673

ISS - B

F0 F2 MODELS FOR 6

4-MONTH PERIODS
78-018A-01A

REQ. AGENT

JAR

ACQ. AGENT

DKB

ISS-B

78-018A-01A

This data set catalog consists of 1600 BPI, 9 track, IBM-EBCDIC magnetic tape containing 2 files. The first file is a program and the second file consists of data. The D and C numbers, and the time span are as follows:

D#	C#	TIME SPAN
D-74762	C-27220	8/11/78 - 12/13/79

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**** TEST PROGRAM ****                                   From tape

1. PURPOSE : CALCULATION OF FOF2 (IN MHZ) AT THE LATTICE POIN
     WITH INTERVALS OF 15 AND 5 DEGREES, RESPECTIVELY IN
     GEOGRAPHICAL LONGITUDE AND LATITUDE BY USING LEGENDRE'S
     COEFFICIENTS OBTAINED FROM THE ISS-B OBSERVATIONS.

2. INPUT AND OUTPUT INDICES :
     INPUT   1  = MAGNETIC TAPE HANDLER
     OUTPUT  6  = LINE PRINTER

3. SUBROUTINE CALLED : MAGDIP,ARIES

      PARAMETER LN0=10,LN=9,LM=4
      PARAMETER K1=25,K2=37
      REAL ALPHA0(LN0),ALPHA(LN,LM),BETA(LN,LM)
      REAL BUFFX(K1),BUFFY(K2),FOF2(K1,K2)
      CHARACTER*4 AMAP
      DATA PI/3.1415926/
    2 CONTINUE

      *** READING TITLE DATA FOR EACH MAP ***

        UT        : UNIVERSAL TIME (HOUR) FOR EACH MAP
        AMAP      : DESCRIPTION OF MAP; IN THIS CASE 'ISSB'
        MDS,MDE   : START AND END DATE OF THE DATA
                    YEAR(I4),MONTH(I2) AND DAY(I2) FOR EACH

      READ(10,101,END=90) IUT,AMAP,MDS,MDE
  101 FORMAT(I2,2X,A4,2X,I8,2X,I8)
      MYYS = MDS/10000
      MMNS = (MDS-MYYS*10000)/100
      MDDS = MDS-MYYS*10000-MMNS*100
      MYYE = MDE/10000
      MMNE = (MDE-MYYE*10000)/100
      MDDE = MDE-MYYE*10000-MMNE*100

      *** READING LEGENDRE'S COEFFICIENTS FOR EACH MAP ***

      READ(10,102) ALPHA0,((ALPHA(I,J),J=1,LM),I=1,LN)
     &                    ,((BETA(I,J),J=1,LM),I=1,LN)
  102 FORMAT(5F10.5/5F10.5,18(/4F10.5))

      *** CALCULATING FOF2 ***

      DO 36 IX=1,K1
      THETA = FLOAT(IX-1)/FLOAT(K1-1)*2.*PI
      IF(THETA.GT.PI) THETA=THETA-2.*PI
      BUFFX(IX) = THETA*180./PI
      DO 36 IY=1,K2
      RLAMB = FLOAT(IY-1)/FLOAT(K2-1)*PI-PI/2.
      BUFFY(IY) = RLAMB*180./PI
      NN0 = LN0
      NN = LN
      NM = LM

      ** DIP ANGLE **

      CALL MAGDIP(RIMG,RLAMB,THETA,MYYS,MMNS,MDDS,0,0,0)

      ** MODIFIED COLATITUDE **

      XAST = PI/2.-ATAN(RIMG/SQRT(COS(RLAMB)))
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PRINTED IN U.S.A.

EXAMPLE

UT = 0H FROM 19780811 TO 19781212 ISSB

	0.	15.	30.	45.	60.	75.	90.	105.	120.	135.	150.	165.	180.	-165.	-150.	-135.	-120.	-105.	-90.	-75.	-60.	-45.	-30.	-15.	0.
90.0	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
85.0	5.3	5.2	5.2	5.3	5.4	5.5	5.7	6.0	6.2	6.5	6.6	6.7	6.8	6.8	6.7	6.6	6.5	6.4	6.3	6.2	6.0	5.8	5.6	5.4	5.3
80.0	4.8	4.7	4.7	4.8	4.9	5.1	5.4	5.8	6.2	6.6	6.8	7.0	7.1	7.1	7.0	6.9	6.7	6.5	6.4	6.3	6.1	5.8	5.4	5.0	4.8
75.0	4.4	4.3	4.3	4.4	4.5	4.7	5.0	5.6	6.2	6.7	7.0	7.2	7.4	7.5	7.4	7.2	6.9	6.6	6.5	6.4	6.2	5.8	5.3	4.7	4.4
70.0	4.1	4.0	4.1	4.1	4.1	4.3	4.8	5.5	6.3	6.9	7.3	7.5	7.7	7.9	7.9	7.6	7.2	6.7	6.5	6.4	6.3	5.8	5.2	4.5	4.1
65.0	3.9	3.8	3.8	3.8	3.8	4.0	4.6	5.5	6.5	7.2	7.6	7.8	8.0	8.3	8.4	8.1	7.5	6.9	6.6	6.5	6.3	5.8	5.1	4.3	3.9
60.0	3.7	3.7	3.7	3.6	3.5	3.7	4.4	5.6	6.8	7.7	8.0	8.1	8.4	8.8	9.0	8.7	7.9	7.1	6.7	6.5	6.3	5.8	5.0	4.2	3.7
55.0	3.7	3.6	3.6	3.4	3.3	3.5	4.4	5.8	7.3	8.2	8.5	8.6	8.8	9.4	9.7	9.3	8.4	7.4	6.7	6.5	6.3	5.8	5.0	4.2	3.7
50.0	3.9	3.7	3.6	3.3	3.1	3.4	4.5	6.2	7.8	8.9	9.2	9.1	9.4	10.1	10.5	10.1	8.9	7.6	6.8	6.5	6.3	5.8	5.1	4.3	3.9
45.0	4.2	3.9	3.7	3.3	3.0	3.4	4.7	6.7	8.5	9.6	9.9	9.8	10.1	10.8	11.2	10.8	9.5	8.0	7.0	6.5	6.3	5.9	5.3	4.7	4.2
40.0	4.8	4.4	3.9	3.3	3.1	3.6	5.1	7.3	9.3	10.4	10.6	10.6	10.9	11.5	12.0	11.6	10.2	8.4	7.2	6.6	6.4	6.1	5.7	5.2	4.8
35.0	5.8	5.2	4.4	3.6	3.3	4.0	5.7	8.0	9.9	11.0	11.4	11.5	11.8	12.3	12.7	12.3	10.9	9.0	7.5	6.8	6.6	6.4	6.3	6.2	5.8
30.0	7.2	6.4	5.2	4.2	3.9	4.7	6.5	8.6	10.3	11.3	11.9	12.4	12.8	13.1	13.4	13.1	11.6	9.7	8.0	7.1	6.9	7.0	7.2	7.4	7.2
25.0	8.9	8.1	6.6	5.2	4.8	5.7	7.2	8.9	10.2	11.1	12.1	13.1	13.7	13.9	14.1	13.7	12.4	10.5	8.6	7.6	7.4	7.7	8.3	8.9	8.9
20.0	10.1	9.7	8.3	6.6	5.8	6.2	7.4	8.7	9.8	10.7	11.8	13.1	14.2	14.6	14.5	14.1	13.1	11.4	9.6	8.3	8.1	8.6	9.2	9.7	10.1
15.0	9.8	9.9	8.9	7.1	5.8	5.6	6.8	8.8	10.3	11.1	11.4	12.1	13.7	14.6	14.5	14.1	13.5	12.5	10.8	9.4	9.1	9.4	9.3	9.1	9.8
10.0	8.9	8.4	7.6	6.4	5.1	4.9	6.3	8.9	11.3	12.2	11.6	10.6	11.8	13.4	13.8	13.6	13.5	13.2	12.2	10.7	10.1	9.8	8.1	8.4	8.9
5.0	9.4	7.9	6.7	6.1	5.7	6.0	6.9	8.4	10.8	12.3	12.2	10.5	9.7	11.3	12.5	12.9	13.0	13.3	13.1	11.9	10.8	9.0	7.5	9.7	9.4
0.	10.3	8.6	7.2	6.6	6.8	7.3	7.8	8.4	9.7	11.4	12.7	12.2	10.2	10.1	11.7	12.7	12.6	12.2	12.4	12.0	10.4	7.4	9.1	11.4	10.3
-5.0	9.9	8.6	7.3	6.4	6.5	7.1	8.0	8.9	9.8	11.3	13.0	13.9	12.8	11.6	12.3	13.4	12.9	11.2	10.1	10.1	8.5	6.9	11.5	11.3	9.9
-10.0	8.6	7.7	6.6	5.6	5.4	6.1	7.5	9.1	10.3	11.5	12.9	14.3	14.6	13.7	13.5	14.2	14.1	12.0	9.0	7.6	6.7	8.9	12.1	9.8	8.6
-15.0	7.3	6.7	5.9	4.9	4.6	5.2	6.8	8.9	10.4	11.5	12.5	13.7	14.5	14.4	14.0	14.3	14.8	13.9	10.9	7.9	7.8	11.3	10.8	8.2	7.3
-20.0	6.3	5.9	5.3	4.4	4.0	4.6	6.3	8.4	10.2	11.2	11.8	12.6	13.5	13.8	13.6	13.8	14.5	14.7	13.4	10.8	10.6	11.8	9.1	7.0	6.3
-25.0	5.6	5.3	4.9	4.2	3.8	4.3	5.9	8.0	9.7	10.6	11.1	11.6	12.3	12.7	12.8	12.9	13.5	14.2	14.1	12.7	11.9	10.6	7.6	6.2	5.6
-30.0	5.2	5.0	4.6	4.0	3.7	4.2	5.7	7.5	9.1	10.0	10.4	10.7	11.2	11.7	11.9	12.0	12.4	13.0	13.3	12.6	11.3	9.0	6.6	5.6	5.2
-35.0	4.9	4.7	4.5	4.0	3.6	4.2	5.5	7.2	8.6	9.4	9.7	9.9	10.3	10.8	11.1	11.2	11.4	11.8	12.1	11.6	10.0	7.7	6.0	5.3	4.9
-40.0	4.7	4.6	4.4	3.9	3.6	4.2	5.4	6.9	8.1	8.9	9.2	9.3	9.7	10.1	10.4	10.5	10.6	10.9	11.1	10.5	8.9	6.9	5.6	5.0	4.7
-45.0	4.5	4.4	4.3	3.9	3.7	4.3	5.4	6.7	7.7	8.4	8.7	8.8	9.1	9.5	9.8	10.0	10.1	10.3	10.4	9.7	8.2	6.5	5.4	4.8	4.5
-50.0	4.3	4.3	4.2	3.9	3.8	4.4	5.4	6.6	7.4	8.0	8.2	8.4	8.7	9.1	9.4	9.5	9.6	9.8	9.9	9.3	7.9	6.5	5.4	4.7	4.3
-55.0	4.2	4.1	4.1	3.9	3.9	4.5	5.5	6.5	7.2	7.6	7.9	8.1	8.3	8.7	9.0	9.1	9.3	9.5	9.7	9.2	8.1	6.6	5.4	4.6	4.2
-60.0	4.0	3.9	4.0	4.0	4.2	4.7	5.6	6.4	7.0	7.4	7.6	7.8	8.1	8.4	8.7	8.8	9.0	9.3	9.6	9.4	8.4	7.0	5.6	4.6	4.0
-65.0	4.0	3.8	4.0	4.1	4.5	5.0	5.7	6.4	6.9	7.2	7.4	7.6	7.8	8.1	8.4	8.6	8.8	9.1	9.5	9.6	8.9	7.5	5.9	4.6	4.0
-70.0	4.1	3.9	4.1	4.4	4.8	5.3	5.9	6.5	6.9	7.1	7.3	7.5	7.7	7.9	8.1	8.3	8.6	9.0	9.5	9.7	9.2	7.9	6.3	4.9	4.1
-75.0	4.4	4.2	4.4	4.8	5.2	5.7	6.1	6.5	6.8	7.1	7.2	7.3	7.5	7.7	7.9	8.1	8.4	8.8	9.3	9.5	9.2	8.1	6.6	5.2	4.4
-80.0	5.0	4.7	4.9	5.3	5.7	6.0	6.4	6.6	6.8	7.0	7.1	7.2	7.4	7.5	7.7	7.9	8.1	8.5	8.9	9.1	8.8	8.0	6.8	5.7	5.0
-85.0	5.8	5.6	5.7	5.9	6.1	6.4	6.6	6.7	6.9	7.0	7.1	7.1	7.2	7.3	7.5	7.6	7.8	8.0	8.2	8.2	8.0	7.5	6.9	6.2	5.8
-90.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9

A sample list of foF2 values derived from the first set of "Coefficients" on the magnetic tape, by using "Program" on the other magnetic tape.

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$EXE SED
LIS 1
 *F.1  MODCOMP SOURCE EDITOR      DATE  04/04/91  09:28:41        PAGE   1


  1  00UTISSB  19780811  19781212
  2     9.11996  -1.42995  -2.94860   0.08313  -1.28641
  3    -0.43094   2.47173   0.34942  -0.85631   0.04805
  4    -2.99747   0.        0.        0.
  5    -0.11852   0.27879   0.        0.
  6    -0.57453   0.03322   0.08142   0.
  7    -0.05736  -0.01013   0.00415  -0.00082
  8     0.14253   0.01352  -0.00272  -0.00019
  9     0.01588  -0.01489   0.00024   0.00052
 10     0.1306    0.00647   0.00237  -0.00024
 11    -0.00176  -0.00323   0.00056  -0.00026
 12    -0.05342   0.00104  -0.00143   0.00002
 13    -2.20638   0.        0.        0.
 14     0.08644  -0.10172   0.        0.
 15    -0.24190   0.03768   0.02383   0.
 16    -0.03580  -0.02823  -0.00157  -0.00026
 17     0.15435  -0.00692   0.00074   0.00123
 18     0.13669  -0.00666  -0.00364   0.00041
 19    -0.16293   0.01026   0.00018  -0.00028
 20    -0.05251  -0.00223   0.00088   0.00010
 21     0.09362  -0.00295  -0.00003   0.00003
 22  01UTISSB  19780811  19781212
 23     9.92094  -1.19426  -3.32983  -0.38913  -0.88782
 24    -0.40523   2.53270   0.67940  -1.01134  -0.15280
 25    -3.37514   0.        0.        0.
 26     0.00539   0.14948   0.        0.
 27    -0.54476   0.03642   0.07171   0.
 28    -0.07430  -0.03451   0.00773  -0.00127
 29     0.16709   0.02083  -0.00169   0.00124
 30     0.06573  -0.01145  -0.00215   0.00020
 31     0.05637  -0.00479   0.00174  -0.00034
 32    -0.00353  -0.00566   0.00116   0.00003
 33    -0.03727  -0.00031  -0.00074   0.00004
 34    -1.37829   0.        0.        0.
 35     0.13728  -0.11790   0.        0.
 36    -0.06068   0.00449  -0.01118   0.
 37     0.17870  -0.03905   0.00614  -0.00171
 38     0.03174  -0.02348  -0.00144   0.00073
 39     0.08589   0.00612  -0.00193   0.00026
 40    -0.18563   0.01416  -0.00061  -0.00017
 41    -0.01452  -0.00459   0.00066   0.00017
 42     0.10511   0.00366   0.00067   0.00003
 43  02UTISSB  19780811  19781212
 44     9.07881  -0.35049  -3.53657  -0.36680  -0.83806
 45    -0.45361   2.45064   0.45104  -0.99485   0.06104
 46    -3.61983   0.        0.        0.
 47     0.15310  -0.19775   0.        0.
 48    -0.36159   0.02451   0.02066   0.
 49    -0.00228  -0.04762   0.00990   0.00176
 50     0.11019   0.00472   0.00212   0.00118
 51     0.11769  -0.02134   0.00035   0.00041
 52     0.02101  -0.00473  -0.00007  -0.00023
 53    -0.04753  -0.00195   0.00038  -0.00001
 54    -0.03751  -0.00063   0.00018  -0.00000
 55    -0.66053   0.        0.        0.
 56     0.15238  -0.13484   0.        0.
 57     0.06112  -0.03964  -0.04638   0.
 58     0.25754  -0.04543  -0.00527  -0.00357
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349    -2.07124   0.         0.         0.
350    -0.24601  -1.26217    0.         0.
351    -0.20371  -0.06949    0.06824    0.
352    -0.06383   0.00044    0.01033    0.00916
353    -0.09025  -0.02112   -0.00179   -0.00066
354     0.04078  -0.01879    0.00399    0.00054
355     0.20701  -0.00031    0.00037   -0.00016
356    -0.04681   0.00867   -0.00033   -0.00003
357    -0.04511   0.00454    0.00047    0.00007
358  17UTISSB  19780811  19781212
359     8.87216  -0.45754   -3.02641    0.45825   -1.77554
360     0.18011   2.41658   -0.11215   -0.48368   -0.16806
361     2.60923   0.         0.         0.
362     1.15217  -0.46618    0.         0.
363     0.14075  -0.08305    0.05716    0.
364     0.01108   0.01153    0.00589   -0.00365
365    -0.27664  -0.02076    0.00602   -0.00177
366    -0.11172  -0.01144   -0.00281   -0.00046
367     0.16152   0.00271    0.00002   -0.00006
368     0.02484  -0.00186   -0.00079   -0.00003
369    -0.05287   0.00306    0.00026   -0.00005
370    -2.67573   0.         0.         0.
371    -0.25909  -0.05978    0.         0.
372    -0.31332  -0.05261   -0.00585    0.
373    -0.02975   0.03197    0.00485    0.00582
374     0.01531  -0.01555   -0.00325   -0.00073
375     0.07975  -0.02327    0.00191    0.00043
376     0.17138  -0.00161   -0.00083    0.00009
377    -0.03352   0.00711    0.00083   -0.00000
378    -0.02021   0.00312    0.00118    0.00001
379  18UTISSB  19780811  19781212
380     8.90501  -0.65123   -3.19293    0.67203   -1.63373
381     0.27937   2.59361   -0.50106   -0.72500    0.11086
382     1.99444   0.         0.         0.
383     0.00004  -0.33214    0.         0.
384    -0.03481  -0.11292    0.03469    0.
385    -0.02779   0.03050   -0.00180   -0.00516
386    -0.24007  -0.00912    0.00131   -0.00217
387    -0.04017  -0.01830   -0.00343   -0.00019
388     0.20878   0.00032   -0.00067    0.00007
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$REW SI
$AVF SI 2
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