PIONEER VENUS 1

RADIO OCCULTATION ATMOS. TURBULENCE

78-051A-22A

PIONEER VENUS 1

RADIO OCCULTATION ATMOS. TURBULENCE

78-051A-22A

THIS DATA SET HAS BEEN RESTORED. ORIGINALLY IT CONTAINED ONE 9-TRACK, 1600 BPI TAPE WRITTEN IN ASCII. THERE IS ONE RESTORED TAPE. THE DR TAPE IS A 3480 CARTRIDGE AND THE DS TAPE IS 9-TRACK, 6250 BPI. THE ORIGINAL TAPE WAS CREATED ON AN UNIVAC 1108 COMPUTER AND WAS RESTORED ON AN IBM 9021 COMPUTER. THE DR AND DS NUMBER ALONG WITH THE CORRESPONDING D NUMBER AND TIME SPAN IS AS FOLLOWS:

DR#	DS#	D#	FILES	TIME SPAN
DR005505	DS005505	D043283	1-7	12/13/78 - 02/05/79

REQ. AGENT	RD NO.	ACQ. AGENT
LSM	V0071	WSC

PIONEER VENUS 1

RADIO OCCULTATION ATMOS. TURBULENCE

78-051A-22A

This data set consists of 1 9 track, 1600 BPI, 7 file, ASCII formatted data tape, created on the UNIVAC 1108 computer.

D#	C#	FILES	TIME SPAN
D-43283	C-21333	7	12/13/78-02/05/79

JET PROPULSION LABORATORY *California Institute of Technology • 4800 Oak Grove Drive, Pasadena, California 91103*

February 13, 1981

Mr. Ralph Post
NSSDC Code 601.5
Goddard Space Flight Center
Greenbelt, Md. 20771

Dear Mr. Post:

Enclosed is one magnetic tape and the associated data description for the Pioneer Venus Radio Occultation Atmospheric Turbulence Experiment. If there are any questions, please feel free to call me at 213-354-3945 (FTS 792-3945).

Sincerely,

Richard Woo

Richard Woo

D-43283

RW:nb

cc: L. Colin (NASA Ames)

Telephone (213) 354-4321 *Twx 910-588-3269* *Twx 910-588-3294*

PIONEER VENUS ORBITER RADIO OCCULTATION ATMOSPHERIC TURBULENCE MTUR/OTUR) EXPERIMENT NSSDC DATA DESCRIPTION

R. Woo and J. W. Armstrong
Jet Propulsion Laboratory

I. Introduction

This document describes the Radio Occultation Atmospheric Turbulence (MTUR/OTUR) Experiment NSSDC data delivery submission. The data are selected time series of received signal amplitude, with time constants chosen to resolve the very rapid amplitude fluctuations associated with radio scintillations caused by temperature fluctuation/turbulence in the Venus atmosphere. It is assumed that trajectory information will be provided separately by the Pioneer Venus Project on SEDR's or in other suitable form.

II. Description of Magnetic Tape

Density: ~~1600~~ 6250 bpi, phase encoded, 9-track
Block size: 720 bytes
Logical Record Length: 80 bytes
Code: ASCII
Control Words: none
Labels: none
Partial Blocks: none
Files per tape: 7
Format: Fortran formatted as follows:

Line No.	Symbol	Format
1	HEADER	1X, 12A6
2	SCID, YEAR, DOY, DSS, BAND	1X, 5I10
3	ENXIT, DELT, TAU, FBW	1X, 1I0, 3F12.3
4	BYEAR, BDOY, BSEC, EYEAR, EDOY, ESEC	1X, 6F12.3
5	NUMBER	1X, 1I2
6	YEAR, DOY, SEC, AMP	1X, 2I10, F12.3, E14.5
.		
.		
.		
Number+6	YEAR, DOY, SEC, AMP	1X, 2I10, F12.3, E14.5

FILE MARK

Symbol	Meaning
HEADER	Descriptive header of file
SCID	Spacecraft identification number (=12)
YEAR	Year of observation
DOY	Day of year of observation
DSS	Station number of observation
BAND	= 1 for S-band, = 2 for X-band
ENXIT	= 1 for entry occultation, = 2 for exit
DELT	Time between samples (seconds)
TAU	Phase-lock loop amplitude estimator time constant
FBW	Phase-lock loop frequency tracking bandwidth (Hz)
BYEAR	Year of first sample on file
BDOY	Day of year of first sample on file
BSEC	Time in seconds of first sample on file
EYEAR	Year of last sample on file
EDOY	Day of year of last sample on file
ESEC	Time in seconds of last sample on file
NUMBER	Total number of points on file
SEC	Time of data sample (seconds)
AMP	Relative amplitude (dB)

File Description:

1 = S-Band 1978 DOY 347

2 = S-Band 1978 DOY 355

3 = X-Band 1978 DOY 356

4 = S-Band 1979 DOY 007

5 = S-Band 1979 DOY 018

6 = S-Band 1979 DOY 028

7 = S-Band 1979 DOY 036

ASCII LIST
1st and Last 2 Records
of Files 1 and 7
12/13/1978 - 2/5/1979

```
$NOP
$NOP        *******    X-397   **********
$EXE TPLIST 3S

INPUT PARAMETERS ARE:  AS FL=2=2 1

 TAPE NO.   1              FILE NO.   1
 RECORD   1                LENGTH   720
 PVO 1978 DOY 347 S-BAND EXIT DSS 14
78        347        14          1                                                  2          .025          .025        12        19
   10.000                                        1978.000       347.000    56247.993     1978.000       347
.000    55982.018                 10640
            1978        347    56247.993     -.30000+01                                                    1978
   347    56247.968     -.74392+01                                                  1978        347    56247.943
   -.59255+01                                                  1978        347    56247.918     -.59564+01


 TAPE NO.   1              FILE NO.   1
 RECORD   2                LENGTH   720
         1978        347    56247.893     -.55627+01                                                    1978        3
47    55247.353     -.54140+01                                                  1978        347    56247.843     -
.55881+01                                                  1978        347    56247.818     -.54747+01
                                  1978        347    56247.793     -.57402+01
            1978        347    56247.768     -.55981+01                                                    1978
   347    55247.743     -.54822+01                                                  1978        347    56247.718
   -.53070+01                                                  1978        347    56247.693     -.56280+01


 TAPE NO.   1              FILE NO.   1
 RECORD   1182             LENGTH   720
         1978        347    55982.393     -.60628+02                                                    1978        3
47    55982.368     -.38091+02                                                  1978        347    55982.343     -
.46531+02                                                  1978        347    55982.318     -.39826+02
                                  1978        347    55982.293     -.44645+02
            1978        347    55982.268     -.47215+02                                                    1978
   347    55982.243     -.43467+02                                                  1978        347    55982.218
   -.40112+02                                                  1978        347    55982.193     -.42290+02


 TAPE NO.   1              FILE NO.   1
 RECORD   1183             LENGTH   720
         1978        347    55982.168     -.38354+02                                                    1978        3
47    55982.143     -.43100+02                                                  1978        347    55982.118     -
.45842+02                                                  1978        347    55982.093     -.41845+02
                                  1978        347    55982.068     -.41916+02
            1978        347    55982.043     -.39223+02                                                    1978
   347    55982.018     -.36350+02


***** JOB DONE.
$AVF IN 6
$EXE TPLIST 3S

INPUT PARAMETERS ARE:  AS FL=2=2 1

 TAPE NO.   1              FILE NO.   1
 RECORD   1                LENGTH   720
 PVO 1979 DOY 036 S-BAND ENTRY DSS 00
79        36         0           1                                                  1          .025          .025        12        19
   10.000                                        1979.000        36.000    72392.003     1979.000        36
.000    72658.953                 10679
            1979         35    72392.003     -.30000+01                                                    1979
    36    72392.028     -.45382+01                                                  1979         36    72392.053
   -.11358+02                                                  1979         36    72392.078     -.15077+02
```

```
TAPE NO.   1              FILE NO.   1
RECORD   2                LENGTH   720
      1979        36   72392.103    -.11563+02                                    1979
36   72392.128    -.14353+02                                    1979        36   72392.153    -
.13053+02                                    1979        36   72392.178    -.10812+02
                          1979        36   72392.203    -.13610+02
          1979        36   72392.228    -.11986+02                                    1979
   36   72392.253    -.14443+02                                    1979        36   72392.278
  -.16703+02                                    1979        36   72392.303    -.11513+02

TAPE NO.   1              FILE NO.   1
RECORD   1187             LENGTH   720
      1979        36   72658.728    -.49512+02                                    1979
36   72658.753    -.27964+02                                    1979        36   72658.778    -
.29289+02                                    1979        36   72658.803    -.27692+02
                          1979        36   72658.828    -.36023+02
          1979        36   72658.853    -.28689+02                                    1979
   36   72658.878    -.27250+02                                    1979        36   72658.903
  -.25128+02                                    1979        36   72658.928    -.38421+02

TAPE NO.   1              FILE NO.   1
RECORD   1138             LENGTH   720
      1979        36   72658.953    -.24249+02


***** JOB DONE.
$WEO LPS


$$
$ASS S:1 S:1
$END DO
```

```
$NOP
$NOP
$NOP
$NOP     *******     X-397     *********
$EXE TPLIST BS

INPUT PARAMETERS ARE:  AS SR=1=2

 TAPE NO.   1              FILE NO.   1
 RECORD   1                LENGTH   720
 PVO 1978 DOY 347 S-BAND EXIT DSS 14
78        347        14          1                                                                  12       19
   10.000                                                                  2          .025          .025
.000   55932.018                  10640                  1978.000      347.000   56247.993    1978.000      347
            1978        347   56247.993    -.30000+01                                                  1978
   347   56247.968    -.74392+01                                                  1978        347   56247.943
   -.59255+01                                          1978        347   56247.918    -.59564+01


 TAPE NO.   1              FILE NO.   1
 RECORD   2                LENGTH   720
        1978        347   56247.893    -.55627+01                                                  1978        3
47   56247.863    -.54140+01                                                  1978        347   56247.843    -
.55881+01                                                  1978        347   56247.818    -.54747+01
                                  1978        347   56247.793    -.57402+01
            1978        347   56247.768    -.55981+01                                                  1978
   347   56247.743    -.54822+01                                                  1978        347   56247.718
   -.53070+01                                          1978        347   56247.693    -.56280+01


***** JOB DONE.
$AVF IN
$BKR IN 2
$AVF IN
$BKR IN
$BKR IN
$EXE TPNRCF BS
```

RECORD COUNT OF TAPE X397

INPUT TAPE X397 ON MT3

FILE	INPUT RECS.	DATA RECORDS INPUT	MAX. SIZE	READ ERROR SUMMARY PERM	ZERO B	SHORT	UNDEF.	INPUT RETRIES #RECS.	TOTAL#
1	1183	1183	720	0	16	0	0	16	16
2	885	885	720	0	19	0	0	19	19
3	240	240	720	0	5	0	0	5	5
4	712	712	720	0	11	0	0	11	12
5	757	757	720	0	11	0	0	11	11
6	1113	1113	720	0	22	0	0	30	33
7	1188	1188	720	0	19	0	0	23	23

DOUBLE END OF FILE READ AFTER FILE 7 # OF PERMANENT READ ERRORS 0

START TIME 03/12/81 19:30:53 STOP TIME 03/12/81 19:32:35

DUMP OF TAPE X397

Pioneer venus
D-43283
1978 DOY 347

INPUT TAPE X397 ON MT3
DATA INPUT H9 NF 7 SR 1 1 1 SR 7 LAST 1

FILE 1 RECORD 1 LENGTH 720 BYTES

(0)	2 55564F	20313937	3820444F	392 3334	3720532D	42414E44	20455849	54204453	53203134	20202020
(40)	2020 2020	20202020	20202020	20202020	20202020	20202020	20202020	20202020	20202020	20202020
(80)	20202020	20202020	20313220	20202020	20313937	38202020	20202020	33343720	20202020	20202031
(120)	342 2020	20202020	2 203120	20202020	20202020	20202020	20202020	20202020	20202020	20202020
(160)	2 202020	20202020	20203220	20202020	2020202E	30323520	20202020	2020202E	30323520	20202020
(200)	2031302E	30303020	20202020	20202020	20202020	20202020	20202020	20202020	20202020	20202020
(240)	202 2020	20313937	382E3030	302 2020	20203334	372E3030	30202020	35363234	372E3939	33202020
(280)	20313937	382E3030	30202020	20203334	372E3030	30202020	35353938	322E3031	38202020	20202020
(320)	20202020	20202020	31303634	302 2020	20202020	20202020	20202020	20202020	20202020	20202020
(360)	20202020	20202020	20202020	20202020	20202020	20202020	20202020	20202020	20202020	20202020
(400)	20202020	20202031	39373820	2020 2020	20203334	37202020	35363234	372E3939	33202020	202D2E33
(440)	30303030	2B303120	20202020	20202020	20202020	20202020	20202020	20202020	20202020	20202020
(480)	20202020	20202031	39373820	20202020	20203334	37202020	35363234	372E3936	382 2020	202D2E37
(520)	34333932	2B303120	20202020	20202020	20202020	20202020	20202020	20202020	20202020	20202020
(560)	20202020	20202031	39373820	20202020	20203334	37202020	35363234	372E3934	33202020	202D2E35
(600)	39323535	2B303120	20202020	2020 2020	20202020	20202020	20202020	20202020	20202020	20202020
(640)	2020 2020	20202031	39373820	20202020	20203334	37202020	35363234	372E3931	38202020	202D2E35
(680)	39353634	2B303120	20202020	20202020	20202020	20202020	20202020	20202020	20202020	20202020

FILE	INPUT RECS.	DATA RECORDS INPUT	MAX. SIZE	READ ERROR SUMMARY PERM	ZERO B	SHORT	UNDEF.	INPUT RETRIES #RECS.	TOTAL#
1	1183	1183	720	0	0	0	0	0	0

FILE 7 RECORD 1188 LENGTH 720 BYTES

(0)	20202020	20202031	39373920	2020 2020	20202033	36202020	37323635	382E3935	33202020	202D2E32
(40)	34323430	2B303220	20202020	20202020	20202020	20202020	20202020	20202020	20202020	20202020
(80)	20202020	20202020	2 202020	20202020	20202020	20202020	20202020	20202020	20202020	20202020
(120)	2 202020	20202020	20202020	202 2020	20202020	20202020	20202020	20202020	20202020	20202020
(160)	20202020	20202020	20202020	20202020	20202020	20202020	20202020	20202020	20202020	20202020
(200)	2 202020	20202020	20202020	2020 2020	20202020	20202020	20202020	20202020	20202020	20202020
(240)	20202020	20202020	20202020	20202020	20202020	20202020	20202020	20202020	20202020	20202020
(280)	2 202020	20202020	20202020	202 2020	20202020	20202020	20202020	20202020	20202020	20202020
(320)	20202020	20202020	20202020	20202020	20202020	20202020	20202020	20202020	20202020	20202020
(360)	2020 2020	2020 2020	20202020	2020 2020	20202020	20202020	20202020	20202020	20202020	20202020
(400)	2 202020	20202020	20202020	20202020	20202020	20202020	20202020	20202020	20202020	20202020
(440)	20202020	20202020	20202020	202 2020	20202020	20202020	20202020	20202020	20202020	20202020
(480)	2020 2020	20202020	20202020	2020 2020	2 202020	20202020	20202020	20202020	20202020	20202020
(520)	2020 2020	20202020	20202020	2020 2020	20202020	20202020	20202020	20202020	20202020	20202020
(560)	20202020	20202020	20202020	2020 2020	20202020	20202020	20202020	20202020	20202020	20202020
(600)	2020 2020	20202020	20202020	20202020	20202020	20202020	20202020	20202020	20202020	20202020
(640)	2020 2020	20202020	20202020	20202020	20202020	20202020	20202020	20202020	20202020	20202020
(680)	2020 2020	20202020	20202020	20202020	20202020	20202020	20202020	20202020	20202020	20202020

FILE	INPUT RECS.	DATA RECORDS INPUT	MAX. SIZE	READ ERROR SUMMARY PERM	ZERO B	SHORT	UNDEF.	INPUT RETRIES #RECS.	TOTAL#
7	1188	1189	720	0	2	0	0	2	2

1979 DOY 36

EOJ DUMP STOPPED AFTER FILE 7 # OF PERMANENT READ ERRORS 0

START TIME 03/11/81 10:35:51 STOP TIME 03/11/81 10:38:13