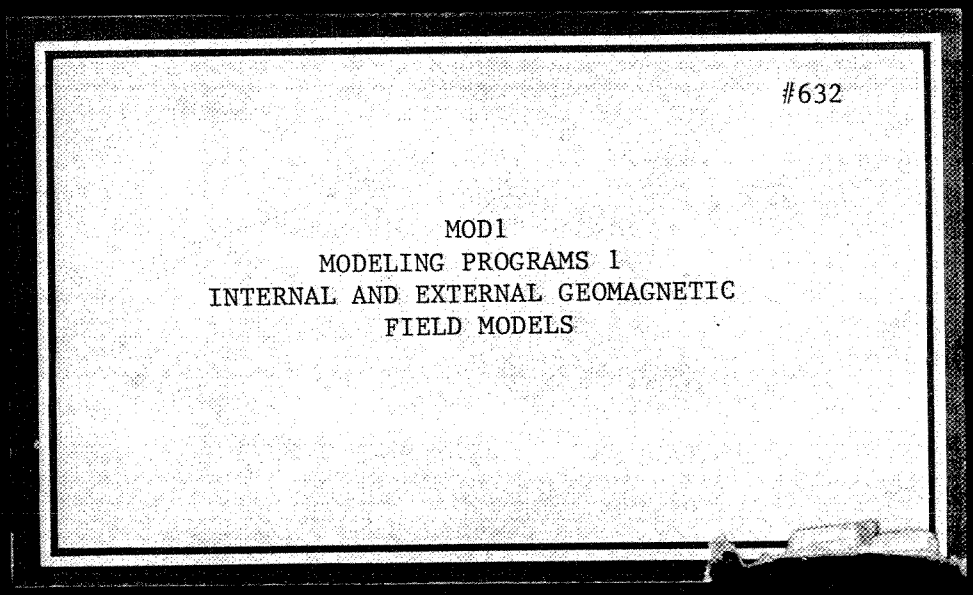
#632
MOD1
MODELING PROGRAMS 1
INTERNAL AND EXTERNAL GEOMAGNETIC
FIELD MODELS

Table of Contents

1. Introduction

2. Errata/Change Log

3. LINKS TO RELEVANT INFORMATION IN THE ONLINE NSSDC INFORMATION SYSTEM

4. Catalog Materials

    a. Associated Documents

    b. Core Catalog Materials

---

1. INTRODUCTION:

The documentation for this data set was originally on paper, kept in NSSDC's Data Set Catalogs (DSCs). The paper documentation in the Data Set Catalogs have been made into digital images, and then collected into a single PDF file for each Data Set Catalog. The inventory information in these DSCs is current as of July 1, 2004. This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system. The information existing in the DSCs is now not needed for locating the data files, but we did not remove that inventory information.

The offline tape datasets have now been migrated from the original magnetic tape to Archival Information Packages (AIP's).

A prior restoration may have been done on data sets, if a requestor of this data set has questions; they should send an inquiry to the request office to see if additional information exists.

2. ERRATA/CHANGE LOG:

NOTE: Changes are made in a text box, and will show up that way when displayed on screen with a PDF reader.

When printing, special settings may be required to make the text box appear on the printed output.

Version	Date	Person	Page	Description of Change
01				
02				

3 LINKS TO RELEVANT INFORMATION IN THE ONLINE NSSDC INFORMATION SYSTEM:

http://nssdc.gsfc.nasa.gov/nmc/

[NOTE: This link will take you to the main page of the NSSDC Master Catalog. There you will be able to perform searches to find additional information]

4. CATALOG MATERIALS:

a. Associated Documents To find associated documents you will need to know the document ID number and then click here. http://nssdcftp.gsfc.nasa.gov/miscellaneous/documents/

b. Core Catalog Materials

```
00 1960.0 GSFC (9/65)                                                    09650010
GSFC0965  1970.          9                                               09650020
   2  1-30424.8687    -0.        20.5882    -0.        -0.        -0.    09650030
   2  2 -2161.6436  5774.7937     6.0189    -3.9447    -0.        -0.    09650040
   3  1 -1536.0694    -0.       -29.0652    -0.        -0.        -0.    09650050
   3  2  3000.2321 -1949.7720     1.2055   -13.6948    -0.        -0.    09650060
   3  3  1585.2601   204.3127    -0.7050   -15.7848    -0.        -0.    09650070
   4  1  1300.9035    -0.         2.6560    -0.        -0.        -0.    09650080
   4  2 -1987.0450  -431.0374   -10.0321     6.4944    -0.        -0.    09650090
   4  3  1290.3990   230.8023     1.6348     2.9303    -0.        -0.    09650100
   4  4   871.2244  -129.9628    -1.2965    -9.2424    -0.        -0.    09650110
   5  1   957.5724    -0.        -0.8567    -0.        -0.        -0.    09650120
   5  2   802.7834   152.0185     1.9384    -1.7719    -0.        -0.    09650130
   5  3   502.6079  -268.3777    -1.1743    -1.5404    -0.        -0.    09650140
   5  4  -394.0112     2.9340    -0.5382     3.1816    -0.        -0.    09650150
   5  5   271.4478  -250.5079    -4.1704    -5.4812    -0.        -0.    09650160
   6  1  -227.7316    -0.         2.5541    -0.        -0.        -0.    09650170
   6  2   359.5200     8.6217    -0.0834     3.0445    -0.        -0.    09650180
   6  3   231.3436   121.1710     1.5269     2.8776    -0.        -0.    09650190
   6  4   -31.1976  -116.0335    -0.4253    -1.8588    -0.        -0.    09650200
   6  5  -157.2728  -110.3921    -0.7249     1.2495    -0.        -0.    09650210
   6  6   -65.2117    79.8983     1.6351     0.8041    -0.        -0.    09650220
   7  1    49.7860    -0.        -0.6977    -0.        -0.        -0.    09650230
   7  2    60.7206   -11.9215     0.9921    -1.3863    -0.        -0.    09650240
   7  3     4.5448   102.8035     0.8483     0.1197    -0.        -0.    09650250
   7  4  -241.6789    60.8995     2.1140     1.5285    -0.        -0.    09650260
   7  5    -1.1590   -27.1619     1.5719    -0.7305    -0.        -0.    09650270
   7  6     0.4627   -12.4457    -0.0915    -0.0649    -0.        -0.    09650280
   7  7  -109.1168   -11.5927     0.0601     0.4496    -0.        -0.    09650290
   8  1    70.8741    -0.        -0.        -0.        -0.        -0.    09650300
   8  2   -57.2320   -54.0146    -0.        -0.        -0.        -0.    09650310
   8  3     5.6175   -24.4457    -0.        -0.        -0.        -0.    09650320
   8  4     7.5245    -9.0703    -0.        -0.        -0.        -0.    09650330
   8  5   -24.3955     2.2124    -0.        -0.        -0.        -0.    09650340
   8  6    -1.5321    27.6165    -0.        -0.        -0.        -0.    09650350
   8  7    14.0509   -21.1240    -0.        -0.        -0.        -0.    09650360
   8  8     5.8353   -20.1268    -0.        -0.        -0.        -0.    09650370
   9  1     4.7843    -0.        -0.        -0.        -0.        -0.    09650380
   9  2     6.6592     6.9126    -0.        -0.        -0.        -0.    09650390
   9  3    -8.7679   -12.1630    -0.        -0.        -0.        -0.    09650400
   9  4   -13.7631     5.7819    -0.        -0.        -0.        -0.    09650410
   9  5    -3.3302   -17.0167    -0.        -0.        -0.        -0.    09650420
   9  6     7.0866     2.5588    -0.        -0.        -0.        -0.    09650430
   9  7    -5.6391    23.5556    -0.        -0.        -0.        -0.    09650440
   9  8    11.7293    -2.5007    -0.        -0.        -0.        -0.    09650450
   9  9     6.3864   -16.0257    -0.        -0.        -0.        -0.    09650460
  10  1     9.8551    -0.        -0.        -0.        -0.        -0.    09650470
  10  2     2.8723   -22.0020    -0.        -0.        -0.        -0.    09650480
  10  3     7.4264    15.6354    -0.        -0.        -0.        -0.    09650490
  10  4   -15.5801     5.1148    -0.        -0.        -0.        -0.    09650500
  10  5    11.4173    -3.5447    -0.        -0.        -0.        -0.    09650510
  10  6    11.1175    -1.8380    -0.        -0.        -0.        -0.    09650520
  10  7     0.9601     9.5927    -0.        -0.        -0.        -0.    09650530
  10  8    -0.0466    12.0529    -0.        -0.        -0.        -0.    09650540
  10  9     1.6069     0.2308    -0.        -0.        -0.        -0.    09650550
  10 10     1.5169    -2.5032    -0.        -0.        -0.        -0.    09650560
```

GSFC (9/65)

```
      BLOCK DATA                                                        09650570
      COMMON/LTABLE/NAME,TIME,PX(4),PY(4)                               09650580
      DOUBLE PRECISION NAME                                             09650590
      DATA NAME/8HGSFC0985/                                             09650600
      DATA TIME/ 1985.0/                                                09650610
      DATA PX/ -0.000898, -0.053687,  0.015148,  0.004137/              09650620
      DATA PY/ -0.000995, -0.038387,  0.019886, -0.012439/              09650630
      COMMON/LTABLE/T0(70)                                              09650640
      DATA T0/                                                          09650650
     X  -0.03950,-0.15314, 0.11683,-0.27536,-0.47353,-0.12879,-0.02651, 09650660
     X  -0.03484,-0.02004, 0.00288, 0.00801,-0.00001, 0.00246, 0.00048, 09650670
     X   0.00016, 0.13777,-0.09098, 0.10252,-0.44389,-0.20972,-0.08956, 09650680
     X  -0.03507,-0.00608,-0.00782, 0.00329, 0.00377, 0.00029, 0.00091, 09650690
     X   0.00002, 0.00000, 0.17213,-0.01502, 0.11499,-0.44521,-0.04247, 09650700
     X  -0.05513,-0.03234, 0.00368,-0.00592, 0.00224, 0.00169, 0.00003, 09650710
     X   0.00038,-0.00005,-0.00001, 0.12082, 0.03683, 0.10708,-0.33395, 09650720
     X   0.03806,-0.02867,-0.02043, 0.00340,-0.00423, 0.00099, 0.00056, 09650730
     X  -0.00001, 0.00014,-0.00002, 0.00001, 0.04780, 0.05860, 0.07381, 09650740
     X  -0.14081, 0.03725,-0.00854,-0.00635, 0.00085,-0.00140, 0.00018/ 09650750
      COMMON/LTABLE/T1(70)                                              09650760
      DATA T1/                                                          09650770
     X   0.00003, 0.00002, 0.00001,-0.00000,-0.00001,-0.01414, 0.02510, 09650780
     X  -0.00972, 0.14506,-0.04454, 0.00724, 0.00500, 0.00191,-0.00039, 09650790
     X   0.00017, 0.00004, 0.00002, 0.00001,-0.00000,-0.00002,-0.03080, 09650800
     X  -0.04220,-0.06875, 0.42889,-0.17583, 0.01822, 0.01577, 0.01079, 09650810
     X  -0.00590, 0.00104, 0.00032, 0.00027,-0.00016, 0.00005, 0.00001, 09650820
     X   0.04620,-0.12061,-0.06949, 0.76341,-0.37372, 0.01989, 0.02889, 09650830
     X   0.03050,-0.02474, 0.00245, 0.00117, 0.00108,-0.00139, 0.00018, 09650840
     X   0.00000, 0.24894,-0.22023,-0.00959, 1.19813,-0.65634, 0.00023, 09650850
     X   0.04576, 0.06937,-0.07104, 0.00230, 0.00416, 0.00325,-0.00649, 09650860
     X   0.00034, 0.00030, 0.63802,-0.36408, 0.09329, 1.80705,-1.056677 09650870
      COMMON/LTABLE/T2(70)                                              09650880
      DATA T2/                                                          09650890
     X  -0.06790, 0.06712, 0.14752,-0.17298,-0.00749, 0.01392, 0.00901, 09650900
     X  -0.02366,-0.00039, 0.00236, 0.10024, 0.01750, 0.75507,-0.63022, 09650910
     X  -0.35006,-0.26455,-0.11305,-0.09019,-0.11161, 0.01781, 0.01319, 09650920
     X  -0.00080, 0.01133, 0.00043, 0.00158, 0.22988, 0.11984, 0.60626, 09650930
     X  -0.67911,-0.12372,-0.19479,-0.11873,-0.03066,-0.06522, 0.01271, 09650940
     X   0.00971, 0.00023, 0.00505,-0.00038, 0.00072, 0.22034, 0.18721, 09650950
     X   0.44564,-0.59223, 0.02327,-0.13249,-0.09396,-0.00718,-0.03892, 09650960
     X   0.00834, 0.00541, 0.00032, 0.00213,-0.00034, 0.00033, 0.14049, 09650970
     X   0.20858, 0.29405,-0.41681, 0.08727,-0.07593,-0.05607,-0.00176, 09650980
     X  -0.02139, 0.00438, 0.00199, 0.00036, 0.00078,-0.00015, 0.00015/ 09650990
      COMMON/LTABLE/T3(70)                                              09651000
      DATA T3/                                                          09651010
     X   0.05330, 0.19656, 0.17426,-0.16847, 0.06638,-0.02459,-0.01820, 09651020
     X   0.00015,-0.00757, 0.00166, 0.00043, 0.00025, 0.00024,-0.00003, 09651030
     X   0.00008,-0.01989, 0.12961, 0.05769, 0.13797,-0.02191, 0.02296, 09651040
     X   0.01362, 0.00747, 0.00237, 0.00149, 0.00055, 0.00046, 0.00047, 09651050
     X   0.00002, 0.00008,-0.05769, 0.00803,-0.04503, 0.44667,-0.15565, 09651060
     X   0.06064, 0.04714, 0.02634, 0.00409, 0.00412, 0.00149, 0.00161, 09651070
     X   0.00099, 0.00016, 0.00019,-0.01068,-0.13776,-0.06816, 0.77730, 09651080
     X  -0.35008, 0.07914, 0.07900, 0.06219,-0.00848, 0.00806, 0.00329, 09651090
     X   0.00485, 0.00034, 0.00063, 0.00034, 0.14532,-0.32065, 0.02850, 09651100
     X   1.17638,-0.62210, 0.06339, 0.11486, 0.12681,-0.04900, 0.00971/ 09651110
      COMMON/LTABLE/T4(70)                                              09651120
      DATA T4/                                                          09651130
     X   0.00822, 0.01313,-0.00544, 0.00124, 0.00087, 0.43021,-0.57373, 09651140
```

```
117       X   0.24817, 1.70859,-1.00143,-0.00687, 0.15775, 0.24214,-0.13848, 09651150
118       X  -0.00239, 0.02234, 0.03382,-0.02616, 0.00032, 0.00433, 0.36400, 09651160
119       X   0.32034, 1.04141,-0.93138,-0.02568,-0.29322,-0.22571,-0.05565, 09651170
120       X  -0.14960, 0.02916, 0.01748,-0.00308, 0.01033,-0.00240, 0.00275, 09651180
121       X  -0.00068, 0.00084, 0.00032,-0.00034, 0.00011, 0.29160, 0.39358, 09651190
122       X   0.74102,-0.73259, 0.10352,-0.20795,-0.16793,-0.02242,-0.09224, 09651200
123       X   0.01952, 0.01153, 0.00016, 0.00419,-0.00140, 0.00176,-0.00033, 09651210
124       X   0.00045, 0.00006,-0.00015, 0.00004, 0.16735, 0.39321, 0.47479, 09651220
125       X  -0.48438, 0.14991,-0.12515,-0.09758,-0.01200,-0.05152, 0.01177/ 09651230
126        COMMON/LTABLE/T5(70)                                              09651240
127        DATA T5/                                                          09651250
128       X   0.00458, 0.00169, 0.00170,-0.00054, 0.00120,-0.00017, 0.00030, 09651260
129       X  -0.00001,-0.00007, 0.00000, 0.05071, 0.34207, 0.26959,-0.19732, 09651270
130       X   0.11509,-0.04118,-0.03145,-0.00233,-0.01872, 0.00619, 0.00133, 09651280
131       X   0.00180, 0.00125,-0.00006, 0.00070,-0.00008, 0.00027,-0.00003, 09651290
132       X   0.00003, 0.00000,-0.04449, 0.23571, 0.09339, 0.11453, 0.02396, 09651300
133       X   0.04090, 0.02690, 0.01645, 0.00825, 0.00562, 0.00183, 0.00258, 09651310
134       X   0.00316, 0.00013, 0.00088, 0.00005, 0.00031,-0.00001, 0.00010, 09651320
135       X  -0.00003,-0.10583, 0.07190,-0.05808, 0.42797,-0.11017, 0.11382, 09651330
136       X   0.08284, 0.04977, 0.02646, 0.01021, 0.00440, 0.00583, 0.00713, 09651340
137       X   0.00016, 0.00165, 0.00024, 0.00048, 0.00001, 0.00020,-0.00005/ 09651350
138        COMMON/LTABLE/T6(70)                                              09651360
139        DATA T6/                                                          09651370
140       X  -0.09027,-0.12845,-0.10947, 0.74505,-0.30303, 0.16464, 0.13940, 09651380
141       X   0.10365, 0.03125, 0.01545, 0.00802, 0.01305, 0.00949, 0.00095, 09651390
142       X   0.00280, 0.00072, 0.00067, 0.00008, 0.00008, 0.00013, 0.01240, 09651400
143       X  -0.37749,-0.02399, 1.10492,-0.58000, 0.18227, 0.20113, 0.19094, 09651410
144       X   0.00878, 0.01859, 0.01435, 0.03084, 0.00588, 0.00241, 0.00526, 09651420
145       X   0.00256,-0.00008, 0.00021,-0.00015, 0.00069, 0.38791, 0.62482, 09651430
146       X   1.03601,-0.86922, 0.19411,-0.28026,-0.25965,-0.03402,-0.15924, 09651440
147       X   0.03750, 0.02265,-0.00171, 0.00405,-0.00413, 0.00604,-0.00101, 09651450
148       X   0.00310, 0.00003,-0.00057,-0.00008, 0.20009, 0.59397, 0.64392, 09651460
149       X  -0.54170, 0.22791,-0.17641,-0.14604,-0.02519,-0.09106, 0.02512/ 09651470
150        COMMON/LTABLE/T7(70)                                              09651480
151        DATA T7/                                                          09651490
152       X   0.00905, 0.00538, 0.00170,-0.00120, 0.00496,-0.00061, 0.00239, 09651500
153       X  -0.00032,-0.00018,-0.00010, 0.04019, 0.49768, 0.34195,-0.22296, 09651510
154       X   0.18478,-0.05997,-0.04658,-0.00781,-0.03359, 0.01627, 0.00269, 09651520
155       X   0.00733, 0.00395, 0.00023, 0.00379,-0.00017, 0.00190,-0.00032, 09651530
156       X   0.00024,-0.00016,-0.08678, 0.34649, 0.09270, 0.09048, 0.09161, 09651540
157       X   0.05967, 0.03872, 0.02630, 0.01562, 0.01620, 0.00400, 0.00985, 09651550
158       X   0.01209, 0.00051, 0.00432, 0.00046, 0.00205,-0.00024, 0.00104, 09651560
159       X  -0.00040,-0.17758, 0.13933,-0.11873, 0.39901,-0.04514, 0.17551, 09651570
160       X   0.12209, 0.07952, 0.05614, 0.02570, 0.00991, 0.01724, 0.02681, 09651580
161       X  -0.00039, 0.00774, 0.00082, 0.00293,-0.00023, 0.00217,-0.00081/ 09651590
162        COMMON/LTABLE/T8(70)                                              09651600
163        DATA T8/                                                          09651610
164       X  -0.20286,-0.11694,-0.22877, 0.69828,-0.24775, 0.27249, 0.20803, 09651620
165       X   0.15526, 0.08083, 0.04033, 0.01465, 0.03391, 0.04286,-0.00057, 09651630
166       X   0.01376, 0.00226, 0.00390, 0.00065, 0.00407,-0.00178, 0.23103, 09651640
167       X   0.81652, 0.79769,-0.57696, 0.32140,-0.23673,-0.20456,-0.04003, 09651650
168       X  -0.13349, 0.04936, 0.01652, 0.01456,-0.00157,-0.00232, 0.01630, 09651660
169       X  -0.00101, 0.01306,-0.00161,-0.00042,-0.00077, 0.00028, 0.00072, 09651670
170       X  -0.00007, 0.00014, 0.00002,-0.00001, 0.00026, 0.00002, 0.00004, 09651680
171       X  -0.00009, 0.01622, 0.66550, 0.38155,-0.23079, 0.27522,-0.08609, 09651690
172       X  -0.06524,-0.01933,-0.05086, 0.03522, 0.00445, 0.02225, 0.00890, 09651700
173       X   0.00239, 0.01322, 0.00047, 0.00874,-0.00155, 0.00181,-0.00094/ 09651710
174        COMMON/LTABLE/T9(70)                                              09651720
```

```
      DATA T9/                                                                  09651730
     X   0.00055, 0.00030, 0.00017,-0.00001, 0.00029,-0.00014, 0.00016,        09651740
     X   0.00003, 0.00013,-0.00012,-0.14936, 0.46387, 0.04774, 0.07938,        09651750
     X   0.18195, 0.07571, 0.04969, 0.03289, 0.02229, 0.03780, 0.00667,        09651760
     X   0.02865, 0.03156, 0.00408, 0.01405, 0.00339, 0.00971,-0.00073,        09651770
     X   0.00568,-0.00139, 0.00230, 0.00005, 0.00112,-0.00036, 0.00124,        09651780
     X  -0.00059, 0.00060,-0.00038, 0.00032,-0.00034,-0.27652, 0.20043,        09651790
     X  -0.23281, 0.35889, 0.04113, 0.22955, 0.15155, 0.11040, 0.07387,        09651800
     X   0.05923, 0.01171, 0.04304, 0.06314, 0.00611, 0.01683, 0.01037,        09651810
     X   0.01176, 0.00180, 0.01154,-0.00158, 0.00528, 0.00048, 0.00268,        09651820
     X  -0.00051, 0.00297,-0.00100, 0.00145,-0.00047, 0.00098,-0.00072/        09651830
      END                                                                       09651840
      BLOCK DATA                                                                09651850
      COMMON/LTABLE/NAME,TIME,PX(4),PY(4)                                       09651860
      DOUBLE PRECISION NAME                                                     09651870
      DATA NAME/8HGSFC0965/                                                     09651880
      DATA TIME/ 1970.0/                                                        09651890
      DATA PX/ -0.001191, -0.055963,  0.017338,  0.003764/                      09651900
      DATA PY/ -0.001607, -0.038411,  0.020524, -0.012474/                      09651910
      COMMON/LTABLE/T0(70)                                                      09651920
      DATA T0/                                                                  09651930
     X  -0.01613,-0.14358, 0.12300,-0.26524,-0.47284,-0.12704,-0.01428,        09651940
     X  -0.03773,-0.01950, 0.00334, 0.00745, 0.00005, 0.00238, 0.00052,        09651950
     X   0.00011, 0.16686,-0.08509, 0.11085,-0.43410,-0.19787,-0.09021,        09651960
     X  -0.02824,-0.00773,-0.00796, 0.00344, 0.00331, 0.00038, 0.00085,        09651970
     X   0.00002,-0.00000, 0.19861,-0.01086, 0.12404,-0.43760,-0.02802,        09651980
     X  -0.05630,-0.02883, 0.00270,-0.00628, 0.00230, 0.00143, 0.00008,        09651990
     X   0.00037,-0.00006, 0.00000, 0.14017, 0.04026, 0.11488,-0.32883,        09652000
     X   0.04949,-0.02955,-0.01884, 0.00289,-0.00449, 0.00103, 0.00045,        09652010
     X   0.00001, 0.00014,-0.00001,-0.00000, 0.06013, 0.06213, 0.07872,        09652020
     X  -0.13868, 0.04209,-0.00889,-0.00590, 0.00072,-0.00144, 0.00019/        09652030
      COMMON/LTABLE/T1(70)                                                      09652040
      DATA T1/                                                                  09652050
     X   0.00004, 0.00002, 0.00002,-0.00001,-0.00003,-0.01324, 0.02546,        09652060
     X  -0.01401, 0.14266,-0.04928, 0.00737, 0.00438, 0.00187,-0.00050,        09652070
     X   0.00020, 0.00000, 0.00002,-0.00000, 0.00002, 0.00001,-0.04512,        09652080
     X  -0.04436,-0.07409, 0.42168,-0.18898, 0.01863, 0.01393, 0.01044,        09652090
     X  -0.00651, 0.00102, 0.00021, 0.00026,-0.00020, 0.00005,-0.00001,        09652100
     X   0.01881,-0.12568,-0.07438, 0.75069,-0.39460, 0.02048, 0.02576,        09652110
     X   0.02922,-0.02623, 0.00240, 0.00082, 0.00098,-0.00147, 0.00017,        09652120
     X  -0.00002, 0.20832,-0.22854,-0.01352, 1.17924,-0.68415, 0.00099,        09652130
     X   0.04163, 0.06623,-0.07387, 0.00217, 0.00351, 0.00285,-0.00668,        09652140
     X   0.00032, 0.00024, 0.38319,-0.37514, 0.09060, 1.78220,-1.08958/        09652150
      COMMON/LTABLE/T2(70)                                                      09652160
      DATA T2/                                                                  09652170
     X  -0.06685, 0.06316, 0.14142,-0.17770,-0.00754, 0.01317, 0.00786,        09652180
     X  -0.02404,-0.00042, 0.00227, 0.13432, 0.05921, 0.77434,-0.61535,        09652190
     X  -0.33416,-0.26651,-0.09087,-0.10198,-0.10849, 0.01812, 0.01019,        09652200
     X   0.00004, 0.01064, 0.00086, 0.00186, 0.26837, 0.14828, 0.82347,        09652210
     X  -0.66815,-0.10233,-0.19943,-0.10529,-0.03771,-0.06422, 0.01304,        09652220
     X   0.00790, 0.00084, 0.00461,-0.00018, 0.00076, 0.25240, 0.20629,        09652230
     X   0.46096,-0.58415, 0.04354,-0.13673,-0.08598,-0.01123,-0.03872,        09652240
     X   0.00858, 0.00439, 0.00066, 0.00192,-0.00027, 0.00038, 0.16462,        09652250
     X   0.22174, 0.30403,-0.41125, 0.10198,-0.07861,-0.05173,-0.00385,        09652260
     X  -0.02137, 0.00450, 0.00156, 0.00050, 0.00070,-0.00012, 0.00017/        09652270
      COMMON/LTABLE/T3(70)                                                      09652280
      DATA T3/                                                                  09652290
     X   0.06958, 0.20607, 0.17821,-0.16619, 0.07234,-0.02558,-0.01683,        09652300
```

```
    1  C  TESJING PROGRAM FOR THE PACKAGE OF SUBROUTINES
    2        F=L*1.5708
    3        WRITE(3,102) YY
    4        IF (K.EQ.0) GOTO 1
    5        BZ=BZ+HZ
    6  C PERMISSIBLE ERROR, ERRCUR IS ESTIMATION OF ACTUAL ERROR AT THIS STEP
    7        CALL RHAND(X+1.5*(R11-3.*R31+4.*R41),Y+1.5*(R12-3.*R32+4.*R42),
    8        IF(ERRCUR.LT.ERRIN*.04.AND.ABS(DS).LT.1.33) DS=DS*1.5
    9  C ERROR IS PERMISSIBLE STEP ERROR (RECOMMENDED VALUE IS 0.0005).
   10        L=0
   11        YY(L)=Y
   12        IF (X.GT.15.) GOTO 3
   13        ZR=Z
   14        ZF=Z
   15        COMMON A(8),SFI,CFI,B(7),AB(10),K,IY,BA(8)
   16        RETURN
   17        GOTO 2
   18        COMMON A(12),SHI,CHI,AB(13),K,IY,BA(8)
   19        RETURN
   20        XMAG=XGEO*CTCL+YGEO*CTSL-ZGEO*ST0
   21        SUBROUTINE SUN(IYR,IDAY,IHOUR,MIN,SECS,GST,SLONG,SRASN,SDEC)
   22        VL=DMOD(279.696678+0.9856473354*DJ,360.D0)
   23        SC=SIND/COSD
   24  C TRANSFORMATION IS DIRECT (X1,Y1,Z1 INPUT, X2,Y2,Z2 OUTPUT) IF J>0,
   25        Z1=A13*X2+A23*Y2+A33*Z2
   26        CF=COS(F)
   27        R=SQRT(SQ+Z**2)
   28  2     CONTINUE
   29        DO 1 I=1,3
   30        SUBROUTINE DIP(PS,X,Y,Z,BX,BY,BZ)
   31        J=Z**2
   32  C CALCULATES COMPONENTS OF MAIN GEOMAGNETIC FIELD IN SPHERICAL
   33        DATA G0/0.,-30103.6,-2016.5,-1906.7,3009.9,
   34       *,-83.4,92.3,0.,-11.2,100.4,77.6,-40.3,-7.9,15.6,0.,-76.6,-24.7,
   35       *2.8,-6.4,0.,5.4,.7,2.6,-.7,0.,.9,2.6,-2.7,1.3,1.1,0.,-.3,-.2,.2,
   36        IF(IY.NE.IYR) GOTO 3
   37    3   IYR=IY
   38        G(MN)=G(MN)*S
   39    6   IF(KNM.EQ.NM) GOTO 51
   40        D=0.
   41        DO 12 M=1,K
   42    9   Q=P
   43        W=E*Y+HH*X
   44        D2=Z
   45        BR=BBR
   46        SUBROUTINE RECALC (IYR,IDAY,IHOUR,MIN,SECS)
   47        DT=FLOAT(IY)-1975.
   48        CT0=G10/SQ
   49        SAL=SIN(AL)
   50        Y1=ST0*SDL
   51        PSI=ATAN(SPS/CPS)
   52        RETURN
   53       *AR2(3,3),AR3(3,3),ABX(3),ABY(3),ABZ(3)
   54       *46.57,-5.25,-5.35,-5.6,-6.13,-6.57,-4.58,.38,11.14,25.28,37.18,
   55        DATA X2C/11*0.,-5.81,-18.69,-19.6,-17.23,-19.06,-23.35,-35.35,
   56       *2.03,1.84,1.29,.86,0.,.1,.18,.23,.23,.72,1.19,1.22,.95,.66/
   57       *-.51,-.55,-.05,.75,.6,.3,.15,0.,-.1,-.18,-.27,-.32,-.07,.44,.43,
   58       *-4.77,-4.65,-4.24,-3.31,-2.61,-2.67,-1.84,-.29,.19,.24,-4.48,
```

TSYGANENKO FIELD MODEL

This is garbled! -DAc

```
      *.07,.13,.23,.44,.86,1.91.4.91/
       DATA XB2/-.332,-.135,-.039,-.00987,.0039,.0156,.028,.0265,.0158,
       DATA XE2/-.0456,-.0218,-.0248,-.0288,-.0283,-.0238,-.0159,-.00826,
       XMI=XMI*31000.
       D=6.37*SPS
       KK=1
 11    R=SQRT(X**2+Y**2)
       NI=8
       GOTO 25
 31    IF(R.GT.11.) GOTO 32
       MI=6
       R2=RR(MI+2)
       A2=B2
       MII=MI+I
       FY=ABY(1)*A1+ABY(2)*A2+ABY(3)*A3
 56    KL=-1
       IF (L.GT.15) L=15
       IJ=I-1
       YZ=Y*ZS
       P=RIX**2
```