

DATA SET CATALOG #154

69-014A-04A

2 tapes

69-030A-04A

Mariner 6 and 7

ULTRAVIOLET SPECTROMETER EXPERIMENT

ATMOSPHERIC DATA TAPE

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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 This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system.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 6

UPPER ATMOSPHERE UV SPECTRA, MAGTAPE

69-014A-04A

PSPA-00105

THIS DATA SET HAS BEEN RESTORED. ORIGINALLY IT CONTAINED TWO
7-TRACK, 800 BPI TAPES WRITTEN IN BINARY. THERE IS ONE RESTORED TAPE.
THE DR TAPE IS A 3480 CARTRIDGE AND THE DS TAPE IS 9-TRACK, 6250 BPI.
THE ORIGINAL TAPES WERE CREATED ON A CDC COMPUTER AND WERE RESTORED
ON AN IBM 9021 COMPUTER. THE DR AND DS NUMBERS ALONG WITH THE
CORRESPONDING D NUMBERS ARE AS FOLLOWS:

DR#	DS#	D#	FILES
DR005371	DS005371	D007053	1-2
		D007054	3

MARINER 7

UPPER ATMOS. UV SPECTRA, MAG. TAPE

69-030A-04A *PSPA-00148*

This data set has been restored. There were originally two 7-track, 800 BPI tapes written in Binary. There is one restored tape. The DR tape is a 3480 cartridge and the DS tape is 9-track, 6250 BPI. The original tapes were created on a 7094 computer. The DR and DS numbers along with the corresponding D number are as follows:

DR#	DS#	D#	FILES
-----	-----	-----	-----
DR004084	DS004084	D007055	1 - 4
		D007056	5

MARINER 6 AND 7

ULTRAVIOLET SPECTROMETER EXPERIMENT

ATMOSPHERIC DATA TAPE

69-014A-04A & 69-030A-04A

D-07053	-	2 Files	D-07055	-	4 Files
C-5466			C-5467		
D-07054	-	1 File	D-07056	-	1 File
C-5466			C-5468		

The tape that was supplied to NSSDC contained data from both satellites. A program was written to separate the data and put it on different tapes. The datum is unique in that there is no recording of time spans in the logical records of the different files. Each tape is 800 BPI, 7 track, Binary, ^{CDC}~~360~~ and the number of files per tape is noted above.

SATELLITE NAME:

Mariner 6, Mariner 7

DATE:

November 11, 1971

OBJECTIVE:

To select Mariner 6 and 7 data off of tape T-621 and write on separate tapes.

DESCRIPTION: Pt. 1

Five files of Mariner 6 and Mariner 7 data are on T-621. The second word of each record after a header record contains a spacecraft id, either a 6 or 7. This word was interrogated and the record written on an appropriate output tape containing all Mariner 6 or Mariner 7 data. The two records in file 5 were too large to be processed on the 7094, so a separate program was written for this file.

INPUT:

Tapes:

Dupe of T-621 has 5 files, one logical record per block, 800 BPI, binary, 7 track tape. Logical input unit is A5.

OUTPUT:

Tapes:

In this part, two tapes were generated with the same attributes as the input tape, one containing 2 files of Mariner 6 data and one containing 4 files of Mariner 7 data. Header records for each file from the original tape were not written.

Printer:

A3

SATELLITE NAME: Mariner 6 Mariner 7

DATE: November 11, 1971

OBJECTIVE: To select Mariner 6 and 7 data from the fifth file of input tape T-621.

DESCRIPTION: Pt. 2 The first record of file 5 contains Mariner 6 data. The second record contains Mariner 7 data. The program was written for the IBM 360/75. Each record was written on a separate tape.

INPUT:

Tapes: Dupe of T-621 has 5 files, one logical record per block, 800 BPI, binary, 7 track tape. JCL was used to begin reading at the fifth file. Logical unit is FT 008. Tape was read with TRTCH=C. There is no header record on file 5.

OUTPUT:

Tapes: Two tapes were generated with the same attributes as the input tape, one containing Mariner 6 data and one containing Mariner 7 data. Both tapes were duped on the 7094.

Mariner 6 and 7

ULTRAVIOLET SPECTROMETER
EXPERIMENT

Atmospheric Data Tape

The atmospheric data obtained by the ultraviolet spectrometer experiment on board Mariner 6 and 7 have been supplied to the National Space Science Data Center on magnetic tape. The tape has five files of data; the first four files contain data from the near planetary region, between 90 and 240 km; the last file contains the hydrogen data from near the planetary surface to a distance of 30000 km. All the data on the tape are those presented in "Mariner 6 and 7 Ultraviolet Spectrometer Experiment, Upper Atmosphere Data, Spectra & Instrument Description", C. A. Barth et al., Laboratory for Atmospheric and Space Physics, Univ. of Colorado, January, 1971.

The formats for the first four files of data are identical. The first record of each file provides a six word description of the file contents. The subsequent records consist of a ten word description of one spectrum and the data from that spectrum. Each spectrum is presented as alternating words of wavelength and relative amplitude (either intensity units or data numbers).

File 1 contains the unprocessed (as transmitted by the spacecraft) data between 1900 and 4000 Å. File 2 contains the same data calibrated in units of Rayleighs/Å. File 3 contains the unprocessed data between 1100 and 1800 Å. File 4 contains the same data calibrated in units of Rayleighs/Å. (See Table 1.) Files 1 and 2 are 29 records long; Files 3 and 4 are 7 records long.

File 5 has only two records; record 1 contains the hydrogen data for Mariner 6, record 2 for Mariner 7. The

data is presented in three word sequences; word 1 is the integrated value of the Lyman-alpha signal in Rayleighs, word 2 is the planetocentric distance of that signal in kilometers, word 3 is the actual time that signal was taken. (See Table 2).

The tape is written on a CDC 6400 computer in binary (odd parity). All words are 60 bits long.

TABLE 1

File	Record	Word	Content	Form	
1	1	1	CU-LASP	BCD	
		2	File Number (m)	Binary Integer	
		3*	ID-1	BCD	
		4*	ID-2	BCD	
		5	Record Size (i)✓	Binary Integer	
		6	Number of subsequent records on file m (n)	Binary Integer	
	2	1	Spectral Number (1 to n)	Binary Integer	
		2	Spacecraft ID	Binary Integer	
		3	Altitude at first wavelength	Binary Integer	
		4	Altitude at last wavelength	Binary Integer	
		5	Slit height	Binary Integer	
		6	θ_0 (solar incident angle)	Binary Integer	
		7	θ (solar emission angle)	Binary Integer	
		8	ϕ (phase angle)	Binary Integer	
		9	Blank		
		10	Blank		
		11	First wavelength	Binary Integer	
		12	First amplitude	Binary Integer	
		13	Wavelength	Binary Integer	
		14	Amplitude	Binary Integer	
		i-2	Amplitude	Binary Integer	
		i-1	Last wavelength	Binary Integer	
		i	Last amplitude	Binary Integer	
	3	Same content as Record 2			
	⋮				
	n+1	Last spectrum (i.e. last record) on FILE 1; same content as previous n records			
2	1	}	same description as FILE 1		

* Words 3 and 4 of record 1 are code words. ID-1 consists of two parts, A U or P for unprocessed (data numbers) or processed (intensity units) and the word LIMB; i.e., ID-1 is either U-LIMB or P-LIMB. ID-2 is also a two part word; the first part is either MUV (middle ultraviolet, 1900-4000 Å) or FUV (far ultraviolet, 1100-1800 Å). The second part is a unit description, R/A (Rayleighs/Å) or DN/SN (data numbers/sample numbers). In combination ID-2 is one of the following: MUV-R/A, MUV-DN/SN, FUV-R/A, or FUV-DN/SN.

TABLE 2

File	Record	Word	Content	Form
5	1	1	Signal (Rayleighs)	Binary Integer
		2	Planetocentric Distance (km)	Binary Integer
		3*	Time of signal	Binary Integer
		4	Signal	Binary Integer
		5	Planetocentric Distance	Binary Integer
		6	Time	Binary Integer
		.		
		.		
		3812	Signal	Binary Integer
		3813	Planetocentric Distance	Binary Integer
		3814	Time	Binary Integer
	2	1	Same description as Record 1	
		2		
		3		
		.		
		.		
		4142		
		4143		
		4144		

* The third word of each 3 word sequence is the ground receipt time (GRT) for that signal. It is the Greenwich Mean Time (in decimal form) multiplied by 10000 to put it into convenient binary integer format. A sample value for time of signal would be 52284. This number is really 5.2284 hours GMT.

30

204

D-7053
C-5405

