28.99 | -32.33 | -35.72 | -43.09 |
| -160 | 0. | 0. | 6.71 | 16.22 | 21.96 | 26.44 | 30.69 | 34.68 | 38.54 | 42.38 | 46.25 | 50.23 | 59.21 |
| | 0. | 0. | -0.62 | -9.14 | -14.09 | -18.14 | -21.83 | -25.33 | -28.69 | -32.06 | -35.45 | -38.96 | -46.62 |
| -150 | 0. | 0. | 6.32 | 14.36 | 19.62 | 24.05 | 28.14 | 32.05 | 35.86 | 39.66 | 43.54 | 47.59 | 56.74 |
| | 0. | 0. | -5.11 | -12.24 | -17.10 | -21.20 | -24.92 | -28.41 | -31.85 | -35.28 | -38.79 | -42.43 | -50.42 |
| -140 | 0. | 0. | 5.63 | 12.41 | 17.35 | 21.61 | 25.54 | 29.26 | 32.93 | 36.62 | 40.38 | 44.34 | 53.47 |
| | 0. | 0. | -8.89 | -15.67 | -20.40 | -24.42 | -28.13 | -31.72 | -35.24 | -38.78 | -42.42 | -46.21 | -54.74 |
| -130 | 0. | 0. | 4.70 | 10.75 | 15.35 | 19.32 | 23.00 | 26.57 | 30.06 | 33.58 | 37.21 | 41.00 | 49.73 |
| | 0. | 0. | -12.85 | -19.14 | -23.76 | -27.83 | -31.64 | -35.31 | -38.93 | -42.62 | -46.42 | -50.39 | -59.63 |
| -120 | 0. | 0. | 3.52 | 9.11 | 13.39 | 17.19 | 20.74 | 24.12 | 27.46 | 30.82 | 34.26 | 37.92 | 46.29 |
| | 0. | 0. | -17.00 | -22.83 | -27.46 | -31.61 | -35.51 | -39.28 | -43.06 | -46.89 | -50.85 | -55.02 | -64.87 |
| -110 | 0. | -8.16 | 2.54 | 7.60 | 11.70 | 15.37 | 18.72 | 21.99 | 25.21 | 28.47 | 31.81 | 35.28 | 43.37 |
| | 0. | -10.97 | -21.48 | -27.02 | -31.64 | -35.85 | -39.83 | -43.71 | -47.59 | -51.52 | -55.57 | -59.85 | -69.95 |
| -100 | 0. | -4.77 | 1.78 | 6.41 | 10.33 | 13.78 | 17.07 | 20.28 | 23.43 | 26.64 | 29.89 | 33.39 | 41.32 |
| | 0. | -18.98 | -26.48 | -31.77 | -36.34 | -40.54 | -44.52 | -48.40 | -52.26 | -56.16 | -60.16 | -64.40 | -74.27 |
| -90 | 0. | -4.13 | 1.36 | 5.64 | 9.32 | 12.70 | 15.96 | 19.12 | 22.29 | 25.49 | 28.81 | 32.34 | 40.37 |
| | 0. | -25.68 | -31.88 | -36.86 | -41.25 | -45.32 | -49.16 | -52.91 | -56.63 | -60.36 | -64.20 | -68.25 | -77.51 |
| -80 | -10.50 | -3.32 | 1.48 | 5.50 | 9.04 | 12.38 | 15.64 | 18.83 | 22.06 | 25.33 | 28.79 | 32.47 | 41.05 |
| | -23.56 | -31.69 | -37.13 | -41.71 | -45.83 | -49.64 | -53.26 | -56.82 | -60.32 | -63.85 | -67.47 | -71.23 | -79.66 |
| -70 | -7.64 | -1.97 | 2.41 | 6.26 | 9.80 | 13.14 | 16.45 | 19.73 | 23.08 | 26.54 | 30.13 | 34.08 | 43.56 |
| | -30.57 | -36.68 | -41.54 | -45.76 | -49.59 | -53.14 | -56.58 | -59.93 | -63.23 | -66.56 | -69.92 | -73.47 | -81.23 |
| -60 | -4.81 | 0.22 | 4.38 | 8.13 | 11.71 | 15.17 | 18.57 | 22.01 | 25.51 | 29.17 | 33.09 | 37.35 | 47.93 |
| | -34.91 | -40.33 | -44.82 | -48.73 | -52.35 | -55.79 | -59.06 | -62.25 | -65.40 | -68.56 | -71.78 | -75.05 | -82.28 |
| -50 | -2.05 | 2.92 | 7.17 | 11.05 | 14.72 | 18.27 | 21.82 | 25.39 | 29.08 | 32.97 | 37.13 | 41.70 | 53.35 |
| | -37.09 | -42.39 | -46.80 | -50.73 | -54.28 | -57.60 | -60.81 | -63.89 | -66.95 | -69.98 | -73.07 | -76.22 | -82.97 |
| -40 | 1.05 | 6.15 | 10.52 | 14.47 | 18.22 | 21.89 | 25.54 | 29.23 | 33.07 | 37.10 | 41.43 | 46.22 | 58.54 |
| | -37.64 | -43.21 | -47.77 | -51.76 | -55.40 | -58.71 | -61.89 | -64.98 | -67.95 | -70.93 | -73.91 | -76.96 | -83.40 |
| -30 | 3.72 | 9.13 | 13.61 | 17.67 | 21.52 | 25.26 | 28.96 | 32.73 | 36.64 | 40.74 | 45.16 | 50.10 | 62.64 |
| | -36.35 | -42.70 | -47.72 | -51.97 | -55.77 | -59.20 | -62.41 | -65.52 | -68.49 | -71.45 | -74.38 | -77.38 | -83.64 |
| -20 | 5.56 | 11.34 | 16.03 | 20.21 | 24.07 | 27.84 | 31.60 | 35.40 | 39.35 | 43.55 | 48.09 | 53.10 | 65.38 |
| | -32.48 | -40.75 | -46.61 | -51.37 | -55.48 | -59.08 | -62.40 | -65.59 | -68.61 | -71.58 | -74.52 | -77.50 | -83.71 |
| -10 | 5.84 | 12.48 | 17.45 | 21.75 | 25.73 | 29.53 | 33.31 | 37.16 | 41.15 | 45.35 | 49.91 | 54.94 | 67.16 |
| | -24.65 | -36.55 | -44.31 | -49.97 | -54.46 | -58.33 | -61.87 | -65.20 | -68.29 | -71.34 | -74.33 | -77.35 | -83.62 |

* REFER TO FIGURE 30 (RM 63 TMP-2)

*Table 46 (Cont.)

| LONG (DEG) | B=0.15 LAT (DEG) | B=0.16 LAT (DEG) | B=0.17 LAT (DEG) | B=0.18 LAT (DEG) | B=0.19 LAT (DEG) | B=0.20 LAT (DEG) | B=0.21 LAT (DEG) | B=0.22 LAT (DEG) | B=0.23 LAT (DEG) | B=0.24 LAT (DEG) | B=0.25 LAT (DEG) | B=0.26 LAT (DEG) | B=0.28 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 3.54 | 12.53 | 17.96 | 22.42 | 26.48 | 30.34 | 34.13 | 38.00 | 42.02 | 46.26 | 50.84 | 55.89 | 67.99 |
| | -11.77 | -28.88 | -40.22 | -47.27 | -52.58 | -56.95 | -60.80 | -64.28 | -67.53 | -70.70 | -73.78 | -76.89 | -83.36 |
| 10 | 0. | 11.38 | 17.54 | 22.26 | 26.42 | 30.32 | 34.12 | 37.99 | 42.00 | 46.23 | 50.81 | 55.88 | 68.05 |
| | 0. | -17.77 | -33.10 | -43.24 | -49.91 | -54.89 | -59.03 | -62.76 | -66.26 | -69.59 | -72.83 | -76.09 | -82.90 |
| 20 | 0. | 8.38 | 16.23 | 21.28 | 25.57 | 29.50 | 33.32 | 37.17 | 41.14 | 45.32 | 49.88 | 54.94 | 67.38 |
| | 0. | -8.00 | -23.30 | -36.92 | -45.67 | -51.60 | -56.40 | -60.58 | -64.35 | -67.90 | -71.39 | -74.84 | -82.16 |
| 30 | 0. | 0. | 13.91 | 19.55 | 23.96 | 27.97 | 31.82 | 35.64 | 39.55 | 43.72 | 48.24 | 53.27 | 65.87 |
| | 0. | 0. | -15.26 | -28.22 | -39.35 | -46.86 | -52.56 | -57.31 | -61.55 | -65.50 | -69.27 | -73.05 | -81.02 |
| 40 | 0. | 0. | 10.59 | 17.06 | 21.82 | 25.97 | 29.83 | 33.62 | 37.50 | 41.56 | 45.92 | 50.82 | 63.54 |
| | 0. | 0. | -8.78 | -19.96 | -30.55 | -39.83 | -46.85 | -52.56 | -57.48 | -61.97 | -66.23 | -70.41 | -79.30 |
| 50 | 0. | 0. | 0. | 14.24 | 19.50 | 23.74 | 27.66 | 31.44 | 35.21 | 39.14 | 43.37 | 48.06 | 60.27 |
| | 0. | 0. | 0. | -12.64 | -21.47 | -30.10 | -38.27 | -45.40 | -51.41 | -56.77 | -61.74 | -66.56 | -76.72 |
| 60 | 0. | 0. | 0. | 10.47 | 16.96 | 21.63 | 25.68 | 29.43 | 33.14 | 36.94 | 40.92 | 45.27 | 56.78 |
| | 0. | 0. | 0. | -4.75 | -13.28 | -20.50 | -27.68 | -35.03 | -42.17 | -48.80 | -54.93 | -60.70 | -72.57 |
| 70 | 0. | 0. | 0. | 0. | 14.41 | 19.84 | 24.00 | 27.80 | 31.48 | 35.12 | 38.94 | 43.08 | 53.49 |
| | 0. | 0. | 0. | 0. | -5.71 | -12.49 | -18.53 | -24.54 | -30.89 | -37.64 | -44.61 | -51.61 | -65.82 |
| 80 | 0. | 0. | 0. | 0. | 10.72 | 18.04 | 22.69 | 26.65 | 30.31 | 33.88 | 37.57 | 41.47 | 51.01 |
| | 0. | 0. | 0. | 0. | 2.31 | -6.27 | -11.88 | -16.99 | -22.09 | -27.44 | -33.26 | -39.71 | -55.09 |
| 90 | 0. | 0. | 0. | 0. | 0. | 16.73 | 21.86 | 25.97 | 29.64 | 33.19 | 36.80 | 40.54 | 49.55 |
| | 0. | 0. | 0. | 0. | 0. | -1.92 | -7.59 | -12.29 | -16.70 | -21.08 | -25.64 | -30.57 | -42.73 |
| 100 | 0. | 0. | 0. | 0. | 0. | 16.19 | 21.62 | 25.83 | 29.54 | 33.10 | 36.70 | 40.40 | 49.23 |
| | 0. | 0. | 0. | 0. | 0. | 0.05 | -5.50 | -9.92 | -13.87 | -17.73 | -21.62 | -25.63 | -34.76 |
| 110 | 0. | 0. | 0. | 0. | 0. | 16.69 | 22.15 | 26.38 | 30.16 | 33.74 | 37.37 | 41.14 | 49.91 |
| | 0. | 0. | 0. | 0. | 0. | 0.49 | -4.96 | -9.05 | -12.76 | -16.32 | -19.79 | -23.35 | -31.02 |
| 120 | 0. | 0. | 0. | 0. | 0. | 18.45 | 23.61 | 27.75 | 31.55 | 35.20 | 38.88 | 42.75 | 51.82 |
| | 0. | 0. | 0. | 0. | 0. | -0.41 | -5.32 | -9.20 | -12.70 | -16.04 | -19.29 | -22.58 | -29.47 |
| 130 | 0. | 0. | 0. | 0. | 13.17 | 21.12 | 25.90 | 29.98 | 33.72 | 37.42 | 41.16 | 45.03 | 54.26 |
| | 0. | 0. | 0. | 0. | 5.50 | -1.66 | -6.17 | -9.93 | -13.23 | -16.45 | -19.58 | -22.72 | -29.29 |
| 140 | 0. | 0. | 0. | 0. | 18.09 | 24.10 | 28.57 | 32.55 | 36.33 | 40.03 | 43.80 | 47.76 | 56.98 |
| | 0. | 0. | 0. | 0. | 2.35 | -3.28 | -7.39 | -10.98 | -14.25 | -17.38 | -20.46 | -23.56 | -30.01 |
| 150 | 0. | 0. | 0. | 10.53 | 21.67 | 26.88 | 31.20 | 35.13 | 38.84 | 42.54 | 46.29 | 50.17 | 59.20 |
| | 0. | 0. | 0. | 9.64 | -0.50 | -5.27 | -9.05 | -12.48 | -15.74 | -18.84 | -21.94 | -25.04 | -31.63 |
| 160 | 0. | 0. | 0. | 17.14 | 24.13 | 28.98 | 33.16 | 37.04 | 40.77 | 44.43 | 48.15 | 52.03 | 60.79 |
| | 0. | 0. | 0. | 3.51 | -2.89 | -7.32 | -11.09 | -14.50 | -17.70 | -20.86 | -23.98 | -27.17 | -33.87 |
| 170 | 0. | 0. | 0. | 19.08 | 25.29 | 30.03 | 34.16 | 38.02 | 41.76 | 45.43 | 49.13 | 52.98 | 61.64 |
| | 0. | 0. | 0. | -0.16 | -5.64 | -9.88 | -13.47 | -16.87 | -20.14 | -23.32 | -26.51 | -29.74 | -36.67 |

* REFER TO FIGURE 30 (RM 63 TMP-2)

## *Table 47. Constant Magnetic Field Intensity, B (Gauss), in the Region of the South Atlantic Anomaly at Altitude 1800 Kilometers

| LONG (DEG) | B=0.15 LAT (DEG) | B=0.16 LAT (DEG) | B=0.17 LAT (DEG) | B=0.18 LAT (DEG) | B=0.19 LAT (DEG) | B=0.20 LAT (DEG) | B=0.21 LAT (DEG) | B=0.22 LAT (DEG) | B=0.23 LAT (DEG) | B=0.24 LAT (DEG) | B=0.25 LAT (DEG) | B=0.26 LAT (DEG) | B=0.28 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -180 | 0. | 11.11 | 20.94 | 26.67 | 31.49 | 35.87 | 40.00 | 44.00 | 48.03 | 52.17 | 56.55 | 61.42 | 76.50 |
| | 0. | 3.99 | -5.22 | -10.29 | -14.45 | -18.22 | -21.82 | -25.34 | -28.85 | -32.44 | -36.16 | -40.07 | -49.38 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -87.61 |
| -170 | 0. | 11.14 | 19.84 | 25.47 | 30.29 | 34.68 | 38.85 | 42.94 | 47.04 | 51.24 | 55.67 | 60.58 | 75.59 |
| | 0. | -0.35 | -7.96 | -12.99 | -17.19 | -21.03 | -24.67 | -28.23 | -31.82 | -35.48 | -39.31 | -43.44 | -53.34 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -87.19 |
| -160 | 0. | 10.30 | 17.94 | 23.49 | 28.25 | 32.65 | 36.86 | 40.99 | 45.13 | 49.41 | 53.96 | 59.01 | 74.33 |
| | 0. | -3.71 | -11.01 | -15.93 | -20.14 | -23.94 | -27.63 | -31.27 | -34.92 | -38.71 | -42.70 | -47.01 | -57.82 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -86.69 |
| -150 | 0. | 8.82 | 16.03 | 21.29 | 25.90 | 30.19 | 34.30 | 38.39 | 42.54 | 46.85 | 51.46 | 56.62 | 72.50 |
| | 0. | -7.24 | -14.11 | -18.94 | -23.11 | -27.01 | -30.77 | -34.48 | -38.26 | -42.18 | -46.33 | -50.88 | -63.22 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -86.12 |
| -140 | 0. | 7.44 | 14.08 | 19.05 | 23.42 | 27.53 | 31.52 | 35.48 | 39.51 | 43.76 | 48.34 | 53.50 | 69.42 |
| | 0. | -11.04 | -17.31 | -22.12 | -26.34 | -30.30 | -34.11 | -37.94 | -41.86 | -45.93 | -50.30 | -55.21 | -70.00 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -70.00 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -85.40 |
| -130 | 0. | 6.25 | 12.19 | 16.90 | 21.09 | 25.01 | 28.79 | 32.60 | 36.49 | 40.54 | 44.93 | 49.93 | 65.62 |
| | 0. | -14.95 | -20.82 | -25.57 | -29.81 | -33.81 | -37.76 | -41.74 | -45.81 | -50.08 | -54.77 | -60.11 | 0. |
| -120 | 0. | 5.19 | 10.58 | 15.02 | 18.93 | 22.66 | 26.32 | 29.94 | 33.68 | 37.60 | 41.85 | 46.66 | 61.50 |
| | 0. | -18.69 | -24.53 | -29.26 | -33.57 | -37.71 | -41.80 | -45.91 | -50.15 | -54.67 | -59.62 | -65.36 | 0. |
| -110 | -4.19 | 3.97 | 9.04 | 13.22 | 17.03 | 20.66 | 24.16 | 27.70 | 31.30 | 35.04 | 39.17 | 43.81 | 57.88 |
| | -14.36 | -22.95 | -28.59 | -33.37 | -37.78 | -42.03 | -46.22 | -50.43 | -54.78 | -59.41 | -64.48 | -70.37 | 0. |
| -100 | -3.57 | 3.03 | 7.75 | 11.79 | 15.51 | 19.01 | 22.46 | 25.93 | 29.47 | 33.23 | 37.29 | 41.87 | 55.43 |
| | -20.58 | -27.74 | -33.19 | -37.94 | -42.36 | -46.61 | -50.79 | -54.98 | -59.31 | -63.87 | -68.84 | -74.53 | 0. |
| -90 | -3.13 | 2.50 | 6.93 | 10.84 | 14.45 | 17.92 | 21.37 | 24.82 | 28.42 | 32.22 | 36.33 | 40.99 | 55.15 |
| | -26.52 | -32.90 | -38.05 | -42.65 | -46.94 | -51.06 | -55.10 | -59.15 | -63.30 | -67.65 | -72.36 | -77.69 | 0. |
| -80 | -2.41 | 2.59 | 6.78 | 10.60 | 14.16 | 17.66 | 21.15 | 24.68 | 28.40 | 32.35 | 36.67 | 41.65 | 57.97 |
| | -32.17 | -37.84 | -42.63 | -46.97 | -51.04 | -54.96 | -58.78 | -62.62 | -66.53 | -70.59 | -74.92 | -79.77 | 0. |
| -70 | -1.09 | 3.51 | 7.56 | 11.34 | 14.96 | 18.52 | 22.13 | 25.82 | 29.68 | 33.88 | 38.55 | 44.00 | 64.26 |
| | -36.85 | -41.98 | -46.45 | -50.54 | -54.37 | -58.06 | -61.70 | -65.32 | -69.00 | -72.84 | -76.89 | -81.30 | 0. |
| -60 | 0.95 | 5.45 | 9.47 | 13.26 | 16.98 | 20.67 | 24.42 | 28.33 | 32.47 | 36.96 | 42.04 | 48.13 | 74.10 |
| | -40.29 | -45.10 | -49.29 | -53.17 | -56.85 | -60.41 | -63.87 | -67.34 | -70.84 | -74.43 | -78.24 | -82.31 | 0. |
| -50 | 3.69 | 8.18 | 12.30 | 16.23 | 20.06 | 23.89 | 27.82 | 31.91 | 36.26 | 41.03 | 46.51 | 53.16 | 80.31 |
| | -42.23 | -46.96 | -51.16 | -55.02 | -58.58 | -62.04 | -65.42 | -68.76 | -72.14 | -75.57 | -79.15 | -82.98 | 0. |
| -40 | 6.84 | 11.46 | 15.69 | 19.69 | 23.61 | 27.56 | 31.60 | 35.80 | 40.30 | 45.27 | 51.02 | 57.99 | 83.22 |
| | -42.97 | -47.86 | -52.13 | -56.03 | -59.65 | -63.06 | -66.41 | -69.69 | -72.98 | -76.31 | -79.73 | -83.39 | 0. |
| -30 | 9.91 | 14.60 | 18.87 | 22.94 | 26.93 | 30.93 | 35.00 | 39.31 | 43.94 | 49.03 | 54.81 | 61.83 | 84.49 |
| | -42.41 | -47.77 | -52.31 | -56.37 | -60.11 | -63.55 | -66.90 | -70.18 | -73.43 | -76.72 | -80.05 | -83.61 | 0. |
| -20 | 12.08 | 16.99 | 21.38 | 25.51 | 29.51 | 33.55 | 37.70 | 42.06 | 46.73 | 51.87 | 57.71 | 64.48 | 85.33 |
| | -40.48 | -46.65 | -51.69 | -56.05 | -59.98 | -63.53 | -66.95 | -70.27 | -73.53 | -76.82 | -80.14 | -83.67 | 0. |
| -10 | 13.41 | 18.54 | 23.01 | 27.18 | 31.24 | 35.29 | 39.45 | 43.85 | 48.56 | 53.72 | 59.49 | 66.19 | 85.99 |
| | -36.47 | -44.39 | -50.28 | -55.09 | -59.22 | -62.99 | -66.55 | -69.97 | -73.28 | -76.62 | -79.98 | -83.56 | 0. |

* REFER TO FIGURE 31 (RM 63 TMP-2)

*Table 47 (Cont.)

| LONG (DEG) | B=0.15 LAT (DEG) | B=0.16 LAT (DEG) | B=0.17 LAT (DEG) | B=0.18 LAT (DEG) | B=0.19 LAT (DEG) | B=0.20 LAT (DEG) | B=0.21 LAT (DEG) | B=0.22 LAT (DEG) | B=0.23 LAT (DEG) | B=0.24 LAT (DEG) | B=0.25 LAT (DEG) | B=0.26 LAT (DEG) | B=0.28 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 13.72 | 19.21 | 23.79 | 28.02 | 32.11 | 36.18 | 40.34 | 44.72 | 49.44 | 54.61 | 60.39 | 67.06 | 86.35 |
| | -29.69 | -40.48 | -47.69 | -53.23 | -57.83 | -61.91 | -65.68 | -69.21 | -72.66 | -76.11 | -79.59 | -83.28 | 0. |
| 10 | 12.86 | 18.97 | 23.75 | 28.04 | 32.16 | 36.24 | 40.40 | 44.77 | 49.49 | 54.66 | 60.47 | 67.17 | 86.48 |
| | -20.18 | -34.25 | -43.88 | -50.57 | -55.76 | -60.23 | -64.22 | -67.97 | -71.62 | -75.22 | -78.91 | -82.80 | 0. |
| 20 | 10.87 | 17.81 | 22.88 | 27.30 | 31.45 | 35.52 | 39.66 | 44.03 | 48.74 | 53.91 | 59.73 | 66.57 | 86.42 |
| | -11.48 | -25.82 | -38.13 | -46.50 | -52.61 | -57.62 | -62.04 | -66.13 | -70.04 | -73.89 | -77.85 | -82.03 | 0. |
| 30 | 6.33 | 15.91 | 21.33 | 25.88 | 30.07 | 34.13 | 38.27 | 42.59 | 47.24 | 52.39 | 58.28 | 65.18 | 86.21 |
| | -3.57 | -18.16 | -30.49 | -40.73 | -48.12 | -53.98 | -58.95 | -63.46 | -67.74 | -71.96 | -76.26 | -80.83 | 0. |
| 40 | 0. | 13.00 | 19.19 | 23.91 | 28.17 | 32.27 | 36.36 | 40.59 | 45.11 | 50.15 | 56.03 | 63.15 | 85.85 |
| | 0. | -11.88 | -22.59 | -32.78 | -41.57 | -48.61 | -54.49 | -59.65 | -64.46 | -69.14 | -73.92 | -79.05 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0.00 | 0. | 0. | 0. | 0. | 0. | 0. |
| 50 | 0. | 8.92 | 16.62 | 21.73 | 26.13 | 30.23 | 34.26 | 38.42 | 42.84 | 47.71 | 53.35 | 60.25 | 85.27 |
| | 0. | -5.09 | -15.44 | -24.15 | -32.75 | -40.80 | -47.82 | -54.01 | -59.65 | -65.04 | -70.46 | -76.35 | 0. |
| 60 | 0. | 0. | 13.70 | 19.64 | 24.18 | 28.31 | 32.32 | 36.36 | 40.57 | 45.16 | 50.49 | 57.19 | 84.47 |
| | 0. | 0. | -8.13 | -16.19 | -23.49 | -30.90 | -38.42 | -45.68 | -52.45 | -58.88 | -65.24 | -72.05 | 0. |
| 70 | 0. | 0. | 9.41 | 17.43 | 22.47 | 26.76 | 30.75 | 34.67 | 38.75 | 43.15 | 48.12 | 54.18 | 83.12 |
| | 0. | 0. | 0.18 | -9.05 | -15.64 | -21.85 | -28.25 | -35.04 | -42.27 | -49.67 | -57.21 | -65.10 | 0. |
| 80 | 0. | 0. | 0. | 15.51 | 21.16 | 25.63 | 29.63 | 33.50 | 37.47 | 41.65 | 46.32 | 51.99 | 80.52 |
| | 0. | 0. | 0. | -2.87 | -9.64 | -15.16 | -20.49 | -26.00 | -31.97 | -38.57 | -46.04 | -54.55 | 0. |
| 90 | 0. | 0. | 0. | 13.15 | 20.30 | 24.95 | 28.97 | 32.85 | 36.74 | 40.79 | 45.24 | 50.57 | 76.22 |
| | 0. | 0. | 0. | 2.02 | -5.60 | -10.83 | -15.58 | -20.22 | -25.01 | -30.18 | -36.03 | -42.92 | -65.08 |
| 100 | 0. | 0. | 0. | 11.51 | 20.01 | 24.77 | 28.85 | 32.76 | 36.65 | 40.66 | 45.03 | 50.21 | 72.83 |
| | 0. | 0. | 0. | 4.65 | -3.37 | -8.49 | -12.90 | -17.09 | -21.24 | -25.53 | -30.12 | -35.32 | -49.88 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -86.16 |
| 110 | 0. | 0. | 0. | 12.01 | 20.44 | 25.29 | 29.43 | 33.35 | 37.28 | 41.35 | 45.77 | 50.97 | 71.99 |
| | 0. | 0. | 0. | 4.82 | -2.77 | -7.68 | -11.85 | -15.72 | -19.47 | -23.30 | -27.31 | -31.62 | -42.50 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -86.99 |
| 120 | 0. | 0. | 0. | 15.11 | 21.74 | 26.55 | 30.75 | 34.71 | 38.68 | 42.84 | 47.38 | 52.65 | 72.85 |
| | 0. | 0. | 0. | 3.58 | -3.23 | -7.83 | -11.78 | -15.45 | -18.97 | -22.53 | -26.18 | -30.00 | -39.21 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -87.61 |
| 130 | 0. | 0. | 0. | 17.82 | 23.95 | 28.58 | 32.75 | 36.76 | 40.78 | 44.95 | 49.54 | 54.80 | 74.08 |
| | 0. | 0. | 0. | 1.50 | -4.32 | -8.56 | -12.32 | -15.85 | -19.24 | -22.66 | -26.15 | -29.78 | -38.32 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -88.04 |
| 140 | 0. | 0. | 0. | 21.13 | 26.54 | 31.04 | 35.18 | 39.17 | 43.22 | 47.45 | 52.04 | 57.30 | 75.11 |
| | 0. | 0. | 0. | -0.68 | -5.68 | -9.74 | -13.32 | -16.77 | -20.12 | -23.48 | -26.94 | -30.52 | -38.81 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -88.28 |
| 150 | 0. | 0. | 16.62 | 23.98 | 29.02 | 33.38 | 37.48 | 41.48 | 45.48 | 49.65 | 54.17 | 59.28 | 76.21 |
| | 0. | 0. | 4.08 | -2.67 | -7.30 | -11.24 | -14.83 | -18.21 | -21.58 | -24.93 | -28.42 | -32.08 | -40.35 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -88.33 |
| 160 | 0. | 0. | 19.93 | 26.02 | 30.88 | 35.20 | 39.24 | 43.20 | 47.20 | 51.33 | 55.73 | 60.70 | 76.75 |
| | 0. | 0. | 0.69 | -5.12 | -9.42 | -13.20 | -16.77 | -20.20 | -23.59 | -27.03 | -30.54 | -34.27 | -42.88 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -88.21 |
| 170 | 0. | 0. | 21.06 | 26.91 | 31.72 | 36.05 | 40.13 | 44.09 | 48.08 | 52.19 | 56.57 | 61.45 | 76.85 |
| | 0. | 0. | -2.14 | -7.50 | -11.78 | -15.61 | 0. | -22.62 | -26.07 | -29.55 | -33.20 | -37.05 | -45.90 |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -87.96 |

• REFER TO FIGURE 31 (RM 63 TMP-2)

## *Table 48. Constant Magnetic Field Intensity, B (Gauss), in the Region of the South Atlantic Anomaly at Altitude 2000 Kilometers

| LONG (DEG) | B=0.15 LAT (DEG) | B=0.16 LAT (DEG) | B=0.17 LAT (DEG) | B=0.18 LAT (DEG) | B=0.19 LAT (DEG) | B=0.20 LAT (DEG) | B=0.21 LAT (DEG) | B=0.22 LAT (DEG) | B=0.23 LAT (DEG) | B=0.24 LAT (DEG) | B=0.25 LAT (DEG) | B=0.26 LAT (DEG) | B=0.28 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -180 | 13.01 | 21.99 | 27.83 | -16.01 | 37.38 | 41.76 | 46.08 | 50.45 | 55.04 | 60.09 | 66.21 | 74.94 | 0. |
| | 1.88 | -6.44 | -11.63 | 0. | -20.02 | -23.82 | -27.61 | -31.45 | -35.39 | -39.60 | -44.25 | -49.57 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -87.64 | 0. |
| -170 | 12.54 | 20.88 | 26.61 | 31.61 | 36.23 | 40.67 | 45.04 | 49.50 | 54.18 | 59.32 | 65.39 | 74.33 | 0. |
| | -1.74 | -9.36 | -14.45 | -18.77 | -22.79 | -26.68 | -30.53 | -34.44 | -38.55 | -42.94 | -47.81 | -53.57 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -87.21 | 0. |
| -160 | 11.41 | 19.11 | 24.78 | 29.70 | 34.29 | 38.75 | 43.19 | 47.73 | 52.51 | 57.78 | 64.00 | 73.20 | 0. |
| | -5.37 | -12.22 | -17.28 | -21.66 | -25.74 | -29.68 | -33.62 | -37.66 | -41.89 | -46.47 | -51.67 | -58.12 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -86.72 | 0. |
| -150 | 10.16 | 17.09 | 22.52 | 27.33 | 31.85 | 36.26 | 40.67 | 45.20 | 50.01 | 55.37 | 61.86 | 71.23 | 0. |
| | -8.60 | -15.39 | -20.36 | -24.73 | -28.83 | -32.85 | -36.90 | -41.07 | -45.46 | -50.29 | -55.98 | -63.59 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -86.14 | 0. |
| -140 | 8.51 | 15.20 | 20.31 | 24.90 | 29.23 | 33.49 | 37.81 | 42.29 | 47.08 | 52.45 | 58.91 | 68.53 | 0. |
| | -12.09 | -18.52 | -23.49 | -27.92 | -32.12 | -36.26 | -40.42 | -44.75 | -49.42 | -54.62 | -60.97 | -70.73 | 0. |
| | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | -85.40 | 0. |
| -130 | 7.10 | 13.22 | 18.11 | 22.50 | 26.67 | 30.77 | 34.90 | 39.22 | 43.88 | 49.10 | 55.45 | 64.85 | 0. |
| | -15.85 | -21.92 | -26.89 | -31.39 | -35.70 | -39.95 | -44.30 | -48.87 | -53.82 | -59.44 | -66.66 | 0. | 0. |
| -120 | 5.91 | 11.51 | 16.15 | 20.36 | 24.34 | 28.27 | 32.26 | 36.42 | 40.87 | 45.91 | 52.11 | 61.15 | 0. |
| | -19.74 | -25.64 | -30.62 | -35.20 | -39.62 | -44.03 | -48.57 | -53.35 | -58.56 | -64.54 | -72.56 | 0. | 0. |
| -110 | 4.84 | 10.06 | 14.42 | 18.44 | 22.31 | 26.13 | 29.97 | 34.01 | 38.37 | 43.26 | 49.14 | 57.87 | 0. |
| | -23.84 | -29.71 | -34.72 | -39.37 | -43.91 | -48.44 | -53.08 | -57.97 | -63.30 | -69.42 | -77.70 | 0. | 0. |
| -100 | 3.80 | 8.72 | 12.96 | 16.90 | 20.69 | 24.43 | 28.25 | 32.24 | 36.53 | 41.36 | 47.25 | 55.62 | 0. |
| | -28.48 | -34.18 | -39.17 | -43.84 | -48.38 | -52.91 | -57.52 | -62.35 | -67.58 | -73.56 | -81.29 | 0. | 0. |
| -90 | 3.24 | 7.89 | 12.02 | 15.90 | 19.64 | 23.39 | 27.23 | 31.24 | 35.57 | 40.48 | 46.57 | 55.31 | 0. |
| | -33.41 | -38.84 | -43.69 | -48.24 | -52.66 | -57.04 | -61.48 | -66.09 | -71.06 | -76.67 | -83.55 | 0. | 0. |
| -80 | 3.30 | 7.74 | 11.80 | 15.66 | 19.43 | 23.25 | 27.18 | 31.33 | 35.86 | 41.06 | 47.59 | 57.72 | 0. |
| | -38.11 | -43.20 | -47.81 | -52.15 | -56.36 | -60.52 | -64.71 | -69.08 | -73.73 | -78.85 | -84.82 | 0. | 0. |
| -70 | 4.23 | 8.54 | 12.57 | 16.48 | 20.34 | 24.27 | 28.38 | 32.78 | 37.63 | 43.27 | 50.40 | 62.94 | 0. |
| | -42.04 | -46.82 | -51.20 | -55.33 | -59.31 | -63.26 | -67.26 | -71.36 | -75.67 | -80.36 | -85.90 | 0. | 0. |
| -60 | 6.09 | 10.42 | 14.50 | 18.49 | 22.51 | 26.62 | 30.93 | 35.57 | 40.78 | 46.99 | 54.99 | 70.03 | 0. |
| | -45.02 | -49.55 | -53.72 | -57.68 | -61.53 | -65.32 | -69.11 | -73.02 | -77.10 | -81.45 | -86.42 | 0. | 0. |
| -50 | 8.81 | 13.21 | 17.41 | 21.54 | 25.68 | 29.94 | 34.47 | 39.38 | 44.88 | 51.57 | 60.31 | 76.19 | 0. |
| | -46.79 | -51.31 | -55.46 | -59.34 | -63.07 | -66.76 | -70.43 | -74.16 | -78.05 | -82.16 | -86.68 | 0. | 0. |
| -40 | 12.02 | 16.52 | 20.81 | 25.02 | 29.27 | 33.68 | 38.34 | 43.42 | 49.14 | 56.01 | 64.92 | 79.54 | 0. |
| | -47.60 | -52.22 | -56.42 | -60.34 | -64.05 | -67.68 | -71.29 | -74.91 | -78.66 | -82.61 | -86.86 | 0. | 0. |
| -30 | 15.15 | 19.69 | 24.01 | 28.28 | 32.60 | 37.06 | 41.80 | 46.97 | 52.81 | 59.63 | 68.42 | 81.59 | 0. |
| | -47.44 | -52.35 | -56.71 | -60.74 | -64.51 | -68.13 | -71.73 | -75.31 | -78.98 | -82.83 | -86.98 | 0. | 0. |
| -20 | 17.53 | 22.17 | 26.56 | 30.86 | 35.18 | 39.67 | 44.45 | 49.64 | 55.49 | 62.34 | 70.65 | 82.78 | 0. |
| | -46.29 | -51.69 | -56.36 | -60.58 | -64.46 | -68.16 | -71.79 | -75.38 | -79.04 | -82.88 | -87.07 | 0. | 0. |
| -10 | 19.16 | 23.87 | 28.28 | 32.61 | 36.97 | 41.48 | 46.28 | 51.49 | 57.33 | 64.01 | 72.10 | 83.45 | 0. |
| | -43.94 | -50.25 | -55.37 | -59.86 | -63.91 | -67.74 | -71.47 | -75.13 | -78.86 | -82.75 | -87.14 | 0. | 0. |
| 0 | 19.96 | 24.74 | 29.18 | 33.52 | 37.89 | 42.42 | 47.22 | 52.45 | 58.25 | 64.84 | 72.84 | 83.82 | 0. |
| | -40.13 | -47.64 | -53.53 | -58.44 | -62.81 | -66.87 | -70.75 | -74.54 | -78.40 | -82.42 | -87.17 | 0. | 0. |

* REFER TO FIGURE 32 (RM 63 TMP-2)

*Table 48 (Cont.)

| LONG (DEG) | R=0.15 LAT (DEG) | R=0.16 LAT (DEG) | R=0.17 LAT (DEG) | R=0.18 LAT (DEG) | R=0.19 LAT (DEG) | R=0.20 LAT (DEG) | R=0.21 LAT (DEG) | R=0.22 LAT (DEG) | R=0.23 LAT (DEG) | R=0.24 LAT (DEG) | R=0.25 LAT (DEG) | R=0.26 LAT (DEG) | R=0.28 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 19.85 | 24.80 | 29.29 | 33.64 | 38.01 | 42.53 | 47.33 | 52.55 | 58.37 | 64.99 | 73.03 | 83.98 | C. |
| | -34.22 | -43.90 | -50.85 | -56.35 | -61.12 | -65.46 | -69.55 | -73.56 | -77.62 | -81.85 | -87.12 | 0. | C. |
| 20 | 18.82 | 24.04 | 28.63 | 33.01 | 37.39 | 41.89 | 46.66 | 51.88 | 57.74 | 64.47 | 72.69 | 83.95 | C. |
| | -26.64 | -38.45 | -46.89 | -53.28 | -58.60 | -63.33 | -67.76 | -72.07 | -76.41 | -80.96 | -86.85 | C. | C. |
| 30 | 17.02 | 22.57 | 27.31 | 31.74 | 36.10 | 40.55 | 45.28 | 50.46 | 56.37 | 63.28 | 71.79 | 83.75 | C. |
| | -19.52 | -31.40 | -41.36 | -48.95 | -55.08 | -60.36 | -65.22 | -69.91 | -74.62 | -79.61 | -85.71 | C. | C. |
| 40 | 14.67 | 20.67 | 25.54 | 30.00 | 34.34 | 38.77 | 43.45 | 48.55 | 54.34 | 61.34 | 70.19 | 83.31 | C. |
| | -13.42 | -24.01 | -34.04 | 30.00 | -49.97 | -56.04 | -61.55 | -66.81 | -72.09 | -77.69 | -84.16 | C. | C. |
| | C. | C. | C. | -42.73 | C. | C. | C. | C. | C. | C. | C. | C. | C. |
| 50 | 11.16 | 18.31 | 23.49 | 28.05 | 32.41 | 36.78 | 41.34 | 46.31 | 51.98 | 58.84 | 68.06 | 82.56 | C. |
| | -7.00 | -17.07 | -25.88 | -34.54 | -42.60 | -49.84 | -56.27 | -62.32 | -68.31 | -74.63 | -82.32 | C. | C. |
| 60 | C. | 15.87 | 21.52 | 26.23 | 30.60 | 34.87 | 39.30 | 44.08 | 49.46 | 56.07 | 65.08 | 81.32 | C. |
| | C. | -10.30 | -18.18 | -25.70 | -33.38 | -41.11 | -48.58 | -55.71 | -62.69 | -69.96 | -78.87 | C. | C. |
| 70 | C. | 12.70 | 19.79 | 24.72 | 29.10 | 33.34 | 37.66 | 42.24 | 47.37 | 53.53 | 62.15 | 79.39 | C. |
| | C. | -3.03 | -11.36 | -18.02 | -24.52 | -31.35 | -38.64 | -46.33 | -54.31 | -62.78 | -72.84 | C. | C. |
| 80 | C. | C. | 18.02 | 23.47 | 27.99 | 32.24 | 36.46 | 40.86 | 45.72 | 51.56 | 59.41 | 76.61 | C. |
| | C. | C. | -5.76 | -12.10 | -17.82 | -23.51 | -29.50 | -36.13 | -43.63 | -52.31 | -62.89 | C. | C. |
| 90 | C. | C. | 16.69 | 22.66 | 27.34 | 31.61 | 35.78 | 40.07 | 44.77 | 50.30 | 57.84 | 73.45 | C. |
| | C. | C. | -1.59 | -8.09 | -13.39 | -18.38 | -23.41 | -28.75 | -34.64 | -41.64 | -50.37 | -64.04 | C. |
| | C. | C. | C. | C. | C. | C. | C. | C. | C. | C. | C. | -85.28 | C. |
| 100 | C. | C. | 16.08 | 22.41 | 27.21 | 31.52 | 35.70 | 39.96 | 44.62 | 49.99 | 57.27 | 71.35 | C. |
| | C. | C. | 0.59 | -5.96 | -10.97 | -15.53 | -19.95 | -24.49 | -29.34 | -34.73 | -41.25 | -49.88 | C. |
| | C. | C. | C. | C. | C. | C. | C. | C. | C. | C. | C. | -86.32 | C. |
| 110 | C. | C. | 16.45 | 22.87 | 27.70 | 32.06 | 36.29 | 40.61 | 45.26 | 50.70 | 57.82 | 70.90 | C. |
| | C. | C. | 1.24 | -5.29 | -10.04 | -14.25 | -18.33 | -22.43 | -26.68 | -31.26 | -36.46 | -42.85 | C. |
| | C. | C. | C. | C. | C. | C. | C. | C. | C. | C. | C. | -87.13 | C. |
| 120 | C. | C. | 17.97 | 24.18 | 28.95 | 33.31 | 37.60 | 42.00 | 46.76 | 52.24 | 59.21 | 71.76 | C. |
| | C. | C. | 0.34 | -5.49 | -10.03 | -14.02 | -17.88 | -21.71 | -25.61 | -29.72 | -34.30 | -39.59 | C. |
| | C. | C. | C. | C. | C. | C. | C. | C. | C. | C. | C. | -87.73 | C. |
| 130 | C. | C. | 20.50 | 26.13 | 30.85 | 35.22 | 39.51 | 43.96 | 48.76 | 54.23 | 61.21 | 73.00 | -54.15 |
| | C. | C. | -0.90 | -6.24 | -10.58 | -14.46 | -18.16 | -21.86 | -25.59 | -29.51 | -33.82 | -38.70 | -72.0 |
| | C. | C. | C. | C. | C. | C. | C. | C. | C. | C. | C. | -88.14 | C. |
| 140 | C. | 15.11 | 23.05 | 28.43 | 33.07 | 37.44 | 41.76 | 46.21 | 50.99 | 56.44 | 63.22 | 74.03 | -53.32 |
| | C. | 5.05 | -2.44 | -7.40 | -11.58 | -15.40 | -19.04 | -22.67 | -26.38 | -30.21 | -34.41 | -39.15 | -74.26 |
| | C. | C. | C. | C. | C. | C. | C. | C. | C. | C. | C. | -88.36 | C. |
| 150 | C. | 18.75 | 25.61 | 30.70 | 35.25 | 39.55 | 43.85 | 48.28 | 53.01 | 58.31 | 64.71 | 74.73 | -54.64 |
| | C. | 2.06 | -4.43 | -9.03 | -13.05 | -16.83 | -20.48 | -24.10 | -27.84 | -31.75 | -35.95 | -40.69 | -75.01 |
| | C. | C. | C. | C. | C. | C. | C. | C. | C. | C. | C. | -88.39 | C. |
| 160 | C. | 21.18 | 27.31 | 32.31 | 36.83 | 41.14 | 45.41 | 49.76 | 54.40 | 59.56 | 65.82 | 75.16 | -58.14 |
| | C. | -0.92 | -6.54 | -11.04 | -15.05 | -18.77 | -22.45 | -26.14 | -29.89 | -33.90 | -38.24 | -43.13 | -74.38 |
| | C. | C. | C. | C. | C. | C. | C. | C. | C. | C. | C. | -88.26 | C. |
| 170 | 11.31 | 22.17 | 28.11 | 33.07 | 37.59 | 41.92 | 46.19 | 50.54 | 55.11 | 60.18 | 66.34 | 75.29 | -63.80 |
| | 6.96 | -3.62 | -9.00 | C. | -17.36 | -21.16 | -24.87 | -28.63 | -32.51 | -36.60 | -41.05 | -46.14 | -71.56 |
| | C. | C. | C. | C. | C. | C. | C. | C. | C. | C. | C. | -88.00 | C. |

• REFER TO FIGURE 32 (RM 63 TMP-2)

*Table 49. Constant Magnetic Field Intensity, B (Gauss), at Altitude 0 Kilometers

| LONG (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) | B=0.50 LAT (DEG) | B=0.55 LAT (DEG) | B=0.60 LAT (DEG) | B=0.65 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|
| -180 | 0. | 0. | 22.80 | 36.38 | 45.54 | -28.90 | -37.22 | -47.10 | 0. |
| | 0. | 0. | -1.03 | -11.92 | -21.61 | 0. | 0. | 0. | 0. |
| -170 | 0. | 0. | 20.66 | 33.77 | 44.62 | -33.22 | -43.11 | 0. | 0. |
| | 0. | 0. | -3.53 | -15.16 | -24.25 | 0. | 0. | 0. | 0. |
| -160 | 0. | 0. | 17.70 | 30.87 | 41.48 | -37.64 | -47.80 | 0. | 0. |
| | 0. | 0. | -6.61 | -18.07 | -27.59 | 0. | 0. | 0. | 0. |
| -150 | 0. | 0. | 14.73 | 27.70 | 38.10 | 47.66 | 0. | 0. | 0. |
| | 0. | 0. | -10.58 | -21.65 | -30.84 | -40.76 | 0. | 0. | 0. |
| -140 | 0. | 0. | 11.72 | 23.56 | 33.74 | 42.67 | 0. | 0. | 0. |
| | 0. | 0. | -14.21 | -25.19 | -33.83 | -46.59 | 0. | 0. | 0. |
| -130 | 0. | 0. | 9.18 | 20.30 | 29.21 | 38.27 | 48.10 | 0. | 0. |
| | 0. | 0. | -17.73 | -28.61 | -37.86 | 0. | 0. | 0. | 0. |
| -120 | 0. | 0. | 7.12 | 17.56 | 25.68 | 34.17 | 43.61 | 0. | 0. |
| | 0. | 0. | -21.02 | -32.02 | -41.54 | 0. | 0. | 0. | 0. |
| -110 | 0. | 0. | 5.71 | 15.61 | 22.92 | 30.21 | 39.18 | 0. | 0. |
| | 0. | 0. | -25.03 | -35.84 | -45.59 | 0. | 0. | 0. | 0. |
| -100 | 0. | 0. | 4.67 | 13.52 | 20.49 | 27.52 | 35.78 | 49.26 | 0. |
| | 0. | 0. | -30.28 | -41.27 | 0. | 0. | 0. | 0. | 0. |
| -90 | 0. | -11.75 | 3.29 | 11.75 | 18.70 | 26.18 | 34.75 | 0. | 0. |
| | 0. | -18.70 | -37.15 | -47.27 | 0. | 0. | 0. | 0. | 0. |
| -80 | 0. | -8.71 | 2.21 | 10.68 | 17.98 | 26.04 | 35.10 | 0. | 0. |
| | 0. | -32.00 | -43.96 | 0. | 0. | 0. | 0. | 0. | 0. |
| -70 | 0. | -6.63 | 2.82 | 11.30 | 19.04 | 27.73 | 37.78 | 0. | 0. |
| | 0. | -40.78 | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| -60 | -24.10 | -4.67 | 4.68 | 13.87 | 22.15 | 31.98 | 44.82 | 0. | 0. |
| | -31.16 | -45.69 | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| -50 | -18.09 | -2.42 | 7.84 | 17.37 | 26.31 | 38.22 | 0. | 0. | 0. |
| | -35.49 | -47.48 | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| -40 | -18.15 | 0.22 | 10.77 | 22.12 | 32.21 | 44.81 | 0. | 0. | 0. |
| | -35.43 | -48.04 | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| -30 | 0. | 2.49 | 15.41 | 27.46 | 36.16 | 0. | 0. | 0. | 0. |
| | 0. | -47.89 | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| -20 | 0. | 4.60 | 19.49 | 29.09 | 38.40 | 0. | 0. | 0. | 0. |
| | 0. | -46.87 | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| -10 | 0. | 0.23 | 20.19 | 30.42 | 42.63 | 0. | 0. | 0. | 0. |
| | 0. | -1.17 | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| | 0. | -19.29 | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| | 0. | -45.43 | 0. | 0. | 0. | 0. | 0. | 0. | 0. |

* REFER TO FIGURE 33 (RM 63 TMP-2)

*Table 49 (Cont.)

| LONG (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) | B=0.50 LAT (DEG) | B=0.55 LAT (DEG) | B=0.60 LAT (DEG) | B=0.65 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|
| -0 | 0. | -32.05 | 18.75 | 30.79 | 44.77 | 0. | 0. | 0. | 0. |
| | 0. | -40.77 | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| 10 | 0. | 0. | 17.14 | 29.15 | 43.34 | 0. | 0. | 0. | 0. |
| 20 | 0. | 0. | 16.40 | 28.50 | 41.34 | 0. | 0. | 0. | 0. |
| | 0. | 0. | -47.33 | 0. | 0. | 0. | 0. | 0. | 0. |
| 30 | 0. | 0. | 12.24 | 26.19 | 38.77 | 0. | 0. | 0. | 0. |
| | 0. | 0. | -43.44 | 0. | 0. | 0. | 0. | 0. | 0. |
| 40 | 0. | 0. | 8.30 | 23.24 | 34.82 | 0. | 0. | 0. | 0. |
| | 0. | 0. | -15.01 | 0. | 0. | 0. | 0. | 0. | 0. |
| | 0. | 0. | -22.74 | 0. | 0. | 0. | 0. | 0. | 0. |
| | 0. | 0. | -37.04 | 0. | 0. | 0. | 0. | 0. | 0. |
| 50 | 0. | 0. | 4.60 | 20.67 | 31.22 | 44.33 | 0. | 0. | 0. |
| | 0. | 0. | -1.74 | -47.05 | 0. | 0. | 0. | 0. | 0. |
| 60 | 0. | 0. | 0. | 17.73 | 27.81 | 38.77 | 0. | 0. | 0. |
| | 0. | 0. | 0. | -37.83 | 0. | 0. | 0. | 0. | 0. |
| 70 | 0. | 0. | 0. | 15.62 | 25.71 | 36.01 | 48.61 | 0. | 0. |
| | 0. | 0. | 0. | -17.74 | -40.90 | 0. | 0. | 0. | 0. |
| 80 | 0. | 0. | 0. | 11.77 | 23.76 | 34.30 | 44.43 | 0. | 0. |
| | 0. | 0. | 0. | -3.19 | -24.03 | -44.40 | 0. | 0. | 0. |
| 90 | 0. | 0. | 0. | 0. | 22.71 | 32.44 | 41.68 | 0. | 0. |
| | 0. | 0. | 0. | 0. | -13.19 | -29.11 | 0. | 0. | 0. |
| 100 | 0. | 0. | 0. | 0. | 23.14 | 31.52 | 39.70 | 0. | 0. |
| | 0. | 0. | 0. | 0. | -9.53 | -21.16 | -33.74 | 0. | 0. |
| 110 | 0. | 0. | 0. | 0. | 23.92 | 32.02 | 40.08 | -43.81 | 0. |
| | 0. | 0. | 0. | 0. | -9.24 | -18.13 | -26.99 | 0. | 0. |
| 120 | 0. | 0. | 0. | 13.52 | 25.93 | 34.19 | 42.66 | -35.29 | 0. |
| | 0. | 0. | 0. | 1.11 | -10.16 | -17.81 | -25.64 | 0. | 0. |
| 130 | 0. | 0. | 0. | 18.51 | 29.20 | 37.48 | 46.32 | -34.61 | -48.97 |
| | 0. | 0. | 0. | -1.84 | -11.04 | -18.83 | -26.63 | 0. | 0. |
| 140 | 0. | 0. | 0. | 23.62 | 33.44 | 42.64 | -27.01 | -34.64 | -47.75 |
| | 0. | 0. | 0. | -3.48 | -11.96 | -19.72 | 0. | 0. | 0. |
| 150 | 0. | 0. | 0. | 28.38 | 39.09 | 47.59 | -28.01 | -37.66 | 0. |
| | 0. | 0. | 0. | -5.33 | -13.66 | -21.14 | 0. | 0. | 0. |
| 160 | 0. | 0. | 19.45 | 32.67 | 42.56 | -23.26 | -29.81 | -42.65 | 0. |
| | 0. | 0. | 4.88 | -7.11 | -15.95 | 0. | 0. | 0. | 0. |
| 170 | 0. | 0. | 22.46 | 35.72 | 44.46 | -25.84 | -32.65 | -44.95 | 0. |
| | 0. | 0. | 2.01 | -8.85 | -18.56 | 0. | 0. | 0. | 0. |

• REFER TO FIGURE 33 (RM 63 TMP-2)

## *Table 50. Constant Magnetic Shell Parameter, L (Earth Radii), at Altitude 0 Kilometers

| LONG (DEG) | L=1.00 LAT (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|
| -180 | 11.38 | 22.43 | 31.49 | 40.64 | 46.32 | -40.40 | -45.91 | 0. | 0. |
| | -6.43 | -15.95 | -23.55 | -31.33 | -36.45 | 0. | 0. | 0. | 0. |
| -170 | 9.72 | 20.76 | 29.91 | 38.98 | 45.00 | 49.07 | -47.90 | 0. | 0. |
| | -7.55 | -17.30 | -25.15 | -32.87 | -38.19 | -42.15 | 0. | 0. | 0. |
| -160 | 7.94 | 19.13 | 28.09 | 37.16 | 43.05 | 47.26 | 0. | 0. | 0. |
| | -8.36 | -18.56 | -26.42 | -34.62 | -40.12 | -44.14 | 0. | 0. | 0. |
| -150 | 6.39 | 17.75 | 26.57 | 35.54 | 41.26 | 45.52 | 0. | 0. | 0. |
| | -8.69 | -19.79 | -27.85 | -36.19 | -41.72 | -45.97 | 0. | 0. | 0. |
| -140 | 5.14 | 16.55 | 25.28 | 33.76 | 39.47 | 43.46 | 49.26 | 0. | 0. |
| | -8.82 | -20.65 | -29.31 | -37.80 | -43.56 | -47.89 | 0. | 0. | 0. |
| -130 | 3.21 | 15.52 | 23.84 | 32.03 | 37.42 | 41.40 | 46.96 | 0. | 0. |
| | -8.34 | -21.51 | -30.64 | -39.61 | -45.54 | 0. | 0. | 0. | 0. |
| -120 | 1.21 | 14.21 | 22.34 | 30.45 | 35.61 | 39.47 | 45.02 | 48.62 | 0. |
| | -8.03 | -22.50 | -31.93 | -41.32 | -47.47 | 0. | 0. | 0. | 0. |
| -110 | -0.68 | 12.54 | 20.82 | 28.58 | 33.61 | 37.28 | 42.62 | 46.37 | 0. |
| | -8.19 | -23.67 | -33.55 | -43.29 | -49.76 | 0. | 0. | 0. | 0. |
| -100 | 0. | 10.67 | 18.89 | 26.60 | 31.60 | 35.43 | 40.69 | 44.45 | 49.50 |
| | 0. | -25.23 | -35.47 | -45.49 | 0. | 0. | 0. | 0. | 0. |
| -90 | 0. | 7.71 | 16.41 | 24.53 | 29.73 | 33.44 | 38.89 | 42.56 | 47.67 |
| | 0. | -26.53 | -37.28 | -47.41 | 0. | 0. | 0. | 0. | 0. |
| -80 | 0. | 4.08 | 13.56 | 22.17 | 27.71 | 31.78 | 37.49 | 41.47 | 46.76 |
| | 0. | -27.32 | -38.90 | -49.15 | 0. | 0. | 0. | 0. | 0. |
| -70 | 0. | -0.48 | 10.84 | 20.59 | 26.59 | 31.04 | 37.13 | 41.35 | 46.88 |
| | 0. | -27.14 | -39.76 | 0. | 0. | 0. | 0. | 0. | 0. |
| -60 | 0. | -4.93 | 9.41 | 20.42 | 27.02 | 31.75 | 38.24 | 42.58 | 48.34 |
| | 0. | -25.61 | -39.40 | 0. | 0. | 0. | 0. | 0. | 0. |
| -50 | 0. | -2.90 | 11.14 | 22.73 | 29.60 | 34.21 | 40.65 | 45.11 | 0. |
| | 0. | -22.71 | -37.59 | -49.18 | 0. | 0. | 0. | 0. | 0. |
| -40 | 0. | 5.55 | 17.51 | 27.00 | 33.26 | 37.65 | 43.62 | 47.70 | 0. |
| | 0. | -20.16 | -34.62 | -46.85 | 0. | 0. | 0. | 0. | 0. |
| -30 | 0. | 14.38 | 23.94 | 31.90 | 37.01 | 41.12 | 46.61 | 0. | 0. |
| | 0. | -16.75 | -30.37 | -43.27 | 0. | 0. | 0. | 0. | 0. |
| -20 | 0. | 21.02 | 28.89 | 35.88 | 40.47 | 44.07 | 49.23 | 0. | 0. |
| | 0. | -12.72 | -25.26 | -38.18 | -47.12 | 0. | 0. | 0. | 0. |
| -10 | 10.44 | 24.96 | 31.70 | 38.25 | 42.70 | 46.21 | 0. | 0. | 0. |
| | 9.57 | -8.54 | -19.91 | -32.44 | -41.84 | -49.01 | 0. | 0. | 0. |

* REFER TO FIGURE 33 (RM 63 TMP-2)

*Table 50 (Cont.)

| LONG (DEG) | L=1.00 LAT (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|
| -0 | 16.20 | 26.45 | 33.21 | 39.82 | 44.23 | 47.67 | 0. | 0. | 0. |
| | 6.12 | -6.55 | -16.40 | -27.67 | -36.67 | -44.10 | 0. | 0. | 0. |
| 10 | 17.84 | 27.29 | 34.01 | 40.21 | 45.12 | 48.74 | 0. | 0. | 0. |
| | 4.10 | -6.46 | -15.11 | -25.06 | -33.11 | -40.07 | 0. | 0. | 0. |
| 20 | 18.71 | 27.56 | 34.35 | 41.02 | 45.69 | 49.49 | -47.02 | 0. | 0. |
| | 2.81 | -6.79 | -14.87 | -24.06 | -31.45 | -37.65 | 0. | 0. | 0. |
| 30 | 18.94 | 27.38 | 34.36 | 41.30 | 46.11 | 49.93 | -45.05 | 0. | 0. |
| | 1.11 | -7.59 | -15.40 | -24.09 | -30.85 | -36.45 | 0. | 0. | 0. |
| 40 | 18.78 | 27.04 | 34.04 | 41.23 | 46.17 | -35.80 | -43.50 | -49.19 | 0. |
| | -0.37 | -8.82 | -16.26 | -24.60 | -30.74 | 0. | 0. | 0. | 0. |
| 50 | 18.76 | 26.85 | 33.83 | 41.20 | 46.24 | -35.52 | -42.44 | -47.56 | 0. |
| | -1.60 | -10.10 | -17.10 | -25.17 | -30.88 | 0. | 0. | 0. | 0. |
| 60 | 19.99 | 27.30 | 34.17 | 41.42 | 46.45 | -35.24 | -41.57 | -46.26 | 0. |
| | -3.07 | -10.82 | -17.64 | -25.43 | -30.88 | 0. | 0. | 0. | 0. |
| 70 | 21.16 | 28.11 | 34.84 | 41.87 | 46.80 | -34.80 | -40.71 | -45.11 | 0. |
| | -4.00 | -11.14 | -17.85 | -25.45 | -30.68 | 0. | 0. | 0. | 0. |
| 80 | 22.62 | 29.27 | 35.59 | 42.42 | 47.21 | -34.14 | -39.87 | -43.75 | -49.41 |
| | -4.50 | -11.23 | -17.82 | -25.26 | -30.33 | 0. | 0. | 0. | 0. |
| 90 | 23.80 | 30.17 | 36.14 | 42.85 | 47.55 | -33.56 | -38.98 | -42.68 | -47.94 |
| | -4.78 | -11.27 | -17.73 | -25.04 | -30.00 | 0. | 0. | 0. | 0. |
| 100 | 24.07 | 30.43 | 36.41 | 43.11 | 47.79 | -33.31 | -38.45 | -42.02 | -47.00 |
| | -5.17 | -11.59 | -18.00 | -25.12 | -29.91 | 0. | 0. | 0. | 0. |
| 110 | 23.31 | 30.13 | 36.35 | 43.22 | 47.96 | -33.40 | -38.33 | -41.79 | -46.57 |
| | -5.69 | -12.27 | -18.68 | -25.51 | -30.15 | 0. | 0. | 0. | 0. |
| 120 | 22.04 | 29.38 | 36.09 | 43.25 | 48.13 | -33.86 | -38.66 | -41.98 | -46.61 |
| | -6.14 | -13.00 | -19.45 | -26.02 | -30.56 | 0. | 0. | 0. | 0. |
| 130 | 20.85 | 28.65 | 35.82 | 43.26 | 48.30 | -34.56 | -39.33 | -42.52 | -47.06 |
| | -6.11 | -13.34 | -19.96 | -26.53 | -31.09 | 0. | 0. | 0. | 0. |
| 140 | 19.64 | 28.04 | 35.58 | 43.28 | 48.46 | -35.23 | -40.15 | -43.38 | -47.96 |
| | -5.56 | -13.26 | -20.15 | -26.96 | -31.63 | 0. | 0. | 0. | 0. |
| 150 | 17.89 | 27.27 | 35.22 | 43.13 | 48.45 | -35.95 | -40.99 | -44.70 | -49.45 |
| | -4.69 | -13.09 | -20.37 | -27.52 | -32.33 | 0. | 0. | 0. | 0. |
| 160 | 16.08 | 26.11 | 34.42 | 42.66 | 48.10 | -37.02 | -42.25 | -46.01 | 0. |
| | -4.39 | -13.39 | -20.93 | -28.49 | -33.42 | 0. | 0. | 0. | 0. |
| 170 | 13.69 | 24.38 | 33.08 | 41.82 | 47.38 | -38.53 | -43.99 | -47.71 | 0. |
| | -5.68 | -14.52 | -21.94 | -29.91 | -34.96 | 0. | 0. | 0. | 0. |

• REFER TO FIGURE 33 (RM 63 TMP-2)

*Table 51. Constant Magnetic Field Intensity, B (Gauss), at Altitude 500 Kilometers

| LONG (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) | B=0.50 LAT (DEG) |
|---|---|---|---|---|---|---|
| -180 | 0. | 28.67 | 41.75 | -30.15 | -41.31 | 0. |
| | 0. | -8.29 | -20.29 | 0. | 0. | 0. |
| -170 | 0. | 26.81 | 40.55 | -34.04 | -45.61 | 0. |
| | 0. | -11.26 | -23.12 | 0. | 0. | 0. |
| -160 | 0. | 24.34 | 38.03 | -38.00 | 0. | 0. |
| | 0. | -14.26 | -26.29 | 0. | 0. | 0. |
| -150 | 0. | 21.40 | 35.00 | 47.41 | 0. | 0. |
| | 0. | -17.46 | -29.56 | -41.73 | 0. | 0. |
| -140 | 0. | 18.40 | 31.25 | 43.19 | 0. | 0. |
| | 0. | -20.85 | -32.84 | -46.07 | 0. | 0. |
| -130 | 0. | 15.78 | 27.61 | 39.07 | 0. | 0. |
| | 0. | -24.20 | -36.48 | -49.83 | 0. | 0. |
| -120 | 0. | 13.48 | 24.54 | 35.29 | 48.51 | 0. |
| | 0. | -27.60 | -40.17 | 0. | 0. | 0. |
| -110 | 0. | 11.66 | 22.03 | 31.97 | 44.36 | 0. |
| | 0. | -31.54 | -44.33 | 0. | 0. | 0. |
| -100 | -6.09 | 10.14 | 19.93 | 29.46 | 41.49 | 0. |
| | -17.26 | -36.56 | -49.28 | 0. | 0. | 0. |
| -90 | -4.94 | 8.71 | 18.42 | 28.23 | 40.23 | 0. |
| | -25.91 | -42.42 | 0. | 0. | 0. | 0. |
| -80 | -4.44 | 7.93 | 17.85 | 28.20 | 41.26 | 0. |
| | -34.29 | -48.22 | 0. | 0. | 0. | 0. |
| -70 | -3.26 | 8.52 | 18.78 | 29.80 | 45.34 | 0. |
| | -41.02 | 0. | 0. | 0. | 0. | 0. |
| -60 | -1.40 | 10.58 | 21.42 | 33.60 | 0. | 0. |
| | -45.27 | 0. | 0. | 0. | 0. | 0. |
| -50 | 1.19 | 13.68 | 25.23 | 38.98 | 0. | 0. |
| | -47.14 | 0. | 0. | 0. | 0. | 0. |
| -40 | 4.10 | 17.56 | 30.14 | 44.71 | 0. | 0. |
| | -47.76 | 0. | 0. | 0. | 0. | 0. |
| -30 | 7.29 | 22.16 | 34.19 | 0. | 0. | 0. |
| | -47.43 | 0. | 0. | 0. | 0. | 0. |
| -20 | 10.37 | 25.07 | 36.88 | 0. | 0. | 0. |
| | -46.14 | 0. | 0. | 0. | 0. | 0. |
| -10 | 11.10 | 26.40 | 39.29 | 0. | 0. | 0. |
| | -43.54 | 0. | 0. | 0. | 0. | 0. |

* REFER TO FIGURE 34 (RM 63 TMP-2)

*Table 51 (Cont.)

| LONG (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) | B=0.50 LAT (DEG) |
|---|---|---|---|---|---|---|
| -0 | 9.11 | 26.55 | 40.62 | 0. | 0. | 0. |
| | -37.52 | 0. | 0. | 0. | 0. | 0. |
| 10 | 0. | 25.74 | 40.15 | 0. | 0. | 0. |
| 20 | 0. | 24.85 | 38.91 | 0. | 0. | 0. |
| 30 | 0. | 22.86 | 36.91 | 0. | 0. | 0. |
| | 0. | -46.62 | 0. | 0. | 0. | 0. |
| 40 | 0. | 20.44 | 34.12 | 0. | 0. | 0. |
| | 0. | -40.90 | 0. | 0. | 0. | 0. |
| 50 | 0. | 17.84 | 31.22 | 46.37 | 0. | 0. |
| | 0. | -30.93 | 0. | 0. | 0. | 0. |
| 60 | 0. | 15.18 | 28.51 | 42.01 | 0. | 0. |
| | 0. | -16.43 | -45.33 | 0. | 0. | 0. |
| 70 | 0. | 11.68 | 26.50 | 39.01 | 0. | 0. |
| | 0. | -5.74 | -33.09 | 0. | 0. | 0. |
| 80 | 0. | 0. | 24.87 | 37.07 | 0. | 0. |
| | 0. | 0. | -20.86 | -43.18 | 0. | 0. |
| 90 | 0. | 0. | 23.79 | 35.48 | 48.49 | 0. |
| | 0. | 0. | -13.06 | -30.47 | 0. | 0. |
| 100 | 0. | 0. | 23.69 | 34.65 | 46.98 | 0. |
| | 0. | 0. | -9.66 | -23.54 | -41.92 | 0. |
| 110 | 0. | 0. | 24.34 | 35.07 | 47.41 | 0. |
| | 0. | 0. | -8.91 | -20.43 | -33.12 | 0. |
| 120 | 0. | 0. | 25.99 | 36.88 | 49.28 | 0. |
| | 0. | 0. | -9.52 | -19.79 | -30.59 | 0. |
| 130 | 0. | 10.89 | 28.72 | 39.76 | -30.41 | -44.39 |
| | 0. | 6.30 | -10.46 | -20.38 | 0. | 0. |
| 140 | 0. | 17.80 | 32.30 | 43.75 | -30.86 | -44.07 |
| | 0. | 1.50 | -11.49 | -21.20 | 0. | 0. |
| 150 | 0. | 22.59 | 36.28 | 47.55 | -32.31 | -46.31 |
| | 0. | -1.11 | -13.02 | -22.54 | 0. | 0. |
| 160 | 0. | 26.25 | 39.41 | -24.52 | -34.57 | -48.23 |
| | 0. | -3.33 | -15.07 | 0. | 0. | 0. |
| 170 | 0. | 28.45 | 41.23 | -27.05 | -37.58 | -49.82 |
| | 0. | -5.65 | -17.39 | 0. | 0. | 0. |

* REFER TO FIGURE 34 (RM 63 TMP-2)

*Table 52. Constant Magnetic Shell Parameter, L (Earth Radii), at Altitude 500 Kilometers

| LONG (DEG) | L=1.00 LAT (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|
| -180 | 0. | 15.15 | 26.90 | 37.24 | 43.62 | 48.02 | -44.14 | -48.17 | 0. | 0. |
| | 0. | -8.49 | -19.12 | -28.20 | -34.01 | -38.13 | 0. | 0. | 0. | 0. |
| -170 | 0. | 13.02 | 25.30 | 35.71 | 42.06 | 46.61 | -46.08 | 0. | 0. | 0. |
| | 0. | -9.97 | -20.60 | -29.94 | -35.72 | -40.11 | 0. | 0. | 0. | 0. |
| -160 | 0. | 11.36 | 23.51 | 33.97 | 40.46 | 45.10 | -48.08 | 0. | 0. | 0. |
| | 0. | -10.85 | -21.91 | -31.40 | -37.39 | -41.81 | C. | 0. | 0. | 0. |
| -150 | 0. | 10.05 | 21.95 | 32.17 | 38.57 | 43.07 | 49.41 | 0. | 0. | 0. |
| | 0. | -11.59 | -23.28 | -33.02 | -39.26 | -43.74 | C. | 0. | 0. | 0. |
| -140 | 0. | 8.32 | 20.58 | 30.57 | 36.67 | 41.14 | 47.22 | 0. | 0. | 0. |
| | 0. | -12.24 | -24.69 | -34.79 | -41.04 | -45.72 | 0. | 0. | 0. | 0. |
| -130 | 0. | 6.85 | 19.15 | 28.84 | 34.97 | 39.20 | 45.28 | 49.37 | 0. | 0. |
| | 0. | -12.88 | -25.89 | -36.33 | -42.86 | -47.65 | 0. | 0. | 0. | 0. |
| -120 | 0. | 5.43 | 17.52 | 27.05 | 32.89 | 37.08 | 42.97 | 47.00 | 0. | 0. |
| | 0. | -13.66 | -27.15 | -38.04 | -44.96 | -49.87 | C. | 0. | 0. | 0. |
| -110 | 0. | 3.22 | 15.87 | 25.38 | 31.02 | 35.24 | 4C.93 | 45.08 | 0. | 0. |
| | 0. | -14.57 | -28.66 | -4C.04 | -46.83 | 0. | C. | 0. | 0. | 0. |
| -100 | 0. | 0.56 | 13.80 | 23.27 | 29.06 | 33.10 | 38.94 | 42.86 | 48.26 | 0. |
| | 0. | -15.15 | -30.39 | -41.84 | -48.89 | 0. | 0. | 0. | 0. | 0. |
| -90 | 0. | -4.06 | 11.22 | 21.10 | 26.96 | 31.23 | 37.10 | 41.22 | 46.65 | 0. |
| | 0. | -14.88 | -31.87 | -43.71 | C. | 0. | 0. | 0. | 0. | 0. |
| -80 | 0. | 0. | 8.20 | 18.90 | 25.27 | 29.77 | 35.89 | 40.26 | 45.84 | 49.74 |
| | 0. | 0. | -33.05 | -45.25 | C. | 0. | C. | 0. | 0. | 0. |
| -70 | 0. | 0. | 5.38 | 17.11 | 24.05 | 28.86 | 35.55 | 40.12 | 45.91 | 49.99 |
| | 0. | 0. | -33.46 | -45.95 | C. | 0. | 0. | 0. | 0. | 0. |
| -60 | 0. | 0. | 3.61 | 16.84 | 24.38 | 29.54 | 36.38 | 41.06 | 47.05 | 0. |
| | 0. | 0. | -32.73 | -45.86 | C. | 0. | 0. | 0. | 0. | 0. |
| -50 | 0. | 0. | 5.53 | 19.02 | 26.51 | 31.65 | 38.61 | 43.20 | 49.34 | 0. |
| | 0. | 0. | -30.89 | -44.79 | C. | 0. | C. | 0. | 0. | 0. |
| -40 | 0. | 0. | 11.01 | 23.19 | 30.29 | 35.19 | 41.56 | 46.01 | 0. | 0. |
| | 0. | 0. | -27.77 | -42.29 | C. | 0. | C. | 0. | 0. | 0. |
| -30 | 0. | 0. | 17.52 | 28.15 | 34.22 | 38.54 | 44.73 | 48.79 | 0. | 0. |
| | 0. | 0. | -23.87 | -38.73 | -47.39 | 0. | 0. | 0. | 0. | 0. |
| -20 | 0. | 0. | 22.99 | 32.11 | 37.52 | 41.52 | 47.20 | 0. | 0. | 0. |
| | 0. | 0. | -19.30 | -34.03 | -43.37 | 0. | 0. | C. | 0. | 0. |
| -10 | 0. | 13.11 | 26.46 | 35.04 | 4C.13 | 43.90 | 49.50 | C. | 0. | 0. |
| | 0. | 3.31 | -14.87 | -28.89 | -38.52 | -45.74 | 0. | 0. | 0. | 0. |

* REFER TO FIGURE 34 (RM 63 TMP-2)

*Table 52 (Cont.)

| LONG (DEG) | L=1.00 LAT (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|
| -0 | 0. | 16.82 | 28.35 | 36.51 | 41.59 | 45.54 | C. | 0. | 0. | 0. |
| | C. | 2.67 | -11.99 | -24.82 | -33.98 | -41.24 | 0. | C. | 0. | 0. |
| 10 | 0. | 18.69 | 29.49 | 37.20 | 42.41 | 46.54 | -47.79 | 0. | 0. | 0. |
| | 0. | 1.70 | -11.03 | -22.44 | -3C.86 | -37.65 | C. | 0. | 0. | 0. |
| 20 | 0. | 19.78 | 30.02 | 38.05 | 43.36 | 47.28 | -45.01 | 0. | 0. | 0. |
| | 0. | 0.42 | -10.99 | -21.60 | -29.33 | -35.57 | C. | 0. | 0. | 0. |
| 30 | C. | 20.07 | 30.07 | 38.35 | 43.79 | 47.75 | -42.93 | -49.17 | 0. | 0. |
| | C. | -0.74 | -11.51 | -21.59 | -28.73 | -34.45 | 0. | 0. | 0. | 0. |
| 40 | 0. | 20.10 | 29.96 | 38.39 | 43.97 | 48.01 | -41.60 | -47.23 | 0. | 0. |
| | 0. | -1.90 | -12.37 | -21.98 | -28.63 | -33.83 | C. | C. | 0. | 0. |
| 50 | 0. | 20.28 | 30.00 | 38.48 | 44.16 | 48.24 | -4C.69 | -45.85 | 0. | 0. |
| | 0. | -3.30 | -13.26 | -22.43 | -28.71 | -33.50 | C. | 0. | 0. | 0. |
| 60 | 0. | 21.01 | 30.36 | 38.81 | 44.47 | 48.52 | -39.96 | -44.70 | 0. | 0. |
| | 0. | -4.69 | -13.89 | -22.68 | -28.66 | -33.16 | 0. | 0. | 0. | 0. |
| 70 | 0. | 22.19 | 3C.99 | 39.37 | 44.93 | 48.88 | -39.02 | -43.42 | -49.67 | 0. |
| | C. | -5.39 | -14.21 | -22.68 | -28.44 | -32.71 | 0. | C. | 0. | 0. |
| 80 | 0. | 23.58 | 31.80 | 4C.03 | 45.32 | 49.27 | -38.13 | -42.30 | -48.05 | 0. |
| | C. | -5.70 | -14.23 | -22.48 | -28.05 | -32.17 | C. | C. | 0. | 0. |
| 90 | 0. | 24.70 | 32.45 | 4C.44 | 45.65 | 49.62 | -37.41 | -41.44 | -46.85 | 0. |
| | 0. | -5.90 | -14.22 | -22.30 | -27.71 | -31.72 | C. | 0. | 0. | 0. |
| 100 | 1C.83 | 25.04 | 32.75 | 4C.67 | 45.87 | 49.89 | -36.99 | -4C.91 | -46.09 | -49.77 |
| | 8.63 | -6.22 | -14.50 | -22.37 | -27.62 | -31.51 | C. | 0. | 0. | 0. |
| 110 | C. | 24.60 | 32.63 | 4C.75 | 46.01 | -31.60 | -36.91 | -40.73 | -45.75 | -49.13 |
| | 0. | -6.69 | -15.07 | -22.73 | -27.84 | 0. | 0. | C. | 0. | 0. |
| 120 | C. | 23.65 | 32.29 | 4C.72 | 46.10 | -31.94 | -37.16 | -40.88 | -45.79 | -49.06 |
| | C. | -7.10 | -15.54 | -23.24 | -28.29 | 0. | C. | 0. | 0. | 0. |
| 130 | 0. | 22.66 | 31.88 | 4C.64 | 46.16 | -32.46 | -37.67 | -41.32 | -46.18 | -49.58 |
| | 0. | -7.15 | -15.84 | -23.74 | -28.83 | 0. | C. | 0. | 0. | 0. |
| 140 | C. | 21.70 | 31.48 | 4C.52 | 46.16 | -33.10 | -38.43 | -42.04 | -46.94 | 0. |
| | 0. | -6.82 | -15.96 | -24.19 | -29.44 | C. | C. | 0. | 0. | 0. |
| 150 | C. | 20.63 | 30.94 | 4C.27 | 46.02 | -33.99 | -39.52 | -43.15 | -48.18 | 0. |
| | 0. | -6.40 | -16.11 | -24.79 | -3C.18 | 0. | 0. | 0. | 0. | 0. |
| 160 | C. | 19.03 | 30.11 | 39.68 | 45.63 | 49.99 | -4C.72 | -44.73 | -49.99 | 0. |
| | C. | -6.45 | -16.60 | -25.57 | -31.06 | -35.19 | C. | 0. | 0. | 0. |
| 170 | C. | 16.95 | 28.58 | 38.62 | 44.93 | 49.18 | -42.20 | -46.24 | 0. | 0. |
| | 0. | -7.31 | -17.62 | -26.68 | -32.33 | -36.45 | C. | 0. | 0. | 0. |

* REFER TC FIGURE 34 (RM 63 TMP-2)

## *Table 53. Constant Magnetic Field Intensity, B (Gauss), at Altitude 0 Kilometers

| LONG (DEG) | | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) | B=0.50 LAT (DEG) | B=0.55 LAT (DEG) | B=0.60 LAT (DEG) | B=0.65 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|
| -180 | *C | 0. | 0. | 22.32 | 36.26 | 45.78 | -28.41 | -37.24 | -47.64 | 0. |
| | *W | 0. | 0. | 22.80 | 36.38 | 45.54 | -28.90 | -37.22 | -47.10 | 0. |
| | *C | 0. | 0. | -0.09 | -11.75 | -20.27 | 0. | 0. | 0. | 0. |
| | *W | 0. | 0. | -1.03 | -11.92 | -21.61 | 0. | 0. | 0. | 0. |
| -170 | *C | 0. | 0. | 20.18 | 34.58 | 44.51 | -31.58 | -40.54 | 0. | 0. |
| | *W | 0. | 0. | 20.66 | 33.77 | 44.62 | -33.22 | -43.11 | 0. | 0. |
| | *C | 0. | 0. | -2.70 | -14.65 | -23.24 | 0. | 0. | 0. | 0. |
| | *W | 0. | 0. | -3.53 | -15.16 | -24.25 | 0. | 0. | 0. | 0. |
| -160 | *C | 0. | 0. | 17.15 | 31.33 | 41.56 | -34.68 | -43.72 | 0. | 0. |
| | *W | 0. | 0. | 17.70 | 30.87 | 41.48 | -37.64 | -47.80 | 0. | 0. |
| | *C | 0. | 0. | -6.07 | -17.58 | -26.28 | 0. | 0. | 0. | 0. |
| | *W | 0. | 0. | -6.61 | -18.07 | -27.59 | 0. | 0. | 0. | 0. |
| -150 | *C | 0. | 0. | 14.89 | 27.61 | 37.52 | 47.10 | -46.99 | 0. | 0. |
| | *W | 0. | 0. | 14.73 | 27.70 | 38.10 | 47.66 | 0. | 0. | 0. |
| | *C | 0. | 0. | -9.85 | -20.84 | -29.48 | -37.90 | 0. | 0. | 0. |
| | *W | 0. | 0. | -10.58 | -21.65 | -30.84 | -40.76 | 0. | 0. | 0. |
| -140 | *C | 0. | 0. | 12.66 | 24.15 | 33.26 | 42.28 | 0. | 0. | 0. |
| | *W | 0. | 0. | 11.72 | 23.56 | 33.74 | 42.67 | 0. | 0. | 0. |
| | *C | 0. | 0. | -13.59 | -24.30 | -32.90 | -41.37 | 0. | 0. | 0. |
| | *W | 0. | 0. | -14.21 | -25.19 | -33.83 | -46.59 | 0. | 0. | 0. |
| -130 | *C | 0. | 0. | 10.84 | 21.08 | 29.41 | 37.65 | 47.38 | 0. | 0. |
| | *W | 0. | 0. | 9.18 | 20.30 | 29.21 | 38.27 | 48.10 | 0. | 0. |
| | *C | 0. | 0. | -17.51 | -27.94 | -36.64 | -45.29 | 0. | 0. | 0. |
| | *W | 0. | 0. | -17.73 | -28.61 | -37.86 | 0. | 0. | 0. | 0. |
| -120 | *C | 0. | 0. | 8.92 | 18.34 | 26.10 | 33.68 | 42.38 | 0. | 0. |
| | *W | 0. | 0. | 7.12 | 17.56 | 25.68 | 34.17 | 43.61 | 0. | 0. |
| | *C | 0. | 0. | -21.52 | -31.96 | -40.94 | -49.92 | 0. | 0. | 0. |
| | *W | 0. | 0. | -21.02 | -32.02 | -41.54 | 0. | 0. | 0. | 0. |
| -110 | *C | 0. | 0. | 6.95 | 15.90 | 23.26 | 30.44 | 38.51 | 0. | 0. |
| | *W | 0. | 0. | 5.71 | 15.61 | 22.92 | 30.21 | 39.18 | 0. | 0. |

* REFER TO FIGURE 35 (RM 63 IMP-2)

*C COMPUTED WITH 48 COEFFICIENTS OF JENSEN AND CAIN
*W COMPUTED WITH 512 COEFFICIENTS OF JENSEN AND WHITAKER

*Table 53 (Cont.)

| LONG (DEG) | | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) | B=0.50 LAT (DEG) | B=0.55 LAT (DEG) | B=0.60 LAT (DEG) | B=0.65 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|
| | *C | 0. | 0. | -26.03 | -36.73 | -46.03 | 0. | 0. | 0. | 0. |
| | *W | 0. | 0. | -25.03 | -35.84 | -45.59 | 0. | 0. | 0. | 0. |
| -100 | *C | 0. | 0. | 5.21 | 13.64 | 20.86 | 27.92 | 35.77 | 47.46 | 0. |
| | *W | 0. | 0. | 4.67 | 13.52 | 20.49 | 27.52 | 35.78 | 49.26 | 0. |
| | *C | 0. | 0. | -31.75 | -42.51 | 0. | 0. | 0. | 0. | 0. |
| | *W | 0. | 0. | -30.28 | -41.27 | 0. | 0. | 0. | 0. | 0. |
| -90 | *C | 0. | -10.57 | 3.61 | 11.82 | 19.00 | 26.19 | 34.28 | 46.77 | 0. |
| | *W | 0. | -11.75 | 3.29 | 11.75 | 18.70 | 26.18 | 34.75 | 0. | 0. |
| | *C | 0. | -21.84 | -38.76 | -48.62 | 0. | 0. | 0. | 0. | 0. |
| | *W | 0. | -18.70 | -37.15 | -47.27 | 0. | 0. | 0. | 0. | 0. |
| -80 | *C | 0. | -8.05 | 2.92 | 10.86 | 18.14 | 25.68 | 34.57 | 0. | 0. |
| | *W | 0. | -8.71 | 2.21 | 10.68 | 17.98 | 26.04 | 35.10 | 0. | 0. |
| | *C | 0. | -33.25 | -45.47 | 0. | 0. | 0. | 0. | 0. | 0. |
| | *W | 0. | -32.00 | -43.96 | 0. | 0. | 0. | 0. | 0. | 0. |
| -70 | *C | 0. | -6.10 | 3.44 | 11.30 | 18.91 | 27.22 | 37.84 | 0. | 0. |
| | *W | 0. | -6.63 | 2.82 | 11.30 | 19.04 | 27.73 | 37.78 | 0. | 0. |
| | *C | 0. | -41.04 | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| | *W | 0. | -40.78 | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| -60 | *C | -20.78 | -3.83 | 5.47 | 13.62 | 21.93 | 31.46 | 45.40 | 0. | 0. |
| | *W | -24.10 | -4.67 | 4.68 | 13.87 | 22.15 | 31.98 | 44.82 | 0. | 0. |
| | *C | -30.16 | -46.01 | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| | *W | -31.16 | -45.69 | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| -50 | *C | -16.32 | -0.89 | 8.94 | 17.81 | 27.06 | 38.27 | 0. | 0. | 0. |
| | *W | -18.09 | -2.42 | 7.84 | 17.37 | 26.31 | 38.22 | 0. | 0. | 0. |
| | *C | -36.10 | -49.06 | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| | *W | -35.49 | -47.48 | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| -40 | *C | -16.36 | 2.36 | 13.24 | 22.83 | 32.93 | 46.02 | 0. | 0. | 0. |
| | *W | -18.15 | 0.22 | 10.77 | 22.12 | 32.21 | 44.81 | 0. | 0. | 0. |
| | *C | -37.08 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| | *W | -35.43 | -48.04 | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| -30 | *C | 0. | 5.20 | 17.03 | 27.10 | 37.88 | 0. | 0. | 0. | 0. |
| | *W | 0. | 2.49 | 15.41 | 27.46 | 36.16 | 0. | 0. | 0. | 0. |

* REFER TO FIGURE 35 (RM 63 TMP-2)

*C COMPUTED WITH 48 COEFFICIENTS OF JENSEN AND CAIN
*W COMPUTED WITH 512 COEFFICIENTS OF JENSEN AND WHITAKER

*Table 53 (Cont.)

| LONG (DEG) | | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) | B=0.50 LAT (DEG) | B=0.55 LAT (DEG) | B=0.60 LAT (DEG) | B=0.65 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|
| | *C | 0. | 0. | 0. | C. | 0. | 0. | 0. | C. | 0. |
| | *W | 0. | -47.89 | C. | C. | 0. | 0. | 0. | C. | 0. |
| -20 | *C | 0. | 6.13 | 19.33 | 29.72 | 41.18 | 0. | 0. | 0. | 0. |
| | *W | 0. | 4.60 | 19.49 | 29.09 | 38.40 | C. | 0. | 0. | 0. |
| | *C | 0. | 0. | C. | C. | 0. | 0. | C. | 0. | C. |
| | *W | C. | -46.87 | C. | C. | 0. | 0. | 0. | 0. | 0. |
| -10 | *C | 0. | 4.13 | 20.09 | 30.85 | 42.92 | 0. | 0. | 0. | C. |
| | *W | C. | 0.23 | 20.19 | 30.42 | 42.63 | 0. | 0. | 0. | C. |
| | *C | 0. | 0. | 0. | C. | 0. | 0. | 0. | 0. | C. |
| | *W | 0. | -1.17 | 0. | C. | 0. | 0. | 0. | 0. | C. |
| | *C | 0. | C. | C. | C. | 0. | 0. | 0. | C. | C. |
| | *W | 0. | -19.29 | 0. | C. | 0. | C. | 0. | 0. | 0. |
| | *C | 0. | 0. | C. | C. | 0. | 0. | 0. | C. | C. |
| | *W | 0. | -45.43 | 0. | C. | 0. | C. | 0. | 0. | 0. |
| 0 | *C | 0. | -25.50 | 19.61 | 30.85 | 43.16 | 0. | 0. | 0. | C. |
| | *W | 0. | -32.05 | 18.75 | 30.79 | 44.77 | 0. | 0. | 0. | C. |
| | *C | 0. | -47.84 | C. | C. | 0. | 0. | 0. | 0. | C. |
| | *W | 0. | -40.77 | C. | C. | 0. | 0. | 0. | 0. | C. |
| 10 | *C | 0. | -38.79 | 18.01 | 29.95 | 42.09 | 0. | 0. | 0. | C. |
| | *W | 0. | 0. | 17.14 | 29.15 | 43.34 | 0. | 0. | 0. | C. |
| | *C | 0. | -41.52 | 0. | C. | 0. | C. | 0. | 0. | C. |
| | *W | 0. | 0. | C. | C. | 0. | 0. | 0. | 0. | C. |
| 20 | *C | 0. | 0. | 15.41 | 28.12 | 39.71 | C. | 0. | 0. | C. |
| | *W | 0. | 0. | 16.40 | 28.50 | 41.34 | 0. | 0. | 0. | C. |
| | *C | 0. | 0. | 0. | C. | 0. | 0. | 0. | C. | C. |
| | *W | 0. | 0. | -47.33 | C. | 0. | 0. | 0. | 0. | C. |
| 30 | *C | 0. | C. | 11.28 | 25.38 | 36.43 | 0. | 0. | C. | 0. |
| | *W | 0. | 0. | 12.24 | 26.19 | 38.77 | C. | 0. | 0. | C. |
| | *C | 0. | 0. | C. | C. | 0. | 0. | 0. | 0. | C. |
| | *W | 0. | C. | -43.44 | C. | 0. | 0. | 0. | C. | C. |

* REFER TO FIGURE 35 (RM 63 TMP-2)

*C COMPUTED WITH 48 COEFFICIENTS OF JENSEN AND CAIN
*W COMPUTED WITH 512 COEFFICIENTS OF JENSEN AND WHITAKER

*Table 53 (Cont.)

| LONG (DEG) | | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) | B=0.50 LAT (DEG) | B=0.55 LAT (DEG) | B=0.60 LAT (DEG) | B=0.65 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|
| 40 | *C | 0. | 0. | 6.46 | 22.00 | 32.52 | 45.82 | 0. | 0. | 0. |
| | *W | 0. | 0. | 8.30 | 23.24 | 34.82 | 0. | 0. | 0. | 0. |
| | *C | 0. | 0. | -47.22 | 0. | 0. | 0. | 0. | 0. | 0. |
| | *W | 0. | 0. | -15.01 | 0. | 0. | 0. | 0. | 0. | 0. |
| | *C | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| | *W | 0. | 0. | -22.74 | 0. | 0. | 0. | 0. | 0. | 0. |
| | *C | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| | *W | 0. | 0. | -37.04 | 0. | 0. | 0. | 0. | 0. | 0. |
| 50 | *C | 0. | 0. | 0. | 18.72 | 28.78 | 39.83 | 0. | 0. | 0. |
| | *W | 0. | 0. | 4.60 | 20.67 | 31.22 | 44.33 | 0. | 0. | 0. |
| | *C | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| | *W | 0. | 0. | -1.74 | -47.05 | 0. | 0. | 0. | 0. | 0. |
| 60 | *C | 0. | 0. | 0. | 15.83 | 25.89 | 35.61 | 0. | 0. | 0. |
| | *W | 0. | 0. | 0. | 17.73 | 27.81 | 38.77 | 0. | 0. | 0. |
| | *C | 0. | 0. | 0. | -37.57 | 0. | 0. | 0. | 0. | 0. |
| | *W | 0. | 0. | 0. | -37.83 | 0. | 0. | 0. | 0. | 0. |
| 70 | *C | 0. | 0. | 0. | 12.64 | 23.88 | 32.90 | 43.98 | 0. | 0. |
| | *W | 0. | 0. | 0. | 15.62 | 25.71 | 36.01 | 48.61 | 0. | 0. |
| | *C | 0. | 0. | 0. | -9.20 | -39.33 | 0. | 0. | 0. | 0. |
| | *W | 0. | 0. | 0. | -17.74 | -40.90 | 0. | 0. | 0. | 0. |
| 80 | *C | 0. | 0. | 0. | 5.14 | 22.55 | 31.26 | 40.59 | 0. | 0. |
| | *W | 0. | 0. | 0. | 11.77 | 23.76 | 34.30 | 44.43 | 0. | 0. |
| | *C | 0. | 0. | 0. | 4.92 | -16.35 | -39.03 | 0. | 0. | 0. |
| | *W | 0. | 0. | 0. | -3.19 | -24.03 | -44.40 | 0. | 0. | 0. |
| 90 | *C | 0. | 0. | 0. | 0. | 21.81 | 30.39 | 38.97 | 0. | 0. |
| | *W | 0. | 0. | 0. | 0. | 22.71 | 32.44 | 41.68 | 0. | 0. |
| | *C | 0. | 0. | 0. | 0. | -9.39 | -22.22 | -40.84 | 0. | 0. |
| | *W | 0. | 0. | 0. | 0. | -13.19 | -29.11 | 0. | 0. | 0. |
| 100 | *C | 0. | 0. | 0. | 0. | 21.79 | 30.29 | 38.61 | -47.20 | 0. |
| | *W | 0. | 0. | 0. | 0. | 23.14 | 31.52 | 39.70 | 0. | 0. |

* REFER TO FIGURE 35 (RM 63 TMP-2)

*C COMPUTED WITH 48 COEFFICIENTS OF JENSEN AND CAIN
*W COMPUTED WITH 512 COEFFICIENTS OF JENSEN AND WHITAKER

*Table 53 (Cont.)

| LONG (DEG) | | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) | B=0.50 LAT (DEG) | B=0.55 LAT (DEG) | B=0.60 LAT (DEG) | B=0.65 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|
| | *C | 0. | 0. | 0. | 0. | -7.38 | -17.64 | -28.62 | 0. | 0. |
| | *W | 0. | 0. | 0. | 0. | -9.53 | -21.16 | -33.74 | 0. | 0. |
| 110 | *C | 0. | 0. | 0. | 0. | 22.77 | 31.24 | 39.62 | -36.18 | 0. |
| | *W | 0. | 0. | 0. | 0. | 23.92 | 32.02 | 40.08 | -43.81 | 0. |
| | *C | 0. | 0. | 0. | 0. | -7.72 | -16.62 | -25.25 | 0. | 0. |
| | *W | 0. | 0. | 0. | 0. | -9.24 | -18.13 | -26.99 | 0. | 0. |
| 120 | *C | 0. | 0. | 0. | 11.94 | 25.16 | 33.59 | 42.58 | -33.39 | -49.07 |
| | *W | 0. | 0. | 0. | 13.52 | 25.93 | 34.19 | 42.66 | -35.29 | 0. |
| | *C | 0. | 0. | 0. | 3.87 | -8.84 | -16.83 | -24.47 | 0. | 0. |
| | *W | 0. | 0. | 0. | 1.11 | -10.16 | -17.81 | -25.64 | 0. | 0. |
| 130 | *C | 0. | 0. | 0. | 17.91 | 28.85 | 37.58 | 47.39 | -33.04 | -45.51 |
| | *W | 0. | 0. | 0. | 18.51 | 29.20 | 37.48 | 46.32 | -34.61 | -48.97 |
| | *C | 0. | 0. | 0. | -0.11 | -10.03 | -17.45 | -24.71 | 0. | 0. |
| | *W | 0. | 0. | 0. | -1.84 | -11.04 | -18.83 | -26.63 | 0. | 0. |
| 140 | *C | 0. | 0. | 0. | 23.69 | 33.74 | 42.71 | -25.71 | -34.07 | -46.50 |
| | *W | 0. | 0. | 0. | 23.62 | 33.44 | 42.64 | -27.01 | -34.64 | -47.75 |
| | *C | 0. | 0. | 0. | -2.18 | -11.13 | -18.43 | 0. | 0. | 0. |
| | *W | 0. | 0. | 0. | -3.48 | -11.96 | -19.72 | 0. | 0. | 0. |
| 150 | *C | 0. | 0. | 0. | 29.20 | 38.77 | 47.82 | -27.57 | -36.45 | -49.55 |
| | *W | 0. | 0. | 0. | 28.38 | 39.09 | 47.59 | -28.01 | -37.66 | 0. |
| | *C | 0. | 0. | 0. | -4.30 | -12.61 | -19.97 | 0. | 0. | 0. |
| | *W | 0. | 0. | 0. | -5.33 | -13.66 | -21.14 | 0. | 0. | 0. |
| 160 | *C | 0. | 0. | 19.19 | 33.47 | 42.81 | -22.29 | -30.27 | -39.83 | 0. |
| | *W | 0. | 0. | 19.45 | 32.67 | 42.56 | -23.26 | -29.81 | -42.65 | 0. |
| | *C | 0. | 0. | 6.74 | -6.48 | -14.73 | 0. | 0. | 0. | 0. |
| | *W | 0. | 0. | 4.88 | -7.11 | -15.95 | 0. | 0. | 0. | 0. |
| 170 | *C | 0. | 0. | 22.44 | 35.95 | 45.23 | -25.20 | -33.69 | -43.84 | 0. |
| | *W | 0. | 0. | 22.46 | 35.72 | 44.46 | -25.84 | -32.65 | -44.95 | 0. |
| | *C | 0. | 0. | 3.02 | -9.02 | -17.34 | 0. | 0. | 0. | 0. |
| | *W | 0. | 0. | 2.01 | -8.85 | -18.56 | 0. | 0. | 0. | 0. |

* REFER TO FIGURE 35 (RM 63 TMP-2)
*C COMPUTED WITH 48 COEFFICIENTS OF JENSEN AND CAIN
*W COMPUTED WITH 512 COEFFICIENTS OF JENSEN AND WHITAKER

## *Table 54. Constant Magnetic Shell Parameter, L (Earth Radii), at Altitude 0 Kilometers

| LONG (DEG) | | L=1.00 LAT (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| -180 | *C | 11.94 | 22.90 | 31.91 | 4C.97 | 4E.63 | -40.32 | -45.70 | -49.60 | 0. | 0. |
| | *W | 11.38 | 22.43 | 31.49 | 4C.64 | 46.32 | -40.40 | -45.91 | 0. | 0. | 0. |
| | *C | -6.58 | -16.03 | -23.53 | -31.24 | -36.37 | C. | C. | 0. | 0. | 0. |
| | *W | -6.43 | -15.95 | -23.55 | -31.33 | -3E.45 | 0. | 0. | 0. | 0. | 0. |
| -170 | *C | 9.87 | 20.72 | 29.98 | 39.17 | 45.18 | 49.34 | -47.73 | C. | 0. | 0. |
| | *W | 9.72 | 20.76 | 29.91 | 38.98 | 45.00 | 49.07 | -47.90 | 0. | 0. | 0. |
| | *C | -8.26 | -17.76 | -25.47 | -33.13 | -38.34 | -42.18 | C. | 0. | 0. | 0. |
| | *W | -7.55 | -17.30 | -25.15 | -32.87 | -38.19 | -42.15 | C. | 0. | 0. | 0. |
| -160 | *C | 7.49 | 18.76 | 27.82 | 37.11 | 43.10 | 47.35 | 0. | 0. | 0. | 0. |
| | *W | 7.94 | 19.13 | 28.09 | 37.16 | 43.05 | 47.26 | 0. | C. | 0. | 0. |
| | *C | -9.54 | -19.43 | -27.06 | -35.16 | -4C.42 | -44.36 | C. | 0. | 0. | 0. |
| | *W | -8.36 | -18.56 | -26.42 | -34.62 | -4C.12 | -44.14 | 0. | 0. | 0. | 0. |
| -150 | *C | 5.61 | 17.07 | 26.13 | 35.31 | 41.12 | 45.46 | C. | 0. | 0. | 0. |
| | *W | 6.39 | 17.75 | 26.57 | 35.54 | 41.26 | 45.52 | 0. | 0. | 0. | 0. |
| | *C | -1C.14 | -20.67 | -28.71 | -36.83 | -42.26 | -46.34 | C. | 0. | 0. | 0. |
| | *W | -8.69 | -19.79 | -27.85 | -3E.19 | -41.72 | -45.97 | C. | 0. | 0. | 0. |
| -140 | *C | 3.16 | 15.69 | 24.66 | 33.38 | 39.16 | 43.24 | 49.13 | 0. | 0. | 0. |
| | *W | 5.14 | 16.55 | 25.28 | 33.76 | 39.47 | 43.46 | 49.26 | 0. | 0. | 0. |
| | *C | -1C.17 | -21.69 | -3C.28 | -38.62 | -44.29 | -48.40 | C. | C. | 0. | 0. |
| | *W | -8.82 | -20.65 | -29.31 | -37.80 | -43.56 | -47.89 | 0. | 0. | 0. | 0. |
| -130 | *C | C.93 | 14.34 | 23.10 | 31.64 | 37.13 | 41.19 | 46.78 | C. | 0. | 0. |
| | *W | 3.21 | 15.52 | 23.84 | 32.03 | 37.42 | 41.40 | 46.96 | 0. | 0. | 0. |
| | *C | -9.58 | -22.57 | -31.47 | -4C.40 | -46.17 | 0. | 0. | 0. | 0. | 0. |
| | *W | -8.34 | -21.51 | -3C.64 | -39.61 | -45.54 | C. | C. | 0. | 0. | 0. |
| -120 | *C | -2.06 | 13.00 | 21.69 | 3C.12 | 35.39 | 39.22 | 44.78 | 48.41 | 0. | 0. |
| | *W | 1.21 | 14.21 | 22.34 | 3C.45 | 35.61 | 39.47 | 45.02 | 48.62 | 0. | 0. |
| | *C | -7.77 | -23.29 | -32.70 | -42.00 | -48.11 | 0. | C. | 0. | 0. | 0. |
| | *W | -8.03 | -22.50 | -31.93 | -41.32 | -47.47 | 0. | 0. | C. | 0. | 0. |
| -110 | *C | -4.52 | 11.68 | 20.33 | 28.22 | 33.38 | 37.11 | 42.45 | 46.22 | 0. | 0. |
| | *W | -C.68 | 12.54 | 20.82 | 28.58 | 33.61 | 37.28 | 42.62 | 46.37 | 0. | 0. |
| | *C | -5.76 | -24.11 | -34.10 | -43.87 | C. | 0. | C. | 0. | 0. | 0. |
| | *W | -8.19 | -23.67 | -33.55 | -43.29 | -49.76 | C. | C. | C. | 0. | 0. |

* REFER TO FIGURE 36 (RM 63 TMP-2)

*C COMPUTED WITH 48 COEFFICIENTS OF JENSEN AND CAIN
*W COMPUTED WITH 512 COEFFICIENTS OF JENSEN AND WHITAKER

*Table 54 (Cont.)

| LONG (DEG) | | L=1.00 LAT (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| -100 | *C | 0. | 10.12 | 18.39 | 26.33 | 31.44 | 35.32 | 40.60 | 44.34 | 49.41 | 0. |
| | *W | 0. | 10.67 | 18.89 | 26.60 | 31.60 | 35.43 | 40.69 | 44.45 | 49.50 | 0. |
| | *C | 0. | -25.20 | -35.65 | -45.79 | 0. | 0. | 0. | 0. | 0. | 0. |
| | *W | 0. | -25.23 | -35.47 | -45.49 | 0. | 0. | 0. | 0. | 0. | 0. |
| -90 | *C | 0. | 7.27 | 16.13 | 24.35 | 29.62 | 33.33 | 38.83 | 42.55 | 47.68 | 0. |
| | *W | 0. | 7.71 | 16.41 | 24.53 | 29.73 | 33.44 | 38.89 | 42.56 | 47.67 | 0. |
| | *C | 0. | -26.23 | -37.20 | -47.51 | 0. | 0. | 0. | 0. | 0. | 0. |
| | *W | 0. | -26.53 | -37.28 | -47.41 | 0. | 0. | 0. | 0. | 0. | 0. |
| -80 | *C | 0. | 3.73 | 13.47 | 22.20 | 27.78 | 31.84 | 37.55 | 41.55 | 46.86 | 0. |
| | *W | 0. | 4.08 | 13.56 | 22.17 | 27.71 | 31.78 | 37.49 | 41.47 | 46.76 | 0. |
| | *C | 0. | -26.87 | -38.51 | -48.95 | 0. | 0. | 0. | 0. | 0. | 0. |
| | *W | 0. | -27.32 | -38.90 | -49.15 | 0. | 0. | 0. | 0. | 0. | 0. |
| -70 | *C | 0. | -0.40 | 11.06 | 20.88 | 26.89 | 31.29 | 37.34 | 41.54 | 47.07 | 0. |
| | *W | 0. | -0.48 | 10.84 | 20.59 | 26.59 | 31.04 | 37.13 | 41.35 | 46.88 | 0. |
| | *C | 0. | -26.39 | -39.00 | -49.72 | 0. | 0. | 0. | 0. | 0. | 0. |
| | *W | 0. | -27.14 | -39.76 | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| -60 | *C | 0. | -3.68 | 10.20 | 21.05 | 27.52 | 32.13 | 38.50 | 42.75 | 48.46 | 0. |
| | *W | 0. | -4.93 | 9.41 | 20.42 | 27.02 | 31.75 | 38.24 | 42.58 | 48.34 | 0. |
| | *C | 0. | -24.43 | -38.25 | -49.48 | 0. | 0. | 0. | 0. | 0. | 0. |
| | *W | 0. | -25.61 | -39.40 | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| -50 | *C | 0. | -0.27 | 12.58 | 23.35 | 30.05 | 34.60 | 40.81 | 45.18 | 0. | 0. |
| | *W | 0. | -2.90 | 11.14 | 22.73 | 29.60 | 34.21 | 40.65 | 45.11 | 0. | 0. |
| | *C | 0. | -21.28 | -36.18 | -48.09 | 0. | 0. | 0. | 0. | 0. | 0. |
| | *W | 0. | -22.71 | -37.59 | -49.18 | 0. | 0. | 0. | 0. | 0. | 0. |
| -40 | *C | 0. | 7.24 | 18.30 | 27.28 | 33.16 | 37.48 | 43.56 | 47.62 | 0. | 0. |
| | *W | 0. | 5.55 | 17.51 | 27.00 | 33.26 | 37.65 | 43.62 | 47.70 | 0. | 0. |
| | *C | 0. | -18.09 | -32.73 | -45.66 | 0. | 0. | 0. | 0. | 0. | 0. |
| | *W | 0. | -20.16 | -34.62 | -46.85 | 0. | 0. | 0. | 0. | 0. | 0. |
| -30 | *C | 0. | 13.56 | 23.12 | 31.36 | 36.56 | 40.57 | 46.26 | 0. | 0. | 0. |
| | *W | 0. | 14.38 | 23.94 | 31.90 | 37.01 | 41.12 | 46.61 | 0. | 0. | 0. |
| | *C | 0. | -14.95 | -28.43 | -41.86 | 0. | 0. | 0. | 0. | 0. | 0. |
| | *W | 0. | -16.75 | -30.37 | -43.27 | 0. | 0. | 0. | 0. | 0. | 0. |
| -20 | *C | 0. | 18.24 | 26.90 | 34.79 | 39.66 | 43.12 | 48.65 | 0. | 0. | 0. |
| | *W | 0. | 21.02 | 28.89 | 35.88 | 40.47 | 44.07 | 49.23 | 0. | 0. | 0. |

* REFER TO FIGURE 36 (RM 63 TMP-2)

*C COMPUTED WITH 48 COEFFICIENTS OF JENSEN AND CAIN
*W COMPUTED WITH 512 COEFFICIENTS OF JENSEN AND WHITAKER

*Table 54 (Cont.)

| LONG (DEG) | | L=1.00 LAT (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | *C | 0. | -11.76 | -24.11 | -37.27 | -46.46 | 0. | 0. | 0. | 0. | 0. |
| | *W | 0. | -12.72 | -25.26 | -38.18 | -47.12 | 0. | 0. | 0. | 0. | 0. |
| -10 | *C | 0. | 21.96 | 30.10 | 37.16 | 41.79 | 45.37 | 0. | 0. | 0. | 0. |
| | *W | 10.44 | 24.96 | 31.70 | 38.25 | 42.70 | 46.21 | 0. | 0. | 0. | 0. |
| | *C | 0. | -9.56 | -20.49 | -32.67 | -41.84 | -48.99 | 0. | 0. | 0. | 0. |
| | *W | 9.57 | -8.54 | -19.91 | -32.44 | -41.84 | -49.01 | 0. | 0. | 0. | 0. |
| 0 | *C | 11.79 | 25.11 | 32.13 | 39.16 | 43.63 | 46.91 | 0. | 0. | 0. | 0. |
| | *W | 16.20 | 26.45 | 33.21 | 39.82 | 44.23 | 47.67 | 0. | 0. | 0. | 0. |
| | *C | 6.98 | -7.80 | -17.67 | -28.85 | -37.43 | -44.57 | 0. | 0. | 0. | 0. |
| | *W | 6.12 | -6.55 | -16.40 | -27.67 | -36.67 | -44.10 | 0. | 0. | 0. | 0. |
| 10 | *C | 17.09 | 26.85 | 33.70 | 40.46 | 45.00 | 47.95 | 0. | 0. | 0. | 0. |
| | *W | 17.84 | 27.29 | 34.01 | 40.21 | 45.12 | 48.74 | 0. | 0. | 0. | 0. |
| | *C | 4.36 | -6.73 | -15.84 | -26.08 | -33.99 | -40.65 | 0. | 0. | 0. | 0. |
| | *W | 4.10 | -6.46 | -15.11 | -25.06 | -33.11 | -40.07 | 0. | 0. | 0. | 0. |
| 20 | *C | 19.49 | 27.82 | 34.52 | 41.04 | 45.55 | 48.79 | -47.65 | 0. | 0. | 0. |
| | *W | 18.71 | 27.56 | 34.35 | 41.02 | 45.69 | 49.49 | -47.02 | 0. | 0. | 0. |
| | *C | 3.35 | -6.57 | -15.09 | -24.55 | -31.78 | -37.86 | 0. | 0. | 0. | 0. |
| | *W | 2.81 | -6.79 | -14.87 | -24.06 | -31.45 | -37.65 | 0. | 0. | 0. | 0. |
| 30 | *C | 20.06 | 27.83 | 34.52 | 41.17 | 45.83 | 49.44 | -45.27 | 0. | 0. | 0. |
| | *W | 18.94 | 27.38 | 34.36 | 41.30 | 46.11 | 49.93 | -45.05 | 0. | 0. | 0. |
| | *C | 1.73 | -7.34 | -15.34 | -24.18 | -30.85 | -36.36 | 0. | 0. | 0. | 0. |
| | *W | 1.11 | -7.59 | -15.40 | -24.09 | -30.85 | -36.45 | 0. | 0. | 0. | 0. |
| 40 | *C | 19.37 | 27.20 | 34.04 | 41.06 | 45.92 | 49.73 | -43.62 | -49.74 | 0. | 0. |
| | *W | 18.78 | 27.04 | 34.04 | 41.23 | 46.17 | -35.80 | -43.50 | -49.19 | 0. | 0. |
| | *C | -0.46 | -8.83 | -16.25 | -24.61 | -30.74 | -35.73 | 0. | 0. | 0. | 0. |
| | *W | -0.17 | -8.82 | -16.26 | -24.60 | -30.74 | 0. | 0. | 0. | 0. | 0. |
| 50 | *C | 18.91 | 26.79 | 33.74 | 41.05 | 46.04 | 49.96 | -42.45 | -47.82 | 0. | 0. |
| | *W | 18.76 | 26.85 | 33.83 | 41.20 | 46.24 | -35.52 | -42.44 | -47.56 | 0. | 0. |

* REFER TO FIGURE 36 (RM 63 TMP-2)

*C COMPUTED WITH 48 COEFFICIENTS OF JENSEN AND CAIN
*W COMPUTED WITH 512 COEFFICIENTS OF JENSEN AND WHITAKER

*Table 54 (Cont.)

| LONG (DEG) | | L=1.00 LAT (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | *C | -2.22 | -10.34 | -17.25 | -25.19 | -30.84 | -35.44 | 0. | 0. | 0. | 0. |
| | *W | -1.60 | -10.10 | -17.10 | -25.17 | -30.88 | 0. | 0. | 0. | 0. | 0. |
| 60 | *C | 20.12 | 27.35 | 34.22 | 41.38 | 46.32 | -35.09 | -41.42 | -46.25 | 0. | 0. |
| | *W | 19.99 | 27.30 | 34.17 | 41.42 | 46.45 | -35.24 | -41.57 | -46.26 | 0. | 0. |
| | *C | -3.77 | -11.14 | -17.86 | -25.45 | -30.79 | 0. | 0. | 0. | 0. | 0. |
| | *W | -3.07 | -10.82 | -17.64 | -25.43 | -30.88 | 0. | 0. | 0. | 0. | 0. |
| 70 | *C | 21.84 | 28.69 | 35.19 | 41.95 | 46.75 | -34.44 | -40.43 | -44.89 | 0. | 0. |
| | *W | 21.16 | 28.11 | 34.84 | 41.87 | 46.80 | -34.80 | -40.71 | -45.11 | 0. | 0. |
| | *C | -4.58 | -11.38 | -17.94 | -25.33 | -30.46 | 0. | 0. | 0. | 0. | 0. |
| | *W | -4.00 | -11.14 | -17.85 | -25.45 | -30.68 | 0. | 0. | 0. | 0. | 0. |
| 80 | *C | 23.61 | 30.06 | 35.97 | 42.56 | 47.21 | -33.67 | -39.36 | -43.35 | -49.13 | 0. |
| | *W | 22.62 | 29.27 | 35.59 | 42.42 | 47.21 | -34.14 | -39.87 | -43.75 | -49.41 | 0. |
| | *C | -4.77 | -11.30 | -17.74 | -25.04 | -30.01 | 0. | 0. | 0. | 0. | 0. |
| | *W | -4.50 | -11.23 | -17.82 | -25.26 | -30.33 | 0. | 0. | 0. | 0. | 0. |
| 90 | *C | 24.61 | 30.64 | 36.48 | 43.01 | 47.60 | -33.10 | -38.44 | -42.20 | -47.47 | 0. |
| | *W | 23.80 | 30.17 | 36.14 | 42.85 | 47.55 | -33.56 | -38.98 | -42.68 | -47.94 | 0. |
| | *C | -5.02 | -11.36 | -17.69 | -24.81 | -29.59 | 0. | 0. | 0. | 0. | 0. |
| | *W | -4.78 | -11.27 | -17.73 | -25.04 | -30.00 | 0. | 0. | 0. | 0. | 0. |
| 100 | *C | 24.51 | 30.66 | 36.62 | 43.26 | 47.88 | -32.90 | -37.95 | -41.55 | -46.47 | 0. |
| | *W | 24.07 | 30.43 | 36.41 | 43.11 | 47.79 | -33.31 | -38.45 | -42.07 | -47.00 | 0. |
| | *C | -5.47 | -11.80 | -18.05 | -24.99 | -29.56 | 0. | 0. | 0. | 0. | 0. |
| | *W | -5.17 | -11.59 | -18.00 | -25.12 | -29.91 | 0. | 0. | 0. | 0. | 0. |
| 110 | *C | 23.57 | 30.27 | 36.49 | 43.37 | 48.10 | -33.06 | -37.90 | -41.35 | -46.05 | -49.31 |
| | *W | 23.31 | 30.13 | 36.35 | 43.22 | 47.96 | -33.40 | -38.33 | -41.79 | -46.57 | -49.31 |
| | *C | -6.06 | -12.48 | -18.69 | -25.36 | -29.90 | 0. | 0. | 0. | 0. | 0. |
| | *W | -5.69 | -12.27 | -18.68 | -25.51 | -30.15 | 0. | 0. | 0. | 0. | 0. |

* REFER TO FIGURE 36 (RM 63 TMP-2)

*C COMPUTED WITH 48 COEFFICIENTS OF JENSEN AND CAIN

*W COMPUTED WITH 512 COEFFICIENTS OF JENSEN AND WHITAKER

*Table 54 (Cont.)

| LONG (DEG) | | L=1.00 LAT (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 120 | *C | 22.40 | 29.71 | 36.30 | 43.48 | 48.35 | -33.43 | -38.16 | -41.50 | -46.08 | -49.23 |
| | *W | 22.04 | 29.38 | 36.09 | 43.25 | 48.13 | -33.86 | -38.66 | -41.98 | -46.61 | 0. |
| | *C | -6.36 | -12.99 | -19.26 | -25.77 | -30.27 | 0. | 0. | 0. | 0. | 0. |
| | *W | -6.14 | -13.00 | -19.45 | -26.02 | -30.56 | 0. | 0. | 0. | 0. | 0. |
| 130 | *C | 21.46 | 29.22 | 36.23 | 43.67 | 48.65 | -33.93 | -38.69 | -41.96 | -46.50 | -49.80 |
| | *W | 20.85 | 28.65 | 35.82 | 43.26 | 48.30 | -34.56 | -39.33 | -42.52 | -47.06 | 0. |
| | *C | -6.01 | -13.00 | -19.52 | -26.09 | -30.63 | 0. | 0. | 0. | 0. | 0. |
| | *W | -6.11 | -13.34 | -19.96 | -26.53 | -31.09 | 0. | 0. | 0. | 0. | 0. |
| 140 | *C | 20.65 | 28.85 | 36.20 | 43.84 | 48.90 | -34.61 | -39.52 | -42.76 | -47.35 | 0. |
| | *W | 19.64 | 28.04 | 35.58 | 43.28 | 48.46 | -35.23 | -40.15 | -43.38 | -47.96 | 0. |
| | *C | -5.08 | -12.56 | -19.49 | -26.37 | -31.05 | 0. | 0. | 0. | 0. | 0. |
| | *W | -5.56 | -13.26 | -20.15 | -26.96 | -31.63 | 0. | 0. | 0. | 0. | 0. |
| 150 | *C | 19.35 | 28.23 | 35.96 | 43.79 | 48.95 | -35.45 | -40.53 | -44.04 | -48.75 | 0. |
| | *W | 17.89 | 27.27 | 35.22 | 43.13 | 48.45 | -35.95 | -40.99 | -44.70 | -49.45 | 0. |
| | *C | -3.61 | -12.18 | -19.61 | -26.85 | -31.73 | 0. | 0. | 0. | 0. | 0. |
| | *W | -4.69 | -13.09 | -20.37 | -27.52 | -32.33 | 0. | 0. | 0. | 0. | 0. |
| 160 | *C | 17.15 | 27.04 | 35.29 | 43.33 | 48.62 | -36.59 | -41.82 | -45.60 | 0. | 0. |
| | *W | 16.08 | 26.11 | 34.42 | 42.66 | 48.10 | -37.02 | -42.25 | -46.01 | 0. | 0. |
| | *C | -3.26 | -12.55 | -20.31 | -27.83 | -32.87 | 0. | 0. | 0. | 0. | 0. |
| | *W | -4.39 | -13.39 | -20.93 | -28.49 | -33.42 | 0. | 0. | 0. | 0. | 0. |
| 170 | *C | 14.82 | 25.31 | 33.85 | 42.35 | 47.84 | -38.26 | -43.66 | -47.32 | 0. | 0. |
| | *W | 13.69 | 24.38 | 33.08 | 41.82 | 47.38 | -38.53 | -43.99 | -47.71 | 0. | 0. |
| | *C | -4.84 | -14.14 | -21.64 | -29.49 | -34.62 | 0. | 0. | 0. | 0. | 0. |
| | *W | -5.68 | -14.52 | -21.94 | -29.91 | -34.96 | 0. | 0. | 0. | 0. | 0. |

* REFER TO FIGURE 36 (RM 63 TMP-2)
*C COMPUTED WITH 48 COEFFICIENTS OF JENSEN AND CAIN
*W COMPUTED WITH 512 COEFFICIENTS OF JENSEN AND WHITAKER

*Table 55. Constant Magnetic Field Intensity, B(Gauss), at Altitude 500 Kilometers

| LONG (DEG) | | B=0.20 LAT (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) | B=0.50 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|
| -180 | *C | 0. | 0. | 28.58 | 42.00 | -29.65 | -40.95 | 0. |
| | *W | 0. | 0. | 28.67 | 41.75 | -30.15 | -41.31 | 0. |
| | *C | 0. | 0. | -7.89 | -19.42 | 0. | 0. | 0. |
| | *W | 0. | 0. | -8.29 | -20.29 | 0. | 0. | 0. |
| -170 | *C | 0. | 0. | 26.89 | 40.74 | -32.79 | -44.32 | 0. |
| | *W | 0. | 0. | 26.81 | 40.55 | -34.04 | -45.61 | 0. |
| | *C | 0. | 0. | -10.80 | -22.32 | 0. | 0. | 0. |
| | *W | 0. | 0. | -11.26 | -23.12 | 0. | 0. | 0. |
| -160 | *C | 0. | 0. | 24.31 | 38.10 | -35.93 | -47.75 | 0. |
| | *W | 0. | 0. | 24.34 | 38.03 | -38.00 | 0. | 0. |
| | *C | 0. | 0. | -13.73 | -25.33 | 0. | 0. | 0. |
| | *W | 0. | 0. | -14.26 | -26.29 | 0. | 0. | 0. |
| -150 | *C | 0. | 0. | 21.45 | 34.68 | 46.92 | 0. | 0. |
| | *W | 0. | 0. | 21.40 | 35.00 | 47.41 | 0. | 0. |
| | *C | 0. | 0. | -16.88 | -28.46 | -39.20 | 0. | 0. |
| | *W | 0. | 0. | -17.46 | -29.56 | -41.73 | 0. | 0. |
| -140 | *C | 0. | 0. | 18.80 | 31.08 | 42.74 | 0. | 0. |
| | *W | 0. | 0. | 18.40 | 31.25 | 43.19 | 0. | 0. |
| | *C | 0. | 0. | -20.34 | -31.83 | -42.79 | 0. | 0. |
| | *W | 0. | 0. | -20.85 | -32.84 | -46.07 | 0. | 0. |
| -130 | *C | 0. | 0. | 16.39 | 27.74 | 38.57 | 0. | 0. |
| | *W | 0. | 0. | 15.78 | 27.61 | 39.07 | 0. | 0. |
| | *C | 0. | 0. | -23.85 | -35.52 | -46.83 | 0. | 0. |
| | *W | 0. | 0. | -24.20 | -36.48 | -49.83 | 0. | 0. |

* REFER TO FIGURE 37 (RM 63 TMP-2)

*C COMPUTED WITH 48 COEFFICIENTS OF JENSEN AND CAIN
*W COMPUTED WITH 512 COEFFICIENTS OF JENSEN AND WHITAKER

*Table 55 (Cont.)

| LONG (DEG) | | B=0.20 LAT (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) | B=0.50 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|
| -120 | *C | 0. | 0. | 14.20 | 24.81 | 34.88 | 47.61 | 0. |
| | *W | 0. | 0. | 13.48 | 24.54 | 35.29 | 48.51 | 0. |
| | *C | 0. | 0. | -27.69 | -39.69 | 0. | 0. | 0. |
| | *W | 0. | 0. | -27.60 | -40.17 | 0. | 0. | 0. |
| -110 | *C | 0. | -6.93 | 12.12 | 22.26 | 31.92 | 43.66 | 0. |
| | *W | 0. | 0. | 11.66 | 22.03 | 31.97 | 44.36 | 0. |
| | *C | 0. | -11.34 | -32.18 | -44.55 | 0. | 0. | 0. |
| | *W | 0. | 0. | -31.54 | -44.33 | 0. | 0. | 0. |
| -100 | *C | 0. | -4.79 | 10.35 | 20.14 | 29.57 | 41.04 | 0. |
| | *W | 0. | -6.09 | 10.14 | 19.93 | 29.46 | 41.49 | 0. |
| | *C | 0. | -19.63 | -37.56 | -49.92 | 0. | 0. | 0. |
| | *W | 0. | -17.26 | -36.56 | -49.28 | 0. | 0. | 0. |
| -90 | *C | 0. | -4.44 | 8.88 | 18.56 | 28.14 | 39.85 | 0. |
| | *W | 0. | -4.94 | 8.71 | 18.42 | 28.23 | 40.23 | 0. |
| | *C | 0. | -27.38 | -43.48 | C. | 0. | 0. | 0. |
| | *W | 0. | -25.91 | -42.42 | C. | 0. | 0. | 0. |
| -80 | *C | 0. | -3.85 | 8.22 | 17.94 | 27.93 | 40.90 | 0. |
| | *W | 0. | -4.44 | 7.93 | 17.85 | 28.20 | 41.26 | 0. |
| | *C | 0. | -35.28 | -48.92 | C. | 0. | 0. | 0. |
| | *W | 0. | -34.29 | -48.22 | C. | 0. | 0. | 0. |
| -70 | *C | 0. | -2.64 | 8.80 | 18.77 | 29.51 | 44.91 | 0. |
| | *W | 0. | -3.26 | 8.52 | 18.78 | 29.80 | 45.34 | 0. |
| | *C | 0. | -41.38 | C. | 0. | 0. | 0. | 0. |
| | *W | 0. | -41.02 | C. | C. | 0. | 0. | 0. |

* REFER TO FIGURE 37 (RM 63 TMP-2)

*C COMPUTED WITH 48 COEFFICIENTS OF JENSEN AND CAIN
*W COMPUTED WITH 512 COEFFICIENTS OF JENSEN AND WHITAKER

*Table 55 (Cont.)

| LONG (DEG) | | B=C.20 LAT (DEG) | B=0.25 LAT (DEG) | B=C.30 LAT (DEG) | B=C.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) | B=0.50 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|
| -60 | *C | 0. | -0.47 | 1C.90 | 21.45 | 33.45 | C. | 0. |
| | *W | 0. | -1.40 | 1C.58 | 21.42 | 33.60 | 0. | 0. |
| | *C | 0. | -45.71 | 0. | C. | 0. | 0. | 0. |
| | *W | 0. | -45.27 | C. | C. | 0. | 0. | 0. |
| -50 | *C | -20.24 | 2.47 | 14.43 | 25.77 | 39.21 | C. | 0. |
| | *W | -20.24 | 1.19 | 13.68 | 25.23 | 38.98 | 0. | 0. |
| | *C | -26.C4 | -48.39 | C. | C. | 0. | 0. | 0. |
| | *W | 0. | -47.14 | C. | C. | 0. | 0. | 0. |
| -40 | *C | 0. | 6.00 | 18.66 | 3C.68 | 45.50 | 0. | 0. |
| | *W | 0. | 4.10 | 17.56 | 3C.14 | 44.71 | C. | 0. |
| | *C | 0. | -49.98 | C. | C. | 0. | 0. | 0. |
| | *W | 0. | -47.76 | C. | C. | 0. | 0. | 0. |
| -30 | *C | 0. | 9.13 | 22.42 | 34.90 | 0. | 0. | 0. |
| | *W | 0. | 7.29 | 22.16 | 34.19 | 0. | 0. | 0. |
| | *C | 0. | 0. | C. | C. | 0. | 0. | 0. |
| | *W | C. | -47.43 | C. | C. | 0. | 0. | 0. |
| -20 | *C | C. | 11.06 | 24.99 | 37.92 | 0. | 0. | 0. |
| | *W | C. | 1C.37 | 25.C7 | 3C.88 | C. | 0. | 0. |
| | *C | C. | -49.92 | C. | C. | 0. | C. | 0. |
| | *W | 0. | -46.14 | C. | C. | 0. | 0. | 0. |
| -10 | *C | C. | 11.44 | 2C.30 | 3S.54 | 0. | 0. | C. |
| | *W | 0. | 11.10 | 26.40 | 3S.29 | 0. | 0. | 0. |
| | *C | C. | -48.14 | C. | C. | 0. | C. | 0. |
| | *W | 0. | -43.54 | C. | C. | 0. | C. | 0. |

* REFER TO FIGURE 37 (RM 63 TMP-2)

*C COMPUTED WITH 48 COEFFICIENTS OF JENSEN AND CAIN
*W COMPUTED WITH 512 COEFFICIENTS OF JENSEN AND WHITAKER

*Table 55 (Cont.)

| LONG (DEG) | | B=0.20 LAT (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) | B=0.50 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|
| 0 | *C | 0. | 10.26 | 26.58 | 40.01 | 0. | 0. | 0. |
| | *W | 0. | 9.11 | 26.55 | 40.62 | 0. | 0. | 0. |
| | *C | 0. | -45.17 | 0. | 0. | 0. | 0. | 0. |
| | *W | 0. | -37.52 | 0. | 0. | 0. | 0. | 0. |
| 10 | *C | 0. | 5.37 | 25.98 | 39.46 | 0. | 0. | 0. |
| | *W | 0. | 0. | 25.74 | 40.15 | 0. | 0. | 0. |
| | *C | 0. | -7.34 | 0. | 0. | 0. | 0. | 0. |
| | *W | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| 20 | *C | 0. | 0. | 24.50 | 37.91 | 0. | 0. | 0. |
| | *W | 0. | 0. | 24.85 | 38.91 | 0. | 0. | 0. |
| 30 | *C | 0. | 0. | 22.10 | 35.39 | 0. | 0. | 0. |
| | *W | 0. | 0. | 22.86 | 36.91 | 0. | 0. | 0. |
| | *C | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| | *W | 0. | 0. | -46.62 | 0. | 0. | 0. | 0. |
| 40 | *C | 0. | 0. | 19.21 | 32.34 | 47.64 | 0. | 0. |
| | *W | 0. | 0. | 20.44 | 34.12 | 0. | 0. | 0. |
| | *C | 0. | 0. | -47.60 | 0. | 0. | 0. | 0. |
| | *W | 0. | 0. | -40.90 | 0. | 0. | 0. | 0. |
| 50 | *C | 0. | 0. | 16.10 | 29.23 | 42.98 | 0. | 0. |
| | *W | 0. | 0. | 17.84 | 31.22 | 46.37 | 0. | 0. |
| | *C | 0. | 0. | -33.93 | 0. | 0. | 0. | 0. |
| | *W | 0. | 0. | -30.93 | 0. | 0. | 0. | 0. |

* REFER TO FIGURE 37 (RM 63 TMP-2)

*C COMPUTED WITH 48 COEFFICIENTS OF JENSEN AND CAIN
*W COMPUTED WITH 512 COEFFICIENTS OF JENSEN AND WHITAKER

*Table 55 (Cont.)

| LONG (DEG) | | B=0.20 LAT (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) | B=0.50 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|
| 60 | *C | 0. | 0. | 12.71 | 26.65 | 39.09 | 0. | 0. |
| | *W | 0. | 0. | 15.18 | 28.51 | 42.01 | 0. | 0. |
| | *C | 0. | 0. | -13.87 | -47.61 | 0. | 0. | 0. |
| | *W | 0. | 0. | -16.43 | -45.33 | 0. | 0. | 0. |
| 70 | *C | 0. | 0. | 7.01 | 24.76 | 36.39 | 0. | 0. |
| | *W | 0. | 0. | 11.68 | 26.50 | 39.01 | 0. | 0. |
| | *C | 0. | 0. | -0.49 | -28.87 | 0. | 0. | 0. |
| | *W | 0. | 0. | -5.74 | -33.09 | 0. | 0. | 0. |
| 80 | *C | 0. | 0. | 0. | 23.40 | 34.61 | 49.00 | 0. |
| | *W | 0. | 0. | 0. | 24.87 | 37.07 | 0. | 0. |
| | *C | 0. | 0. | 0. | -15.69 | -38.50 | 0. | 0. |
| | *W | 0. | 0. | 0. | -20.86 | -43.18 | 0. | 0. |
| 90 | *C | 0. | 0. | 0. | 22.61 | 33.71 | 46.63 | 0. |
| | *W | 0. | 0. | 0. | 23.79 | 35.48 | 48.49 | 0. |
| | *C | 0. | 0. | 0. | -9.83 | -25.29 | -49.29 | 0. |
| | *W | 0. | 0. | 0. | -13.06 | -30.47 | 0. | 0. |
| 100 | *C | 0. | 0. | 0. | 22.51 | 33.58 | 45.96 | 0. |
| | *W | 0. | 0. | 0. | 23.69 | 34.65 | 46.98 | 0. |
| | *C | 0. | 0. | 0. | -7.56 | -20.37 | -35.32 | 0. |
| | *W | 0. | 0. | 0. | -9.66 | -23.54 | -41.92 | 0. |
| 110 | *C | 0. | 0. | 0. | 23.35 | 34.45 | 47.12 | 0. |
| | *W | 0. | 0. | 0. | 24.34 | 35.07 | 47.41 | 0. |
| | *C | 0. | 0. | 0. | -7.42 | -18.75 | -30.45 | 0. |
| | *W | 0. | 0. | 0. | -8.91 | -20.43 | -33.12 | 0. |

* REFER TO FIGURE 37 (RM 63 TMP-2)
*C COMPUTED WITH 48 COEFFICIENTS OF JENSEN AND CAIN
*W COMPUTED WITH 512 COEFFICIENTS OF JENSEN AND WHITAKER

*Table 55 (Cont.)

| LONG (DEG) | | B=0.20 LAT (DEG) | B=0.25 LAT (DEG) | B=0.30 LAT (DEG) | B=0.35 LAT (DEG) | B=0.40 LAT (DEG) | B=0.45 LAT (DEG) | B=0.50 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|
| 120 | *C | 0. | 0. | 0. | 25.41 | 36.61 | 49.87 | -43.76 |
| | *W | 0. | 0. | 0. | 25.99 | 36.88 | 49.28 | 0. |
| | *C | 0. | 0. | 0. | -8.18 | -18.56 | -28.90 | 0. |
| | *W | 0. | 0. | 0. | -9.52 | -19.79 | -30.59 | 0. |
| 130 | *C | 0. | 0. | 0. | 28.53 | 39.99 | -28.83 | -42.00 |
| | *W | 0. | 0. | 10.89 | 28.72 | 39.76 | -30.41 | -44.39 |
| | *C | 0. | 0. | 0. | -9.25 | -19.03 | 0. | 0. |
| | *W | 0. | 0. | 6.30 | -10.46 | -20.38 | 0. | 0. |
| 140 | *C | 0. | 0. | 17.28 | 32.56 | 44.23 | -29.71 | -42.69 |
| | *W | 0. | 0. | 17.80 | 32.30 | 43.75 | -30.86 | -44.07 |
| | *C | 0. | 0. | 3.43 | -10.47 | -19.99 | 0. | 0. |
| | *W | 0. | 0. | 1.50 | -11.49 | -21.20 | 0. | 0. |
| 150 | *C | 0. | 0. | 22.85 | 36.63 | 48.33 | -31.61 | -44.87 |
| | *W | 0. | 0. | 22.59 | 36.28 | 47.55 | -32.31 | -46.31 |
| | *C | 0. | 0. | 0.00 | -11.99 | -21.57 | 0. | 0. |
| | *W | 0. | 0. | -1.11 | -13.02 | -22.54 | 0. | 0. |
| 160 | *C | 0. | 0. | 26.68 | 39.88 | -23.81 | -34.27 | -48.38 |
| | *W | 0. | 0. | 26.25 | 39.41 | -24.52 | -34.57 | -48.23 |
| | *C | 0. | 0. | -2.44 | -14.07 | 0. | 0. | 0. |
| | *W | 0. | 0. | -3.33 | -15.07 | 0. | 0. | 0. |
| 170 | *C | 0. | 0. | 28.60 | 41.72 | -26.61 | -37.55 | 0. |
| | *W | 0. | 0. | 28.45 | 41.23 | -27.05 | -37.58 | -49.82 |
| | *C | 0. | 0. | -5.25 | -16.61 | 0. | 0. | 0. |
| | *W | 0. | 0. | -5.65 | -17.39 | 0. | 0. | 0. |

* REFER TO FIGURE 37 (RM 63 TMP-2)
*C COMPUTED WITH 48 COEFFICIENTS OF JENSEN AND CAIN
*W COMPUTED WITH 512 COEFFICIENTS OF JENSEN AND WHITAKER

## *Table 56. Constant Magnetic Shell Parameter, L (Earth Radii), at Altitude 500 Kilometers

| LONG (DEG) | | L=1.00 LAT (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| -180 | *C | C. | 15.54 | 27.33 | 37.63 | 44.00 | 48.39 | -43.95 | -47.93 | 0. | 0. |
| | *W | C. | 15.15 | 26.90 | 37.24 | 43.62 | 48.02 | -44.14 | -48.17 | 0. | 0. |
| | *C | C. | -8.52 | -19.13 | -28.13 | -33.92 | -38.02 | C. | C. | 0. | 0. |
| | *W | 0. | -8.49 | -19.12 | -28.20 | -34.01 | -38.13 | 0. | 0. | 0. | 0. |
| -170 | *C | C. | 13.09 | 25.36 | 35.84 | 42.25 | 46.82 | -46.02 | C. | 0. | 0. |
| | *W | C. | 13.02 | 25.30 | 35.71 | 42.06 | 46.61 | -46.08 | 0. | 0. | 0. |
| | *C | 0. | -10.37 | -20.90 | -30.16 | -35.86 | -40.18 | C. | 0. | 0. | 0. |
| | *W | C. | -9.97 | -20.60 | -29.94 | -35.72 | -40.11 | C. | 0. | C. | 0. |
| -160 | *C | C. | 11.09 | 23.26 | 33.87 | 40.47 | 45.15 | -48.15 | 0. | 0. | 0. |
| | *W | C. | 11.36 | 23.51 | 33.97 | 40.46 | 45.10 | -48.08 | C. | 0. | 0. |
| | *C | C. | -11.54 | -22.52 | -31.85 | -37.75 | -42.04 | C. | 0. | 0. | 0. |
| | *W | 0. | -10.85 | -21.91 | -31.40 | -37.39 | -41.81 | C. | 0. | 0. | 0. |
| -150 | *C | 0. | 9.22 | 21.48 | 31.89 | 38.39 | 42.97 | 49.39 | C. | 0. | 0. |
| | *W | 0. | 10.05 | 21.95 | 32.17 | 38.57 | 43.07 | 49.41 | 0. | 0. | 0. |
| | *C | C. | -12.51 | -24.15 | -33.69 | -39.85 | -44.18 | 0. | C. | 0. | 0. |
| | *W | C. | -11.59 | -23.28 | -33.02 | -39.26 | -43.74 | C. | 0. | 0. | 0. |
| -140 | *C | C. | 7.20 | 19.98 | 30.21 | 36.40 | 40.95 | 47.10 | C. | 0. | 0. |
| | *W | C. | 8.32 | 20.58 | 30.57 | 36.67 | 41.14 | 47.22 | C. | 0. | 0. |
| | *C | C. | -13.32 | -25.55 | -35.48 | -41.60 | -46.16 | C. | C. | 0. | 0. |
| | *W | C. | -12.24 | -24.69 | -34.79 | -41.04 | -45.72 | C. | C. | 0. | 0. |
| -130 | *C | C. | 5.58 | 18.29 | 28.34 | 34.60 | 38.91 | 45.11 | 49.18 | 0. | 0. |
| | *W | C. | 6.85 | 19.15 | 28.84 | 34.97 | 39.20 | 45.28 | 49.37 | 0. | 0. |
| | *C | C. | -13.90 | -26.72 | -37.02 | -43.51 | -48.17 | C. | 0. | C. | 0. |
| | *W | C. | -12.88 | -25.89 | -36.33 | -42.86 | -47.65 | C. | C. | 0. | 0. |
| -120 | *C | C. | 3.74 | 16.77 | 26.61 | 32.56 | 36.83 | 42.75 | 46.82 | 0. | C. |
| | *W | 0. | 5.43 | 17.52 | 27.05 | 32.89 | 37.08 | 42.97 | 47.00 | 0. | 0. |
| | *C | C. | -14.27 | -27.88 | -38.71 | -45.48 | 0. | C. | C. | 0. | 0. |
| | *W | C. | -13.66 | -27.15 | -38.04 | -44.96 | -49.87 | C. | C. | 0. | 0. |

* REFER TO FIGURE 38 (RM 63 TMP-2)
*C COMPUTED WITH 48 COEFFICIENTS OF JENSEN AND CAIN
*W COMPUTED WITH 512 COEFFICIENTS OF JENSEN AND WHITAKER

*Table 56 (Cont.)

| LONG (DEG) | | L=1.00 LAT (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| -110 | *C | 0. | 1.80 | 15.30 | 25.03 | 30.76 | 35.05 | 40.77 | 44.92 | 0. | 0. |
| | *W | 0. | 3.22 | 15.87 | 25.38 | 31.02 | 35.24 | 40.93 | 45.08 | 0. | 0. |
| | *C | 0. | -14.59 | -29.16 | -40.48 | -47.28 | 0. | 0. | 0. | 0. | 0. |
| | *W | 0. | -14.57 | -28.66 | -40.04 | -46.83 | 0. | 0. | 0. | 0. | 0. |
| -100 | *C | 0. | -0.43 | 13.25 | 22.93 | 28.81 | 32.92 | 38.79 | 42.73 | 48.13 | 0. |
| | *W | 0. | 0.56 | 13.80 | 23.27 | 29.06 | 33.10 | 38.94 | 42.86 | 48.26 | 0. |
| | *C | 0. | -14.84 | -30.53 | -42.11 | -49.24 | 0. | 0. | 0. | 0. | 0. |
| | *W | 0. | -15.15 | -30.39 | -41.84 | -48.89 | 0. | 0. | 0. | 0. | 0. |
| -90 | *C | 0. | -4.72 | 10.92 | 20.92 | 26.84 | 31.15 | 37.04 | 41.18 | 46.62 | 0. |
| | *W | 0. | -4.06 | 11.22 | 21.10 | 26.96 | 31.23 | 37.10 | 41.22 | 46.65 | 0. |
| | *C | 0. | -13.74 | -31.77 | -43.77 | 0. | 0. | 0. | 0. | 0. | 0. |
| | *W | 0. | -14.88 | -31.87 | -43.71 | 0. | 0. | 0. | 0. | 0. | 0. |
| -80 | *C | 0. | 0. | 8.08 | 18.90 | 25.31 | 29.84 | 35.95 | 40.30 | 45.88 | 49.76 |
| | *W | 0. | 0. | 8.20 | 18.90 | 25.27 | 29.77 | 35.89 | 40.26 | 45.84 | 49.74 |
| | *C | 0. | 0. | -32.71 | -45.09 | 0. | 0. | 0. | 0. | 0. | 0. |
| | *W | 0. | 0. | -33.05 | -45.25 | 0. | 0. | 0. | 0. | 0. | 0. |
| -70 | *C | 0. | 0. | 5.58 | 17.41 | 24.37 | 29.15 | 35.71 | 40.25 | 46.01 | 0. |
| | *W | 0. | 0. | 5.38 | 17.11 | 24.05 | 28.86 | 35.55 | 40.12 | 45.91 | 49.99 |
| | *C | 0. | 0. | -32.82 | -45.54 | 0. | 0. | 0. | 0. | 0. | 0. |
| | *W | 0. | 0. | -33.46 | -45.95 | 0. | 0. | 0. | 0. | 0. | 0. |
| -60 | *C | 0. | 0. | 4.44 | 17.45 | 24.94 | 29.99 | 36.61 | 41.21 | 47.13 | 0. |
| | *W | 0. | 0. | 3.61 | 16.84 | 24.38 | 29.54 | 36.38 | 41.06 | 47.05 | 0. |
| | *C | 0. | 0. | -31.81 | -45.22 | 0. | 0. | 0. | 0. | 0. | 0. |
| | *W | 0. | 0. | -32.73 | -45.86 | 0. | 0. | 0. | 0. | 0. | 0. |
| -50 | *C | 0. | 0. | 6.64 | 19.79 | 26.92 | 31.94 | 38.78 | 43.27 | 49.32 | 0. |
| | *W | 0. | 0. | 5.53 | 19.02 | 26.51 | 31.65 | 38.61 | 43.20 | 49.34 | 0. |
| | *C | 0. | 0. | -29.65 | -43.74 | 0. | 0. | 0. | 0. | 0. | 0. |
| | *W | 0. | 0. | -30.89 | -44.79 | 0. | 0. | 0. | 0. | 0. | 0. |

* REFER TO FIGURE 38 (RM 63 TMP-2)
*C COMPUTED WITH 48 COEFFICIENTS OF JENSEN AND CAIN
*W COMPUTED WITH 512 COEFFICIENTS OF JENSEN AND WHITAKER

*Table 56 (Cont.)

| LONG (DEG) | | L=1.00 LAT (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| -40 | •C | C. | C. | 11.81 | 23.54 | 3C.31 | 35.10 | 41.44 | 45.89 | 0. | 0. |
| | •W | C. | C. | 11.01 | 23.19 | 3C.29 | 35.19 | 41.56 | 46.01 | 0. | 0. |
| | •C | C. | 0. | -26.19 | -41.18 | -49.71 | 0. | C. | 0. | 0. | 0. |
| | •W | C. | 0. | -27.77 | -42.29 | C. | 0. | 0. | C. | 0. | 0. |
| -30 | •C | 0. | 0. | 16.93 | 27.51 | 33.67 | 38.01 | 44.29 | 48.43 | 0. | 0. |
| | •W | C. | 0. | 17.52 | 28.15 | 34.22 | 38.54 | 44.73 | 48.79 | 0. | 0. |
| | •C | C. | 0. | -22.25 | -37.54 | -46.68 | 0. | 0. | C. | 0. | 0. |
| | •W | 0. | 0. | -23.87 | -38.73 | -47.39 | 0. | C. | 0. | 0. | 0. |
| -20 | •C | 0. | 0. | 21.19 | 31.00 | 36.67 | 4C.84 | 46.64 | 0. | 0. | 0. |
| | •W | 0. | 0. | 22.99 | 32.11 | 37.52 | 41.52 | 47.20 | 0. | 0. | 0. |
| | •C | 0. | 0. | -18.53 | -33.33 | -42.89 | -49.85 | 0. | C. | 0. | 0. |
| | •W | C. | C. | -19.30 | -34.03 | -43.37 | 0. | C. | 0. | 0. | 0. |
| -10 | •C | C. | 6.95 | 24.71 | 33.74 | 39.22 | 43.07 | 48.77 | 0. | 0. | 0. |
| | •W | 0. | 13.11 | 26.46 | 35.04 | 4C.13 | 43.90 | 49.50 | 0. | 0. | 0. |
| | •C | C. | 4.18 | -15.51 | -29.27 | -38.70 | -45.87 | 0. | C. | 0. | 0. |
| | •W | C. | 3.31 | -14.87 | -28.89 | -38.52 | -45.74 | 0. | 0. | 0. | 0. |
| 0 | •C | C. | 14.69 | 27.11 | 35.83 | 41.04 | 45.01 | 0. | 0. | 0. | 0. |
| | •W | C. | 16.82 | 28.35 | 36.51 | 41.59 | 45.54 | C. | C. | 0. | 0. |
| | •C | 0. | 2.27 | -13.11 | -25.84 | -34.82 | -41.81 | C. | 0. | 0. | 0. |
| | •W | 0. | 2.67 | -11.99 | -24.82 | -33.98 | -41.24 | C. | 0. | 0. | 0. |
| 10 | •C | 0. | 17.81 | 28.97 | 37.15 | 42.29 | 46.13 | -48.56 | 0. | 0. | 0. |
| | •W | C. | 18.69 | 29.49 | 37.20 | 42.41 | 46.54 | -47.79 | C. | 0. | 0. |
| | •C | 0. | 1.74 | -11.61 | -23.35 | -31.68 | -38.36 | 0. | 0. | 0. | 0. |
| | •W | C. | 1.70 | -11.03 | -22.44 | -3C.86 | -37.65 | C. | 0. | 0. | 0. |
| 20 | •C | C. | 20.04 | 30.05 | 37.95 | 43.10 | 46.91 | -45.54 | 0. | 0. | 0. |
| | •W | 0. | 19.78 | 3C.02 | 38.05 | 43.36 | 47.28 | -45.01 | 0. | 0. | 0. |
| | •C | C. | 0.83 | -11.09 | -22.00 | -29.78 | -35.93 | C. | C. | 0. | 0. |
| | •W | C. | 0.42 | -10.99 | -21.60 | -29.33 | -35.57 | C. | 0. | 0. | 0. |

• REFER TO FIGURE 38 (RM 63 TMP-2)

•C COMPUTED WITH 48 COEFFICIENTS OF JENSEN AND CAIN

•W COMPUTED WITH 512 COFFFICIENTS OF JENSEN AND WHITAKER

*Table 56 (Cont.)

| LONG (DEG) | | L=1.00 LAT (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | *C | 0. | 20.48 | 30.20 | 38.23 | 43.52 | 47.40 | -43.27 | -49.91 | 0. | 0. |
| | *W | 0. | 20.07 | 30.07 | 38.35 | 43.79 | 47.75 | -42.93 | -49.17 | 0. | 0. |
| | *C | 0. | -0.51 | -11.47 | -21.67 | -28.86 | -34.56 | 0. | 0. | 0. | 0. |
| | *W | 0. | -0.74 | -11.51 | -21.59 | -28.73 | -34.45 | 0. | 0. | 0. | 0. |
| 40 | *C | 0. | 20.34 | 30.00 | 38.25 | 43.72 | 47.70 | -41.78 | -47.67 | 0. | 0. |
| | *W | 0. | 20.10 | 29.96 | 38.39 | 43.97 | 48.01 | -41.60 | -47.23 | 0. | 0. |
| | *C | 0. | -2.03 | -12.41 | -22.03 | -28.68 | -33.88 | 0. | 0. | 0. | 0. |
| | *W | 0. | -1.90 | -12.37 | -21.98 | -28.63 | -33.83 | 0. | 0. | 0. | 0. |
| 50 | *C | 0. | 20.38 | 29.94 | 38.35 | 43.95 | 47.98 | -40.75 | -46.06 | 0. | 0. |
| | *W | 0. | 20.28 | 30.00 | 38.48 | 44.16 | 48.24 | -40.69 | -45.85 | 0. | 0. |
| | *C | 0. | -3.83 | -13.47 | -22.51 | -28.73 | -33.50 | 0. | 0. | 0. | 0. |
| | *W | 0. | -3.30 | -13.26 | -22.43 | -28.71 | -33.50 | 0. | 0. | 0. | 0. |
| 60 | *C | 0. | 21.25 | 30.44 | 38.81 | 44.36 | 48.34 | -39.85 | -44.70 | 0. | 0. |
| | *W | 0. | 21.01 | 30.36 | 38.81 | 44.47 | 48.52 | -39.96 | -44.70 | 0. | 0. |
| | *C | 0. | -5.22 | -14.18 | -22.75 | -28.62 | -33.06 | 0. | 0. | 0. | 0. |
| | *W | 0. | -4.69 | -13.89 | -22.68 | -28.66 | -33.16 | 0. | 0. | 0. | 0. |
| 70 | *C | 0. | 22.85 | 31.35 | 39.53 | 44.92 | 48.78 | -38.75 | -43.21 | -49.61 | 0. |
| | *W | 0. | 22.19 | 30.99 | 39.37 | 44.93 | 48.88 | -39.02 | -43.42 | -49.67 | 0. |
| | *C | 0. | -5.73 | -14.33 | -22.61 | -28.25 | -32.47 | 0. | 0. | 0. | 0. |
| | *W | 0. | -5.39 | -14.21 | -22.68 | -28.44 | -32.71 | 0. | 0. | 0. | 0. |
| 80 | *C | 0. | 24.47 | 32.27 | 40.21 | 45.38 | 49.25 | -37.74 | -41.95 | -47.76 | 0. |
| | *W | 0. | 23.58 | 31.80 | 40.03 | 45.32 | 49.27 | -38.13 | -42.30 | -48.05 | 0. |
| | *C | 0. | -5.90 | -14.22 | -22.32 | -27.76 | -31.84 | 0. | 0. | 0. | 0. |
| | *W | 0. | -5.70 | -14.23 | -22.48 | -28.05 | -32.17 | 0. | 0. | 0. | 0. |
| 90 | *C | 12.14 | 25.32 | 32.88 | 40.63 | 45.75 | 49.68 | -36.97 | -41.02 | -46.42 | 0. |
| | *W | 0. | 24.70 | 32.45 | 40.44 | 45.65 | 49.62 | -37.41 | -41.44 | -46.85 | 0. |
| | *C | 7.34 | -6.07 | -14.23 | -22.13 | -27.41 | -31.37 | 0. | 0. | 0. | 0. |
| | *W | 0. | -5.90 | -14.22 | -22.30 | -27.71 | -31.72 | 0. | 0. | 0. | 0. |
| 100 | *C | 12.64 | 25.38 | 33.04 | 40.85 | 46.00 | -31.19 | -36.57 | -40.49 | -45.63 | -49.07 |
| | *W | 10.83 | 25.04 | 32.75 | 40.67 | 45.87 | 49.89 | -36.99 | -40.91 | -46.09 | -49.77 |

* REFER TO FIGURE 38 (RM 63 TMP-2)
*C COMPUTED WITH 48 COEFFICIENTS OF JENSEN AND CAIN
*W COMPUTED WITH 512 COEFFICIENTS OF JENSEN AND WHITAKER

*Table 56 (Cont.)

| LONG (DEG) | | L=1.00 LAT (DEG) | L=1.10 LAT (DEG) | L=1.25 LAT (DEG) | L=1.50 LAT (DEG) | L=1.75 LAT (DEG) | L=2.00 LAT (DEG) | L=2.50 LAT (DEG) | L=3.00 LAT (DEG) | L=4.00 LAT (DEG) | L=5.00 LAT (DEG) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | *C | 5.95 | -6.47 | -14.57 | -22.23 | -27.35 | C. | C. | C. | 0. | 0. |
| | *W | 8.63 | -6.22 | -14.50 | -22.37 | -27.62 | -31.51 | C. | C. | 0. | 0. |
| 110 | *C | 11.12 | 24.97 | 32.87 | 4C.93 | 46.18 | -31.28 | -36.50 | -4C.32 | -45.29 | -48.41 |
| | *W | C. | 24.60 | 32.63 | 4C.75 | 46.01 | -31.60 | -36.91 | -4C.73 | -45.75 | -49.13 |
| | *C | 6.82 | -6.95 | -15.09 | -22.57 | -27.57 | 0. | C. | C. | 0. | 0. |
| | *W | C. | -6.69 | -15.07 | -22.73 | -27.84 | C. | C. | C. | 0. | 0. |
| 120 | *C | C. | 24.11 | 32.59 | 4C.97 | 46.35 | -31.56 | -36.70 | -4C.44 | -45.32 | -48.35 |
| | *W | C. | 23.65 | 32.29 | 4C.72 | 46.10 | -31.94 | -37.16 | -4C.88 | -45.79 | -49.06 |
| | *C | C. | -7.20 | -15.42 | -22.96 | -27.91 | C. | C. | C. | 0. | 0. |
| | *W | 0. | -7.10 | -15.54 | -23.24 | -28.29 | 0. | C. | 0. | 0. | 0. |
| 130 | *C | C. | 23.33 | 32.37 | 41.02 | 46.51 | -31.94 | -37.12 | -4C.82 | -45.68 | -48.84 |
| | *W | 0. | 27.66 | 31.88 | 4C.64 | 46.16 | -32.46 | -37.67 | -41.32 | -46.18 | -49.58 |
| | *C | C. | -6.96 | -15.51 | -23.26 | -28.29 | C. | C. | C. | 0. | 0. |
| | *W | C. | -7.15 | -15.84 | -23.74 | -28.83 | C. | C. | C. | 0. | 0. |
| 140 | *C | C. | 22.58 | 32.14 | 41.03 | 46.60 | -32.49 | -37.81 | -41.50 | -46.40 | -49.93 |
| | *W | 0. | 21.70 | 31.48 | 4C.52 | 46.16 | -33.10 | -38.43 | -42.04 | -46.94 | 0. |
| | *C | C. | -6.32 | -15.41 | -23.53 | -28.77 | 0. | C. | 0. | 0. | 0. |
| | *W | C. | -6.82 | -15.96 | -24.19 | -29.44 | C. | C. | C. | 0. | 0. |
| 150 | *C | C. | 21.59 | 31.70 | 4C.85 | 46.51 | -33.35 | -38.90 | -42.59 | -47.61 | 0. |
| | *W | C. | 20.63 | 3C.94 | 4C.27 | 46.02 | -33.99 | -39.52 | -43.15 | -48.18 | 0. |
| | *C | C. | -5.70 | -15.43 | -24.03 | -29.54 | 0. | C. | 0. | C. | 0. |
| | *W | 0. | -6.40 | -16.11 | -24.79 | -3C.18 | 0. | C. | 0. | 0. | 0. |
| 160 | *C | C. | 20.18 | 3C.84 | 4C.33 | 46.11 | -34.71 | -4C.35 | -44.21 | -49.44 | 0. |
| | *W | C. | 19.03 | 3C.11 | 39.6R | 45.63 | 49.99 | -4C.72 | -44.73 | -49.99 | 0. |
| | *C | 0. | -5.73 | -15.97 | -25.06 | -3C.60 | C. | C. | C. | 0. | 0. |
| | *W | C. | -6.45 | -16.60 | -25.57 | -31.06 | -35.19 | C. | 0. | 0. | 0. |
| 170 | *C | C. | 17.79 | 29.39 | 39.24 | 45.35 | 49.68 | -41.91 | -45.96 | 0. | 0. |
| | *W | C. | 16.95 | 28.58 | 38.62 | 44.93 | 49.18 | -42.20 | -46.24 | 0. | 0. |
| | *C | C. | -6.76 | -17.27 | -26.36 | -32.02 | -36.18 | C. | C. | 0. | 0. |
| | *W | C. | -7.31 | -17.62 | -26.68 | -32.33 | -36.45 | C. | C. | 0. | 0. |

* REFER TO FIGURE 38 (RM 63 TMP-2)
*C COMPUTED WITH 48 COEFFICIENTS OF JENSEN AND CAIN
*W COMPUTED WITH 512 COEFFICIENTS OF JENSEN AND WHITAKER

*Table 57. Points with B=0.3291 Gauss, L=1.077 Earth Radii, and I=0.216 Earth Radii

| | NORTHERN | | SOUTHERN | |
|---|---|---|---|---|
| LONGITUDE DEGREES EAST | LATITUDE DEGREES NORTH | ALTITUDE KILOMETERS | LATITUDE DEGREES NORTH | ALTITUDE KILOMETERS |
| -170 | 17.50 | 100 | -11.45 | 316 |
| -160 | 15.45 | 107 | -13.32 | 287 |
| -150 | 13.67 | 113 | -15.08 | 248 |
| -140 | 12.02 | 118 | -16.78 | 202 |
| -130 | 10.46 | 124 | -18.39 | 148 |
| -120 | 8.97 | 133 | -19.91 | 90 |
| -110 | 7.42 | 142 | -21.54 | 28 |
| -100 | 5.58 | 141 | -23.65 | -46 |
| -90 | 3.23 | 112 | -26.43 | -147 |
| -80 | 0.54 | 44 | -29.67 | -293 |
| -70 | -2.00 | -63 | -32.86 | -487 |
| -60 | -3.25 | -171 | -35.33 | -718 |
| -50 | 0.21 | -155 | -36.05 | -937 |
| -40 | 6.53 | -74 | -30.50 | -860 |
| -30 | 11.79 | -22 | -21.89 | -572 |
| -20 | 15.70 | 29 | -15.60 | -388 |
| -10 | 18.62 | 88 | -11.14 | -252 |
| 0 | 20.78 | 150 | -7.83 | -133 |
| 10 | 22.15 | 208 | -5.53 | -35 |
| 20 | 22.56 | 259 | -4.61 | 33 |
| 30 | 22.02 | 306 | -5.07 | 70 |
| 40 | 20.89 | 350 | -6.32 | 94 |
| 50 | 19.95 | 399 | -7.27 | 142 |
| 60 | 19.96 | 461 | -7.09 | 238 |
| 70 | 20.72 | 526 | -6.01 | 356 |
| 80 | 21.56 | 578 | -4.82 | 457 |
| 90 | 22.04 | 609 | -4.13 | 523 |
| 100 | 22.07 | 612 | -4.11 | 555 |
| 110 | 21.85 | 588 | -4.51 | 561 |
| 120 | 21.69 | 540 | -4.91 | 546 |
| 130 | 21.90 | 470 | -5.01 | 515 |
| 140 | 22.44 | 383 | -4.86 | 471 |
| 150 | 22.93 | 286 | -4.86 | 420 |
| 160 | 22.83 | 194 | -5.58 | 378 |
| 170 | 21.75 | 128 | -7.23 | 352 |
| 180 | 19.77 | 101 | -9.37 | 336 |

* REFER TO FIGURES 39, 41, 45, 46, AND 49 (RM 63TMP-2)

*Table 58. Points with B=0.3148 Gauss, L=1.093 Earth Radii, and I=0.218 Earth Radii

| LONGITUDE DEGREES EAST | NORTHERN LATITUDE DEGREES NORTH | NORTHERN ALTITUDE KILOMETERS | SOUTHERN LATITUDE DEGREES NORTH | SOUTHERN ALTITUDE KILOMETERS |
|---|---|---|---|---|
| -170 | 17.50 | 200 | -11.37 | 409 |
| -160 | 15.45 | 206 | -13.26 | 380 |
| -150 | 13.65 | 211 | -15.03 | 342 |
| -140 | 11.98 | 216 | -16.75 | 296 |
| -130 | 10.39 | 221 | -18.35 | 243 |
| -120 | 8.88 | 229 | -19.92 | 186 |
| -110 | 7.31 | 236 | -21.58 | 124 |
| -100 | 5.45 | 232 | -23.70 | 50 |
| -90 | 3.13 | 202 | -26.43 | -50 |
| -80 | 0.51 | 13? | -29.56 | -192 |
| -70 | -1.92 | 29 | -32.56 | -378 |
| -60 | -2.98 | -73 | -34.75 | -592 |
| -50 | 0.27 | -64 | -35.03 | -784 |
| -40 | 6.34 | 11 | -30.01 | -729 |
| -30 | 11.55 | 64 | -22.03 | -481 |
| -20 | 15.48 | 116 | -15.82 | -304 |
| -10 | 18.42 | 175 | -11.35 | -169 |
| 0 | 20.59 | 236 | -8.03 | -51 |
| 10 | 21.97 | 294 | -5.73 | 47 |
| 20 | 22.39 | 346 | -4.79 | 115 |
| 30 | 21.89 | 393 | -5.21 | 154 |
| 40 | 20.83 | 438 | -6.37 | 181 |
| 50 | 19.95 | 488 | -7.24 | 233 |
| 60 | 19.98 | 550 | -7.04 | 330 |
| 70 | 20.71 | 616 | -5.99 | 448 |
| 80 | 21.53 | 668 | -4.83 | 548 |
| 90 | 22.01 | 699 | -4.14 | 614 |
| 100 | 22.06 | 703 | -4.09 | 648 |
| 110 | 21.86 | 681 | -4.46 | 654 |
| 120 | 21.73 | 633 | -4.83 | 641 |
| 130 | 21.93 | 565 | -4.93 | 610 |
| 140 | 22.43 | 480 | -4.81 | 566 |
| 150 | 22.87 | 385 | -4.84 | 515 |
| 160 | 22.74 | 296 | -5.57 | 473 |
| 170 | 21.67 | 231 | -7.19 | 447 |
| 180 | 19.73 | 203 | -9.30 | 429 |

* REFER TO FIGURES 39, 41, 45, 46, AND 49 (RM 63TMP-2)

*Table 59. Points with B=0.3014 Gauss, L=1.108 Earth Radii, and I=0.220 Earth Radii

| LONGITUDE DEGREES EAST | NORTHERN LATITUDE DEGREES NORTH | NORTHERN ALTITUDE KILOMETERS | SOUTHERN LATITUDE DEGREES NORTH | SOUTHERN ALTITUDE KILOMETERS |
|---|---|---|---|---|
| -170 | 17.50 | 300 | -11.30 | 502 |
| -160 | 15.45 | 305 | -13.20 | 473 |
| -150 | 13.63 | 310 | -14.99 | 436 |
| -140 | 11.94 | 314 | -16.71 | 391 |
| -130 | 10.33 | 318 | -18.36 | 339 |
| -120 | 8.80 | 325 | -19.93 | 282 |
| -110 | 7.20 | 330 | -21.62 | 220 |
| -100 | 5.33 | 324 | -23.74 | 146 |
| -90 | 3.04 | 292 | -26.43 | 47 |
| -80 | 0.48 | 223 | -29.46 | -92 |
| -70 | -1.84 | 121 | -32.29 | -270 |
| -60 | -2.74 | 23 | -34.24 | -471 |
| -50 | 0.34 | 27 | -34.22 | -641 |
| -40 | 6.17 | 97 | -29.61 | -604 |
| -30 | 11.37 | 150 | -22.15 | -390 |
| -20 | 15.26 | 202 | -16.03 | -219 |
| -10 | 18.22 | 262 | -11.55 | -85 |
| 0 | 20.40 | 323 | -8.22 | 32 |
| 10 | 21.78 | 381 | -5.92 | 129 |
| 20 | 22.23 | 433 | -4.97 | 197 |
| 30 | 21.76 | 480 | -5.34 | 238 |
| 40 | 20.77 | 526 | -6.42 | 269 |
| 50 | 19.95 | 577 | -7.22 | 324 |
| 60 | 20.00 | 640 | -7.00 | 423 |
| 70 | 20.71 | 706 | -5.97 | 539 |
| 80 | 21.51 | 759 | -4.83 | 639 |
| 90 | 21.98 | 790 | -4.15 | 706 |
| 100 | 22.05 | 795 | -4.08 | 740 |
| 110 | 21.87 | 773 | -4.41 | 748 |
| 120 | 21.76 | 727 | -4.76 | 735 |
| 130 | 21.95 | 660 | -4.86 | 705 |
| 140 | 22.42 | 577 | -4.76 | 661 |
| 150 | 22.82 | 484 | -4.82 | 611 |
| 160 | 22.66 | 397 | -5.56 | 568 |
| 170 | 21.59 | 334 | -7.15 | 541 |
| 180 | 19.70 | 304 | -9.24 | 523 |

* REFER TO FIGURES 39, 41, 45, 46, AND 49 (RM 63TMP-2)

*Table 60. Points with B=0.2887 Gauss, L=1.124 Earth Radii, and I=0.222 Earth Radii

| LONGITUDE DEGREES EAST | NORTHERN LATITUDE DEGREES NORTH | NORTHERN ALTITUDE KILOMETERS | SOUTHERN LATITUDE DEGREES NORTH | SOUTHERN ALTITUDE KILOMETERS |
|---|---|---|---|---|
| -170 | 17.50 | 400 | -11.24 | 596 |
| -160 | 15.45 | 403 | -13.14 | 567 |
| -150 | 13.62 | 408 | -14.95 | 530 |
| -140 | 11.90 | 412 | -16.68 | 485 |
| -130 | 10.28 | 416 | -18.34 | 434 |
| -120 | 8.72 | 421 | -19.94 | 378 |
| -110 | 7.10 | 424 | -21.66 | 316 |
| -100 | 5.23 | 416 | -23.79 | 242 |
| -90 | 2.95 | 382 | -26.43 | 144 |
| -80 | 0.45 | 314 | -29.36 | 9 |
| -70 | -1.76 | 214 | -32.05 | -162 |
| -60 | -2.54 | 120 | -33.79 | -352 |
| -50 | 0.40 | 119 | -33.57 | -508 |
| -40 | 6.01 | 183 | -29.28 | -485 |
| -30 | 11.10 | 237 | -22.26 | -297 |
| -20 | 15.05 | 289 | -16.24 | -133 |
| -10 | 18.02 | 349 | -11.76 | -1 |
| 0 | 20.22 | 410 | -8.41 | 115 |
| 10 | 21.61 | 468 | -6.11 | 211 |
| 20 | 22.07 | 520 | -5.14 | 280 |
| 30 | 21.65 | 568 | -5.46 | 323 |
| 40 | 20.71 | 614 | -6.47 | 357 |
| 50 | 19.96 | 666 | -7.20 | 416 |
| 60 | 20.01 | 730 | -6.96 | 515 |
| 70 | 20.71 | 796 | -5.95 | 631 |
| 80 | 21.49 | 849 | -4.84 | 731 |
| 90 | 21.96 | 881 | -4.16 | 798 |
| 100 | 22.04 | 886 | -4.07 | 833 |
| 110 | 21.89 | 866 | -4.36 | 842 |
| 120 | 21.80 | 821 | -4.69 | 829 |
| 130 | 21.98 | 755 | -4.79 | 800 |
| 140 | 22.42 | 674 | -4.71 | 756 |
| 150 | 22.77 | 584 | -4.80 | 707 |
| 160 | 22.58 | 498 | -5.55 | 664 |
| 170 | 21.52 | 436 | -7.12 | 636 |
| 180 | 19.67 | 406 | -9.17 | 617 |

* REFER TO FIGURES 39, 41, 45, 46, AND 49 (RM 63TMP-2)

*Table 61. Points with B=0.2653 Gauss, L=1.155 Earth Radii, and I=0.226 Earth Radii

| LONGITUDE DEGREES EAST | NORTHERN LATITUDE DEGREES NORTH | NORTHERN ALTITUDE KILOMETERS | SOUTHERN LATITUDE DEGREES NORTH | SOUTHERN ALTITUDE KILOMETERS |
|---|---|---|---|---|
| -170 | 17.50 | 600 | -11.13 | 784 |
| -160 | 15.46 | 601 | -13.05 | 755 |
| -150 | 13.59 | 605 | -14.87 | 719 |
| -140 | 11.84 | 607 | -16.63 | 675 |
| -130 | 10.18 | 610 | -18.33 | 625 |
| -120 | 8.57 | 613 | -19.97 | 570 |
| -110 | 6.92 | 613 | -21.74 | 509 |
| -100 | 5.03 | 601 | -23.87 | 435 |
| -90 | 2.80 | 565 | -26.43 | 338 |
| -80 | 0.42 | 496 | -29.18 | 209 |
| -70 | -1.61 | 400 | -31.61 | 49 |
| -60 | -2.18 | 311 | -33.05 | -122 |
| -50 | 0.54 | 303 | -32.56 | -257 |
| -40 | 5.74 | 358 | -28.75 | -254 |
| -30 | 10.70 | 411 | -22.45 | -109 |
| -20 | 14.64 | 464 | -16.63 | 41 |
| -10 | 17.65 | 524 | -12.15 | 169 |
| 0 | 19.87 | 584 | -8.80 | 282 |
| 10 | 21.27 | 642 | -6.50 | 377 |
| 20 | 21.76 | 695 | -5.49 | 447 |
| 30 | 21.42 | 744 | -5.71 | 494 |
| 40 | 20.61 | 792 | -6.57 | 535 |
| 50 | 19.96 | 846 | -7.17 | 600 |
| 60 | 20.05 | 911 | -6.89 | 701 |
| 70 | 20.72 | 977 | -5.92 | 816 |
| 80 | 21.46 | 1031 | -4.86 | 914 |
| 90 | 21.93 | 1063 | -4.18 | 983 |
| 100 | 22.04 | 1070 | -4.05 | 1020 |
| 110 | 21.94 | 1051 | -4.28 | 1030 |
| 120 | 21.87 | 1009 | -4.56 | 1018 |
| 130 | 22.04 | 946 | -4.66 | 990 |
| 140 | 22.42 | 868 | -4.62 | 947 |
| 150 | 22.69 | 782 | -4.77 | 899 |
| 160 | 22.45 | 700 | -5.53 | 856 |
| 170 | 21.40 | 640 | -7.06 | 826 |
| 180 | 19.61 | 609 | -9.07 | 805 |

* REFER TO FIGURES 39, 41, 45, 46, AND 49 (RM 63TMP-2)

*Table 62. Points with B=0.2443 Gauss, L=1.186 Earth Radii, and I=0.231 Earth Radii

| LONGITUDE DEGREES EAST | NORTHERN LATITUDE DEGREES NORTH | NORTHERN ALTITUDE KILOMETERS | SOUTHERN LATITUDE DEGREES NORTH | SOUTHERN ALTITUDE KILOMETERS |
|---|---|---|---|---|
| -170 | 17.50 | 800 | -11.02 | 972 |
| -160 | 15.46 | 800 | -12.96 | 944 |
| -150 | 13.57 | 802 | -14.81 | 909 |
| -140 | 11.79 | 803 | -16.60 | 866 |
| -130 | 10.09 | 805 | -18.32 | 817 |
| -120 | 8.45 | 805 | -20.01 | 762 |
| -110 | 6.76 | 802 | -21.82 | 701 |
| -100 | 4.86 | 787 | -23.95 | 628 |
| -90 | 2.67 | 748 | -26.43 | 532 |
| -80 | 0.39 | 679 | -29.03 | 408 |
| -70 | -1.46 | 586 | -31.24 | 258 |
| -60 | -1.88 | 502 | -32.44 | 101 |
| -50 | 0.65 | 489 | -31.81 | -21 |
| -40 | 5.51 | 535 | -28.33 | -31 |
| -30 | 10.34 | 587 | -22.59 | 81 |
| -20 | 14.27 | 641 | -16.99 | 218 |
| -10 | 17.30 | 700 | -12.53 | 341 |
| 0 | 19.54 | 760 | -9.17 | 452 |
| 10 | 20.95 | 818 | -6.87 | 546 |
| 20 | 21.48 | 871 | -5.83 | 617 |
| 30 | 21.22 | 921 | -5.95 | 668 |
| 40 | 20.52 | 971 | -6.66 | 715 |
| 50 | 19.98 | 1026 | -7.14 | 785 |
| 60 | 20.09 | 1092 | -6.84 | 887 |
| 70 | 20.73 | 1159 | -5.90 | 1001 |
| 80 | 21.45 | 1214 | -4.87 | 1099 |
| 90 | 21.91 | 1247 | -4.20 | 1168 |
| 100 | 22.04 | 1255 | -4.03 | 1206 |
| 110 | 21.98 | 1238 | -4.22 | 1218 |
| 120 | 21.94 | 1197 | -4.45 | 1208 |
| 130 | 22.10 | 1137 | -4.55 | 1181 |
| 140 | 22.42 | 1062 | -4.55 | 1139 |
| 150 | 22.63 | 980 | -4.74 | 1091 |
| 160 | 22.34 | 902 | -5.52 | 1049 |
| 170 | 21.30 | 843 | -7.02 | 1018 |
| 180 | 19.57 | 811 | -8.98 | 995 |

* REFER TO FIGURES 39, 41, 45, 46, AND 49 (RM 63TMP-2)

*Table 63. Points with B=0.2254 Gauss, L=1.218 Earth Radii, and I=0.235 Earth Radii

| LONGITUDE DEGREES EAST | NORTHERN LATITUDE DEGREES NORTH | NORTHERN ALTITUDE KILOMETERS | SOUTHERN LATITUDE DEGREES NORTH | SOUTHERN ALTITUDE KILOMETERS |
|---|---|---|---|---|
| -170 | 17.50 | 1000 | -10.93 | 1162 |
| -160 | 15.47 | 998 | -12.89 | 1134 |
| -150 | 13.56 | 999 | -14.76 | 1099 |
| -140 | 11.75 | 999 | -16.57 | 1057 |
| -130 | 10.02 | 999 | -18.32 | 1009 |
| -120 | 8.34 | 998 | -20.05 | 955 |
| -110 | 6.61 | 992 | -21.89 | 894 |
| -100 | 4.71 | 974 | -24.02 | 821 |
| -90 | 2.57 | 933 | -26.43 | 727 |
| -80 | 0.38 | 864 | -28.89 | 607 |
| -70 | -1.33 | 774 | -30.91 | 465 |
| -60 | -1.62 | 693 | -31.93 | 319 |
| -50 | 0.76 | 675 | -31.21 | 206 |
| -40 | 5.32 | 714 | -27.99 | 186 |
| -30 | 10.01 | 765 | -22.70 | 274 |
| -20 | 13.92 | 818 | -17.31 | 397 |
| -10 | 16.96 | 877 | -12.89 | 516 |
| 0 | 19.21 | 937 | -9.54 | 624 |
| 10 | 20.64 | 994 | -7.23 | 716 |
| 20 | 21.22 | 1048 | -6.15 | 788 |
| 30 | 21.03 | 1099 | -6.18 | 843 |
| 40 | 20.44 | 1151 | -6.76 | 896 |
| 50 | 19.99 | 1208 | -7.13 | 970 |
| 60 | 20.13 | 1275 | -6.79 | 1074 |
| 70 | 20.75 | 1342 | -5.88 | 1187 |
| 80 | 21.44 | 1397 | -4.88 | 1285 |
| 90 | 21.90 | 1431 | -4.22 | 1354 |
| 100 | 22.06 | 1440 | -4.02 | 1394 |
| 110 | 22.03 | 1425 | -4.16 | 1407 |
| 120 | 22.01 | 1387 | -4.36 | 1398 |
| 130 | 22.16 | 1329 | -4.45 | 1372 |
| 140 | 22.44 | 1257 | -4.48 | 1331 |
| 150 | 22.58 | 1178 | -4.72 | 1284 |
| 160 | 22.24 | 1103 | -5.51 | 1242 |
| 170 | 21.21 | 1046 | -6.98 | 1210 |
| 180 | 19.52 | 1013 | -8.91 | 1186 |

* REFER TO FIGURES 39, 41, 45, 46, AND 49 (RM 63TMP-2)

*Table 64. Points with B=0.1859 Gauss, L=1.297 Earth Radii, and I=0.248 Earth Radii

| LONGITUDE DEGREES EAST | NORTHERN LATITUDE DEGREES NORTH | NORTHERN ALTITUDE KILOMETERS | SOUTHERN LATITUDE DEGREES NORTH | SOUTHERN ALTITUDE KILOMETERS |
|---|---|---|---|---|
| -170 | 17.50 | 1500 | -10.77 | 1641 |
| -160 | 15.49 | 1494 | -12.75 | 1613 |
| -150 | 13.54 | 1492 | -14.67 | 1578 |
| -140 | 11.67 | 1490 | -16.54 | 1538 |
| -130 | 9.87 | 1487 | -18.35 | 1491 |
| -120 | 8.11 | 1481 | -20.17 | 1438 |
| -110 | 6.32 | 1469 | -22.07 | 1377 |
| -100 | 4.41 | 1444 | -24.17 | 1304 |
| -90 | 2.36 | 1399 | -26.42 | 1214 |
| -80 | 0.39 | 1330 | -28.60 | 1102 |
| -70 | -1.03 | 1245 | -30.26 | 976 |
| -60 | -1.11 | 1170 | -30.95 | 850 |
| -50 | 0.99 | 1144 | -30.13 | 750 |
| -40 | 4.96 | 1168 | -27.34 | 716 |
| -30 | 9.32 | 1214 | -22.88 | 763 |
| -20 | 13.14 | 1266 | -17.99 | 856 |
| -10 | 16.20 | 1324 | -13.73 | 960 |
| 0 | 18.47 | 1383 | -10.39 | 1061 |
| 10 | 19.95 | 1441 | -8.07 | 1151 |
| 20 | 20.63 | 1496 | -6.90 | 1226 |
| 30 | 20.63 | 1550 | -6.70 | 1289 |
| 40 | 20.27 | 1605 | -6.98 | 1354 |
| 50 | 20.03 | 1667 | -7.11 | 1438 |
| 60 | 20.23 | 1736 | -6.70 | 1544 |
| 70 | 20.82 | 1803 | -5.84 | 1655 |
| 80 | 21.46 | 1859 | -4.91 | 1752 |
| 90 | 21.92 | 1895 | -4.26 | 1823 |
| 100 | 22.12 | 1907 | -4.00 | 1865 |
| 110 | 22.16 | 1895 | -4.03 | 1882 |
| 120 | 22.18 | 1862 | -4.16 | 1876 |
| 130 | 22.31 | 1810 | -4.25 | 1852 |
| 140 | 22.48 | 1744 | -4.36 | 1814 |
| 150 | 22.49 | 1672 | -4.68 | 1769 |
| 160 | 22.07 | 1604 | -5.50 | 1727 |
| 170 | 21.04 | 1550 | -6.92 | 1693 |
| 180 | 19.44 | 1516 | -8.77 | 1666 |

* REFER TO FIGURES 40, 42, 45, 46, AND 49 (RM 63TMP-2)

*Table 65. Points with B=0.5316 Gauss, L=1.712 Earth Radii, and I=2.188 Earth Radii

| NORTHERN | | | SOUTHERN | | |
|---|---|---|---|---|---|
| LONGITUDE DEGREES EAST | LATITUDE DEGREES NORTH | ALTITUDE KILOMETERS | LONGITUDE DEGREES EAST | LATITUDE DEGREES NORTH | ALTITUDE KILOMETERS |
| -178 | 47.67 | -329 | -170 | -37.75 | 14 |
| -168 | 45.98 | -330 | -160 | -39.84 | -9 |
| -158 | 43.80 | -295 | -150 | -41.90 | -33 |
| -148 | 41.44 | -239 | -140 | -43.97 | -64 |
| -138 | 39.12 | -177 | -130 | -46.09 | -104 |
| -128 | 36.91 | -120 | -120 | -48.34 | -155 |
| -118 | 34.81 | -75 | -110 | -50.78 | -220 |
| -108 | 32.76 | -45 | -100 | -53.35 | -295 |
| -98 | 30.75 | -35 | -90 | -55.83 | -378 |
| -88 | 28.86 | -46 | -80 | -57.92 | -467 |
| -78 | 27.39 | -79 | -70 | -59.49 | -560 |
| -68 | 26.98 | -133 | -60 | -60.43 | -660 |
| -58 | 28.36 | -198 | -50 | -60.74 | -770 |
| -48 | 31.47 | -266 | -40 | -60.38 | -900 |
| -38 | 35.02 | -326 | -30 | -59.34 | -1062 |
| -28 | 38.65 | -354 | -20 | -57.58 | -1279 |
| -18 | 41.59 | -355 | -10 | -55.39 | -1606 |
| -8 | 43.68 | -342 | 0 | -54.98 | -2164 |
| 2 | 45.12 | -319 | 10 | -38.53 | -1570 |
| 12 | 45.97 | -286 | 20 | -34.70 | -1318 |
| 22 | 46.25 | -239 | 30 | -33.61 | -1312 |
| 32 | 46.11 | -179 | 40 | -34.09 | -1419 |
| 42 | 45.86 | -107 | 50 | -34.26 | -1154 |
| 52 | 45.70 | -32 | 60 | -33.08 | -737 |
| 62 | 45.76 | 39 | 70 | -31.55 | -422 |
| 72 | 46.00 | 100 | 80 | -30.12 | -193 |
| 82 | 46.29 | 148 | 90 | -29.14 | -34 |
| 92 | 46.55 | 178 | 100 | -28.72 | 69 |
| 102 | 46.78 | 186 | 110 | -28.76 | 131 |
| 112 | 47.03 | 169 | 120 | -29.01 | 162 |
| 122 | 47.42 | 126 | 130 | -29.37 | 170 |
| 132 | 47.94 | 59 | 140 | -29.86 | 160 |
| 142 | 48.53 | -27 | 150 | -30.65 | 135 |
| 152 | 48.98 | -122 | 160 | -31.92 | 103 |
| 162 | 49.11 | -214 | 170 | -33.65 | 69 |
| 172 | 48.71 | -288 | 180 | -35.66 | 39 |

• REFER TO FIGURES 43, 44, 47, 48, AND 50 (RM 63TMP-2)

*Table 66. Points with B=0.5051 Gauss, L=1.735 Earth Radii, and I=2.209 Earth Radii

| NORTHERN | | | SOUTHERN | | |
|---|---|---|---|---|---|
| LONGITUDE DEGREES EAST | LATITUDE DEGREES NORTH | ALTITUDE KILOMETERS | LONGITUDE DEGREES EAST | LATITUDE DEGREES NORTH | ALTITUDE KILOMETERS |
| -178 | 47.47 | -217 | -170 | -37.65 | 117 |
| -168 | 45.79 | -219 | -160 | -39.74 | 94 |
| -158 | 43.63 | -186 | -150 | -41.81 | 69 |
| -148 | 41.31 | -133 | -140 | -43.89 | 37 |
| -138 | 39.00 | -74 | -130 | -46.02 | -4 |
| -128 | 36.80 | -19 | -120 | -48.28 | -56 |
| -118 | 34.69 | 24 | -110 | -50.70 | -120 |
| -108 | 32.65 | 52 | -100 | -53.22 | -196 |
| -98 | 30.65 | 62 | -90 | -55.64 | -281 |
| -88 | 28.78 | 51 | -80 | -57.69 | -371 |
| -78 | 27.34 | 17 | -70 | -59.21 | -465 |
| -68 | 26.95 | -36 | -60 | -60.12 | -566 |
| -58 | 28.31 | -101 | -50 | -60.40 | -679 |
| -48 | 31.36 | -166 | -40 | -60.01 | -809 |
| -38 | 34.94 | -223 | -30 | -58.92 | -970 |
| -28 | 38.39 | -251 | -20 | -57.09 | -1184 |
| -18 | 41.38 | -251 | -10 | -54.71 | -1501 |
| -8 | 43.49 | -238 | 0 | -54.25 | -2078 |
| 2 | 44.94 | -215 | 10 | -39.10 | -1484 |
| 12 | 45.81 | -181 | 20 | -35.18 | -1231 |
| 22 | 46.13 | -135 | 30 | -34.01 | -1208 |
| 32 | 46.05 | -75 | 40 | -34.32 | -1247 |
| 42 | 45.83 | -4 | 50 | -34.19 | -981 |
| 52 | 45.69 | 70 | 60 | -33.02 | -611 |
| 62 | 45.76 | 139 | 70 | -31.52 | -312 |
| 72 | 46.00 | 200 | 80 | -30.11 | -88 |
| 82 | 46.29 | 247 | 90 | -29.13 | 68 |
| 92 | 46.56 | 276 | 100 | -28.69 | 170 |
| 102 | 46.79 | 284 | 110 | -28.70 | 232 |
| 112 | 47.05 | 267 | 120 | -28.94 | 263 |
| 122 | 47.42 | 225 | 130 | -29.29 | 272 |
| 132 | 47.92 | 160 | 140 | -29.78 | 262 |
| 142 | 48.47 | 76 | 150 | -30.57 | 238 |
| 152 | 48.88 | -17 | 160 | -31.84 | 206 |
| 162 | 48.96 | -106 | 170 | -33.56 | 173 |
| 172 | 48.53 | -177 | 180 | -35.56 | 143 |

* REFER TO FIGURES 43, 44, 47, 48, AND 50 (RM 63TMP-2)

*Table 67. Points with B=0.4802 Gauss, L=1.758 Earth Radii, and I=2.230 Earth Radii

| NORTHERN | | | SOUTHERN | | |
|---|---|---|---|---|---|
| LONGITUDE DEGREES EAST | LATITUDE DEGREES NORTH | ALTITUDE KILOMETERS | LONGITUDE DEGREES EAST | LATITUDE DEGREES NORTH | ALTITUDE KILOMETERS |
| -178 | 47.28 | -106 | -170 | -37.55 | 221 |
| -168 | 45.62 | -108 | -160 | -39.64 | 197 |
| -158 | 43.49 | -78 | -150 | -41.73 | 170 |
| -148 | 41.18 | -27 | -140 | -43.82 | 138 |
| -138 | 38.89 | 29 | -130 | -45.96 | 96 |
| -128 | 36.69 | 82 | -120 | -48.21 | 44 |
| -118 | 34.58 | 123 | -110 | -50.61 | -21 |
| -108 | 32.54 | 150 | -100 | -53.10 | -98 |
| -98 | 30.54 | 159 | -90 | -55.46 | -183 |
| -88 | 28.69 | 147 | -80 | -57.46 | -274 |
| -78 | 27.29 | 113 | -70 | -58.94 | -369 |
| -68 | 26.92 | 60 | -60 | -59.82 | -472 |
| -58 | 28.26 | -3 | -50 | -60.07 | -585 |
| -48 | 31.25 | -67 | -40 | -59.65 | -716 |
| -38 | 34.83 | -120 | -30 | -58.51 | -876 |
| -28 | 38.14 | -149 | -20 | -56.60 | -1085 |
| -18 | 41.17 | -148 | -10 | -54.01 | -1386 |
| -8 | 43.30 | -135 | 0 | -90.00 | 0 |
| 2 | 44.77 | -111 | 10 | -39.57 | -1377 |
| 12 | 45.66 | -77 | 20 | -35.62 | -1136 |
| 22 | 46.02 | -30 | 30 | -34.37 | -1096 |
| 32 | 45.98 | 29 | 40 | -34.44 | -1078 |
| 42 | 45.79 | 99 | 50 | -34.12 | -824 |
| 52 | 45.68 | 171 | 60 | -32.96 | -486 |
| 62 | 45.76 | 240 | 70 | -31.48 | -202 |
| 72 | 46.00 | 300 | 80 | -30.09 | 16 |
| 82 | 46.29 | 346 | 90 | -29.11 | 170 |
| 92 | 46.56 | 375 | 100 | -28.65 | 272 |
| 102 | 46.80 | 382 | 110 | -28.64 | 333 |
| 112 | 47.06 | 366 | 120 | -28.86 | 365 |
| 122 | 47.42 | 325 | 130 | -29.20 | 373 |
| 132 | 47.90 | 260 | 140 | -29.70 | 364 |
| 142 | 48.41 | 179 | 150 | -30.50 | 340 |
| 152 | 48.78 | 89 | 160 | -31.76 | 309 |
| 162 | 48.82 | 2 | 170 | -33.47 | 276 |
| 172 | 48.35 | -67 | 180 | -35.47 | 246 |

* REFER TO FIGURES 43, 44, 47, 48, AND 50 (RM 63TMP-2)

*Table 68. Points with B=0.4571 Gauss, L=1.782 Earth Radii, and I=2.251 Earth Radii

| NORTHERN | | | SOUTHERN | | |
|---|---|---|---|---|---|
| LONGITUDE DEGREES EAST | LATITUDE DEGREES NORTH | ALTITUDE KILOMETERS | LONGITUDE DEGREES EAST | LATITUDE DEGREES NORTH | ALTITUDE KILOMETERS |
| -178 | 47.11 | 5 | -170 | -37.46 | 324 |
| -168 | 45.45 | 2 | -160 | -39.56 | 299 |
| -158 | 43.34 | 30 | -150 | -41.65 | 272 |
| -148 | 41.05 | 78 | -140 | -43.74 | 239 |
| -138 | 38.78 | 132 | -130 | -45.89 | 197 |
| -128 | 36.58 | 182 | -120 | -48.14 | 143 |
| -118 | 34.47 | 222 | -110 | -50.53 | 78 |
| -108 | 32.43 | 248 | -100 | -52.98 | 1 |
| -98 | 30.44 | 256 | -90 | -55.30 | -84 |
| -88 | 28.62 | 244 | -80 | -57.25 | -176 |
| -78 | 27.24 | 210 | -70 | -58.69 | -273 |
| -68 | 26.90 | 157 | -60 | -59.53 | -376 |
| -58 | 28.22 | 95 | -50 | -59.75 | -490 |
| -48 | 31.15 | 33 | -40 | -59.30 | -621 |
| -38 | 34.72 | -17 | -30 | -58.11 | -779 |
| -28 | 37.90 | -48 | -20 | -56.12 | -981 |
| -18 | 40.98 | -45 | -10 | -53.31 | -1261 |
| -8 | 43.12 | -31 | 0 | -90.00 | 0 |
| 2 | 44.60 | -7 | 10 | -39.92 | -1253 |
| 12 | 45.51 | 27 | 20 | -36.00 | -1030 |
| 22 | 45.90 | 74 | 30 | -34.65 | -974 |
| 32 | 45.91 | 133 | 40 | -34.53 | -918 |
| 42 | 45.75 | 202 | 50 | -34.06 | -676 |
| 52 | 45.66 | 273 | 60 | -32.90 | -364 |
| 62 | 45.75 | 341 | 70 | -31.44 | -92 |
| 72 | 46.00 | 400 | 80 | -30.07 | 120 |
| 82 | 46.30 | 445 | 90 | -29.09 | 272 |
| 92 | 46.57 | 474 | 100 | -28.62 | 373 |
| 102 | 46.81 | 481 | 110 | -28.59 | 434 |
| 112 | 47.07 | 465 | 120 | -28.79 | 466 |
| 122 | 47.43 | 424 | 130 | -29.13 | 475 |
| 132 | 47.88 | 361 | 140 | -29.62 | 465 |
| 142 | 48.35 | 282 | 150 | -30.43 | 443 |
| 152 | 48.68 | 194 | 160 | -31.69 | 412 |
| 162 | 48.68 | 110 | 170 | -33.39 | 380 |
| 172 | 48.19 | 43 | 180 | -35.37 | 350 |

* REFER TO FIGURES 43, 44, 47, 48, AND 50 (RM 63TMP-2)

*Table 69. Points with B=0.4150 Gauss, L=1.828 Earth Radii, and I=2.293 Earth Radii

| NORTHERN | | | SOUTHERN | | |
|---|---|---|---|---|---|
| LONGITUDE DEGREES EAST | LATITUDE DEGREES NORTH | ALTITUDE KILOMETERS | LONGITUDE DEGREES EAST | LATITUDE DEGREES NORTH | ALTITUDE KILOMETERS |
| -178 | 46.78 | 226 | -170 | -37.28 | 530 |
| -168 | 45.14 | 222 | -160 | -39.39 | 504 |
| -158 | 43.08 | 246 | -150 | -41.49 | 475 |
| -148 | 40.83 | 289 | -140 | -43.61 | 440 |
| -138 | 38.57 | 338 | -130 | -45.77 | 397 |
| -128 | 36.37 | 384 | -120 | -48.02 | 343 |
| -118 | 34.26 | 421 | -110 | -50.37 | 277 |
| -108 | 32.22 | 444 | -100 | -52.75 | 199 |
| -98 | 30.26 | 450 | -90 | -54.98 | 113 |
| -88 | 28.47 | 437 | -80 | -56.85 | 20 |
| -78 | 27.15 | 403 | -70 | -58.21 | -78 |
| -68 | 26.85 | 351 | -60 | -58.99 | -183 |
| -58 | 28.13 | 290 | -50 | -59.14 | -297 |
| -48 | 30.95 | 232 | -40 | -58.62 | -426 |
| -38 | 34.44 | 186 | -30 | -57.36 | -579 |
| -28 | 37.81 | 162 | -20 | -55.22 | -765 |
| -18 | 40.62 | 161 | -10 | -52.04 | -994 |
| -8 | 42.76 | 175 | 0 | -47.13 | -1198 |
| 2 | 44.28 | 200 | 10 | -40.31 | -976 |
| 12 | 45.23 | 235 | 20 | -36.58 | -800 |
| 22 | 45.68 | 282 | 30 | -35.07 | -720 |
| 32 | 45.77 | 340 | 40 | -34.58 | -620 |
| 42 | 45.67 | 407 | 50 | -33.94 | -400 |
| 52 | 45.63 | 476 | 60 | -32.78 | -125 |
| 62 | 45.74 | 543 | 70 | -31.36 | 126 |
| 72 | 46.00 | 600 | 80 | -30.02 | 328 |
| 82 | 46.30 | 644 | 90 | -29.05 | 476 |
| 92 | 46.58 | 671 | 100 | -28.56 | 576 |
| 102 | 46.83 | 678 | 110 | -28.48 | 637 |
| 112 | 47.09 | 662 | 120 | -28.65 | 669 |
| 122 | 47.43 | 623 | 130 | -28.98 | 678 |
| 132 | 47.84 | 563 | 140 | -29.47 | 669 |
| 142 | 48.25 | 488 | 150 | -30.29 | 647 |
| 152 | 48.50 | 405 | 160 | -31.54 | 617 |
| 162 | 48.43 | 325 | 170 | -33.23 | 586 |
| 172 | 47.88 | 262 | 180 | -35.20 | 556 |

* REFER TO FIGURES 43, 44, 47, 48, AND 50 (RM 63TMP-2)

*Table 70. Points with B=0.3780 Gauss, L=1.875 Earth Radii, and I=2.336 Earth Radii

| NORTHERN | | | SOUTHERN | | |
|---|---|---|---|---|---|
| LONGITUDE DEGREES EAST | LATITUDE DEGREES NORTH | ALTITUDE KILOMETERS | LONGITUDE DEGREES EAST | LATITUDE DEGREES NORTH | ALTITUDE KILOMETERS |
| -178 | 46.49 | 445 | -170 | -37.11 | 735 |
| -168 | 44.86 | 440 | -160 | -39.23 | 708 |
| -158 | 42.84 | 461 | -150 | -41.35 | 678 |
| -148 | 40.63 | 499 | -140 | -43.49 | 642 |
| -138 | 38.38 | 544 | -130 | -45.66 | 598 |
| -128 | 36.19 | 587 | -120 | -47.91 | 542 |
| -118 | 34.07 | 620 | -110 | -50.23 | 476 |
| -108 | 32.04 | 641 | -100 | -52.55 | 398 |
| -98 | 30.09 | 646 | -90 | -54.69 | 312 |
| -88 | 28.34 | 631 | -80 | -56.48 | 218 |
| -78 | 27.07 | 596 | -70 | -57.77 | 119 |
| -68 | 26.80 | 545 | -60 | -58.49 | 15 |
| -58 | 28.05 | 486 | -50 | -58.58 | -99 |
| -48 | 30.77 | 430 | -40 | -58.00 | -226 |
| -38 | 34.18 | 388 | -30 | -56.66 | -371 |
| -28 | 37.50 | 367 | -20 | -54.41 | -539 |
| -18 | 40.28 | 366 | -10 | -51.02 | -722 |
| -8 | 42.43 | 380 | 0 | -46.03 | -822 |
| 2 | 43.98 | 406 | 10 | -40.51 | -696 |
| 12 | 44.97 | 442 | 20 | -36.98 | -556 |
| 22 | 45.47 | 488 | 30 | -35.33 | -462 |
| 32 | 45.61 | 546 | 40 | -34.61 | -344 |
| 42 | 45.59 | 611 | 50 | -33.84 | -140 |
| 52 | 45.59 | 679 | 60 | -32.67 | 109 |
| 62 | 45.73 | 744 | 70 | -31.28 | 343 |
| 72 | 46.00 | 800 | 80 | -29.97 | 536 |
| 82 | 46.31 | 843 | 90 | -29.00 | 680 |
| 92 | 46.60 | 870 | 100 | -28.49 | 778 |
| 102 | 46.85 | 876 | 110 | -28.38 | 839 |
| 112 | 47.11 | 861 | 120 | -28.52 | 871 |
| 122 | 47.44 | 823 | 130 | -28.84 | 881 |
| 132 | 47.81 | 766 | 140 | -29.34 | 872 |
| 142 | 48.16 | 694 | 150 | -30.16 | 851 |
| 152 | 48.34 | 615 | 160 | -31.42 | 822 |
| 162 | 48.20 | 540 | 170 | -33.09 | 791 |
| 172 | 47.61 | 480 | 180 | -35.04 | 762 |

* REFER TO FIGURES 43, 44, 47, 48, AND 50 (RM 63TMP-2)

*Table 71. Points with B=0.3453 Gauss, L=1.922 Earth Radii, and I=2.380 Earth Radii

| NORTHERN | | | SOUTHERN | | |
|---|---|---|---|---|---|
| LONGITUDE DEGREES EAST | LATITUDE DEGREES NORTH | ALTITUDE KILOMETERS | LONGITUDE DEGREES EAST | LATITUDE DEGREES NORTH | ALTITUDE KILOMETERS |
| -178 | 46.23 | 664 | -170 | -36.97 | 940 |
| -168 | 44.61 | 657 | -160 | -39.09 | 912 |
| -158 | 42.62 | 675 | -150 | -41.23 | 881 |
| -148 | 40.43 | 709 | -140 | -43.38 | 844 |
| -138 | 38.20 | 750 | -130 | -45.56 | 798 |
| -128 | 36.01 | 789 | -120 | -47.80 | 742 |
| -118 | 33.90 | 820 | -110 | -50.10 | 676 |
| -108 | 31.86 | 838 | -100 | -52.36 | 598 |
| -98 | 29.93 | 841 | -90 | -54.43 | 511 |
| -88 | 28.21 | 825 | -80 | -56.14 | 418 |
| -78 | 27.00 | 790 | -70 | -57.36 | 319 |
| -68 | 26.76 | 739 | -60 | -58.02 | 214 |
| -58 | 27.97 | 682 | -50 | -58.06 | 102 |
| -48 | 30.60 | 629 | -40 | -57.42 | -21 |
| -38 | 33.93 | 589 | -30 | -56.02 | -159 |
| -28 | 37.19 | 570 | -20 | -53.69 | -310 |
| -18 | 39.95 | 570 | -10 | -50.22 | -456 |
| -8 | 42.12 | 585 | 0 | -45.48 | -515 |
| 2 | 43.69 | 612 | 10 | -40.60 | -426 |
| 12 | 44.72 | 648 | 20 | -37.26 | -308 |
| 22 | 45.27 | 695 | 30 | -35.51 | -208 |
| 32 | 45.47 | 751 | 40 | -34.60 | -83 |
| 42 | 45.51 | 815 | 50 | -33.73 | 109 |
| 52 | 45.56 | 882 | 60 | -32.56 | 338 |
| 62 | 45.72 | 945 | 70 | -31.20 | 559 |
| 72 | 46.00 | 1000 | 80 | -29.91 | 744 |
| 82 | 46.31 | 1042 | 90 | -28.95 | 884 |
| 92 | 46.61 | 1068 | 100 | -28.43 | 981 |
| 102 | 46.87 | 1074 | 110 | -28.29 | 1041 |
| 112 | 47.13 | 1059 | 120 | -28.41 | 1074 |
| 122 | 47.44 | 1023 | 130 | -28.71 | 1083 |
| 132 | 47.78 | 968 | 140 | -29.22 | 1076 |
| 142 | 48.07 | 900 | 150 | -30.05 | 1055 |
| 152 | 48.19 | 825 | 160 | -31.30 | 1027 |
| 162 | 48.00 | 754 | 170 | -32.95 | 997 |
| 172 | 47.37 | 697 | 180 | -34.89 | 968 |

• REFER TO FIGURES 43, 44, 47, 48, AND 50 (RM 63TMP-2)

*Table 72. Points with B=0.2787 Gauss, L=2.039 Earth Radii, and I=2.491 Earth Radii

| NORTHERN | | | SOUTHERN | | |
|---|---|---|---|---|---|
| LONGITUDE DEGREES EAST | LATITUDE DEGREES NORTH | ALTITUDE KILOMETERS | LONGITUDE DEGREES EAST | LATITUDE DEGREES NORTH | ALTITUDE KILOMETERS |
| -178 | 45.68 | 1204 | -170 | -36.64 | 1450 |
| -168 | 44.08 | 1195 | -160 | -38.78 | 1420 |
| -158 | 42.14 | 1206 | -150 | -40.95 | 1387 |
| -148 | 40.00 | 1232 | -140 | -43.13 | 1347 |
| -138 | 37.79 | 1264 | -130 | -45.33 | 1300 |
| -128 | 35.61 | 1295 | -120 | -47.56 | 1243 |
| -118 | 33.50 | 1320 | -110 | -49.79 | 1175 |
| -108 | 31.48 | 1333 | -100 | -51.93 | 1098 |
| -98 | 29.59 | 1331 | -90 | -53.85 | 1012 |
| -88 | 27.95 | 1312 | -80 | -55.40 | 919 |
| -78 | 26.83 | 1276 | -70 | -56.48 | 822 |
| -68 | 26.66 | 1227 | -60 | -57.00 | 720 |
| -58 | 27.80 | 1173 | -50 | -56.93 | 613 |
| -48 | 30.23 | 1125 | -40 | -56.17 | 500 |
| -38 | 33.35 | 1091 | -30 | -54.66 | 383 |
| -28 | 36.48 | 1076 | -20 | -52.26 | 267 |
| -18 | 39.20 | 1078 | -10 | -48.87 | 177 |
| -8 | 41.39 | 1095 | 0 | -44.73 | 154 |
| 2 | 43.01 | 1122 | 10 | -40.68 | 210 |
| 12 | 44.14 | 1160 | 20 | -37.63 | 301 |
| 22 | 44.80 | 1207 | 30 | -35.75 | 402 |
| 32 | 45.14 | 1262 | 40 | -34.57 | 531 |
| 42 | 45.30 | 1324 | 50 | -33.50 | 700 |
| 52 | 45.46 | 1387 | 60 | -32.31 | 897 |
| 62 | 45.69 | 1448 | 70 | -31.00 | 1092 |
| 72 | 46.00 | 1500 | 80 | -29.77 | 1261 |
| 82 | 46.33 | 1540 | 90 | -28.83 | 1393 |
| 92 | 46.64 | 1564 | 100 | -28.27 | 1487 |
| 102 | 46.92 | 1571 | 110 | -28.07 | 1547 |
| 112 | 47.18 | 1558 | 120 | -28.15 | 1579 |
| 122 | 47.45 | 1525 | 130 | -28.43 | 1590 |
| 132 | 47.70 | 1476 | 140 | -28.94 | 1583 |
| 142 | 47.88 | 1415 | 150 | -29.78 | 1564 |
| 152 | 47.87 | 1348 | 160 | -31.03 | 1537 |
| 162 | 47.56 | 1286 | 170 | -32.66 | 1508 |
| 172 | 46.85 | 1235 | 180 | -34.58 | 1479 |

* REFER TO FIGURES 43, 44, 47, 48, AND 50 (RM 63TMP-2)

*Table 73. Geomagnetic Equator

| EAST LONGITUDE (DEG) | ALTITUDE 100 KILOMETERS LATITUDE (DEG) | B | INDUCTION BR (GAUSS) | BP | BT | ALTITUDE 1500 KILOMETERS LATITUDE (DEG) | B | INDUCTION BR (GAUSS) | BP | BT |
|---|---|---|---|---|---|---|---|---|---|---|
| -180 | +4.785 | .3236 | +.027 | +.317 | -.059 | +5.358 | .1783 | +.009 | +.175 | -.031 |
| -170 | +2.577 | .3223 | +.025 | +.316 | -.059 | +3.350 | .1769 | +.009 | +.174 | -.033 |
| -160 | +.730 | .3196 | +.021 | +.314 | -.056 | +1.363 | .1756 | +.007 | +.172 | -.033 |
| -150 | -.900 | .3155 | +.016 | +.311 | -.053 | -.548 | .1741 | +.006 | +.171 | -.032 |
| -140 | -2.473 | .3107 | +.011 | +.306 | -.050 | -2.398 | .1723 | +.003 | +.169 | -.031 |
| -130 | -3.967 | .3059 | +.004 | +.302 | -.047 | -4.193 | .1704 | +.001 | +.168 | -.030 |
| -120 | -5.341 | .3017 | -.003 | +.298 | -.045 | -5.964 | .1683 | -.002 | +.166 | -.029 |
| -110 | -6.787 | .2980 | -.011 | +.294 | -.045 | -7.805 | .1658 | -.004 | +.163 | -.028 |
| -100 | -8.680 | .2934 | -.017 | +.289 | -.048 | -9.829 | .1626 | -.006 | +.160 | -.026 |
| -90 | -11.243 | .2850 | -.021 | +.280 | -.046 | -12.026 | .1584 | -.008 | +.157 | -.022 |
| -80 | -14.207 | .2718 | -.025 | +.268 | -.035 | -14.122 | .1531 | -.009 | +.152 | -.014 |
| -70 | -16.765 | .2561 | -.029 | +.254 | -.012 | -15.613 | .1475 | -.011 | +.147 | -.003 |
| -60 | -17.715 | .2435 | -.035 | +.240 | +.019 | -15.891 | .1427 | -.013 | +.142 | +.010 |
| -50 | -15.689 | .2403 | -.038 | +.232 | +.051 | -14.459 | .1402 | -.014 | +.137 | +.024 |
| -40 | -10.506 | .2484 | -.037 | +.234 | +.075 | -11.247 | .1403 | -.015 | +.135 | +.035 |
| -30 | -4.533 | .2608 | -.032 | +.246 | +.085 | -6.963 | .1428 | -.015 | +.136 | +.041 |
| -20 | +.340 | .2726 | -.028 | +.257 | +.082 | -2.673 | .1467 | -.015 | +.140 | +.041 |
| -10 | +4.011 | .2847 | -.025 | +.274 | +.074 | +.998 | .1512 | -.014 | +.146 | +.039 |
| 0 | +6.841 | .2975 | -.022 | +.290 | +.062 | +3.861 | .1560 | -.013 | +.152 | +.033 |
| +10 | +8.780 | .3097 | -.021 | +.306 | +.045 | +5.823 | .1607 | -.013 | +.158 | +.026 |
| +20 | +9.503 | .3197 | -.022 | +.318 | +.023 | +6.800 | .1651 | -.013 | +.164 | +.018 |
| +30 | +8.898 | .3271 | -.024 | +.326 | +.005 | +6.889 | .1691 | -.013 | +.168 | +.011 |
| +40 | +7.437 | .3327 | -.027 | +.332 | -.003 | +6.491 | .1732 | -.013 | +.173 | +.008 |
| +50 | +6.216 | .3397 | -.028 | +.339 | +.004 | +6.221 | .1782 | -.012 | +.178 | +.009 |
| +60 | +6.213 | .3518 | -.024 | +.350 | +.018 | +6.512 | .1842 | -.010 | +.184 | +.011 |
| +70 | +7.309 | .3670 | -.019 | +.366 | +.027 | +7.305 | .1907 | -.008 | +.190 | +.013 |
| +80 | +8.575 | .3803 | -.015 | +.379 | +.023 | +8.193 | .1964 | -.006 | +.196 | +.011 |
| +90 | +9.232 | .3878 | -.012 | +.387 | +.010 | +8.789 | .2003 | -.005 | +.200 | +.007 |
| +100 | +9.071 | .3888 | -.009 | +.389 | -.004 | +8.969 | .2021 | -.003 | +.202 | +.002 |
| +110 | +8.429 | .3843 | -.004 | +.384 | -.012 | +8.874 | .2017 | -.001 | +.202 | -.001 |
| +120 | +7.923 | .3760 | +.002 | +.376 | -.011 | +8.774 | .1995 | +.001 | +.199 | -.003 |
| +130 | +8.007 | .3653 | +.007 | +.365 | -.007 | +8.844 | .1960 | +.003 | +.196 | -.005 |
| +140 | +8.596 | .3528 | +.013 | +.352 | -.010 | +9.019 | .1916 | +.005 | +.191 | -.008 |
| +150 | +9.069 | .3402 | +.019 | +.339 | -.021 | +8.996 | .1871 | +.007 | +.186 | -.013 |
| +160 | +8.665 | .3303 | +.024 | +.327 | -.038 | +8.426 | .1831 | +.008 | +.182 | -.020 |
| +170 | +7.070 | .3253 | +.027 | +.320 | -.052 | +7.160 | .1802 | +.009 | +.178 | -.027 |
| +180 | +4.785 | .3236 | +.027 | +.317 | -.059 | +5.358 | .1783 | +.009 | +.175 | -.031 |

* REFER TO FIGURES 51 (RM 63TMP-2)