



#447

MARINER 10

MARINER/VENUS/MERCURY PLASMA DETAIL TAPE

75-085A-23A, 04N



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 This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system.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

MARINER 10

MVM PLASMA DETAIL TAPE

73-085A-03A, 04N PSFP-00187

THESE DATA SETS HAVE BEEN RESTORED. THERE WAS ORIGINALLY ONE 9-TRACK, 1600 BPI TAPE, WRITTEN IN BINARY. THERE IS ONE RESTORED TAPE. THE DR TAPE IS A 3480 CARTIDGE AND THE DS TAPE IS 9-TRACK, 6250 BPI. THE ORIGINAL TAPE WAS CREATED ON AN IBM 360 COMPUTER AND WAS RESTORED ON AN IBM 9021 COMPUTER. THE DR AND DS NUMBERS ALONG WITH THE CORRESPONDING D NUMBER AND TIME SPAN IS AS FOLLOWS:

DR#	DS#	DD#	FILES	TIME SPAN
-----	-----	-----	-----	-----
DR005310	DS005310	DD031273	1	03/28/74 - 03/29/74
			2	09/20/74 - 09/21/74
			3	03/16/75 - 03/17/75

REQ. AGENT
DEW

RAND NO.
RD0384

ACQ. AGENT
WSC

MARINER 10

MARINER/VENUS/MERCURY PLASMA DETAIL TAPE

73-085A-03A, 04N

This data set catalog consists of 1 tape. The 'D' tape is 1600 BPI and the 'C' tape is at 1600 BPI. Both tapes are Binary, 9 track with 3 files of data. The tape was created on an IBM 360 computer.

Time span is as follows:

<u>D#</u>	<u>C#</u>	<u>TIME SPAN</u>
D-31273	C-20624	03/28/74 - 03/17/75

MVM PLASMA DETAIL TAPE

DCB = (RECFM=FB,LRECL=312,BLKSIZE=31200,DEN=³~~4~~), UNIT=~~6250~~¹⁶⁰⁰
 EQUIVALENCE (DAT(1),IH(1),IF(1),DAT8(1),IL(1))
 IL = logical *1: IF = I*4 DAT8 = R*8
 IH = I*2 DAT = R*4

Variable	Location	Definition
IH	(1-6)	**Month, day, yr., hr., min,sec.
IF	(4)	**Milliseconds of the day
DAT8	(3)	**Decimal day
DAT	(7-21)	Angle associated with each energy step (degs)
IH	(43-57)	Channeltron counts
IH	(58)	1Data flag
IH	(59)	Space
IH	(60)	2Data flag
IH	(61-70)	Unpacked command and status words
IL	(141-142)	Leading byte of packed cmd and status words
IF	(35-36)	Packed command and status words
DAT	(37-40)	*Temperature halo, core ₁ ,core ₂ , moment (deg K)
DAT	(41-44)	*Density halo, core ₁ ,core ₂ , moment (particles/cc)
DAT	(45-47)	*Alpha halo, core ₁ ,core ₂ , moment (particles/cc)
DAT	(48-50)	*Gamma halo, core ₁ , core ₂ , moment (1/temperature)
DAT	(51-53)	*Residuals in fit halo, core ₁ ,core ₂ , moment (ln f ²)
IF	(54)	Spare
DAT	(55-56)	*Be moment (1/temperature)
DAT	(57-59)	*Magnetic vector in solar equatorial (gammas)
DAT	(60)	*Magnetic vector rms (gammas)
DAT8	(31-33)	Spacecraft position vector Au solar equatorial(Au (solar equatorial))
IH	(133-135)	*5, 8, no. of spectrum in halo fit
IH	(136-138)	*lower index, upper index, no. of spectrum in core ₁ fit
IH	(139-141)	*lower index, upper index, no. of spectrum in core ₂ fit
IH	(136)	Channel index used in computing core ₁
IL	(293-307)	Channel count validity (=true)
IL	(308)	Mag. data available flag (=true)
IL	(309-312)	Time validity flags (=true)

* This data not available on the NSSDC data tape.

** Time of the first of the 15 Channeltron Counts.

Footnotes

¹Data flags are:

<u>Flag</u>	<u>Data</u>	<u>Good</u>		<u>Data</u>	<u>Bad</u>	
		<u>Calibrate</u>	<u>Angle</u>		<u>Calibrate</u>	<u>Angle</u>
1.	X		X			
2.		X	X			
3.			X	X		
4.	X					X
5.		X				X
6.					X	X
7. Time = 0						
8. All counts are negative						

²Added to the values defined by footnote 1 are

- 10 = Spectrum is at the negative end of the scan
- 20 = Spectrum is at the positive end of the scan
- 30 = Spectrum crosses 0 angle
- 40 = angle value was bad and the value appearing was interpolated

³Spacecraft velocity vector meaningful only at encounters.

The input MVM plasma data set source was fixed block multi-file tapes as received from Los Alamos. The data was in pseudo time order, i.e., the data within a file was in time order and for the most part the files were in time order. There were, however, instances where files were not in order and duplicate files of data existed. There also existed the condition where a tape would contain small sections of data from many days in the mission. The phase 1 processing algorithm developed single file output tapes (several input to one output). These tapes were subsequently sort/merged based on a decimal day computed based on the input day, month, year and milliseconds of the day. Subsequently it was realized that there was time discrepancies, i.e., data appeared present at a time inconsistent with the experiment data rate of one sample per 6 seconds. This discrepancy was identified to be caused by different time bases, i.e., Experimenter Data Record (EDR) time and Spacecraft Event Time (SET) time (and possibly others). To select a consistent time base for the data, the plasma data set was expanded by merging it with the magnetic field data set. This merger was based on the premise of matching the magnetic field and plasma decimal day and milliseconds of the day to within 10 milliseconds.

When a match was made the magnetic field data was merged into the detail plasma record and the flag IMAG was set true (=1). When there was no match the magnetic fields were set = -999 and the flag set false (=0). A false condition does not necessarily invalidate a plasma record but simply states that there was no magnetic data match. All the plasma was included on the detail tape. It's up to the user to accept/reject plasma data with IMAG=false.

When performing the merge of the magnetic and plasma records a further check on time was made wherein the year, month, day, hour, minute, seconds and millisecond of the day was checked for validity. In prior processing the assumption was made that the data was valid and no time checks were made. The results of these checks are identified by the array IL. If true (IL=1) the time was good.

3/28/74 - 3/16/75

Mariner 10
0-31273
C-20624

INPUT TAPE X-434 ON MS3

DATA INPUT H2 NF 3 FL 1 1 1 SR 3 1 1 SR 3 LAST 1

1	FILE	1	RECORD	1	LENGTH	31200 BYTES	DEL. DRY	Angles		
2	(0)	0003001C	004A0000	00000003	00000006	42560002	00000000	C22C83E4	C22C1D7E	C22B8718
3	(4)	C22AEA4B	C22A83E4	C22A1D7E	C229B718	C22950B1	C228EA4B	C22883E4	C2281D7E	C227B718
4	(8)	C22EA4B	00010003	00020000	00040021	00290029	00070149	C3D90919	0D591019	1C19FFFF
5	(12)	00000000	00000505	03070000	00000000	000005BF	00000000	C57D53A3	4514EE69	45156899
6	(16)	40116EE6	41F90269	41F07C6C	41F35210	C1327216	414F69D4	414E50A4	3F5C9496	4022A53E
7	(20)	4041B009	3F76FA6B	411BF6D6	00000000	00000000	00000000	419E8370	C2118F08	C1D16A26
8	(24)	004A0000	00000000	00303279	55EEFDD6	BF79B285	B3C7A000	00000000	00000000	00000000
9	(28)	00000000	00000000	00000000	01010101	01010101	01010101	01010101	00000000	0003001C
10	(32)	00000009	00002475	42560007	00000000	C22658CB	C225F265	C2258BFF	C2252598	C224BF32
11	(36)	C223E265	C2238BFF	C2232598	C2228F32	C22258CB	C221E265	C2218BFF	C2212598	C220BF32
12	(40)	0008000C	001E0029	00310049	00590129	04190999	00D91019	0F19FFFF	00010001	00000000
13	(44)	03070000	00000000	000005BF	00000000	458D99A2	45159B27	4514FD4F	4523566C	40163FB3
14	(48)	421012EB	41D9F0E0	C1317939	414E071A	414E0D00	3F51E0CA	4021904D	40228CA7	40552B89
15	(52)	4118907D	00000000	00000000	00000000	419165F6	C1EAC033	C1E0CD80	4120FD6A	C06DD43E
16	(56)	C0302F1E	CECF90DB	BF79B285	B3940998	00000000	00000000	00000000	00000000	00000000
17	(60)	00000000	01101011	01101011	01101011	01010101	00000000	0003001C	004A0000	0000000F
18	(64)	4256000B	00000000	C2207578	C2200F12	C21FA8AC	C21F4245	C21EDBDF	C21E7578	C21E0F12
19	(68)	C21D4245	C21CDBDF	C21C7578	C21C0F12	C21BA8AC	C21B4245	C21ADBDF	00000000	00090009
20	(72)	00490051	00690129	03390859	0C590F19	0F19FFFF	00010001	00000000	00000505	03070000
21	(76)	000005BF	00000000	457C4B82	451450CA	45152229	4520CAC8	401D28EA	41EFE225	41E179D9
22	(80)	C12A0469	414F8855	414D9814	3F5D592E	4023B20C	40225068	407C0959	4011DA7E	411E6D6
23	(84)	00000000	00000000	418B5499	C2117705	C1D2344C	40C10B0B	C06DD43E	4EABEBE4	C0302F1E
24	(88)	BF79B285	B3940998	00000000	00000000	00000000	00000000	00000000	00000000	00000000
25	(92)	01010101	01010101	01010101	00000000	0003001C	004A0000	00000015	00005355	42560010
26	(96)	C21A4A5E	C219E3F8	C2197D92	C219172B	C218B0C5	C2184A5E	C217E3F8	C2177D92	C2170C05
27	(100)	C2164A5E	C215E3F8	C2157D92	C215172B	C214B0C5	00000002	0008000B	00170029	00290051
28	(104)	40190919	00990F99	1119FFFF	00010001	00000000	00000505	03070000	000005BF	00000000
29	(108)	457F9AFC	45152612	45154A03	451E1E6	4018548D	41FE035E	41EE23A2	4211B37A	C12D8B89
30	(112)	414E4ADC	3F5AED5B	40224A10	4022102C	4079B8C1	4016C77C	4120A8FD	00000000	00000000
31	(116)	41796E76	C211289E	C1D53F73	40721538	C06DD43E	4EABEBE4	C0302F1E	CECF90DB	BF79B285
32	(120)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	01010101	01010101
33	(124)	01010101	00000000	0003001C	004A0000	00000018	00006AC5	42560014	00000000	C214670C
34	(128)	C2139A40	C2133309	C212C073	C212670C	C21200A6	C2119A40	C2113309	C210C073	C210670C
35	(132)	C1F9A400	C1F3309A	C1E0D734	00010001	0004000A	0000001D	00310049	00890149	3F909D9
36	(136)	1119FFFF	00010001	00000000	00000505	03070000	00000000	000005BF	00000000	45635C8E
37	(140)	45153EAB	451FFC8A	40210601	42105F38	41FEC06E	4210A779	C122C0A8	41504307	414F6BDE
38	(144)	4022B335	40222250	4014C0B7	3FE83B23	411D7234	00000000	00000000	00000000	4176D8B0
39	(148)	C1F31E8C	41188930	C06DD43E	4EABEBE4	C0302F1E	CECF90DB	BF79B285	B3940998	00000000
40	(152)	00000000	00000000	00000000	00000000	00000000	01010101	01010101	01010101	00000000
41	(156)	0003001C	004A0000	00000021	00008235	42560019	00000000	C1E8527D	C1E1EC17	C1D885B1
42	(160)	C1CEB8E5	C1C8527E	C1C1EC18	C1BB85B2	C1B51F4B	C1AEB8E5	C1A8527F	C1A1EC18	C19885B1
43	(164)	C18EB8E5	00010002	00060009	001F0021	00490051	00990109	00F90C09	11191319	1299FFFF
44	(168)	00000000	00000505	03070000	00000000	000005BF	00000000	458109AA	4516E1C4	45165C1A
45	(172)	401C1A83	421183E5	42123F83	42119557	C12B8178	414F2A69	41506020	3F59EAF9	401FB12B
46	(176)	40812DAA	3FBE14BA	411A856C	00000000	00000000	00000000	419777F0	C1B4265C	C212C216
47	(180)	C06DD43E	4EABEBE4	C0302F1E	CECF90DB	BF79B285	B3940998	00000000	00000000	00000000
48	(184)	00000000	00000000	00000000	01010101	01010101	01010101	01010101	00000000	0003001C
49	(188)	00000027	000099A5	4256001D	00000000	C18A1D53	C183B6ED	C17D5087	C176EA21	C17D83BB
50	(192)	C163B6EE	C15D5088	C156EA21	C15083BB	C14A1D55	C143B6EE	C13D5087	C136EA21	C13083BB
51	(196)	0006000C	0013001E	00310049	00810179	05B90C99	10191299	1299FFFF	00010001	00000000
52	(200)	03070000	00000000	000005BF	00000000	4575CA01	4516B163	45158B66	4521C94D	40199C49
53	(204)	4212B892	4211E582	C12AC0D8	414F1883	4151AFAF	3F628092	401FE48C	4021A8CB	404CF149
54	(208)	411BE6D6	00000000	00000000	00000000	418822EC	C194F849	C2144AFE	40DE25E5	C06DD43E
55	(212)	C0302F1E	CECF90DB	BF79B285	B3940998	00000000	00000000	00000000	00000000	00000000
56	(216)	00000000	01010101	01010101	01010101	01010101	00000000	0003001C	004A0000	0000002D
57	(220)	42560022	01101010	C1276B89	C121553	C11A9EB9	C1143887	C0DD221C	C076BBAC	C016554D
58	(224)	40BC779D	411220DF	41189445	411EFAAC	41256113	4123C779	413220DF	00000001	0007000A
59	(228)	00290041	008101A9	0A590D19	11191199	1119FFFF	0001001F	00000000	00000505	03070000

312 bytes per

log r/c

[illegible]