DSC#802

72-012A-06C

PIONEER 10

UV CRUISE ARCHIVE,DAILY ACERAGE

SPHE-00492

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 This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system.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

PIONEER 10

UV Cruise Archive, Daily Average

72-012A-06C SPHE-00492

THIS DATASET CONSISTS OF 1 MAGNETIC TAPE, THE TAPE WAS CREATED OF THE VAX COMPUTER, AND IS 9-TRACK, 6250 BPI, ASCII, WITH A LABEL NAME OF P10UV. THE DATA WAS DOWNLOADED FROM THE ANON_DIR:[COHO.PIONEER_10.UV.DAY] AND COPIED TO TAPE. COPIES OF VOLDESC.SFD, FORMAT, FORMAT SFD AND A DIRECTORY LIST HAVE BEEN PLACED IN THE CATALOG. THE D AND C NUMBER ALONG WITH ITS TIMESPAN IS LISTED BELOW.

D#	C#	FILES	TIMESPAN
D-108750	C-032847	23	03/03/72-12/31/91

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Directory MKC500:[]   pioneer 10

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UVP10_73.DAT;1          13-JAN-1995 00:00:00.00
UVP10_74.DAT;1          13-JAN-1995 00:00:00.00
UVP10_75.DAT;1          13-JAN-1995 00:00:00.00
UVP10_76.DAT;1          13-JAN-1995 00:00:00.00
UVP10_77.DAT;1          13-JAN-1995 00:00:00.00
UVP10_78.DAT;1          13-JAN-1995 00:00:00.00
UVP10_79.DAT;1          13-JAN-1995 00:00:00.00
UVP10_80.DAT;1          13-JAN-1995 00:00:00.00
UVP10_81.DAT;1          13-JAN-1995 00:00:00.00
UVP10_82.DAT;1          13-JAN-1995 00:00:00.00
UVP10_83.DAT;1          13-JAN-1995 00:00:00.00
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UVP10_87.DAT;1          13-JAN-1995 00:00:00.00
UVP10_88.DAT;1          13-JAN-1995 00:00:00.00
UVP10_89.DAT;1          13-JAN-1995 00:00:00.00
UVP10_90.DAT;1          13-JAN-1995 00:00:00.00
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Total of 23 files.
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                        M   M    Y    EEEE   RRRR    SSS
                        M   M    Y    E      R R        S
                        M   M    Y    E      R  R       S
                        M   M    Y    EEEEE  R   R  SSSS

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V   V  O   O  L      D   D  E      S      C                7       2         9
V   V  O   O  L      D   D  EEEE    SSS   C               7       2          99
V   V  O   O  L      D   D  E          S  C              7       2
 V V   O   O  L      D   D  E          S  C             7       2
  V     OOO   LLLLL  DDDD   EEEEE  SSSS    CCCC  _____ 7      22222  _____   99

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File _1DUB54:[ANONYMOUS.ANONYMOUS.COHO.PIONEER_10.UV.DAY]VOLDESC_72_91.SFD;1 (15388,23,0), last revised on 22-APR-1997 15:24, is a 34 block sequential file owned by UIC COHO_ANON. The records are variable length with implied (CR) carriage control. The longest record is 82 bytes.

Job VOLDESC_72_91 (444) queued to NCFLJ4 on 8-MAY-1997 08:14 by user MYERS, UIC [NSSDCOPS,MYERS], under account NSSDCOPS at priority 100, started on printer NLP4: on 8-MAY-1997 08:14 from queue NCFLJ4_NSSDCA.

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CCSD3ZF0000100000001CCSD3VS00002MRK**001

VOL_IDENT: USA_NASA_NSSD_P10F_0002

VOL_CREATION_DATE: 11-10-1994

MEDIUM_DESCRIPTION: 3-1/2 inch 1.44 MB Floppydisk

TECHNICAL_CONTACT: Dr. Pradip Gangopadhyay
Space Sciences Center, MC-1341
University of Southern California
Los Angeles, CA 90089-1341
(213) 740-6340
e-mail: djudge@lism.usc.edu

PREV_VOLS: NONE or USA_NASA_NSSD_P10F_0001
.....
USA_NASA_NSSD_P10F_nnnn

CCSD$$MARKERMRK**001CCSD3SS00002MRK**002

DATA_SET_NAME: PIONEER UV DATA ARCHIVE

DATA_SOURCES: PIONEER 10, ULTRAVIOLET PHOTOMETER EXPERIMENT

SCIENTIFIC_CONTACT: SAME AS IN TECHNICAL CONTACT

SPACECRAFT_CHARACTERISTICS:

Pioneer 10 was launched on March 2, 1972, and carries a Ultraviolet (UV) photometer on board to detect backscattered solar uv light. The spacecraft is moving downstream with respect to the interstellar breeze flowing in to the solar system. In comparison Pioneer 11, launched April 5, 1973, is moving upstream.

INVESTIGATION_OBJECTIVES:

The primary scientific objective for the USC/UV experiment is to study the interaction of the solar wind with the interstellar medium. The UV photometers onboard the spacecraft Pioneers 10/11 are used to determine the spatial and temporal variations of the intensity of the backscattered solar Lyman alpha at 1216 A and solar Helium line at 584 A. One objective is to study the transition region of the heliospheric boundary. Another is to study the variation of resonance backscattered H 1216 A and He 584 A ultraviolet lines far from the local solar influence which will help us to determine the fundamental characteristics of the nearby interstellar medium. Another objective is to study the effect of solar variability as reflected in the interstellar glow, and comparing them to direct solar UV observations.

INSTRUMENT_ATTRIBUTES:

A. DESCRIPTION_OF_INSTRUMENT:
The University of Southern California ultraviolet photometers

onboard Pioneers 10/11 cover two broad spectral regions. The long wavelength channel is sensitive to emissions shortwards of 1400 A which includes the 1216 A emission line. The short wavelength channel is sensitive to shortwards of 800 A which includes the 584 A helium resonance line. The details of the UV photometers, as well as their sensitivity curves, can be obtained in Carlson and Judge, J.Geophys. Res., 79, 3623 (1974). The instrument design was based on the anticipated dominance of hydrogen and helium gases in the interplanetary medium. In the interplanetary space, the measured signal in the long wavelength channel is primarily composed of the H 1216 A line, while the measured signal in the short wavelength channel is primarily composed of the He 584 A line. For a uniform diffuse source that fills the field of view, the relations between the count rate, CR [count/sec], and brightness [rayleigh] are

Brightness[Rayleigh] = (CR - 3.0)/S_lw for 1216 A, and
Brightness[Rayleigh] = (CR - 3.0)/S_sw for 584 A,

where S_lw[count/sec/Rayleigh] and S_sw[count/sec/Rayleigh] are conversion factors for long- and short-wavelength channels respectively. The background count rate is 3 count/sec. The conversion factors, as determined by a pre-launch calibration with a radioisotope thermogenerator, are :

S_sw = 7.3 count/sec/Rayleigh
S_lw = 4.9 count/sec/Rayleigh.

These conversions factors can be applied to all data contained in data flies.

The Pioneer 10 long wavelength channel has suffered a gain loss since mid-1986 about 37.5 AU from the Sun. The details of the problem are described in the paper published in J. Geophys. Res., v.98(A9), p. 15185-15192, 1993 by Hall et al.

The gain loss was found when the photometer was turned on and off after initiation of spacecraft instrument power sharing on day 271, 1989. By examining earlier data both before and after the instrument was turned off for other operational reasons it was possible to identify the time at which the gain loss began i.e., mid 1986. There has been a further change in gain since late 1990 (~50 AU) after the duty cycle was changed on day 211, 1990. The duty cycle was 5 days on and 2 days off from 1989 day 271 to 1990 day 210 and 2 days on and 5 days off from 1990 day 211. In 1993 and 1994 the duty cycle has been highly aperiodic complicating the data analysis procedure. We discuss here the data analysis and correction procedure for the above three distinct periods. The correction procedure allows application of the same conversion factor s_lw, to all the data. The basis of the procedure is discussed below.

Between 1986, day 219 and 1989, day 271, the UV detector was operated nearly continuously. During this period, the instrument was shut down occasionally for about 2 hours to facilitate other spacecraft operations. We have used those days to correct the data during the period. The count rate registered after the instrument turn-on was nearly constant for a few minutes and then decayed to a lower value over a period of

some hours. We consider the initial plateau region as the correct data. We had to derive correction factors for those days when the instrument was run continuously. The correction factors were derived by dividing the plateau region data value observed after turn-on by the asymptote data value which the instrument was normally reading. We found that the correction factor increased from 1.1 in mid 1986 to 3.4 in late 1988. We fitted a polynomial curve to these correction factors and thus could calculate the correction factor to the daily average value throughout this period. The data during 1989, day 1 to 1989, day 271 were found to gradually fall below the 1/r curve. We believe that this is not a real scientific finding but is due to the steady depletion of charge as the UV detector was being run continuously in this period. The reason for believing this is that the plateau region values after 1989, day 271 were again on the 1/r curve. Further, if we accept the data in this period there would be a physically unacceptable discontinuity in the data. Thus, we have dropped the 1989 data till day 271 since no clearly viable correction procedure was available during this period.

Now we give the data correction procedure for the period between 1989, day 271 and 1990, day 254. In this period for some days the data are available within a few minutes of the instrument turn-on and the value can be directly read from the decay curve. There are some other days when the data are available quite some time after the instrument turn-on. We determined the data correction for those days as follows: First we chose the day 330, 1989 as our reference curve as we have data within 4 minutes of turn-on and there is a plateau region of 190 counts/sec. Suppose for the day for which we want to determine the count rate the data are available between times t1 and t2 and for which we have data from the reference day also. We summed the data between t1 and t2 for both days, which are called Sum for the day for which we want the count rate, and Sumref for the reference day. Then (Sum/Sumref)*(the reference day plateau data) will yield the correct count rate.

Between 1990, day 254 to the present we have used a similar method except for two changes. Firstly, we are using 1992 day 282 as our standa decay curve. Secondly, we are dividing the plateau data by 2. We are doing this as there is evidence that the instrument has suffered a quantized gain change since the duty cycle was changed in 1990, day 211 leaving the instrument off for long periods. The whole decay curve has shifted upwards by a factor of 2. (We can not specify the exact date whe this shift occured because of the large gaps in data collection.) If we do not divide by 2 then we have to seek a physical explanation for such a sudden change. Since the UV instrument integrates along its line of sig such a sudden change is impossible without a sudden change in the driving mechanism for the backscattered UV, the solar Lyman Alpha line. There has been no such change in that line.

The described above correction of experimentally obtained count rates allows one to use the correction factor, S_lw, for the wavelength channel data in the same, consistent way throughout the mission.

B. MEASURED_PARAMETERS:

Ultraviolet photometers measure count rates of two spectral channels:
i) short wavelength channel, and ii) long wavelength channel.

measured from the ecliptic plane (in degrees).

DATA_SET_QUALITY:

Criteria for data acceptance are based on both proper functioning of spacecraft telemetry and communication link and the "behavior" of the instrument.
All data received when there is an indication of problems in telemetry or data link, are rejected.
The instrument behavior is checked in the following way. Data flow consists of the readings of photon counters, which accumulate counts during a telemetry frame period. Telemetry frame period depends on the mode of the communication link and may be in the range between a fraction of a second and several seconds. All experimental data are put together in the form of blocks of 512 consecutive readings of counters. Then all readings, that deviate more than three standard deviations for this particular block, are rejected.

DATA_PROCESSING_OVERVIEW:

In normal operations, we receive 800 bpi tapes from NASA containing the UV data at its highest resolution. These tapes are then compacted to 1600 bpi tapes for ease of use in USC. Once the 1600 bpi tapes become available various types of averages (daily, hourly etc) can be obtained. All data are given in spacecraft (not ground receiving) time. The data supplied here is daily averaged data which is also averaged over all clock angles. A detailed explanation about clock angles can be found in F.M. Wu, P. Gangopadhyay, H. S.Ogawa and D. L. Judge, Ap. J., 331, 1004 (1988). Briefly, since the UV photometer spins rigidly with the spacecraft making an angle of 20 degrees with the spin axis, its field of view traces out a 1 degree wide cone with a semi-vertical angle of 20 degrees on the sky. The clock angle is the angle between any particular direction and the ecliptic plane measured along the 20 degree cone.

Data, accumulated during a day, are used to determine daily averaged count rates for long wavelength and short wavelength channels. All experimental data are put together in the form of blocks of 512 consecutive readings of counters. Then all readings, that deviate more than three standard deviations for this particular block, are rejected.

FILE_CLASS_RELATIONSHIPS:

There is only one type of data file.

LIT_REFERENCES:

1. Carlson R.W. and Judge D. J. Geophys. Res., v.79, 3623, 1974.
2. Carlson R.W. and Judge D. in: Jupiter, p.418, University of Arizona Press, 1976.
3. Wu F.M. and Judge D. Astrophys. J., v. 231, 574, 1979.
4. Wu F.M. and Judge D. J. Geophys. Res., v.84, p.979, 1979.

5. Wu F.M. et al. Astrophys. J., v.239, 389, 1980.
6. Wu F.M. et al. Astrophys. J., v.331, 1004, 1988.

CCSD$$MARKERMRK**002CCSD3KS00002MRK**003

VOL_TIME_COVERAGE: 1972-01-01 to 1991-12-31

FILE_NAMING_CONVENTION:

UVDB files are named according to the start time of the data contained in the file as follows: UVxxx_yy.DAT. Here xxx stands either for P10 or for P11, yy stands for the year. Hence UVP10_80.DAT means the UV data of Pioneer 10 for January 01 - December 31 of year 1980.

FILE_TIME_COVERAGE:

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UVP10_79.DAT	1979-01-01	to	1979-12-31
UVP10_80.DAT	1980-01-01	to	1980-12-31
UVP10_81.DAT	1981-01-01	to	1981-12-31
UVP10_82.DAT	1982-01-01	to	1982-12-31
UVP10_83.DAT	1983-01-01	to	1983-12-31
UVP10_84.DAT	1984-01-01	to	1984-12-31
UVP10_85.DAT	1985-01-01	to	1985-12-31
UVP10_86.DAT	1986-01-01	to	1986-12-31
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                        M   M    Y    EEEEE  R   R  SSSS

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File _1DUB54:[ANONYMOUS.ANONYMOUS.COHO.PIONEER_10.UV.DAY]VOLDESC_92_96.SFD;1 (15386,28,0), last revised on 22-APR-1997 15:23, is a 33 block sequential file owned by UIC COHO_ANON. The records are variable length with implied (CR) carriage control. The longest record is 80 bytes.

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VOL_IDENT: USA_NASA_NSSD_P10F_0003

VOL_CREATION_DATE: 04-21-1997

MEDIUM_DESCRIPTION: sent by e-mail

TECHNICAL_CONTACT: Dr. Pradip Gangopadhyay
Space Sciences Center, MC-1341
University of Southern California
Los Angeles, CA 90089-1341
(213) 740-6340
e-mail: djudge@lism.usc.edu

PREV_VOLS: USA_NASA_NSSD_P10F_0002

CCSD$$MARKERMRK**001CCSD3SS00002MRK**002

DATA_SET_NAME: PIONEER UV DATA ARCHIVE

DATA_SOURCES: PIONEER 10, ULTRAVIOLET PHOTOMETER EXPERIMENT

SCIENTIFIC_CONTACT: SAME AS IN TECHNICAL CONTACT

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A. DESCRIPTION_OF_INSTRUMENT:
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long wavelength channel is sensitive to emissions shortwards of 1400 A which includes the 1216 A emission line. The short wavelength channel is sensitive to shortwards of 800 A which includes the 584 A helium resonance line. The details of the UV photometers, as well as their sensitivity curves, can be obtained in Carlson and Judge, J.Geophys. Res., 79, 3623 (1974). The instrument design was based on the anticipated dominance of hydrogen and helium gases in the interplanetary medium. In the interplanetary space, the measured signal in the long wavelength channel is primarily composed of the H 1216 A line, while the measured signal in the short wavelength channel is primarily composed of the He 584 A line. For a uniform diffuse source that fills the field of view, the relations between the count rate, CR [count/sec], and brightness [rayleigh] are

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4. Wu F.M. and Judge D. J. Geophys. Res., v.84, p.979, 1979.
5. Wu F.M. et al. Astrophys. J., v.239, 389, 1980.
6. Wu F.M. et al. Astrophys. J., v.331, 1004, 1988.

CCSD$$MARKERMRK**002CCSD3KS00002MRK**003

VOL_TIME_COVERAGE: 1972-01-01 to 1991-12-31

FILE_NAMING_CONVENTION:

UVDB files are named according to the start time of the data contained in the file as follows: UVxxx_yy.DAT. Here xxx stands either for P10 or for P11, yy stands for the year. Hence UVP10_80.DAT means the UV data of Pioneer 10 for January 01 - December 31 of year 1980.

FILE_TIME_COVERAGE:

UVP10_92.DAT	1992-01-01	to	1992-12-31
UVP10_93.DAT	1993-01-01	to	1993-12-31
UVP10_94.DAT	1994-01-01	to	1994-12-31
UVP10_95.DAT	1995-01-01	to	1995-12-31
UVP10_96.DAT	1996-01-01	to	1996-12-31

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File: [COHO.PIONEER_10.UV.DAY]P10UVP.FMT Version: 4/22/97 JFC

Pioneer 10 Ultraviolet Photometer Cruise Data: Daily Averages for 1972 - 1996

Principal Investigator: Professor D. J. Judge
University of Southern California

Data Set Contact: P. Gangopadhyay
University of Southern California

Dataset Description: Pioneer 10 UV photometer dataset (NSSDC ID 72-012A-06C) for daily averages of the spin-averaged short and long wavelength channels from March 3, 1972 onward. These data are used to study the interaction of the solar wind with the interstellar medium by measurements of spatial and temporal variations of the intensity of backscattered solar Lyman alpha emission at 1216 A and of the solar Helium line at 584 A. See the SFDU files in this directory for detailed descriptions, VOLDESC_yy_yy.SFD for the spacecraft, experiment, and dataset overviews, and FORMAT_yy_yy.SFD for the parameter formats. The "yy_yy" fields denote the start and stop years for the two separate updates of this data set.

Parameter Description:

DAY COR DRATLW DRATSW CLATSP CLONSU CLATSU CLONSU CLATEA CLONEA

DAY = Day of year (1 - 366)
COR = Indicator of spacecraft orientation (1 = correction maneuver occur
0 = no correction)
DRATLW = Counts/second for long wavelength channel (below 1400 Angstroms
DRATSW = Counts/Second for short wavelength channel (below 800 Angstroms
HRADSP = Heliocentric distance of spacecraft in A.U.
CLATSP,
CLONSP = Celestial pointing latitude and longitude of s/c +Z-axis, pointing along spin axis approximately towards the Earth.
CLATSU,
CLONSU = Celestial latitude and longitude of Sun as seen from s/c
CLATEA,
CLONEA = Celestial latitude and longitude of Earth as seen from s/c

The FORMAT statement for a FORTRAN write command would be as follows:

```
FORMAT(I4,1X,I1,1X,F8.1,1X,F8.2,1X,F8.4,6(1X,F7.3))
```

All the data and ephemeris parameters are daily averages.

Related Information and Data:

Further details on the spacecraft, experiment, data sets at NSSDC, and related WWW sites can be found on the Pioneer 10/11 flight project page under

http://nssdc.gsfc.nasa.gov/space/space_physics_home.html

Hour averages of the interplanetary solar wind data from, and hourly heliocentri coordinates of, Pioneer 10/11 and other interplanetary spacecraft may be also be accessed and plotted on-line through the COHOWeb service based at the same WWW site as above.

Pioneer data on NDADS (NASA's Data Archive and Distribution Service) may be

located on the WWW via the SPyCAT service at the above URL or an e-mail message to ARMS (Automated Retrieval Mail System) at archives@ndadsa.gsfc.nasa.gov with "HOLDINGS" on the subject line.

Acknowledgement:

Use of these data in publications should be accompanied at minimum by acknowledgements of the National Space Science Data Center and the responsible Principal Investigator defined in the experiment documentation provided here. Citation of NSSDC's Coordinated Heliospheric Observations (COHO) data base would also be appreciated, so that other potential users will be made aware of this service.

```
CCCCCCCCCC     6666666666666666666666666666666666666666666666666     CCCCCCCCCC
CCCCCCCCCC     6  NSSDC Computing Facility --- NASA/GSFC Bldg 28  6     CCCCCCCCCC
CCCCCCCCCC     6666666666666666666666666666666666666666666666666     CCCCCCCCCC

                        M   M  Y   Y  EEEEE  RRRR    SSSS
                        MM MM  Y   Y  E      R   R  S
                        M M M   Y Y   E      R   R  S
                        M   M    Y    EEEE   RRRR    SSS
                        M   M    Y    E      R R        S
                        M   M    Y    E      R  R       S
                        M   M    Y    EEEEE  R   R  SSSS

FFFFF   OOO   RRRR   M   M   AAA   TTTTT          7777    222           999     1
F      O   O  R   R  MM MM  A   A    T              7  2   2          9   9   11
F      O   O  R   R  M M M  A   A    T             7      2           9   9    1
FFFF   O   O  RRRR   M   M  A   A    T            7      2            9999    1
F      O   O  R R    M   M  AAAAA    T           7      2               9    1
F      O   O  R  R   M   M  A   A    T          7      2                9    1
F       OOO   R   R  M   M  A   A    T  _____  7      22222  _____     999   11

                        SSSS  FFFFF  DDDD     ;;     1
                       S      F      D   D    ;;    11
                       S      F      D   D          1
                        SSS   FFFF   D   D    ;;    1
                           S  F      D   D    ;;    1
                          S   F      D   D     ;    1
                       SSSS   F      DDDD      ;    111
```

File _1DUB54:[ANONYMOUS.ANONYMOUS.COHO.PIONEER_10.UV.DAY]FORMAT_72_91.SFD;1 (13221,15,0), last revised on 22-APR-1997 15:27, is a 18 block sequential file owned by UIC COHO_ANON. The records are variable length with implied (CR) carriage control. The longest record is 71 bytes.

Job FORMAT_72_91 (442) queued to NCFLJ4 on 8-MAY-1997 08:13 by user MYERS, UIC [NSSDCOPS,MYERS], under account NSSDCOPS at priority 100, started on printer NLP4: on 8-MAY-1997 08:13 from queue NCFLJ4_NSSDCA.

```
CCCCCCCCCC     6666666666666666666666666666666666666666666666666     CCCCCCCCCC
CCCCCCCCCC     Digital Equipment Corporation - VAX/VMS Version V6.1     CCCCCCCCCC
CCCCCCCCCC     6666666666666666666666666666666666666666666666666     CCCCCCCCCC
```

CCSD3FF0000500000001CCSD3CS00004MRK**001
ADIDNAME=NSSD0058;
CCSD$$MARKERMRK**001CCSD3KS00002MRK**002

SUBM_NAME: Dr. Pradip Gangopadhyay

SUBM_ADDR: Space Sciences Center, MC-1341
University of Southern California
Los Angeles, CA 90089-1341
(213) 740-6340
e-mail: djudge@lism.usc.edu

SUBM_DATE: 11-10-1994

TITLE: Format for Pioneer 10 UVDB Cruise Archive Data Set

DESCR: Format description of the Pioneer 10 UV photometer dataset for daily averages of the spin-averaged short and long wavelength channels from January 1972 onward. These data are used to study the interaction of the solar wind with the interstellar medium by measurements of spatial and temporal variations of the intensity of backscattered solar Lyman alpha emission at 1216 A and of the solar Helium line at 584 A.

REL_DATE: 11-10-1994

CCSD$$MARKERMRK**002CCSD3DF0000200000001

FILE_CLASS_NAME: UVDB_AVG_FILE

RECORD_TYPE_NAME: UVDB_AVG_REC

RECORD_STRUCTURE: Fixed length, no control fields

RECORD_LENGTH: 31390 bytes for non-leap years and
31476 bytes for leap years

RECORD_FIELD_MNEMONICS: DAY, COR, DRATLW,
DRATSW, HRADSP,
CLATSP, CLONSP,
CLATSU, CLONSU,
CLATEA, CLONEA

RECORD SYNTAX: There are eleven ASCII fields per record with mnemonics in the same order as specified in RECORD_FIELD_MNEMONICS. Fields are separated by single blank characters, starting after the first field and ending before the last field. Records are terminated by standard ASCII carriage-return and line-feed.

The FORMAT statement for a FORTRAN write command would be as follows:

```
FIELD_RESOLUTION:          Daily average
FIELD_RANGE:               -90 to +90
FIELD_DESCRIPTION:         The celestial latitude of the Earth
                           as seen from the spacecraft.
FIELD_REPRESENTATION:      7 ASCII characters (F7.3)


FIELD_NAME:                Celestial Longitude of the Earth
FIELD_MNEMONIC:            CLONEA
FIELD_UNITS:               Degrees
FIELD_RESOLUTION:          Daily average
FIELD_RANGE:               0 to 360
FIELD_DESCRIPTION:         The celestial longitude of the Earth
                           as seen from the spacecraft.
FIELD_REPRESENTATION:      7 ASCII characters (F7.3)

/* EOF */
```

```
DDDDDDDDDD    77777777777777777777777777777777777777777777777777    DDDDDDDDDD
DDDDDDDDDD    7  NSSDC Computing Facility --- NASA/GSFC Bldg 28  7    DDDDDDDDDD
DDDDDDDDDD    77777777777777777777777777777777777777777777777777    DDDDDDDDDD
```

```
M   M  Y   Y  EEEEE  RRRR    SSSS
MM MM  Y   Y  E      R   R  S
M M M   Y Y   E      R   R  S
M   M    Y    EEEE   RRRR    SSS
M   M    Y    E      R R        S
M   M    Y    E      R  R       S
M   M    Y    EEEEE  R   R  SSSS
```

```
FFFFF   OOO   RRRR   M   M   AAA   TTTTT          999    222          999    66
F      O   O  R   R  MM MM  A   A    T           9   9  2   2       9   9  6
F      O   O  R   R  M M M  A   A    T           9   9      2       9   9  6
FFFF   O   O  RRRR   M   M  A   A    T            9999     2         9999  666
F      O   O  R R    M   M  AAAAA    T               9    2             9  6
F      O   O  R  R   M   M  A   A    T               9   2              9  6
F       OOO   R   R  M   M  A   A    T      _____    999   22222  _____  999    66
```

```
 SSSS  FFFFF  DDDD     ;;     1
S      F      D   D    ;;    11
S      F      D   D           1
 SSS   FFFF   D   D    ;;     1
    S  F      D   D    ;;     1
    S  F      D   D     ;     1
SSSS   F      DDDD      ;    111
```

File _1DUB54:[ANONYMOUS.ANONYMOUS.COHO.PIONEER_10.UV.DAY]FORMAT_92_96.SFD;1 (15384,28,0), last revised on 22-APR-1997 15:27, is a 19 block sequential file owned by UIC COHO_ANON. The records are variable length with implied (CR) carriage control. The longest record is 187 bytes.

Job FORMAT_92_96 (443) queued to NCFLJ4 on 8-MAY-1997 08:14 by user MYERS, UIC [NSSDCOPS,MYERS], under account NSSDCOPS at priority 100, started on printer NLP4: on 8-MAY-1997 08:14 from queue NCFLJ4_NSSDCA.

```
DDDDDDDDDD    77777777777777777777777777777777777777777777777777    DDDDDDDDDD
DDDDDDDDDD    Digital Equipment Corporation - VAX/VMS Version V6.1    DDDDDDDDDD
DDDDDDDDDD    77777777777777777777777777777777777777777777777777    DDDDDDDDDD
```

From: AMES::"pradip@lism.usc.edu" "Pradip Gangopadhyay" 21-APR-1997 16:21:09.1
To: ncf.nasa.gov::jcooper
CC:
Subj: sending format.sfd

CCSD3FF0000500000001CCSD3CS00004MRK**001
ADIDNAME=NSSD0058;
CCSD$$MARKERMRK**001CCSD3KS00002MRK**002

SUBM_NAME: Dr. Pradip Gangopadhyay

SUBM_ADDR: Space Sciences Center, MC-1341
University of Southern California
Los Angeles, CA 90089-1341
(213) 740-6340
e-mail: djudge@lism.usc.edu

SUBM_DATE: 11-10-1994

TITLE: Format for Pioneer 10 UVDB Cruise Archive Data Set

DESCR: Format description of the Pioneer 10 UV photometer dataset for daily averages of the spin-averaged short and long wavelength channels from January 1972 onward. These data are used to study the interaction of the solar wind with the interstellar medium by measurements of spatial and temporal variations of the intensity of backscattered solar Lyman alpha emission at 1216 A and of the solar Helium line at 584 A.

REL_DATE: 11-10-1994

CCSD$$MARKERMRK**002CCSD3DF0000200000001

FILE_CLASS_NAME: UVDB_AVG_FILE

RECORD_TYPE_NAME: UVDB_AVG_REC

RECORD_STRUCTURE: Fixed length, no control fields

RECORD_LENGTH: 31390 bytes for non-leap years and
31476 bytes for leap years

RECORD_FIELD_MNEMONICS: DAY, COR, DRATLW,
DRATSW, HRADSP,
CLATSP, CLONSP,
CLATSU, CLONSU,
CLATEA, CLONEA

RECORD SYNTAX: There are eleven ASCII fields per record with mnemonics in the same order as specified in RECORD_FIELD_MNEMONICS. Fields are separated by single blank characters, starting after the first field and ending before the last field. Records are terminated by standard ASCII carriage-return and line-feed.

The FORMAT statement for a FORTRAN write command would be as follows:

FORMAT(I4,1X,I1,1X,F8.1,1X,F8.2,1X,F8.4,6(1X,F7.3))

FIELD_NAME:	Day of Year
FIELD_MNEMONIC:	DAY
FIELD_UNITS:	Spacecraft Event Time (UT)
FIELD_RESOLUTION:	Daily value
FIELD_RANGE:	1 to 366
FIELD_DESCRIPTION:	Integer day of year (DAY=1 on January 1)
FIELD_REPRESENTATION:	5 ASCII Characters (I4)

FIELD_NAME:	Indicator of Spacecraft Orientation Correction
FIELD_MNEMONIC:	COR
FIELD_UNITS:	0 or 1
FIELD_RESOLUTION:	occurrence during the day
FIELD_RANGE:	0 and 1
FIELD_DESCRIPTION:	Integer indicator of the spacecraft orientation correction (1 = correction occurred; 0 = no correction occurred)
FIELD_REPRESENTATION:	1 ASCII Characters (I1)

FIELD_NAME:	Daily Average Long Wavelength Count Rate
FIELD_MNEMONIC:	DRATLW
FIELD_UNITS:	Counts/second
FIELD_RESOLUTION:	Daily average
FIELD_RANGE:	0 to 3000
FIELD_DESCRIPTION:	Daily averaged count rates for the long wavelength channel of the UV photometer.
FIELD_REPRESENTATION:	8 ASCII characters (F8.1)

FIELD_NAME:	Daily Average Short Wavelength Count Rate
FIELD_MNEMONIC:	DRATSW
FIELD_UNITS:	Counts/second
FIELD_RESOLUTION:	Daily average
FIELD_RANGE:	0 to 300
FIELD_DESCRIPTION:	Daily averaged count rates for the short wavelength channel of the UV photometer.
FIELD_REPRESENTATION:	8 ASCII characters (F8.2)

FIELD_NAME:	Heliocentric Distance of the Spacecraft
FIELD_MNEMONIC:	HRADSP
FIELD_UNITS:	AU

```
FIELD_NAME:                     Celestial Latitude of the Earth
FIELD_MNEMONIC:                 CLATEA
FIELD_UNITS:                    Degrees
FIELD_RESOLUTION:               Daily average
FIELD_RANGE:                    -90 to +90
FIELD_DESCRIPTION:              The celestial latitude of the Earth
                                as seen from the spacecraft.
FIELD_REPRESENTATION:           7 ASCII characters (F7.3)


FIELD_NAME:                     Celestial Longitude of the Earth
FIELD_MNEMONIC:                 CLONEA
FIELD_UNITS:                    Degrees
FIELD_RESOLUTION:               Daily average
FIELD_RANGE:                    0 to 360
FIELD_DESCRIPTION:              The celestial longitude of the Earth
                                as seen from the spacecraft.
FIELD_REPRESENTATION:           7 ASCII characters (F7.3)

/* EOF */

% ====== Internet headers and postmarks (see DECWRL::GATEWAY.DOC) ======
% Received: Mon, 21 Apr 1997 13:02:20 -0700 from usc.edu by mg.nsi.net (8.6.9/1.
% Received: from lism.usc.edu (pradip@lism.usc.edu [128.125.56.8]) by usc.edu (8
% Received: (from pradip@localhost) by lism.usc.edu (8.8.4/8.8.4/usc) id NAA1199
% Date: Mon, 21 Apr 1997 13:22:17 -0700 (PDT)
% From: Pradip Gangopadhyay <pradip@lism.usc.edu>
% Message-Id: <199704212022.NAA11996@lism.usc.edu>
% To: ncf.nasa.gov::jcooper
% Subject: sending format.sfd
```

Directory Of 72-01A-06C

FORMAT.SFD;1	P10UVP.FMT;3	UVP10_72.DAT;1	UVP10_73.DAT;1
UVP10_74.DAT;1	UVP10_75.DAT;1	UVP10_76.DAT;1	UVP10_77.DAT;1
UVP10_78.DAT;1	UVP10_79.DAT;1	UVP10_80.DAT;1	UVP10_81.DAT;1
UVP10_82.DAT;1	UVP10_83.DAT;1	UVP10_84.DAT;1	UVP10_85.DAT;1
UVP10_86.DAT;1	UVP10_87.DAT;1	UVP10_88.DAT;1	UVP10_89.DAT;1
UVP10_90.DAT;1	UVP10_91.DAT;1	VOLDESC.SFD;2	

Total of 23 files.

CCSD3FF0000500000001CCSD3CS00004MRK**001
ADIDNAME=NSSD0058;
CCSD$$MARKERMRK**001CCSD3KS00002MRK**002

SUBM_NAME: Dr. Pradip Gangopadhyay

SUBM_ADDR: Space Sciences Center, MC-1341
University of Southern California
Los Angeles, CA 90089-1341
(213) 740-6340
e-mail: djudge@lism.usc.edu

SUBM_DATE: 11-10-1994

TITLE: Format for Pioneer 10 UVDB Cruise Archive Data Set

DESCR: Format description of the Pioneer 10 UV photometer dataset for daily averages of the spin-averaged short and long wavelength channels from January 1972 onward. These data are used to study the interaction of the solar wind with the interstellar medium by measurements of spatial and temporal variations of the intensity of backscattered solar Lyman alpha emission at 1216 A and of the solar Helium line at 584 A.

REL_DATE: 11-10-1994

CCSD$$MARKERMRK**002CCSD3DF0000200000001

FILE_CLASS_NAME: UVDB_AVG_FILE

RECORD_TYPE_NAME: UVDB_AVG_REC

RECORD_STRUCTURE: Fixed length, no control fields

RECORD_LENGTH: 31390 bytes for non-leap years and
31476 bytes for leap years

RECORD_FIELD_MNEMONICS: DAY, COR, DRATLW,
DRATSW, HRADSP,
CLATSP, CLONSP,
CLATSU, CLONSU,
CLATEA, CLONEA

RECORD SYNTAX: There are eleven ASCII fields per record with mnemonics in the same order as specified in RECORD_FIELD_MNEMONICS. Fields are separated by single blank characters, starting after the first field and ending before the last field. Records are terminated by standard ASCII carriage-return and line-feed.

The FORMAT statement for a FORTRAN write command would be as follows:

FIELD_NAME:	Celestial Pointing Latitude of the Spacecraft +Z Axis
FIELD_MNEMONIC:	CLATSP
FIELD_UNITS:	Degrees
FIELD_RESOLUTION:	Daily average
FIELD_RANGE:	-90 to +90
FIELD_DESCRIPTION:	The celestial latitude of the pointing direction for the spacecraft's +Z axis, where the latter is along the spacecraft spin axis pointed approximately towards the Earth. The UV photometer points away from the Earth at an angle of 20 degrees to the -Z axis.
FIELD_REPRESENTATION:	7 ASCII characters (F7.3)

FIELD_NAME:	Celestial Pointing Longitude of the Spacecraft +Z Axis
FIELD_MNEMONIC:	CLONSP
FIELD_UNITS:	Degrees
FIELD_RESOLUTION:	Daily average
FIELD_RANGE:	0 to 360
FIELD_DESCRIPTION:	The celestial longitude of the pointing direction for the spacecraft's +Z axis, where the latter is along the spacecraft spin axis pointed approximately towards the Earth. The UV photometer points away from the Earth at an angle of 20 degrees to the -Z axis.
FIELD_REPRESENTATION:	7 ASCII characters (F7.3)

FIELD_NAME:	Celestial Latitude of the Sun
FIELD_MNEMONIC:	CLATSU
FIELD_UNITS:	Degrees
FIELD_RESOLUTION:	Daily average
FIELD_RANGE:	-90 to +90
FIELD_DESCRIPTION:	The celestial latitude of the Sun as seen from the spacecraft.
FIELD_REPRESENTATION:	7 ASCII characters (F7.3)

FIELD_NAME:	Celestial Longitude of the Sun
FIELD_MNEMONIC:	CLONSU
FIELD_UNITS:	Degrees
FIELD_RESOLUTION:	Daily average
FIELD_RANGE:	0 to 360
FIELD_DESCRIPTION:	The celestial longitude of the Sun as seen from the spacecraft.
FIELD_REPRESENTATION:	7 ASCII characters (F7.3)

FIELD_NAME:	Celestial Latitude of the Earth
FIELD_MNEMONIC:	CLATEA
FIELD_UNITS:	Degrees

```
FIELD_RESOLUTION:          Daily average
FIELD_RANGE:               -90 to +90
FIELD_DESCRIPTION:         The celestial latitude of the Earth
                           as seen from the spacecraft.
FIELD_REPRESENTATION:      7 ASCII characters (F7.3)


FIELD_NAME:                Celestial Longitude of the Earth
FIELD_MNEMONIC:            CLONEA
FIELD_UNITS:               Degrees
FIELD_RESOLUTION:          Daily average
FIELD_RANGE:               0 to 360
FIELD_DESCRIPTION:         The celestial longitude of the Earth
                           as seen from the spacecraft.
FIELD_REPRESENTATION:      7 ASCII characters (F7.3)

/* EOF */
```

```
XXXXXXXXXX    7777777777777777777777777777777777777777777777777    XXXXXXXXXX
XXXXXXXXXX    7  NSSDC Computing Facility --- NASA/GSFC Bldg 28  7    XXXXXXXXXX
XXXXXXXXXX    7777777777777777777777777777777777777777777777777    XXXXXXXXXX
```

```
   M   M  Y   Y  EEEEE  RRRR    SSSS
   MM MM  Y   Y  E      R   R  S
   M M M   Y Y   E      R   R  S
   M   M    Y    EEEE   RRRR    SSS
   M   M    Y    E      R R        S
   M   M    Y    E      R  R       S
   M   M    Y    EEEEE  R   R  SSSS


PPPP     1     000   U   U  V   V  PPPP
P   P   11    0   0  U   U  V   V  P   P
P   P    1    0  00  U   U  V   V  P   P
PPPP     1    0 0 0  U   U  V   V  PPPP
P        1    00  0  U   U  V   V  P
P        1    0   0  U   U   V V   P
P       111    000   UUUUU    V    P

        FFFFF  M   M  TTTTT    ;;    333
        F      MM MM    T      ;;   3   3
        F      M M M    T             3
        FFFF   M   M    T      ;;      3
        F      M   M    T      ;;       3
..      F      M   M    T       ;   3   3
..      F      M   M    T       ;    333
```

File _1DKC200:[ANONYMOUS.ANONYMOUS.COHO.P10UVP]P10UVP.FMT;3 (10729,9,0), last revised on 13-JAN-1995 21:55, is a 4 block sequential file owned by UIC COHO_ANON. The records are variable length with implied (CR) carriage control. The longest record is 80 bytes.

Job P10UVP (103) queued to NCFLJ4 on 13-SEP-1996 08:18 by user MYERS, UIC [NSSDCOPS,MYERS], under account NSSDCOPS at priority 100, started on printer NLP4: on 13-SEP-1996 08:18 from queue NCFLJ4_NSSDCA.

```
XXXXXXXXXX    7777777777777777777777777777777777777777777777777    XXXXXXXXXX
XXXXXXXXXX    Digital Equipment Corporation - VAX/VMS Version V6.1    XXXXXXXXXX
XXXXXXXXXX    7777777777777777777777777777777777777777777777777    XXXXXXXXXX
```

Pioneer 10 Ultraviolet Photometer Cruise Data: Daily Averages for 1972 - 1991

Principal Investigator: Professor D. J. Judge, University of Southern California

Dataset Description: Pioneer 10 UV photometer dataset for daily averages of the spin-averaged short and long wavelength channels from March 3, 1972 onward. These data are used to study the interaction of the solar wind with the interstellar medium by measurements of spatial and temporal variations of the intensity of backscattered solar Lyman alpha emission at 1216 A and of the solar Helium line at 584 A.

Parameter Description:

DAY COR DRATLW DRATSW CLATSP CLONSU CLATSU CLONSU CLATEA CLONEA

DAY = Day of year (1 - 366)
COR = Indicator of spacecraft orientation (1 = correction maneuver occur
0 = no correction)
DRATLW = Counts/second for long wavelength channel (below 1400 Angstroms
DRATSW = Counts/Second for short wavelength channel (below 800 Angstroms
HRADSP = Heliocentric distance of spacecraft in A.U.
CLATSP,
CLONSP = Celestial pointing latitude and longitude of s/c +Z-axis, pointing along spin axis approximately towards the Earth.
CLATSU,
CLONSU = Celestial latitude and longitude of Sun as seen from s/c
CLATEA,
CLONEA = Celestial latitude and longitude of Earth as seen from s/c

The FORMAT statement for a FORTRAN write command would be as follows:

```
FORMAT(I4,1X,I1,1X,F8.1,1X,F8.2,1X,F8.4,6(1X,F7.3))
```

All the data and ephemeris parameters are daily averages.

NSSDC Dataset ID: 72-012A-06C (pending)

Other Documentation: See the SFDU files in this directory for detailed descriptions, VOLDESC.SFD for the spacecraft, experiment, and dataset overviews, and FORMAT.SFD for the parameter formats.

CCSD3ZF0000100000001CCSD3VS00002MRK**001

VOL_IDENT: USA_NASA_NSSD_P10F_0002

VOL_CREATION_DATE: 11-10-1994

MEDIUM_DESCRIPTION: 3-1/2 inch 1.44 MB Floppydisk

TECHNICAL_CONTACT: Dr. Pradip Gangopadhyay
Space Sciences Center, MC-1341
University of Southern California
Los Angeles, CA 90089-1341
(213) 740-6340
e-mail: djudge@lism.usc.edu

PREV_VOLS: NONE or USA_NASA_NSSD_P10F_0001
.....
USA_NASA_NSSD_P10F_nnnn

CCSD$$MARKERMRK**001CCSD3SS00002MRK**002

DATA_SET_NAME: PIONEER UV DATA ARCHIVE

DATA_SOURCES: PIONEER 10, ULTRAVIOLET PHOTOMETER EXPERIMENT

SCIENTIFIC_CONTACT: SAME AS IN TECHNICAL CONTACT

SPACECRAFT_CHARACTERISTICS:

Pioneer 10 was launched on March 2, 1972, and carries a Ultraviolet (UV) photometer on board to detect backscattered solar uv light. The spacecraft is moving downstream with respect to the interstellar breeze flowing in to the solar system. In comparison Pioneer 11, launched April 5, 1973, is moving upstream.

INVESTIGATION_OBJECTIVES:

The primary scientific objective for the USC/UV experiment is to study the interaction of the solar wind with the interstellar medium. The UV photometers onboard the spacecraft Pioneers 10/11 are used to determine the spatial and temporal variations of the intensity of the backscattered solar Lyman alpha at 1216 A and solar Helium line at 584 A. One objective is to study the transition region of the heliospheric boundary. Another is to study the variation of resonance backscattered H 1216 A and He 584 A ultraviolet lines far from the local solar influence which will help us to determine the fundamental characteristics of the nearby interstellar medium. Another objective is to study the effect of solar variability as reflected in the interstellar glow, and comparing them to direct solar UV observations.

INSTRUMENT_ATTRIBUTES:

A. DESCRIPTION_OF_INSTRUMENT:
The University of Southern California ultraviolet photometers

onboard Pioneers 10/11 cover two broad spectral regions. The long wavelength channel is sensitive to emissions shortwards of 1400 A which includes the 1216 A emission line. The short wavelength channel is sensitive to shortwards of 800 A which includes the 584 A helium resonance line. The details of the UV photometers, as well as their sensitivity curves, can be obtained in Carlson and Judge, J.Geophys. Res., 79, 3623 (1974). The instrument design was based on the anticipated dominance of hydrogen and helium gases in the interplanetary medium. In the interplanetary space, the measured signal in the long wavelength channel is primarily composed of the H 1216 A line, while the measured signal in the short wavelength channel is primarily composed of the He 584 A line. For a uniform diffuse source that fills the field of view, the relations between the count rate, CR [count/sec], and brightness [rayleigh] are

Brightness[Rayleigh] = (CR - 3.0)/S_lw for 1216 A, and
Brightness[Rayleigh] = (CR - 3.0)/S_sw for 584 A,

where S_lw[count/sec/Rayleigh] and S_sw[count/sec/Rayleigh] are conversion factors for long- and short-wavelength channels respectively. The background count rate is 3 count/sec. The conversion factors, as determined by a pre-launch calibration with a radioisotope thermogenerator, are :

S_sw = 7.3 count/sec/Rayleigh
S_lw = 4.9 count/sec/Rayleigh.

These conversions factors can be applied to all data contained in data flies.

The Pioneer 10 long wavelength channel has suffered a gain loss since mid-1986 about 37.5 AU from the Sun. The details of the problem are described in the paper published in J. Geophys. Res., v.98(A9), p. 15185-15192, 1993 by Hall et al.

The gain loss was found when the photometer was turned on and off after initiation of spacecraft instrument power sharing on day 271, 1989. By examining earlier data both before and after the instrument was turned off for other operational reasons it was possible to identify the time at which the gain loss began i.e., mid 1986. There has been a further change in gain since late 1990 (~50 AU) after the duty cycle was changed on day 211, 1990. The duty cycle was 5 days on and 2 days off from 1989 day 271 to 1990 day 210 and 2 days on and 5 days off from 1990 day 211. In 1993 and 1994 the duty cycle has been highly aperiodic complicating the data analysis procedure. We discuss here the data analysis and correction procedure for the above three distinct periods. The correction procedure allows application of the same conversion factor s_lw, to all the data. The basis of the procedure is discussed below.

Between 1986, day 219 and 1989, day 271, the UV detector was operated nearly continuously. During this period, the instrument was shut down occasionally for about 2 hours to facilitate other spacecraft operations. We have used those days to correct the data during the period. The count rate registered after the instrument turn-on was nearly constant for a few minutes and then decayed to a lower value over a period of

5. Wu F.M. et al. Astrophys. J., v.239, 389, 1980.
6. Wu F.M. et al. Astrophys. J., v.331, 1004, 1988.

CCSD$$MARKERMRK**002CCSD3KS00002MRK**003

VOL_TIME_COVERAGE: 1972-01-01 to 1991-12-31

FILE_NAMING_CONVENTION:

UVDB files are named according to the start time of the data contained in the file as follows: UVxxx_yy.DAT. Here xxx stands either for P10 or for P11, yy stands for the year. Hence UVP10_80.DAT means the UV data of Pioneer 10 for January 01 - December 31 of year 1980.

FILE_TIME_COVERAGE:

UVP10_72.DAT	1972-03-03	to	1972-12-31
UVP10_73.DAT	1973-01-01	to	1973-12-31
UVP10_74.DAT	1974-01-01	to	1974-12-31
UVP10_75.DAT	1975-01-01	to	1975-12-31
UVP10_76.DAT	1976-01-01	to	1976-12-31
UVP10_77.DAT	1977-01-01	to	1977-12-31
UVP10_78.DAT	1978-01-01	to	1978-12-31
UVP10_79.DAT	1979-01-01	to	1979-12-31
UVP10_80.DAT	1980-01-01	to	1980-12-31
UVP10_81.DAT	1981-01-01	to	1981-12-31
UVP10_82.DAT	1982-01-01	to	1982-12-31
UVP10_83.DAT	1983-01-01	to	1983-12-31
UVP10_84.DAT	1984-01-01	to	1984-12-31
UVP10_85.DAT	1985-01-01	to	1985-12-31
UVP10_86.DAT	1986-01-01	to	1986-12-31
UVP10_87.DAT	1987-01-01	to	1987-12-31
UVP10_88.DAT	1988-01-01	to	1988-12-31
UVP10_89.DAT	1989-01-01	to	1989-12-31
UVP10_90.DAT	1990-01-01	to	1990-12-31
UVP10_91.DAT	1991-01-01	to	1991-12-31

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