672

IMP H & J

HOUR AVERAGED PROTON FLUX
72-073A-08M/73-078A-08G

DAILY AVERAGED FLUXES
72-073A-08O/73-078A-08I

672	72-073A-08M	SPMS-00489
672	72-073A-08O	SPHE-00506
672	73-078A-08G	SPHE-00590
672	73-078A-08I	SPHE-00506

Table of Contents

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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 This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system.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

IMP H & J

HOUR AVERAGED PROTON FLUX

72-073A-08M / 73-078A-08G

SPMS-00489 SPHE-00590

THIS DATA SET CONSISTS OF THREE TAPES. IMP-H (72-073A-08M) DATA COVER YEARS 1972 AND 1973 OF THE FIRST TAPE TAPE ONLY. THE REST IS IMP-J (73-078A-08G). THE FIRST TWO TAPES ARE SINGLE FILED AND CONTAIN VAX BINARY DATA. THE THIRD TAPE CONTAINS THREE FILES (ONE FOR EACH YEAR OF DATA). THE THIRD TAPE CONTAINS THREE FILES (ONE FOR EACH YEAR OF DATA) AND IS IN ASCII FORMAT IN PAGES (WITH HEADERS FOR EACH PAGE). SAMPLE PAGES FROM EACH FILE ARE IN THE PRINTOUT SECTION. THE BINARY DATA TAPES ARE UNBLOCKED (60 BYTE RECORDS). THE D AND C NUMBERS AND TIME SPANS FOLLOW:

DD079140	DC027091	1	09/26/72 - 12/31/73 01/01/74 - 12/31/82	(IMP-H) (IMP-J)
DD079141	DC027092	1	01/01/83 - 10/28/88	(IMP-J)
DD086223	DC029247	3	10/25/88 - 12/30/90	(IMP-J)
DD108810	DC032877	2	01/01/95 - 10/17/96	(IMP-J)

THE UNIVERSITY OF KANSAS · LAWRENCE, KANSAS · 66045-2151

DEPARTMENT OF
PHYSICS & ASTRONOMY
913-864-4626
Telex: 535004 DEPT PHYS ASTR

January 13, 1989

MEMO

TO: Joe King
IMP-8 Project Scientist
NSSDC

FROM: Thomas P. Armstrong TPA

SUBJECT: New Release of IMP 7 and 8 Solar Particle Data Set

This memo covers the shipment to you for immediate release to NSSDC of daily averaged plots of integral proton fluxes >1, 2, 4, 10, 30, and 60 MeV derived from the IMP 7 and 8 CPME instrument for the interval 1972 day 275 to 1988 day 300. I am also shipping you a magnetic tape data set of hourly averages of these same thresholds. We have taken great care to eliminate magnetospheric contributions to the lower thresholds of the daily averages and to flag the affected hourly averages on the tape. Note that this data set extends to lower thresholds, namely >1, 2, 4 MeV, the widely used solar proton data set. Note also the *length* of the data set and the fact that there are only a few missing days in the 16 year span. I expect that this data set will be widely used for studies of solar cycle time-scale statistical properties of solar particles.

I believe that this data set testifies eloquently to the past success of the IMP 7 and 8 project and to the continuing value and importance of IMP 8 tracking and data reduction.

TPA/thw

Enclosure

cc: S.M. Krimigis
R. McGuire
File

From: NCF::KING 20-MAR-1995 07:20:47.09
To: EMILY,POST
CC: KING
Subj: 1993-4 Armstrong fluxes

Ralph, the data referenced below should be a straight extension of 73-078A-08G. I assume you will capture it and add it to -08G. I also note that the AIM SATX says that data set runs only to end of 1990. It is clear OMNI has these data to end of 1992. Either AIM is out of date, or somehow -08G did not get extended when we last extended OMNI with these data. I assume you'll resolve/fix this also. (If you have to add the 1991-2 data to -08G, you'll have to take them from OMNI.)

Emily, for purposes of adding the 1993-4 data to OMNI, you mught want to coordinate with Ralph Post as to whether it would be better for you to get the data from him, or to do a separate independent download of the data from Kansas.

Joe King

From: KUPHSX::IMP 17-MAR-1995 16:56:20.89
To: NCF::KING
CC:
Subj: 1993 & 1994 hourly averages fluxes with old softwave

Dear Dr.King,

Those 1993 & 1994 hourly averages integer proton fluxes are now available in www at the following location:
http://kuspa1.phsx.ukans.edu:8000/kuspa1$dka100/imp/www/index.html

from
Pua

Description of Hourly Average Flux File

Each record of the Hourly Average Flux file is 60-bytes long, and it has year, day, hour, 6 channels of flux (1 Mev, 2 Mev, 4 Mev, 10 Mev, 30 Mev, and 60 Mev), and 6 channels of flags. The times are stored in I*4; the fluxes are stored in R*4, and the flags are stored in I*4. Each flag corresponds to each channel. The flag value is always 1, except when the flux is dominated by magnetospheric event, the flag value is 0. The hourly average fluxes for 1972 and 1973 are computed from IMP 7 and the rest are from IMP 8.

MSB0:01 has the hourly average flux from time 1972 270 16 to 1982 365 22 and MSB0:02 has the hourly average flux from time 1983 1 2 to 1988 302 14.

Time		
Year	I*4	1
Day	I*4	2
Hour	I*4	3
Flux		
>1Mev	R*4	4
>2Mev	R*4	5
>4Mev	R*4	6
>10Mev	R*4	7
>30Mev	R*4	8
>60Mev	R*4	9
Flag		
>1Mev	I*4	10
>2Mev	I*4	11
>4Mev	I*4	12
>10Mev	I*4	13
>30Mev	I*4	14
>60Mev	I*4	15

TIME			FLUX						FLAG					
YEAR	DAY	HH	>1 Mev	>2 Mev	>4 Mev	>10 Mev	>30 Mev	>60 Mev	F1	F2	F3	F4	F5	F6
1972	270	17	0.409	0.361	0.353	0.348	0.345	0.345	1	1	1	1	1	1
1972	270	18	0.438	0.373	0.360	0.355	0.350	0.348	1	1	1	1	1	1
1972	270	19	0.423	0.362	0.347	0.341	0.337	0.335	1	1	1	1	1	1
1972	270	20	0.387	0.337	0.328	0.325	0.320	0.317	1	1	1	1	1	1
1972	270	21	0.387	0.323	0.316	0.313	0.306	0.304	1	1	1	1	1	1
1972	270	22	0.484	0.412	0.401	0.396	0.391	0.390	1	1	1	1	1	1
1972	270	23	0.405	0.340	0.328	0.323	0.318	0.315	1	1	1	1	1	1
1972	271	0	0.408	0.345	0.335	0.331	0.327	0.325	1	1	1	1	1	1
1972	271	1	0.388	0.317	0.305	0.301	0.299	0.295	1	1	1	1	1	1
1972	271	2	0.427	0.352	0.341	0.336	0.333	0.333	1	1	1	1	1	1
1972	271	3	0.407	0.343	0.333	0.328	0.324	0.323	1	1	1	1	1	1
1972	271	4	0.380	0.320	0.311	0.306	0.300	0.295	1	1	1	1	1	1
1972	271	5	0.409	0.355	0.346	0.342	0.339	0.334	1	1	1	1	1	1
1972	271	6	0.433	0.366	0.355	0.349	0.345	0.343	1	1	1	1	1	1
1972	271	7	0.420	0.345	0.336	0.332	0.330	0.328	1	1	1	1	1	1
1972	271	8	0.428	0.340	0.330	0.326	0.322	0.321	1	1	1	1	1	1
1972	271	9	0.424	0.335	0.326	0.322	0.318	0.315	1	1	1	1	1	1
1972	271	10	0.419	0.332	0.319	0.314	0.308	0.308	1	1	1	1	1	1
1972	271	11	0.458	0.363	0.354	0.350	0.346	0.346	1	1	1	1	1	1
1972	271	12	0.434	0.331	0.320	0.316	0.313	0.313	1	1	1	1	1	1
1972	271	13	0.457	0.343	0.333	0.328	0.325	0.323	1	1	1	1	1	1
1972	271	14	0.421	0.316	0.302	0.297	0.292	0.287	1	1	1	1	1	1
1972	271	15	0.477	0.380	0.372	0.369	0.363	0.363	1	1	1	1	1	1
1972	271	16	0.406	0.314	0.307	0.303	0.301	0.301	1	1	1	1	1	1

```
Dump of device MSB0: on 13-JAN-1989 16:18:28.55

Block number 1 (00000001), 60 (003C) bytes

 F3733FBD C6A43FC1 81C03FC4 ACBE3FC9 4B243FE0 00000010 0000010E 000007B4 ¶.....à?$KÉ?¶¶Ä?À.Á?¶Æ½?só 000000
          00000001 00000001 00000001 00000001 00000001 00000001 F3733FBD ½?só.............................. 000020
```

Dump of device MSB0: on 13-JAN-1989 16:18:28.55

Block number 2 (00000002), 60 (003C) bytes

```
 E1713FB0 6AE33FB2 924A3FB4 F2003FB8 67B83FD1 00000011 0000010E 000007B4 ¶.....Ñ?¶g¶?.ò¶?J.²?ãj°?qá 000000
          00000001 00000001 00000001 00000001 00000001 00000001 E1713FB0 °?qá.......................... 000020
```

```
Dump of device MSB0: on 13-JAN-1989 16:18:28.55

Block number 3 (00000003), 60 (003C) bytes

 0E1D3FB3 A7D13FB5 27883FB8 2B4C3FBF 24FD3FE0 00000012 0000010E 000007B4 ¶.....à?ÿ$¿?L+¶?.'µ?Ñ§'?.. 000000
          00000001 00000001 00000001 00000001 00000001 00000001 1B773FB2 ²?w.............................. 000020
```

```
Dump of device MSB0: on 13-JAN-1989 16:18:28.55

Block number 4 (00000004), 60 (003C) bytes

 5DDD3FAC B2093FAE CAC23FB1 33083FB9 BF143FD8 00000013 0000010E 000007B4 ¶.....Ø?.¿¹?.3±?ÂÊ¶?.²¶?Ÿ] 000000
          00000001 00000001 00000001 00000001 00000001 00000001 6F743FAB «?to.............................. 000020
```

```
Dump of device MSB0: on 13-JAN-1989 16:18:28.55

Block number 5 (00000005), 60 (003C) bytes

 A0D73FA3 41C93FA6 23553FA8 55063FAC 3CE13FC6 00000014 0000010E 000007B4 ¶...........Æ?á<¶?.U¤?U#¶?ÉA£?Œ. 000000
          00000001 00000001 00000001 00000001 00000001 00000001 3C8F3FA2 ¢?.<.............................. 000020
```

```
Dump of device MSB0: on 13-JAN-1989 16:18:28.55

Block number 6 (00000006), 60 (003C) bytes

 CE553F9C 7C6A3FA0 AE053FA1 94CC3FA5 F9443FC5 00000015 0000010E 000007B4 ?.....Å?Dù¥?Ì.¡?.?.?j|.?Uî 000000
          00000001 00000001 00000001 00000001 00000001 00000001 6F2A3F9B .?*o.............................. 000020
```

```
Dump of device MSB0: on 13-JAN-1989 16:18:28.55

Block number 7 (00000007), 60 (003C) bytes

 F03D3FC7 F5D93FCA 833E3FCD E7C03FD2 979E3FF7 00000016 0000010E 000007B4 ¶...........œ?..Ò?ÀçÍ?>.Ê?ÙõÇ?=¶ 000000
          00000001 00000001 00000001 00000001 00000001 00000001 79483FC7 Ç?Hy.............................. 000020
```

Dump of device MSB0: on 13-JAN-1989 16:18:28.55

Block number 8 (00000008), 60 (003C) bytes

```
 D84E3FA2 9A803FA5 08C93FA8 223F3FAE 5C623FCF 00000017 0000010E 000007B4 ¶..........Ï?b\¶??"¤?É.¥?..¢?NØ 000000
          00000001 00000001 00000001 00000001 00000001 00000001 6ECC3FA1 ¡?Ìn............................ 000020
```

```
Dump of device MSB0: on 13-JAN-1989 16:18:28.55

Block number 9 (00000009), 60 (003C) bytes

 67883FA7 6DCB3FA9 704B3FAB D0FE3FB0 08BC3FD1 00000000 0000010F 000007B4 ¶...........Ñ?¼.°?¶¶«?Kp•?Ëm§?.g 000000
          00000001 00000001 00000001 00000001 00000001 00000001 7B303FA6 ¶?0{........................... 000020
```

```
Dump of device MSB0: on 13-JAN-1989 16:18:28.55

Block number 10 (0000000A), 60 (003C) bytes

 F86C3F98 E2DB3F99 0F483F9C 5F283FA2 99053FC6 00000001 0000010F 000007B4 ¶...........Æ?..¢?(_.?H..?Ûâ.?lø 000000
          00000001 00000001 00000001 00000001 00000001 00000001 19B03F97 .?°.............................. 000020
```

D-79140
9/26/72 - 12/31/82

FILE 1 RECORD 0784 = 1972 0 010E = 270 = 9/26 00 BYTES

(0) 6407 0000 6E01 0000 10000000 E05F244B C93F6EAC C43FC061 C13FA4C6 BD3F73F3 BD3F73F3 01000000
(40) 01000000 01000000 01000000 01000000 01000000

FILE 1 RECORD 7376 0786 = 1982 016D = 365 = 12/31 00 BYTES

(0) 6E07 0000 6D01 0000 16000000 0A4379CC B2420440 9841FE11 71401688 943F94CC 643FA8FF 01000000
(40) 01000000 01000000 01000000 01000000 01000000

D-79141

1/1/83 - 10/28/88

FILE 1 RECORD 1 60 BYTES

07BF = 1983 0001 = 1/1

(0) 0F070000 01000000 02000000 0B43EE72 964298BB 84415EF0 5B40DB86 8E3F2138 6A3F400B 01000000
(40) 01000000 01000000 01000000 01000000 01000000

FILE 1 RECORD 2910 60 BYTES

07C4 = 1988 0128 = 302 = 10/28

(0) C4070000 EE010000 0F000000 C542F369 AA419D0C 61405C4B C13F0CF9 953F363D 943F903A 01000000
(40) 01000000 01000000 01000000 01000000 01000000

D86223 / C 29247
12/31/88 - 12/30/90

```
$$
$EXE TPLIST BS

INPUT PARAMETERS ARE:  AS FL=1=1 3 1 1

 TAPE NO.   1              FILE NO.   1
 RECORD   1                LENGTH   1 9
1                      1988 HOURLY AVG


 TAPE NO.   1              FILE NO.   1
 RECORD   1 E5             LENGTH   8+
 1988 365 23    4.6.      7.78      1.49      2.891      .371      1.335

 TAPE NO.   1              FILE NO.   2
 RECORD   1                LENGTH   1 9
1                      1989 HOURLY AVG


 TAPE NO.   1              FILE NO.   2
 RECORD   6738             LENGTH   8+
 1989 365 23  0  0  1.54      1.539      1.358      0.347      0.292      0.218

 TAPE NO.   1              FILE NO.   3
 RECORD   1                LENGTH   1 9
1                      1990 HOURLY AVG


 TAPE NO.   1              FILE NO.   3
 RECORD   6361             LENGTH   8+
 199  364    59 59   .575        .485        .457        .437        .381        .294

***** JOB DONE.
$EXE TPLIST BS

INPUT PARAMETERS ARE:  AS FL=1=1 3 1 3

 TAPE NO.   1              FILE NO.   3
 RECORD   1                LENGTH   1 9
1                      1990 HOURLY AVG


 TAPE NO.   1              FILE NO.   3
 RECORD   6361             LENGTH   8+
 199  364    59 59   0.575      0.485      0.457      0.437      0.381      0.294

***** JOB DONE.
$WEO LPS
```

D-86223 File 1
Sample page

1988 HOURLY AVG

YR=1988 DAY=299 11 0 0 IMP8

YEAR	DAY	HH	MM	SS	>1 MEV	>2 MEV	>4 MEV	>10 MEV	>30 MEV	>60 MEV
1988	299	11	0	0	0.469	0.282	0.276	0.275	0.275	0.275
1988	299	21	0	0	0.435	0.280	0.264	0.260	0.259	0.257
1988	299	22	0	0	0.463	0.293	0.282	0.279	0.275	0.271
1988	299	23	0	0	0.547	0.329	0.312	0.307	0.301	0.298
1988	300	0	0	0	0.534	0.295	0.278	0.274	0.271	0.268
1988	300	0	59	59	0.543	0.333	0.319	0.315	0.307	0.303
1988	300	2	0	0	0.547	0.329	0.312	0.308	0.304	0.302
1988	300	3	0	0	0.495	0.298	0.284	0.279	0.276	0.275
1988	300	3	59	59	0.454	0.295	0.283	0.279	0.275	0.272
1988	300	5	0	0	0.411	0.287	0.276	0.272	0.270	0.269
1988	300	6	0	0	0.395	0.282	0.275	0.272	0.269	0.266
1988	300	7	0	0	0.392	0.283	0.275	0.272	0.269	0.266
1988	300	8	0	0	0.397	0.297	0.290	0.287	0.285	0.284
1988	300	9	0	0	0.404	0.305	0.298	0.295	0.291	0.289
1988	300	10	0	0	0.390	0.303	0.296	0.294	0.289	0.286
1988	300	11	0	0	0.389	0.298	0.292	0.290	0.285	0.285
1988	300	12	0	0	0.399	0.293	0.285	0.282	0.278	0.276
1988	300	13	0	0	0.348	0.277	0.269	0.267	0.264	0.262
1988	300	14	0	0	0.347	0.285	0.277	0.274	0.271	0.263
1988	300	23	0	0	0.337	0.295	0.293	0.292	0.291	0.288
1988	301	0	0	0	0.348	0.306	0.302	0.300	0.298	0.294
1988	301	0	59	59	0.302	0.263	0.260	0.258	0.255	0.253
1988	301	2	0	0	0.312	0.264	0.260	0.258	0.256	0.254
1988	301	3	0	0	0.360	0.316	0.311	0.310	0.307	0.304
1988	301	3	59	59	0.331	0.283	0.278	0.276	0.273	0.271
1988	301	5	0	0	0.324	0.280	0.277	0.275	0.271	0.267
1988	301	6	0	0	0.282	0.250	0.246	0.245	0.241	0.240
1988	301	7	0	0	0.349	0.307	0.302	0.301	0.294	0.291
1988	301	8	0	0	0.336	0.304	0.301	0.300	0.296	0.294
1988	301	9	0	0	0.315	0.282	0.279	0.278	0.274	0.273
1988	301	10	0	0	0.295	0.263	0.261	0.260	0.257	0.256
1988	301	11	0	0	0.321	0.286	0.282	0.281	0.277	0.275
1988	301	12	0	0	0.323	0.287	0.284	0.282	0.279	0.276
1988	301	13	0	0	0.324	0.293	0.290	0.289	0.285	0.281
1988	301	14	0	0	0.316	0.284	0.281	0.280	0.277	0.274
1988	301	15	0	0	0.332	0.298	0.296	0.294	0.291	0.289
1988	301	16	0	0	0.286	0.254	0.253	0.252	0.244	0.238
1988	301	20	0	0	0.340	0.316	0.315	0.314	0.309	0.303
1988	301	21	0	0	0.312	0.288	0.287	0.286	0.283	0.280
1988	301	22	0	0	0.327	0.304	0.302	0.301	0.297	0.295
1988	302	3	59	59	0.317	0.293	0.289	0.287	0.282	0.280
1988	302	5	0	0	0.293	0.270	0.267	0.265	0.262	0.260
1988	302	6	0	0	0.335	0.311	0.305	0.303	0.300	0.298
1988	302	7	0	0	0.328	0.293	0.283	0.281	0.280	0.279
1988	302	8	0	0	0.344	0.304	0.293	0.289	0.287	0.286
1988	302	9	0	0	0.451	0.339	0.302	0.292	0.288	0.287
1988	302	10	0	0	4.77	1.32	0.438	0.304	0.279	0.276
1988	302	11	0	0	5.90	1.65	0.482	0.302	0.265	0.265
1988	302	12	0	0	15.6	3.46	0.748	0.379	0.308	0.305
1988	302	13	0	0	22.6	4.73	0.856	0.369	0.277	0.274
1988	302	15	0	0	30.6	6.19	1.01	0.463	0.371	0.360
1988	302	16	0	0	30.1	5.94	1.02	0.442	0.343	0.343
1988	306	14	0	0	4.83	0.609	0.307	0.261	0.254	0.250
1988	306	15	0	0	4.62	0.624	0.328	0.284	0.281	0.277
1988	306	16	0	0	4.32	0.575	0.316	0.276	0.271	0.269
1988	306	17	0	0	4.18	0.563	0.316	0.277	0.275	0.273
1988	306	18	0	0	3.94	0.540	0.292	0.254	0.251	0.247
1988	306	19	0	0	3.94	0.544	0.318	0.281	0.277	0.277
1988	306	20	0	0	4.05	0.565	0.338	0.301	0.296	0.295
1988	306	21	0	0	4.18	0.566	0.330	0.292	0.286	0.282

D-86223 File 2
Sample Page

1989 HOURLY AVG

YR=1989 DAY= 2 11 0 0 IMP8

YEAR	DAY	HH	MM	SS	>1 MEV	>2 MEV	>4 MEV	>10 MEV	>30 MEV	>60 MEV
1989	2	11	0	0	1.10	0.476	0.353	0.307	0.265	0.250
1989	2	12	0	0	1.07	0.492	0.380	0.337	0.298	0.283
1989	2	13	0	0	1.09	0.491	0.379	0.330	0.293	0.286
1989	2	14	0	0	1.13	0.564	0.430	0.368	0.314	0.294
1989	2	15	0	0	1.06	0.505	0.351	0.292	0.249	0.242
1989	2	16	0	0	1.24	0.624	0.426	0.347	0.307	0.296
1989	2	17	0	0	1.62	0.739	0.413	0.313	0.260	0.254
1989	2	18	0	0	1.91	0.821	0.432	0.329	0.284	0.271
1989	2	19	0	0	2.43	0.922	0.438	0.318	0.269	0.259
1989	2	20	0	0	2.63	0.885	0.408	0.294	0.250	0.238
1989	2	21	0	0	3.47	1.04	0.457	0.327	0.273	0.255
1989	3	9	0	0	38.7	8.02	1.41	0.452	0.276	0.258
1989	3	10	0	0	39.9	8.19	1.34	0.405	0.241	0.231
1989	3	11	0	0	42.7	8.35	1.36	0.437	0.266	0.256
1989	3	12	0	0	40.8	8.22	1.34	0.417	0.254	0.245
1989	3	13	0	0	36.8	7.46	1.27	0.406	0.250	0.246
1989	3	14	0	0	35.5	7.04	1.20	0.394	0.250	0.240
1989	3	15	0	0	41.3	7.92	1.33	0.434	0.274	0.266
1989	3	16	0	0	52.3	9.39	1.49	0.413	0.238	0.235
1989	3	17	0	0	52.0	9.87	1.66	0.484	0.276	0.266
1989	3	18	0	0	41.5	7.84	1.35	0.402	0.237	0.228
1989	3	19	0	0	37.5	7.21	1.28	0.417	0.254	0.240
1989	3	20	0	0	37.0	7.24	1.30	0.442	0.269	0.256
1989	3	21	0	0	40.0	7.54	1.29	0.419	0.257	0.253
1989	3	22	0	0	43.1	7.99	1.35	0.451	0.287	0.278
1989	3	23	0	0	47.5	8.55	1.40	0.410	0.247	0.240
1989	4	0	0	0	44.5	7.61	1.26	0.419	0.268	0.261
1989	4	0	59	59	40.6	7.19	1.23	0.421	0.265	0.257
1989	4	2	0	0	37.8	6.57	1.10	0.355	0.223	0.218
1989	4	3	0	0	32.1	5.59	1.01	0.387	0.260	0.252
1989	4	3	59	59	28.4	4.94	0.946	0.385	0.272	0.265
1989	4	11	0	0	21.3	3.76	0.764	0.353	0.267	0.267
1989	4	12	0	0	22.3	3.76	0.729	0.325	0.233	0.222
1989	4	13	0	0	26.2	4.44	0.875	0.402	0.297	0.287
1989	4	14	0	0	20.4	3.85	0.794	0.355	0.258	0.251
1989	4	15	0	0	15.5	3.02	0.660	0.326	0.257	0.256
1989	4	16	0	0	18.3	3.49	0.745	0.353	0.258	0.253
1989	4	17	0	0	13.6	2.67	0.628	0.329	0.261	0.254
1989	4	18	0	0	22.6	4.02	0.786	0.349	0.251	0.247
1989	4	19	0	0	49.8	8.19	1.31	0.483	0.327	0.317
1989	4	20	0	0	68.1	10.6	1.72	0.674	0.431	0.389
1989	4	21	0	0	89.9	13.9	2.89	1.07	0.447	0.369
1989	4	22	0	0	74.2	17.0	5.61	1.59	0.459	0.389
1989	4	23	0	0	303.	100.	28.5	4.63	0.701	0.569
1989	5	0	0	0	308.	180.	57.4	7.57	0.958	0.727
1989	5	0	59	59	428.	231.	69.1	8.06	0.944	0.784
1989	5	14	0	0	828.	200.	26.8	2.00	0.344	0.308
1989	5	15	0	0	899.	201.	25.4	1.88	0.343	0.317
1989	5	16	0	0	705.	168.	22.9	1.77	0.327	0.306
1989	5	17	0	0	736.	175.	24.5	1.80	0.329	0.308
1989	5	18	0	0	672.	152.	21.6	1.71	0.354	0.322
1989	5	19	0	0	719.	168.	23.4	1.67	0.329	0.312
1989	5	20	0	0	615.	146.	20.3	1.62	0.335	0.322
1989	5	21	0	0	482.	104.	14.1	1.26	0.304	0.290
1989	5	22	0	0	508.	103.	13.2	1.16	0.281	0.259
1989	5	23	0	0	371.	77.3	10.5	1.04	0.264	0.250
1989	6	0	0	0	364.	73.8	10.0	0.975	0.250	0.238
1989	6	0	59	59	327.	65.4	9.01	0.999	0.281	0.274
1989	6	2	0	0	286.	58.1	8.14	0.941	0.277	0.268
1989	6	3	0	0	271.	54.6	7.60	0.875	0.257	0.247

D-86225 File 1
Sample Page

1990 HOURLY AVG

YR=1990 DAY= 2 14 0 0 IMP8

YEAR	DAY	HH	MM	SS	>1 MEV	>2 MEV	>4 MEV	>10 MEV	>30 MEV	>60 MEV
1990	2	14	0	0	0.859	0.388	0.324	0.295	0.261	0.199
1990	2	15	0	0	0.840	0.457	0.386	0.354	0.301	0.222
1990	2	16	0	0	0.708	0.355	0.282	0.248	0.224	0.209
1990	2	17	0	0	0.813	0.457	0.396	0.370	0.318	0.240
1990	2	18	0	0	0.865	0.452	0.381	0.347	0.308	0.256
1990	2	19	0	0	0.732	0.429	0.387	0.363	0.313	0.232
1990	2	20	0	0	0.662	0.366	0.305	0.279	0.245	0.195
1990	2	22	0	0	0.697	0.476	0.423	0.395	0.356	0.291
1990	2	23	0	0	0.586	0.377	0.339	0.319	0.281	0.224
1990	3	0	0	0	0.588	0.393	0.352	0.334	0.289	0.224
1990	3	0	59	59	0.594	0.404	0.367	0.343	0.292	0.220
1990	3	7	0	0	0.494	0.354	0.318	0.294	0.250	0.152
1990	3	8	0	0	0.569	0.433	0.402	0.381	0.334	0.252
1990	3	9	0	0	0.528	0.407	0.372	0.351	0.310	0.208
1990	3	14	0	0	0.500	0.395	0.372	0.357	0.302	0.206
1990	3	15	0	0	0.473	0.368	0.343	0.326	0.283	0.218
1990	3	16	0	0	0.465	0.369	0.348	0.331	0.290	0.223
1990	3	17	0	0	0.517	0.420	0.397	0.380	0.331	0.245
1990	3	18	0	0	0.500	0.403	0.378	0.363	0.314	0.240
1990	3	19	0	0	0.483	0.406	0.390	0.377	0.335	0.264
1990	3	20	0	0	0.512	0.424	0.400	0.386	0.351	0.267
1990	3	21	0	0	0.459	0.377	0.356	0.342	0.297	0.224
1990	3	22	0	0	0.450	0.369	0.352	0.337	0.302	0.241
1990	3	23	0	0	0.431	0.347	0.324	0.306	0.274	0.205
1990	4	0	0	0	0.448	0.350	0.329	0.313	0.277	0.221
1990	4	0	59	59	0.475	0.387	0.369	0.352	0.294	0.205
1990	4	17	0	0	0.414	0.356	0.341	0.326	0.282	0.207
1990	4	18	0	0	0.405	0.365	0.351	0.336	0.293	0.227
1990	4	19	0	0	0.406	0.362	0.347	0.331	0.283	0.216
1990	4	20	0	0	0.412	0.385	0.370	0.354	0.309	0.233
1990	4	21	0	0	0.394	0.361	0.348	0.334	0.295	0.238
1990	4	22	0	0	0.409	0.382	0.365	0.347	0.301	0.228
1990	4	23	0	0	0.393	0.344	0.330	0.315	0.275	0.211
1990	5	0	0	0	0.418	0.397	0.384	0.370	0.312	0.217
1990	5	0	59	59	0.403	0.376	0.363	0.349	0.308	0.236
1990	5	2	0	0	0.413	0.382	0.368	0.354	0.311	0.241
1990	5	3	0	0	0.364	0.334	0.321	0.307	0.269	0.211
1990	5	15	0	0	0.401	0.380	0.364	0.347	0.302	0.237
1990	5	16	0	0	0.385	0.363	0.348	0.334	0.296	0.229
1990	5	17	0	0	0.400	0.380	0.361	0.348	0.304	0.235
1990	5	18	0	0	0.396	0.363	0.350	0.339	0.298	0.228
1990	5	19	0	0	0.426	0.397	0.384	0.370	0.323	0.247
1990	5	20	0	0	0.451	0.405	0.392	0.379	0.329	0.234
1990	5	21	0	0	0.398	0.363	0.346	0.331	0.291	0.225
1990	5	22	0	0	0.416	0.380	0.364	0.348	0.310	0.248
1990	5	23	0	0	0.429	0.408	0.393	0.378	0.332	0.262
1990	6	0	0	0	0.367	0.350	0.335	0.320	0.282	0.227
1990	6	0	59	59	0.398	0.376	0.362	0.346	0.295	0.215
1990	6	2	0	0	0.418	0.380	0.367	0.352	0.306	0.235
1990	6	3	0	0	0.381	0.360	0.349	0.337	0.299	0.230
1990	6	3	59	59	0.408	0.387	0.371	0.357	0.315	0.241
1990	6	15	0	0	0.352	0.338	0.326	0.312	0.255	0.211
1990	6	16	0	0	0.392	0.376	0.363	0.350	0.304	0.235
1990	6	17	0	0	0.367	0.355	0.339	0.326	0.287	0.220
1990	6	18	0	0	0.374	0.362	0.345	0.331	0.283	0.216
1990	6	19	0	0	0.385	0.371	0.358	0.345	0.307	0.246
1990	6	20	0	0	0.389	0.374	0.361	0.349	0.308	0.235
1990	6	21	0	0	0.399	0.381	0.369	0.355	0.313	0.234
1990	6	22	0	0	0.380	0.366	0.352	0.337	0.294	0.226
1990	6	23	0	0	0.375	0.359	0.346	0.332	0.290	0.221

IMP-H & J

DAILY AVERAGED FLUXES

72-073A-08O/73-078A-08I

SPHE-00506

THIS DATA SET CATALOG CONSISTS OF ONE TAPE. THE TAPE IS 9-TRACK, 6250 BPI, MULTI-FILED, WRITTEN IN ASCII AND CREATED ON THE VAX. FILES 1 THRU 19 CONTAIN IMP-J DATA AND THE FILES 20-26, CONTAIN IMP-H DATA. THE D AND C NUMBERS AND TIME SPANS ARE AS FOLLOWS:

D#	C#	FILES	TIME SPAN
D079800	C027300	1-19	10/30/73 - 08/11/91 (IMP-J)
		20-26	09/26/72 - 10/21/78 (IMP-H)

IMP 7 & IMP 8 DAILY AVERAGED PROTON FLUXES

(1) IMP8 1973 DAILY PROTON FLUX
1 EOF
(2) IMP8 1974 DAILY PROTON FLUX
1 EOF
(3) IMP8 1975 DAILY PROTON FLUX
1 EOF
(4) IMP8 1976 DAILY PROTON FLUX
1 EOF
(5) IMP8 1977 DAILY PROTON FLUX
1 EOF
(6) IMP8 1978 DAILY PROTON FLUX
1 EOF
(7) IMP8 1979 DAILY PROTON FLUX
1 EOF
(8) IMP8 1980 DAILY PROTON FLUX
1 EOF
(9) IMP8 1981 DAILY PROTON FLUX
1 EOF
(10) IMP8 1982 DAILY PROTON FLUX
1 EOF
(11) IMP8 1983 DAILY PROTON FLUX
1 EOF
(12) IMP8 1984 DAILY PROTON FLUX
1 EOF
(13) IMP8 1985 DAILY PROTON FLUX
1 EOF
(14) IMP8 1986 DAILY PROTON FLUX
1 EOF
(15) IMP8 1987 DAILY PROTON FLUX
1 EOF
(16) IMP8 1988 DAILY PROTON FLUX
1 EOF
(17) IMP8 1989 DAILY PROTON FLUX
1 EOF
(18) IMP8 1990 DAILY PROTON FLUX
1 EOF
(19) IMP8 1991 DAILY PROTON FLUX
1 EOF
(20) IMP7 1972 DAILY PROTON FLUX
1 EOF
(21) IMP7 1973 DAILY PROTON FLUX
1 EOF
(22) IMP7 1974 DAILY PROTON FLUX
1 EOF
(23) IMP7 1975 DAILY PROTON FLUX
1 EOF
(24) IMP7 1976 DAILY PROTON FLUX
1 EOF
(25) IMP7 1977 DAILY PROTON FLUX
1 EOF
(26) IMP7 1978 DAILY PROTON FLUX
12 EOF

From: KUPHSX::ARMSTRONG 5-FEB-1992 10:31:21.42
To: @IMP_8.DIS
ARMSTRONG
Subj: Solar Particle Fluxes

Memo to: Dr. Zawodny, Langley Research Center
Charles Jackman, Goddard Space Flight Center
Joan Feynman, Jet Propulsion Lab.
Joe King, Goddard Space Flight Center
Steve Gabriel, Univ. of Southampton, UK
Tom Krimigis, Applied Physics Lab./Johns Hopkins U.

From: Tom Armstrong, University of Kansas

Date: February 4, 1992

Subject: Solar Proton Integral Fluxes

We have recently updated the daily averaged proton fluxes covering the period through day 300, 1991. In order to simplify the servicing of requests for this data set, I am sending each of you a copy of our standard "flat file" in ASCII text of the times and fluxes of)1,)2,)4,)10,)30, and)60 MeV protons. The units are "number/cmsq sec sr". Please acknowledge all use of these data for publication as deriving from the Charged Particle Measurement Experiment (CPME) aboard IMP8 (S.M. Krimigis, PI).

IMPORTANT NOTES ABOUT THESE DATA

In comparing absolute fluxes derived from the IMP 8 CPME instrument with those derived from GOES 7 for the March 1991 flare event, the)10,)30, and)60 proton flux values from IMP8 appear to be too large by about factors of 2 to 5 during the decay phase of the event. This is almost certainly due to unintended electron sensitivities of some of the IMP 8 higher energy proton channels. Thus, the absolute flux values for times when the relativistic electron flux is of the same order at the)10,)30, and)60 MeV protong fluxes should be treated as uncertain. Thus far, only the March 89 event decay phase has been so identified. There may be others. We are in process of evaluating the entire data set (1972 to present) so that we can introduce any necessary adjustments to the fluxes.

T.P. Armstrong
KUPHSX::ARMSTRONG

1 1973 DAILY AVG

YR=1973 DAY=303 0 0 0 IMP8

YEAR	DAY	HH	MM	SS	>1 MEV	>2 MEV	>4 MEV	>10 MEV	>30 MEV	>60 MEV
1973	303	0	0	0	0.767	0.390	0.346	0.330	0.320	0.315
1973	304	0	0	0	0.809	0.372	0.342	0.331	0.323	0.321
1973	305	0	0	0	0.460	0.351	0.337	0.332	0.326	0.323
1973	306	0	0	0	1.14	0.395	0.346	0.332	0.325	0.323
1973	307	0	0	0	20.5	12.2	6.16	2.86	0.928	0.580
1973	308	0	0	0	30.5	8.69	2.83	0.977	0.404	0.352
1973	309	0	0	0	10.2	2.61	1.01	0.513	0.344	0.331
1973	310	0	0	0	2.16	0.930	0.493	0.364	0.319	0.314
1973	311	0	0	0	0.573	0.383	0.344	0.329	0.318	0.315
1973	312	0	0	0	0.440	0.344	0.331	0.325	0.318	0.315
1973	313	0	0	0	0.387	0.334	0.328	0.326	0.321	0.317
1973	314	0	0	0	0.378	0.340	0.335	0.333	0.327	0.324
1973	315	0	0	0	0.387	0.339	0.333	0.331	0.325	0.323
1973	316	0	0	0	0.442	0.340	0.328	0.324	0.319	0.316
1973	317	0	0	0	0.382	0.339	0.335	0.333	0.328	0.325
1973	318	0	0	0	0.343	0.333	0.332	0.331	0.326	0.323
1973	319	0	0	0	0.336	0.333	0.333	0.332	0.327	0.324
1973	320	0	0	0	0.337	0.333	0.332	0.331	0.326	0.324
1973	321	0	0	0	0.360	0.341	0.339	0.338	0.333	0.330
1973	322	0	0	0	0.403	0.336	0.330	0.328	0.323	0.320
1973	323	0	0	0	0.417	0.337	0.331	0.329	0.324	0.321
1973	324	0	0	0	0.612	0.357	0.341	0.337	0.332	0.330
1973	325	0	0	0	1.05	0.386	0.347	0.338	0.333	0.330
1973	326	0	0	0	1.02	0.394	0.344	0.333	0.327	0.324
1973	327	0	0	0	0.562	0.366	0.346	0.342	0.336	0.333
1973	328	0	0	0	1.90	0.368	0.340	0.334	0.329	0.325
1973	329	0	0	0	9.21	2.36	2.25	2.22	2.22	2.21
1973	330	0	0	0	1.58	0.381	0.339	0.330	0.324	0.322
1973	331	0	0	0	1.10	0.367	0.336	0.329	0.322	0.319
1973	332	0	0	0	1.10	0.375	0.340	0.332	0.327	0.324
1973	333	0	0	0	1.18	0.376	0.341	0.334	0.328	0.325
1973	334	0	0	0	0.509	0.347	0.339	0.337	0.332	0.329
1973	335	0	0	0	0.444	0.342	0.335	0.334	0.327	0.324
1973	336	0	0	0	0.488	0.348	0.338	0.336	0.329	0.326
1973	337	0	0	0	0.493	0.349	0.336	0.332	0.326	0.324
1973	338	0	0	0	0.506	0.345	0.334	0.331	0.326	0.323
1973	339	0	0	0	0.883	0.363	0.341	0.335	0.329	0.327
1973	340	0	0	0	1.47	0.383	0.341	0.332	0.326	0.323
1973	341	0	0	0	1.76	0.429	0.345	0.327	0.321	0.318
1973	342	0	0	0	1.77	0.476	0.353	0.327	0.320	0.318
1973	343	0	0	0	0.658	0.379	0.341	0.332	0.326	0.323
1973	344	0	0	0	0.998	0.456	0.360	0.338	0.330	0.327
1973	345	0	0	0	2.32	0.547	0.371	0.336	0.327	0.324
1973	346	0	0	0	0.830	0.392	0.347	0.336	0.329	0.327
1973	347	0	0	0	0.443	0.346	0.334	0.331	0.325	0.321
1973	348	0	0	0	0.443	0.349	0.339	0.336	0.331	0.328
1973	349	0	0	0	0.352	0.341	0.339	0.338	0.332	0.329
1973	350	0	0	0	0.354	0.340	0.338	0.337	0.331	0.329
1973	351	0	0	0	0.392	0.350	0.345	0.344	0.339	0.336
1973	352	0	0	0	0.400	0.342	0.335	0.333	0.328	0.325
1973	353	0	0	0	0.540	0.454	0.435	0.420	0.391	0.360
1973	354	0	0	0	0.725	0.606	0.577	0.548	0.492	0.420
1973	355	0	0	0	0.826	0.356	0.336	0.331	0.326	0.324
1973	356	0	0	0	0.406	0.333	0.327	0.325	0.320	0.317
1973	357	0	0	0	0.388	0.331	0.326	0.325	0.319	0.316
1973	358	0	0	0	0.421	0.338	0.333	0.331	0.326	0.322
1973	359	0	0	0	0.369	0.337	0.332	0.331	0.326	0.323
1973	360	0	0	0	0.369	0.340	0.337	0.335	0.330	0.327
1973	361	0	0	0	0.357	0.337	0.335	0.334	0.329	0.325
1973	362	0	0	0	0.375	0.339	0.337	0.336	0.330	0.327

1 1973 DAILY AVG

YR=1973 DAY=363 0 0 0 IMP8

YEAR	DAY	HH	MM	SS	>1 MEV	>2 MEV	>4 MEV	>10 MEV	>30 MEV	>60 MEV

1973	363	0	0	0	0.488	0.342	0.336	0.335	0.330	0.327
1973	364	0	0	0	0.630	0.354	0.337	0.332	0.326	0.323

```
Dump of device MUB0: on 31-OCT-1991 20:30:42.36

Block number 1 (00000001), 81 (0051) bytes

 20594C49 41442033 37393120 20202020 20202020 20202020 20202020 20202031 1                 1973 DAILY  000000
 20202020 20202020 20202020 20202020 20202020 20202020 20202020 20475641 AVG                             000020
                                    20 20202020 20202020 20202020 20202020                ..............  000040
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Dump of device MUB0: on 31-OCT-1991 20:30:42.36

Block number 2 (00000002), 35 (0023) bytes

 49202020 20203020 20302020 30202020 3330333D 59414420 33373931 3D525920  YR=1973 DAY=303    0  0  0      I 000000
                                                                 38504D MP8.............................. 000020
```

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Dump of device MUB0: on 31-OCT-1991 20:30:42.36

Block number 3 (00000003), 84 (0054) bytes

 20202020 2056454D 20313E20 20205353 204D4D20 48482059 41442052 41455920  YEAR DAY HH MM SS    >1 MEV       000000
 20202056 454D2030 313E2020 20202056 454D2034 3E202020 20205645 4D20323E >2 MEV      >4 MEV      >10 MEV     000020
                            2056454D 2030363E 20202020 56454D20 30333E20  >30 MEV     >60 MEV  ............ 000040
```

```
Dump of device MUB0: on 31-OCT-1991 20:30:42.36

Block number 4 (00000004), 84 (0054) bytes

 30202020 20202037 36372E30 20203020 20302020 30202033 30332033 37393120  1973 303  0  0  0  0.767      0 000000
 20202020 20203033 332E3020 20202020 20363433 2E302020 20202020 3039332E .390      0.346       0.330       000020
                            20202020 3531332E 30202020 20202030 32332E30 0.320      0.315    ............ 000040
```

```
Dump of device MUB0: on 31-OCT-1991 20:30:42.36

Block number 5 (00000005), 84 (0054) bytes

 30202020 20202039 30382E30 20203020 20302020 30202034 30332033 37393120  1973 304  0  0  0  0.809       0 000000
 20202020 20203133 332E3020 20202020 20323433 2E302020 20202020 3237332E .372      0.342       0.331       000020
                            20202020 31332332E 30202020 20202033 32332E30 0.323      0.321    ............ 000040
```

```
Dump of device MUB0: on 31-OCT-1991 20:30:42.36

Block number 6 (00000006), 84 (0054) bytes

 30202020 20202030 36342E30 20203020 20302020 30202035 30332033 37393120  1973 305  0  0  0  0.460       0 000000
 20202020 20203233 332E3020 20202020 20373333 2E302020 20202020 3135332E .351       0.337       0.332       000020
                            20202020 3332332E 30202020 20202036 32332E30 0.326       0.323       ..........  000040
```

```
$.OB     7:21:05
$ASS IN HT0
$NOP
$NOP
$NOP
$NOP   ****************** RC2104 ****************
$EXE IPLIST BS

INPUT PARAMETERS ARE:   AS SR=1=110 1 1 1
 TAPE NO.    1              FILE NO.    1
 RECORD    1                LENGTH    11
 1                1973 DAILY AVG

 TAPE NO.    1              FILE NO.    1
 RECORD    2                LENGTH    64
 YR=1973 DAY=303  0  0  0      IMP8P8P8P8P8P8P8P8 F8 F8 P8 P8 P8 F8 F8 F8 P8

 TAPE NO.    1              FILE NO.    1
 RECORD    3                LENGTH    84
 YEAR DAY  HH MM SS    >1 MEV      >2 MEV      >4 MEV      >1( MEV     >3( MEV     >6( MEV

 TAPE NO.    1              FILE NO.    1
 RECORD    4                LENGTH    84
 1973  303   0  0  0   0.767       0.396       0.346       0.330       0.320       0.315

 TAPE NO.    1              FILE NO.    1
 RECORD    5                LENGTH    84
 1973 304   0  0  0   0.809       0.372       0.342       0.331       0.323       0.321

 TAPE NO.    1              FILE NO.    1
 RECORD    6                LENGTH    84
 1973 305   0  0  0   0.460       0.351       0.337       0.332       0.326       0.323

 TAPE NO.    1              FILE NO.    1
 RECORD    7                LENGTH    84
 1973 306   0  0  0    1.14       0.395       0.346       0.332       0.325       0.323

 TAPE NO.    1              FILE NO.    1
 RECORD    8                LENGTH    84
 1973 307   0  0  0    20.5        12.2        6.16        2.86       0.928       0.580

 TAPE NO.    1              FILE NO.    1
 RECORD    9                LENGTH    84
 1973 308   0  0  0    30.5        8.69        2.83       0.977       0.404       0.352

 TAPE NO.    1              FILE NO.    1
 RECORD   10                LENGTH    84
 1973 309   0  0  0    10.2        2.61        1.01       0.513       0.344       0.331

***** JOB DONE.
$EXE TPLIST BS

INPUT PARAMETERS ARE:   AS SR=219=11 1 1 19

 TAPE NO.    1              FILE NO.    19
 RECORD   219               LENGTH    84
 1991 212   0  0  0    1.97       0.664       0.390       0.325       0.275       0.208

 TAPE NO.    1              FILE NO.    19
 RECORD   220               LENGTH    84
 1991 213   0  0  0    2.60       0.868       0.437       0.336       0.280       0.214
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DUMP of 79800

Year / DAY OF YEAR

Start Date of IMP8: 10/30/73
STOP Date of IMP8: 8/11/91
Start Date of IMP7: 9/26/72
STOP Date of IMP7: 10/21/78

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 RECORD    221                LENGTH    84
 1991 214  0  0  0    3.44         1.02         0.492        0.357        0.284        0.215

 TAPE NO.    1                  FILE NO.    19
 RECORD    222                  LENGTH    84
 1991 215  0  0  0    3.11         0.992        0.547        0.411        0.329        0.259

 TAPE NO.    1                  FILE NO.    19
 RECORD    223                  LENGTH    84
 1991 216  0  0  0    4.81         1.62         0.649        0.387        0.286        0.218

 TAPE NO.    1                  FILE NO.    19
 RECORD    224                  LENGTH    84
 1991 217  0  0  0    8.58         2.53         0.690        0.383        0.285        0.219

 TAPE NO.    1                  FILE NO.    19
 RECORD    225                  LENGTH    84
 1991 218  0  0  0    7.42         1.68         0.510        0.342        0.277        0.211

 TAPE NO.    1                  FILE NO.    19
 RECORD    226                  LENGTH    84
 1991 219  0  0  0    5.31         1.09         0.444        0.337        0.286        0.219

 TAPE NO.    1                  FILE NO.    19
 RECORD    227                  LENGTH    84
 1991 220  0  0  0    1.95         0.588        0.371        0.319        0.275        0.215

 TAPE NO.    1                  FILE NO.    19
 RECORD    228                  LENGTH    84
 1991 221  0  0  0    1.47         0.522        0.378        0.332        0.278        0.208

 TAPE NO.    1                  FILE NO.    19
 RECORD    229                  LENGTH    84
 1991 223  0  0  0    370.         75.5         8.29         0.856        0.290        0.223

***** JOB DONE.
$EXE TPLIST BS

INPUT PARAMETERS ARE:  AS SR=1=10 1 1 2

 TAPE NO.    1                  FILE NO.    20
 RECORD    1                    LENGTH    110
1                          1972 DAILY AVG


 TAPE NO.    1                  FILE NO.    20
 RECORD    2                    LENGTH    64
YR=1972 DAY=270  0  0  0      IMP7P7P7P7P7P7P7P7P7P7P7P7P7P7P7P7P7P

 TAPE NO.    1                  FILE NO.    20
 RECORD    3                    LENGTH    84
YEAR DAY HH MM SS    >1 MEV       >2 MEV       >4 MEV       >10 MEV      >30 MEV      >60 MEV

 TAPE NO.    1                  FILE NO.    20
 RECORD    4                    LENGTH    84
 1972 270  0  0  0    .421         .361         0.350        0.346        0.340        0.338

 TAPE NO.    1                  FILE NO.    20
 RECORD    5                    LENGTH    84
 1972 271  0  0  0    0.422        0.337        0.328        0.324        0.320        0.318

 TAPE NO.    1                  FILE NO.    20
 RECORD    6                    LENGTH    84
 1972 272  0  0  0    0.379        0.330        0.326        0.324        0.319        0.317
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 RECORD    7                LENGTH    84
 1972 273  0   0   0   0.343        0.326        0.324        0.322        0.318        0.315

 TAPE NO.    1              FILE NO.    20
 RECORD    8                LENGTH    84
 1972 274  0   0   0   0.338        0.332        0.331        0.329        0.325        0.323

 TAPE NO.    1              FILE NO.    2
 RECORD    9                LENGTH    84
 1972 275  0   0   0   0.327        0.323        0.322        0.321        0.317        0.314

 TAPE NO.    1              FILE NO.    2
 RECORD    1                LENGTH    84
 1972 276  0   0   0   0.321        0.318        0.318        0.316        0.312        0.310

***** JOB DONE.
$EXE TPLIST BS

INPUT PARAMETERS ARE:  AS SR=283=11 1 1 26

 TAPE NO.    1              FILE NO.    26
 RECORD    283              LENGTH    84
 1978 272  0   0   0   75.3         10.5         2.63         0.666        0.288        0.264

 TAPE NO.    1              FILE NO.    26
 RECORD    284              LENGTH    84
 1978 273  0   0   0   5.03         1.71         0.909        0.440        0.286        0.270

 TAPE NO.    1              FILE NO.    26
 RECORD    285              LENGTH    84
 1978 274  0   0   0   2.60         1.44         0.988        0.645        0.407        0.407

 TAPE NO.    1              FILE NO.    26
 RECORD    286              LENGTH    84
 1978 275  0   0   0   8.16         3.53         1.33         0.268        0.000E+00    0.000E+00

 TAPE NO.    1              FILE NO.    26
 RECORD    287              LENGTH    84
 1978 276  0   0   0   76.6         19.9         3.03         0.680        0.324        0.270

 TAPE NO.    1              FILE NO.    26
 RECORD    288              LENGTH    84
 1978 281  0   0   0   2.60         1.00         0.445        0.000E+00    0.000E+00    0.000E+00

 TAPE NO.    1              FILE NO.    26
 RECORD    289              LENGTH    84
 1978 284  0   0   0   4.85         2.25         0.822        0.315        0.203        0.203

 TAPE NO.    1              FILE NO.    26
 RECORD    29               LENGTH    84
 1978 288  0   0   0   2.42         1.67         1.20         0.913        0.720        0.573

 TAPE NO.    1              FILE NO.    26
 RECORD    291              LENGTH    84
 1978 29   0   0   0   1.14         0.713        0.561        0.472        0.387        0.355

 TAPE NO.    1              FILE NO.    26
 RECORD    292              LENGTH    84
 1978 293  0   0   0   0.000E+00    0.000E+00    0.000E+00    0.000E+00    0.000E+00    0.000E+00

 TAPE NO.    1              FILE NO.    26
 RECORD    293              LENGTH    84
 1978 294  0   0   0   0.000E+00    0.000E+00    0.000E+00    0.000E+00    0.000E+00    0.000E+00

***** JOB DONE.
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