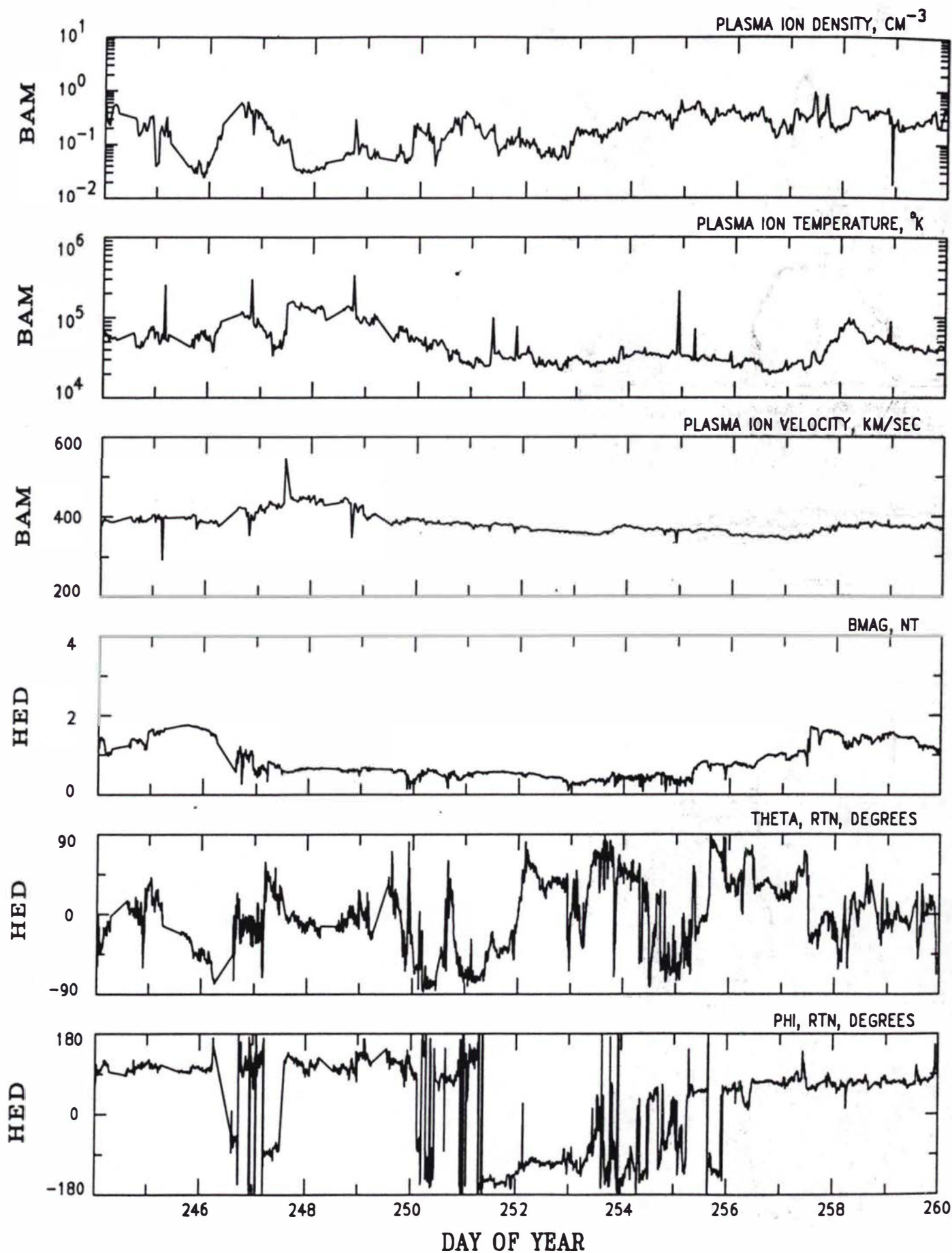


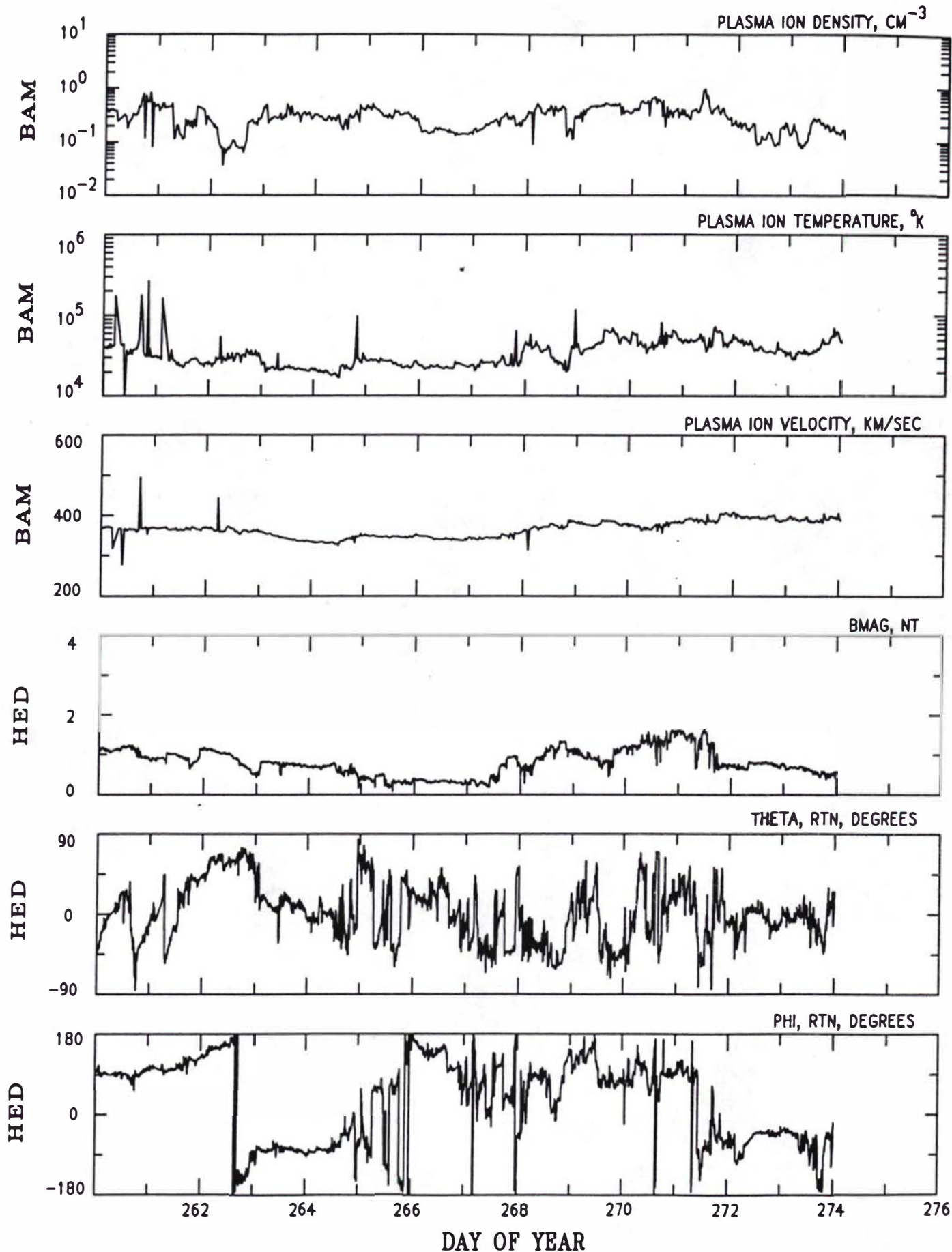
ULYSSES CDR - SOLAR WIND PLASMA AND MAGNETIC FIELD

98 244 SEP 1 00:00:00.000 - 98 260 SEP 17 00:00:00.000



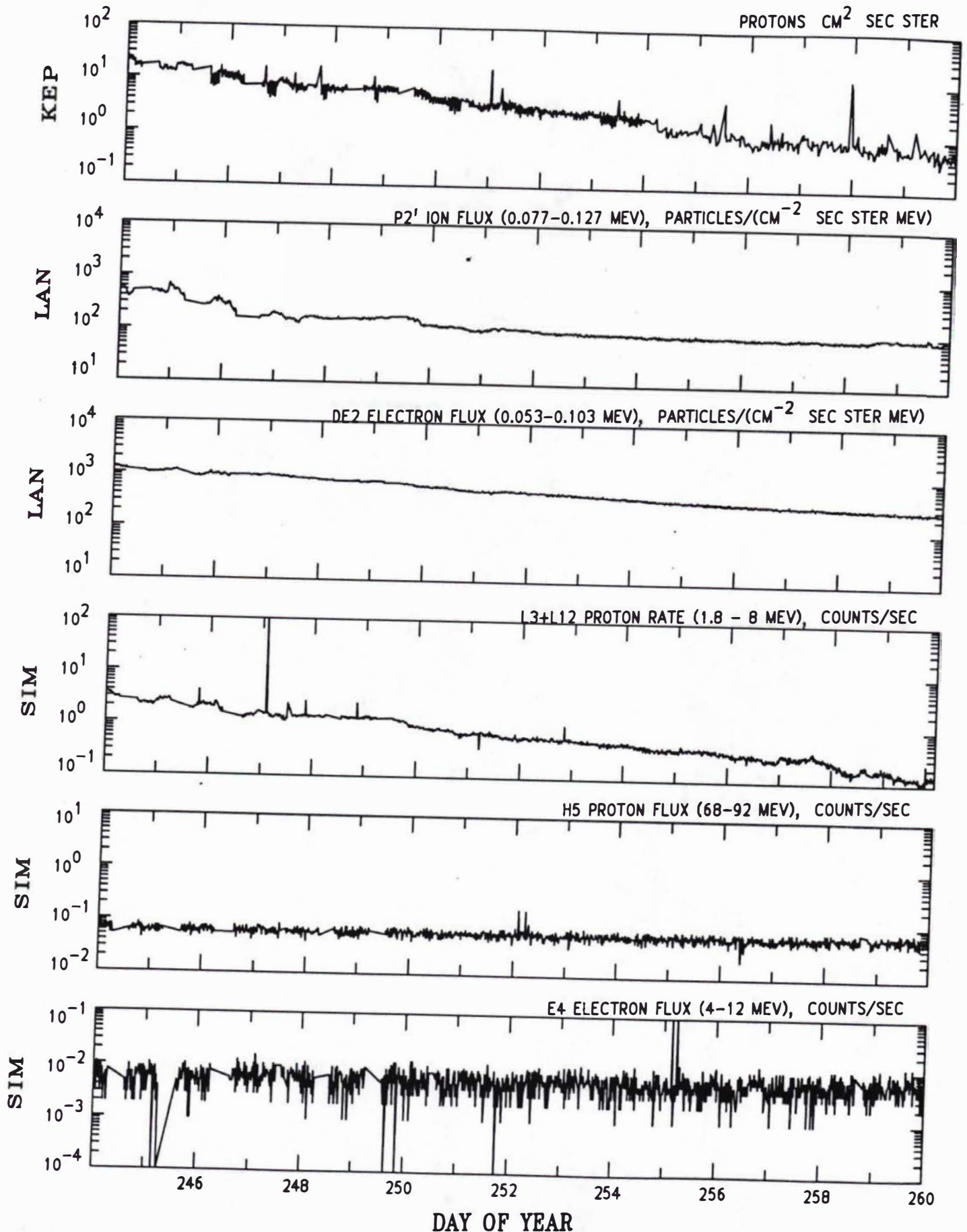
ULYSSES CDR - SOLAR WIND PLASMA AND MAGNETIC FIELD

98 260 SEP 17 00:00:00.000 - 98 276 OCT 3 00:00:00.000



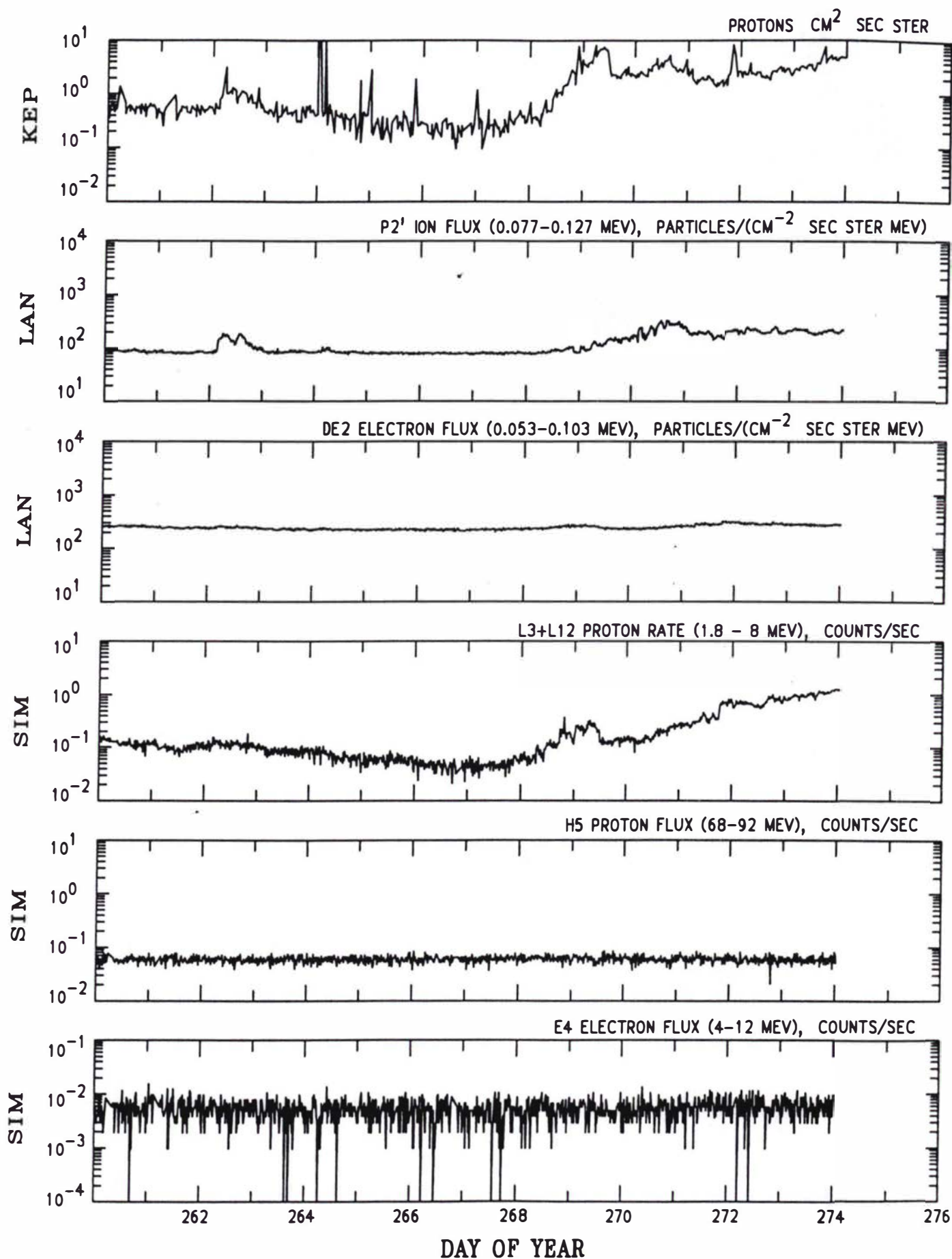
ULYSSES CDR - ENERGETIC PARTICLES, LOW ENERGY IONS AND COSMIC RAY

98 244 SEP 1 00:00:00.000 - 98 260 SEP 17 00:00:00.000



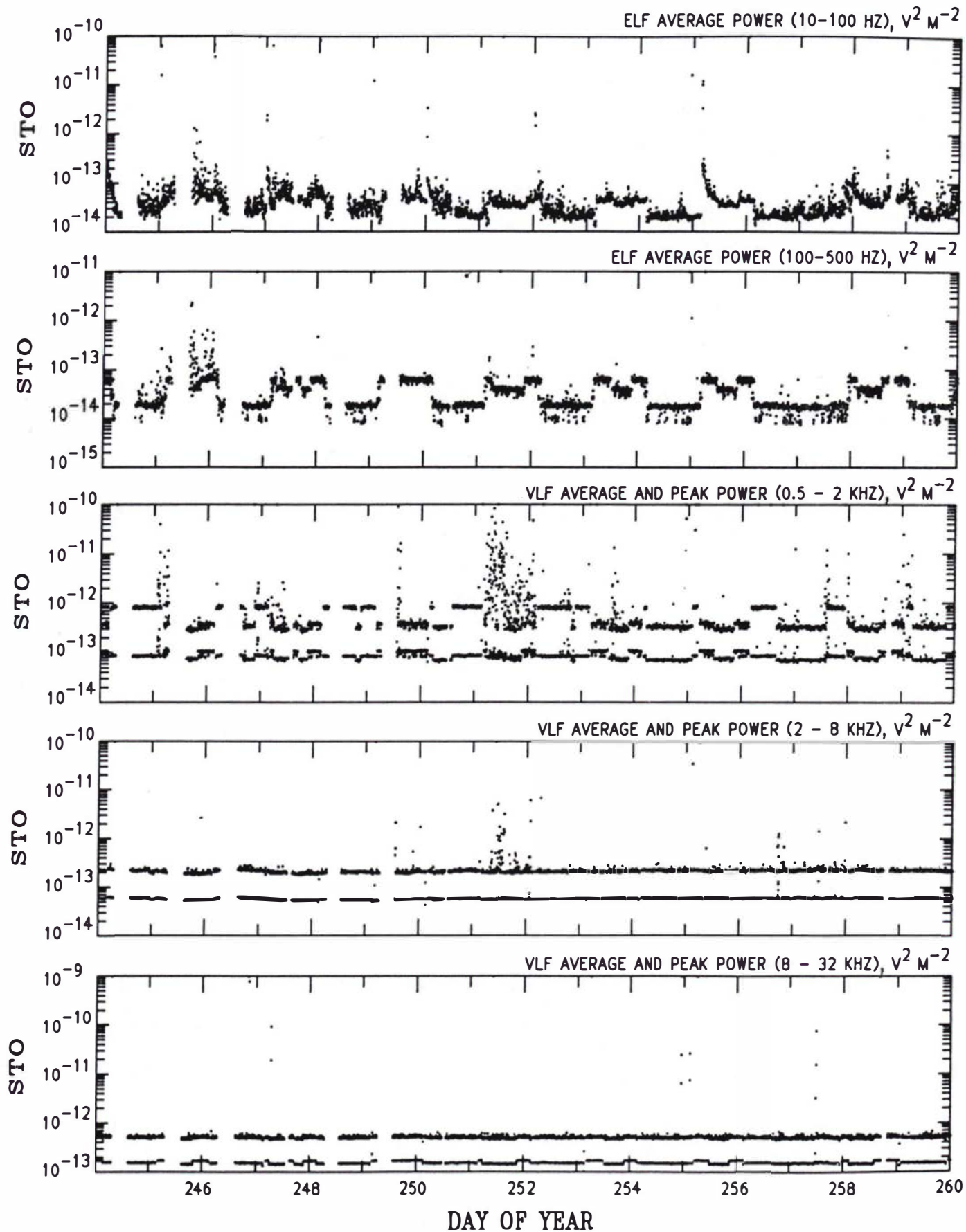
ULYSSES CDR - ENERGETIC PARTICLES, LOW ENERGY IONS AND COSMIC RAY

98 260 SEP 17 00:00:00.000 - 98 276 OCT 3 00:00:00.000



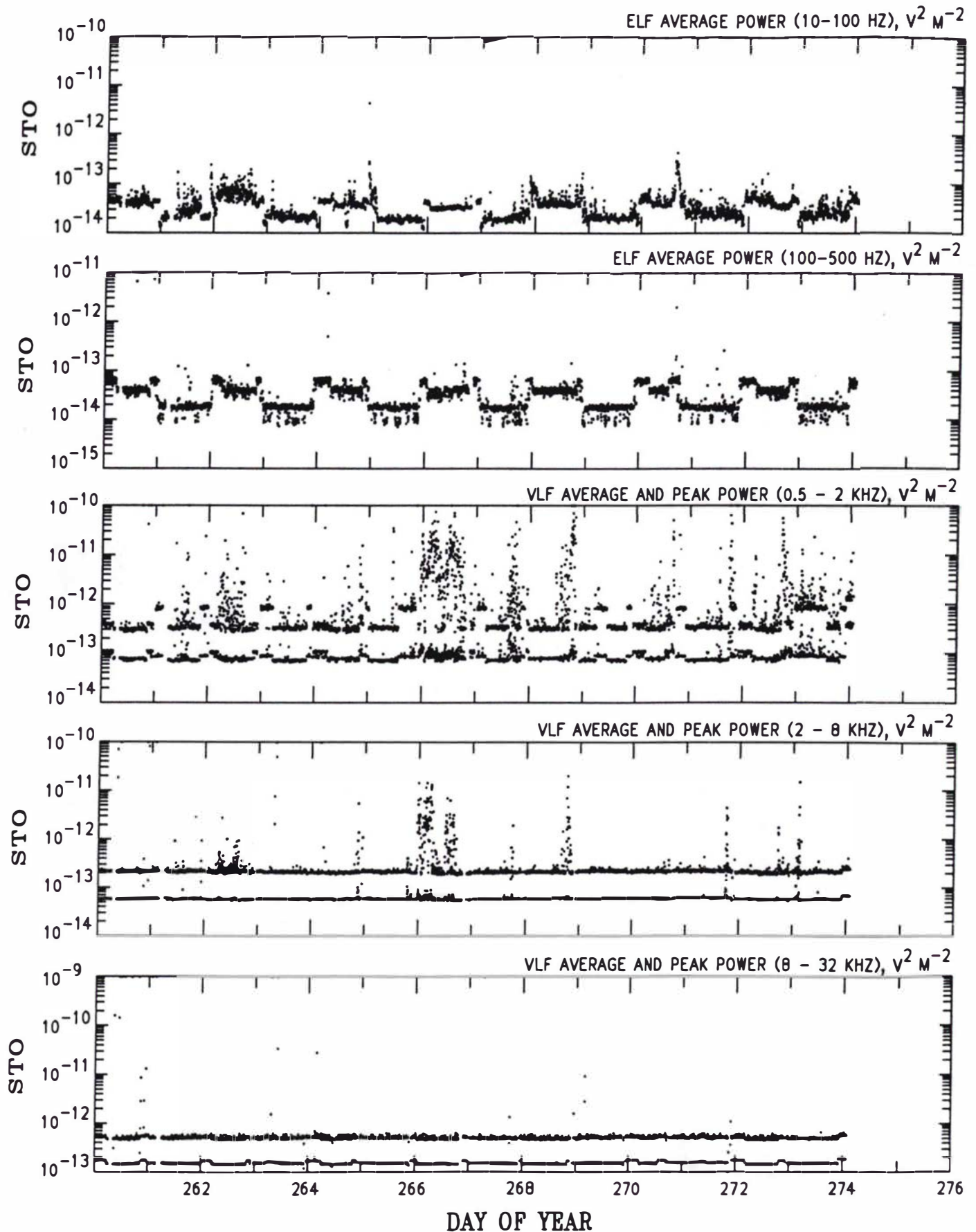
ULYSSES CDR - PLASMA WAVE

98 244 SEP 1 00:00:00.000 - 98 260 SEP 17 00:00:00.000



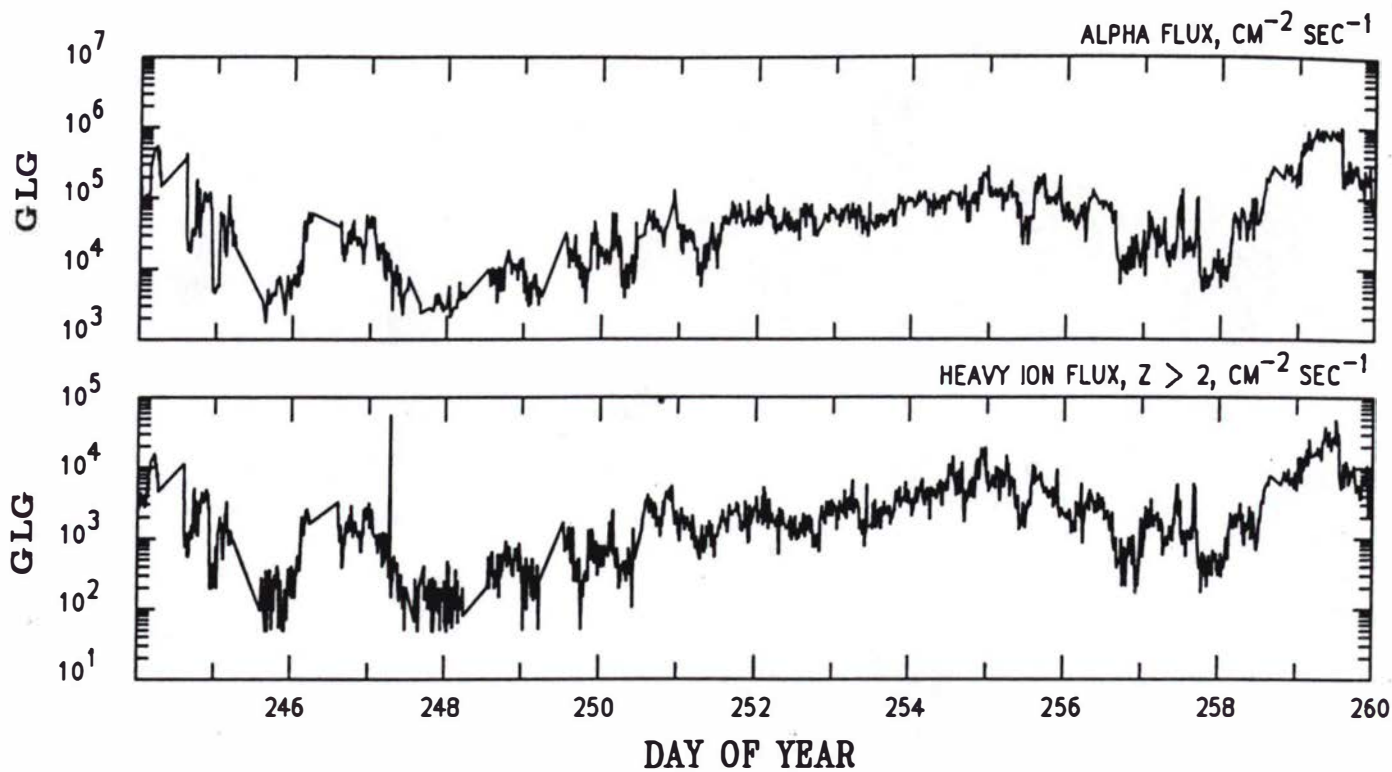
ULYSSES CDR - PLASMA WAVE

98 260 SEP 17 00:00:00.000 - 98 276 OCT 3 00:00:00.000



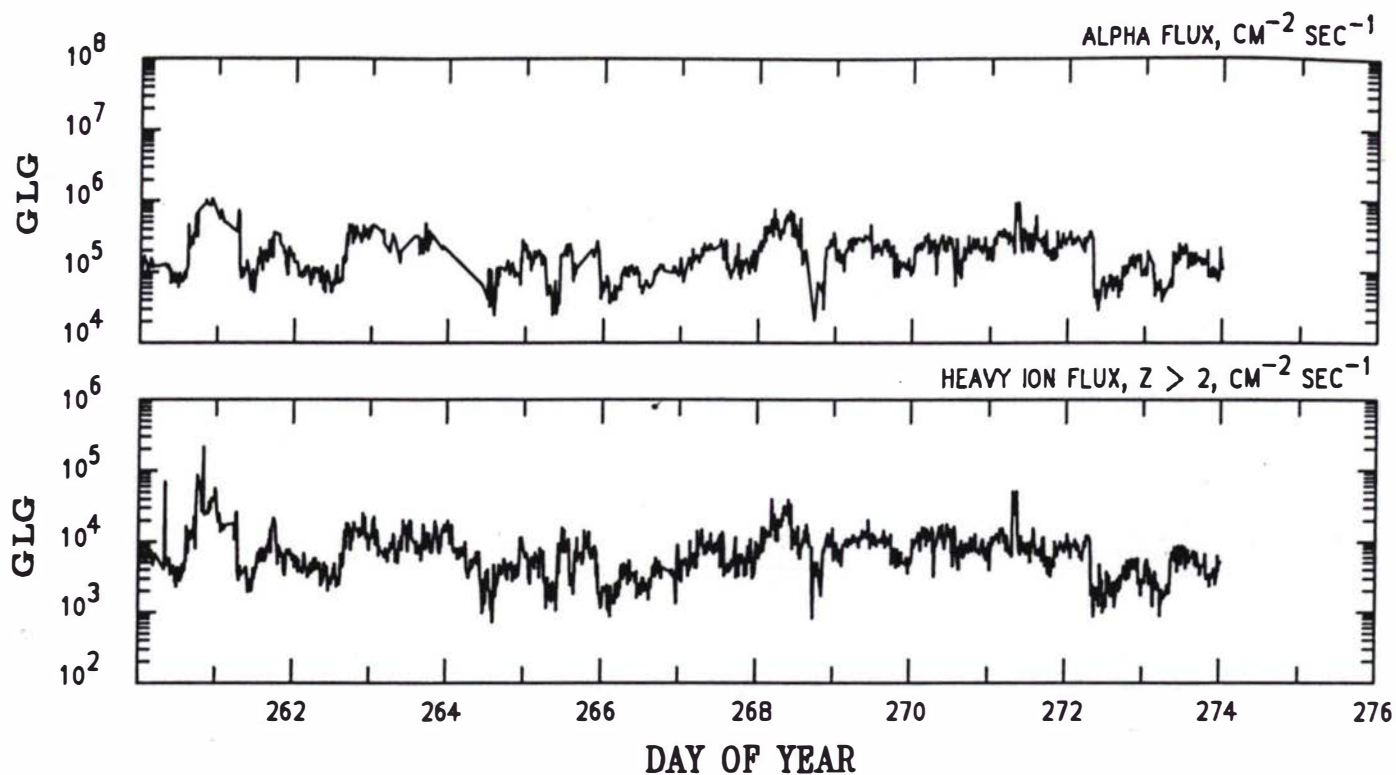
ULYSSES CDR - SOLAR WIND ION COMPOSITION

98 244 SEP 1 00:00:00.000 - 98 260 SEP 17 00:00:00.000



ULYSSES CDR - SOLAR WIND ION COMPOSITION

98 260 SEP 17 00:00:00.000 - 98 276 OCT 3 00:00:00.000



From cline@apache.gsfc.nasa.gov Wed Sep 30 13:25 PDT 1998
Mime-Version: 1.0
Date: Wed, 30 Sep 1998 16:30:43 -0400
To: mazets@mz.ioffe.rssi.ru, golen@mz.ioffe.rssi.ru,
KHURLEY@sunspot.ssl.berkeley.edu
From: cline@apache.gsfc.nasa.gov (T L Cline)
Subject: Correction

Dear Evgeny, Sergei, and Kevin:

I may have sent an incorrect message, which I had lost before I finished it.

The message I mean to convey is that there are a number of sequel events to the giant 98 08 27 event, that I had overlooked in my being out of town and in my general preoccupation with other things during the last few weeks.

These events (may be no big deal, since SGRs are going off now all the time now) but may be interesting in that some seem to also have a periodicity.

These may include the following:

70684.449	8/28
83650.680	8/28
36994.068	8/29
65925.166	8/29
56858.156	8/31
69227.249	8/31
17656.387	9/01 <i>Trigger</i>
62419.649	9/02
77657.917	9/03
349.014	9/04
23131.249	9/05
etc.	
etc.	

64995.550 8/30 appears to be a GRB, however.

TLC

-- Thomas L. Cline ----- cline@apache.gsfc.nasa.gov

From cline@apache.gsfc.nasa.gov Thu Sep 3 09:23 PDT 1998
Mime-Version: 1.0
Date: Thu, 3 Sep 1998 12:28:34 -0400
To: khurley@sunspot.ssl.berkeley.edu (Kevin Hurley)
From: cline@apache.gsfc.nasa.gov (T L Cline)
Subject: Re: GRBs on 980831

KEVIN

I've been amazed (ever since 1976 or so) that two different spacecraft seem to see often such a disparate group of events.

Auto-Konus has sent me the following recent events:

```
98 08 31 56858 sec
      "   69227
09 01 17656
      "   61232
02 62419
```

Auto-Konus should be sending you these, if it isn't yet.
I don't know if Teresa and Paul have finished their checkouts,
but the auto-Konus events I've seen are OK, EXCEPT that
some small fraction of the events still come as all zeroes.

I'll attach the first one - it may fit, and find out.

TLC

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

>Ulysses observed the following bursts, all suspected to come
>from SGR1900+14. If so, the Earth-crossing time would have
>been ~1900 s earlier.

```
>
>ULYSSES DATE & TIME      COMMENTS          ULYSSES DISTANCE FROM EARTH, LIGHT-S
>
>31 AUG 98 03:47          32 ms long, weak          3150
>31 AUG 98 06:19          32 Ms long, weak          3150
>31 AUG 98 10:17           1 s long, moderate        3150
>31 AUG 98 16:19         100 ms long, moderate        3150
>31 AUG 98 21:28          32 ms long, weak          3150
>31 AUG 98 22:53           3 s long, moderate        3150
>31 AUG 98 23:59          64 ms long, weak          3150
```

>Were these events detected by anyone else?

>CC: ulyssesbursts alias list

> (barthelmy, butterworth, cline, frontera, kouveliotou, kurczyski, marar,
>teegarden, terrell, yoshimori)

<This message contains 2 attachments (not printed)>

From cline@apache.gsfc.nasa.gov Thu Sep 3 09:23 PDT 1998
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Date: Thu, 3 Sep 1998 12:28:34 -0400
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```
>
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>      (barthelmy, butterworth, cline, frontera, kouveliotou, kurczynski, marar,
>teegarden, terrell, yoshimori)
```

<This message contains 2 attachments (not printed)>

From RICHARDSON@fender.msfc.nasa.gov Fri Sep 4 07:18:11 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Fri, 4 Sep 1998 9:17:44 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7044

TIME: TJD=1057 SECONDS=4260

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=123.3 AZIMUTH=135.6 ERROR=13.0 DEGREES

COMMENTS:

SGR 1900+14

SINGLE PULSE. DURATION APPROX. = 0.1 SEC. NOT VISIBLE ABOVE 100KEV.

Sep 1 286.8 9.3

BATSE BURST# 7044

ULYSSES RT

5 / 9 / 98

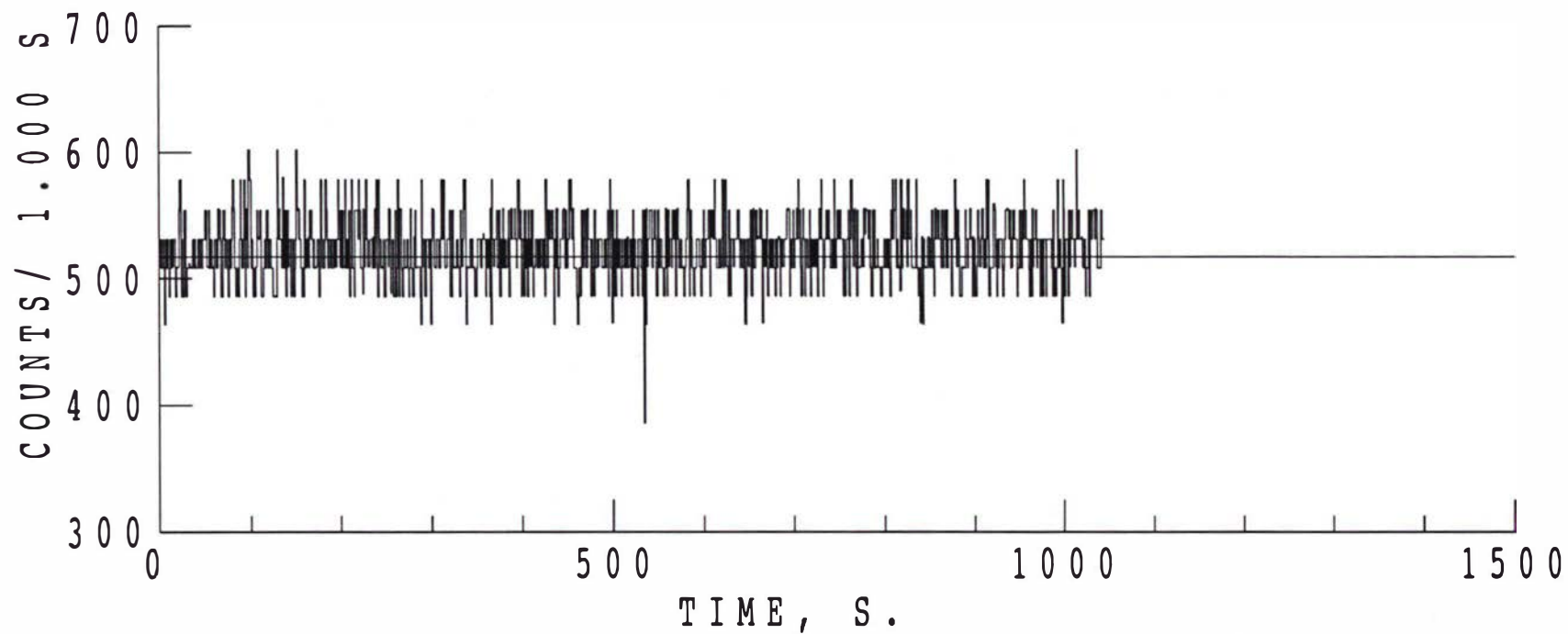
1 / 9 / 98 5652.450 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From RICHARDSON@fender.msfc.nasa.gov Fri Sep 4 07:20:57 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Fri, 4 Sep 1998 9:20:39 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

Sep 1

NO.: 7045

TIME: TJD=1057 SECONDS=11469

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=117.7 AZIMUTH=145.5 ERROR=4.8 DEGREES

COMMENTS:

SGR 1900+14

SINGLE PULSE. DURATION APPROX. = 0.55 SEC. NOT VISIBLE ABOVE 100KEV.

BATSE BURST# 7045

ULYSSES RT

5 / 9 / 98

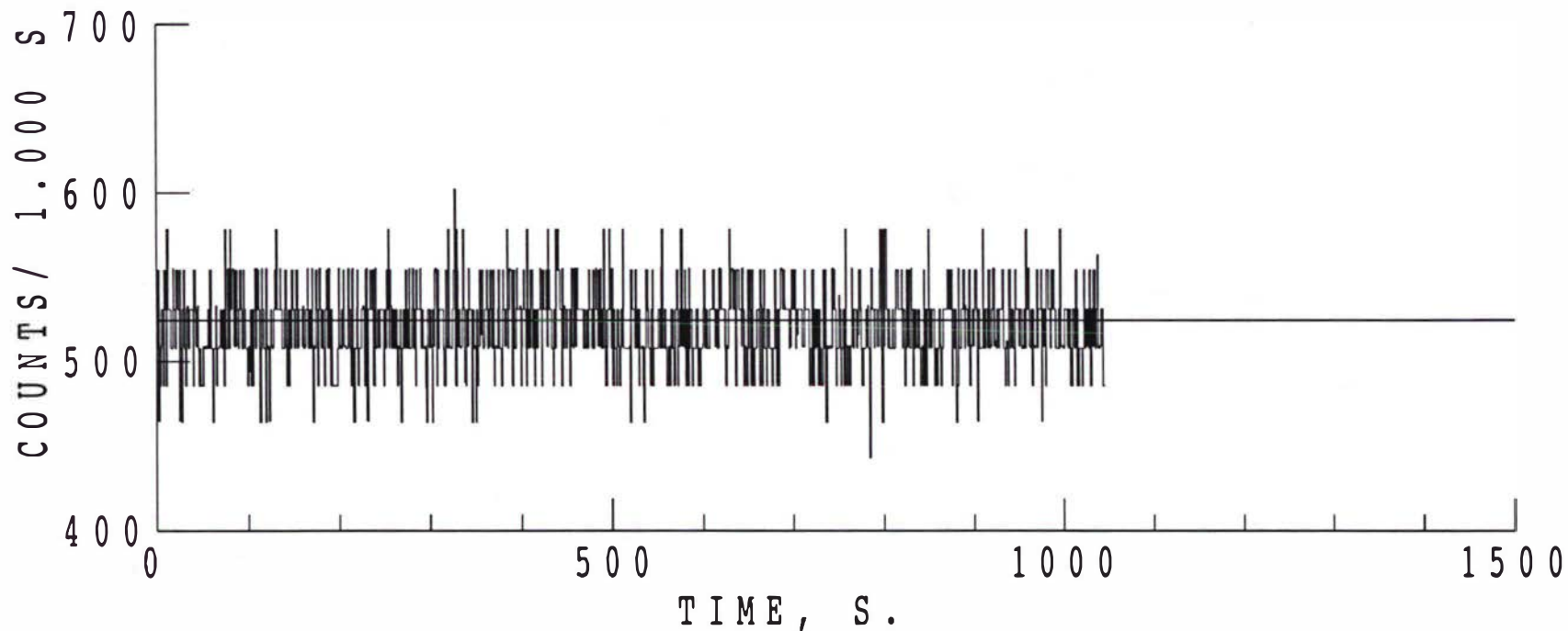
1 / 9 / 98 12852.025 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From RICHARDSON@fender.msfc.nasa.gov Sat Sep 5 06:46:49 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Sat, 5 Sep 1998 8:46:25 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7047

TIME: TJD=1057 SECONDS=22419 *Sep 1* 06:13:39

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SGR 1900+14

SINGLE SPIKE. DURATION LESS THAN 0.064 SEC. VERY SPARSE DATA.

EVENT FROM KNOWN SOURCE, NO LOCBURST LOCATION.

From RICHARDSON@fender.msfc.nasa.gov Sat Sep 5 06:46:16 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Sat, 5 Sep 1998 8:42:43 -0500 (CDT)

To: burst@compel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lhev.gsfc.nasa.gov, barthelmy@lhev.gsfc.nasa.gov,
bacodine@lhev.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhev.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

286.8 9.3

NO.: 7046

TIME: TJD=1057 SECONDS=21096

Sep 1

TYPE: SGR

05:51:36

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SGR 1900+14

SINGLE PULSE. DURATION APPROX. = 0.15 SEC. NOT VISIBLE ABOVE 100KEV.

EVENT FROM KNOWN SOURCE, NO LOCBURST LOCATION.

BATSE BURST# 7046

ULYSSES RT

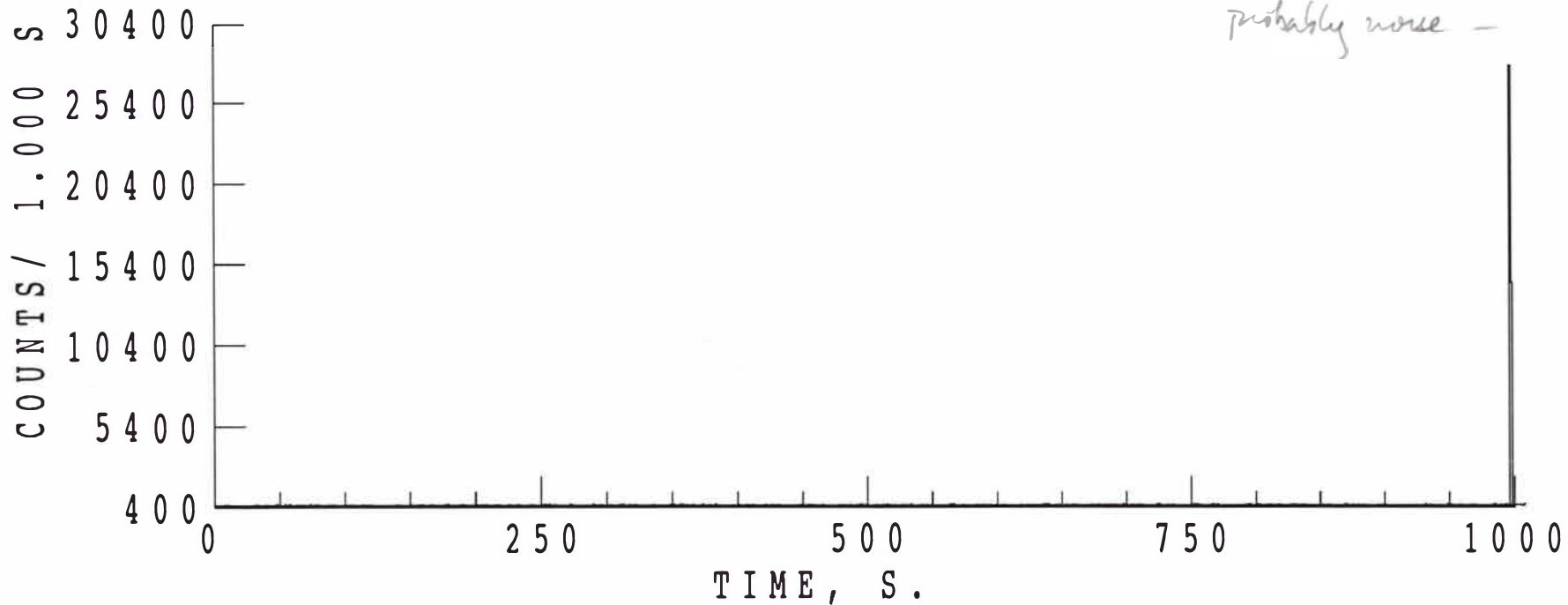
9 / 9 / 98

1 / 9 / 98 22500.129 s

0.500 S INTERVALS REGROUPED BY 2

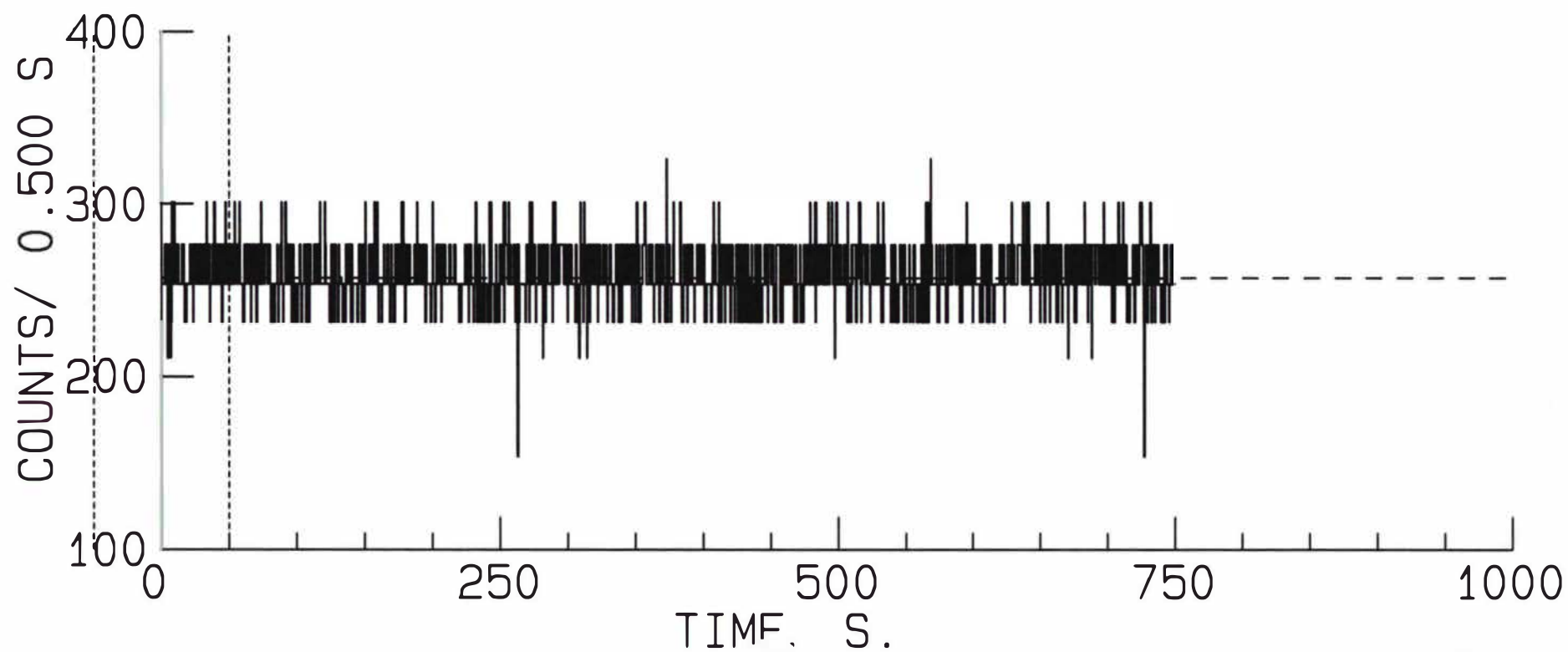
0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



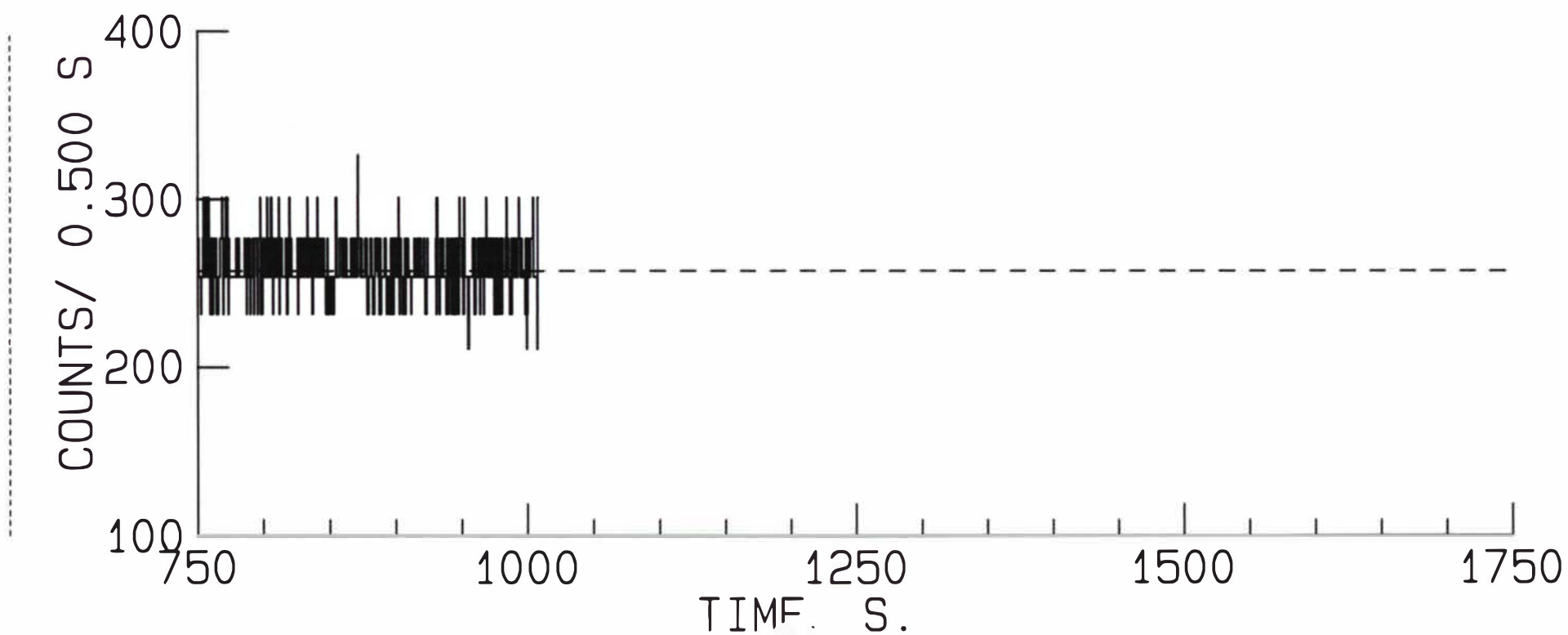
ULYSSES RT
1/ 9/98 22500.127 s
22- 149 keV

23/ 4/99



ULYSSES RT
1/ 9/98 22500.127 s
22- 149 keV

23/ 4/99



From RICHARDSON@fender.msfc.nasa.gov Sat Sep 5 06:54:20 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Sat, 5 Sep 1998 8:51:01 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7048

TIME: TJD=1057 SECONDS=33454 *Sep 1 09:17:34*

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SGR 1900+14

SINGLE PULSE. DURATION APPROX. = 0.15 SEC. NOT VISIBLE ABOVE 100KEV.

EVENT FROM KNOWN SOURCE, NO LOCBURST LOCATION.

From RICHARDSON@fender.msfc.nasa.gov Sat Sep 5 06:54:44 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Sat, 5 Sep 1998 8:53:06 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7049

TIME: TJD=1057 SECONDS=39009 *Sep 1* 10:56:09

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SGR 1900+14

SINGLE PULSE WITH STRUCTURE. DURATION APPROX. = 0.15 SEC. NOT VISIBLE ABOVE
100KEV. EVENT FROM KNOWN SOURCE, NO LOCBURST LOCATION.

From RICHARDSON@fender.msfc.nasa.gov Sat Sep 5 06:54:58 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Sat, 5 Sep 1998 8:54:43 -0500 (CDT)

To: burst@compel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lhev.gsfc.nasa.gov, barthelmy@lhev.gsfc.nasa.gov,
bacodine@lhev.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhev.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7050

Sep 1

TIME: TJD=1057 SECONDS=44684 12:24:44

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SGR 1900+14

SINGLE PULSE. DURATION APPROX. = 0.05 SEC. NOT VISIBLE ABOVE 100KEV.

EVENT FROM KNOWN SOURCE, NO LOCBURST LOCATION.

From RICHARDSON@fender.msfc.nasa.gov Sat Sep 5 06:56:44 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Sat, 5 Sep 1998 8:56:30 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

Sep 1

NO.: 7051

TIME: TJD=1057 SECONDS=56566

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SGR 1900+14

SINGLE PULSE. DURATION APPROX. = 0.1 SEC. NOT VISIBLE ABOVE 100KEV.

EVENT FROM KNOWN SOURCE, NO LOCBURST LOCATION

BATSE BURST# 7051

ULYSSES RT

9 / 9 / 98

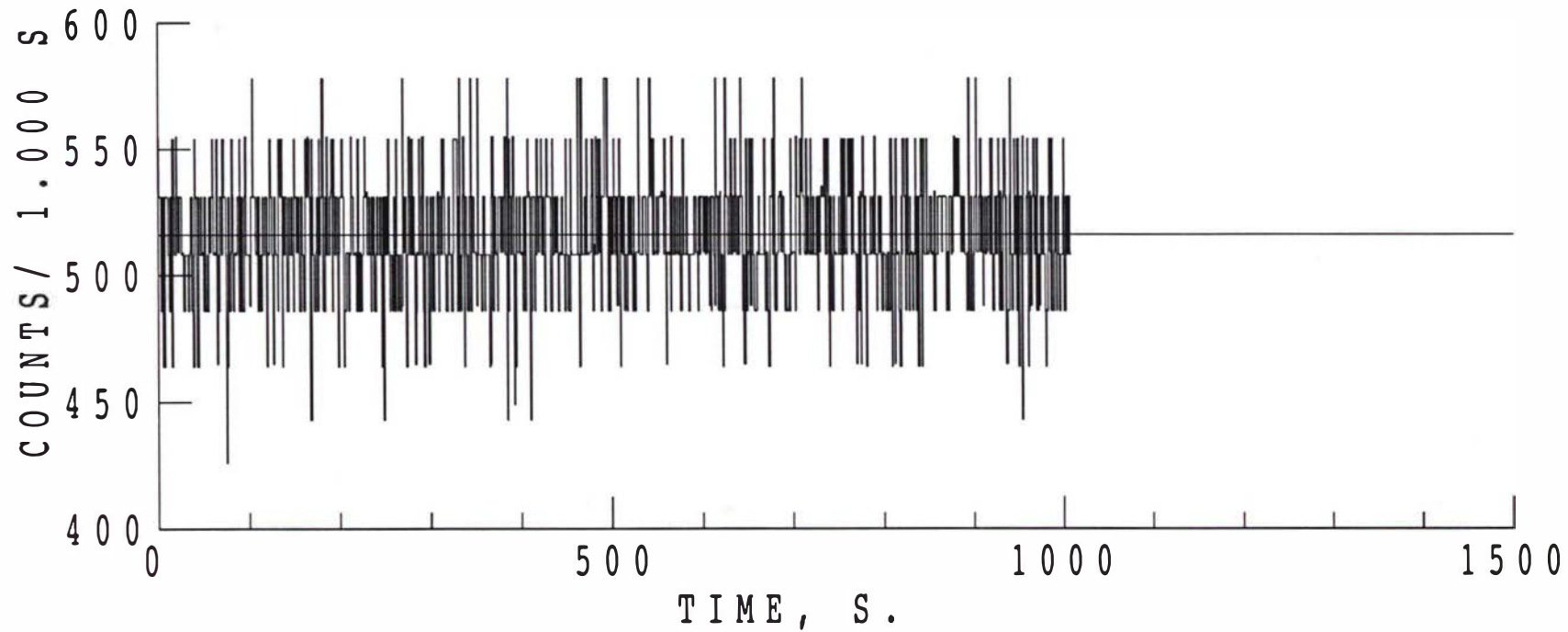
1 / 9 / 98 57960.000 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

M= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

M= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From RICHARDSON@fender.msfc.nasa.gov Fri Sep 4 07:37:54 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Fri, 4 Sep 1998 9:37:31 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7054

TIME: TJD=1057 SECONDS=73649

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

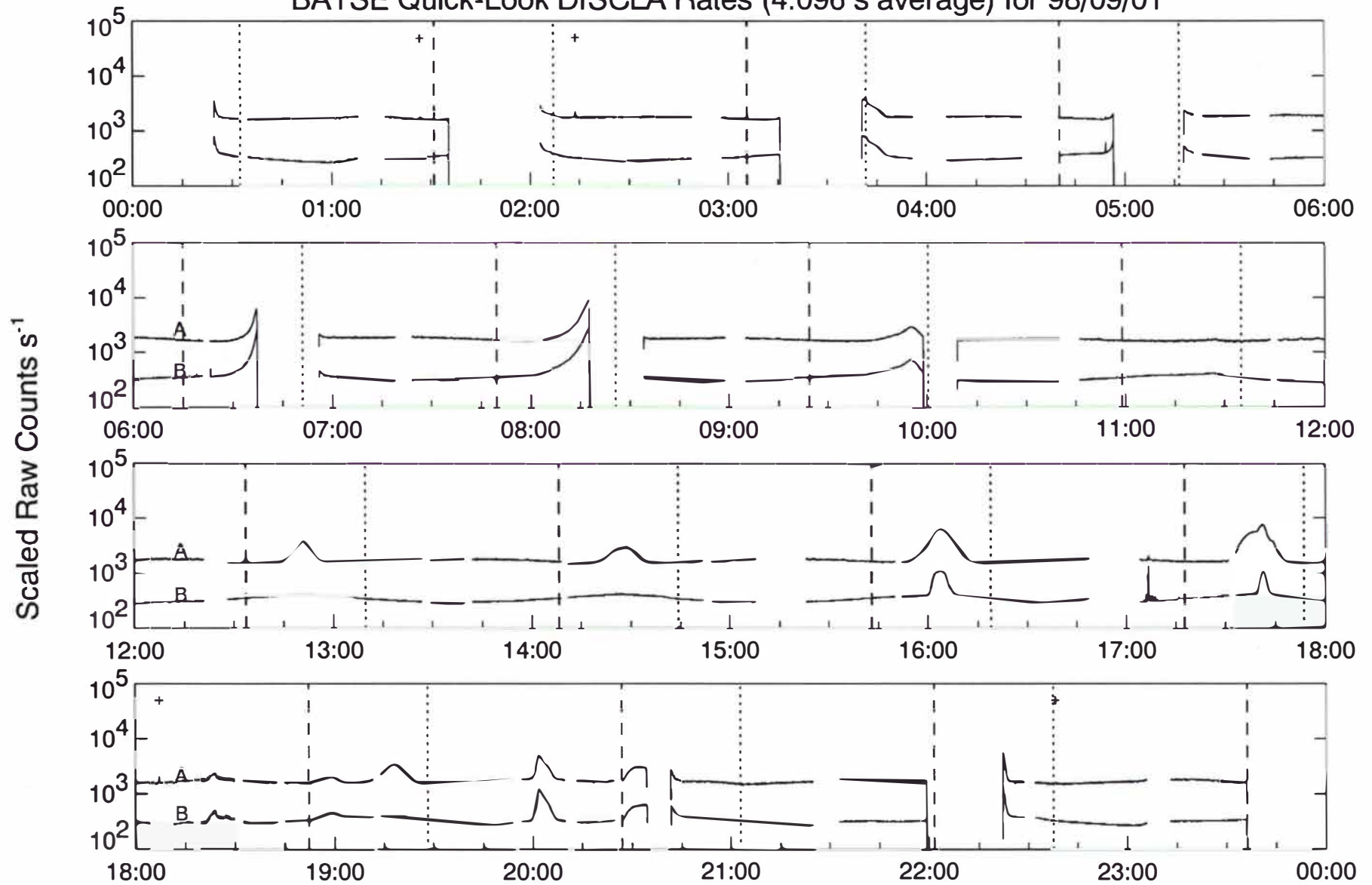
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/09/01

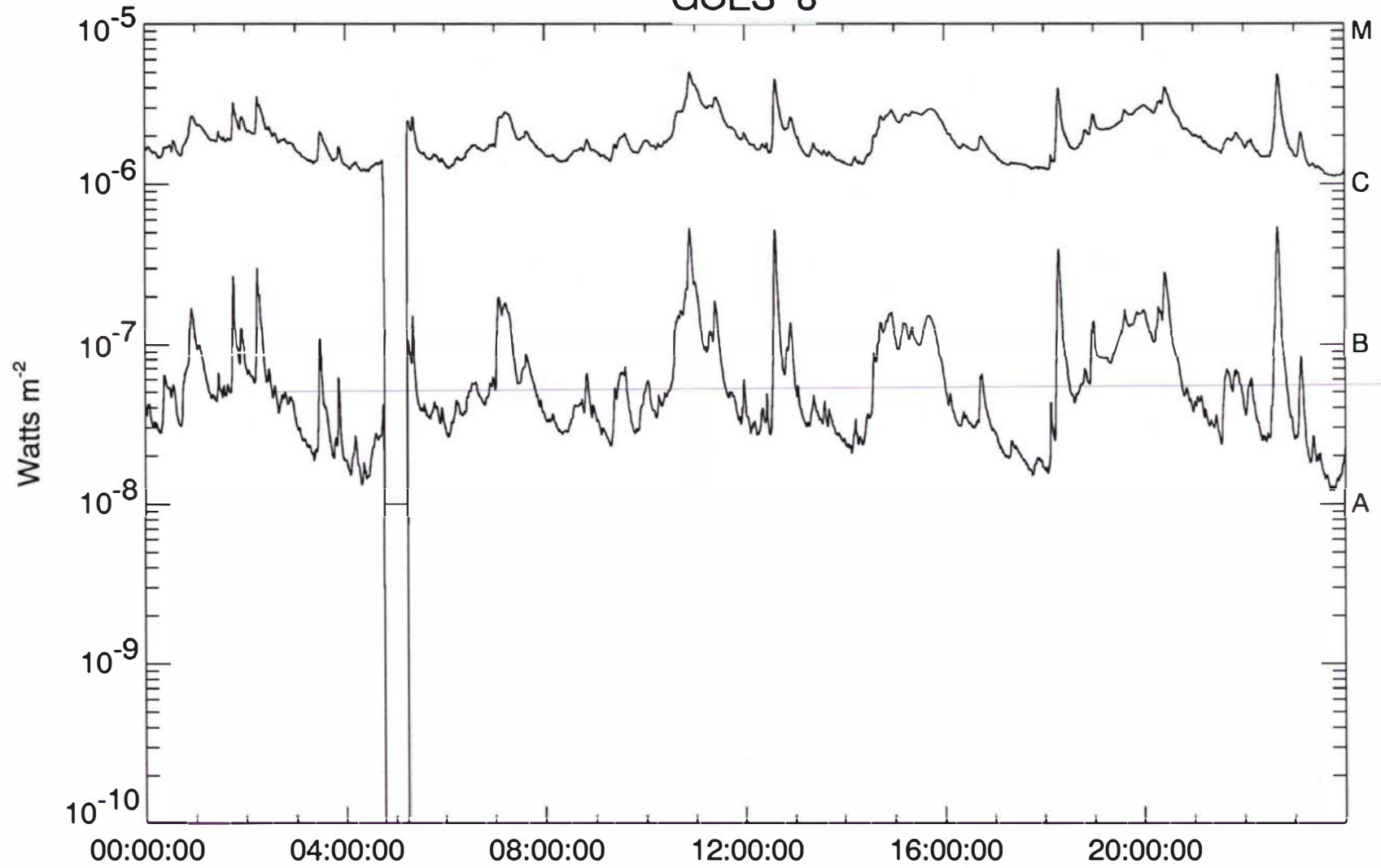


Current Time: 98/09/05, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 98/09/01, 0000:00

Plot created: 98/09/05, 1007

Channel 1 (1.0 - 8.0 Angstroms)

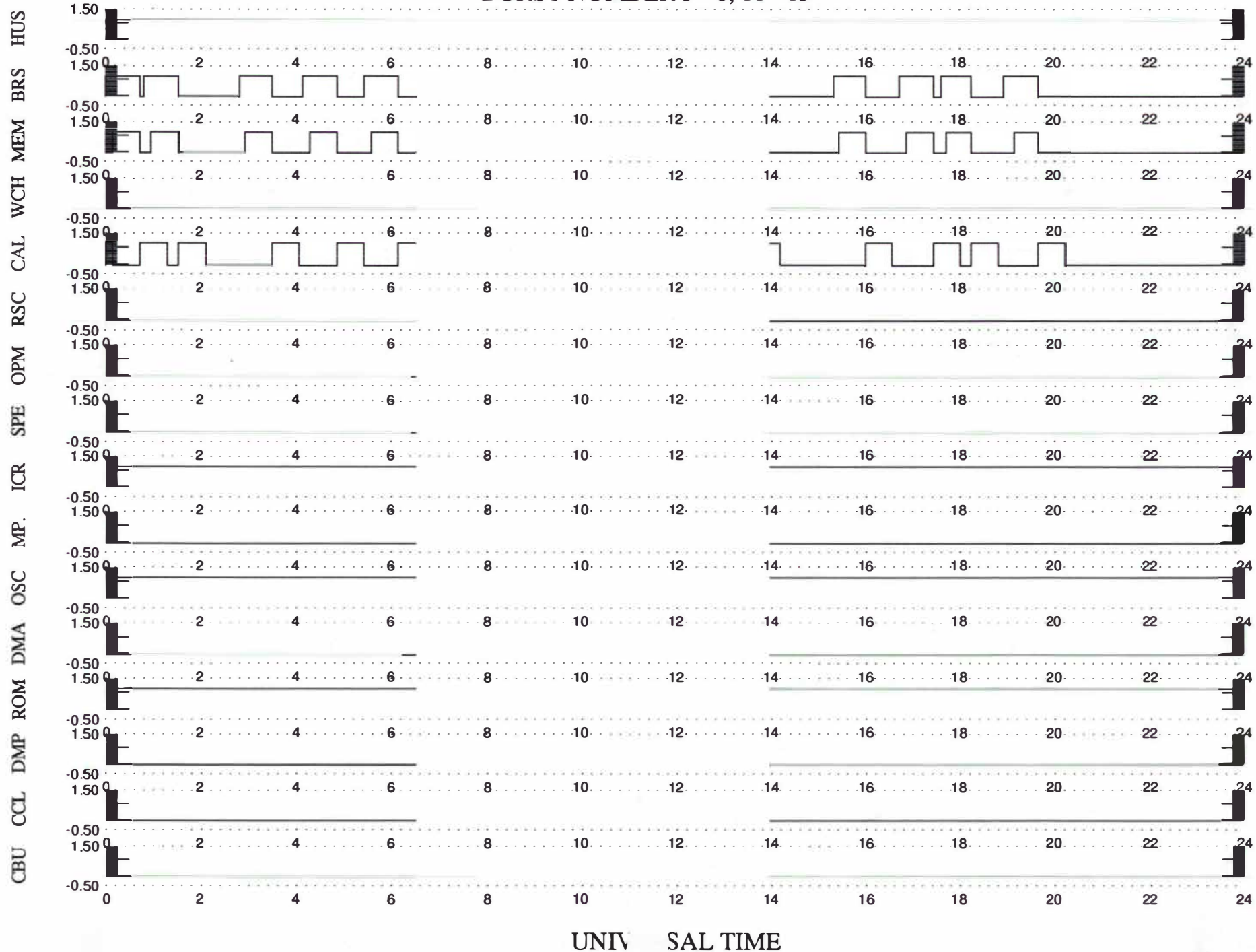
Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms)

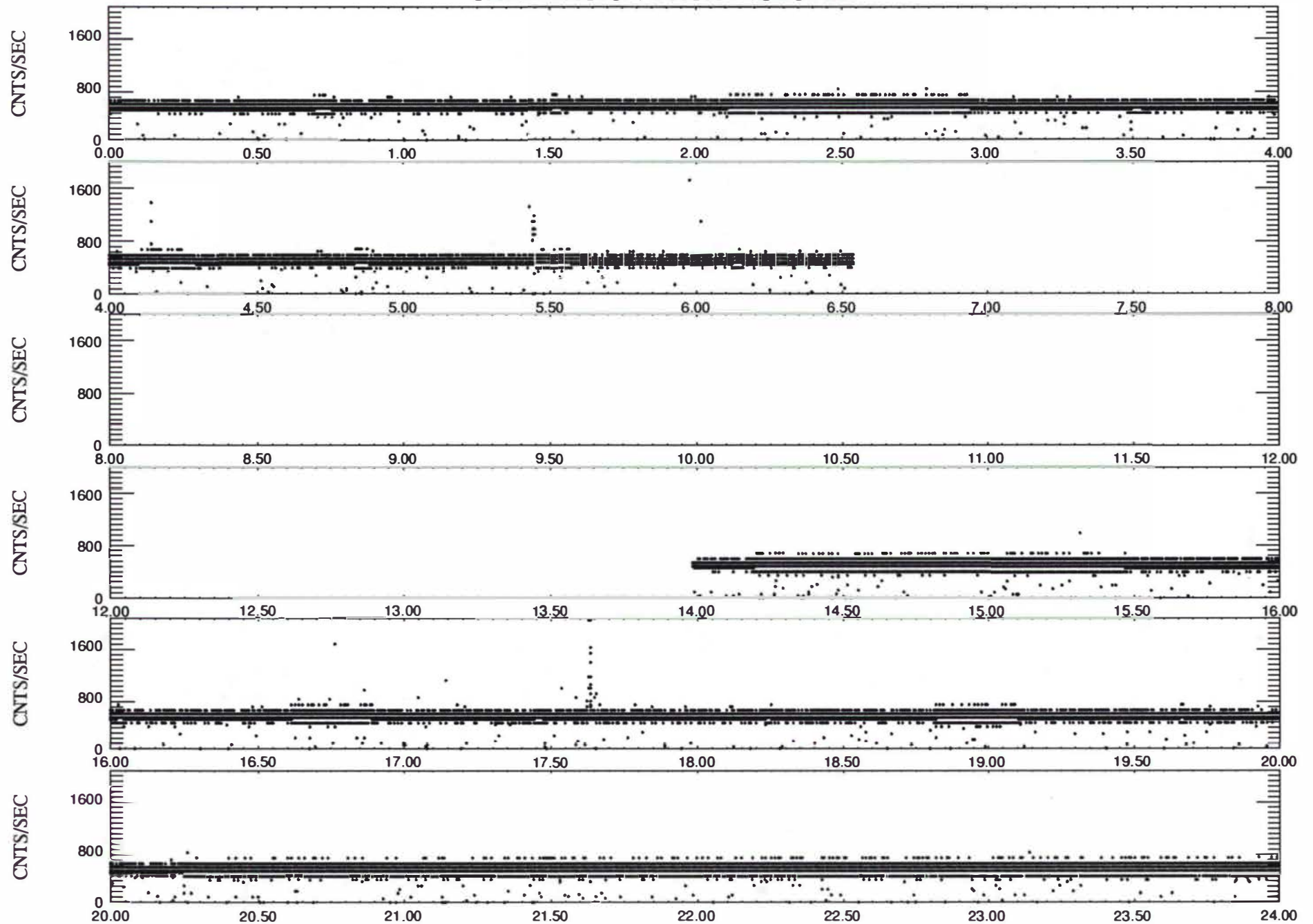
Background not subtracted

Sample average = 10

BURST NUMBER 5 - 8, 11 - 15

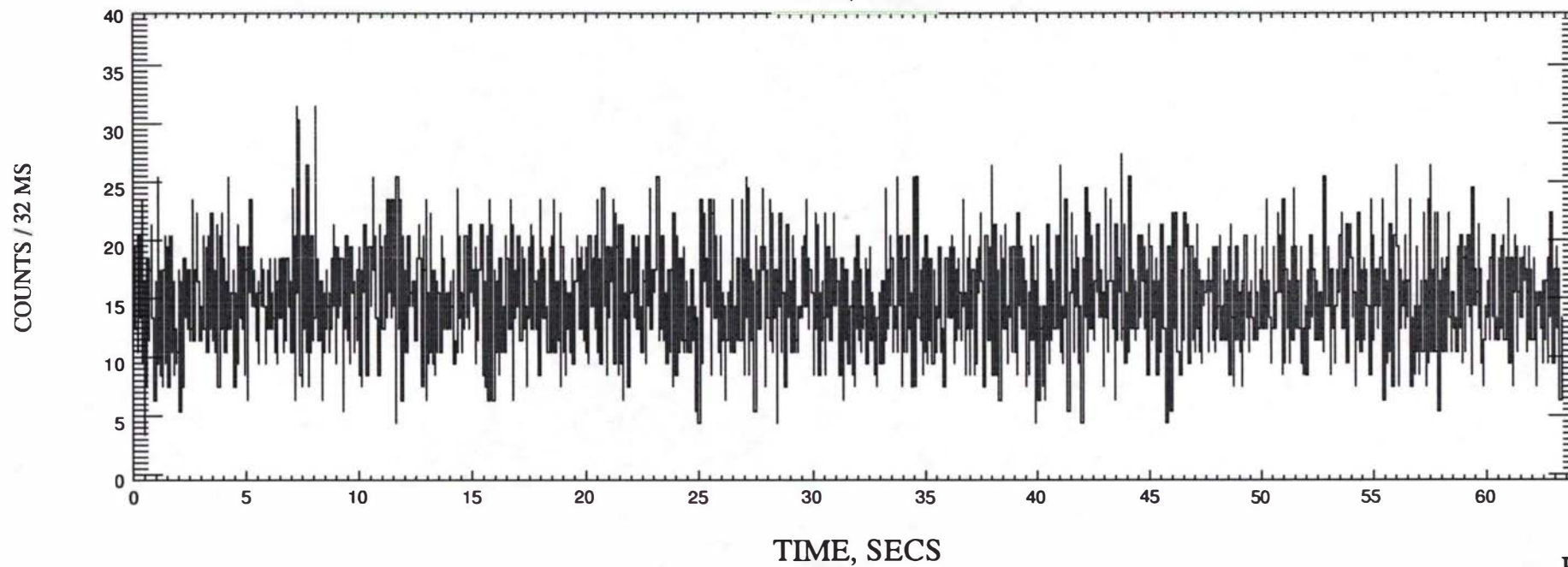
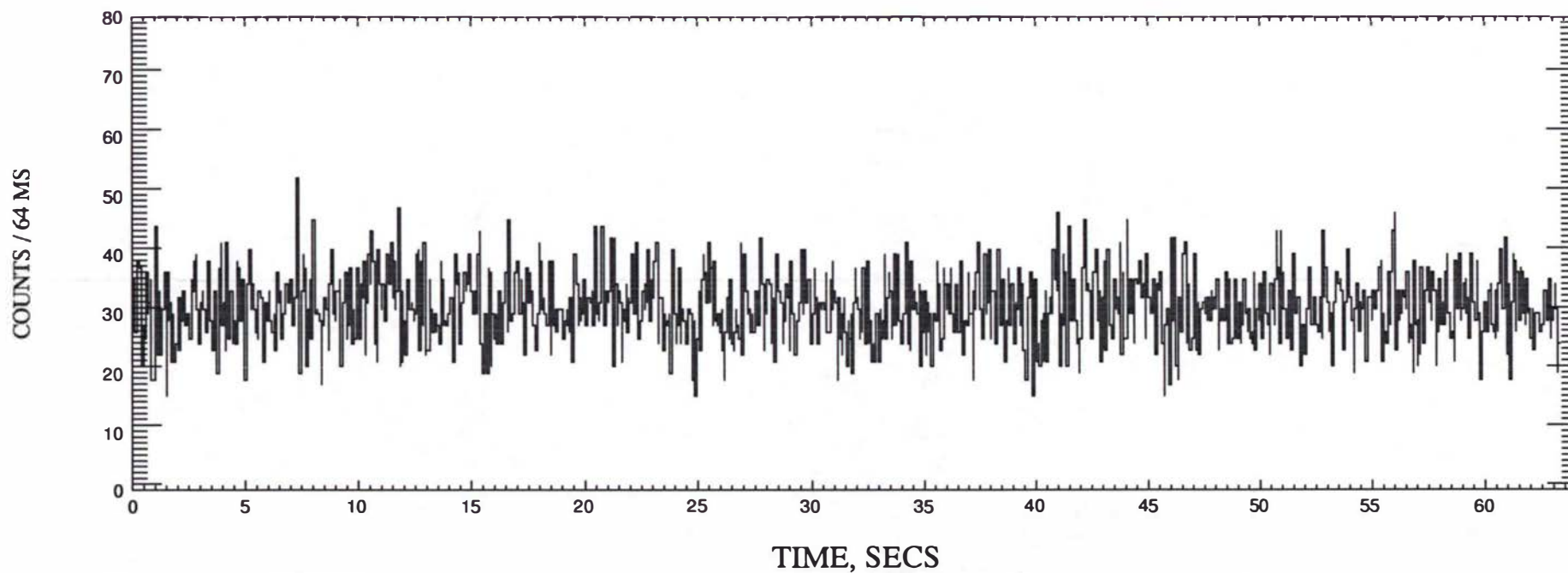


CALIBRATION DATA INCLUDED

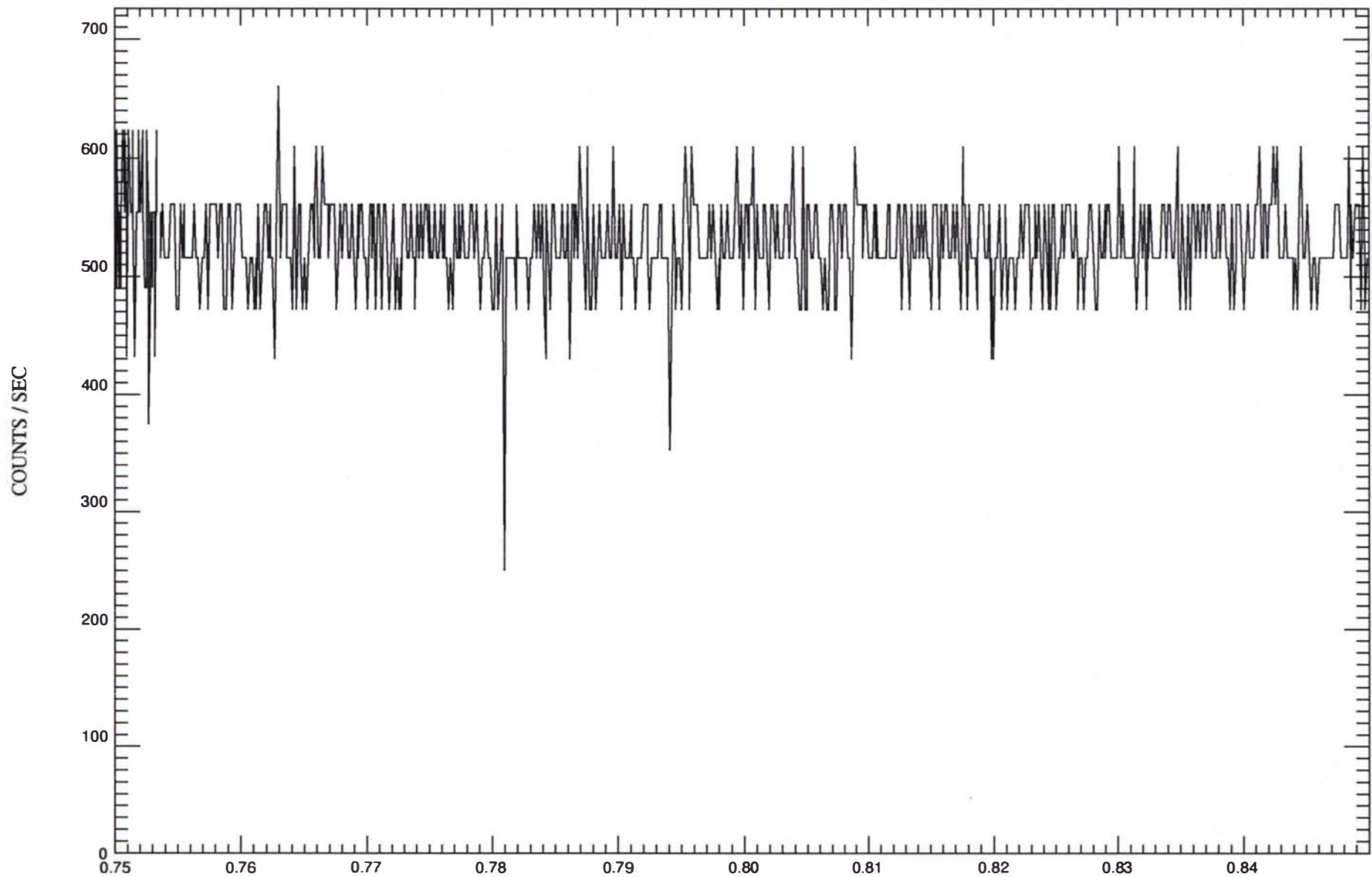


UNIV SAL TIME

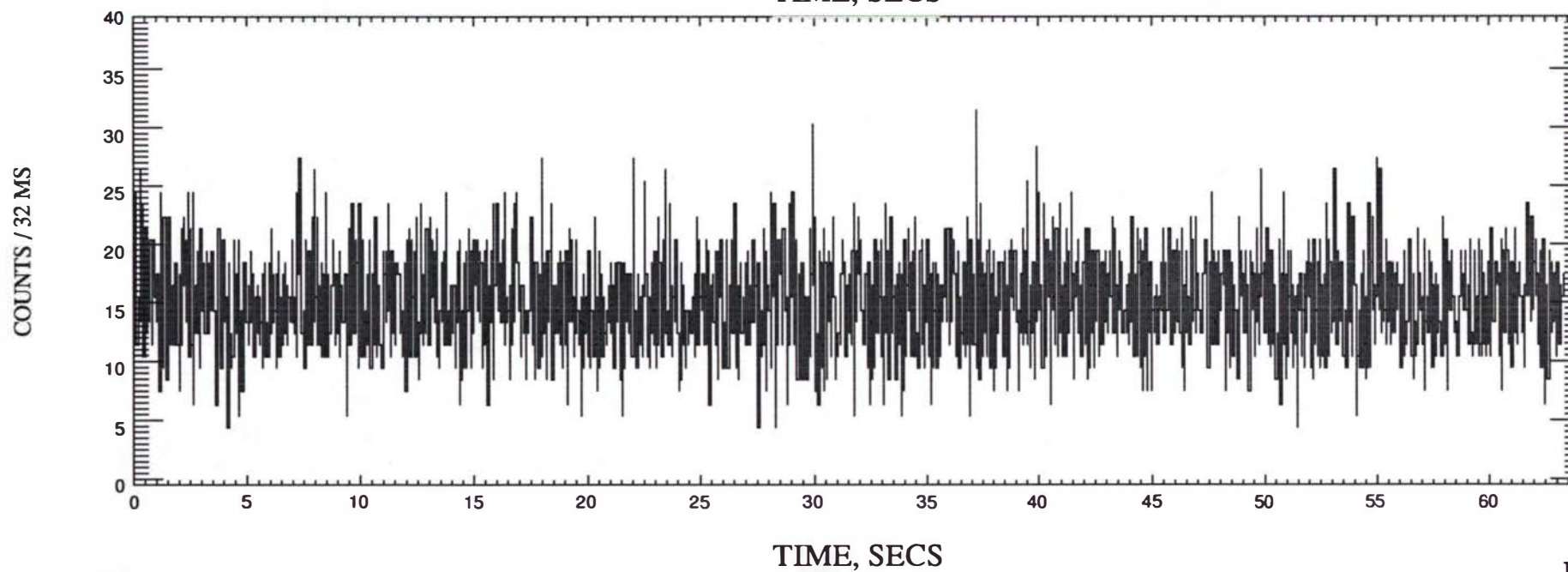
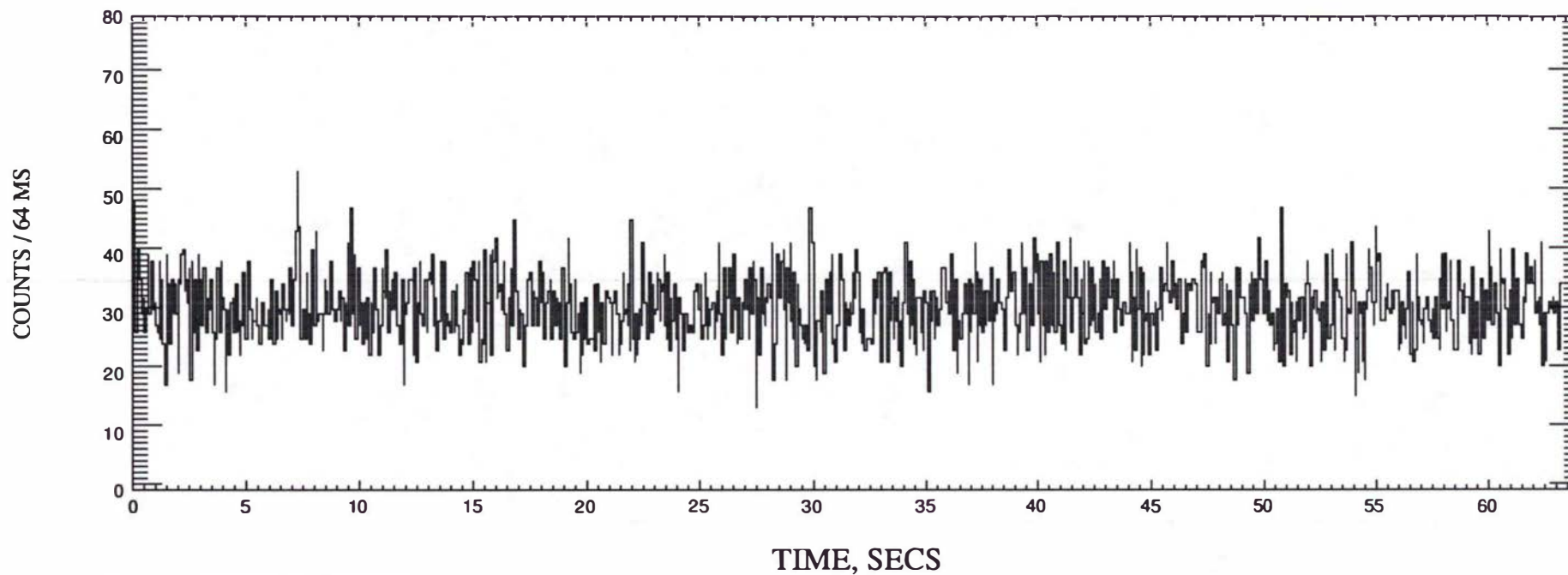
Burst Counter 5 at UT= 0.799699855381 h= 2878.919 s 00:47:58.919



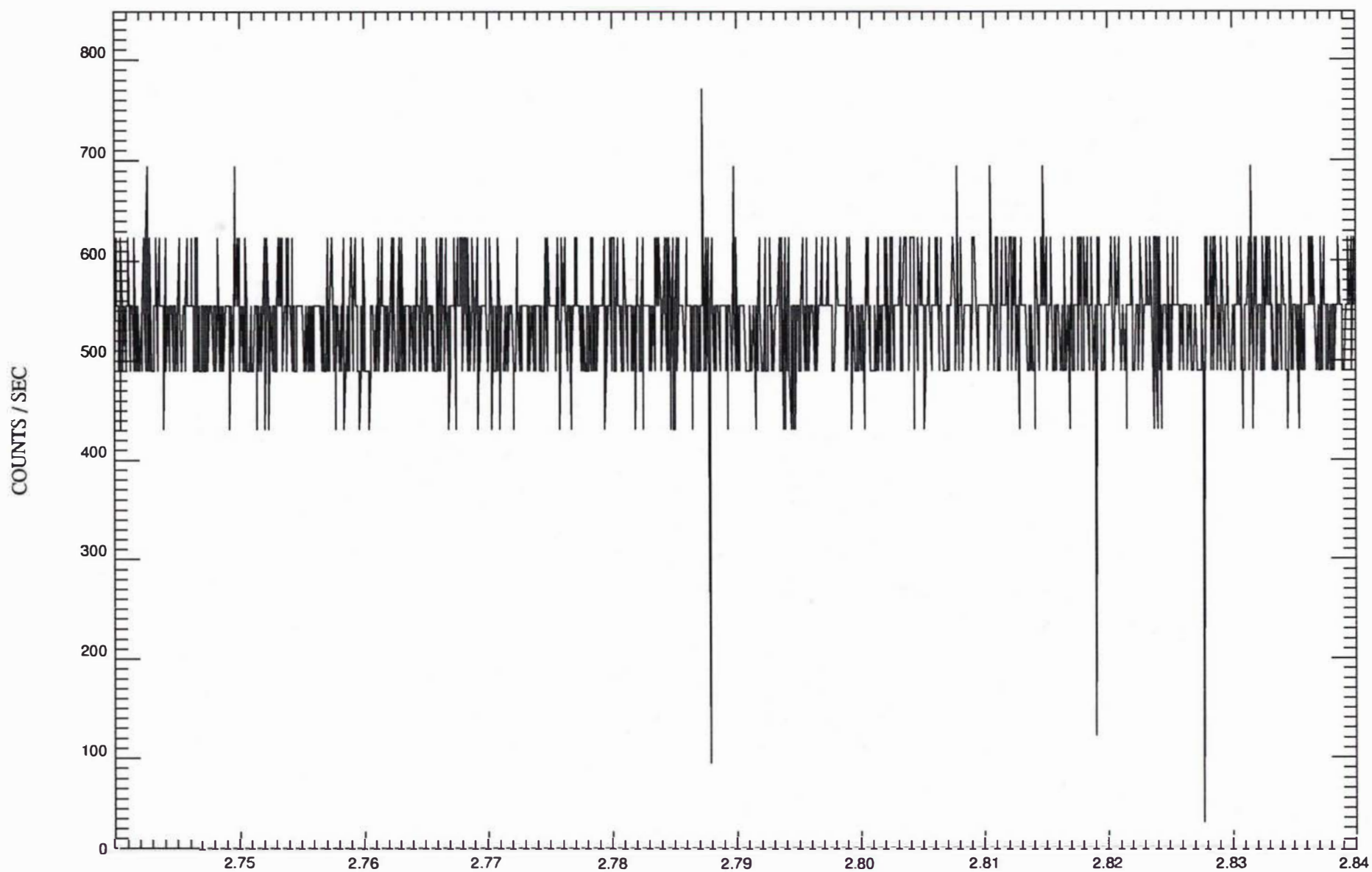
CALIBRATION DATA INCLUDED



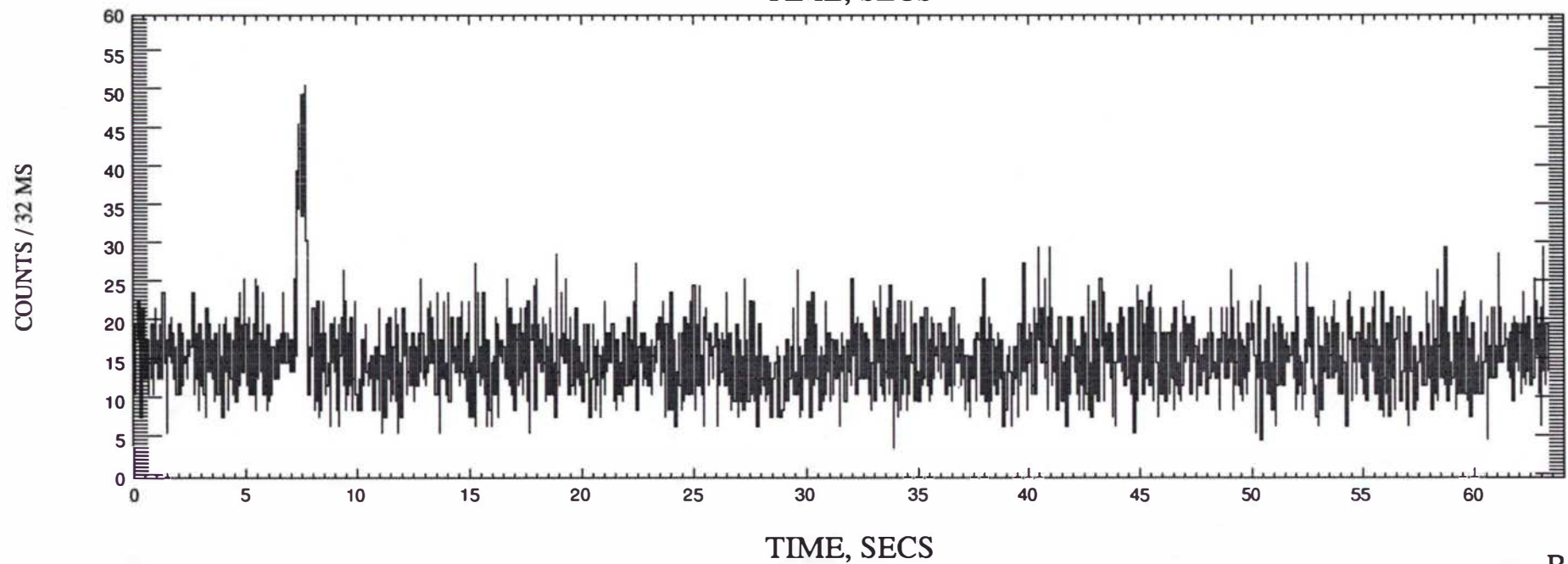
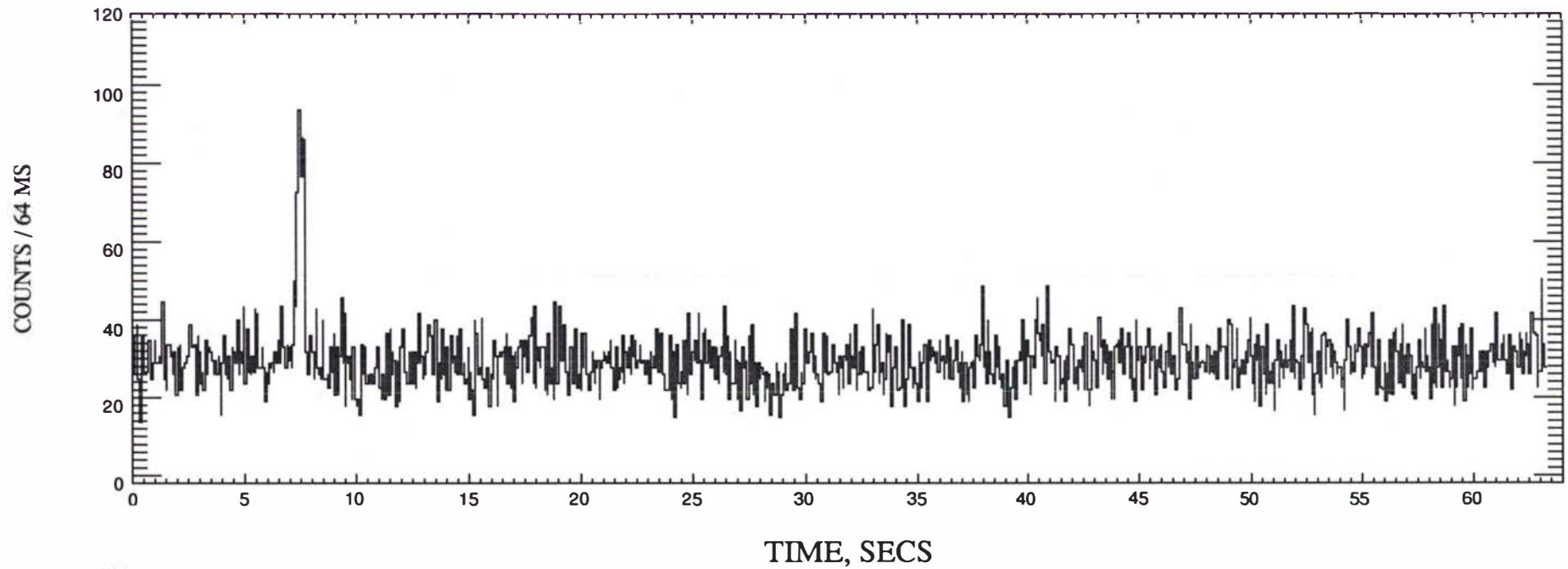
Burst Counter 6 at UT= 2.787426986694 h=10034.737 s 02:47:14.737



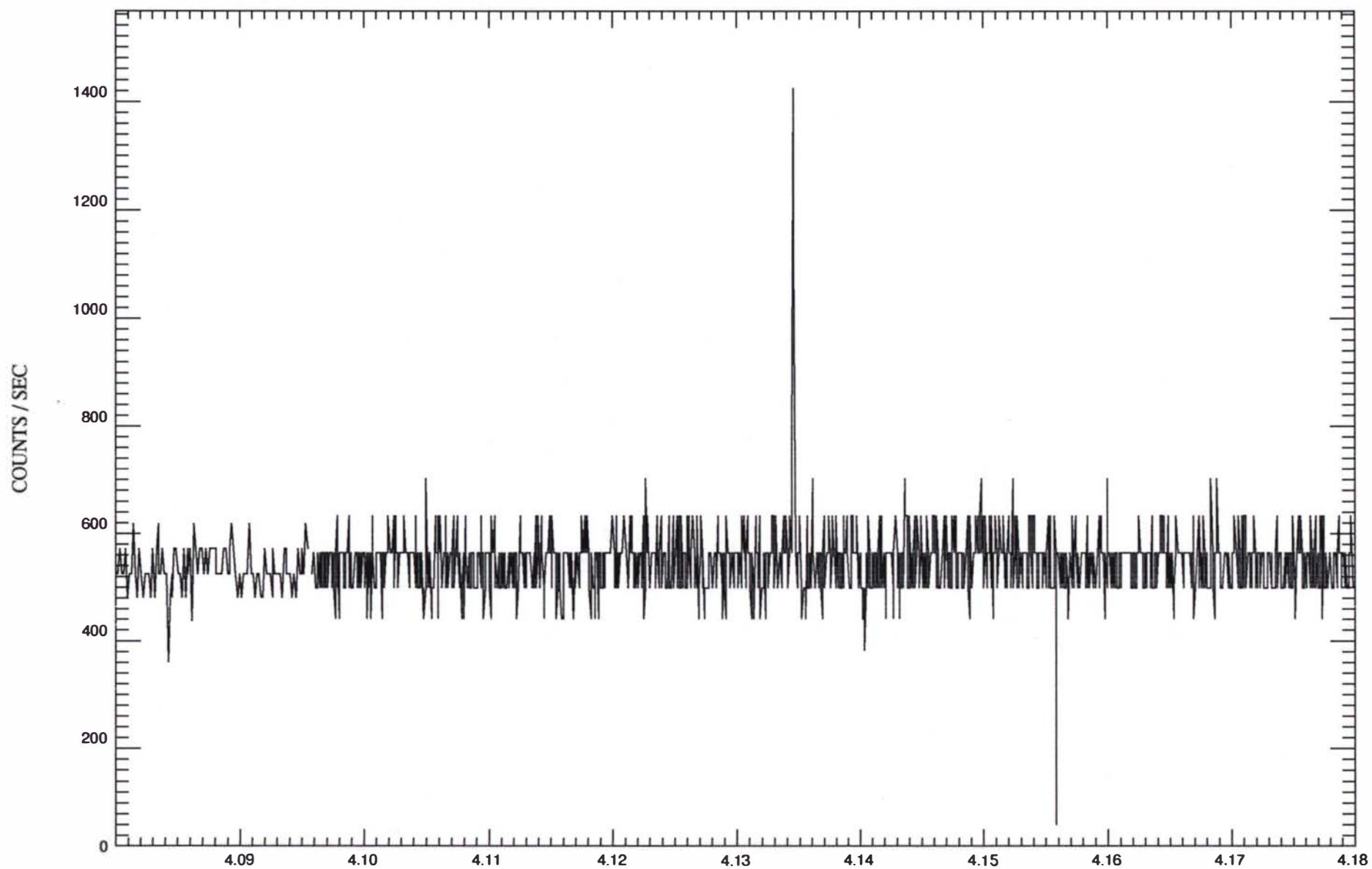
CALIBRATION DATA INCLUDED



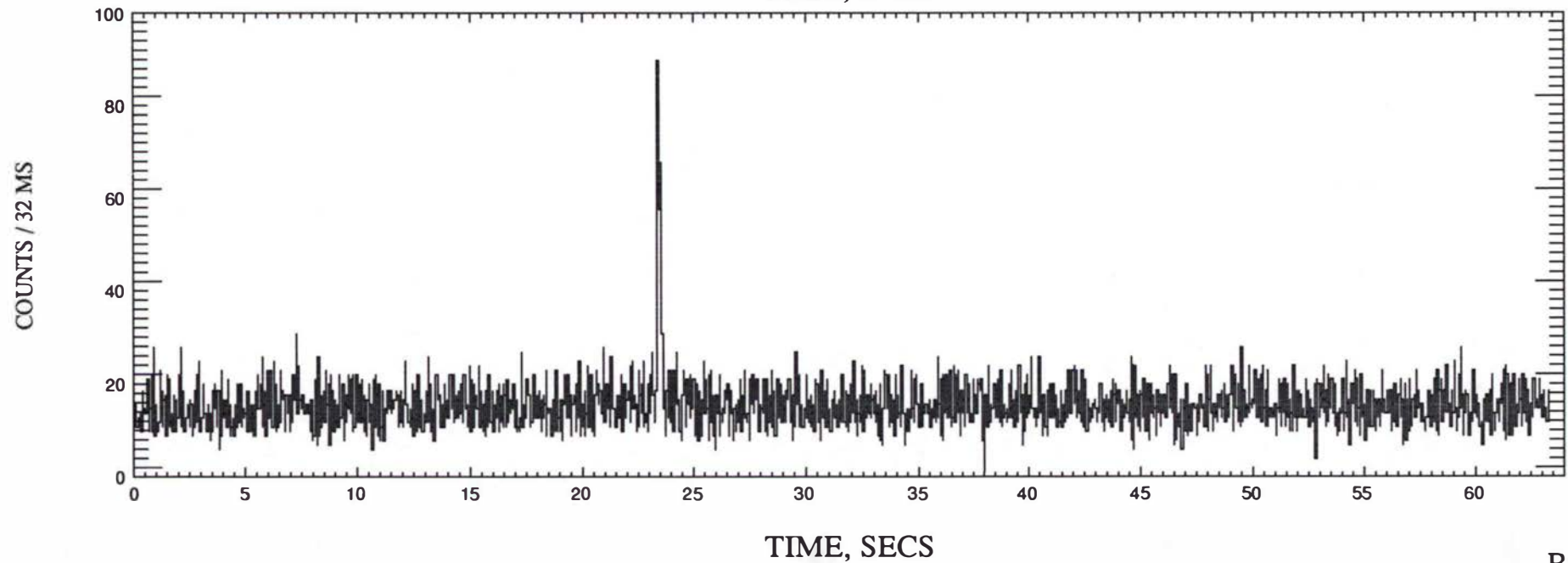
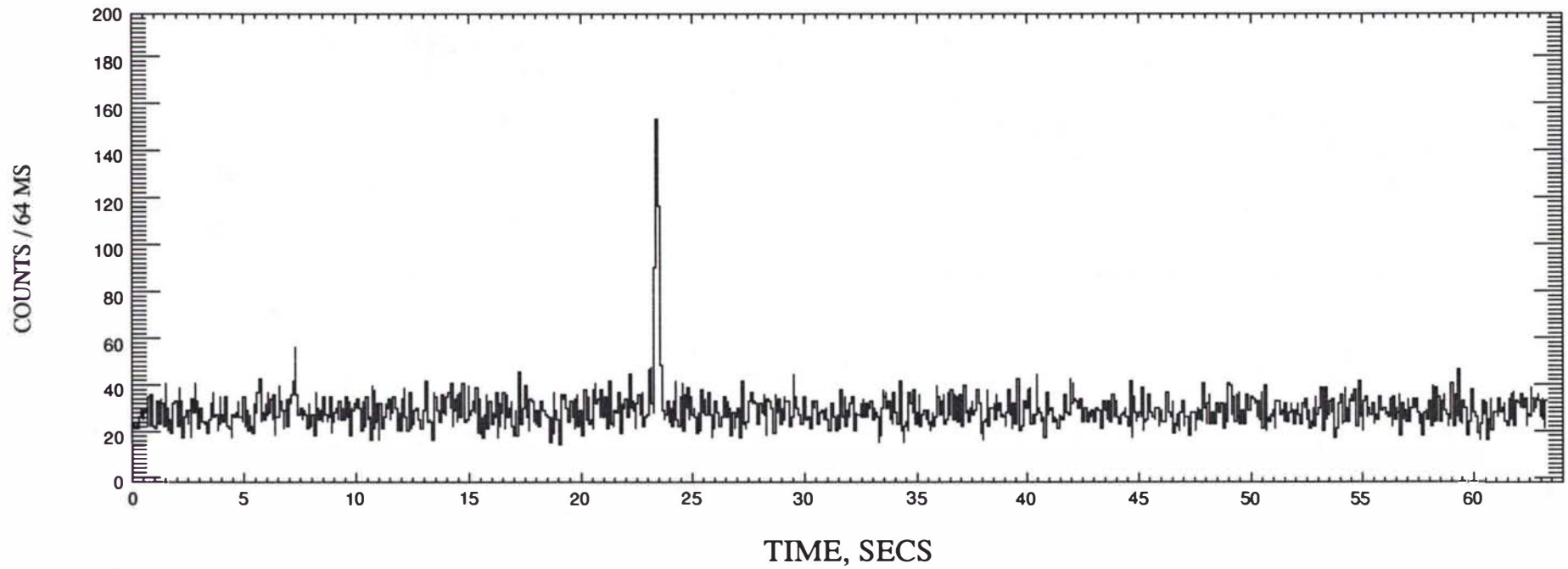
Burst Counter 7 at UT= 4.134522378710 h=14884.281 s 04:08:04.281



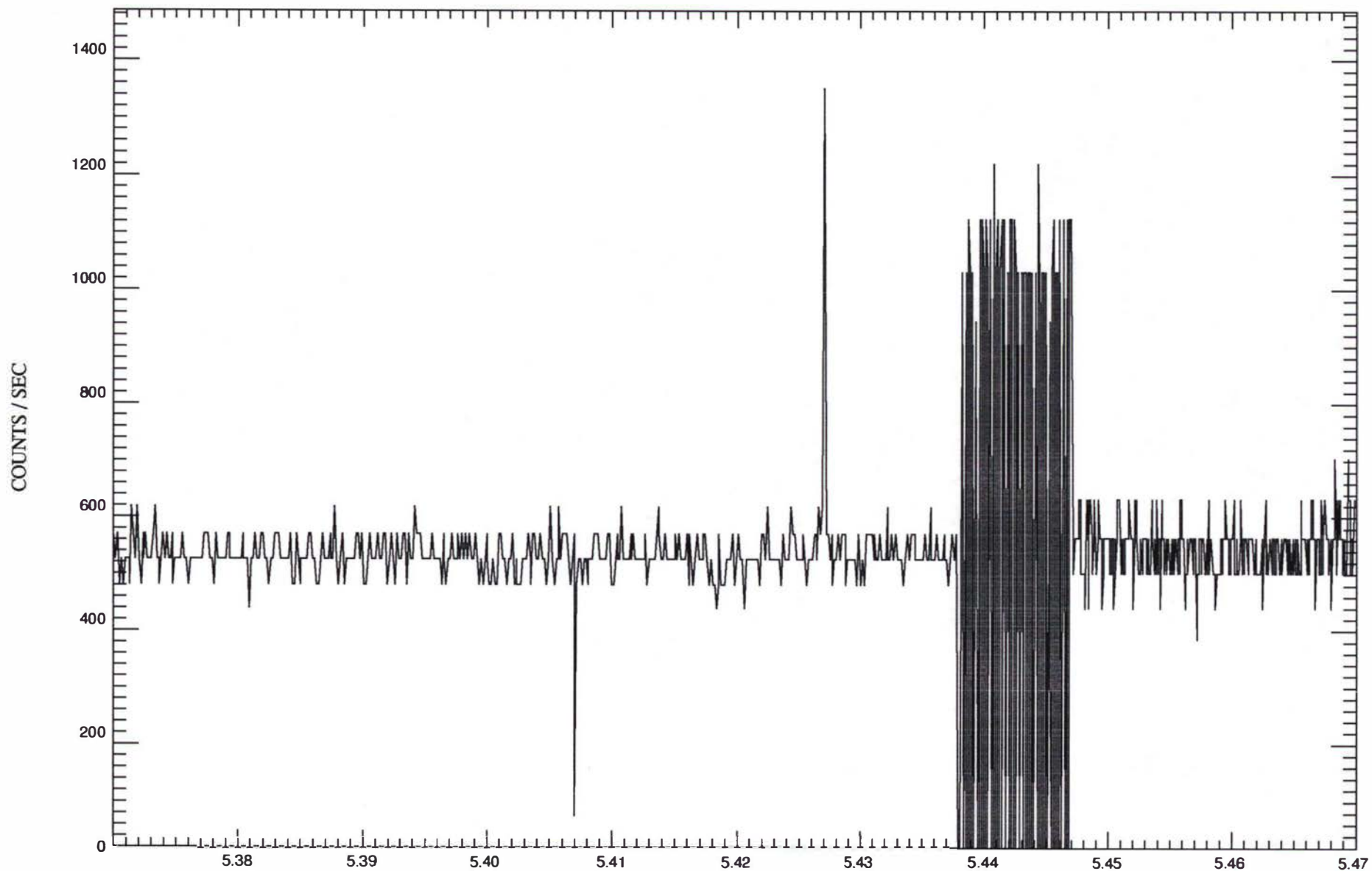
CALIBRATION DATA INCLUDED



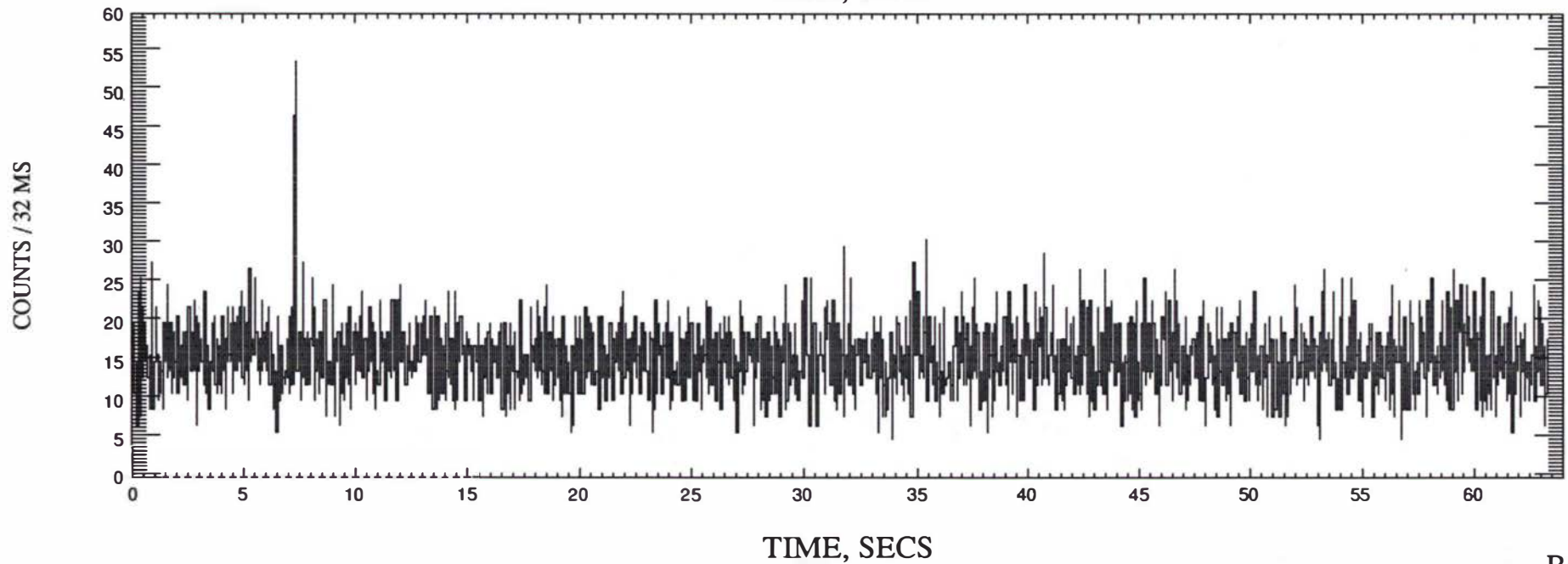
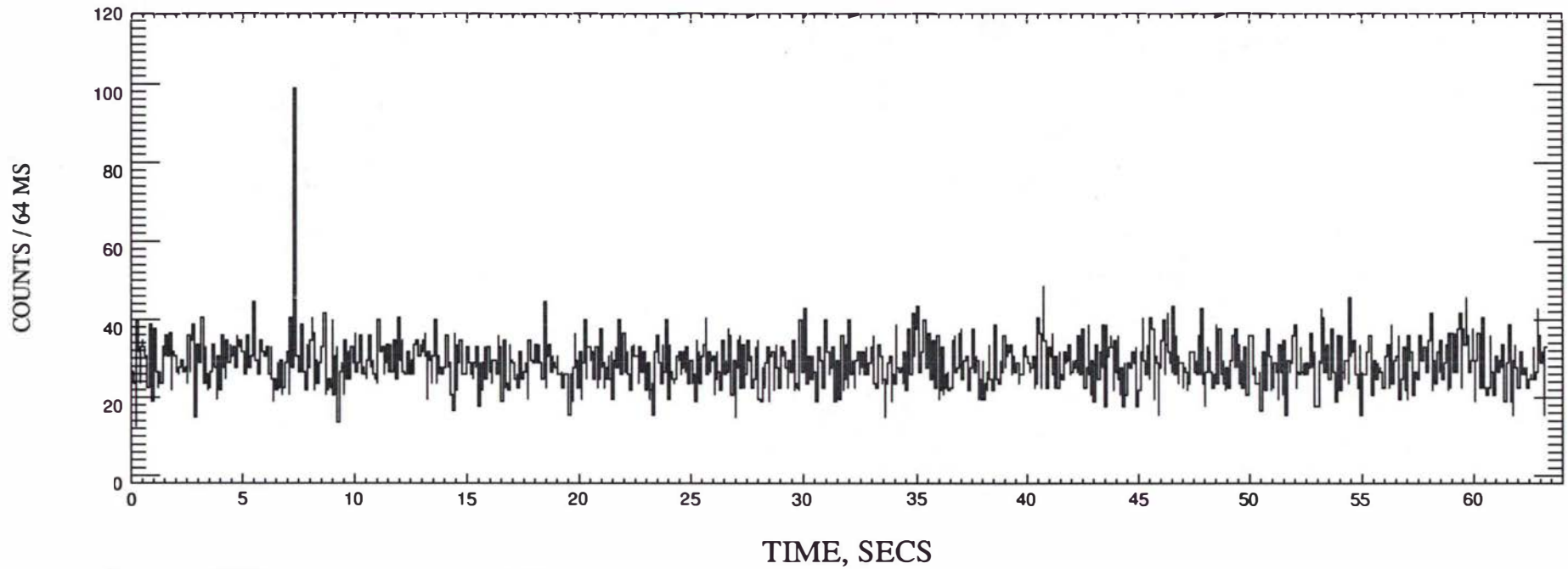
Burst Counter 8 at UT= 5.422663027445 h=19521.587 s 05:25:21.587



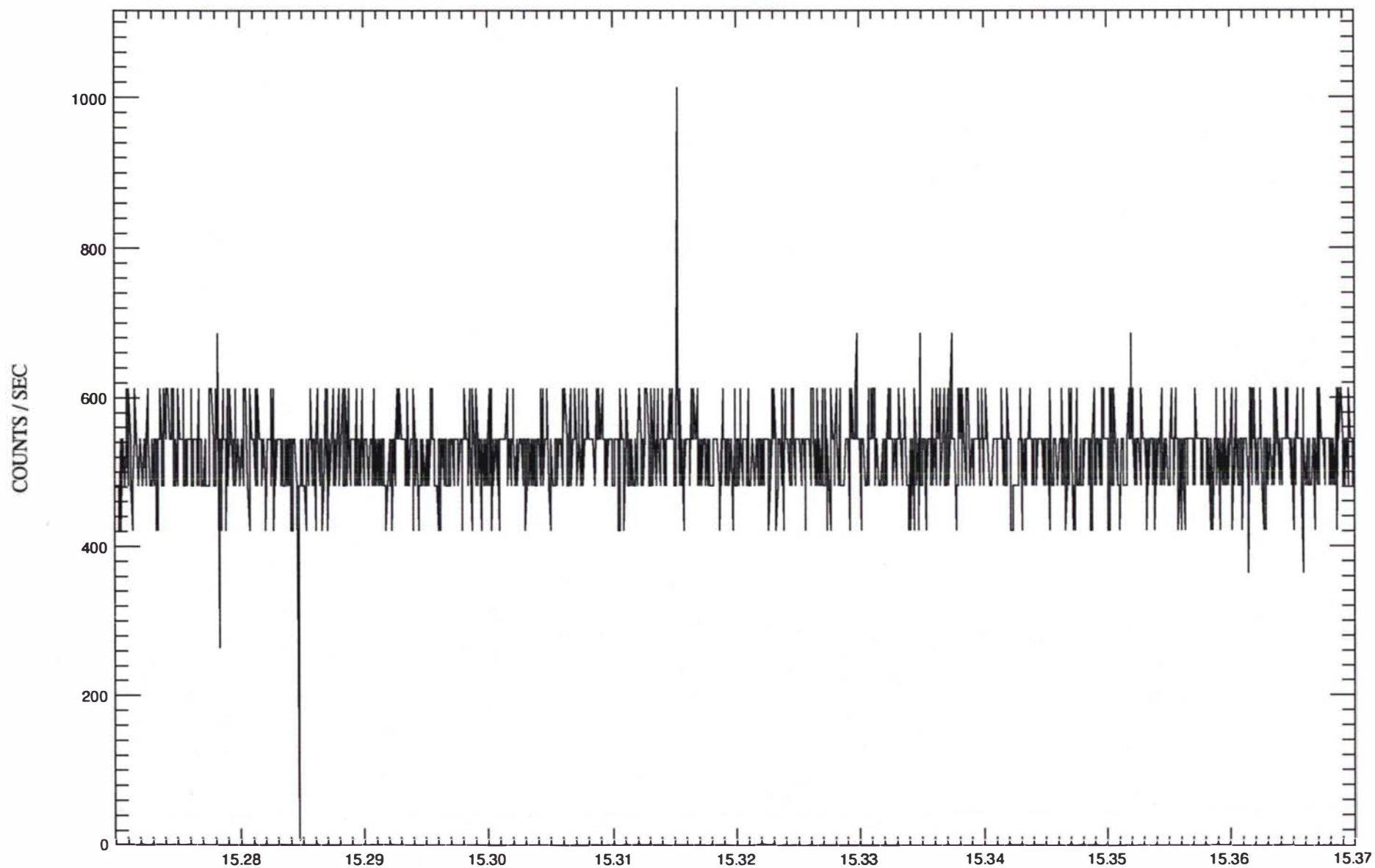
CALIBRATION DATA INCLUDED



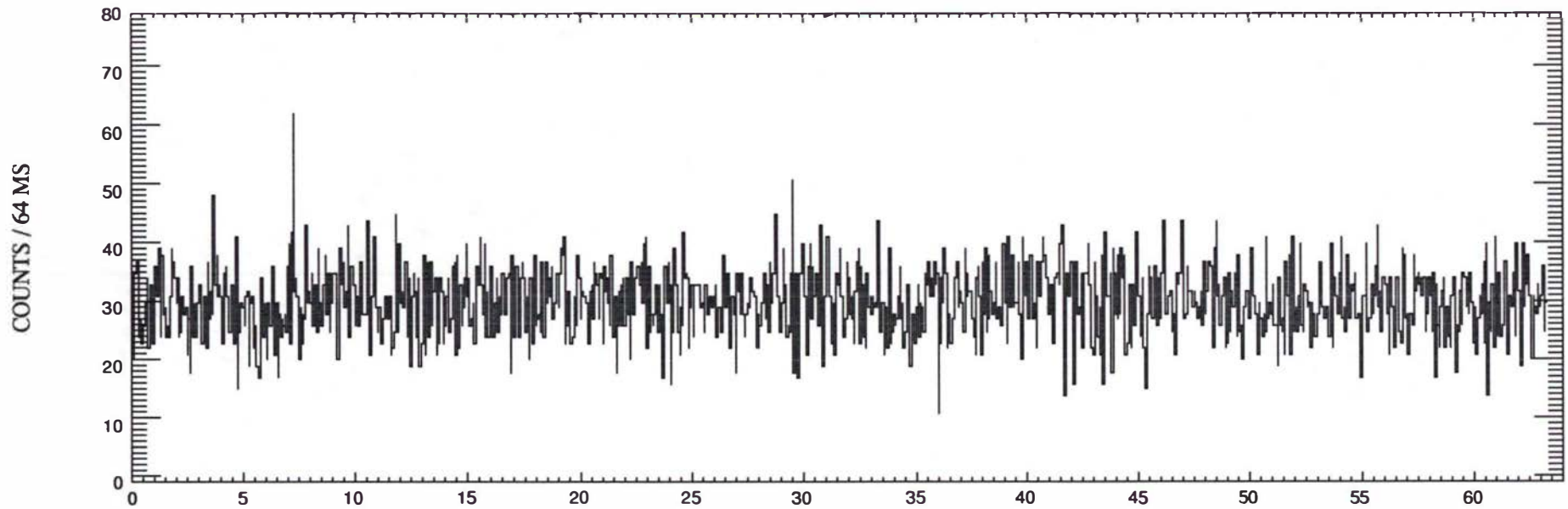
Burst Counter 12 at UT=15.315432421366 h=55135.557 s 15:18:55.557



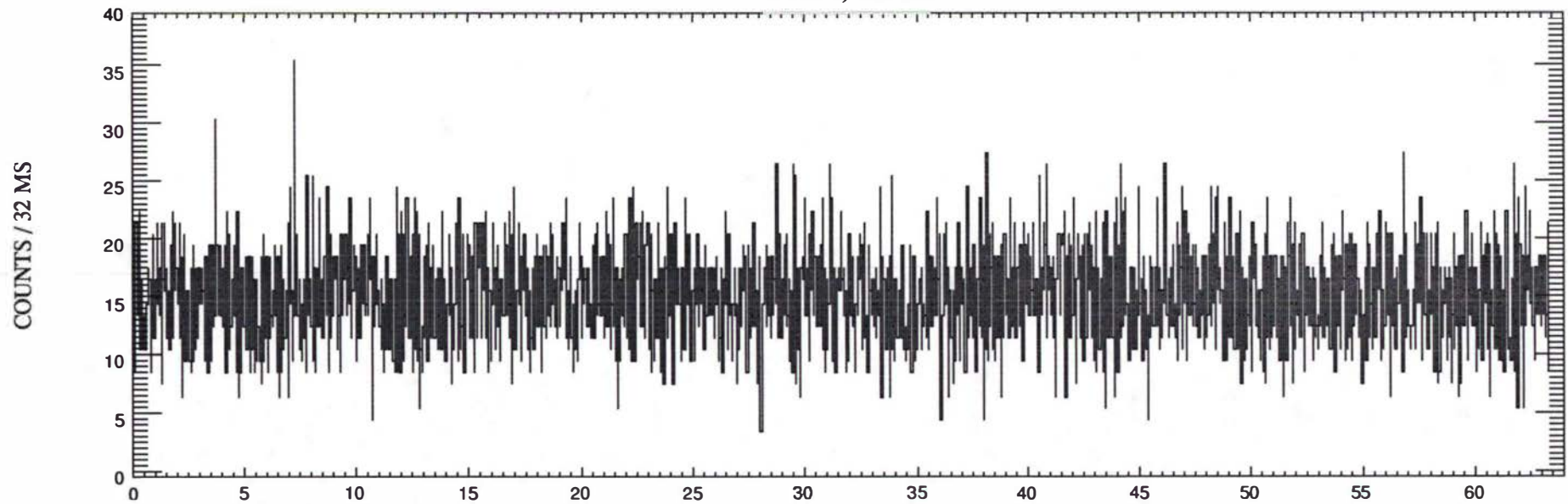
CALIBRATION DATA INCLUDED



Burst Counter 13 at UT=16.739965625339 h=60263.876 s 16:44:23.876

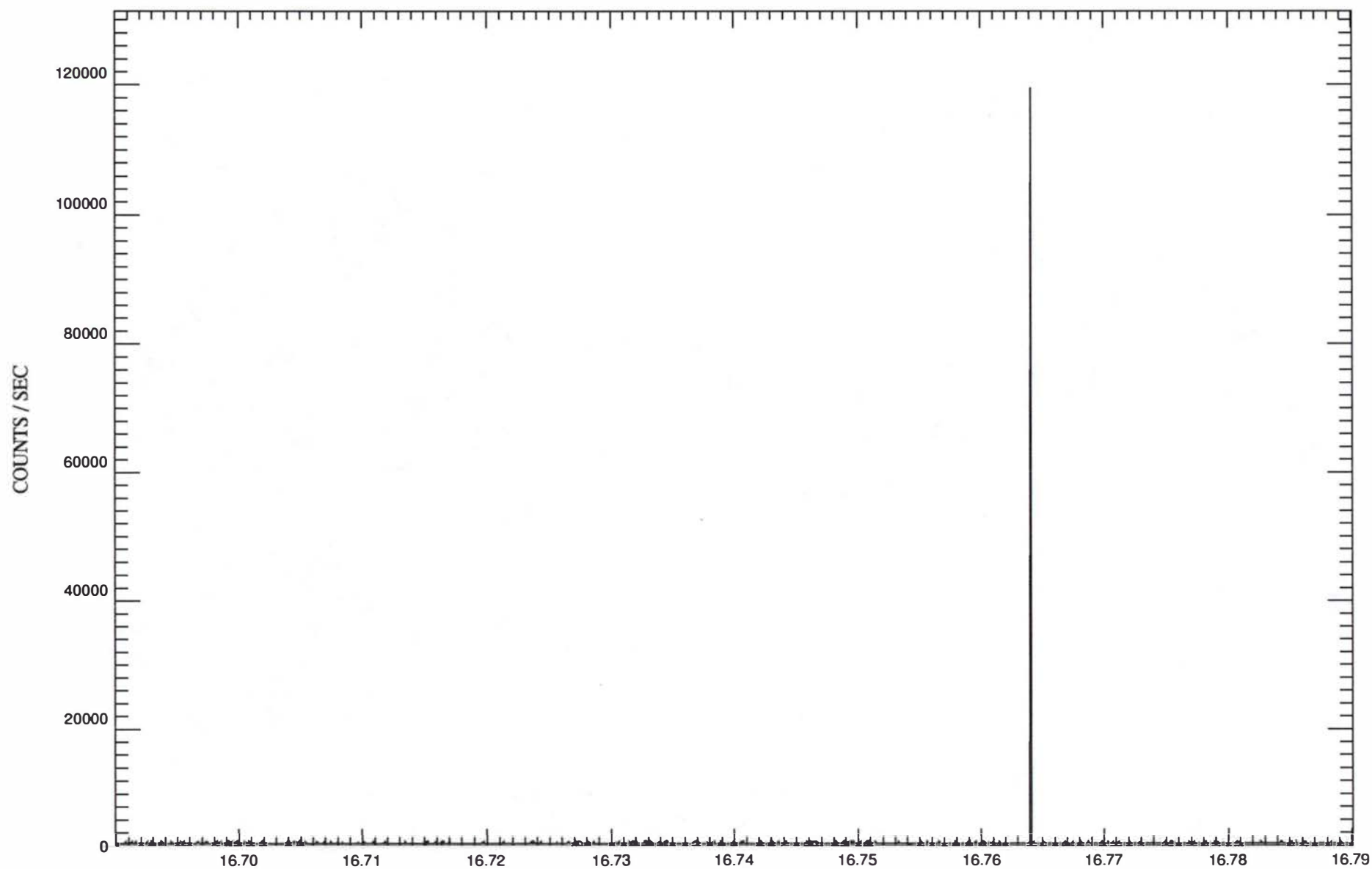


TIME, SECS

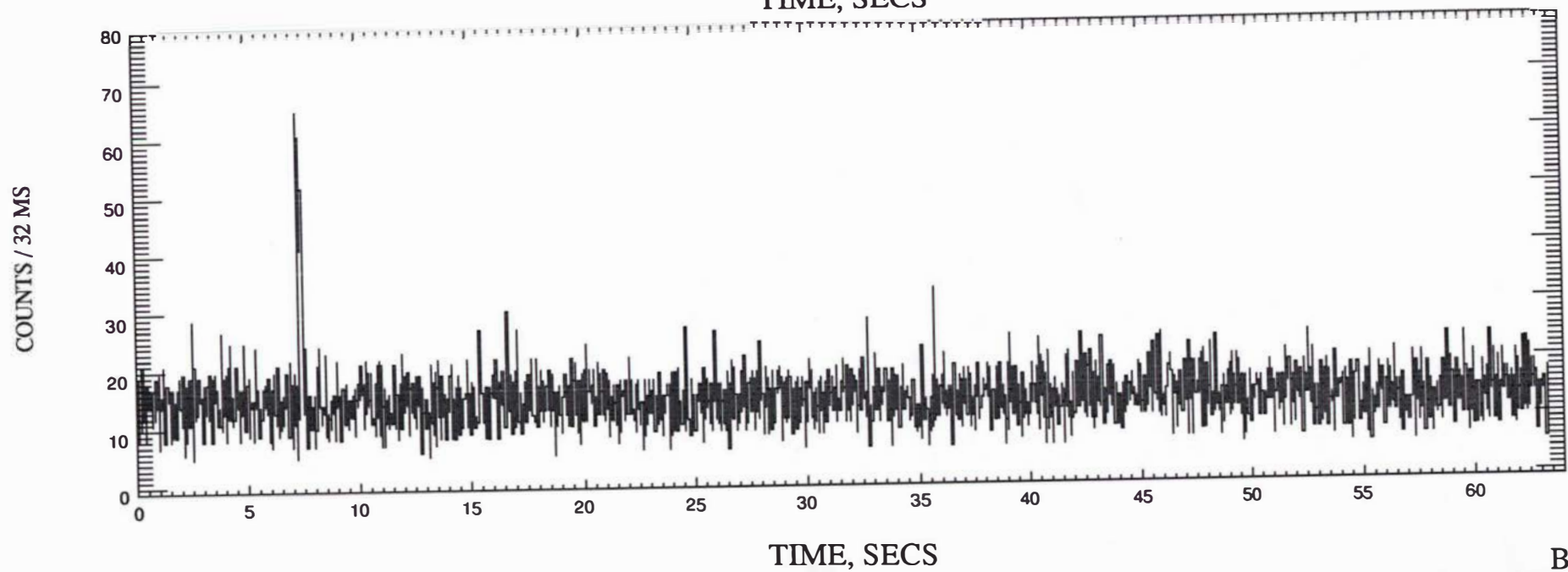
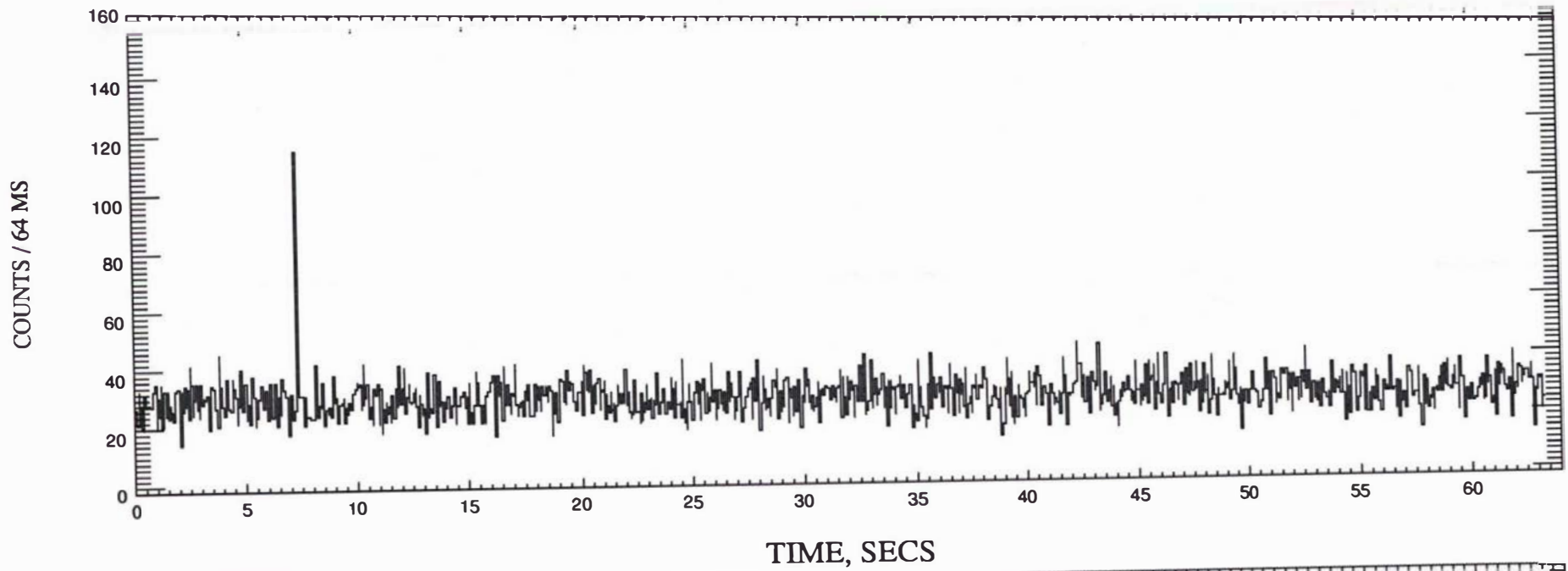


TIME, SECS

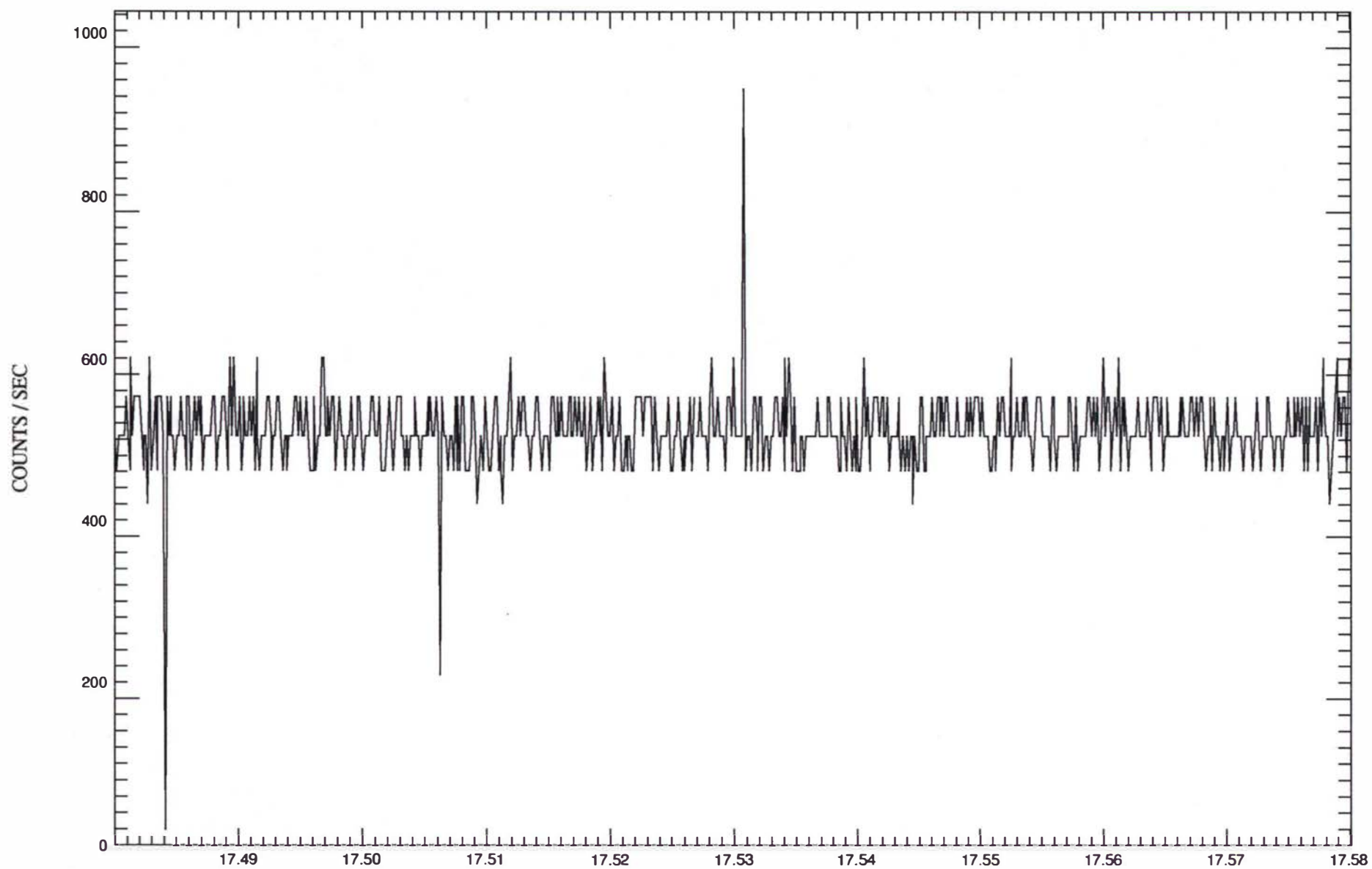
CALIBRATION DATA INCLUDED



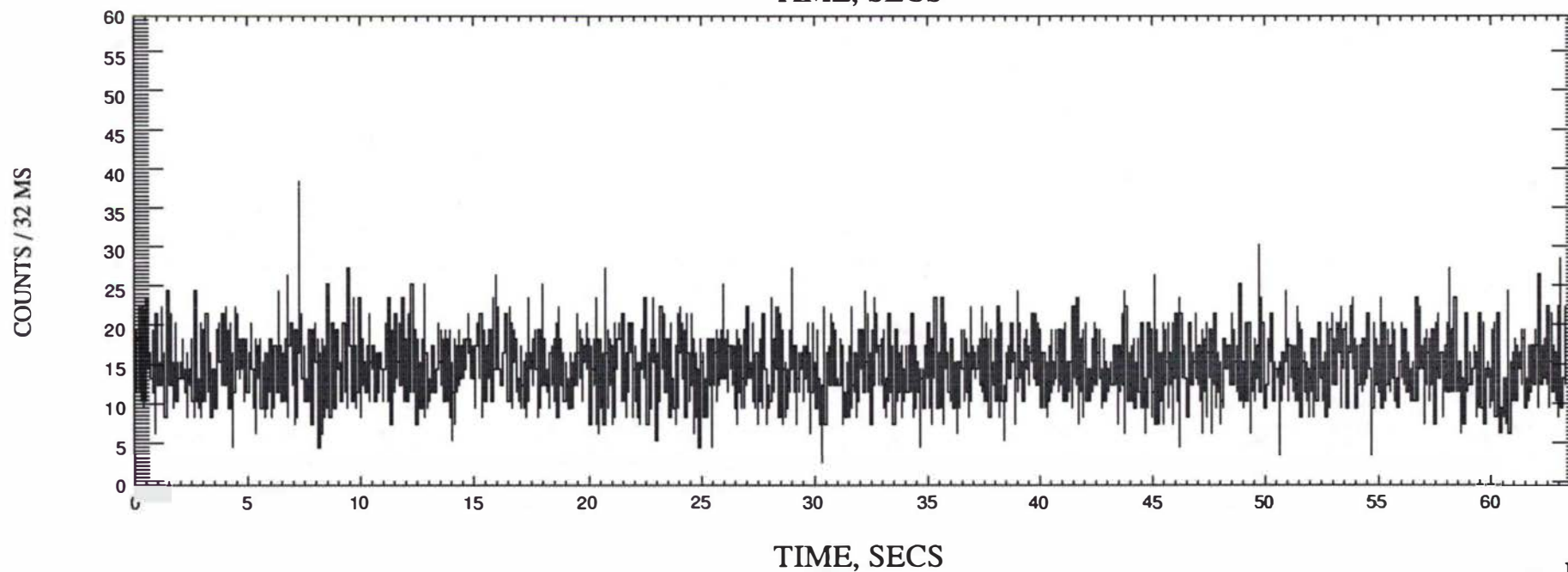
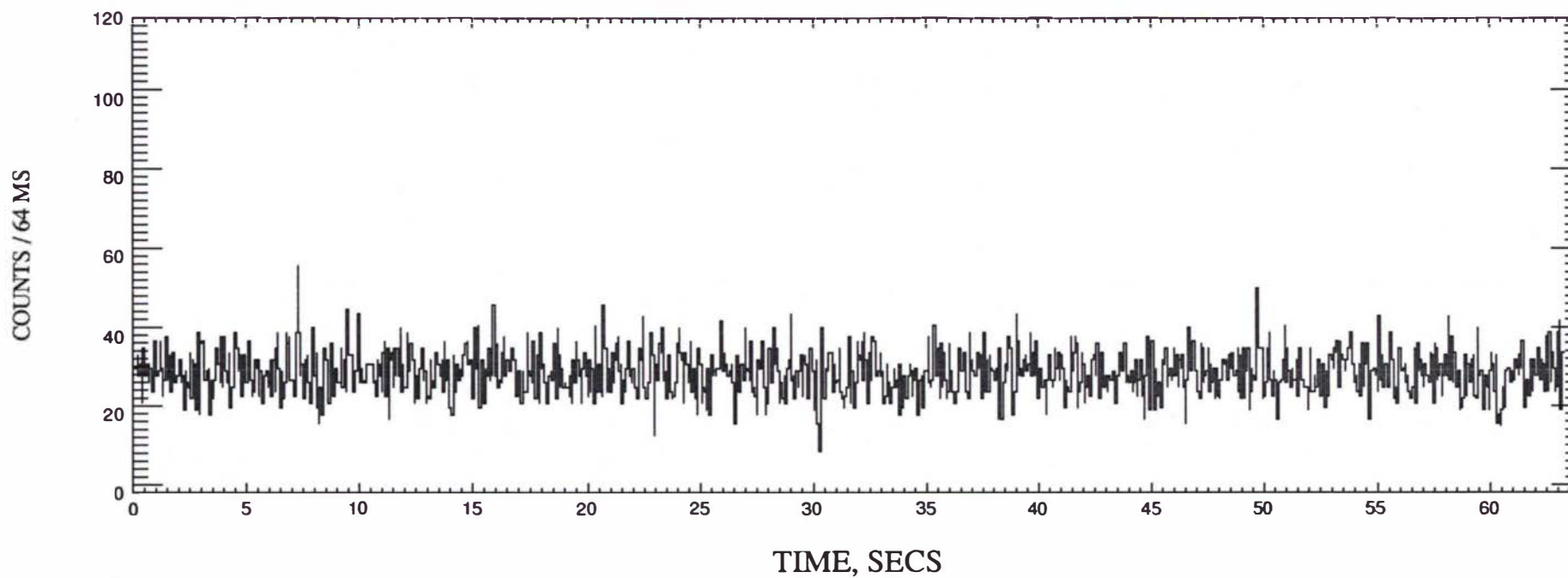
Burst Counter 14 at UT=17.530901260376 h=63111.245 s 17:31:51.245



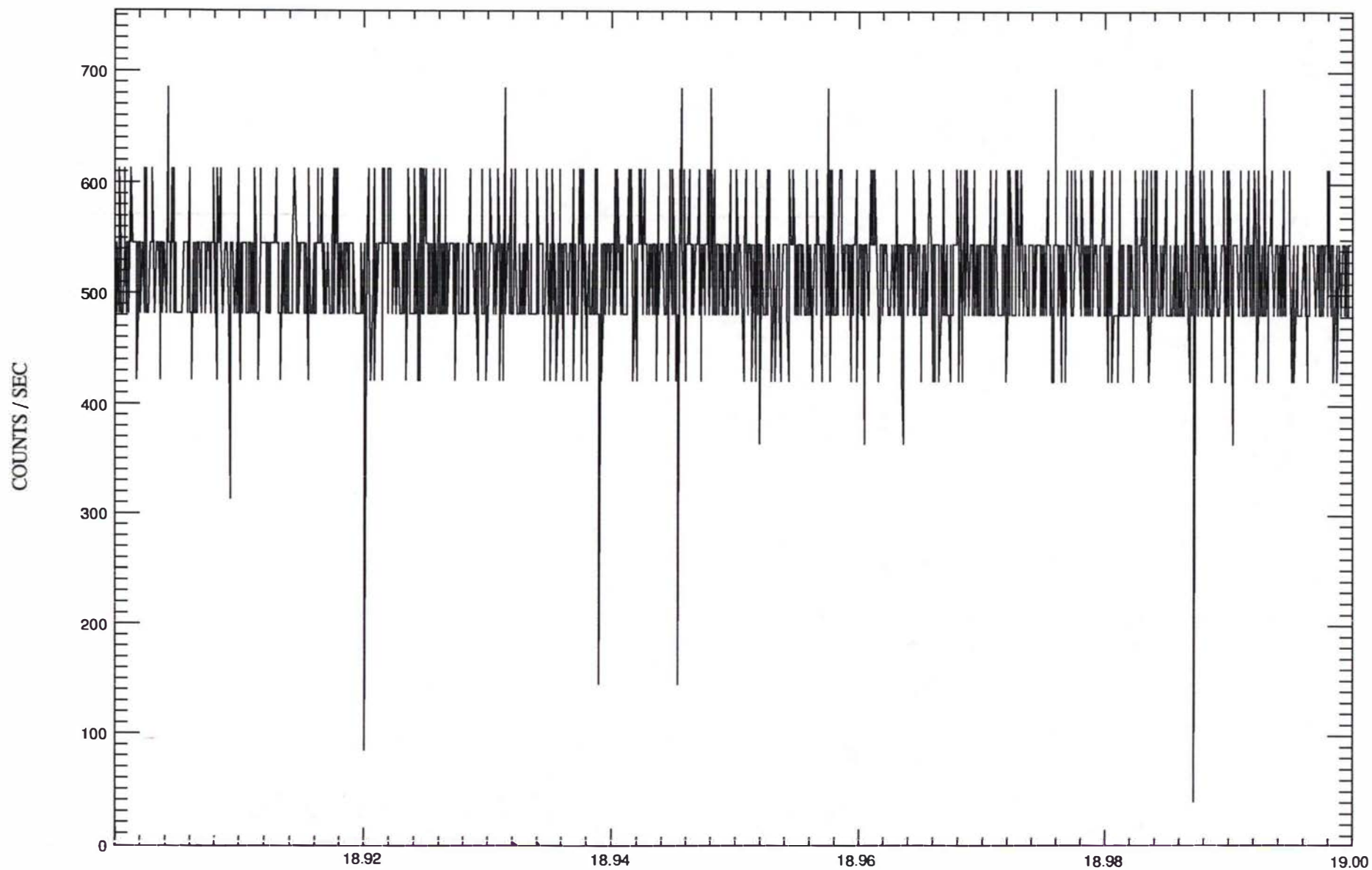
CALIBRATION DATA INCLUDED

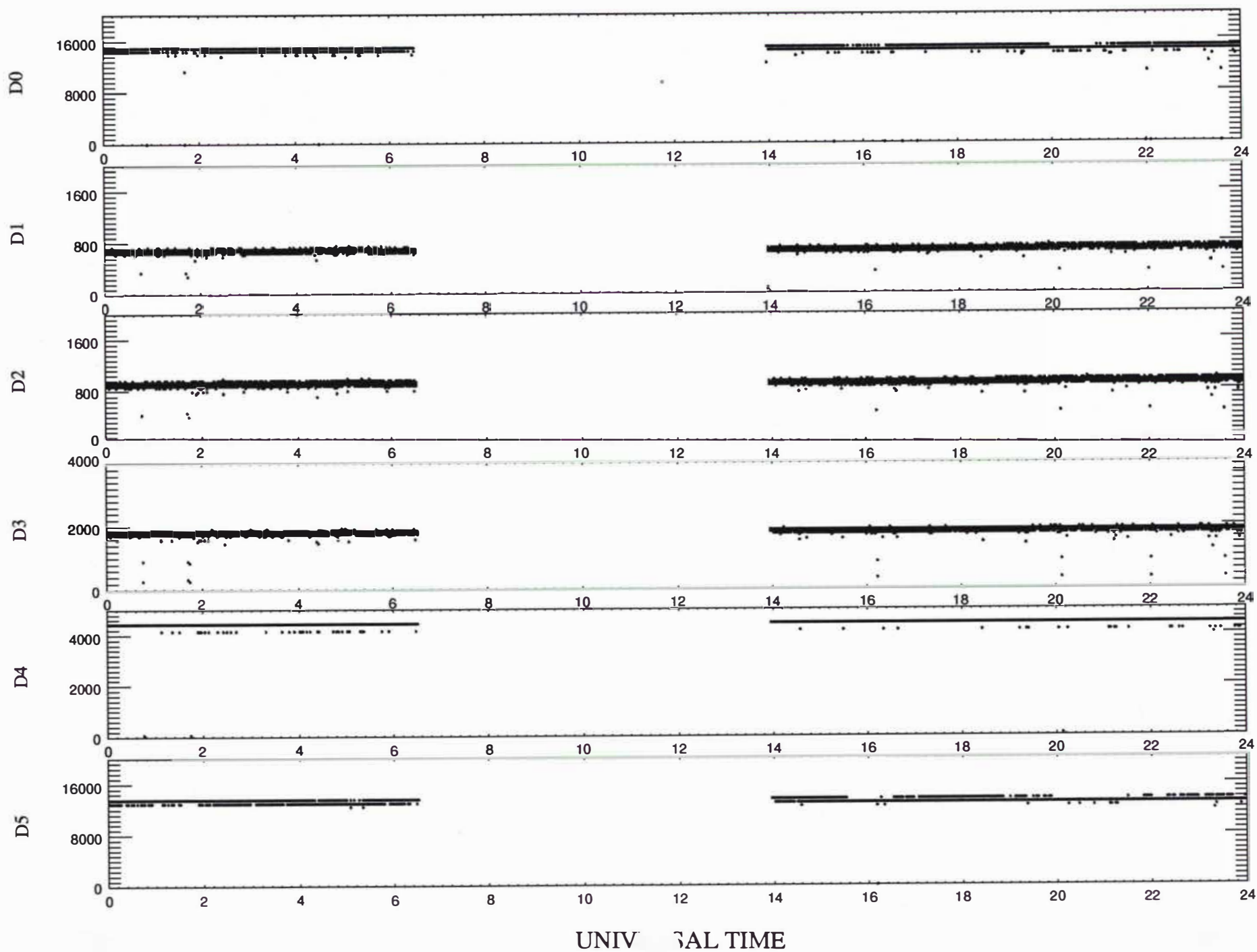


Burst Counter 15 at UT=18.945789621141 h=68204.843 s 18:56:44.843



CALIBRATION DATA INCLUDED





From HENZE@fender.msfc.nasa.gov Fri Sep 4 14:21:03 1998
Date: Fri, 4 Sep 1998 16:20:49 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7055

TIME: TJD=1058 SECONDS= 3952

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=121.1 AZIMUTH=142.9 ERROR= 4.3 DEGREES

COMMENTS:

SGR 1900+14. SINGLE PULSE, DUR. APPROX. 0.3 S. NOT VISIBLE ABOVE 100 KEV.

Trigger

Sep 2

From cline@apache.gsfc.nasa.gov Wed Sep 30 13:25 PDT 1998
Mime-Version: 1.0
Date: Wed, 30 Sep 1998 16:30:43 -0400
To: mazets@mz.ioffe.rssi.ru, golen@mz.ioffe.rssi.ru,
KHURLEY@sunspot.ssl.berkeley.edu
From: cline@apache.gsfc.nasa.gov (T L Cline)
Subject: Correction

Dear Evgeny, Sergei, and Kevin:

I may have sent an incorrect message, which I had lost before I finished it.

The message I mean to convey is that there are a number of sequel events to the giant 98 08 27 event, that I had overlooked in my being out of town and in my general preoccupation with other things during the last few weeks.

These events (may be no big deal, since SGRs are going off now all the time now) but may be interesting in that some seem to also have a periodicity.

These may include the following:

70684.449	8/28
83650.680	8/28
36994.068	8/29
65925.166	8/29
56858.156	8/31
69227.249	8/31
17656.387	9/01
62419.649	9/02 ← 17:20:10
7657.917	9/03
349.014	9/04
23131.249	9/05
etc.	
etc.	

64995.550 8/30 appears to be a GRB, however.

TLC

-- Thomas L. Cline ----- cline@apache.gsfc.nasa.gov

KONUS

19 / 2 / 99

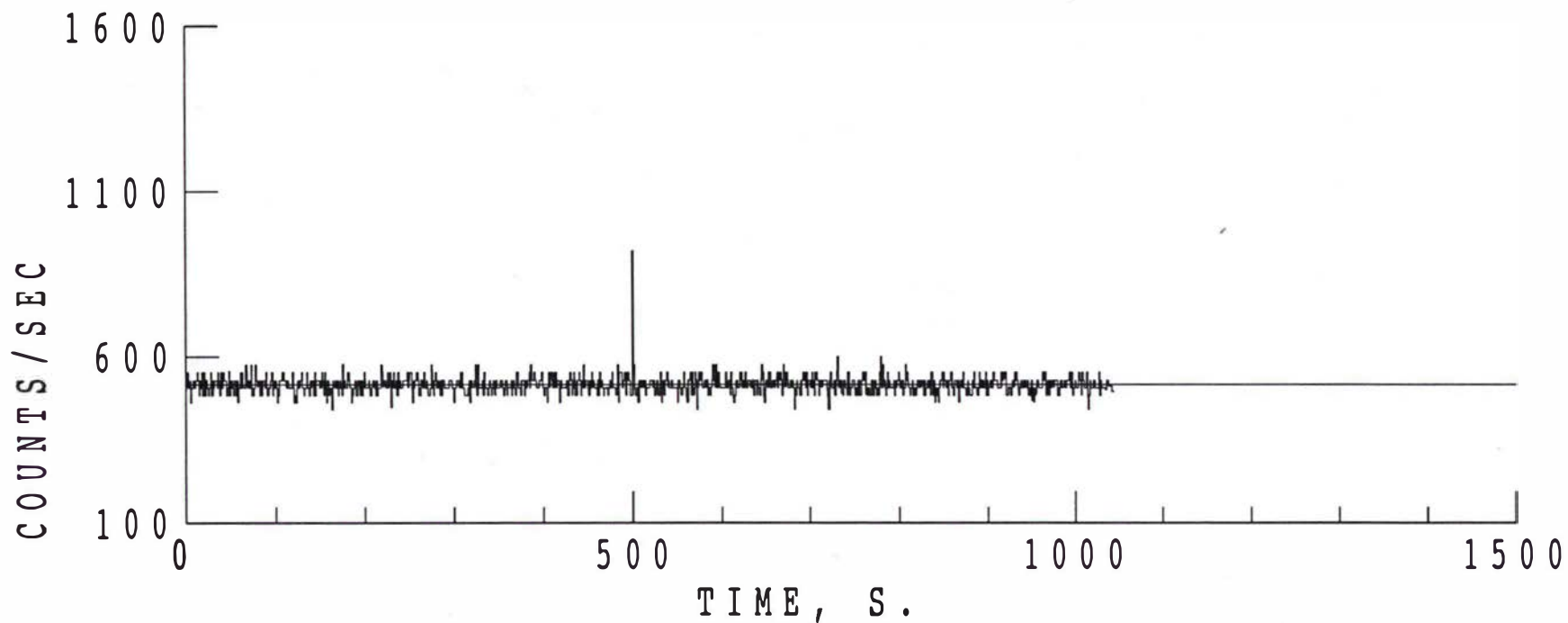
ULYSSES RT

2 / 9 / 98 63792.473 s

INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Fri Sep 4 14:25:59 1998
Date: Fri, 4 Sep 1998 16:25:46 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7056

TIME: TJD=1058 SECONDS=24533

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 2.5 AZIMUTH= 14.7 ERROR= 0.7 DEGREES

COMMENTS:

GOES C1.6, OPTICAL SF FLARE STARTED AT APPROX. T-15 MIN (ALL IN DAYLIGHT).
SINGLE PULSE, STARTS AT APPROX. T-15 S, DUR. APPROX. 35 S. NOT VISIBLE ABOVE
100 KEV.

From HENZE@fender.msfc.nasa.gov Fri Sep 4 14:28:53 1998
Date: Fri, 4 Sep 1998 16:28:30 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lhev.gsfc.nasa.gov, barthelmy@lhev.gsfc.nasa.gov,
bacodine@lhev.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhev.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7057

TIME: TJD=1058 SECONDS=26629
07:23:49

Sep 2

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=122.4 AZIMUTH=142.1 ERROR= 2.0 DEGREES

COMMENTS:

SGR 1900+14. FOUR SPIKES, TOTAL DUR. APPROX. 1.6 S.
NOT VISIBLE ABOVE 100 KEV.

From HENZE@fender.msfc.nasa.gov Fri Sep 4 14:57:07 1998
Date: Fri, 4 Sep 1998 16:32:03 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7058

TIME: TJD=1058 SECONDS=54323

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 3.5 AZIMUTH=100.3 ERROR= 2.6 DEGREES

COMMENTS:

GOES C2.2, OPTICAL SF FLARE. TWO PULSES, MAXES AT APPROX. T, T+41 S. TOTAL
DUR. GREATER THAN OR APPROX. 65 S. WEAKLY VISIBLE ABOVE 50 KEV.

From HENZE@fender.msfc.nasa.gov Fri Sep 4 14:56:58 1998
Return-Path: <HENZE@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id OAA18065; Fri, 4 Sep 1998 14:56:41 -0700
From: HENZE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id OAA02330; Fri, 4 Sep 1998 14:56:37 -0700
Date: Fri, 4 Sep 1998 16:37:30 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980904163730.20232a9d@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7059
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7059
EVENT OF 1998 SEP 2 DAY OF YEAR=245
EVENT CROSSING TIME AT BATSE : 59752. S. OR 16:35:52.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 284.000 25.000
BATSE PEAK COUNTING RATE: 5500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 2/ 9/ 98 IS:
RA= 158.637 DEC= 3.765 DIST= 6.353 AU
BATSE-ULYSSES DISTANCE = 950372158. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 60.29 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1571.26 SECS.
CROSSING TIME AT ULYSSES IS 61323. S. OR 17:02:03 +/- 551.88 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 2/ 9/ 98 IS:
RA= 130.527 DEC= 19.352 DIST= 2.384 AU
MARS-BATSE DISTANCE = 356608768. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 51.31 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 743.50 SECS.
CROSSING TIME AT MARS IS 60496. S. OR 16:48:15 +/- 172.50 SECONDS

BATSE BURST TRIGGER

NO.: 7059

TIME: TJD=1058 SECONDS=59752

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=114.9 AZIMUTH=158.4 ERROR= 2.2 DEGREES

COMMENTS:

SINGLE PULSE, DUR. APPROX. 6 S. VISIBLE ABOVE 300 KEV.

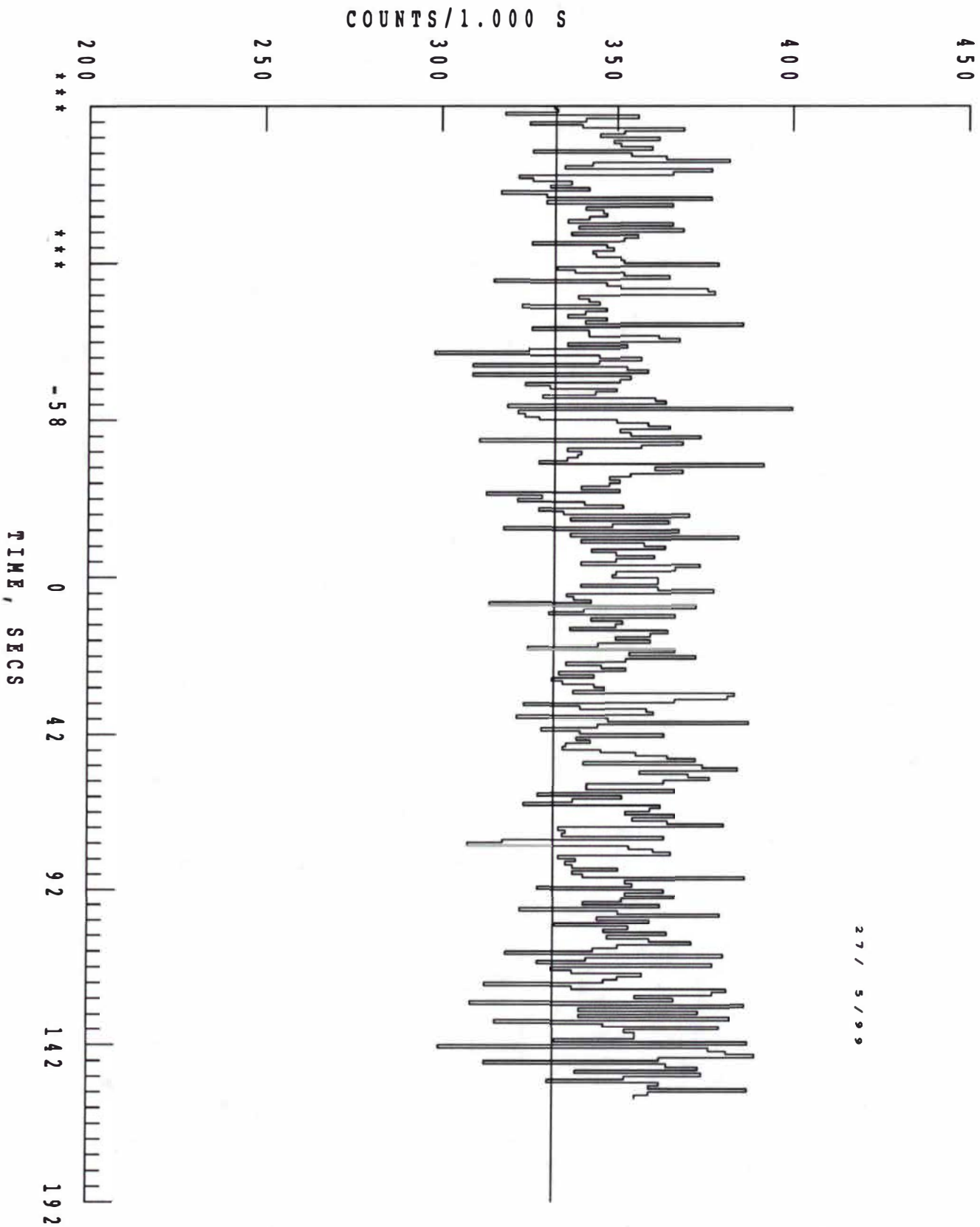
BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7059	980902	11058	59752	5500	284	+25	6

NEAR

02/09/98

59445.034

100-1000 keV



BATSE BURST# 7059

ULYSSES RT

19 / 2 / 99

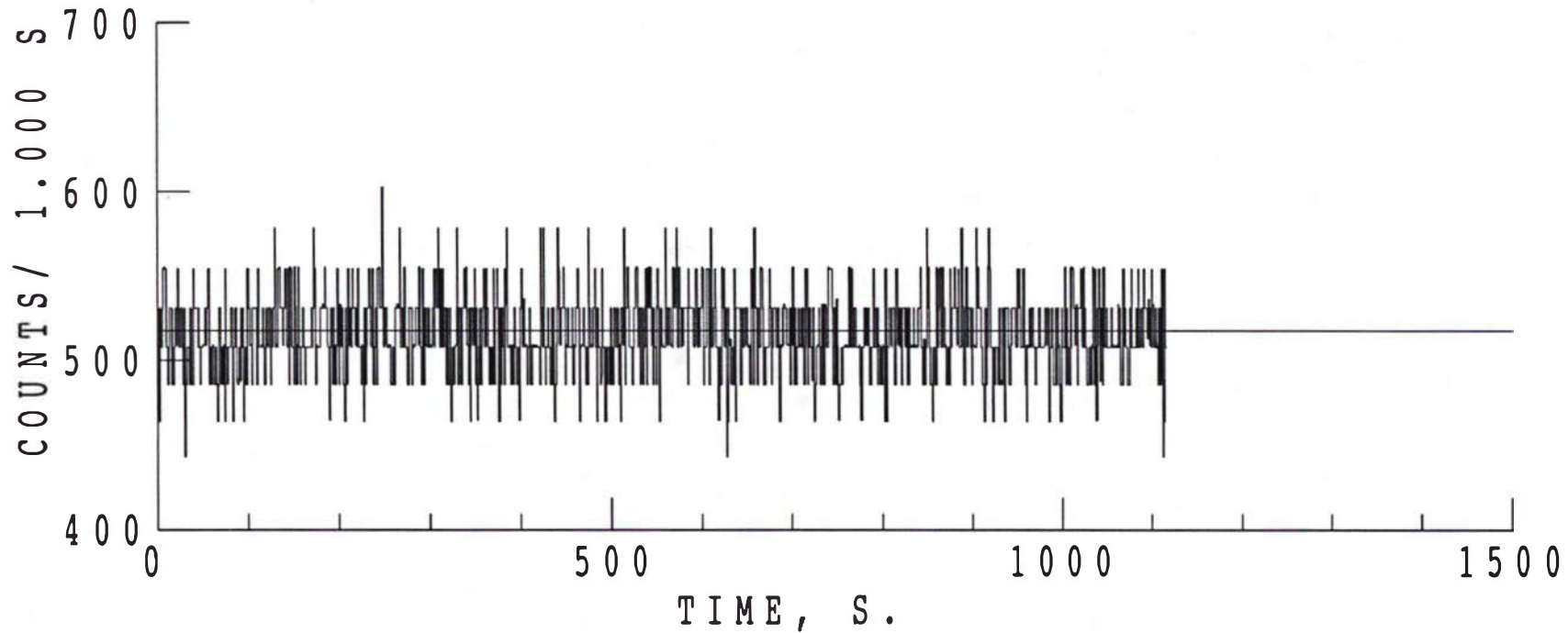
2 / 9 / 98 60768.441 s

0.500 S INTERVALS REGROUPED BY 2

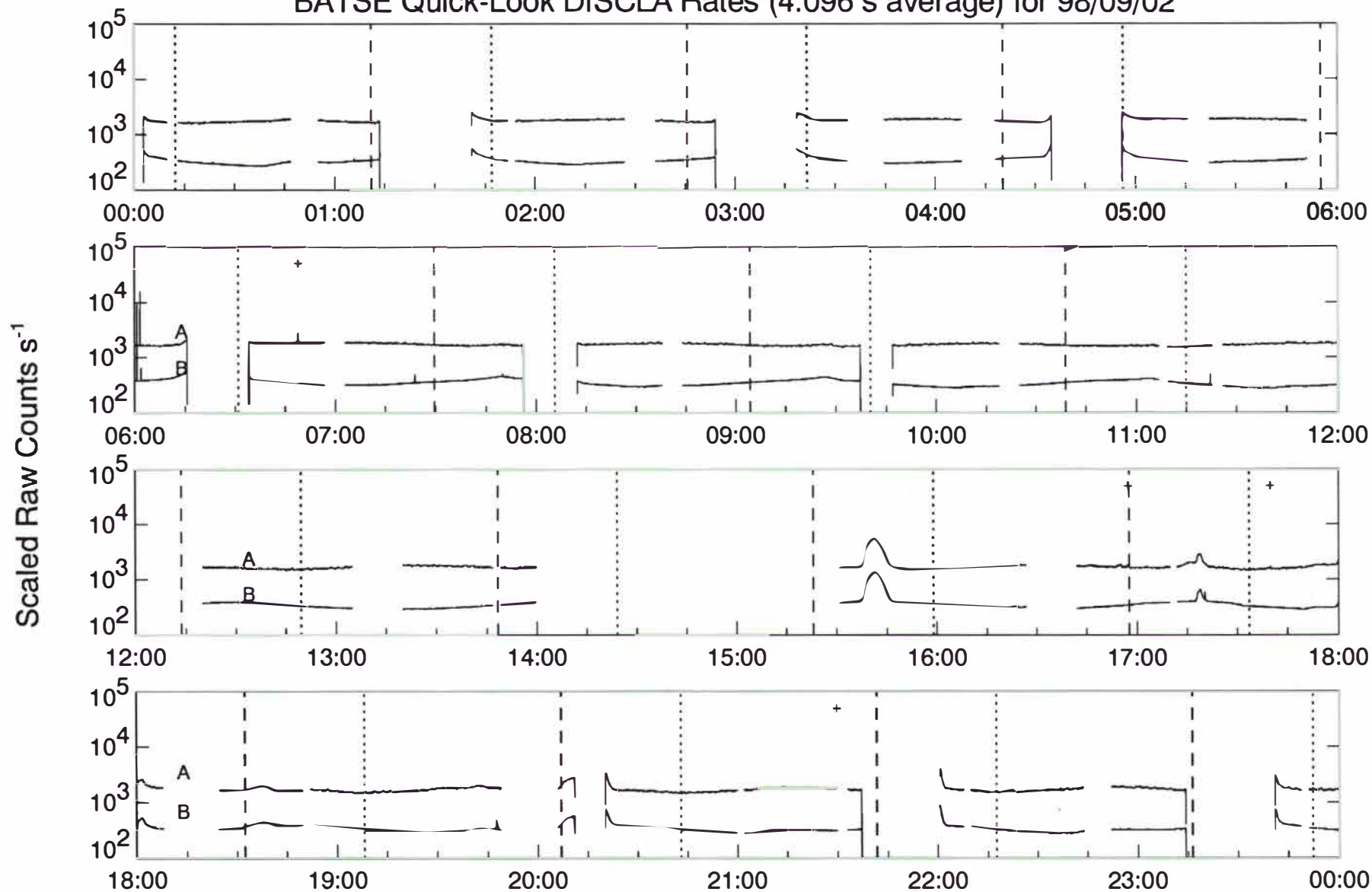
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/09/02

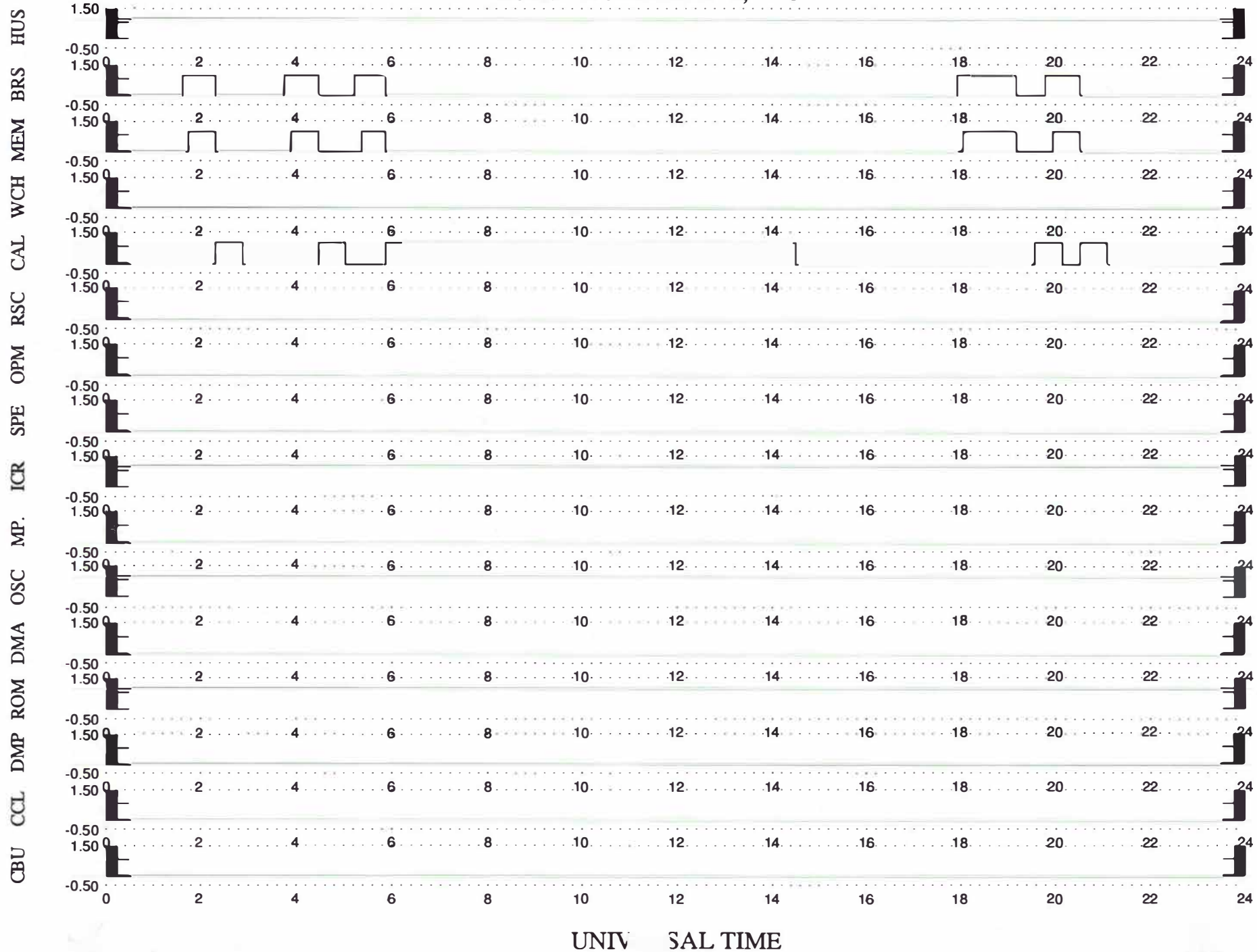


Current Time: 98/09/06, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

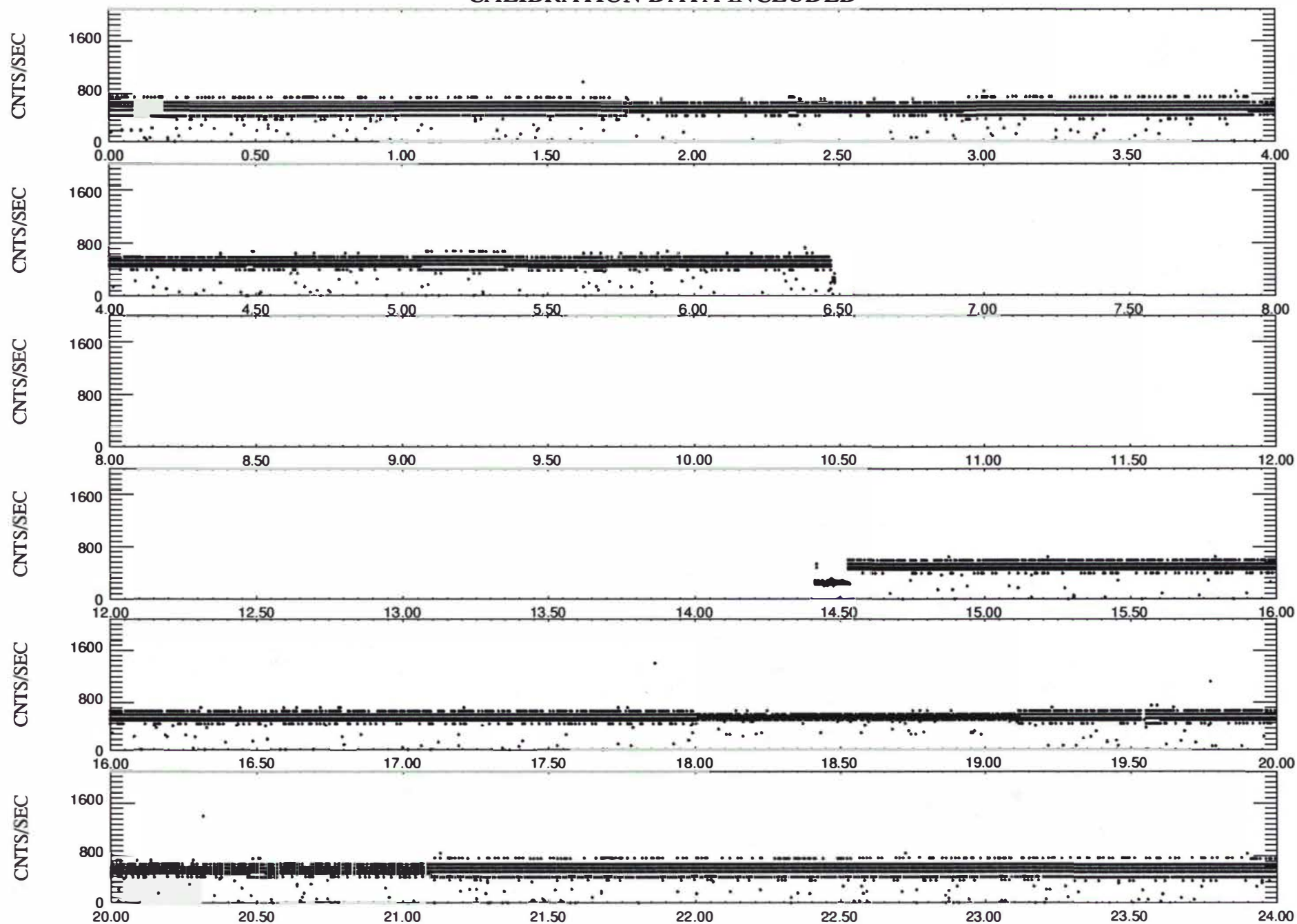
Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

BURST NUMBER 0 - 2, 4 - 6

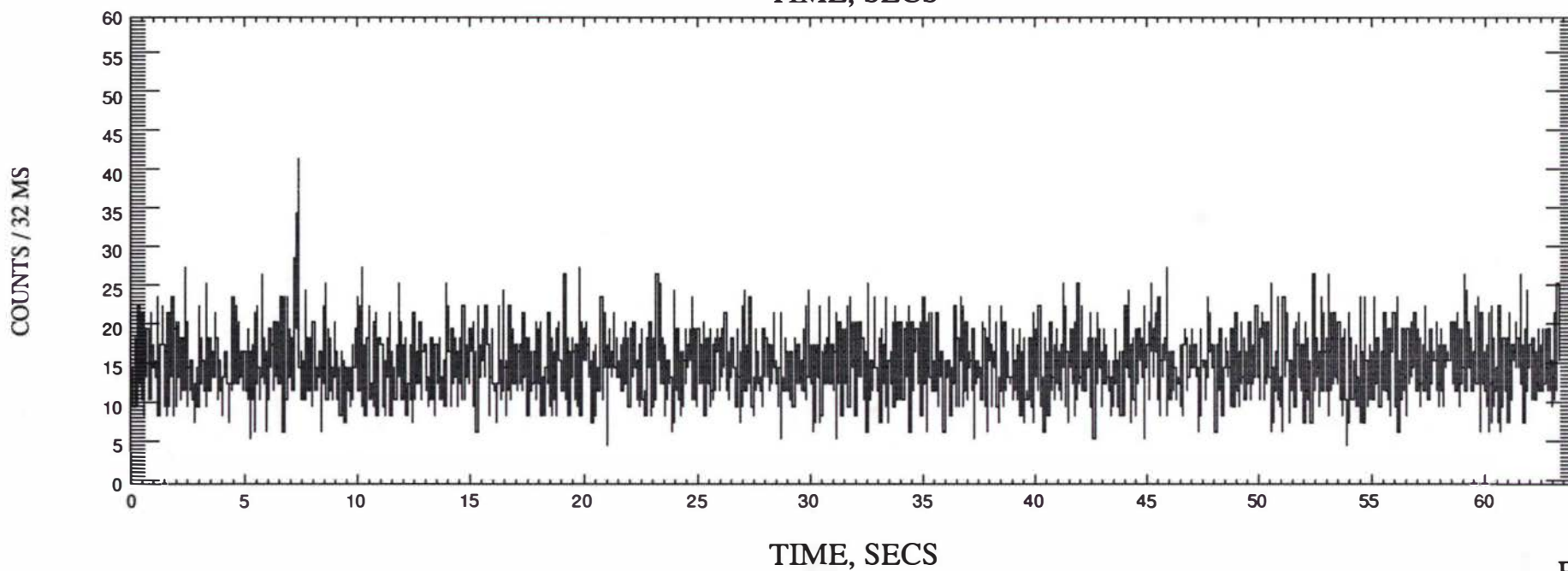
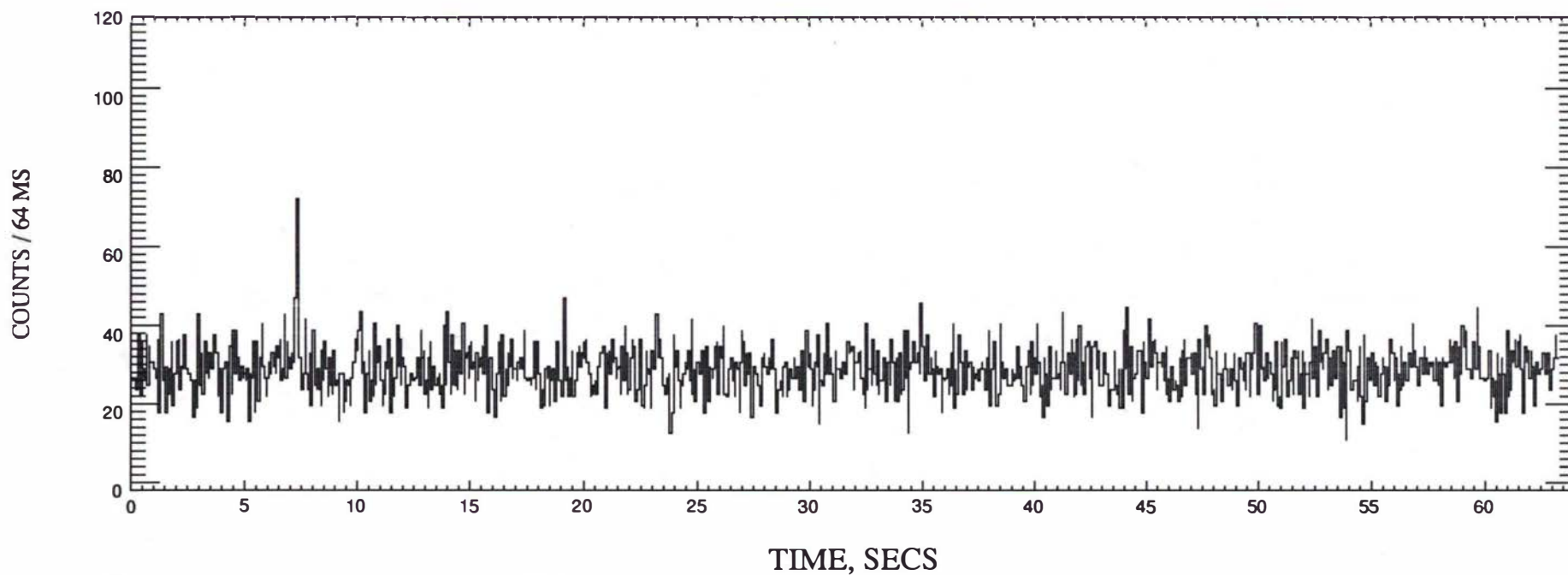


CALIBRATION DATA INCLUDED

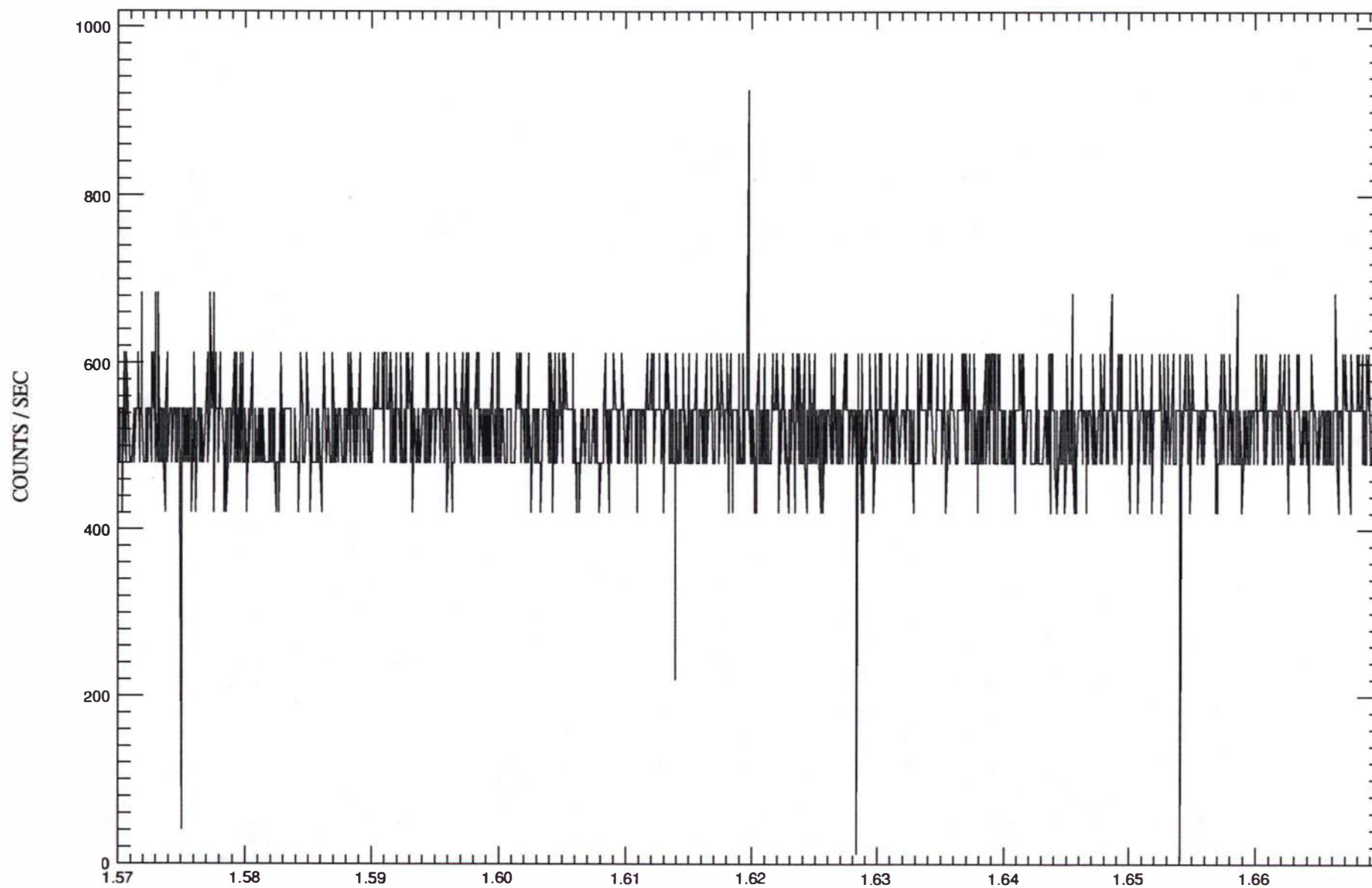


UNIV SAL TIME

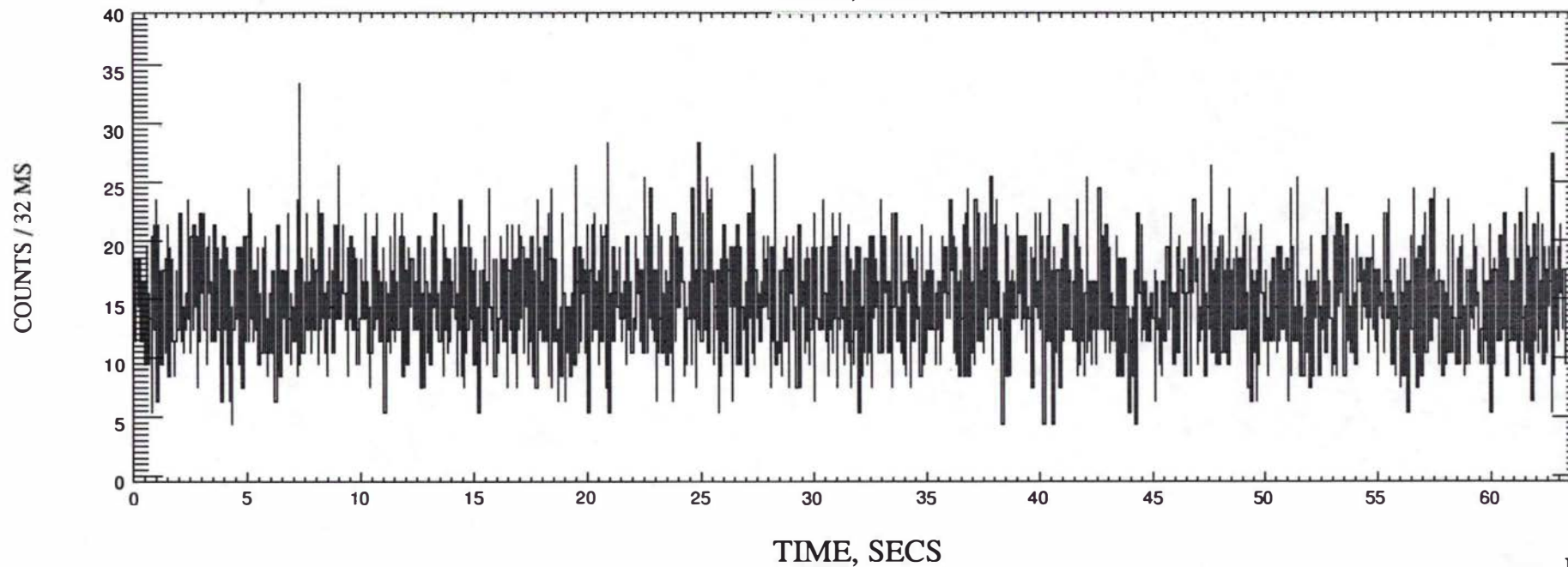
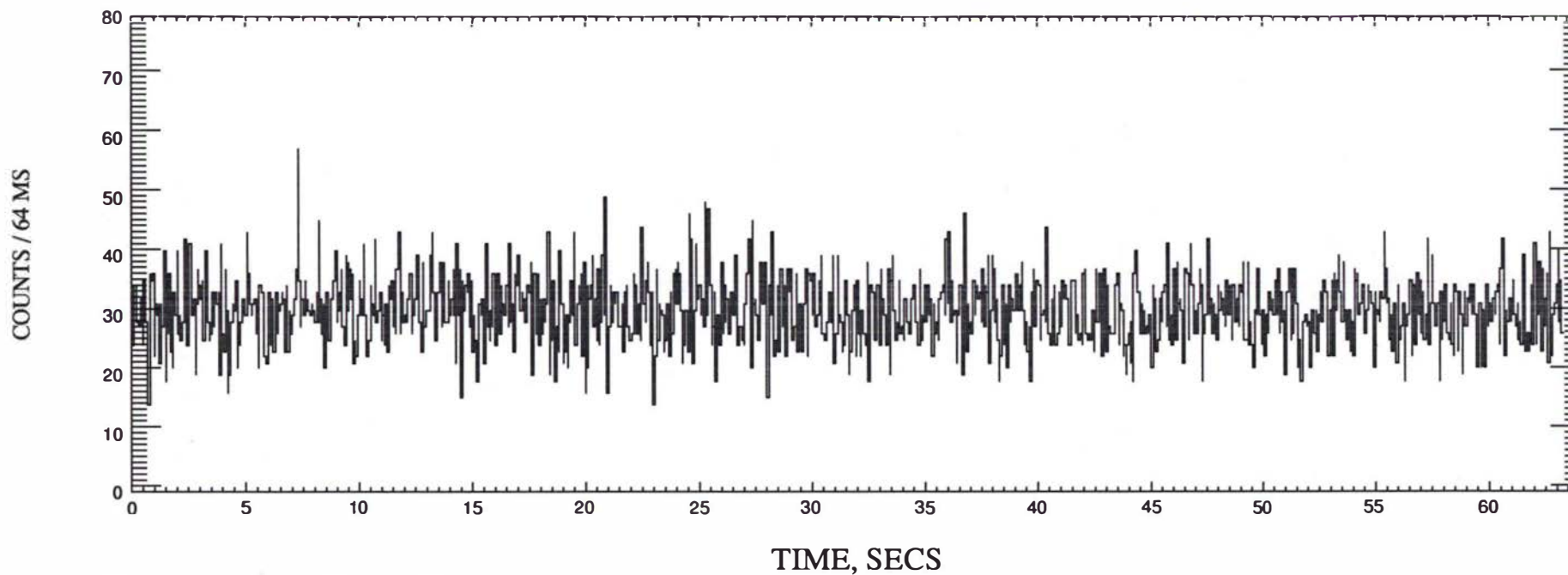
Burst Counter 0 at UT= 1.619853066338 h= 5831.471 s 01:37:11.471



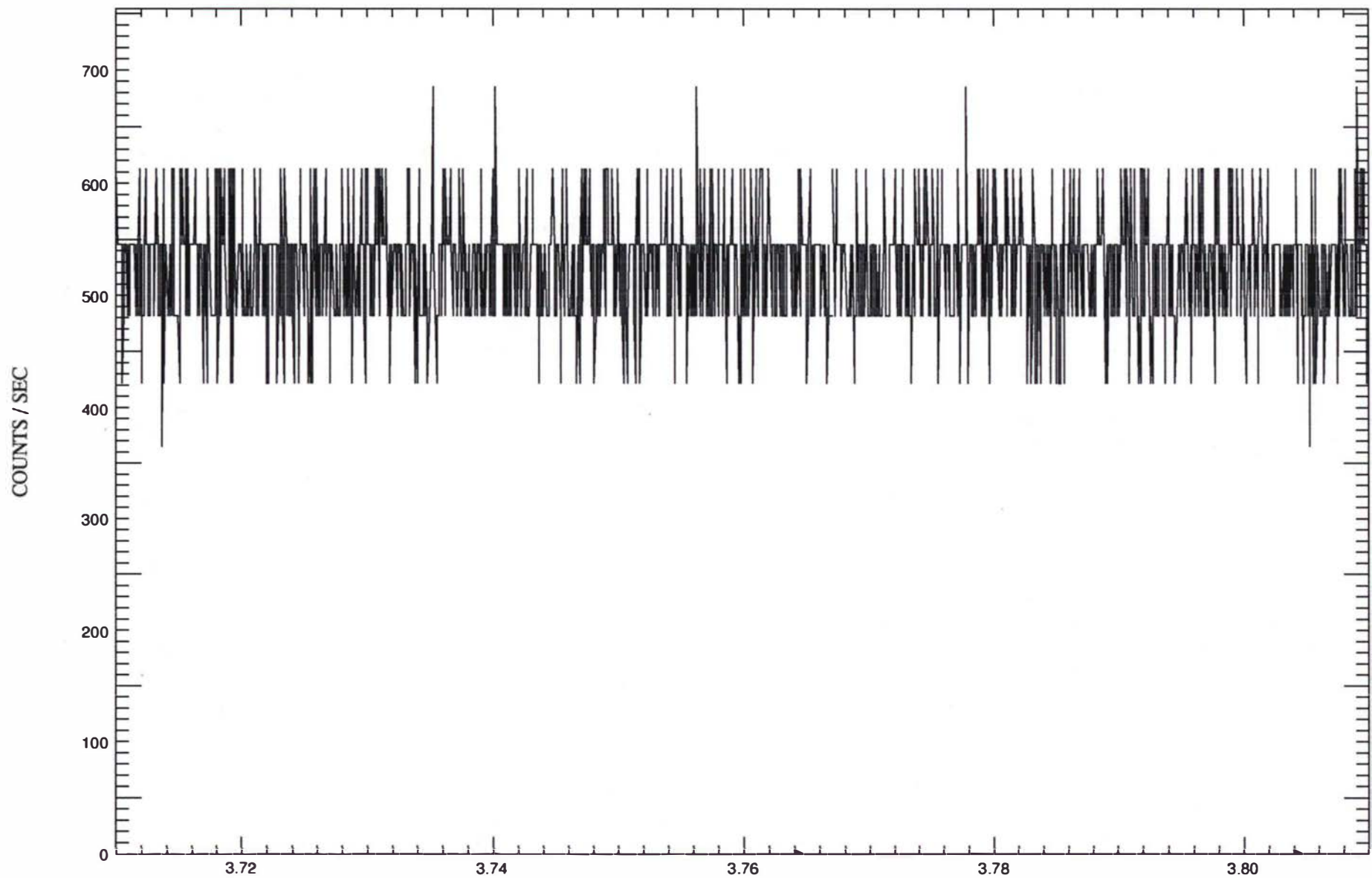
CALIBRATION DATA INCLUDED



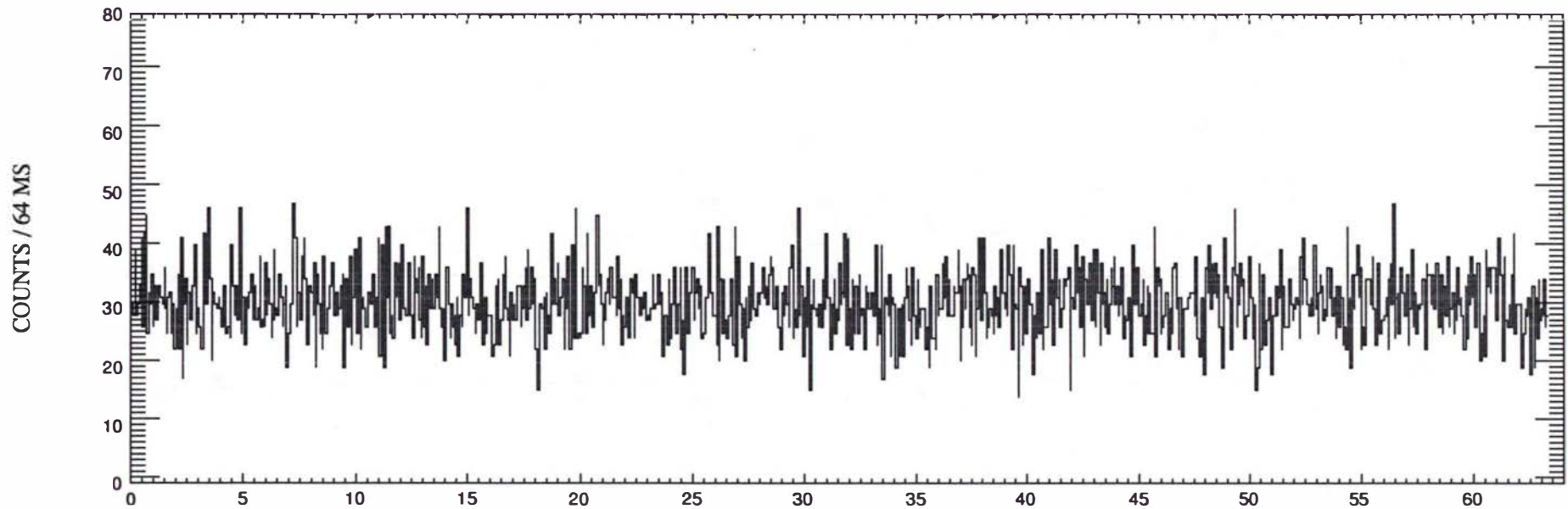
Burst Counter 1 at UT= 3.756507475111 h=13523.427 s 03:45:23.427



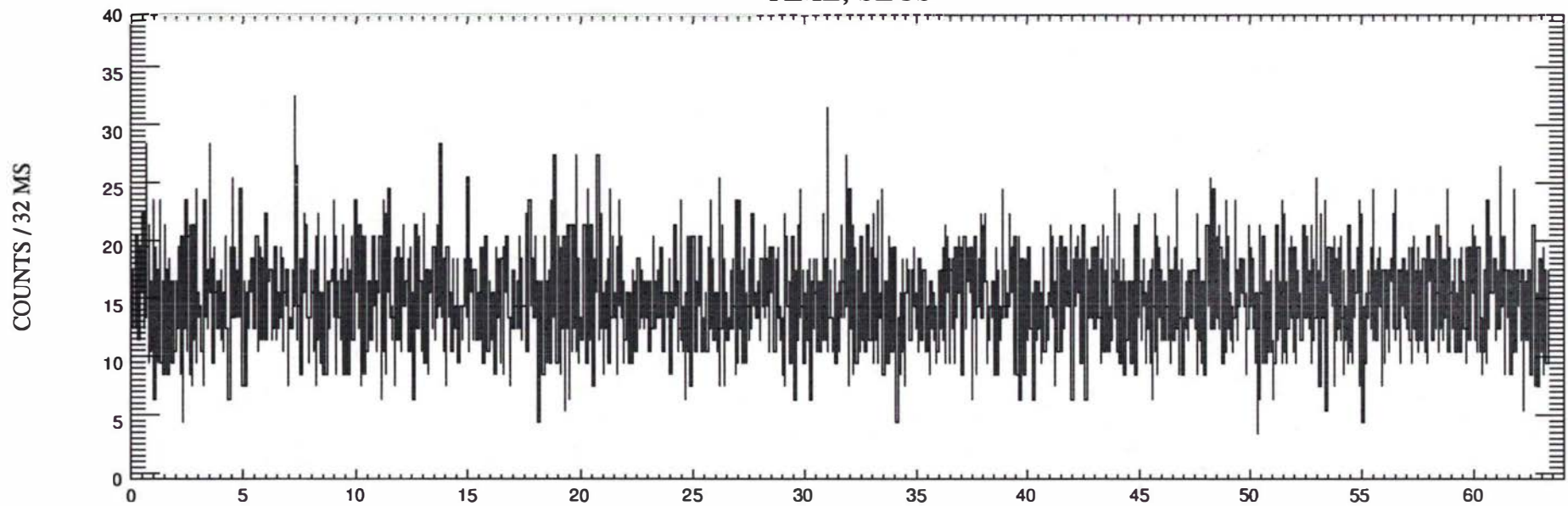
CALIBRATION DATA INCLUDED



Burst Counter 2 at UT= 5.200657318963 h=18722.366 s 05:12:02.366

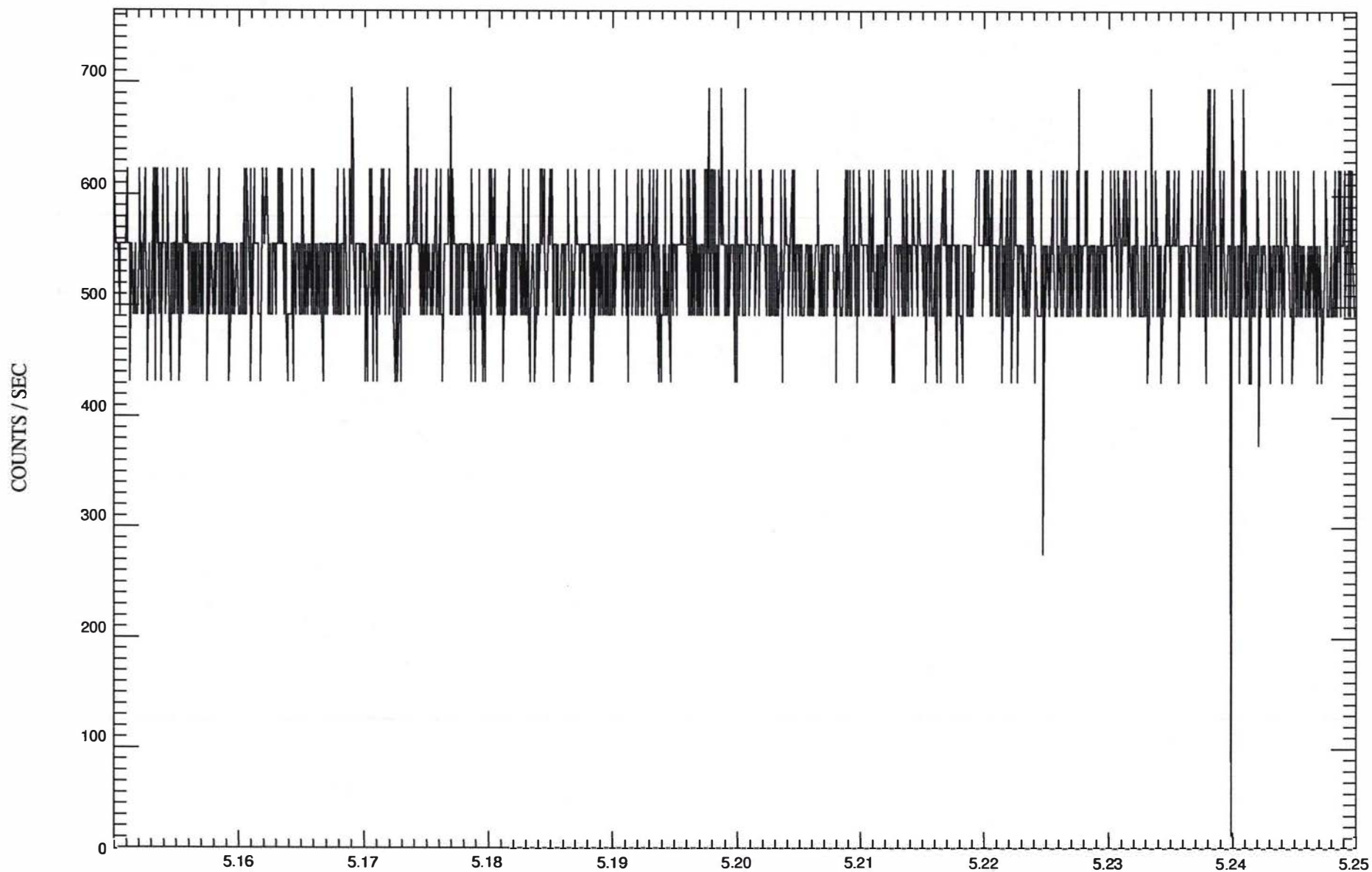


TIME, SECS

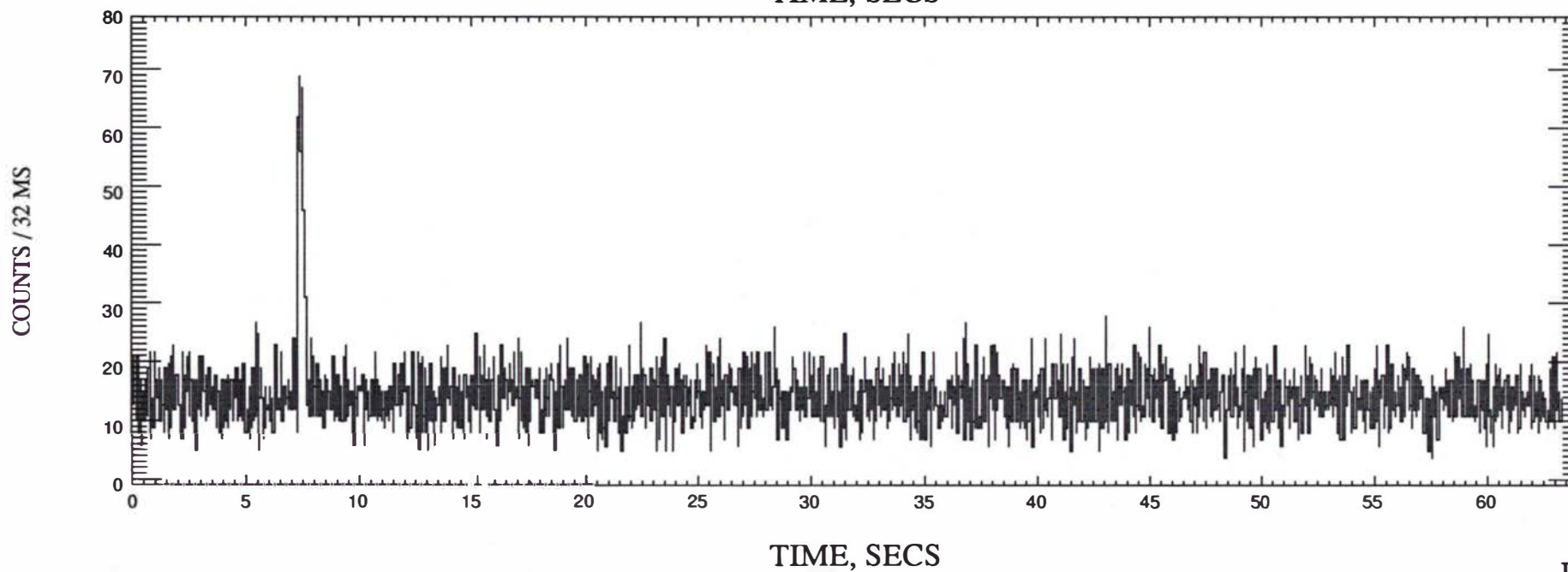
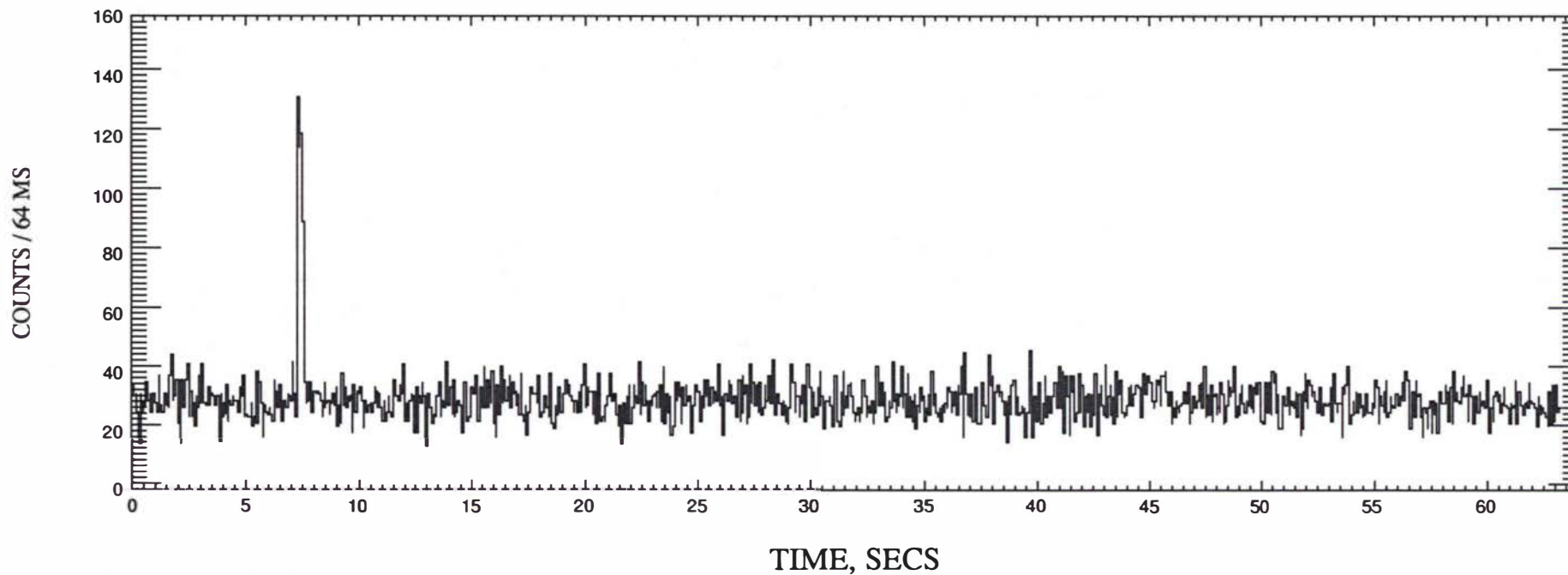


TIME, SECS

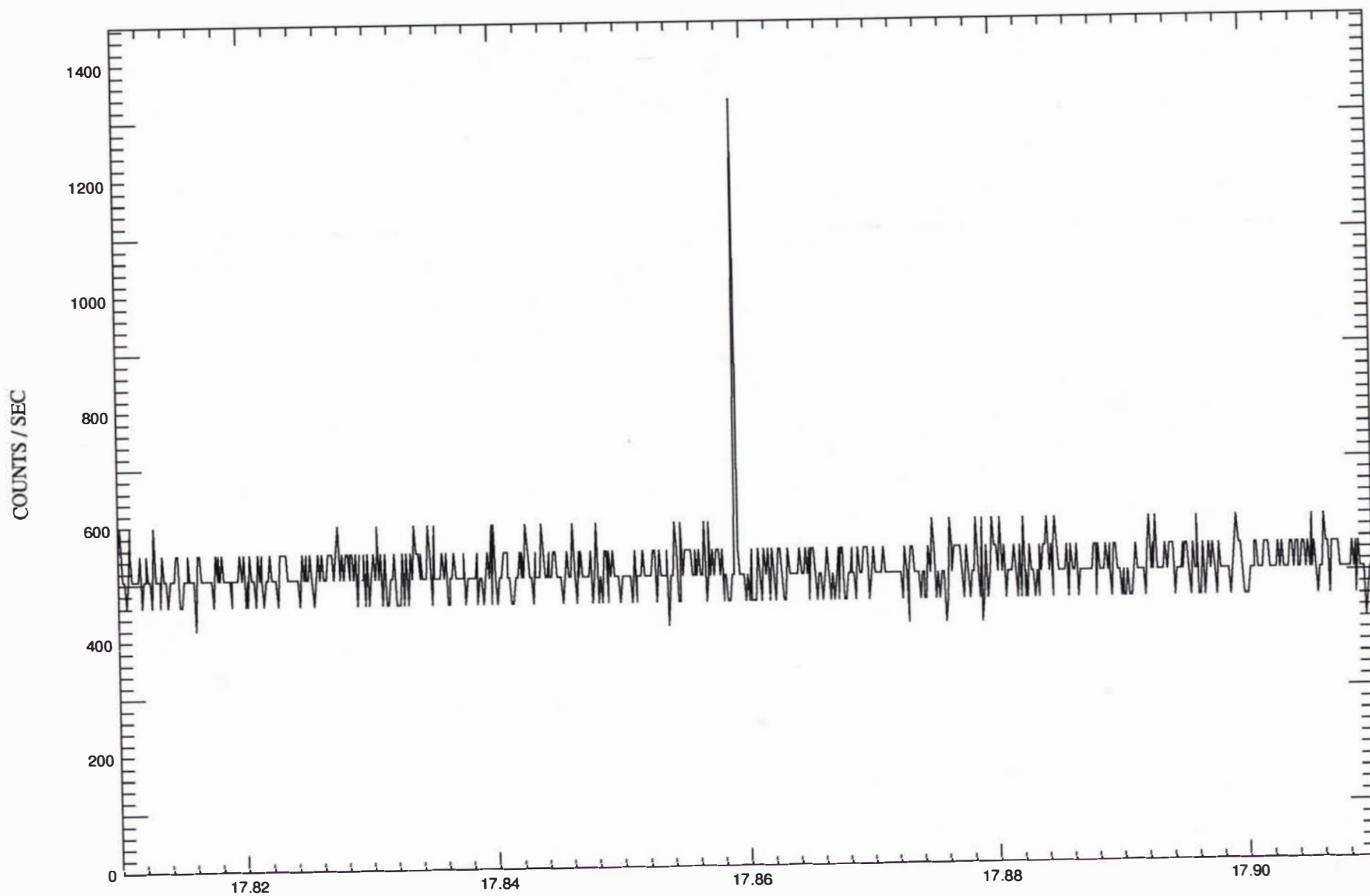
CALIBRATION DATA INCLUDED



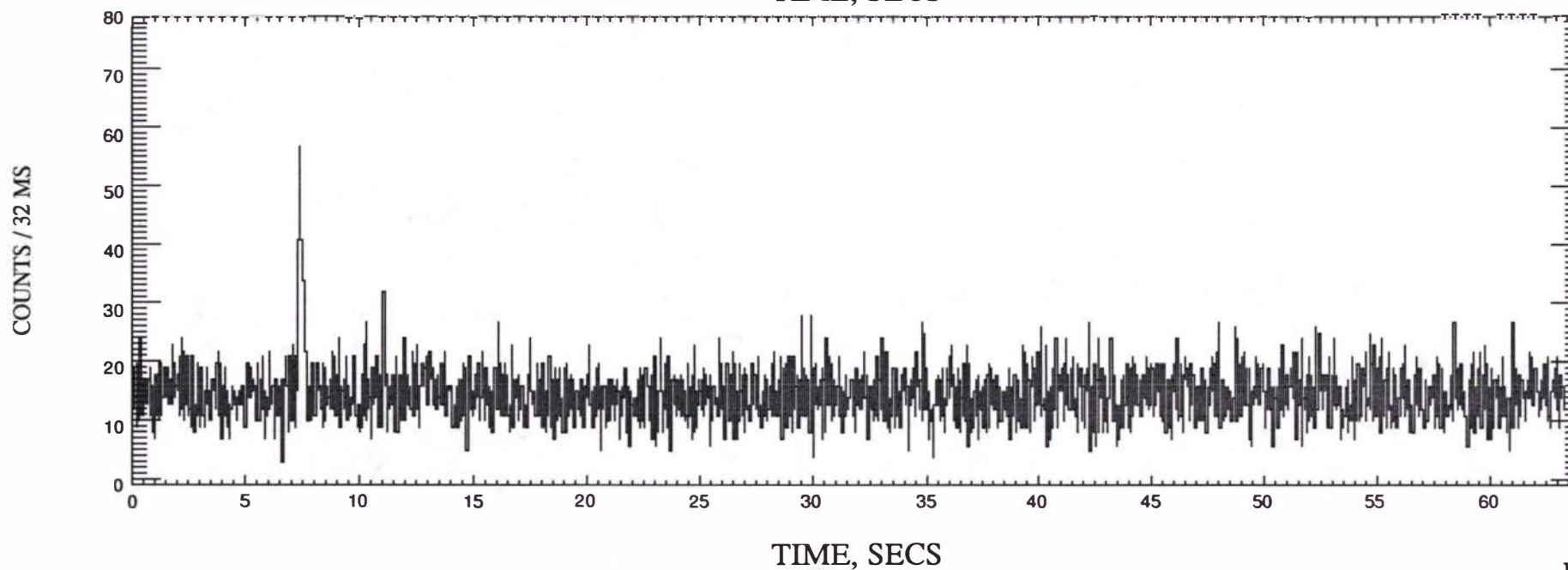
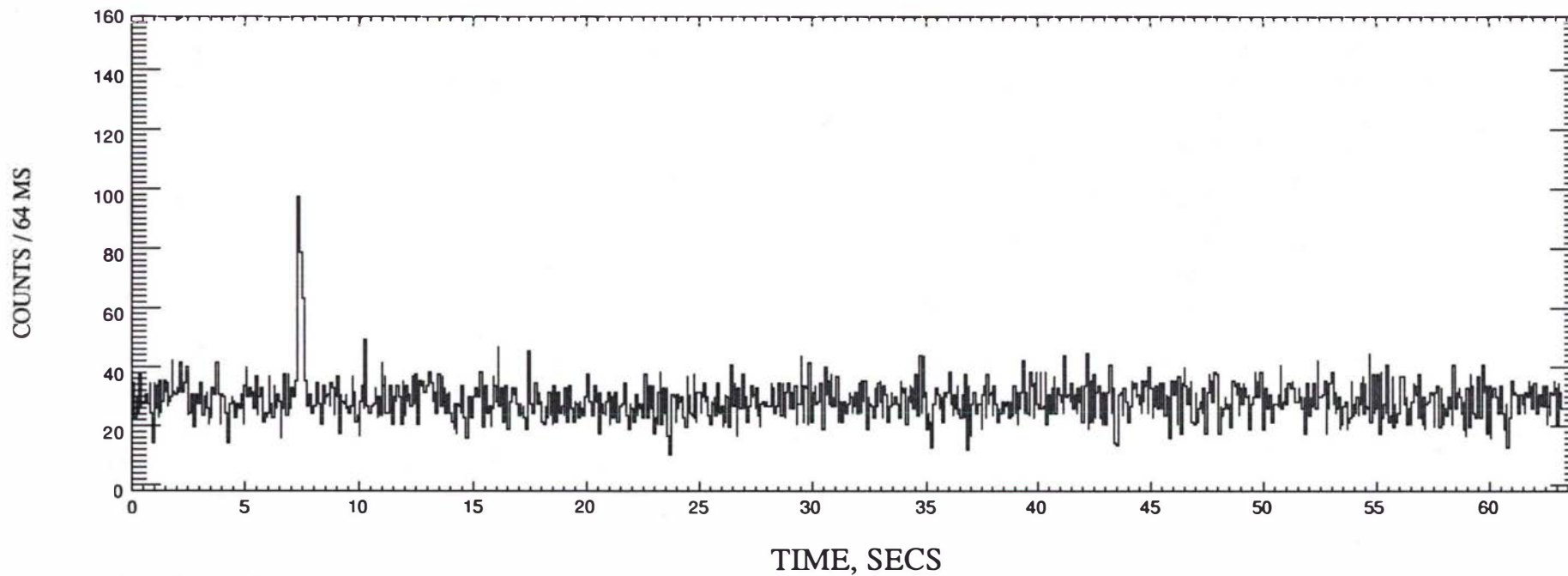
Burst Counter 5 at UT=17.859222085741 h=64293.200 s 17:51:33.200



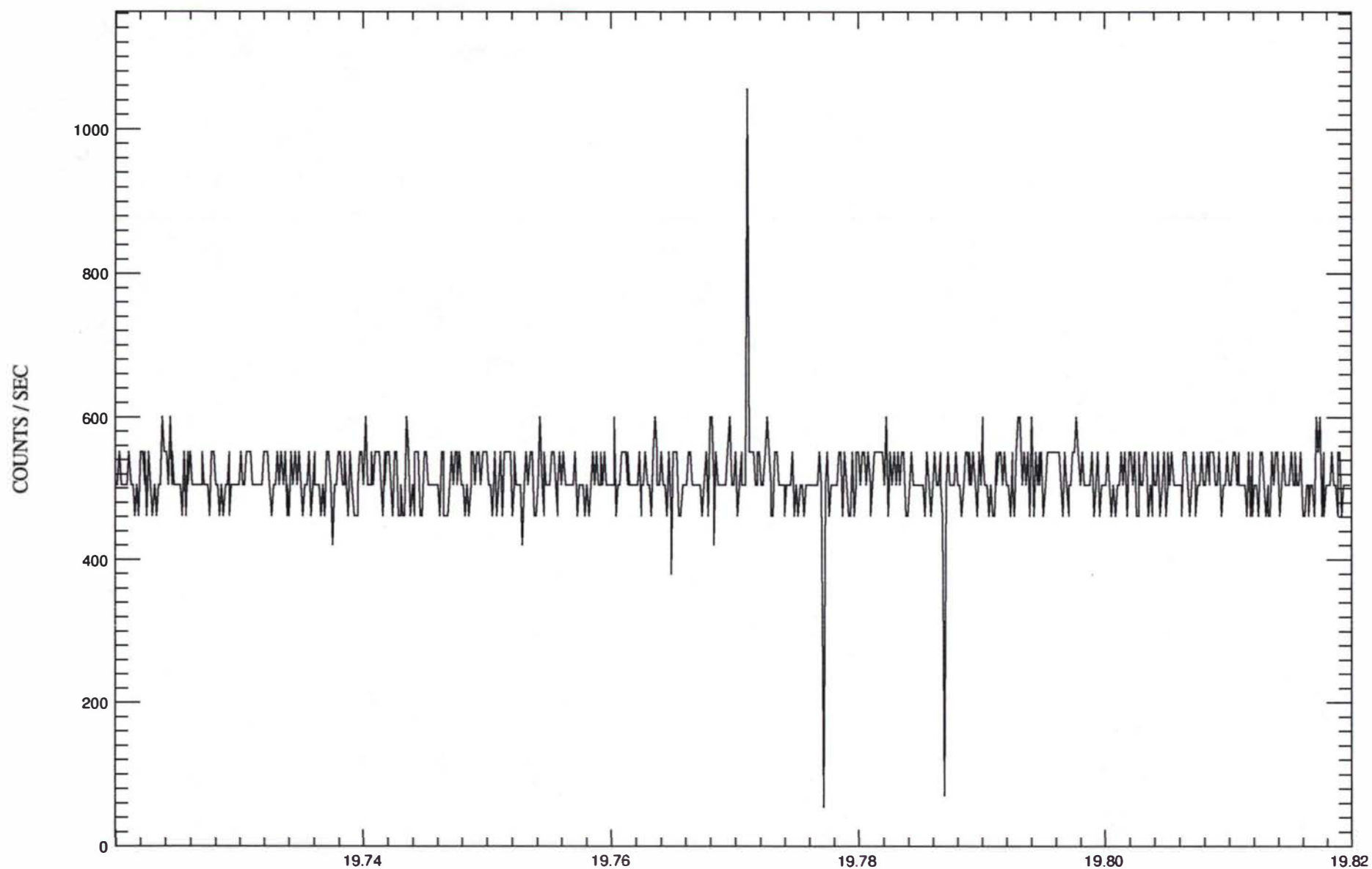
CALIBRATION DATA INCLUDED

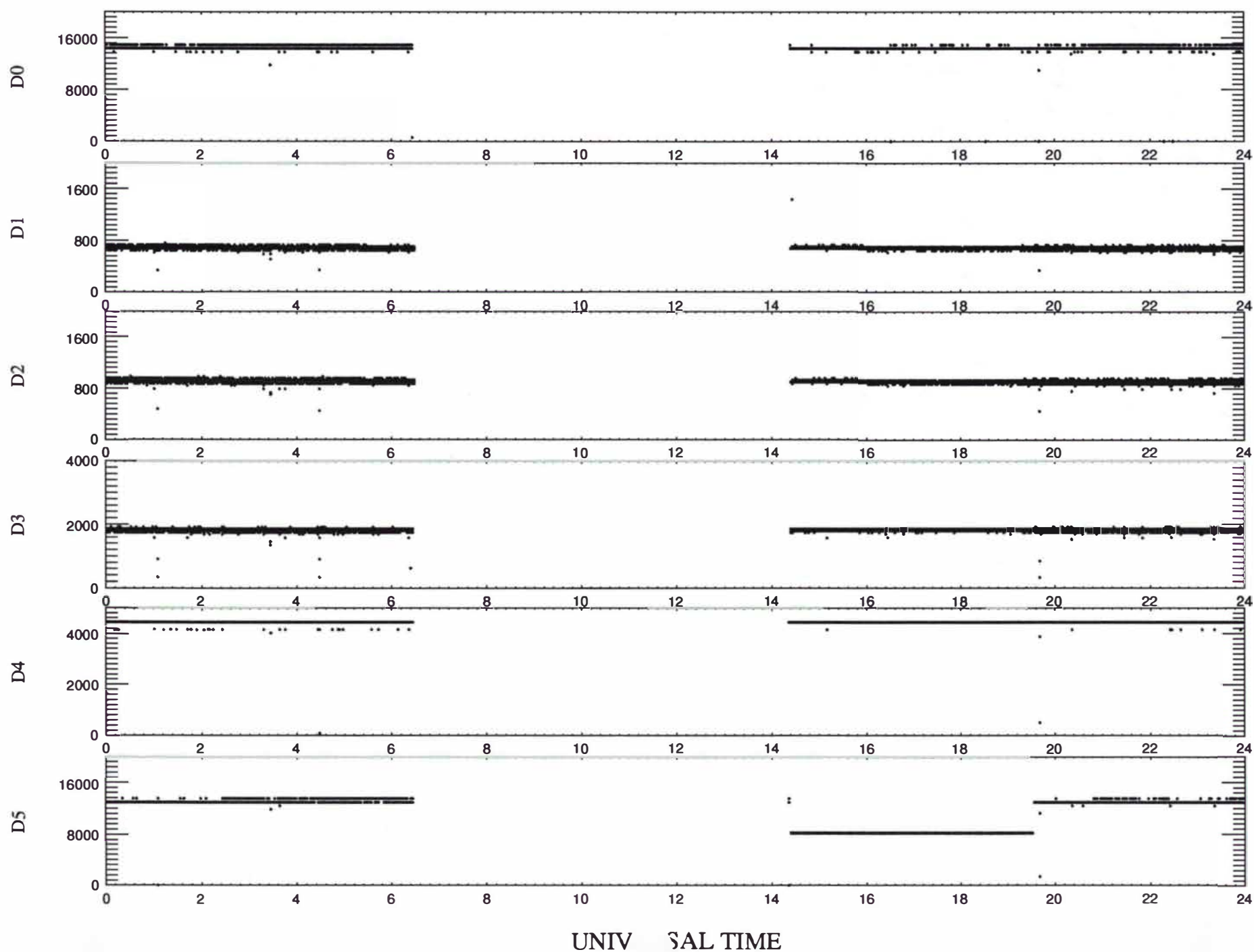


Burst Counter 6 at UT=19.771189668443 h=71176.283 s 19:46:16.283



CALIBRATION DATA INCLUDED





From SURASAK@fender.msfc.nasa.gov Wed Sep 9 08:12:05 1998
Return-Path: <SURASAK@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id IAA16109; Wed, 9 Sep 1998 08:12:05 -0700
From: SURASAK@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id IAA18697; Wed, 9 Sep 1998 08:11:59 -0700
Date: Wed, 9 Sep 1998 10:08:25 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980909100825.202376c3@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7060
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7060
EVENT OF 1998 SEP 3 DAY OF YEAR=246
EVENT CROSSING TIME AT BATSE : 12903. S. OR 03:35:03.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 140.000 -41.000
BATSE PEAK COUNTING RATE: 11900 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 3/ 9/ 98 IS:
RA= 158.698 DEC= 3.720 DIST= 6.352 AU
BATSE-ULYSSES DISTANCE = 950260591. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=132.13 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2126.26 SECS.
CROSSING TIME AT ULYSSES IS 10777. S. OR 02:59:36 +/- 425.84 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 3/ 9/ 98 IS:
RA= 131.179 DEC= 19.194 DIST= 2.380 AU
MARS-BATSE DISTANCE = 356017696. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=119.25 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -580.28 SECS.
CROSSING TIME AT MARS IS 12323. S. OR 03:25:22 +/- 171.07 SECONDS

BATSE BURST TRIGGER

NO.: 7060

TIME: TJD=1059 SECONDS=12903

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=55.3 AZIMUTH=15.6 ERROR=9.429 DEGREES

COMMENTS:

GRB. SINGLE FRED SPIKE. DURATION ABOUT 0.2 S. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7060	980903	11059	12903	11900	140	-41	.2

KNEAR GRS 19980903 12802

ULYSSES RT

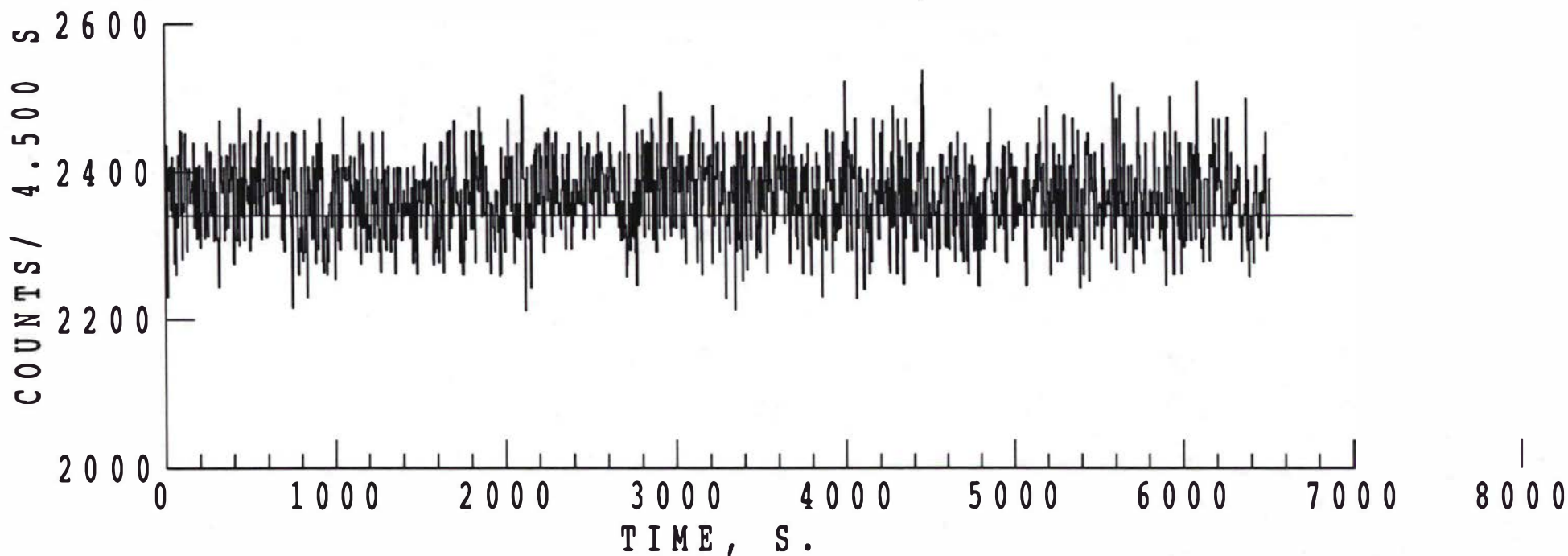
27 / 5 / 99

3 / 9 / 98 9540.062 s

0.250 S INTERVALS REGROUPED BY 18

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



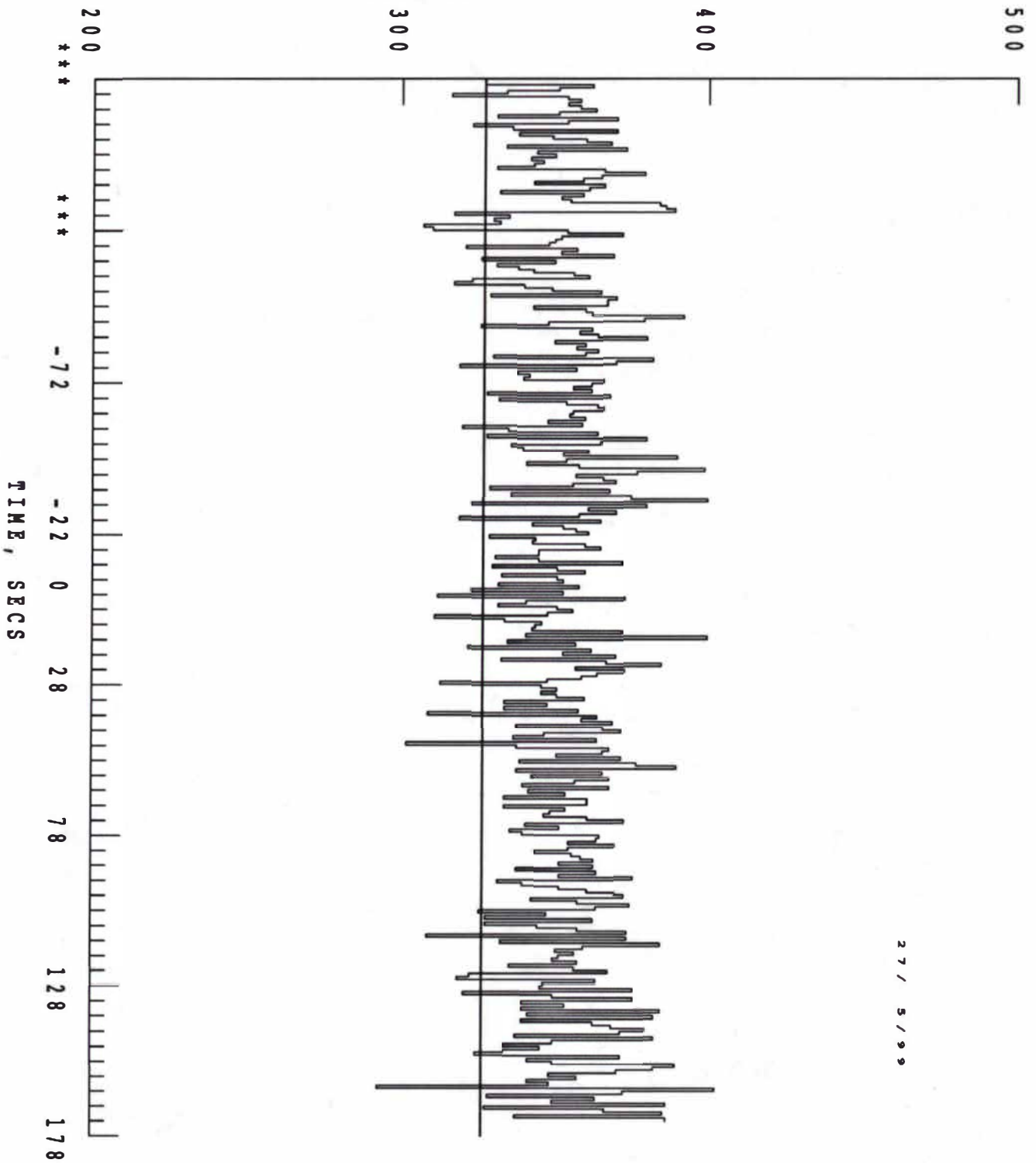
NEAR

03/09/98

12802.024

100-1000 keV

COUNTS/1.000 S



27 / 5 / 99

BATSE BURST# 7060

ULYSSES RT

9 / 9 / 98

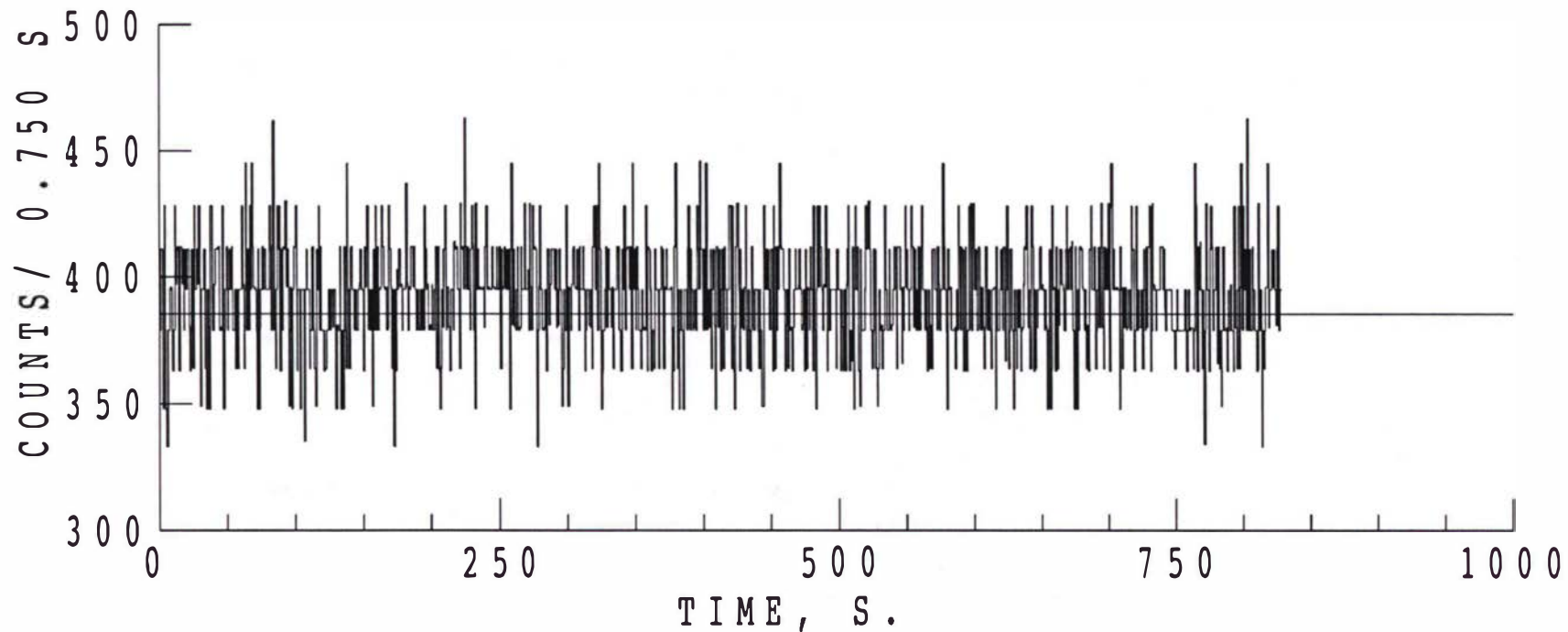
3 / 9 / 98 10368.070 s

0.250 S INTERVALS REGROUPED BY 3

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



Date: Nov 12 '08

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

N/A

- ☐ Jim Schmidling's stat file correction applied?
- ☐ Final ephemeris used?
- ☐ Final, CDROM data used?
- ☐ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution?

2. BATSE Data

N/A

- ☐ BATSE ephemeris for T_0 ?
- ☐ Error circle position and radius from public catalog used?
- ☐ If MER data were used, is a 30 ms systematic error included?

3. NEAR Data

- ☒ Final, correct time used? (Files postmarked vw@boccl, from from Teresa Sheets, postmarked May 2 1999 or later have the correct time; files on website have incorrect times)
- ☐ BATSE >100 keV data used for NEAR correlation?

4. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

5. For 3 Spacecraft events

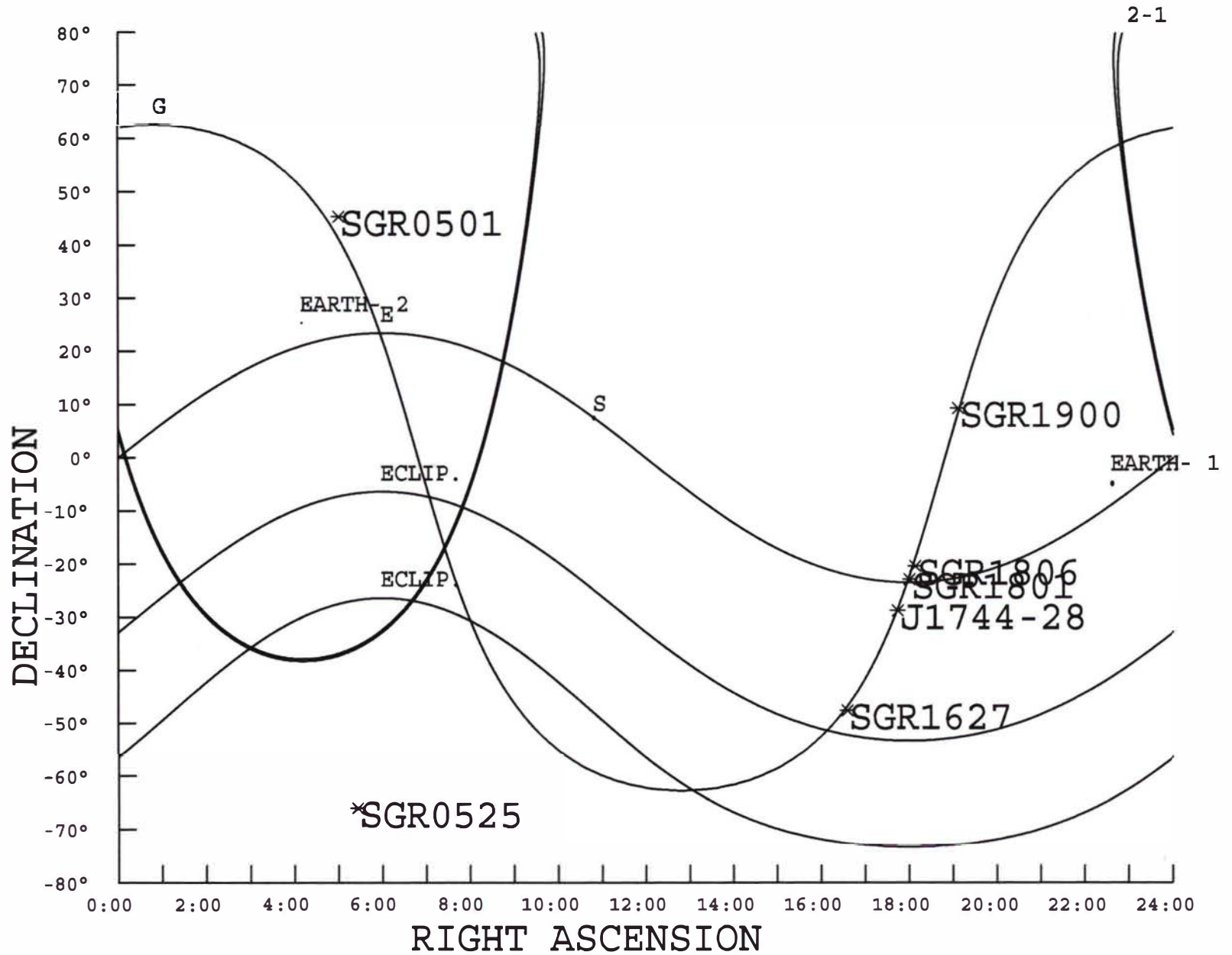
- ☐ $\Sigma 3\Delta t$'s calculated?

- ☒ ACCESS database updated?

EVENT OF SEP 3, 1998 10:28

19/11/ 8

N-M = CORRELATION BETWEEN SATELLITES N AND M
EARTH-N = EARTH AS SEEN FROM SATELLITE N
S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
1 KONUS1 2 NEAR



KONUS1

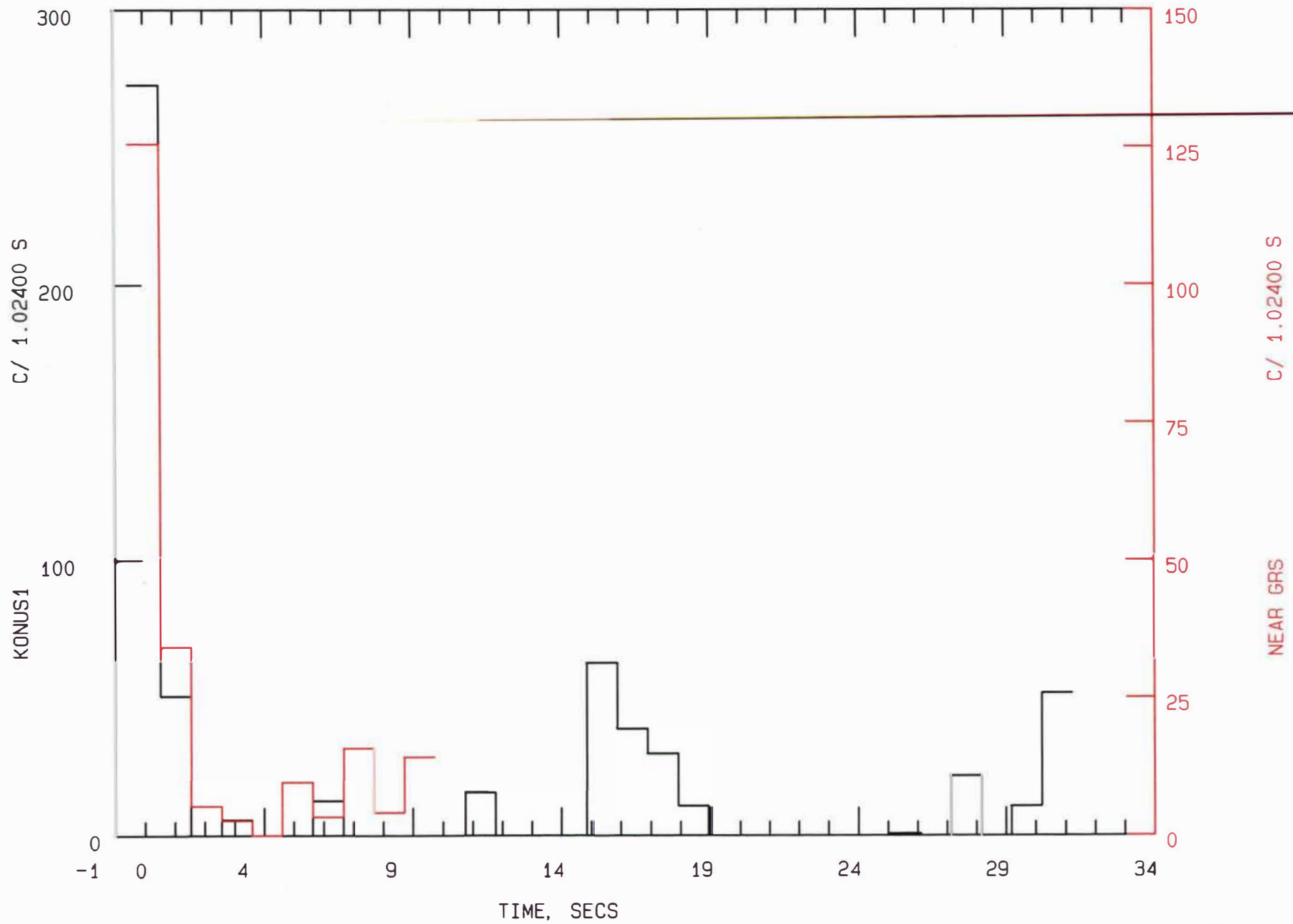
-NEAR GRS

CORRELATION

03/09/98

37697.517

19/11/ 8



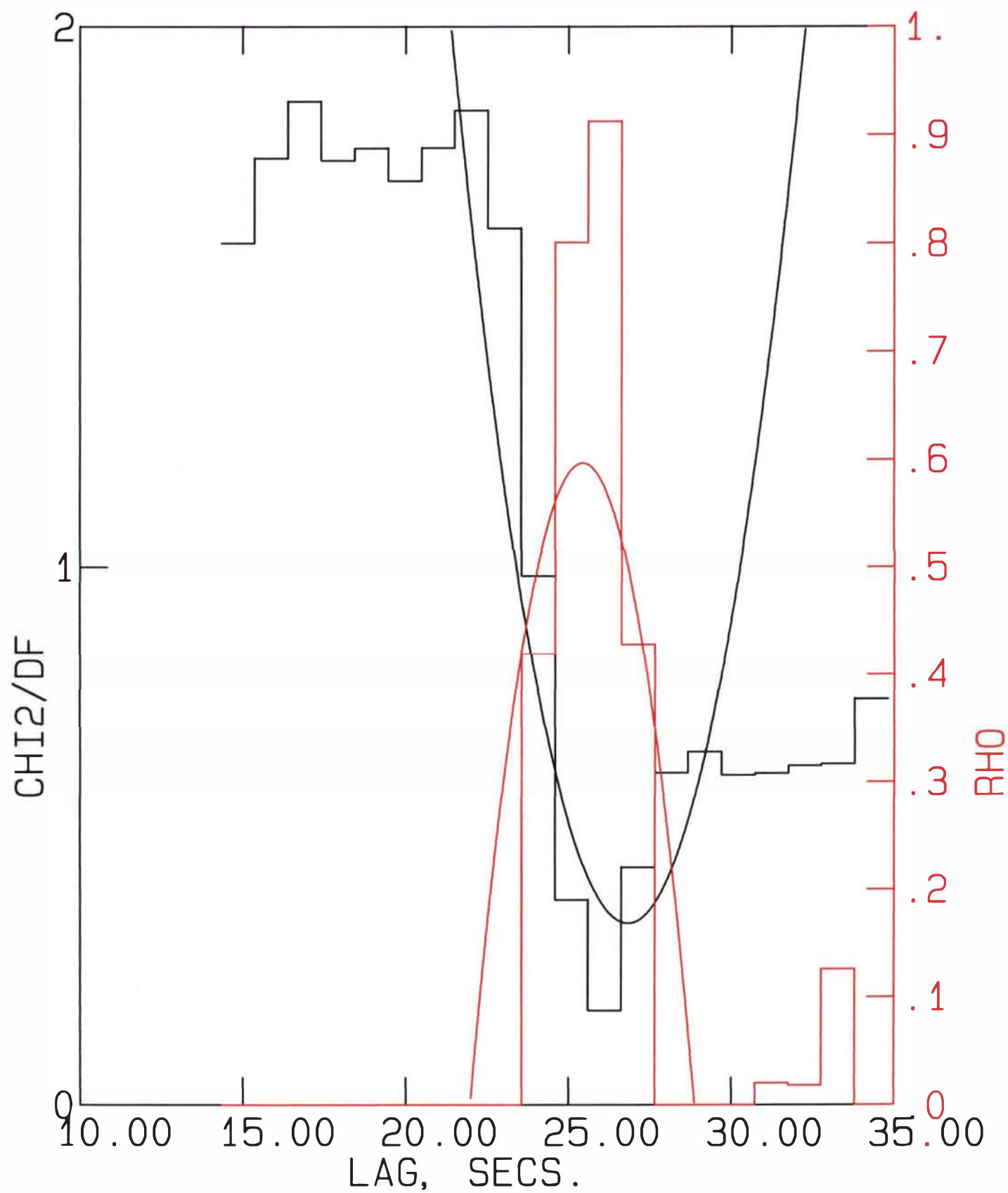
KONUS1

-NEAR GRS

CORRELATION

03/09/98

37697.517

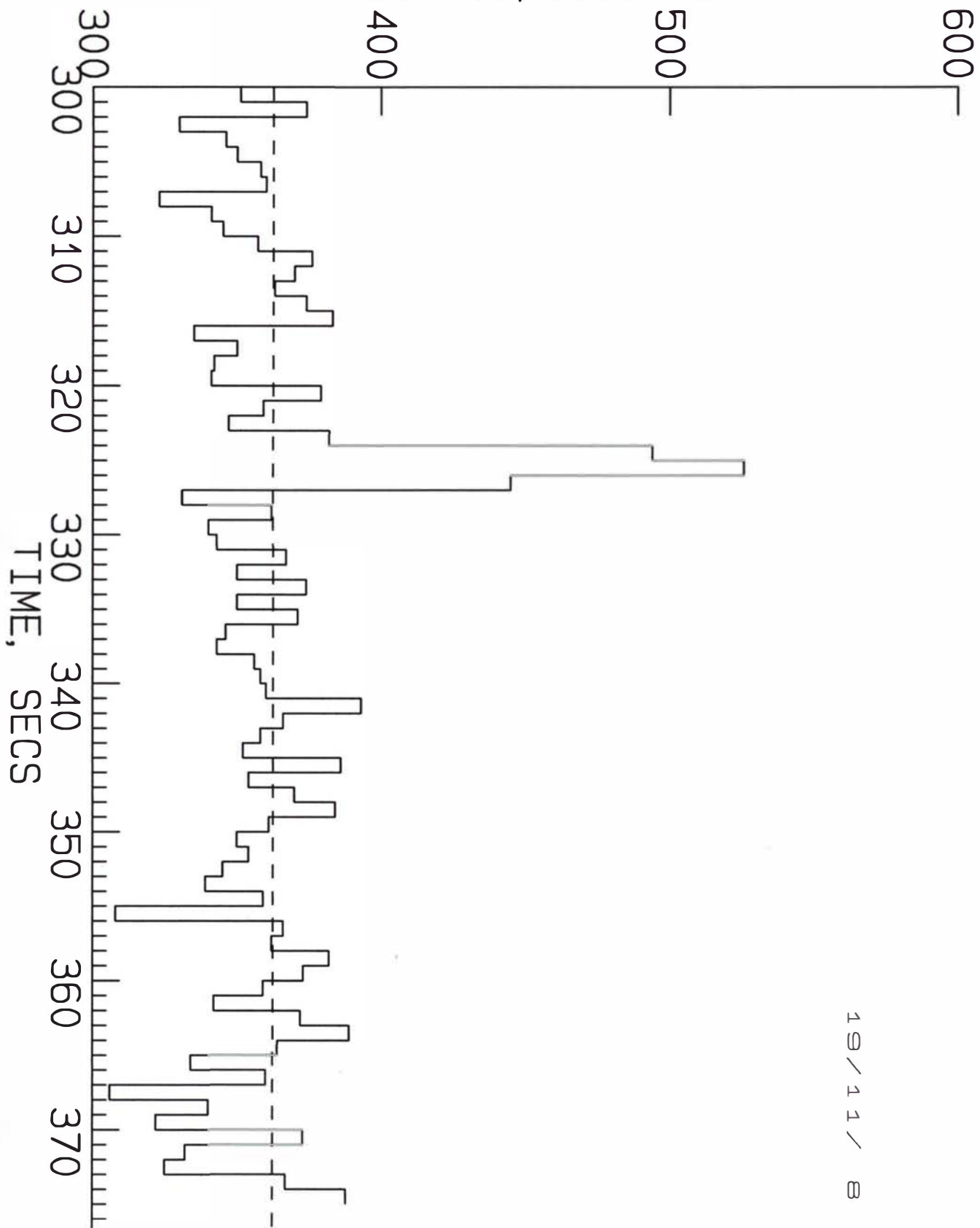


NEAR

03/09/98 37696.018

100-1000 keV

COUNTS/1.000 S

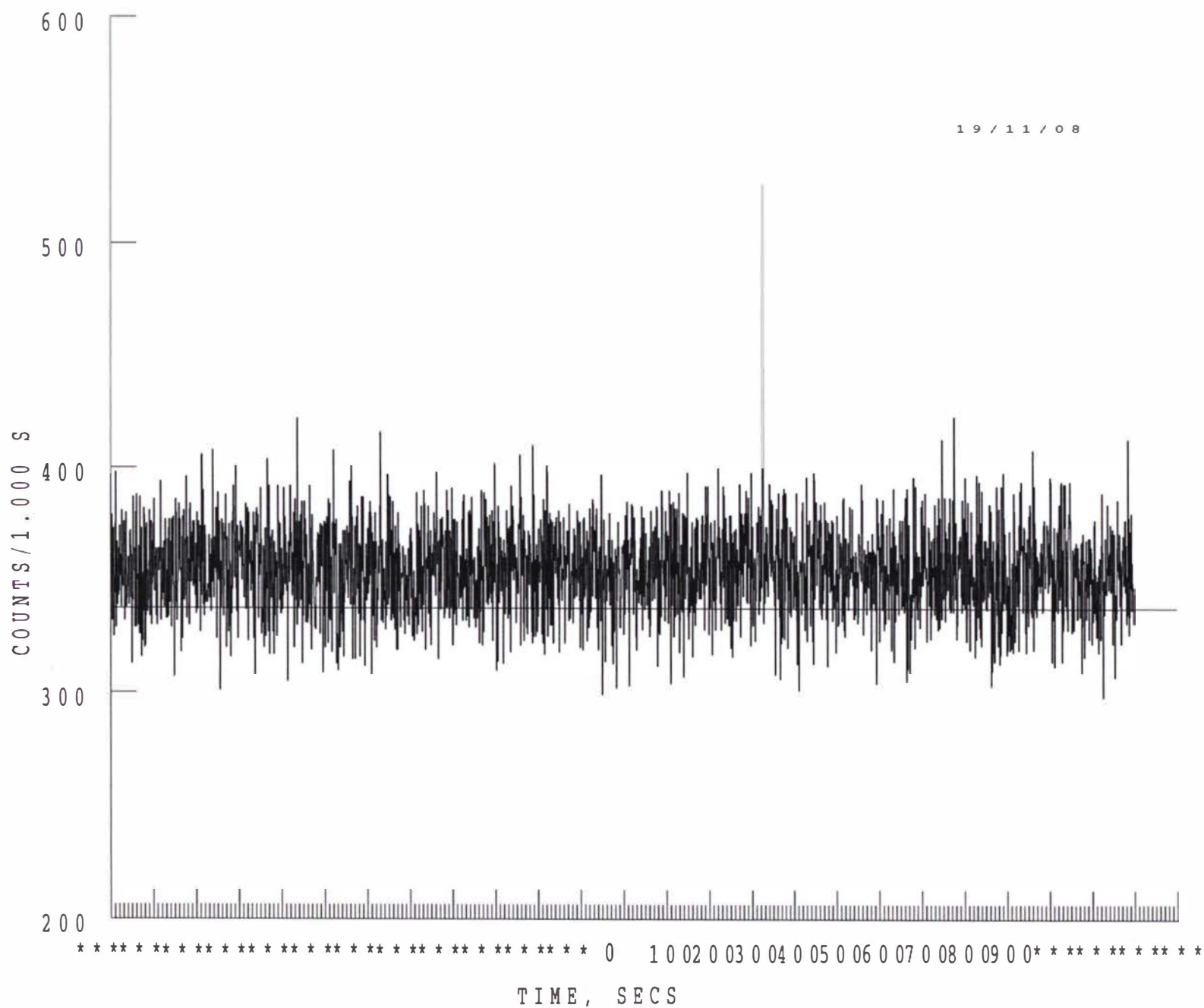


03/09/98 37696.018

100-1000 keV

NEAR

19/11/08



KONUS

03/09/98 37697.517

50- 200 keV

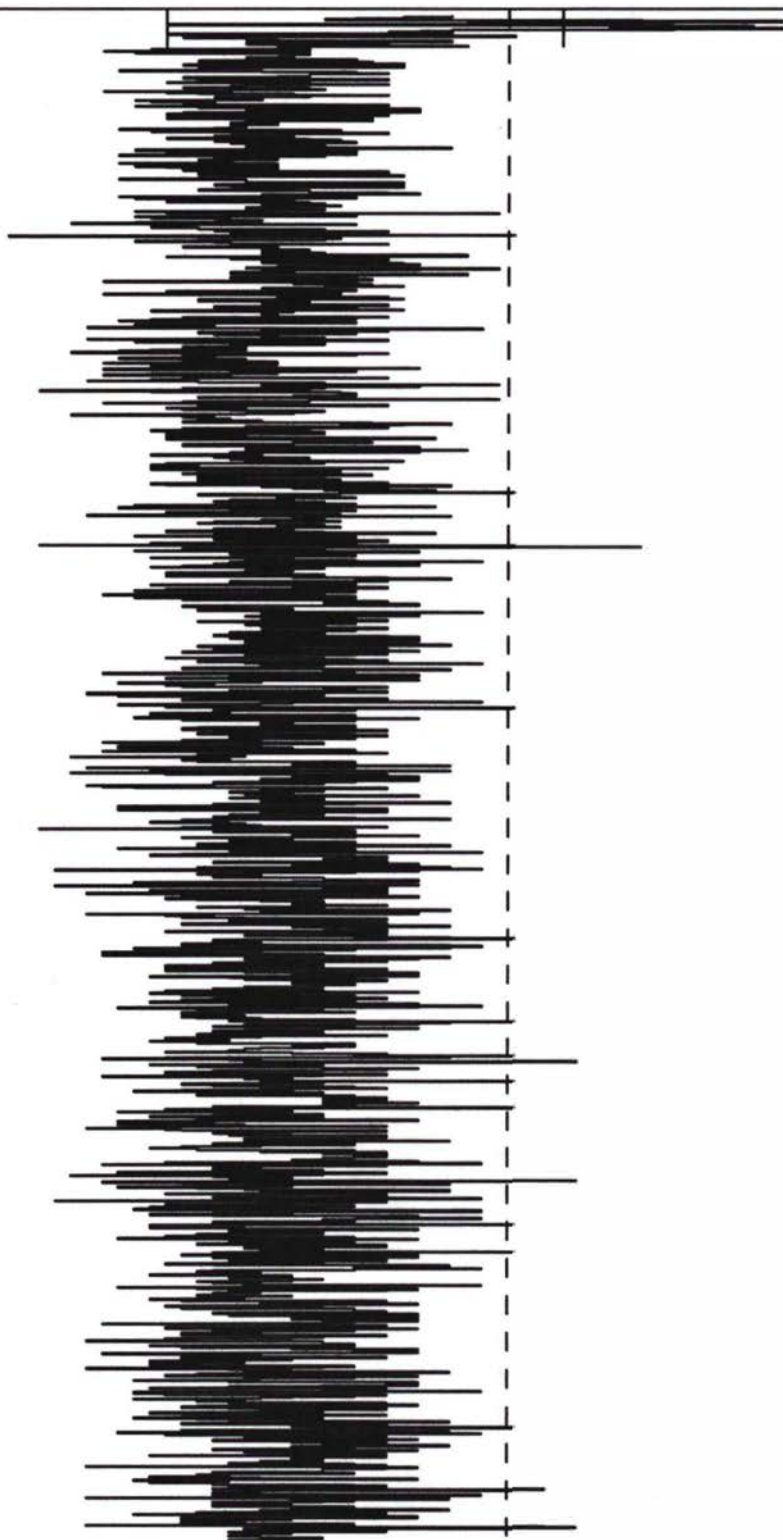
COUNTS/0.064 S

25

50

75

0 9 19 29 39 49 59 69 79 89 99
TIME, SECS



1 / 8 / 8

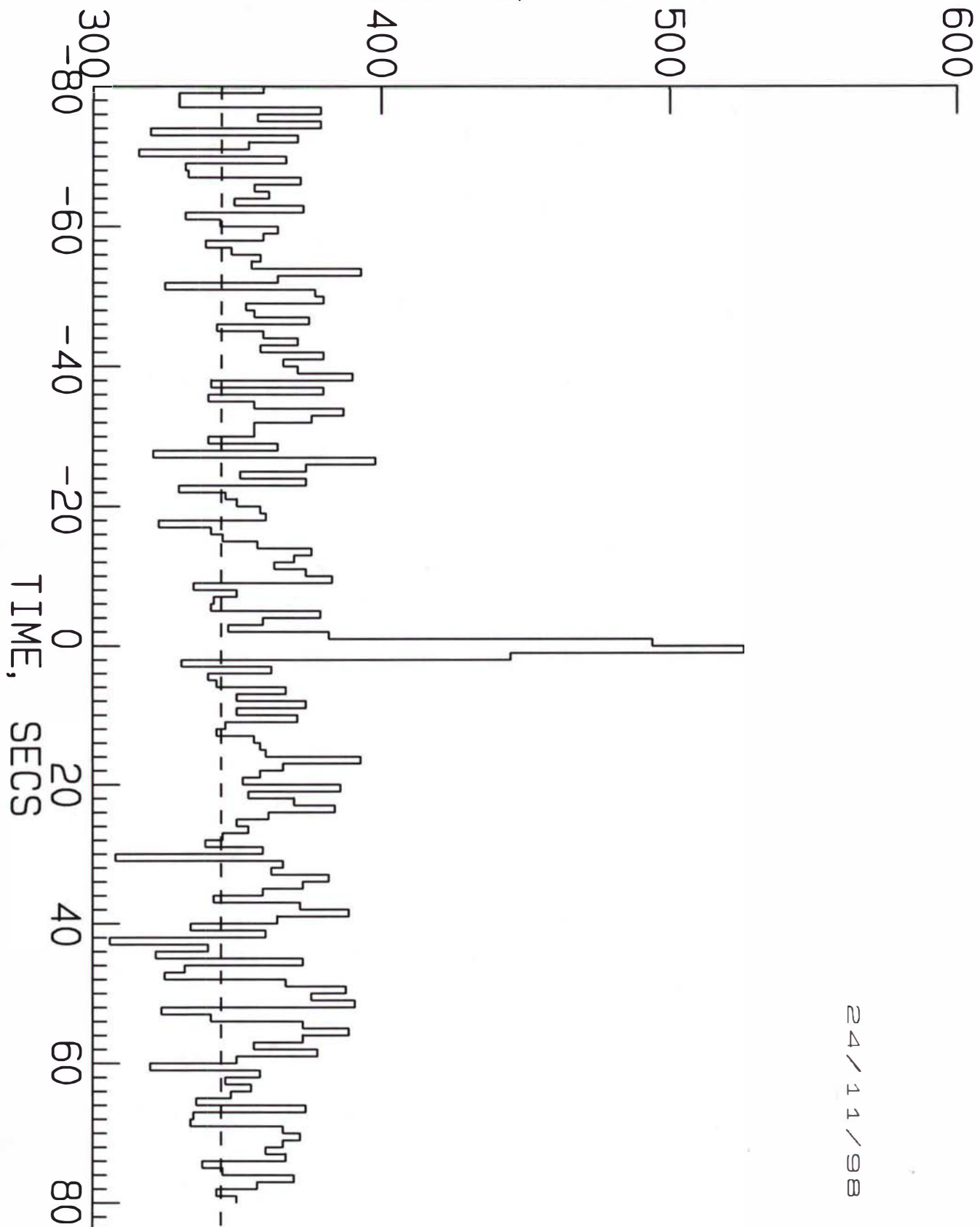
NEAR

03/09/98 38023.817

Konus saw it

100-1000 keV

COUNTS/1.000 S



24 / 11 / 98

From cline@apache.gsfc.nasa.gov Wed Sep 30 13:25 PDT 1998
Mime-Version: 1.0
Date: Wed, 30 Sep 1998 16:30:43 -0400
To: mazets@mz.ioffe.rssi.ru, golen@mz.ioffe.rssi.ru,
KHURLEY@sunspot.ssl.berkeley.edu
From: cline@apache.gsfc.nasa.gov (T L Cline)
Subject: Correction

Dear Evgeny, Sergei, and Kevin:

I may have sent an incorrect message, which I had lost before I finished it.

The message I mean to convey is that there are a number of sequel events to the giant 98 08 27 event, that I had overlooked in my being out of town and in my general preoccupation with other things during the last few weeks.

These events (may be no big deal, since SGRs are going off now all the time now) but may be interesting in that some seem to also have a periodicity.

These may include the following:

70684.449	8/28
83650.680	8/28
36994.068	8/29
65925.166	8/29
56858.156	8/31
69227.249	8/31
17656.387	9/01
62419.649	9/02
77657.917	9/03 - NEAR event
349.014	9/04
23131.249	9/05
etc.	
etc.	

64995.550 8/30 appears to be a GRB, however.

TLC

-- Thomas L. Cline ----- cline@apache.gsfc.nasa.gov

From khurley@sunspot Tue Sep 22 08:19 PDT 1998
Date: Tue, 22 Sep 1998 08:22:58 -0700
From: khurley@sunspot (Kevin Hurley)
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, woods@eagles.msfc.nasa.gov,
kraken@rosserv.gsfc.nasa.gov
Subject: GRBs, 980903 - 980915

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed the following bursts, all suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1800 s earlier.

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
3 SEP 98 04380	WEAK, 32 ms LONG	3150
6 SEP 98 73018	WEAK, 32 ms LONG	3150
7 SEP 98 80507	MODERATE, 32 ms LONG	3150
7 SEP 98 86027	MODERATE, 32 ms LONG	3150
8 SEP 98 48058	WEAK, 32 ms LONG	3150
9 SEP 98 31734	WEAK, 32 ms LONG	3150
11 SEP 98 29109	WEAK, 32 ms LONG	3150
11 SEP 98 67983	STRONG, 1 s LONG	3150
12 SEP 98 78457	STRONG, 64 ms LONG	3150
14 SEP 98 55913	WEAK, 32 ms LONG	3150
SEP 98 79827	MODERATE, 32 ms LONG	3150

Were these events detected by anyone else?

CC: ulyssesbursts alias list
(barthelmy, butterworth, cline, frontera, kouveliotou, kurczyski, marar, tee

From SURASAK@fender.msfc.nasa.gov Wed Sep 9 07:55:47 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Wed, 9 Sep 1998 9:55:17 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7061

TIME: TJD=1059 SECONDS=51174

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=3.1 AZIMUTH=54.8 ERROR=0.09 DEGREES

COMMENTS:

SOLARE FLARE. GOES C3.9, OPTICAL SF. SINGLE PULSE WITH SUBSTRUCTURE.

DURATION ABOUT 220 S. NOT VISIBLE ABOVE 300 KEV.

From HENZE@fender.msfc.nasa.gov Tue Sep 8 11:27:38 1998
Date: Tue, 8 Sep 1998 13:27:10 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7062

TIME: TJD=1059 SECONDS=71106

Sep 3

TYPE: PARTICL

SOLAR FLARE TRIGGER SIGNAL:N

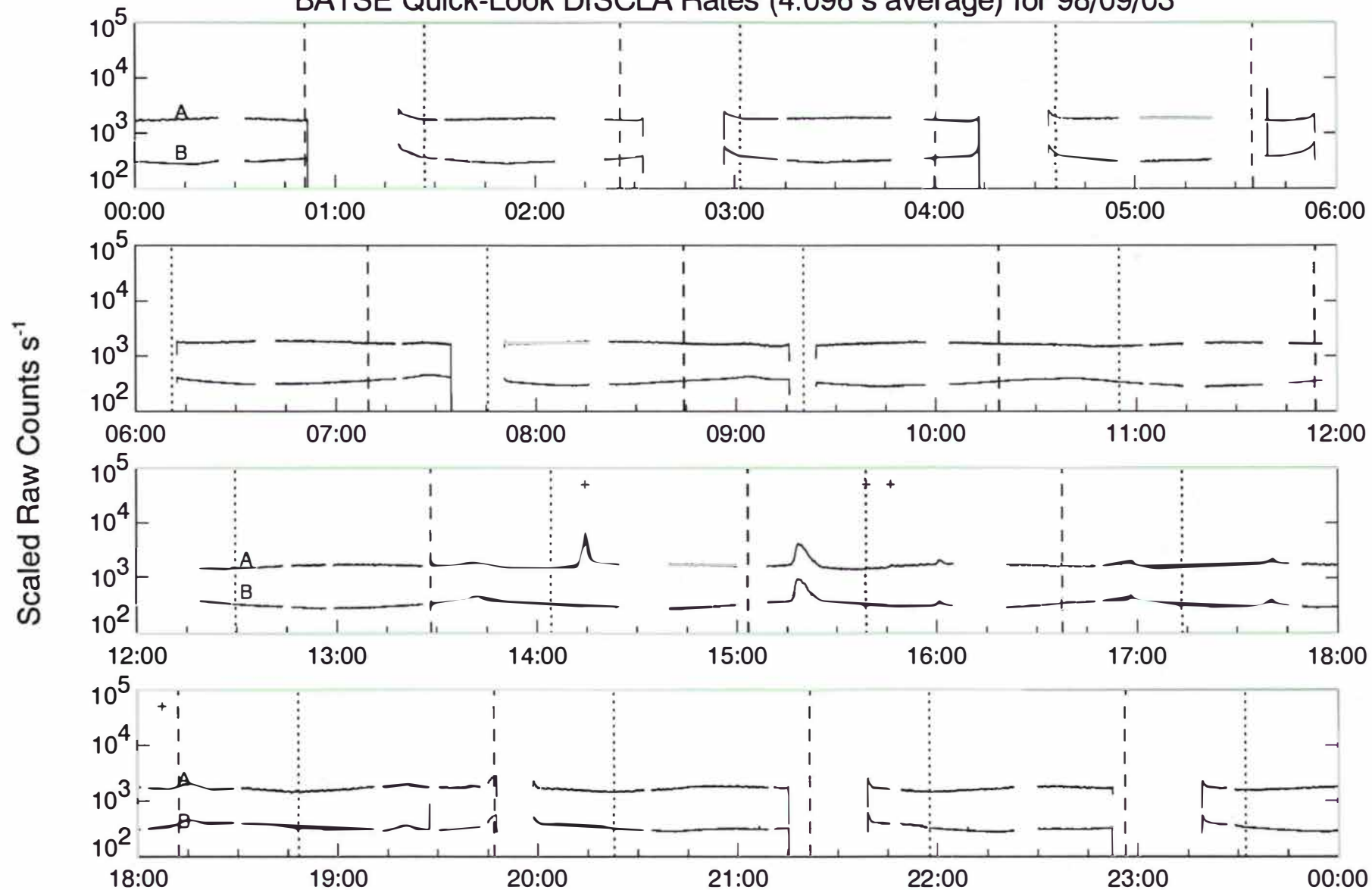
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
SAA ENTRY.

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/09/03

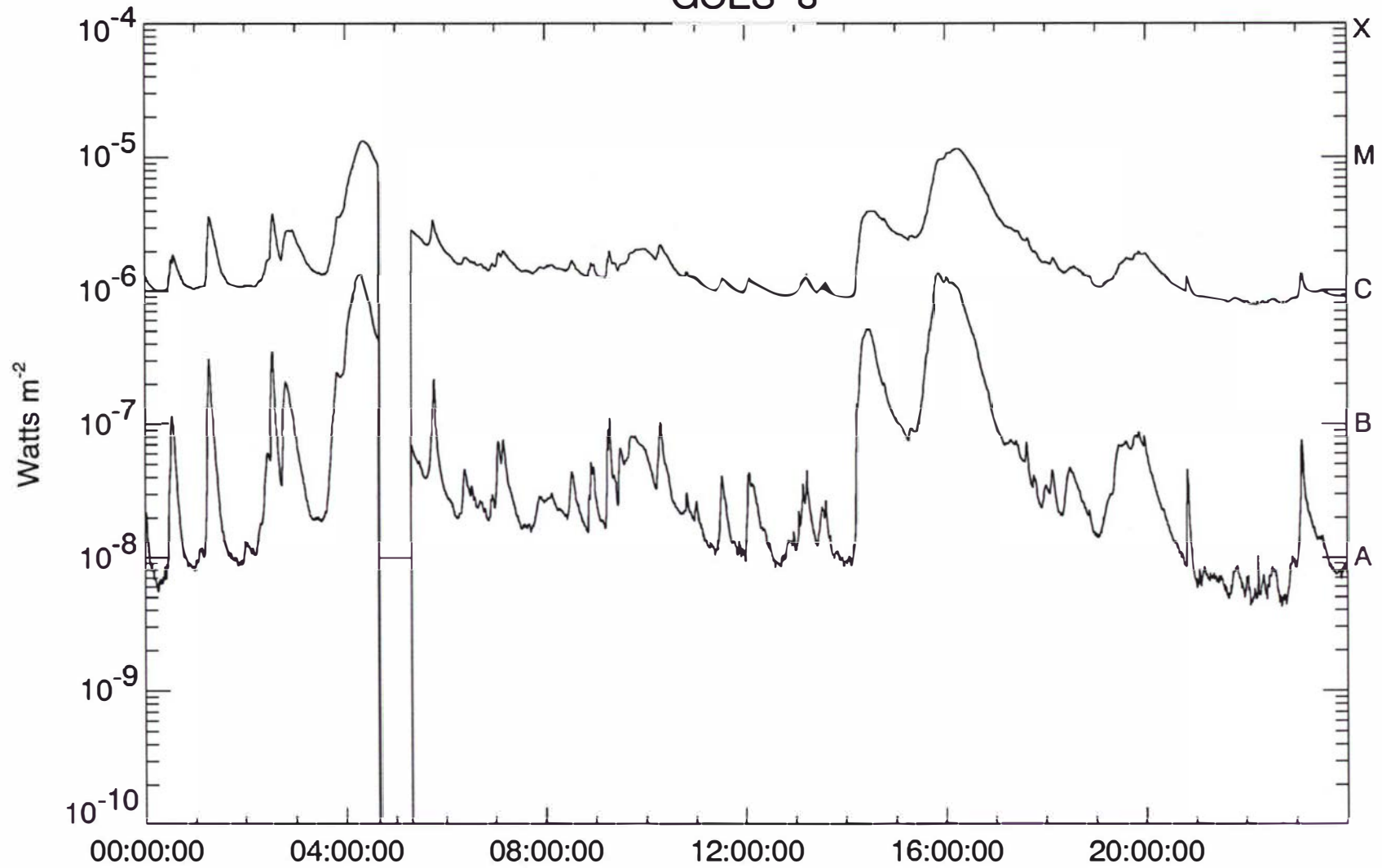


Current Time: 98/09/07, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 98/09/03, 0000:00

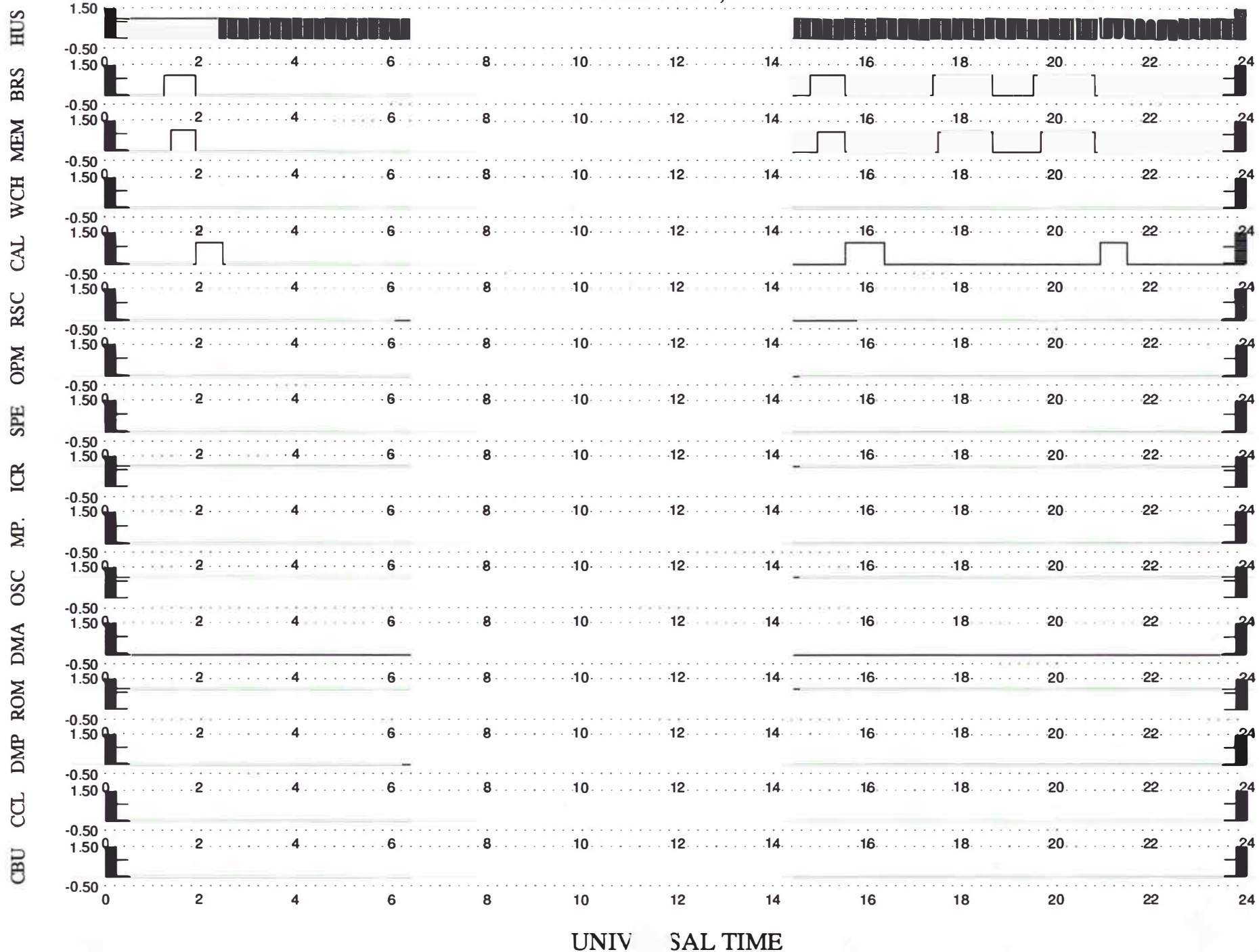
Plot created: 98/09/07, 1007

Channel

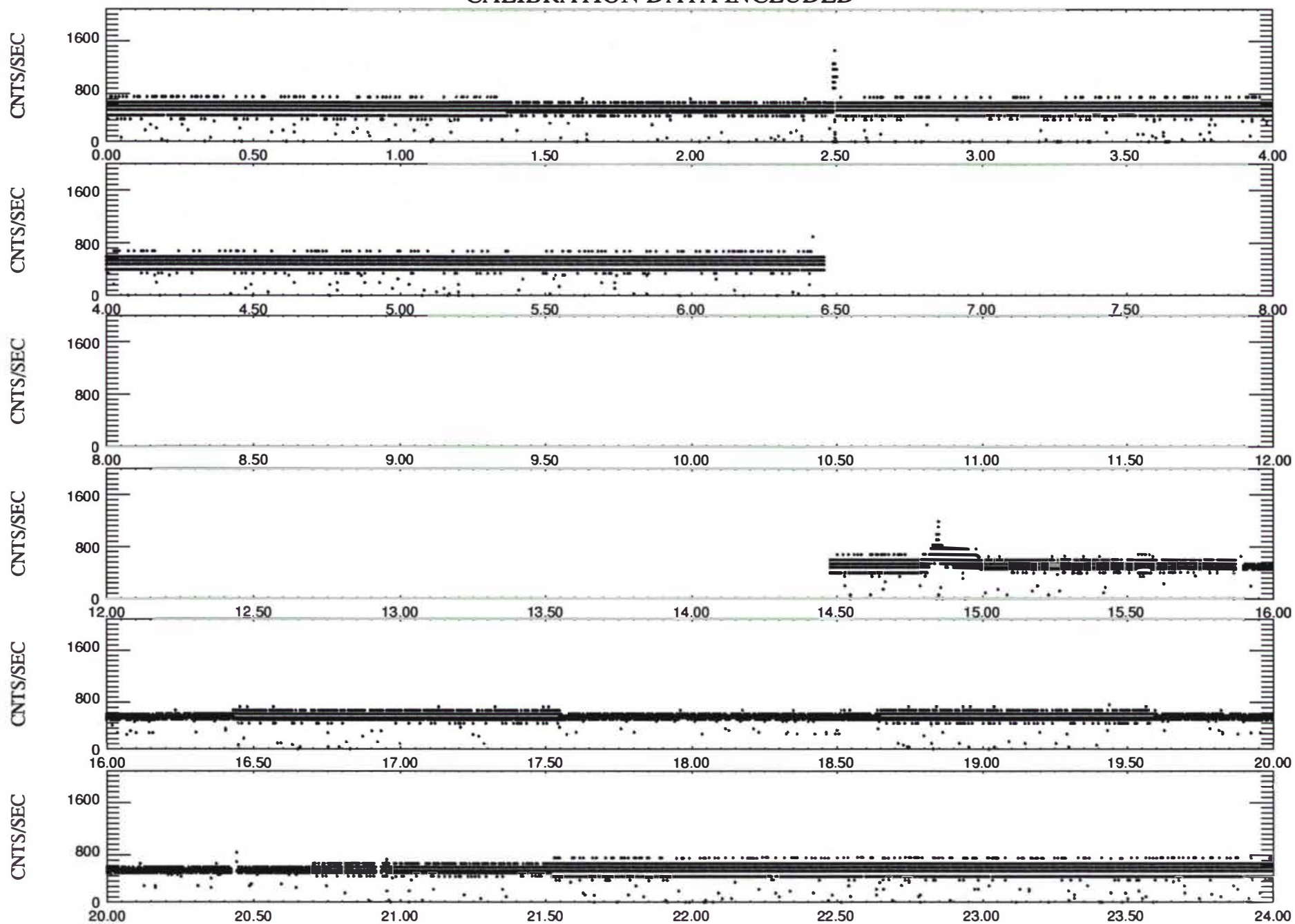
1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

Background not subtracted
Background not subtracted
Sample average = 10

BURST NUMBER 7, 9 - 12

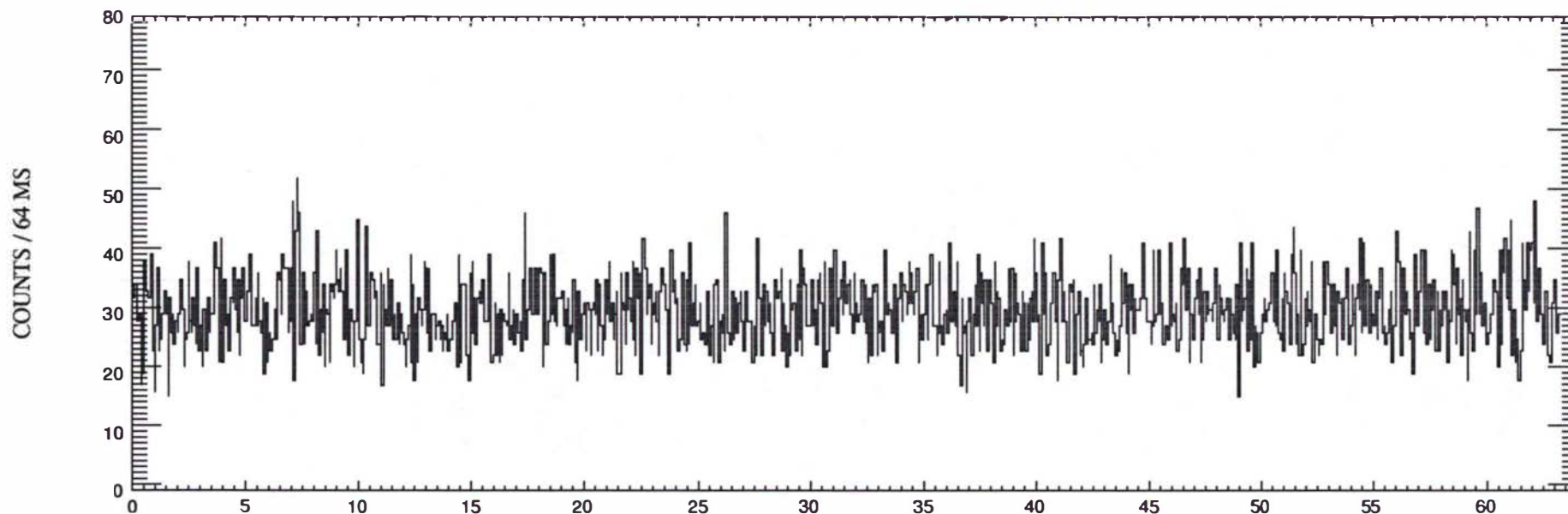


CALIBRATION DATA INCLUDED

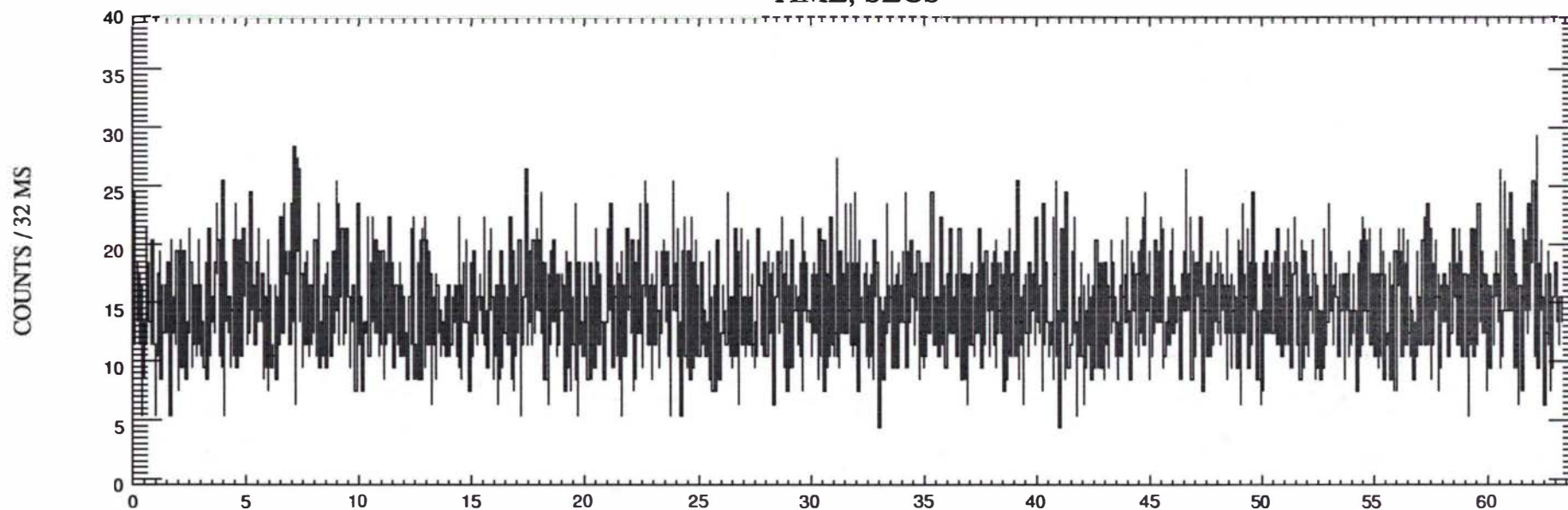


UNIV SAL TIME

Burst Counter 7 at UT= 1.216700884501 h= 4380.123 s 01:13:00.123

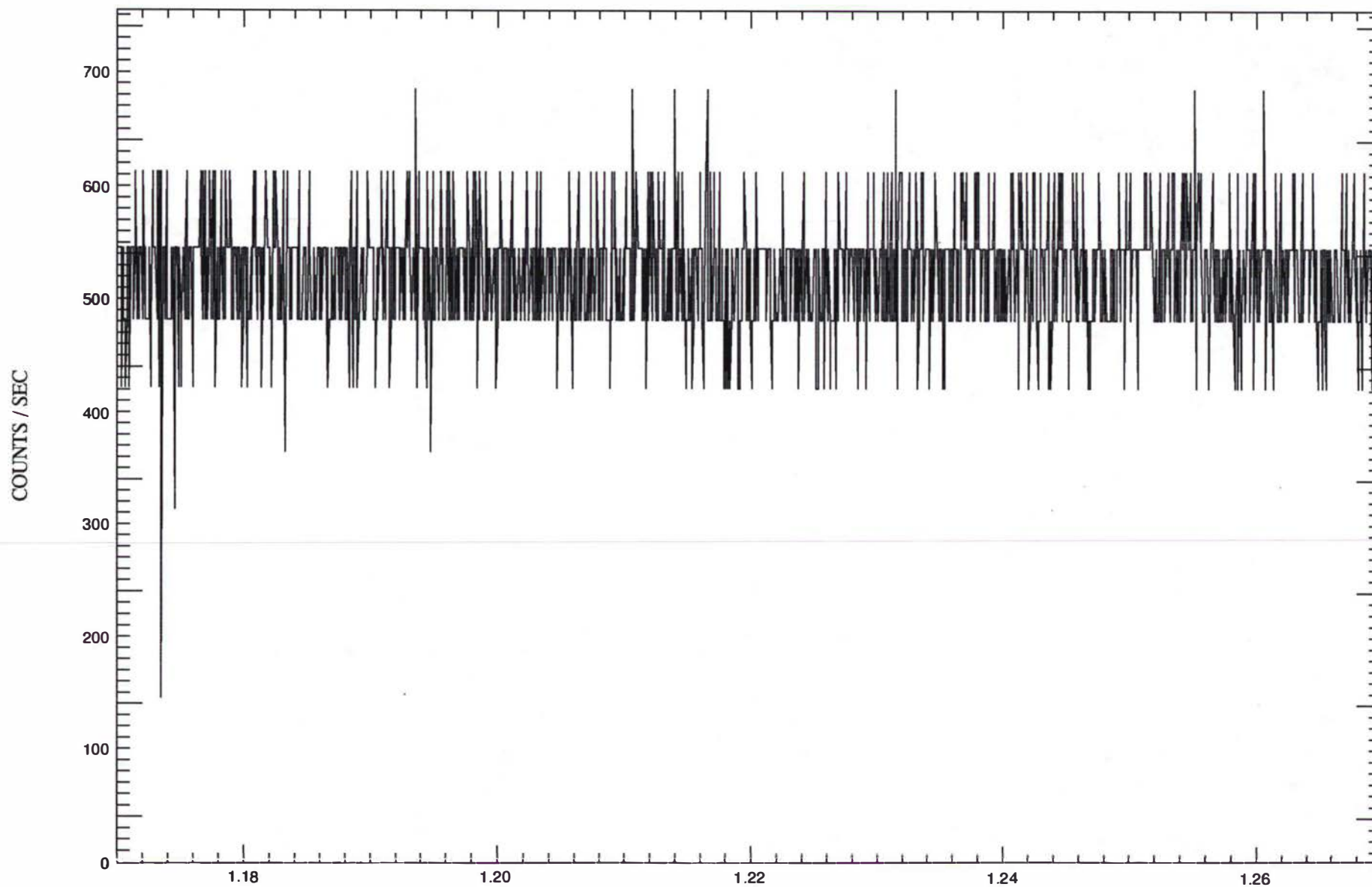


TIME, SECS

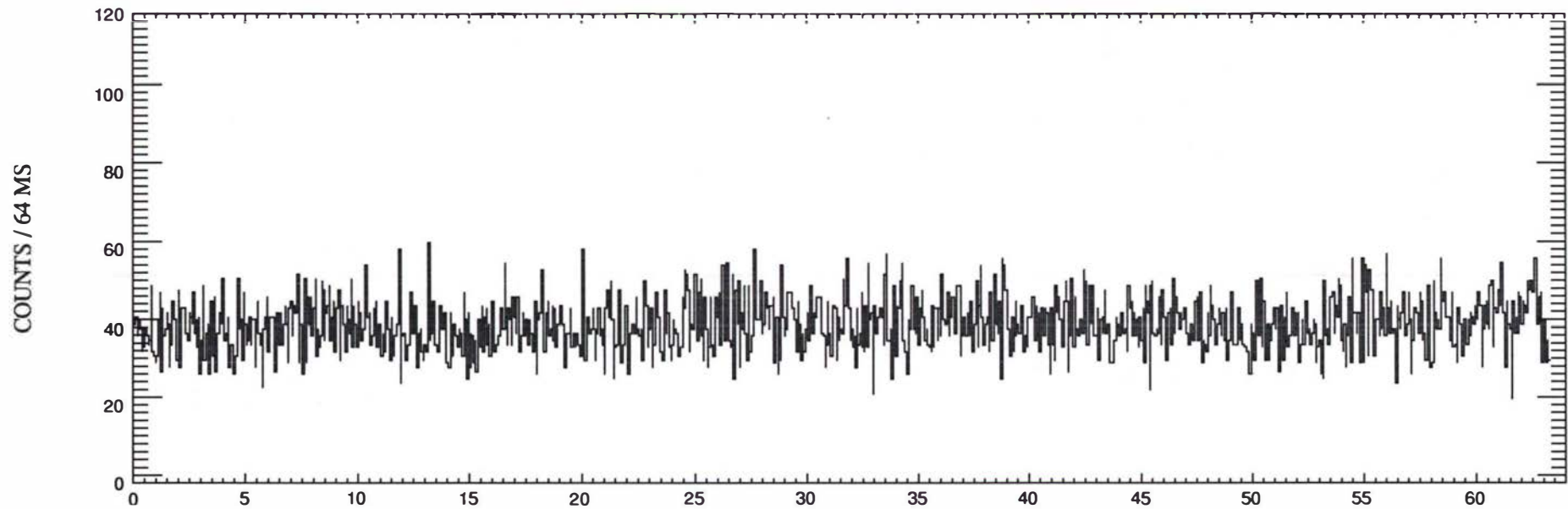


TIME, SECS

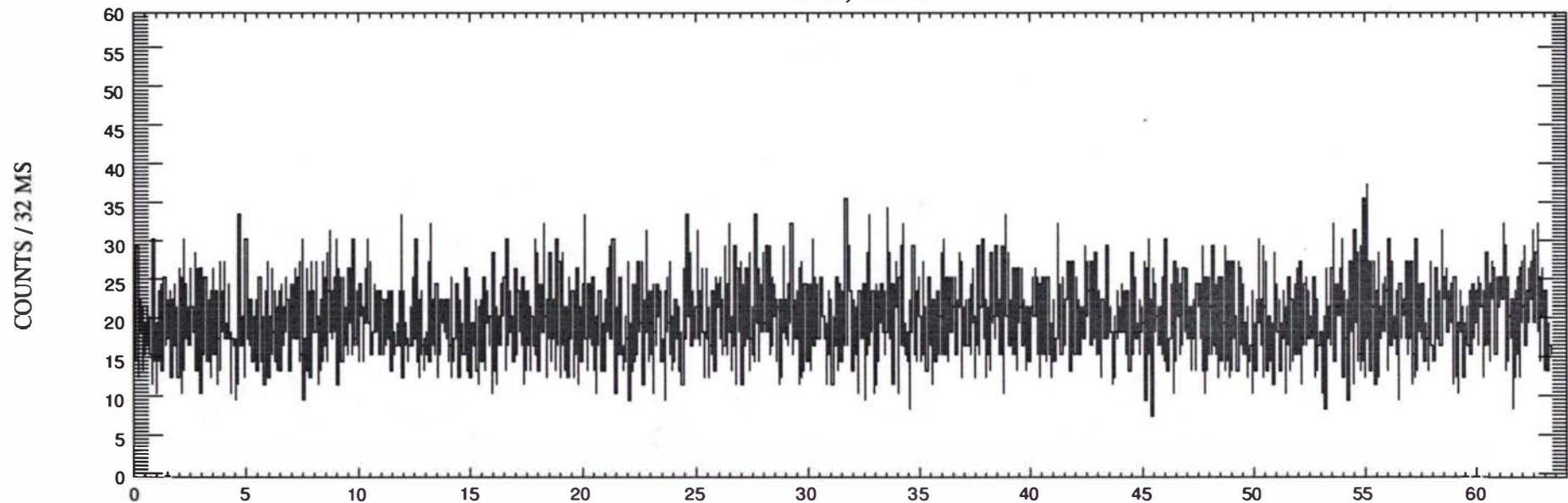
CALIBRATION DATA INCLUDED



Burst Counter 10 at UT=14.821742104424 h=53358.272 s 14:49:18.272

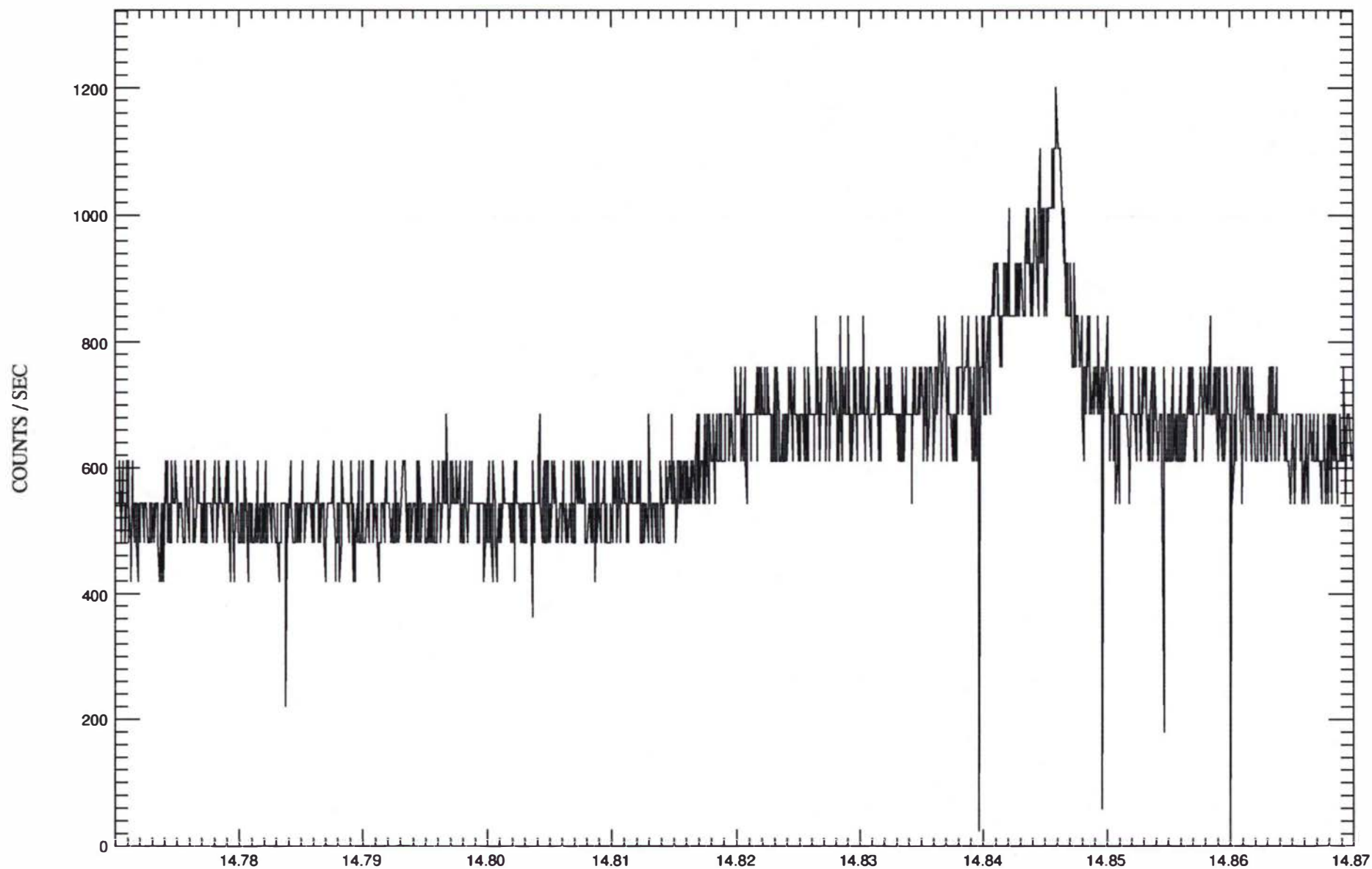


TIME, SECS

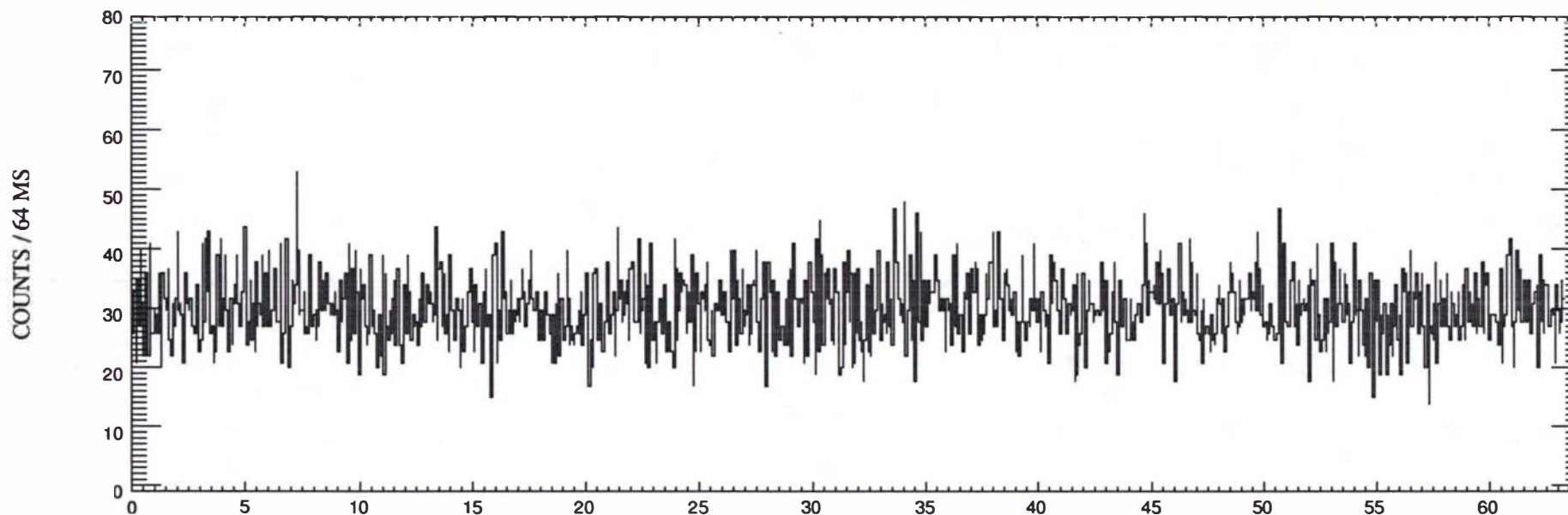


TIME, SECS

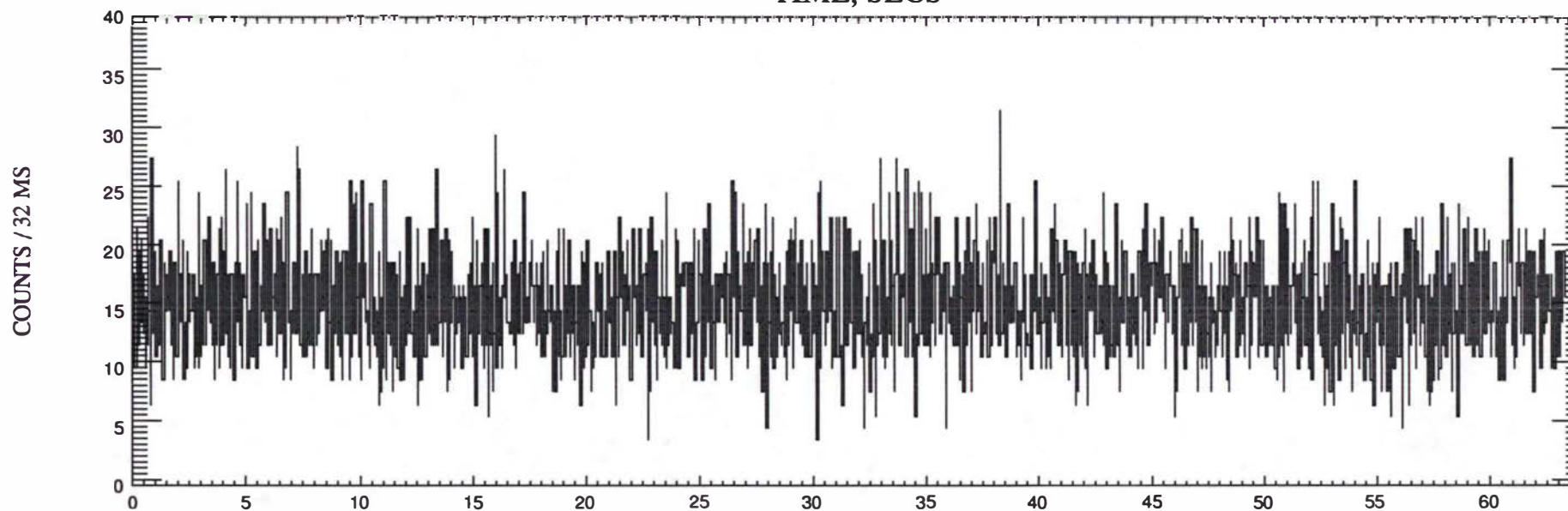
CALIBRATION DATA INCLUDED



Burst Counter 11 at UT=17.390306875441 h=62605.105 s 17:23:25.105

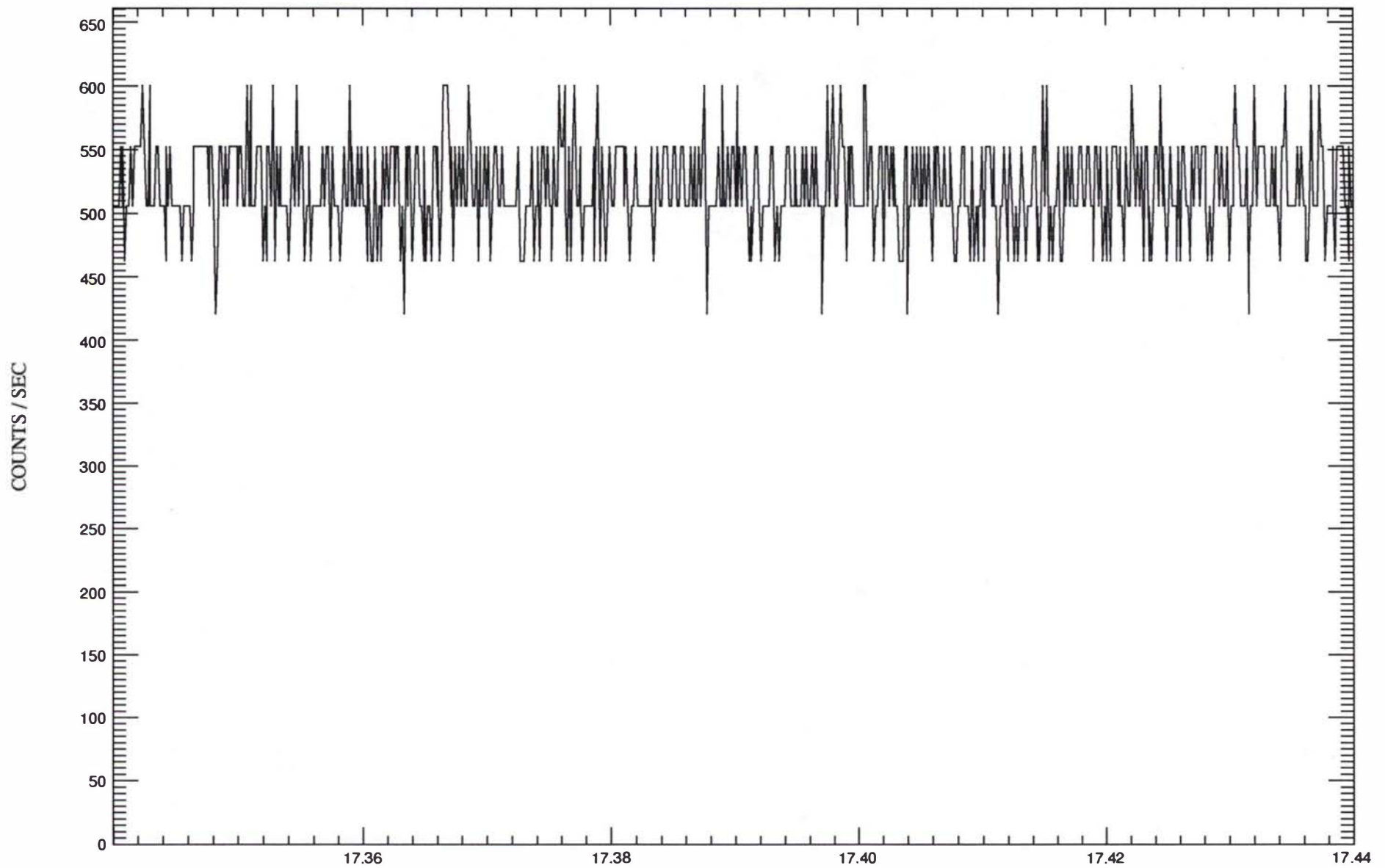


TIME, SECS

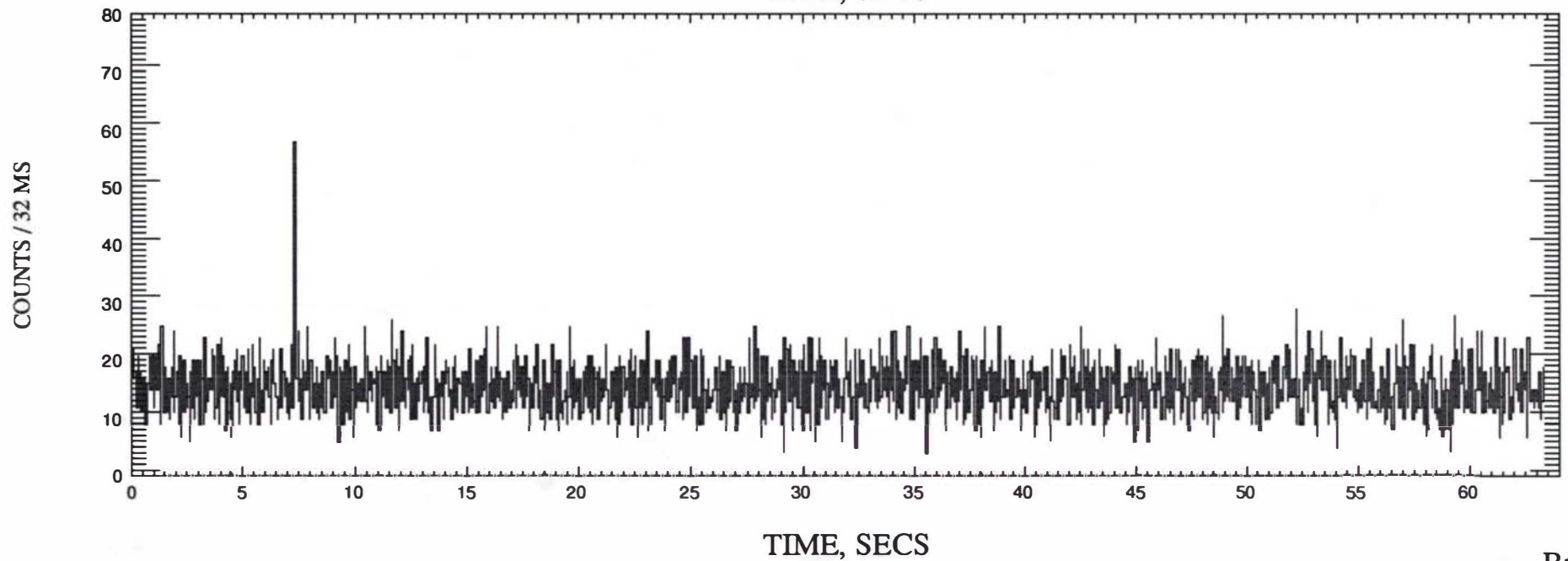
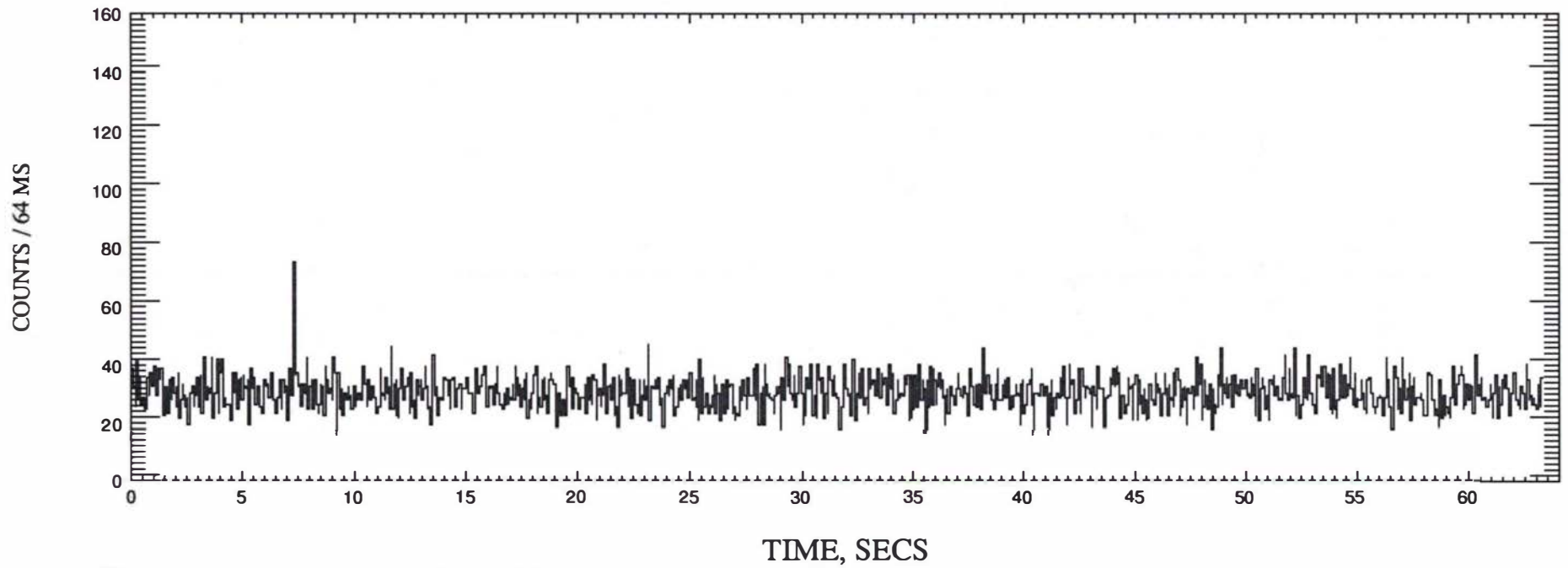


TIME, SECS

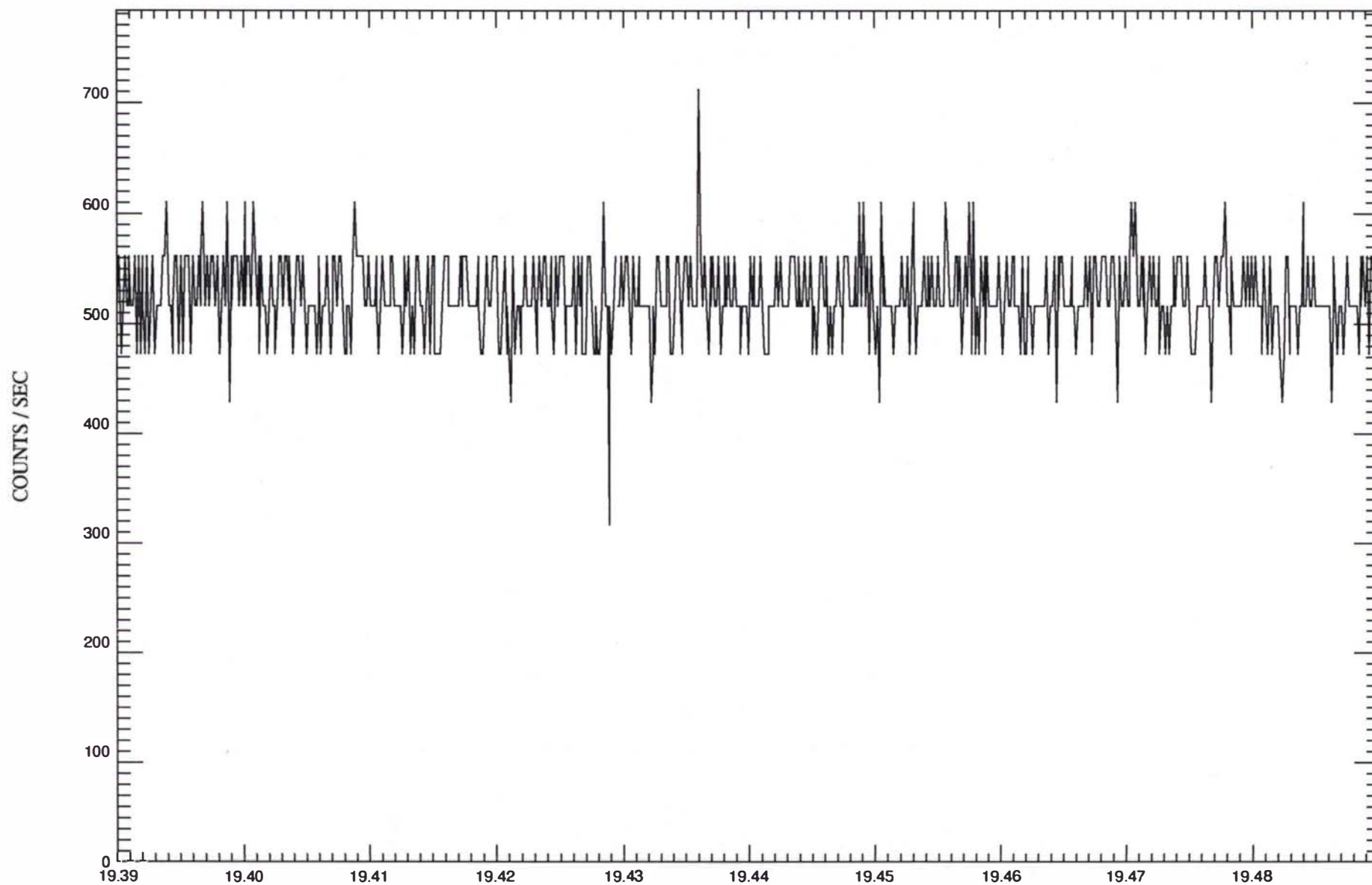
CALIBRATION DATA INCLUDED

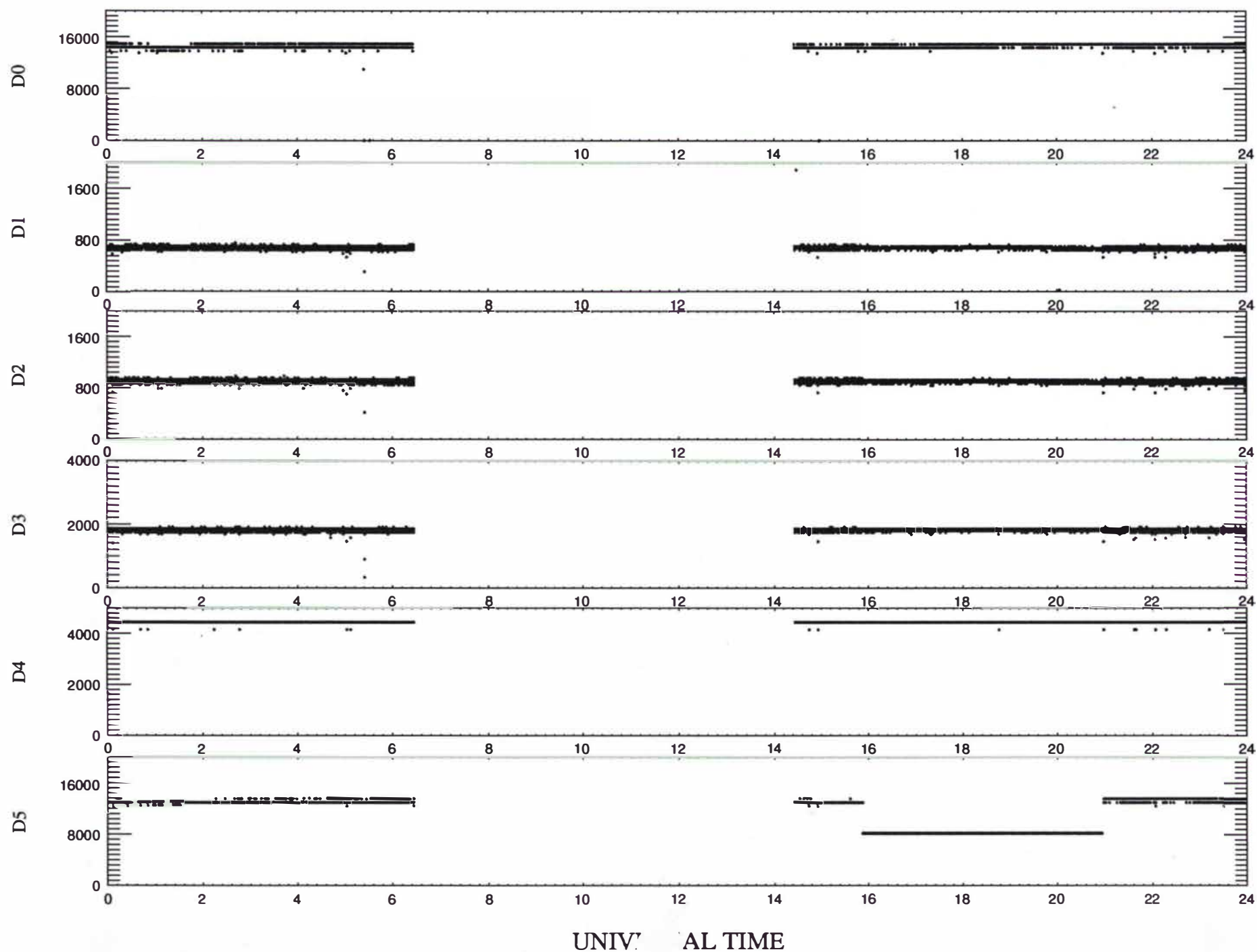


Burst Counter 12 at UT=19.436123610602 h=69970.045 s 19:26:10.045



CALIBRATION DATA INCLUDED





GRBM 19980904 24567

ULYSSES RT

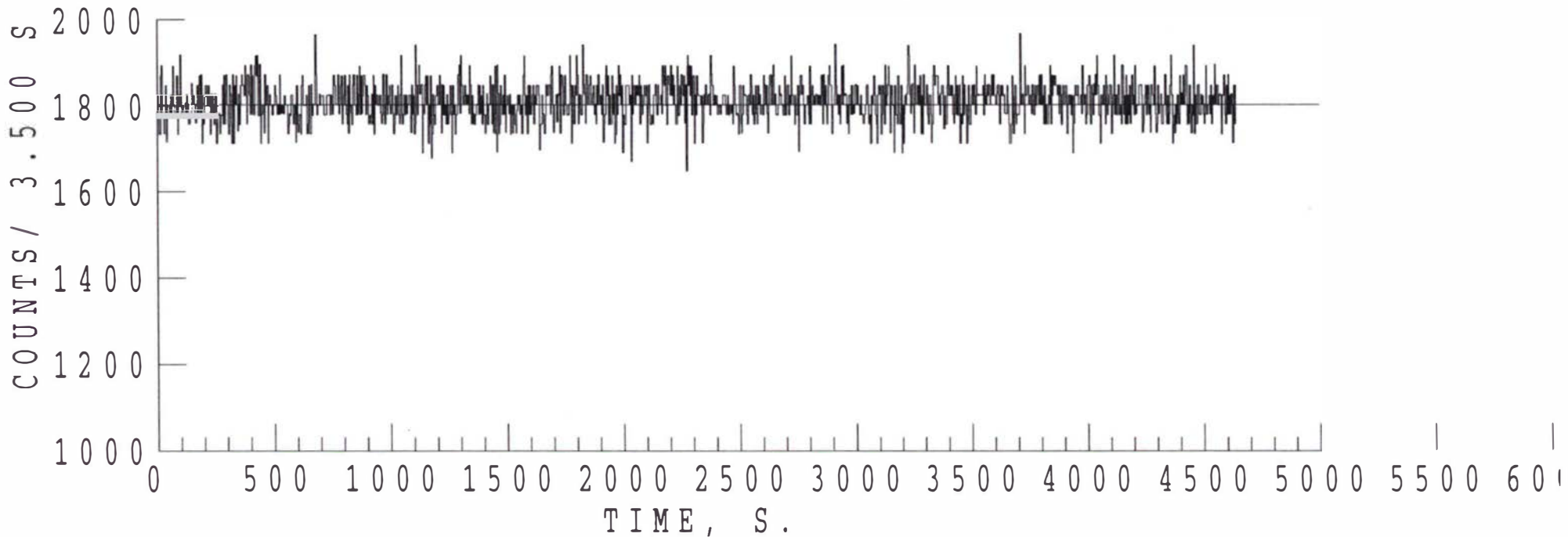
07/05/07

04/09/98 22248.355 s

0.500 S INTERVALS REGROUPED BY 7

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



Date: Feb 10 2010

BURST TRIANGULATION CHECKLIST

1. Ulysses Data *N/A*

- ☐ Jim Schmidling's stat file correction applied?
- ☐ Final ephemeris used?
- ☐ Final, CDROM data used?
- ☐ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution?

2. BATSE Data

- ☐ BATSE ephemeris for T_0 ?
- ☐ Error circle position and radius from public catalog used?
- ☐ If MER data were used, is a 30 ms systematic error included?

3. NEAR Data

- ☐ Final, correct time used? (Files postmarked vw@boccl, from from Teresa Sheets, postmarked May 2 1999 or later have the correct time; files on website have incorrect times)
- ☐ BATSE >100 keV data used for NEAR correlation?

4. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

5. For 3 Spacecraft events

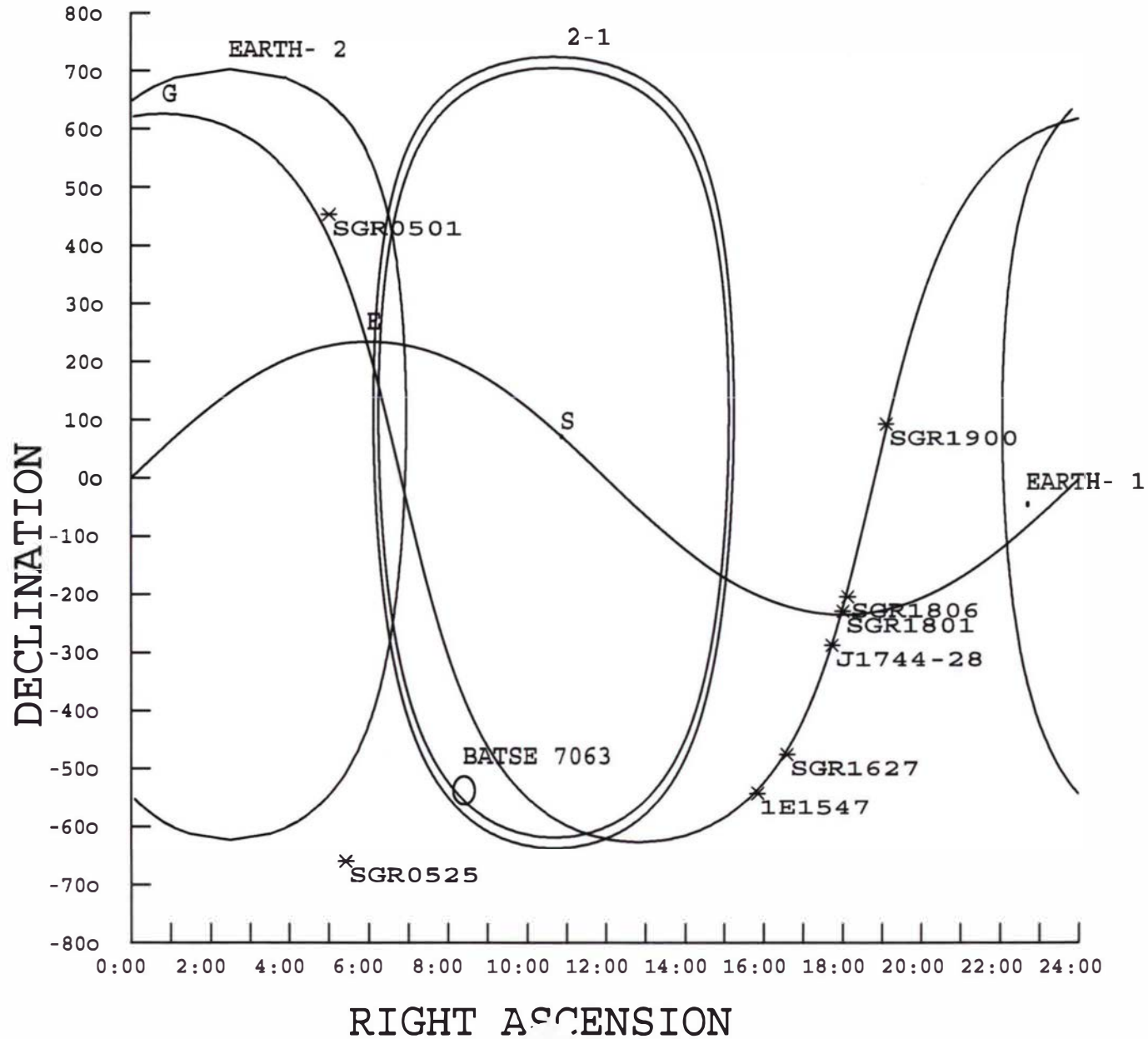
- ☐ $\Sigma 3\Delta t$'s calculated?

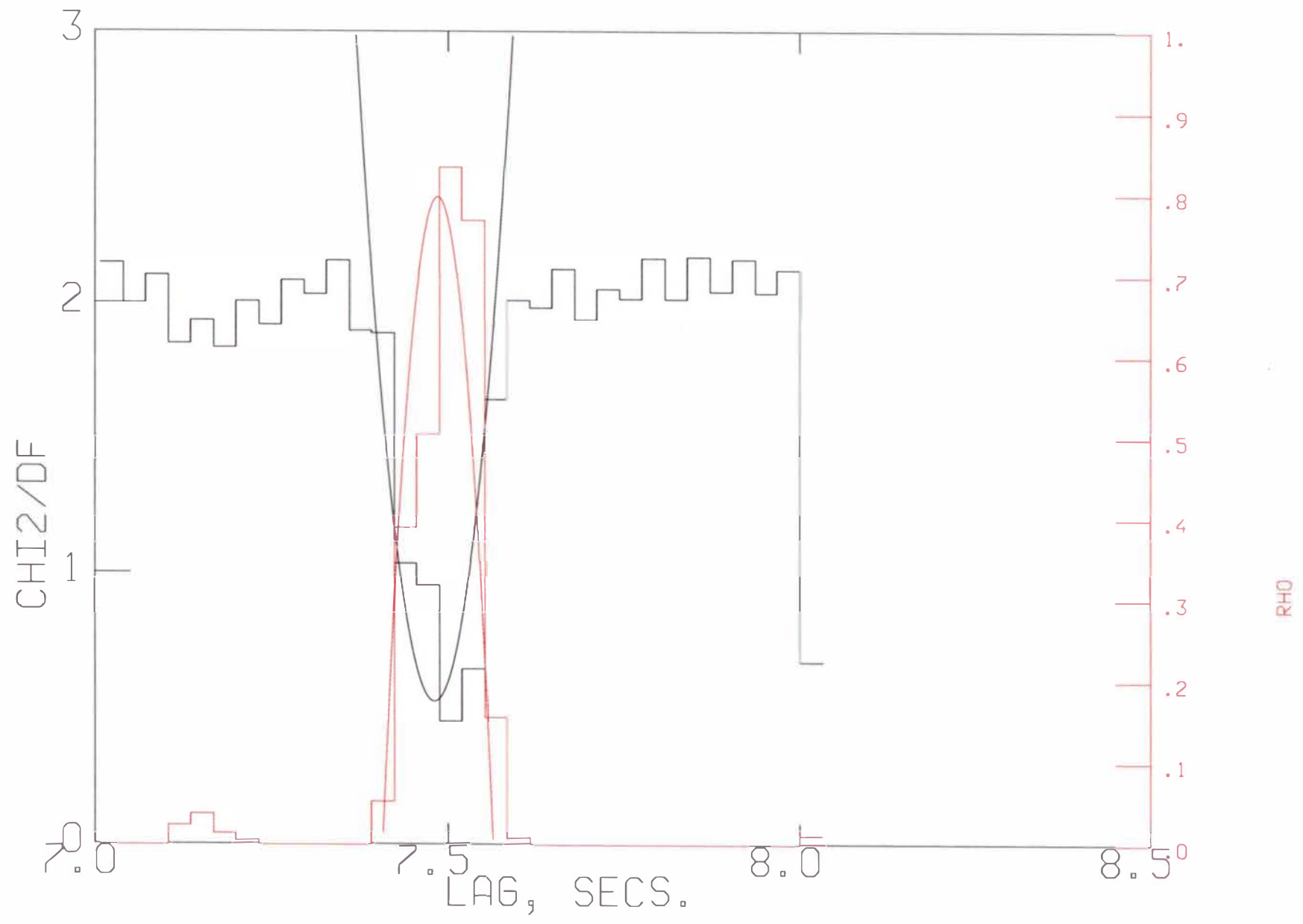
- ☒ ACCESS database updated?

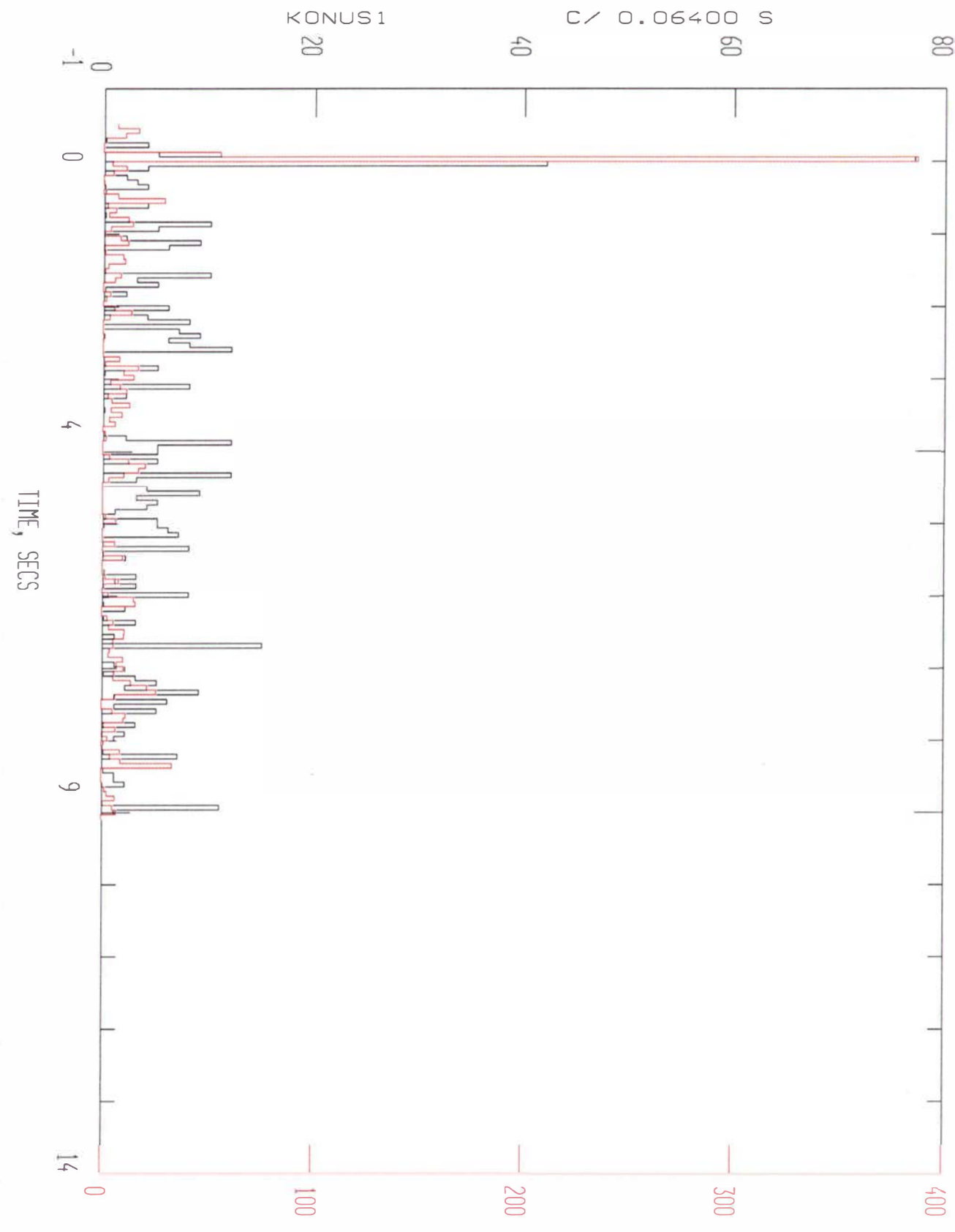
EVENT OF SEP 4, 1998 8:42

10/02/2010

N-M = CORRELATION BETWEEN SATELLITES N AND M
 EARTH-N = EARTH AS SEEN FROM SATELLITE N
 S=SUN
 1 KONUS1
 2 SAX
 E-ECLIPTIC
 G-GALACTIC EQUATOR





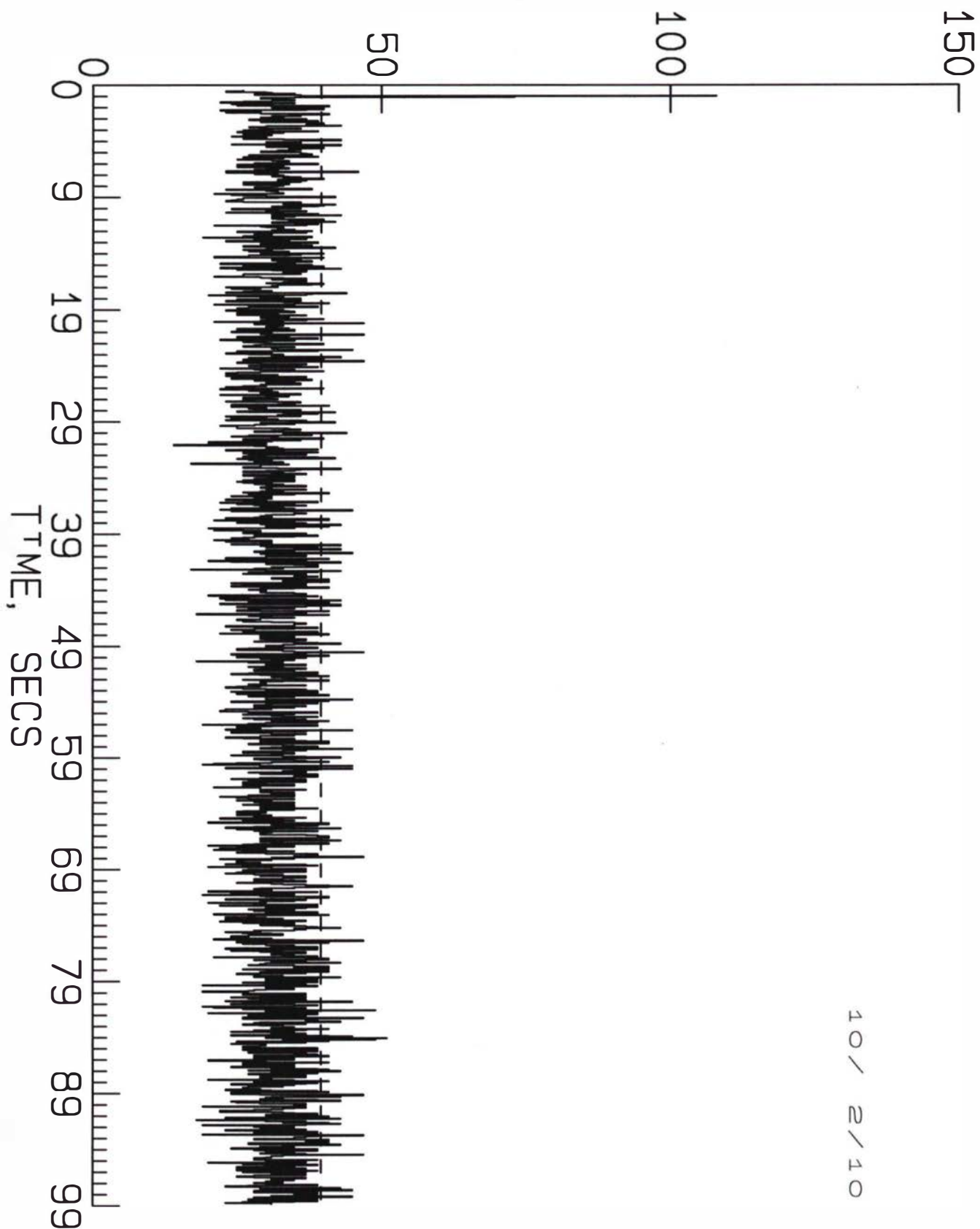


KONUS

04/09/98 31349.014

50- 200 keV

COUNTS/0.064 S

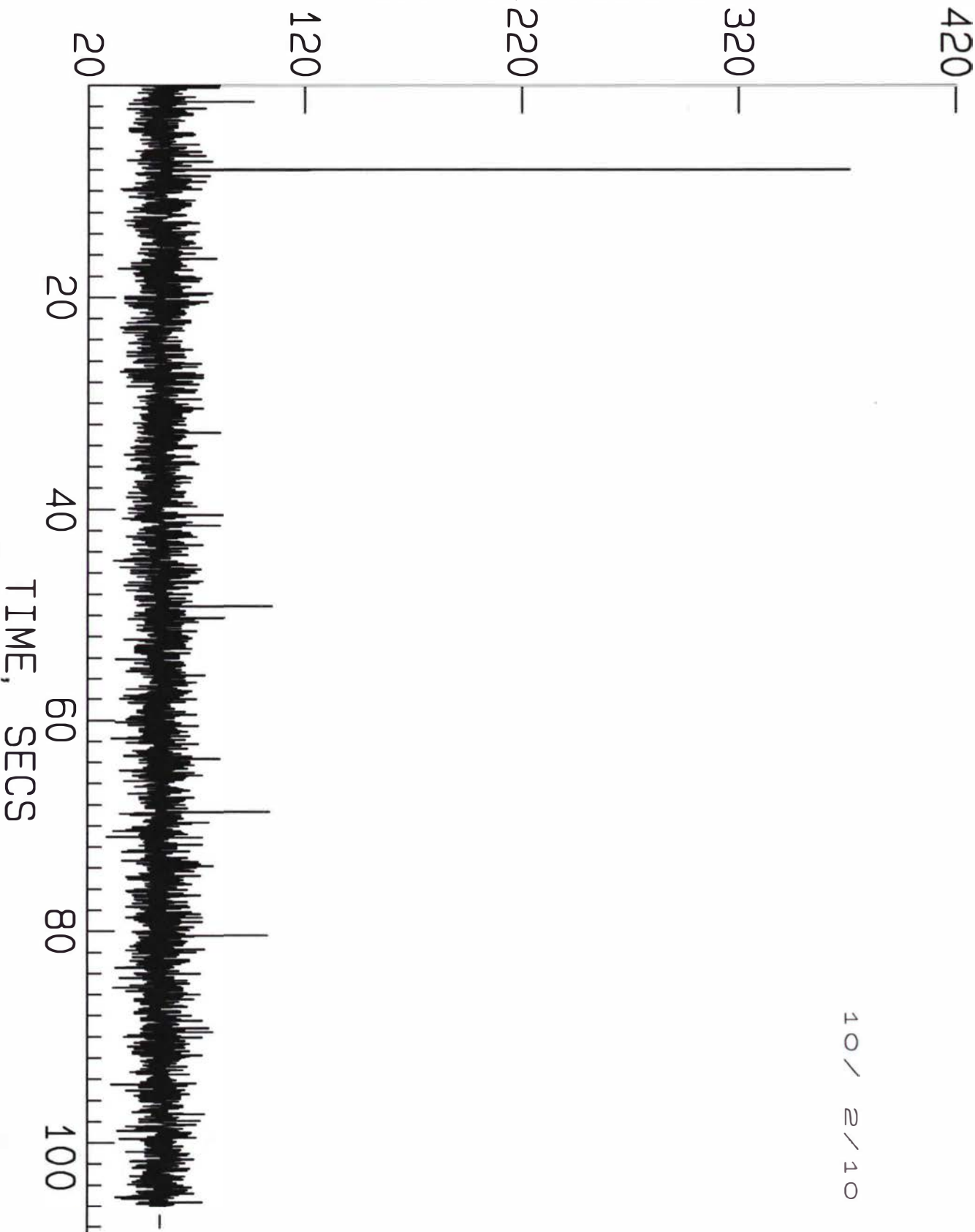


10 / 2 / 10

SAX GRBM

04/09/98 31342.324
40- 700 keV

COUNTS/0.031 S



From RICHARDSON@fender.msfc.nasa.gov Tue Sep 8 12:32:51 1998
Return-Path: <RICHARDSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA01381; Tue, 8 Sep 1998 12:32:51 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA02578; Tue, 8 Sep 1998 12:32:47 -0700
Date: Tue, 8 Sep 1998 14:32:45 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980908143245.2021fd48@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7063
Content-Length: 1135
X-Lines: 26
Status: RO

*No - BATSE burst is < 1s long
NEAR peak is 2s long*

BATSEARCH PROGRAM

BATSE BURST # 7063
EVENT OF 1998 SEP 4 DAY OF YEAR=247
EVENT CROSSING TIME AT BATSE : 31350. S. OR 08:42:30.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 126.000 -54.000
BATSE PEAK COUNTING RATE: 63000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 4/ 9/ 98 IS:
RA= 158.862 DEC= 3.600 DIST= 6.350 AU
BATSE-ULYSSES DISTANCE = 949920752. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=116.23 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1400.39 SECS.
CROSSING TIME AT ULYSSES IS 29950. S. OR 08:19:09 +/- 522.21 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 4/ 9/ 98 IS:
RA= 131.830 DEC= 19.034 DIST= 2.376 AU
MARS-BATSE DISTANCE = 355417728. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=106.79 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -342.55 SECS.
CROSSING TIME AT MARS IS 31007. S. OR 08:36:47 +/- 191.85 SECONDS

BATSE BURST TRIGGER

NO.: 7063

TIME: TJD=1060 SECONDS=31350

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=70.5 AZIMUTH=13.5 ERROR=1.9 DEGREES

COMMENTS:

GRB. STRONG SINGLE SPIKE. DURATION APPROX. = 0.15 SEC. VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7063	980904	11060	31350	63000	126	-54	.15

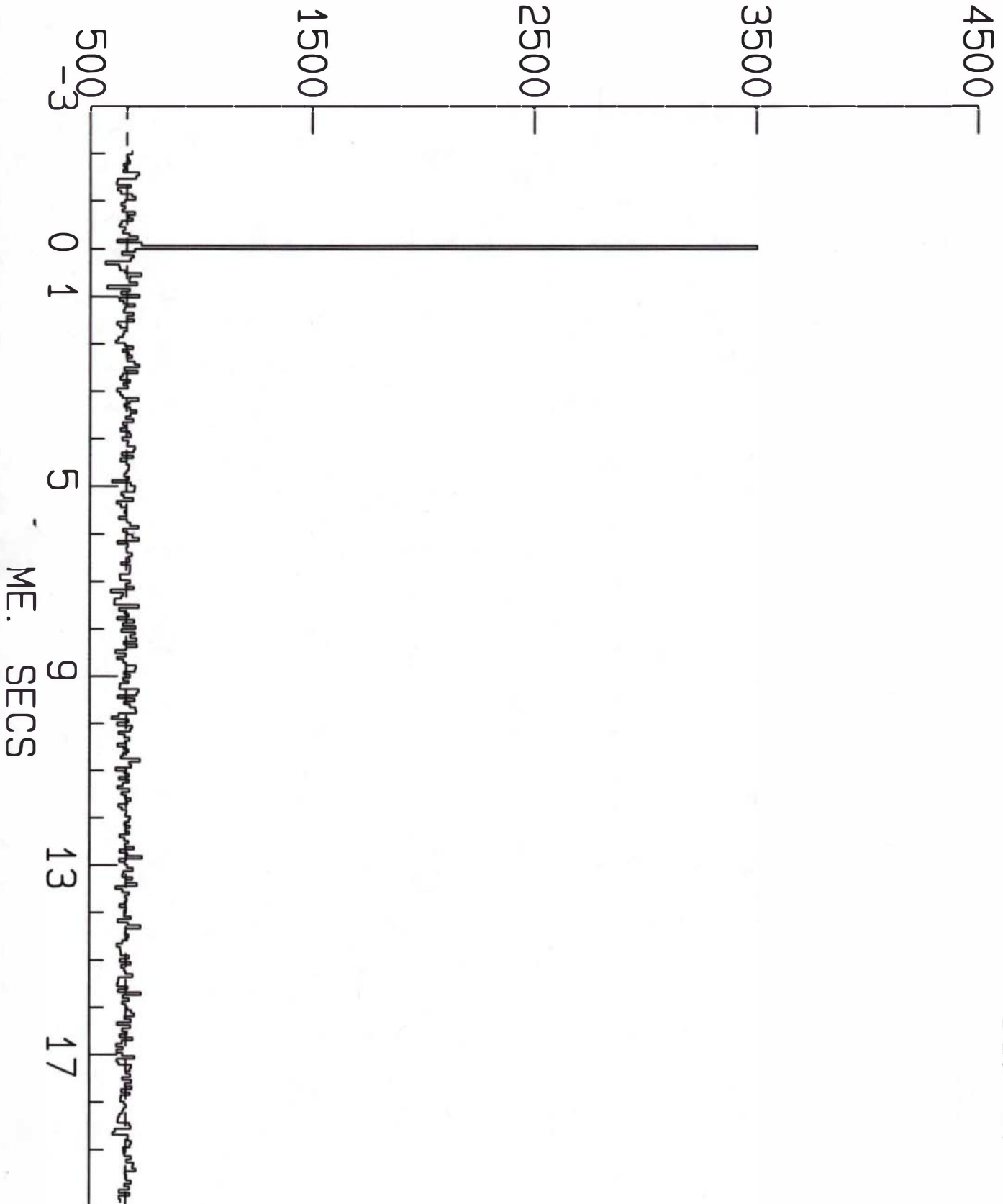
BATSE

04/09/98

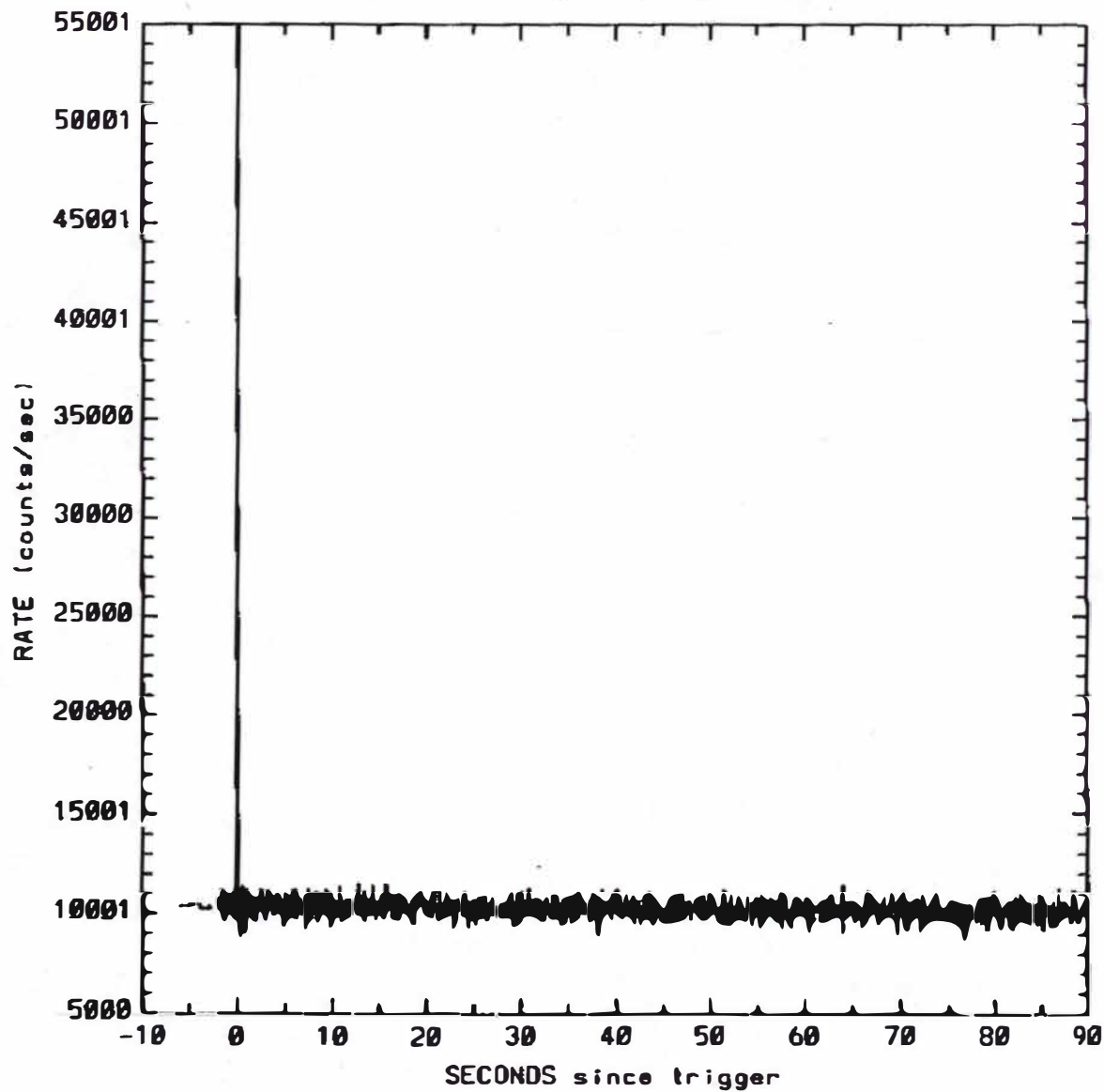
31350.305

100-1000 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7063



9-FEB-2000 09:03:01

Created by MOPS 80
(Burst Display)
Version 12.26

Trigger # = 7063

Trigger Time:
11060 / 31350.305Burst Data Type:
DISCSCDeadtime
Corrected: N
Background Data
Type: PREB + DISCLA
Minimum Integ. Time:
0.064 secondsDetectors (7..0):
----3210Discriminators:
(3 . 4)Quality Mask:
801SP1

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

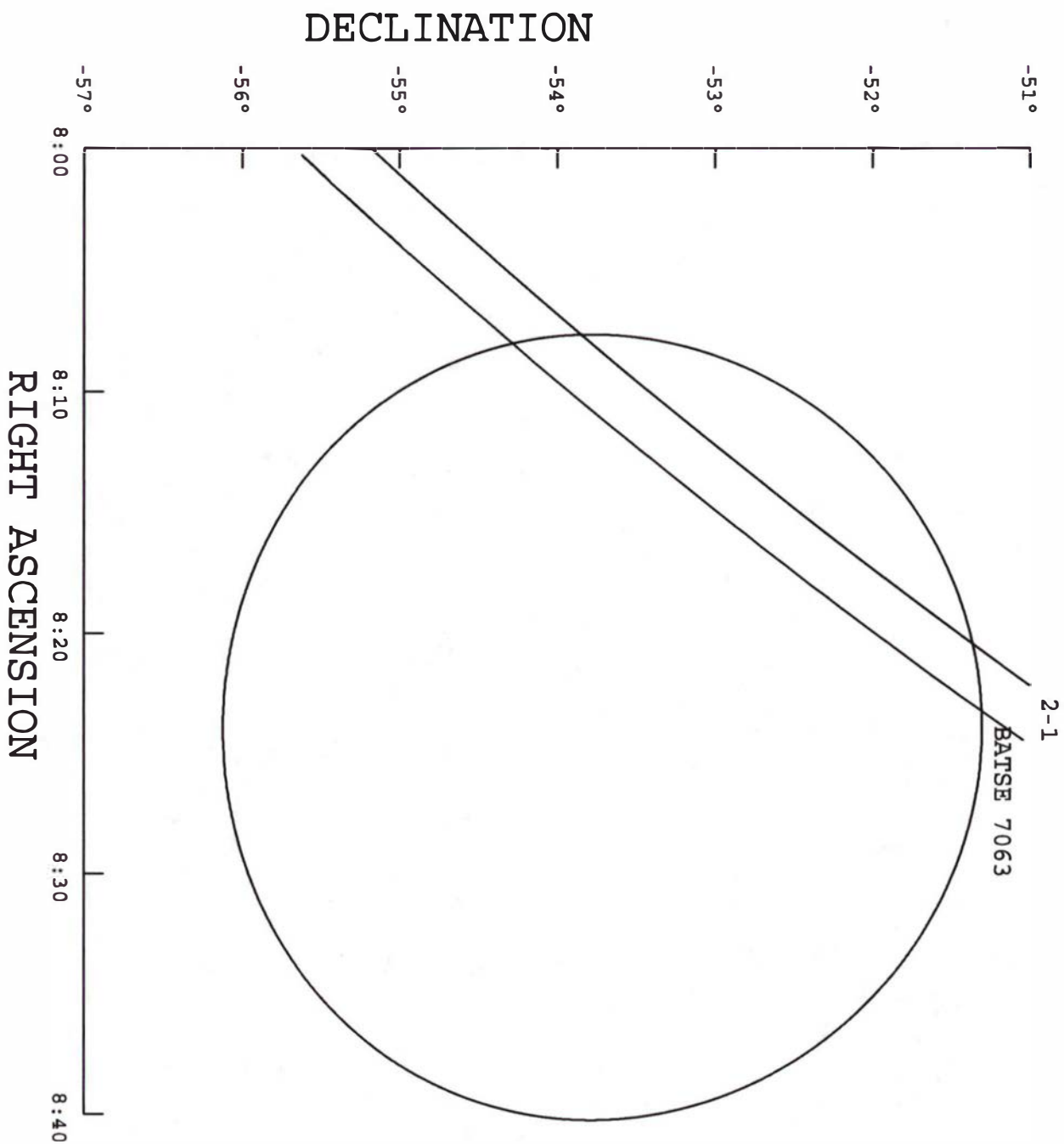
G=GALACTIC EQUATOR

1 BATSE

2 NEAR

EVENT OF SEP 4, 1998 8:42

5 / 6 / 99



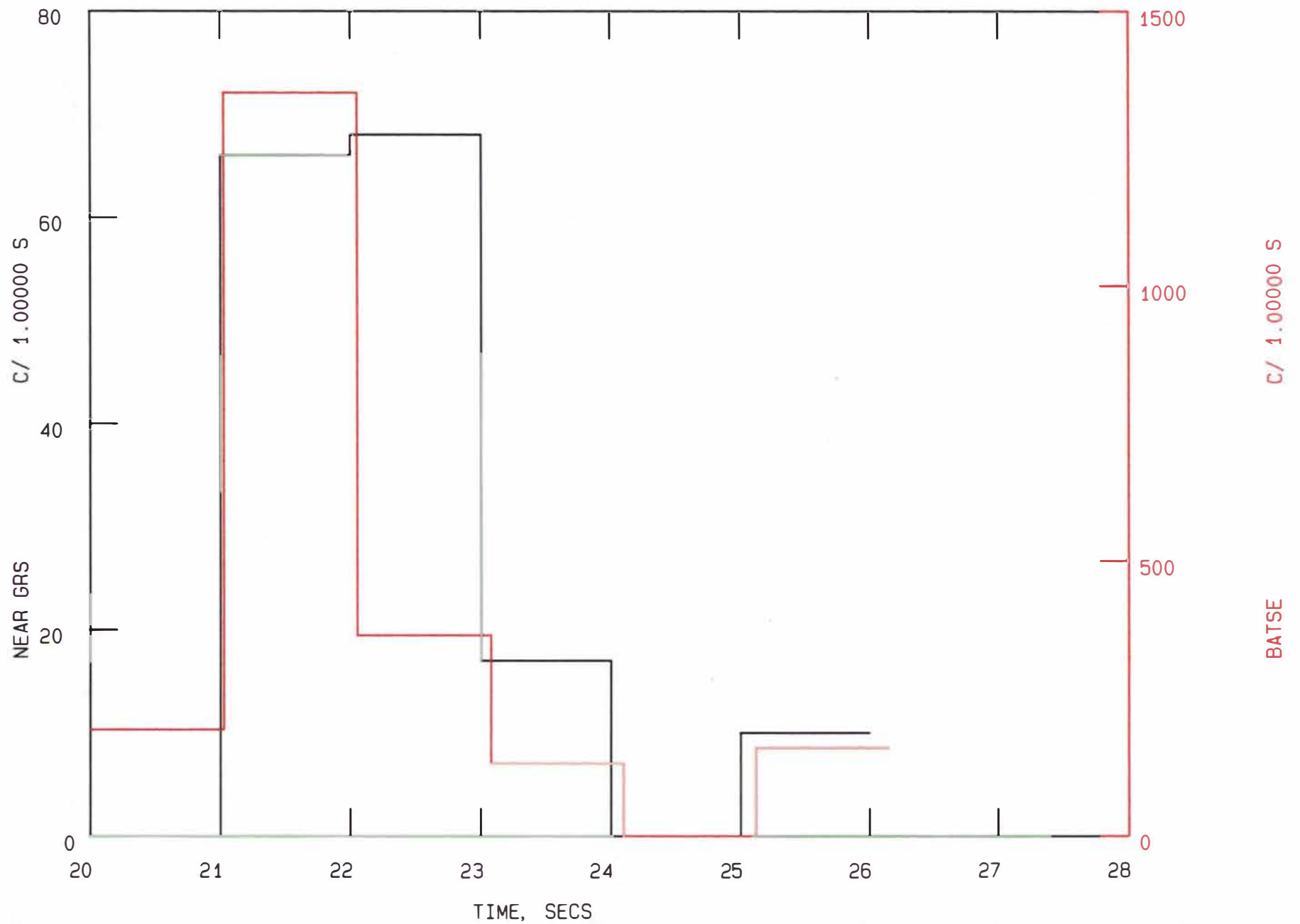
NEAR GRS -BATSE

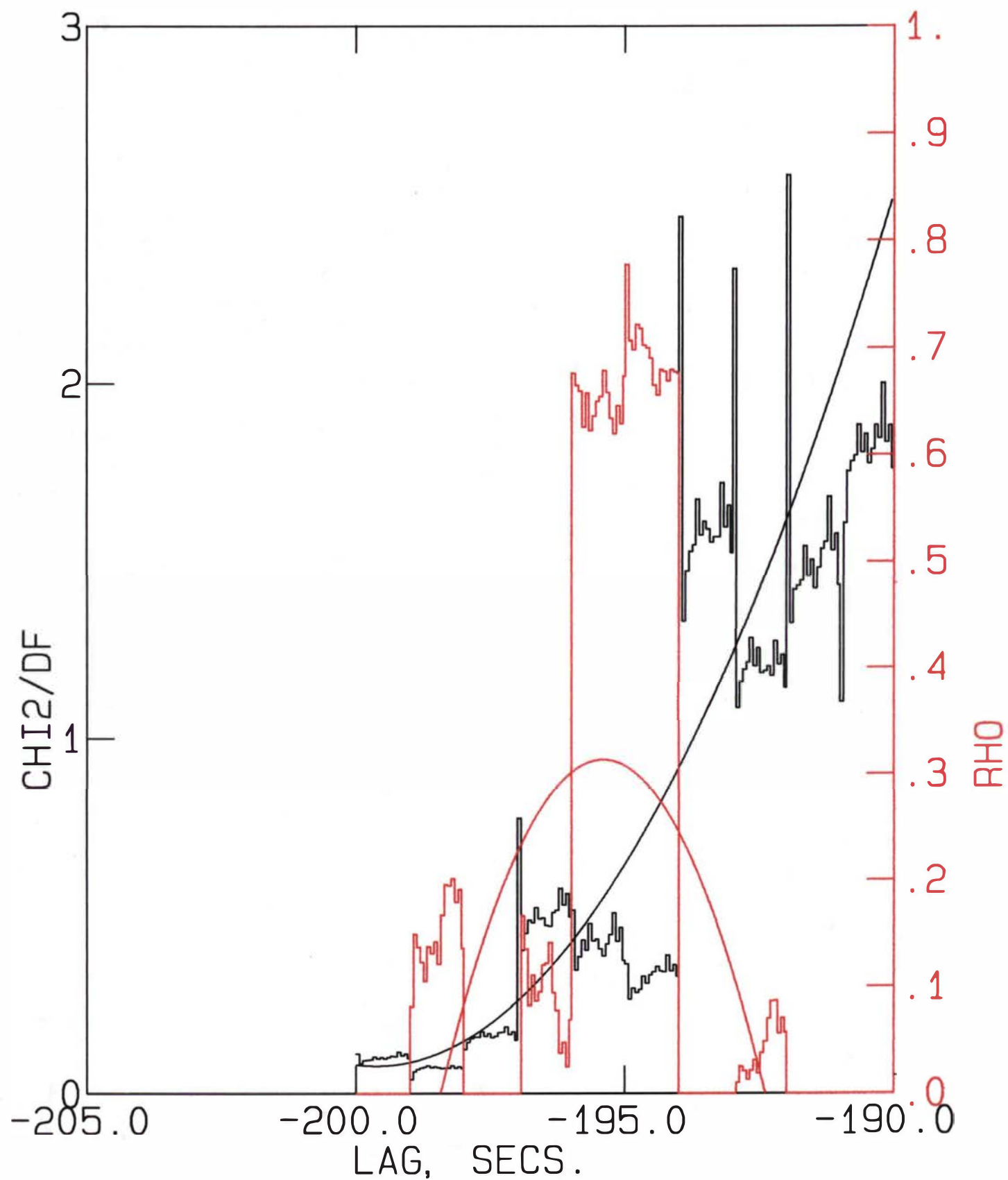
CORRELATION

04/09/98

31274.997

5/ 6/99





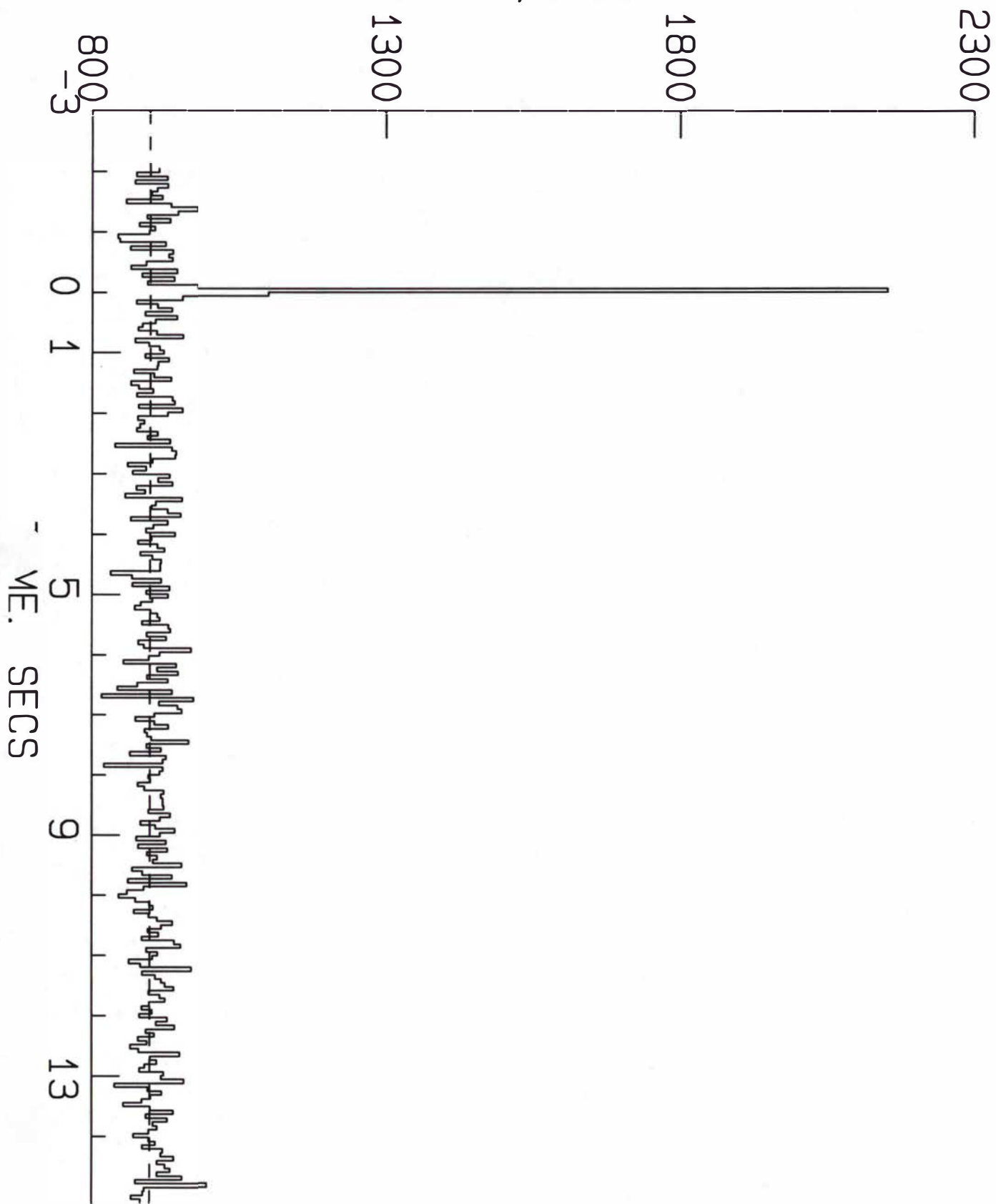
BATSE

04/09/98

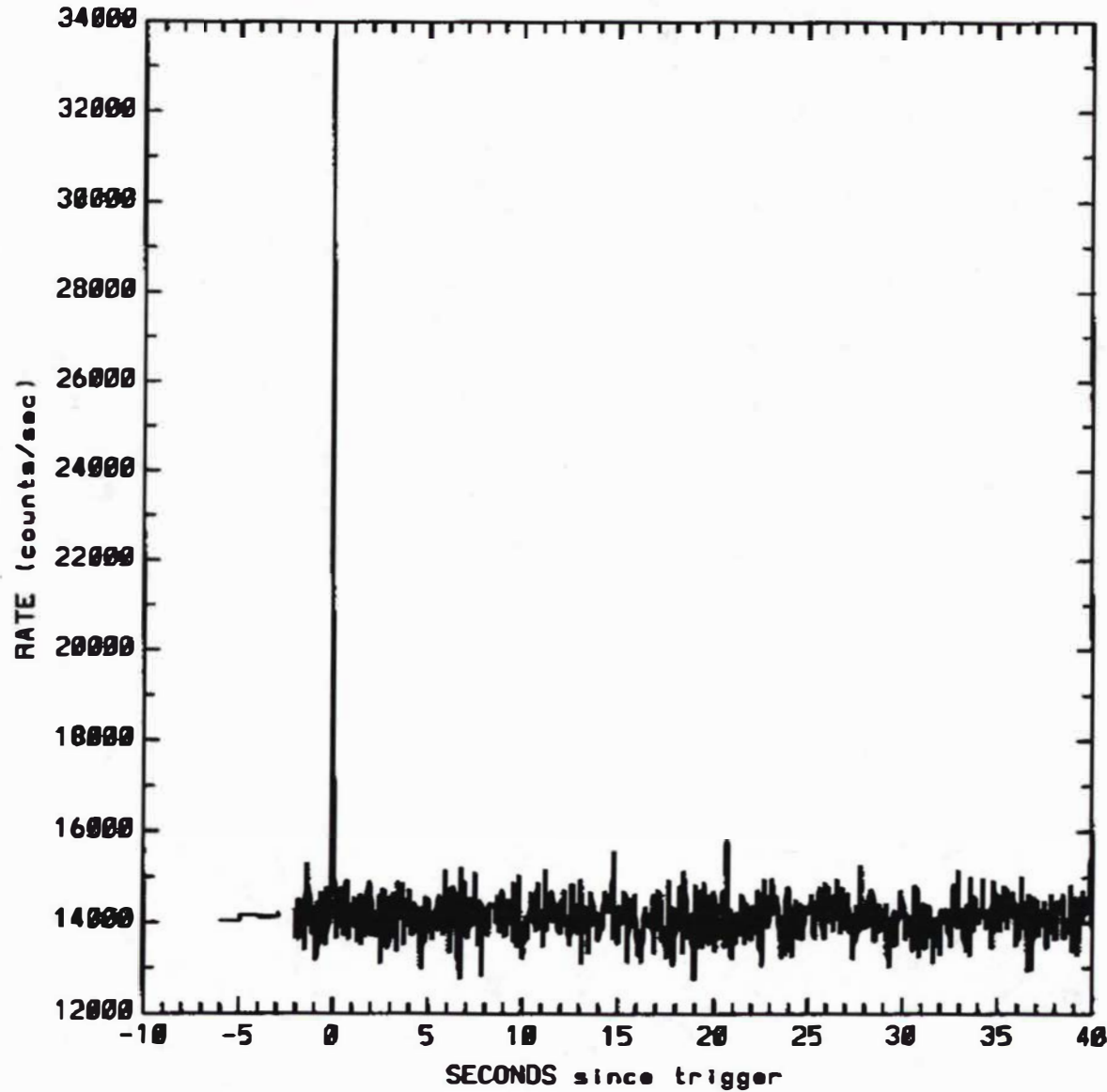
31350.305

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7063



4-JUN-1999 11:31:46

Created by MOPS 80
(Burst Display)
Version 12.26

Trigger # : 7063

Trigger Time:
11060 / 31350.305Burst Data Type:
DISCSCDeadtime
Corrected: NBackground Data
Type: PREB + DISCLAMinimum Integ. Time:
0.064 secondsDetectors [7..8]:
----3210Discriminators:
(1 , 2)Quality Mask:
BOTSP1

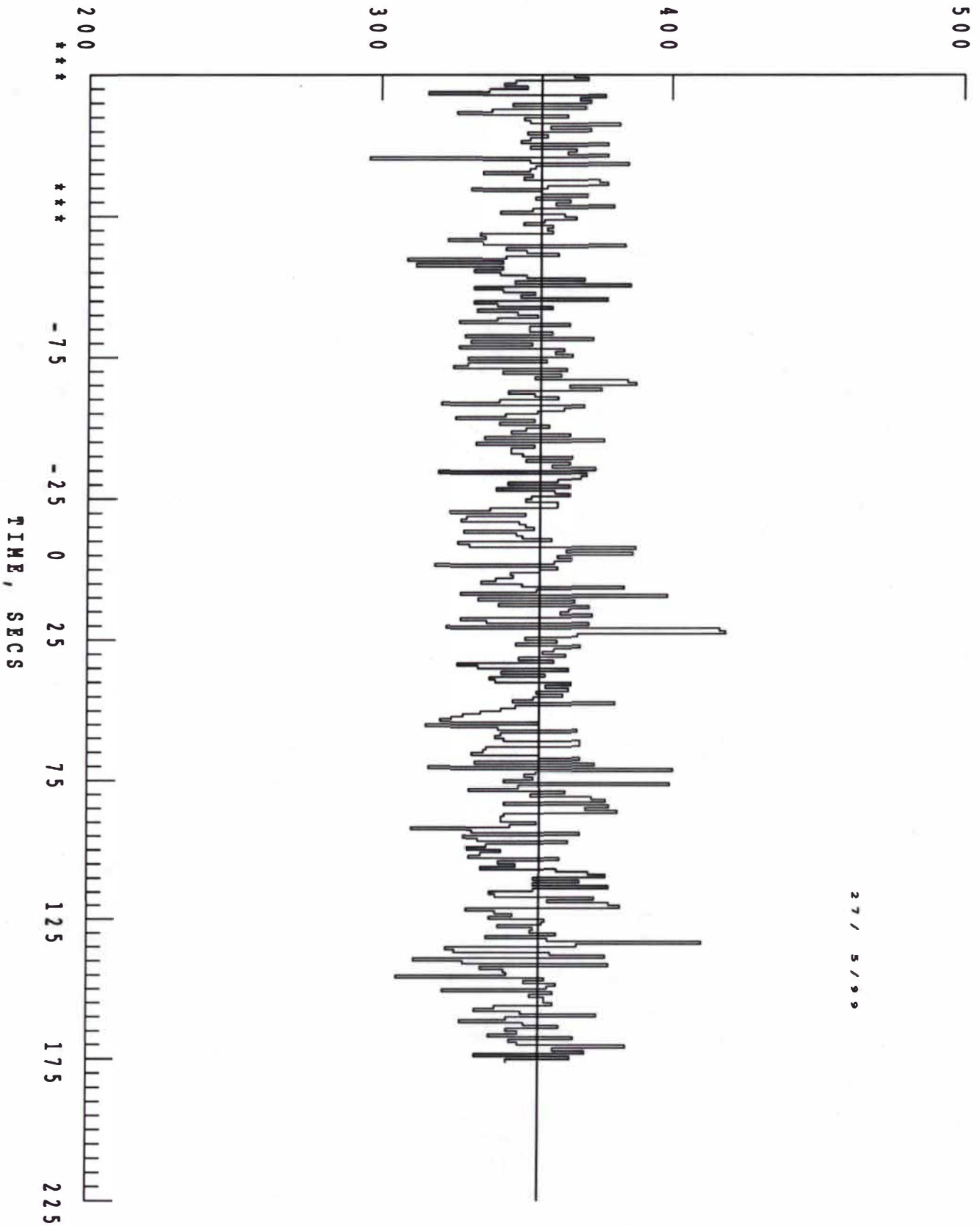
NEAR

04/09/98

31274.997

100-1000 keV

COUNTS/1.000 S



27 / 5 / 99

BATSE BURST# 7063

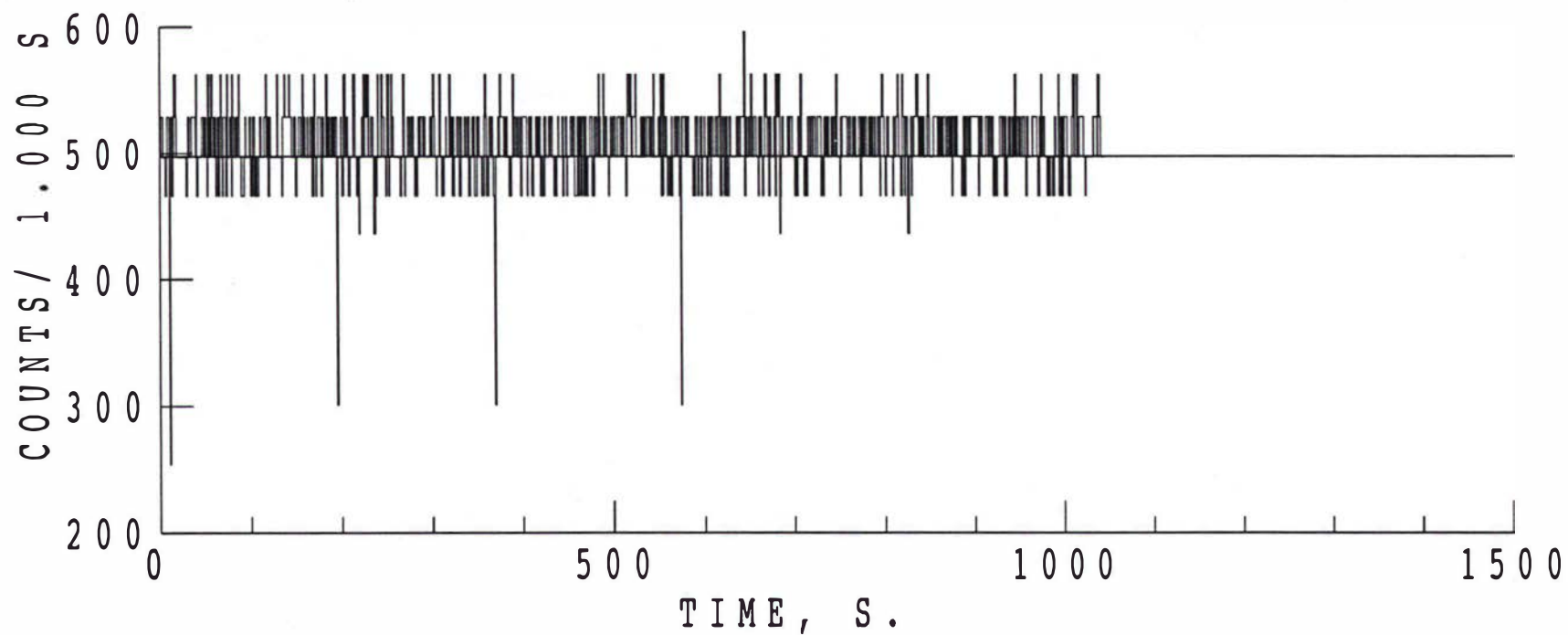
ULYSSES RT

19 / 2 / 99

4 / 9 / 98 29412.389 s

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From RICHARDSON@fender.msfc.nasa.gov Tue Sep 8 12:34:19 1998
Return-Path: <RICHARDSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA01437; Tue, 8 Sep 1998 12:34:18 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA02639; Tue, 8 Sep 1998 12:34:12 -0700
Date: Tue, 8 Sep 1998 14:34:10 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980908143410.2021fd48@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7064
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7064
EVENT OF 1998 SEP 4 DAY OF YEAR=247
EVENT CROSSING TIME AT BATSE : 48577. S. OR 13:29:37.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 84.000 -10.000
BATSE PEAK COUNTING RATE: 5000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 4/ 9/ 98 IS:
RA= 158.888 DEC= 3.580 DIST= 6.349 AU
BATSE-ULYSSES DISTANCE = 949860616. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=104.21 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -777.52 SECS.
CROSSING TIME AT ULYSSES IS 47799. S. OR 13:16:39 +/- 571.46 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 4/ 9/ 98 IS:
RA= 131.830 DEC= 19.034 DIST= 2.376 AU
MARS-BATSE DISTANCE = 355417728. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=124.64 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -673.81 SECS.
CROSSING TIME AT MARS IS 47903. S. OR 13:18:23 +/- 159.12 SECONDS

BATSE BURST TRIGGER

NO.: 7064

TIME: TJD=1060 SECONDS=48577

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=78.7 AZIMUTH=316.7 ERROR=2.9 DEGREES

COMMENTS:

GRB WITH STRUCTURE. DURATION APPROX. = 22 SEC. MARGINALLY VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7064	980904	11060	48577	5000	084	-10	22

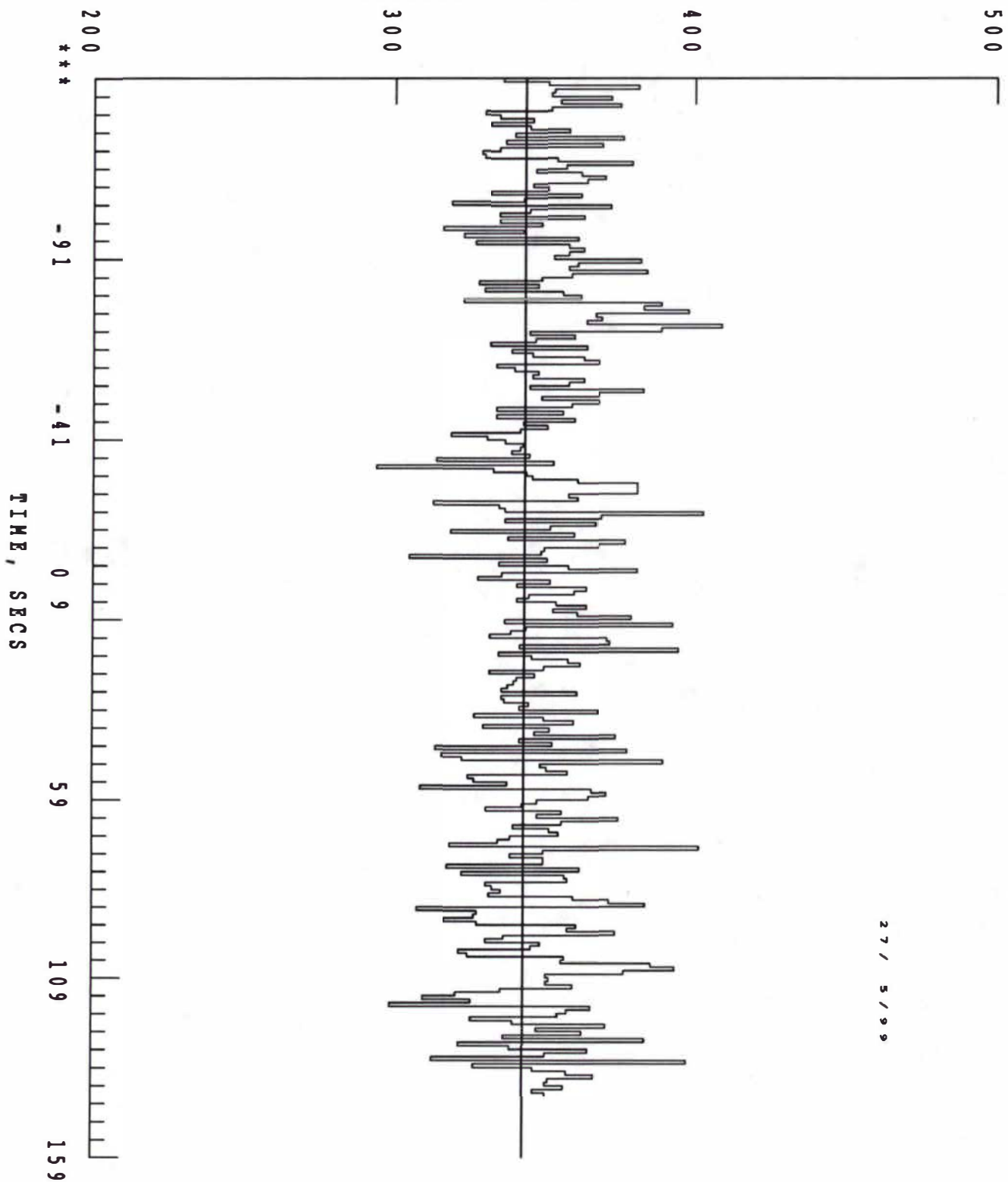
NEAR

04/09/98

49132.992

100-1000 keV

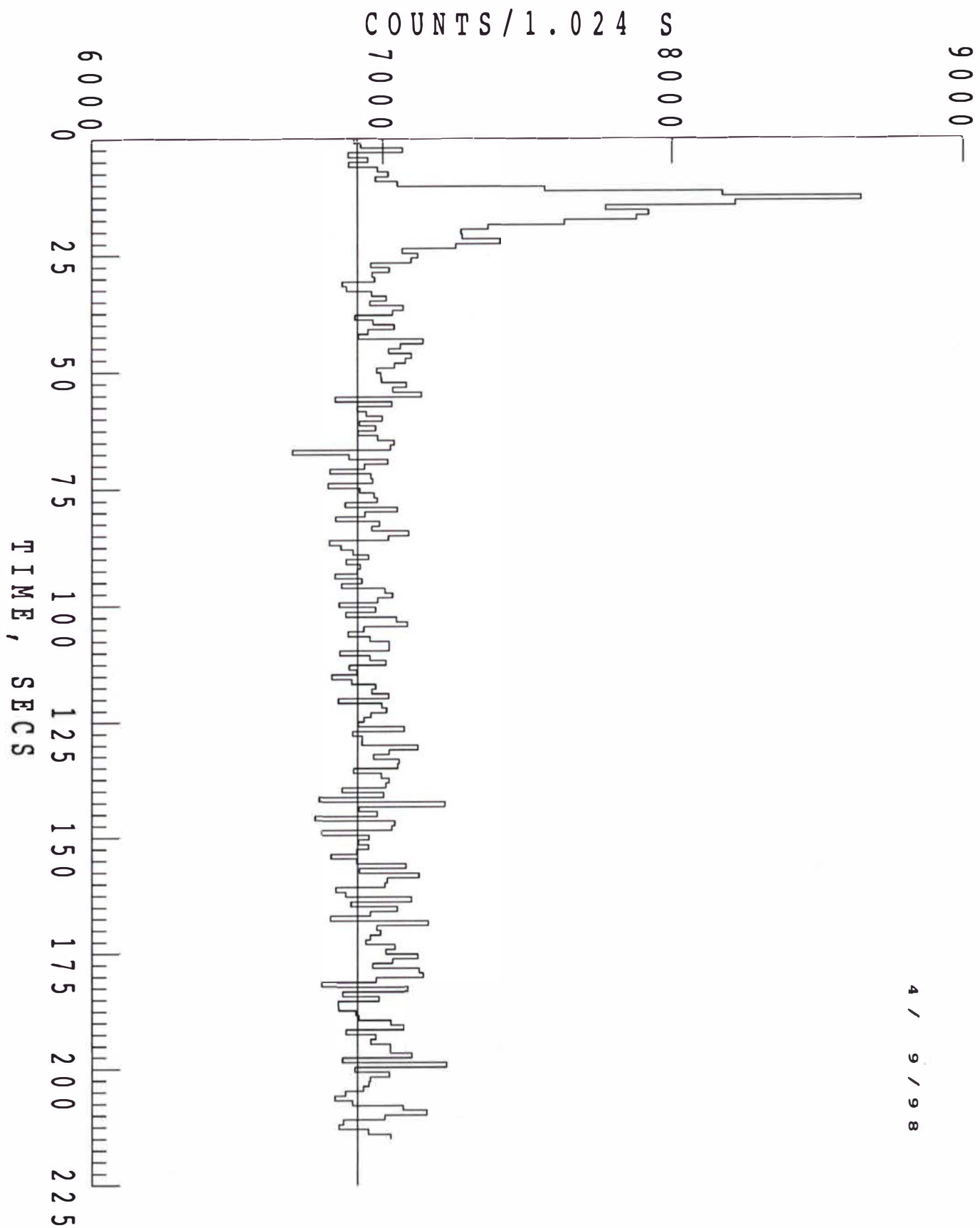
COUNTS/1.000 S



27 / 5 / 99

BACODINE 7064 04/09/98 48564.961

25 - 100 keV



From cline@apache.gsfc.nasa.gov Wed Sep 30 13:25 PDT 1998
Mime-Version: 1.0
Date: Wed, 30 Sep 1998 16:30:43 -0400
To: mazets@mz.ioffe.rssi.ru, golen@mz.ioffe.rssi.ru,
KHURLEY@sunspot.ssl.berkeley.edu
From: cline@apache.gsfc.nasa.gov (T L Cline)
Subject: Correction

Dear Evgeny, Sergei, and Kevin:

I may have sent an incorrect message, which I had lost before I finished it.

The message I mean to convey is that there are a number of sequel events to the giant 98 08 27 event, that I had overlooked in my being out of town and in my general preoccupation with other things during the last few weeks.

These events (may be no big deal, since SGRs are going off now all the time now) but may be interesting in that some seem to also have a periodicity.

These may include the following:

70684.449	8/28
83650.680	8/28
36994.068	8/29
65925.166	8/29
56858.156	8/31
69227.249	8/31
17656.387	9/01
62419.649	9/02
77657.917	9/03
349.014	9/04 31349
23131.249	9/05
etc.	
etc.	

64995.550 8/30 appears to be a GRB, however.

TLC

-- Thomas L. Cline ----- cline@apache.gsfc.nasa.gov

From RICHARDSON@fender.msfc.nasa.gov Tue Sep 8 12:27:41 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Tue, 8 Sep 1998 14:27:14 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7065

TIME: TJD=1060 SECONDS=60907

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=6.3 AZIMUTH=56.4 ERROR=2.2 DEGREES

COMMENTS:

SOLAR FLARE, OPTICAL SF. SINGLE PULSE. DURATION APPROX. = 40SEC. NOT VISIBLE
ABOVE 100KEV.

KONUS

ULYSSES RT

10/02/00

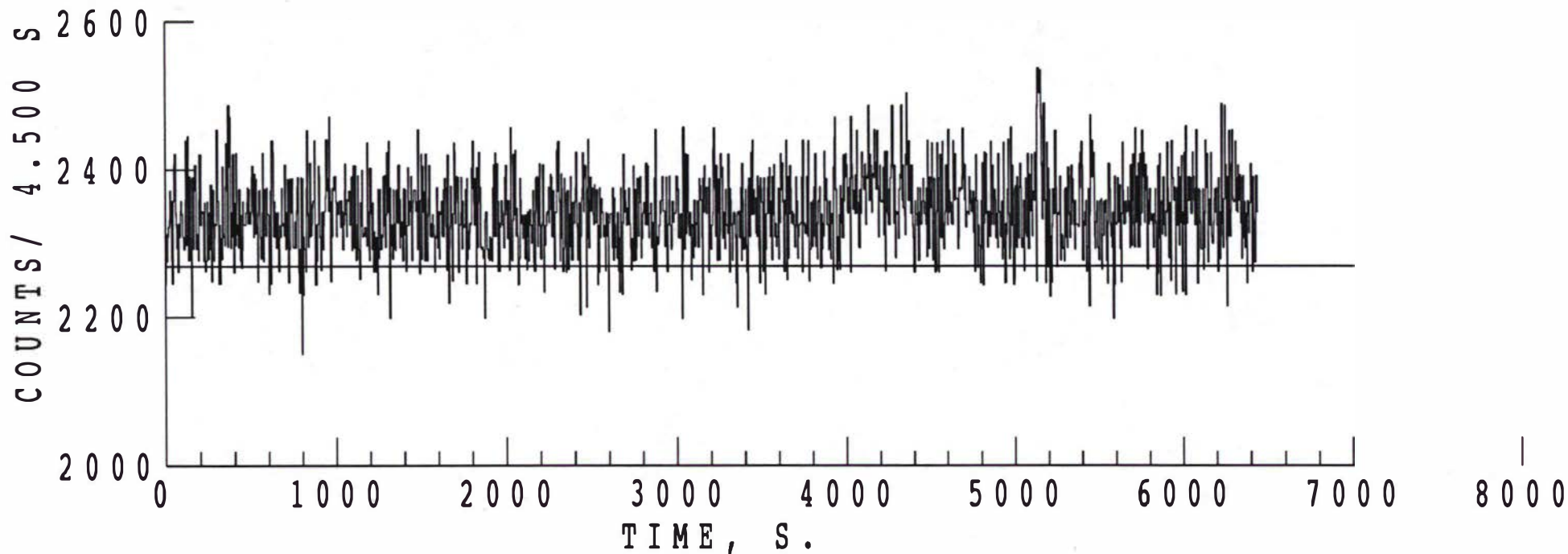
04/09/98 85284.227 s

0.250 S INTERVALS REGROUPED BY 18

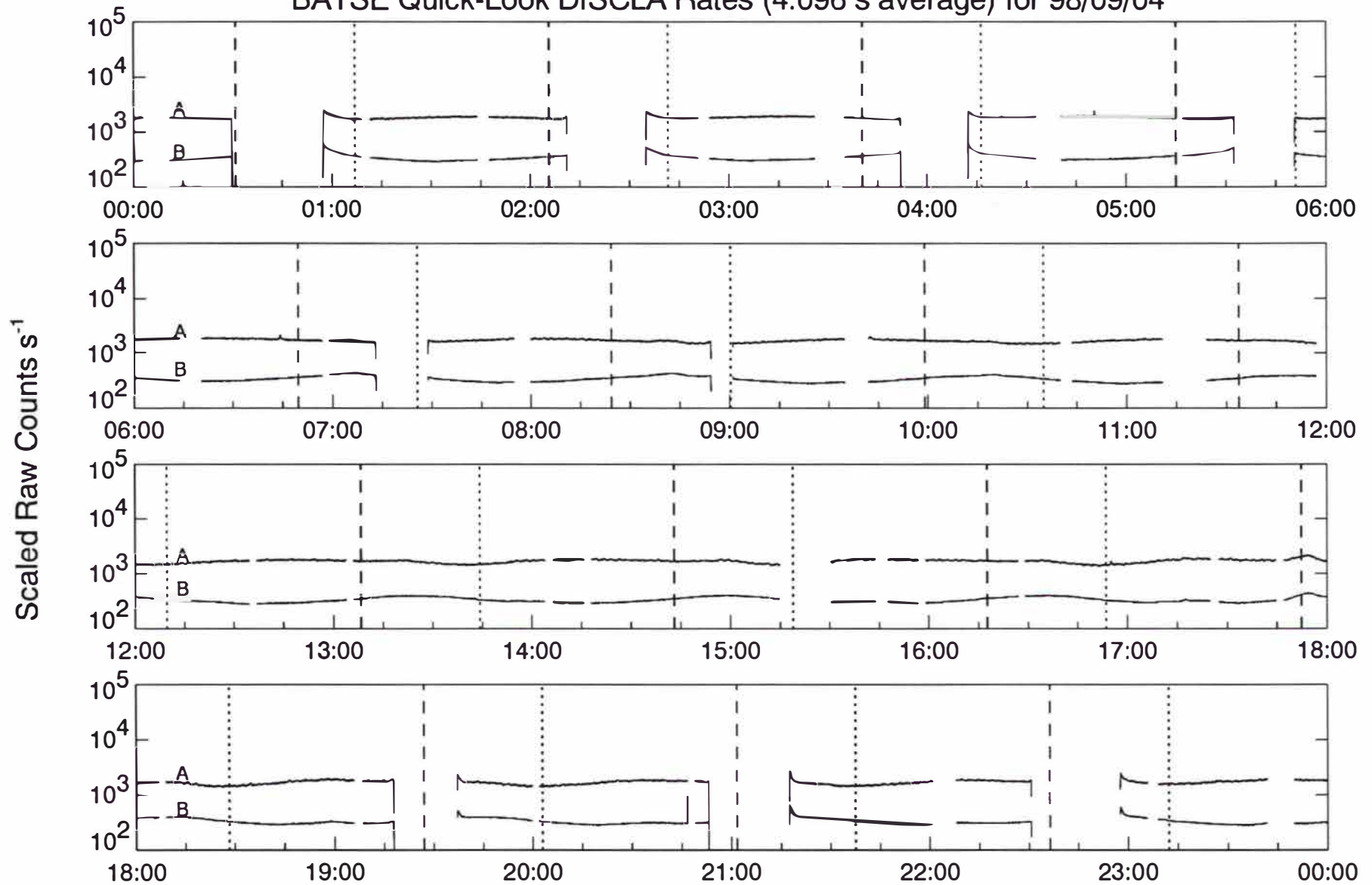
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/09/04

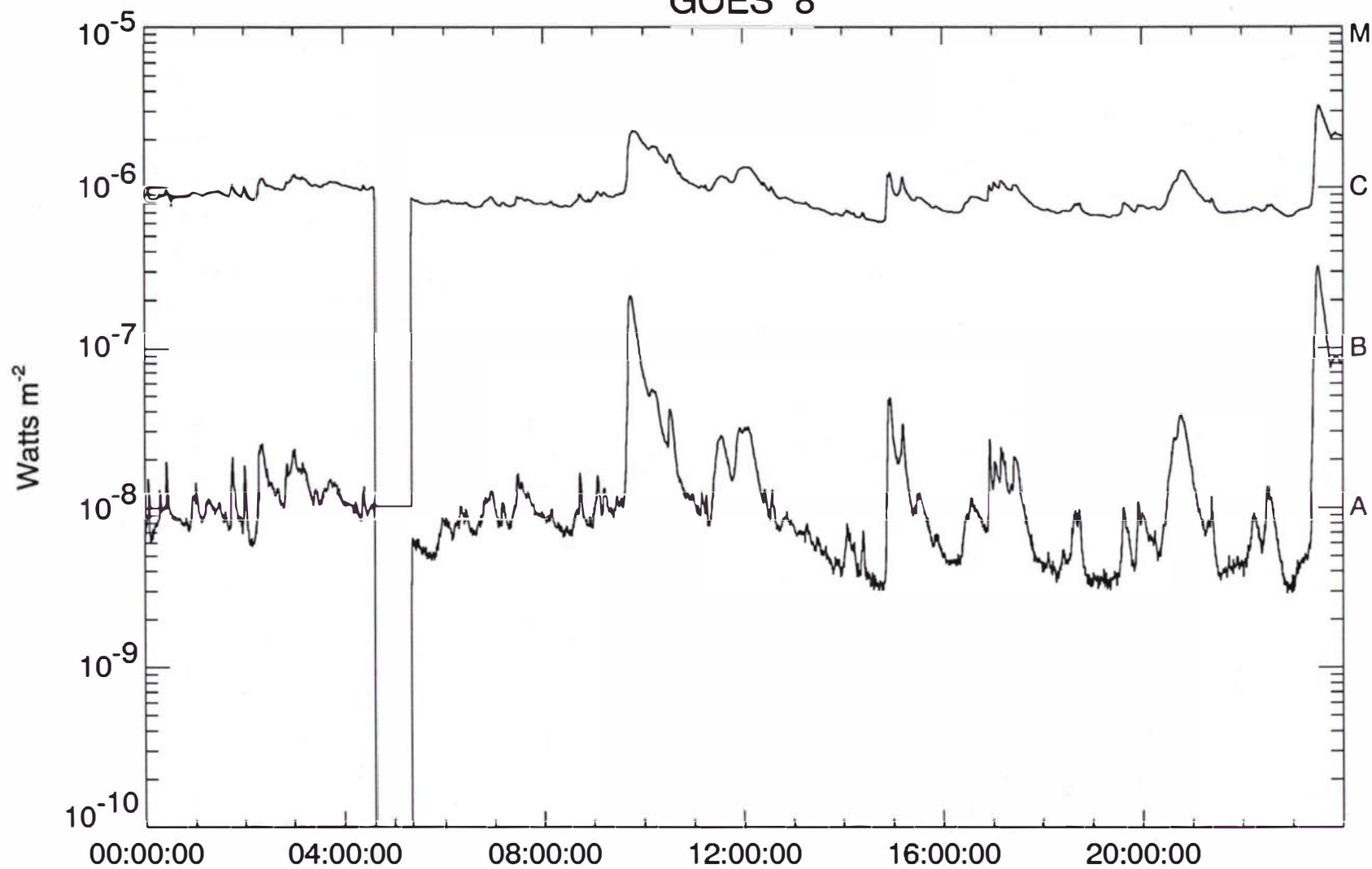


Current Time: 98/09/08, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8

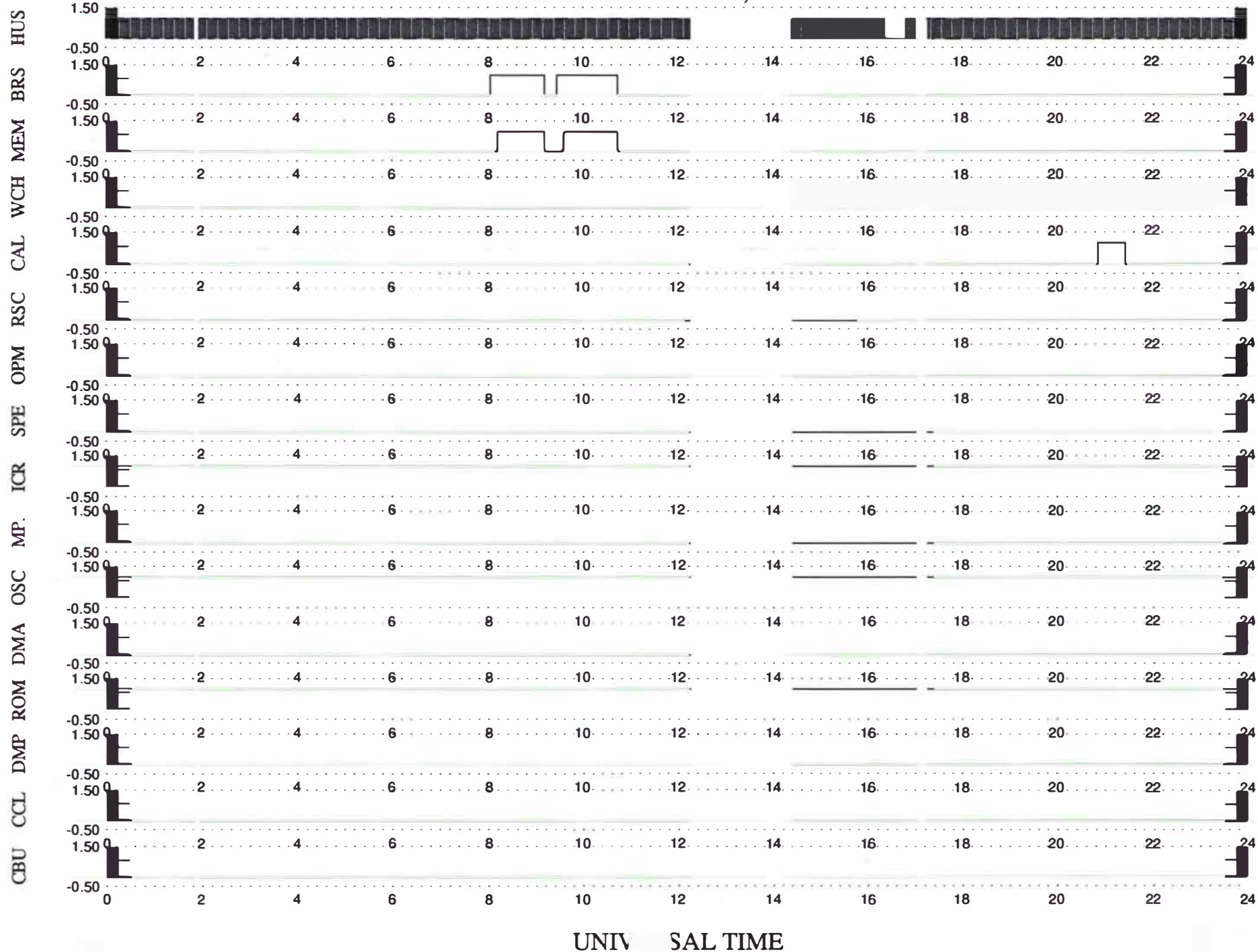


Data Start: 98/09/04, 0000:00

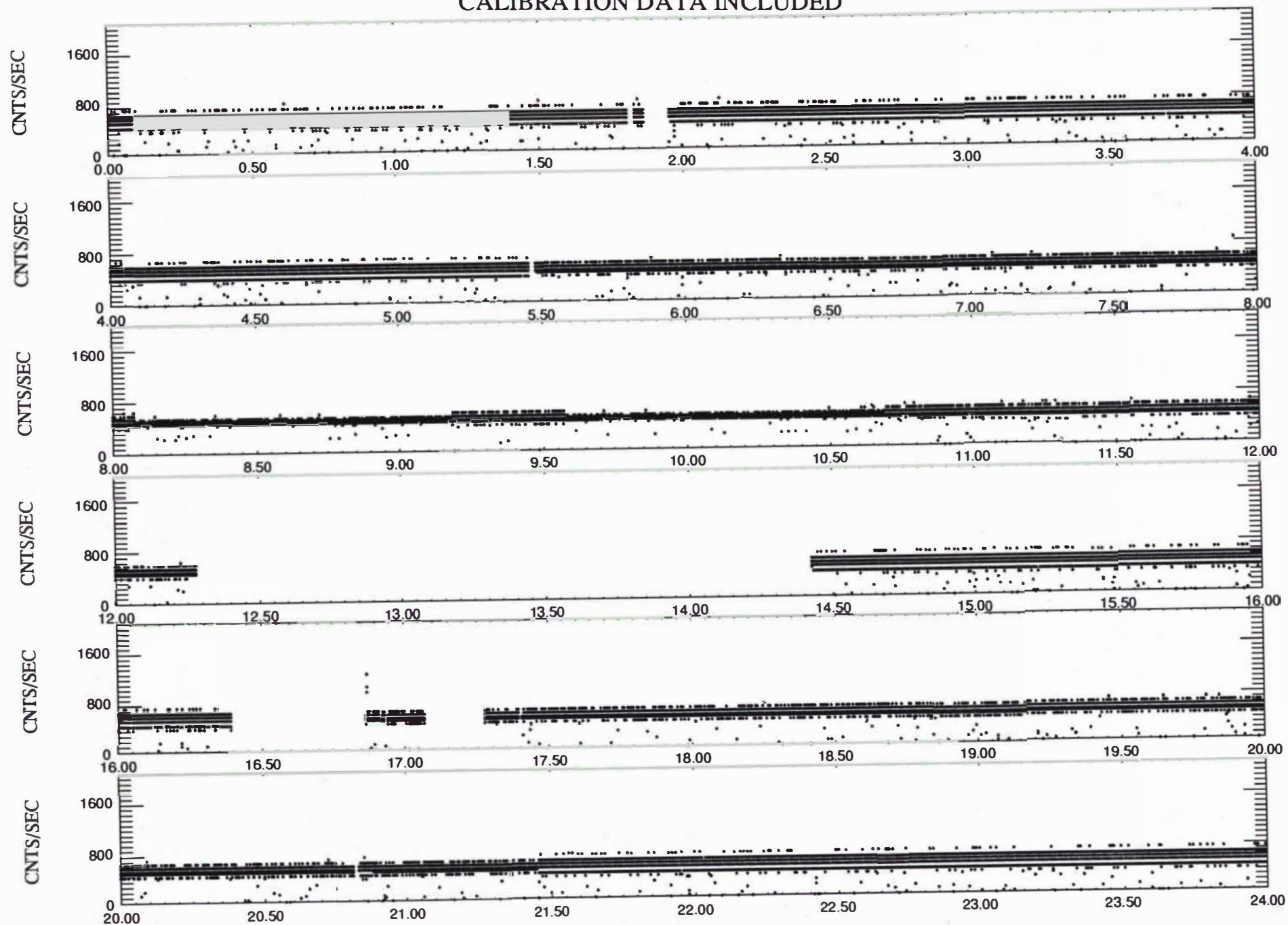
Plot created: 98/09/08, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
 Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted
 Sample average = 10

BURST NUMBER 13, 14

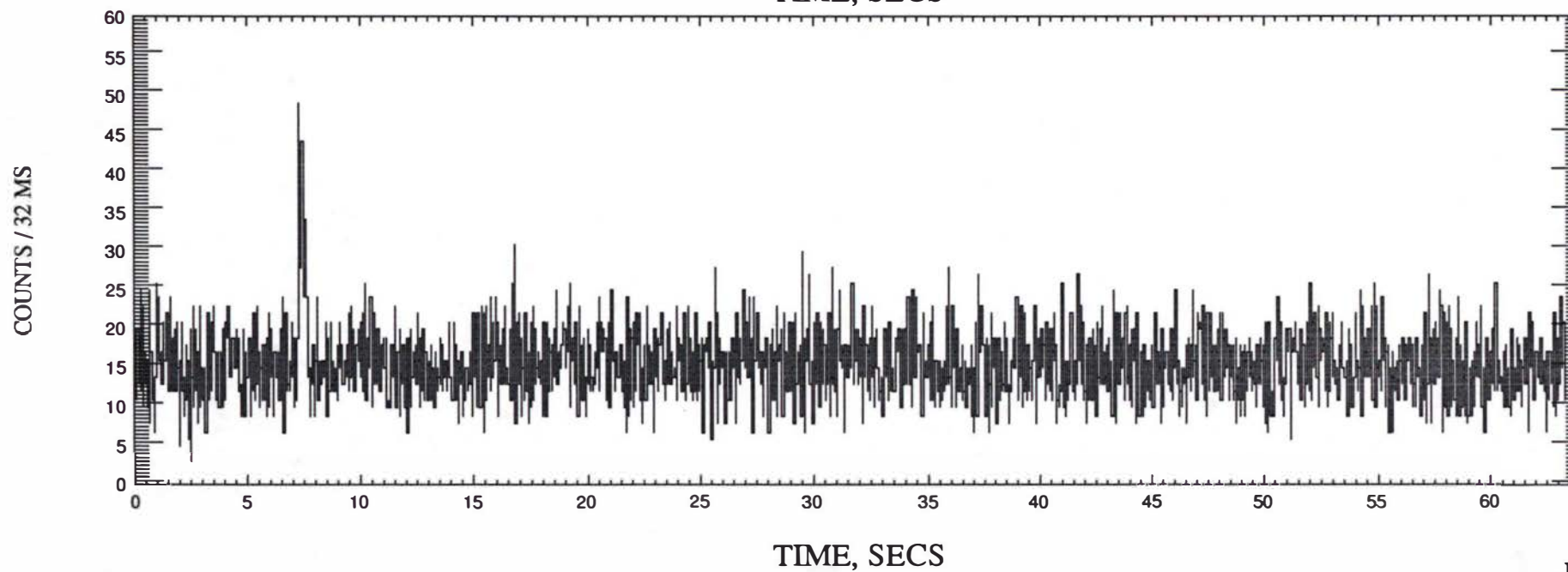
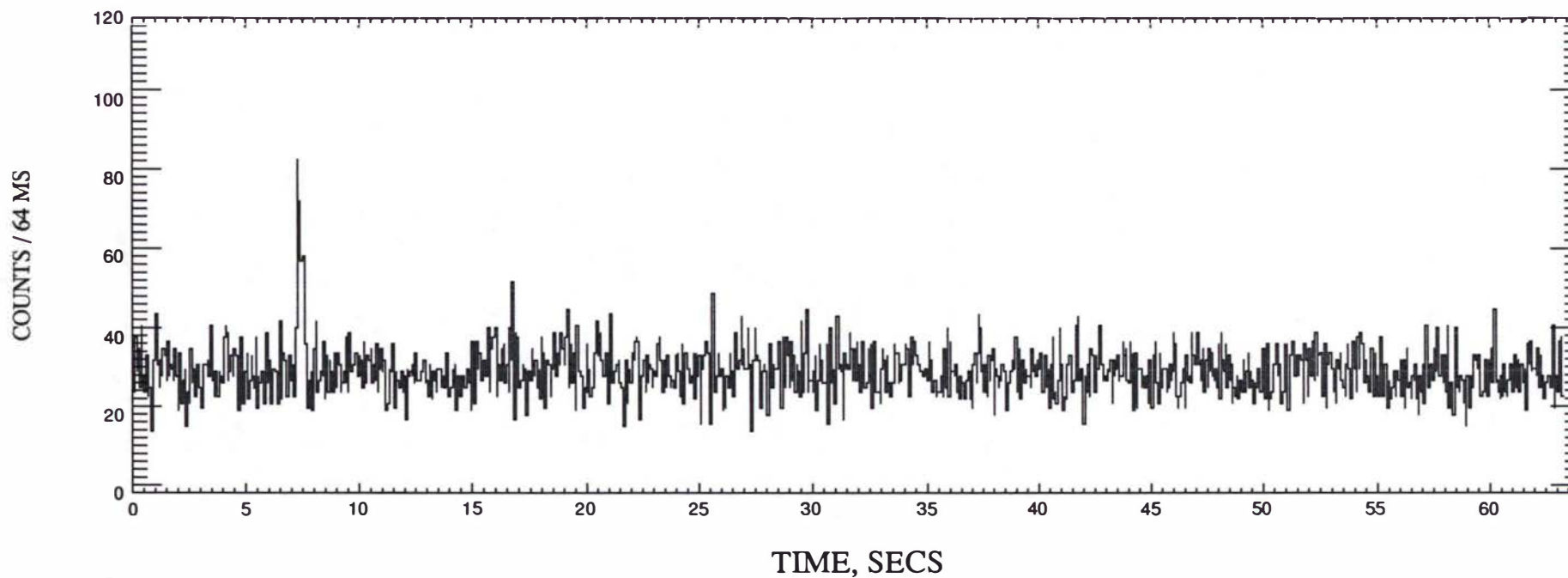


CALIBRATION DATA INCLUDED

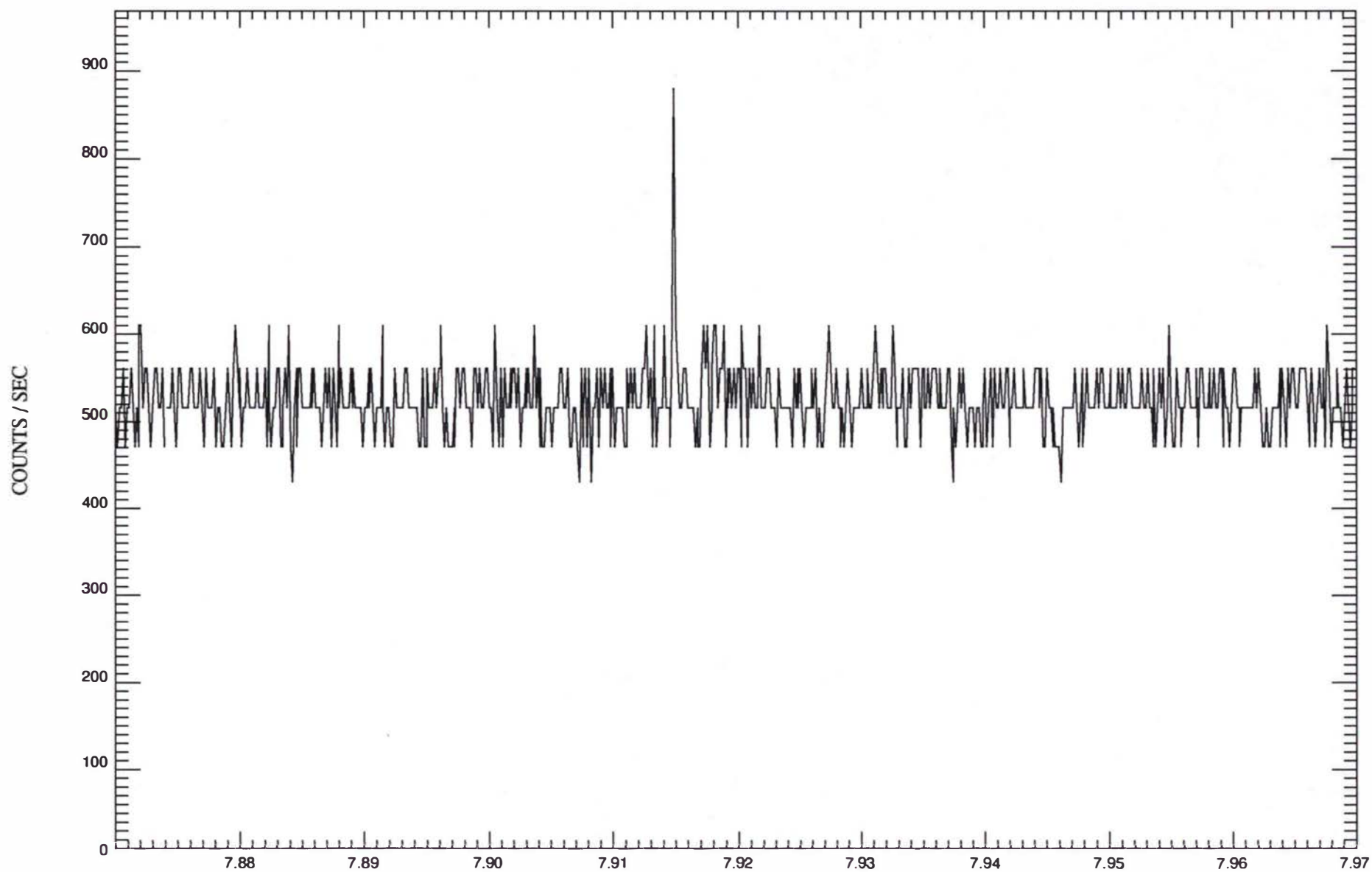


UNIV SAL TIME

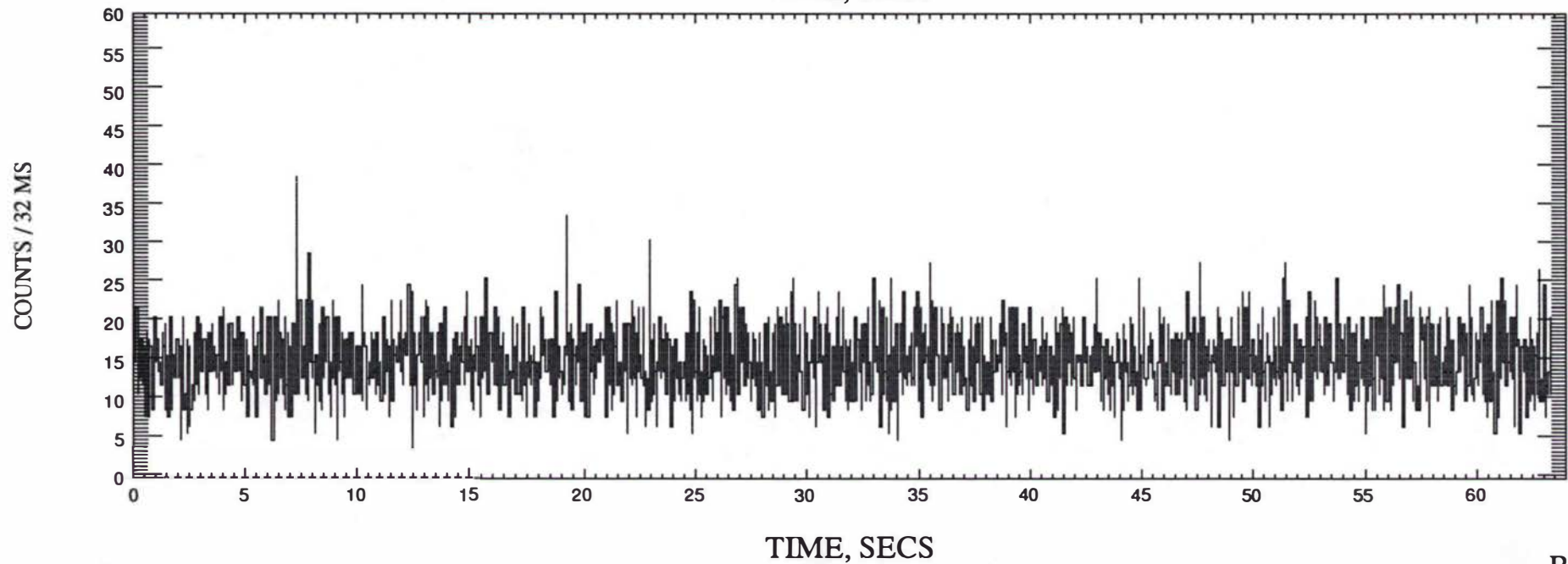
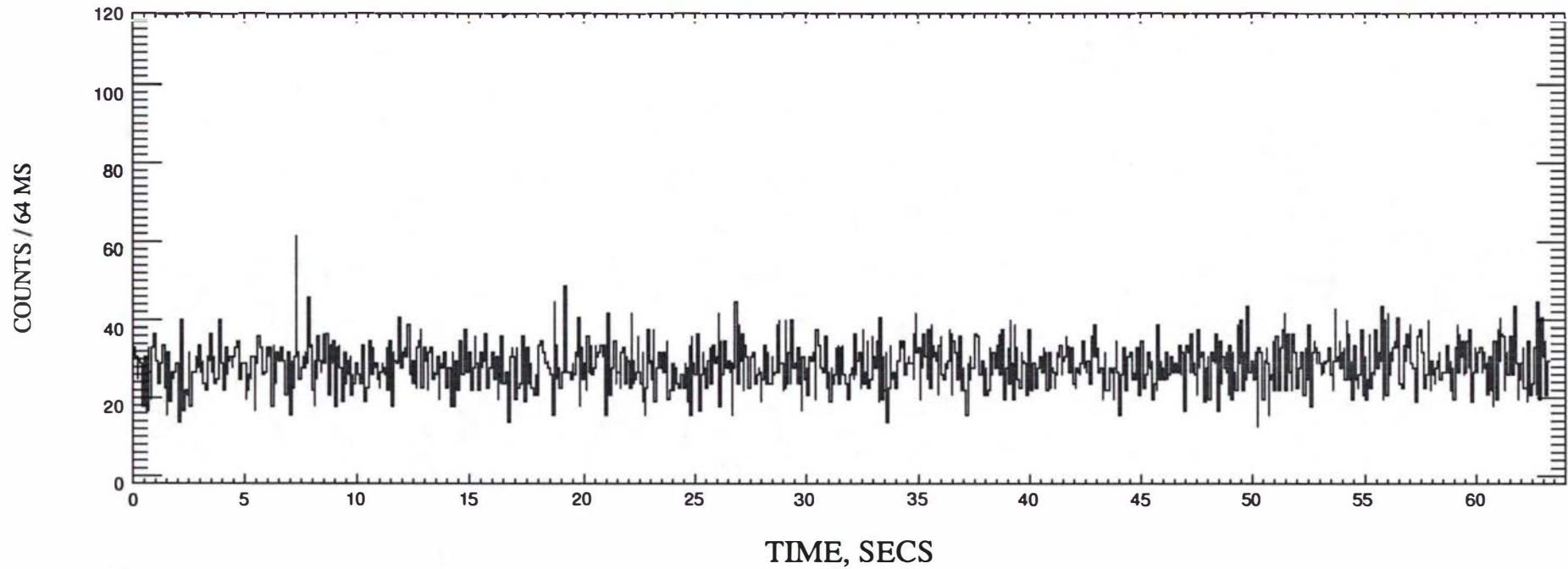
Burst Counter 13 at UT= 7.915055436028 h=28494.200 s 07:54:54.200



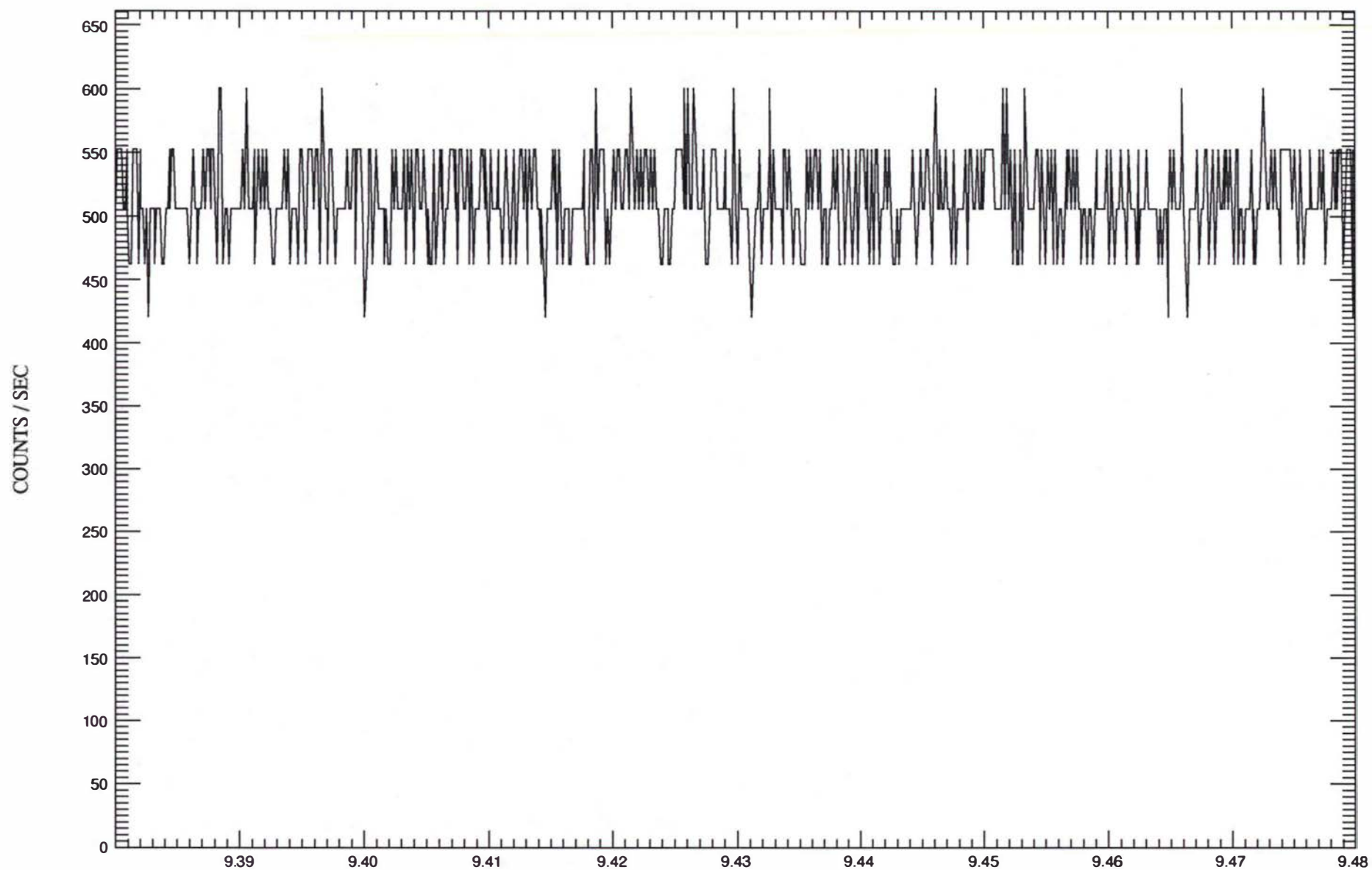
CALIBRATION DATA INCLUDED

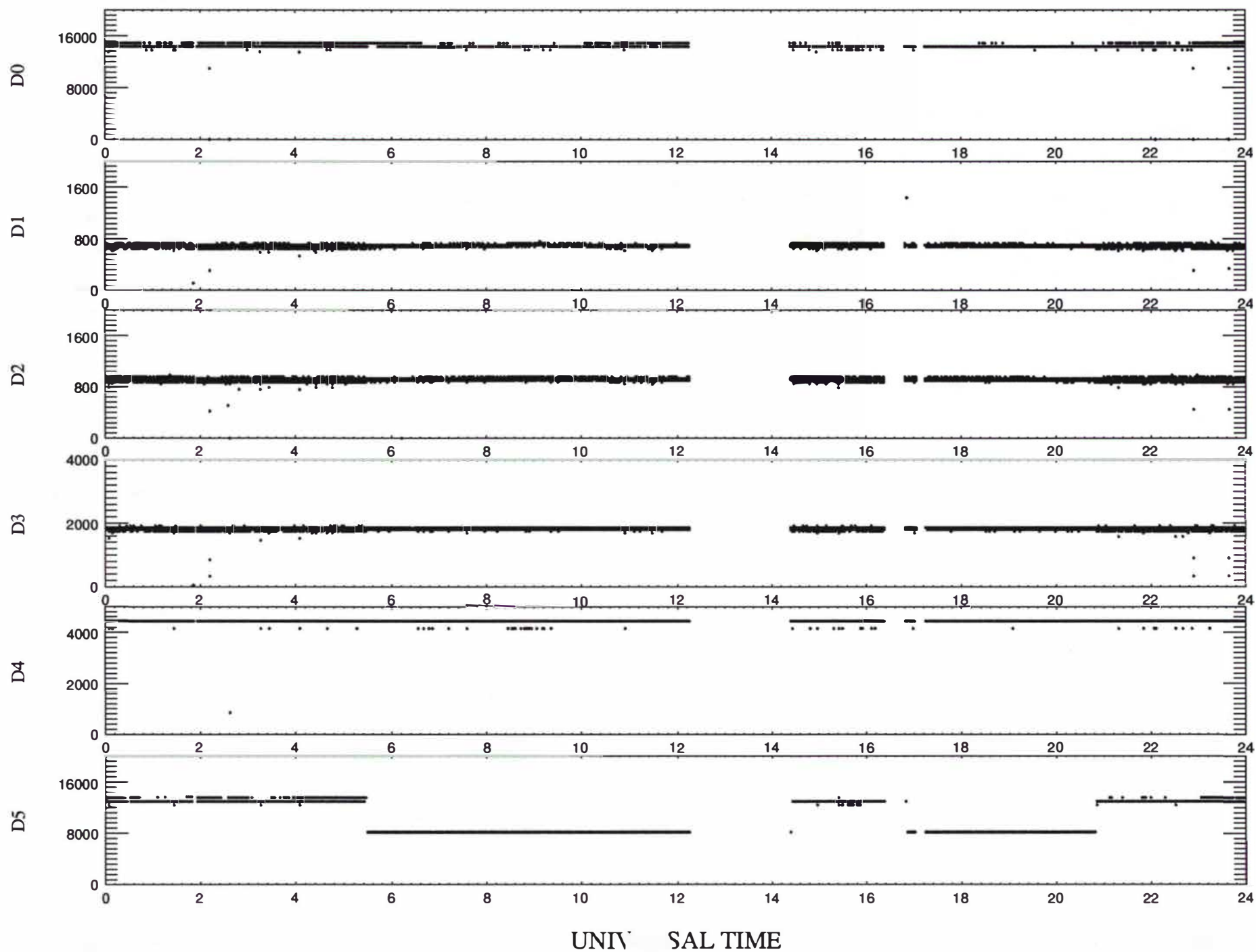


Burst Counter 14 at UT= 9.432722248501 h=33957.800 s 09:25:57.800



CALIBRATION DATA INCLUDED





Date: Dec 12 2012

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

- ☒ Jim Schmidling's stat file correction applied?
- ☒ Final ephemeris used?
- ☐ Final, CDROM data used?
- ☒ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution?

2. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

2. For Odyssey events

- ☐ Was CHECKMO run to eliminate data gaps?
- ☐ Did the Odyssey ephemeris correspond to the event time? (When there is data in the database, the ephemeris is for the start of record, usually ~1320 s prior to the request time; when there is no data in the database, the ephemeris is for the request time in the e-mail, so the request time in mosearch should be equal to the GRB time. Note that the time in the return e-mail will be ~1320 s prior to the time requested, in the line "no HEND data...")
- ☐ Was Mars-blocking used?
- ☐ For cruise phase data (April – October 2001), was the updated data used? (Old data has timing errors)
- ☐ GRS database searched for triggered data? Database data between August 2005 and January 2006 should be re-extracted, due to timing errors. (E-mailed data should be OK).
- ☐ GRS and HEND data cross-correlated to check timing?

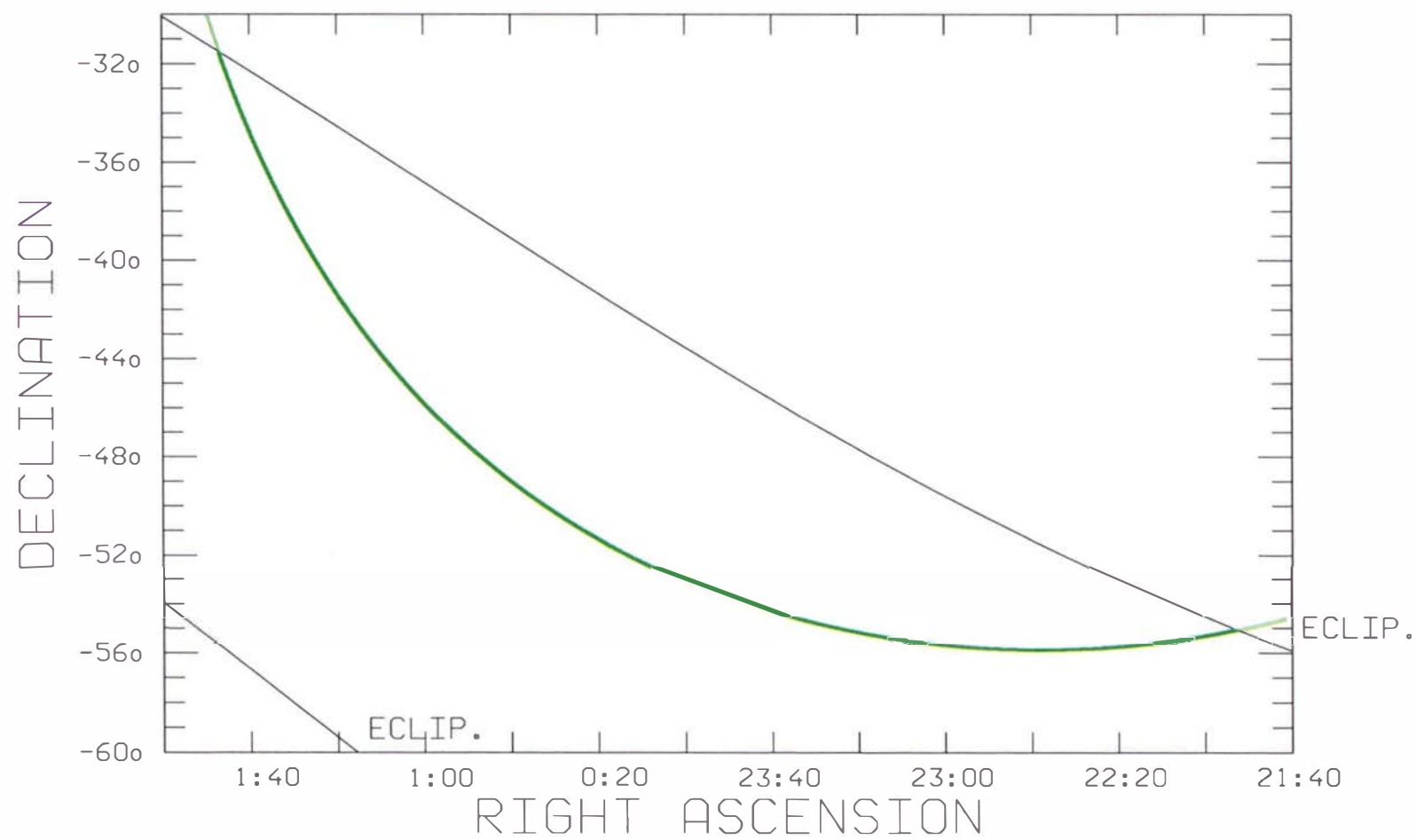
2. For 3 or More Spacecraft events

- ☐ $\Sigma 3\Delta t$'s calculated, and/or BMAPSUM executed?

3. For INTEGRAL events

- ☐ INTEGRAL SPI-ACS website checked for bursts that weren't transmitted automatically?
- ☐ 125 ms added to INTEGRAL SPI-ACS time for bursts prior to April 2 2004 11:00 UT?
- ☐ Updated ephemeris used for bursts prior to September 30, 2003?

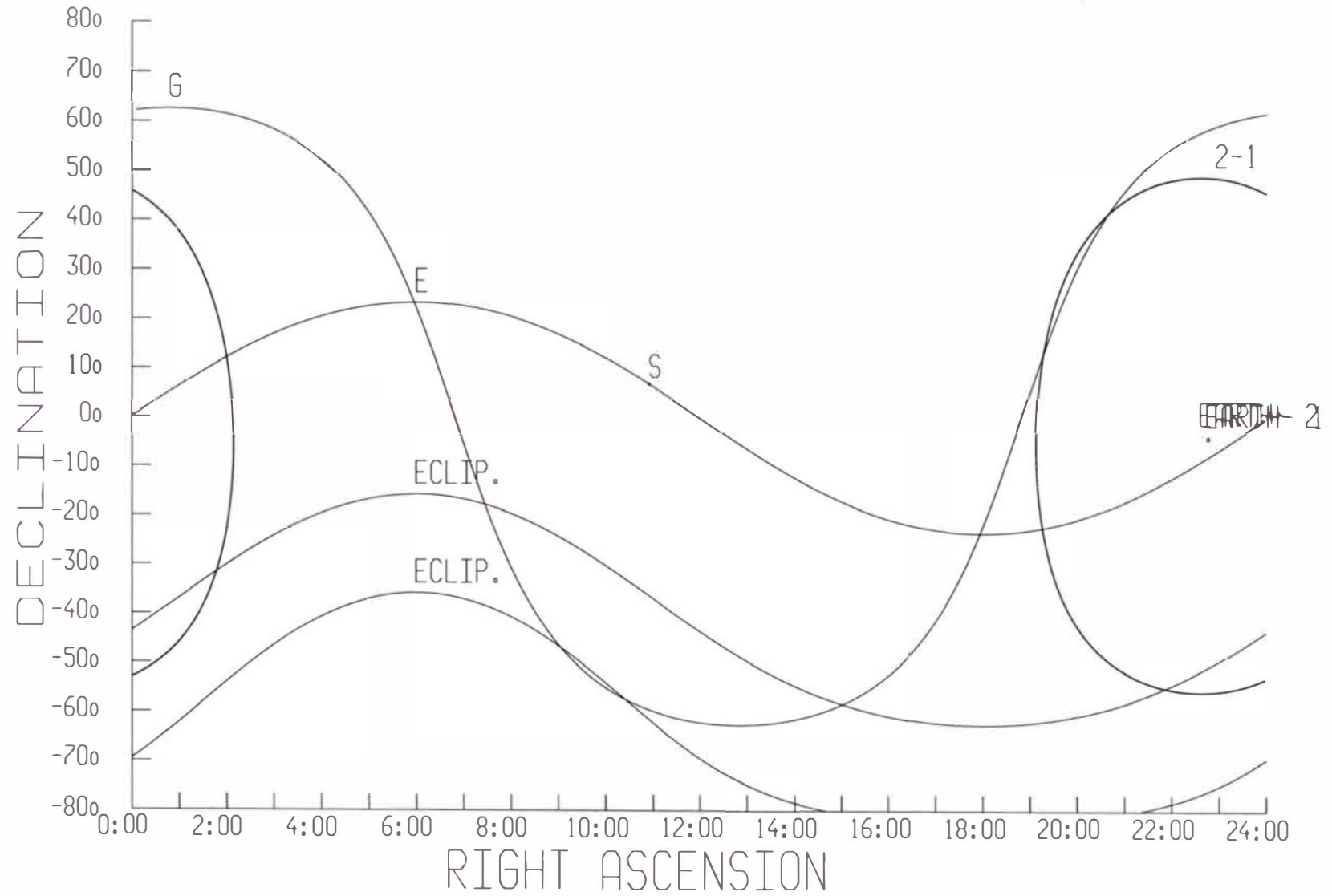
-
- ☒ ACCESS and MBL4 databases updated with identical times?



EVENT OF SEP 5, 1998 0:33

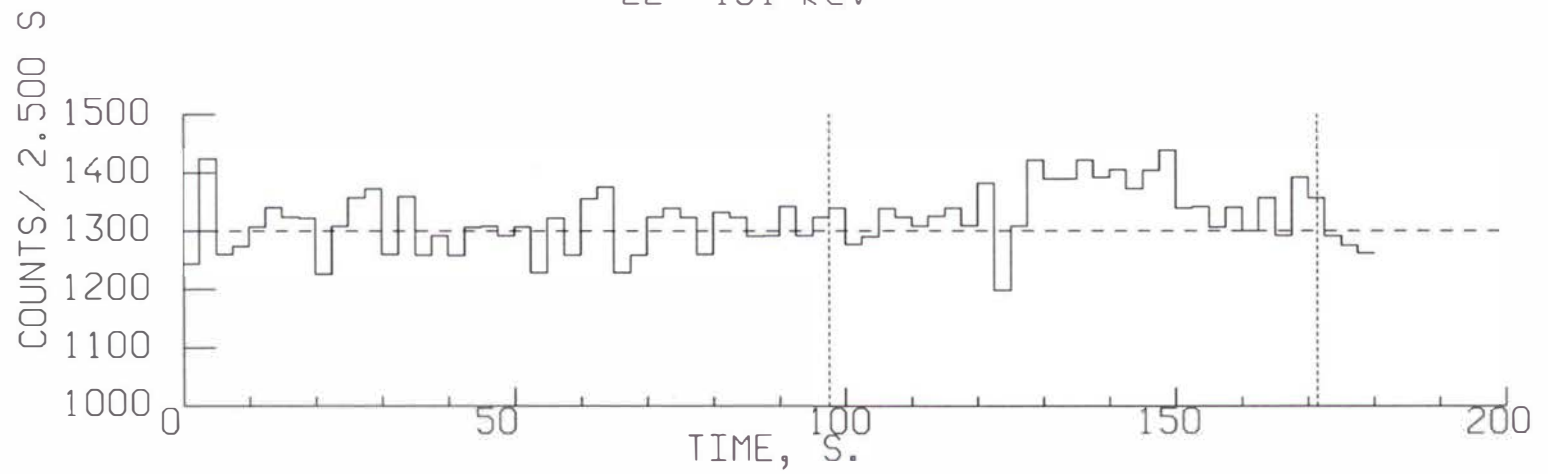
12/12/2012

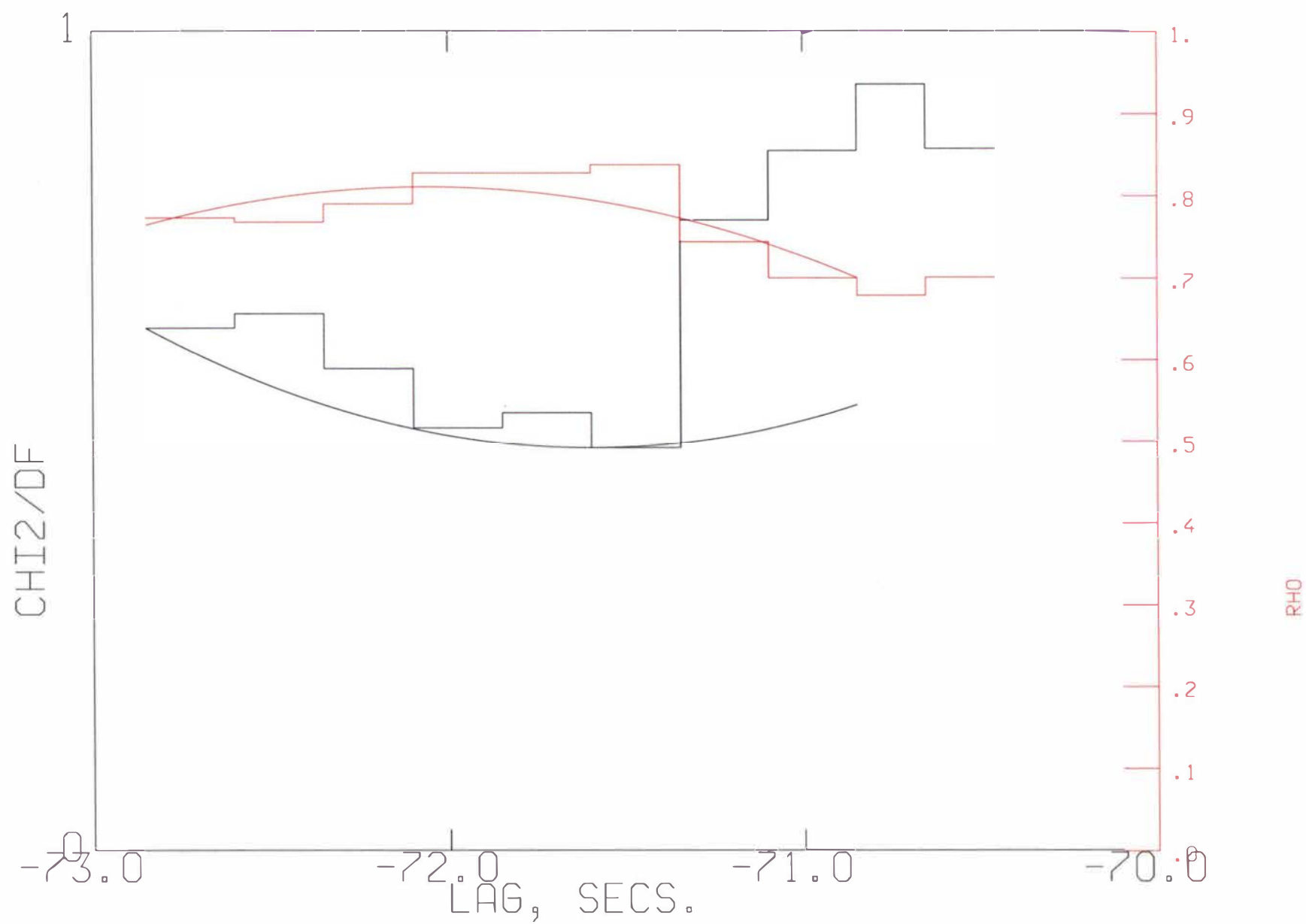
N-M = CORRELATION BETWEEN SATELLITES N AND M
EARTH-N = EARTH AS SEEN FROM SATELLITE N
S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
1 KONUS 2 ULYSSES



ULYSSES RT
5/ 9/98 3888.026 s
0.250 S INTERVALS REGROUPED BY 10
22- 151 keV

12/12/12





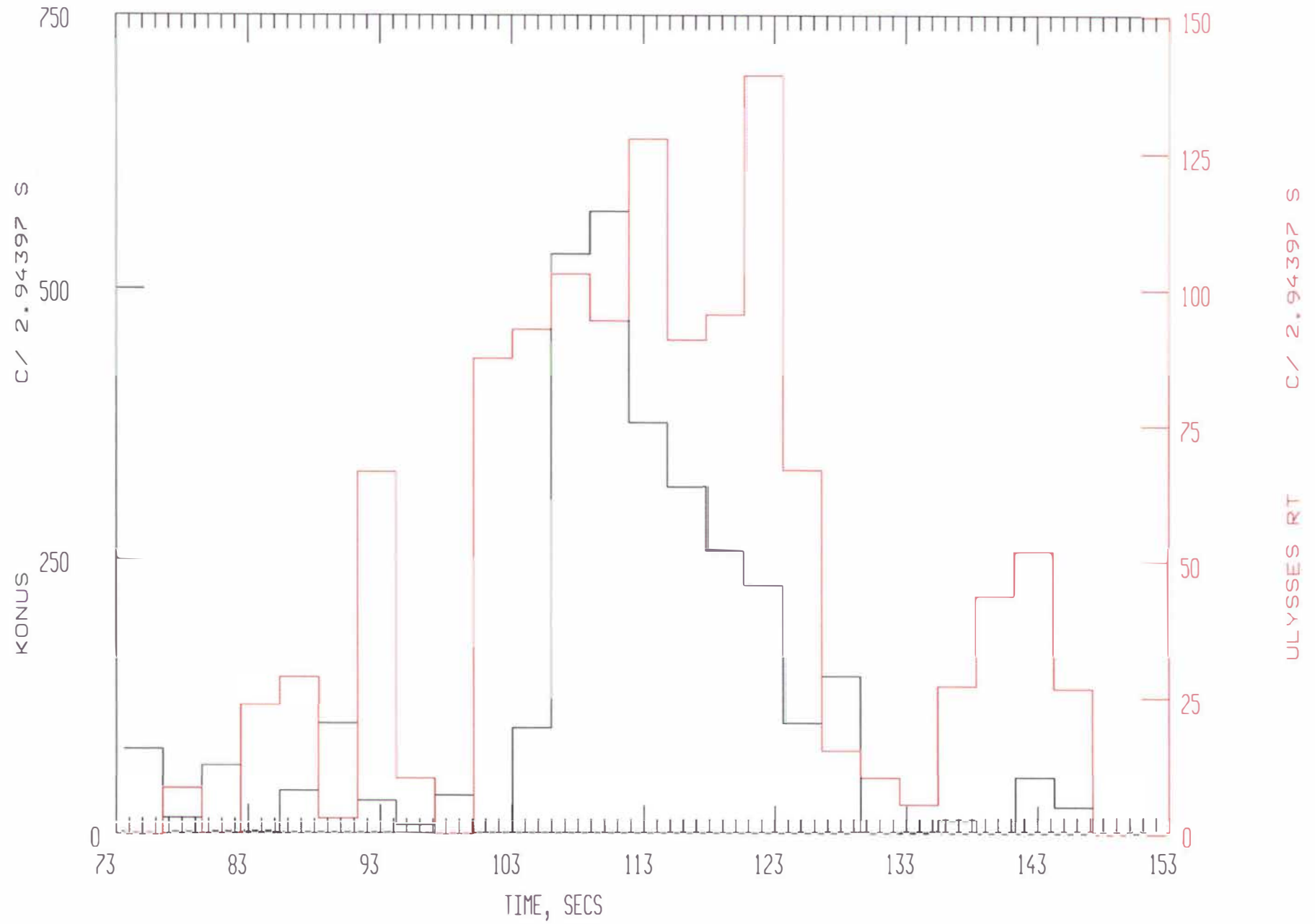
KONUS

-ULYSSES RT CORRELATION

05/09/98

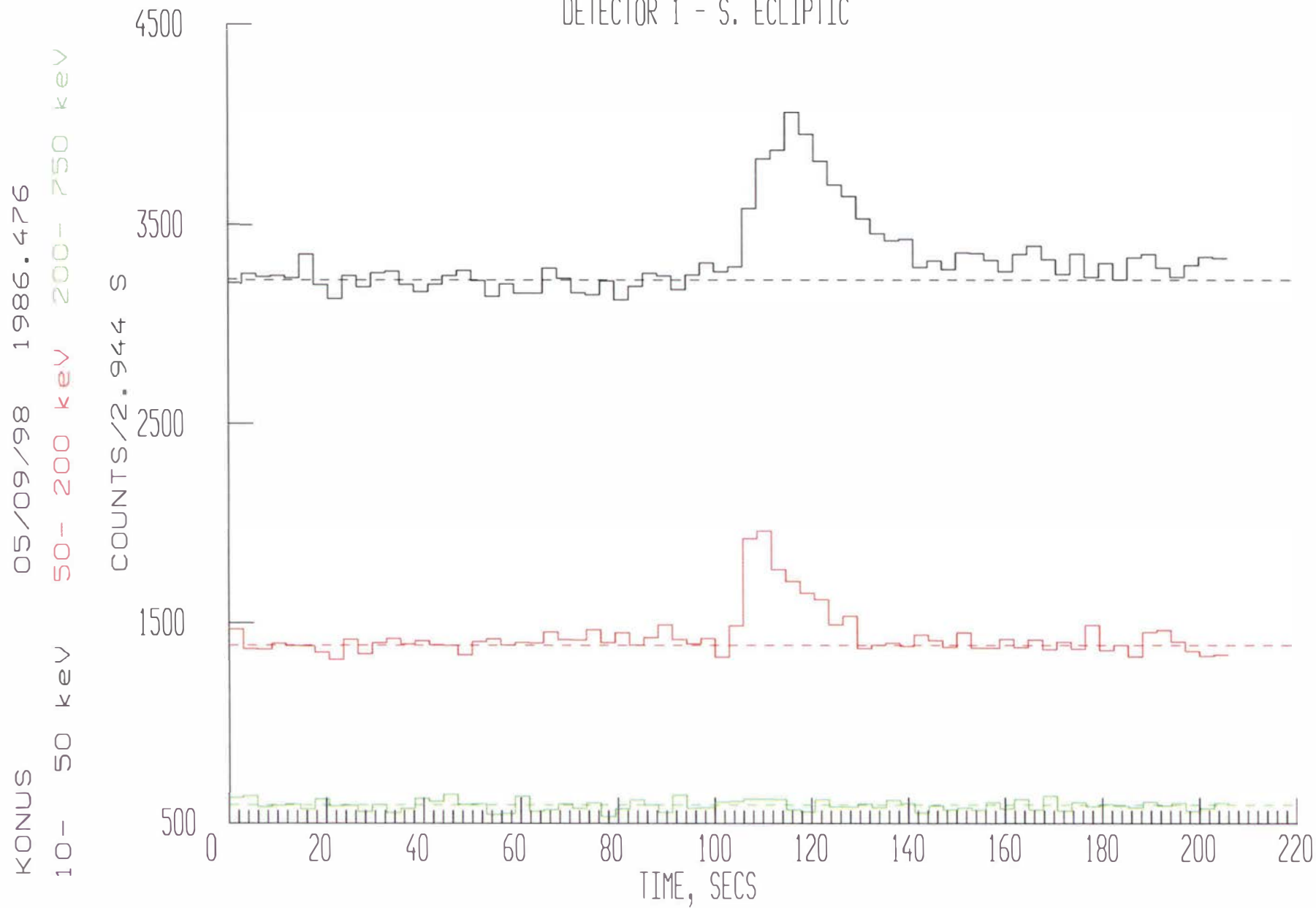
1986.476

12/12/12



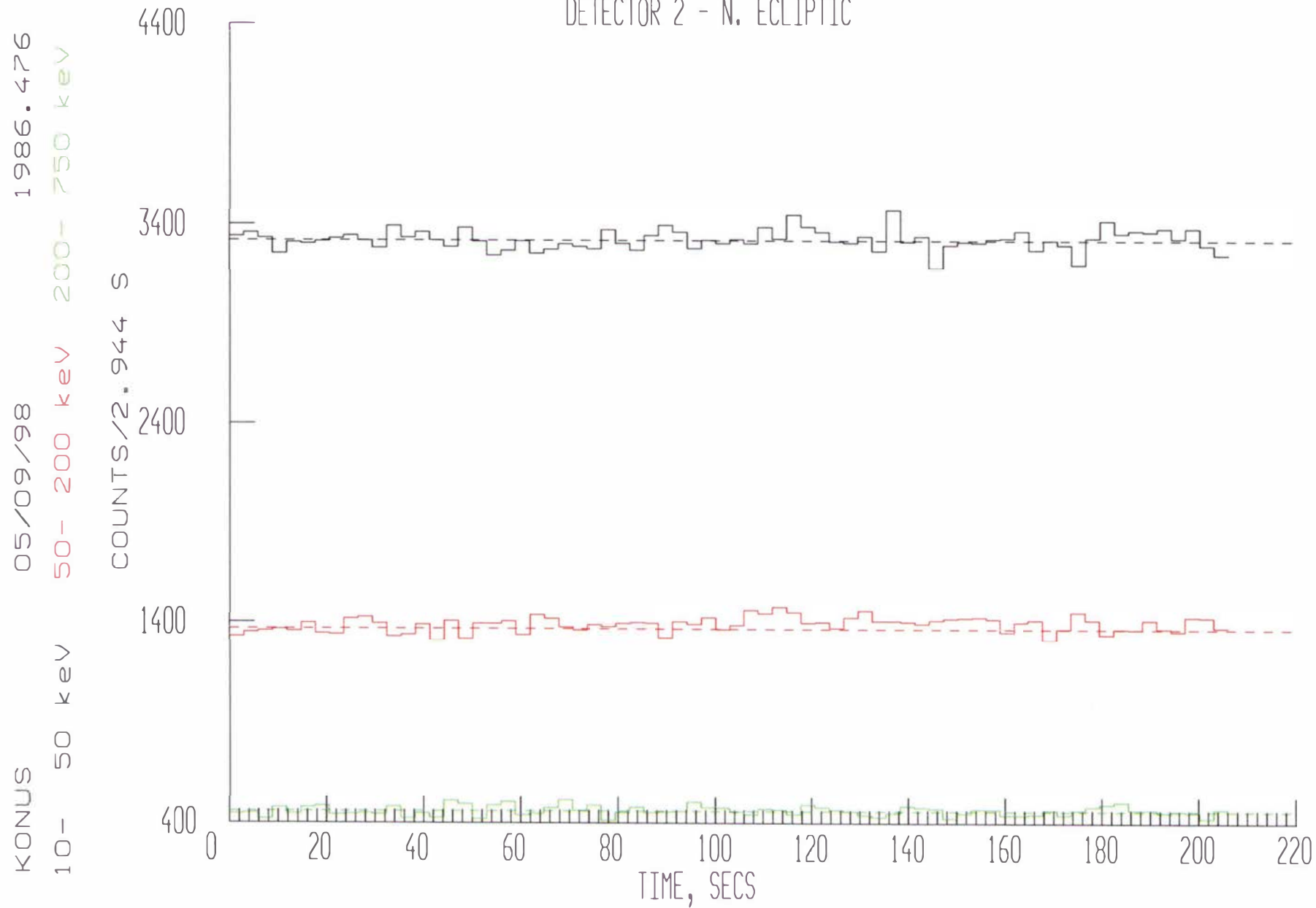
12/12/2012

DETECTOR 1 - S. ECLIPTIC



12/12/2012

DETECTOR 2 - N. ECLIPTIC



KONUS RI 19980905 03984

ULYSSES RT

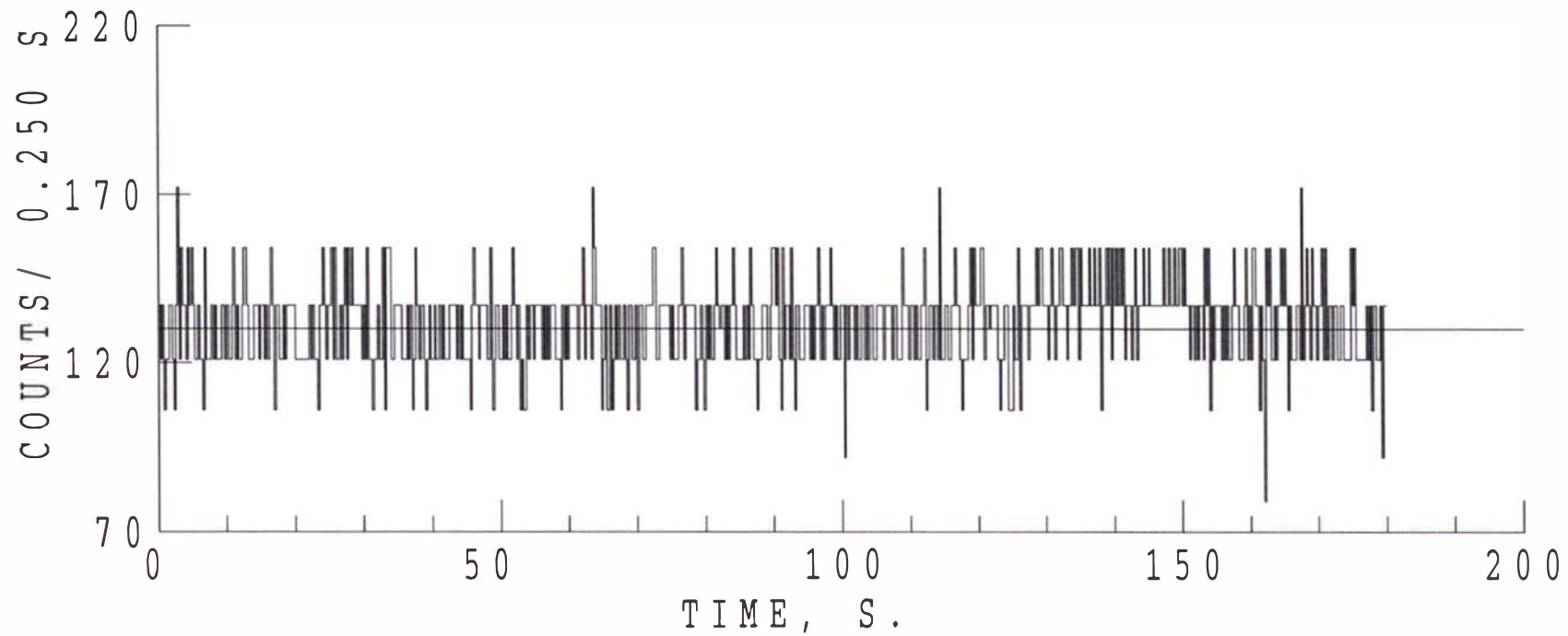
12 / 12 / 12

05/09/98 3888.026 s

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



KONUS

ULYSSES RT

10/02/00

05/09/98 12852.120 s

0.250 S INTERVALS REGROUPED BY 18

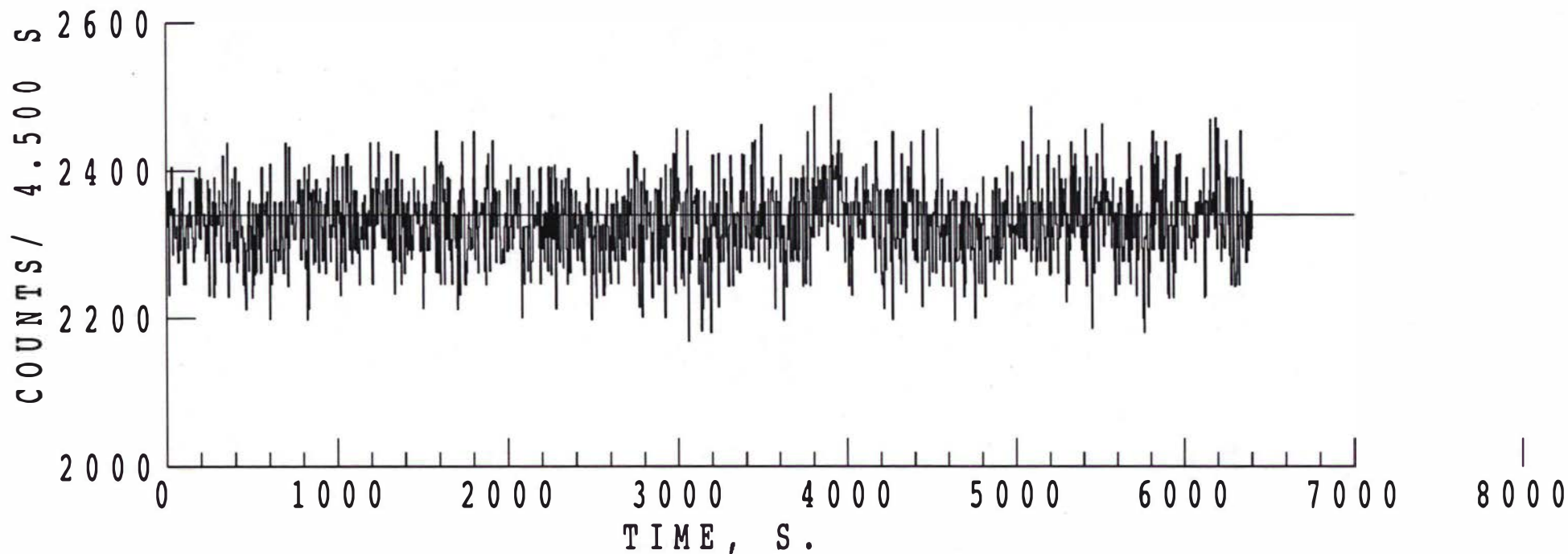
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



From cline@apache.gsfc.nasa.gov Wed Sep 30 13:25 PDT 1998
Mime-Version: 1.0
Date: Wed, 30 Sep 1998 16:30:43 -0400
To: mazets@mz.ioffe.rssi.ru, golen@mz.ioffe.rssi.ru,
KHURLEY@sunspot.ssl.berkeley.edu
From: cline@apache.gsfc.nasa.gov (T L Cline)
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65925.166	8/29
56858.156	8/31
69227.249	8/31
17656.387	9/01
62419.649	9/02
77657.917	9/03
349.014	9/04
23131.249	9/05
etc.	
etc.	

64995.550 8/30 appears to be a GRB, however.

TLC

-- Thomas L. Cline ----- cline@apache.gsfc.nasa.gov

From HENZE@fender.msfc.nasa.gov Tue Sep 8 11:14:39 1998
Date: Tue, 8 Sep 1998 13:13:16 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7066

TIME: TJD=1061 SECONDS=21158

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 5.5 AZIMUTH= 53.9 ERROR= 2.2 DEGREES

COMMENTS:

NO GOES IDENT., OPTICAL SF FLARE. COMPLEX, DUR. GREATER THAN 58 S., STARTS AT
APPROX. T-9 S. MARGINALLY VISIBLE ABOVE 100 KEV.

From HENZE@fender.msfc.nasa.gov Tue Sep 8 11:19:08 1998
Date: Tue, 8 Sep 1998 13:18:22 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7067

TIME: TJD=1061 SECONDS=23120

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 5.3 AZIMUTH= 67.1 ERROR= 0.2 DEGREES

COMMENTS:

GOES C1.3, OPTICAL SF FLARE. THREE PULSES, TRIGGERED ON SECOND, THIRD STRONGEST
WITH MAX AT APPROX. T+19 S. STARTS AT APPROX. T-16 S, TOTAL DUR. APPROX. 45 S.
NOT VISIBLE ABOVE 300 KEV.

From PREECE@fender.msfc.nasa.gov Tue Sep 8 12:29:57 1998
From: PREECE@fender.msfc.nasa.gov
Date: Tue, 8 Sep 1998 14:29:17 -0500 (CDT)
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 07068

1061?
TIME: TJD=1106 SECONDS=07872

TYPE: SOLAR F SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=005.8 AZIMUTH=073.7 ERROR=000.1 DEGREES

COMMENTS:
GOES C2.3, OPTICAL SN.

From PREECE@fender.msfc.nasa.gov Tue Sep 8 12:33:20 1998

From: PREECE@fender.msfc.nasa.gov

Date: Tue, 8 Sep 1998 14:33:05 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 07069

1061?
TIME: TJD=1106 SECONDS=44659

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=006.5 AZIMUTH=070.9 ERROR=000.8 DEGREES

COMMENTS:

SOLAR FLARE, NO GOES CLASSIFICATION.

From PREECE@fender.msfc.nasa.gov Tue Sep 8 12:34:47 1998

From: PREECE@fender.msfc.nasa.gov

Date: Tue, 8 Sep 1998 14:34:30 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lhev.gsfc.nasa.gov, barthelmy@lhev.gsfc.nasa.gov,
bacodine@lhev.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhev.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 07070

1061?
TIME: TJD=1106 SECONDS=66823

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

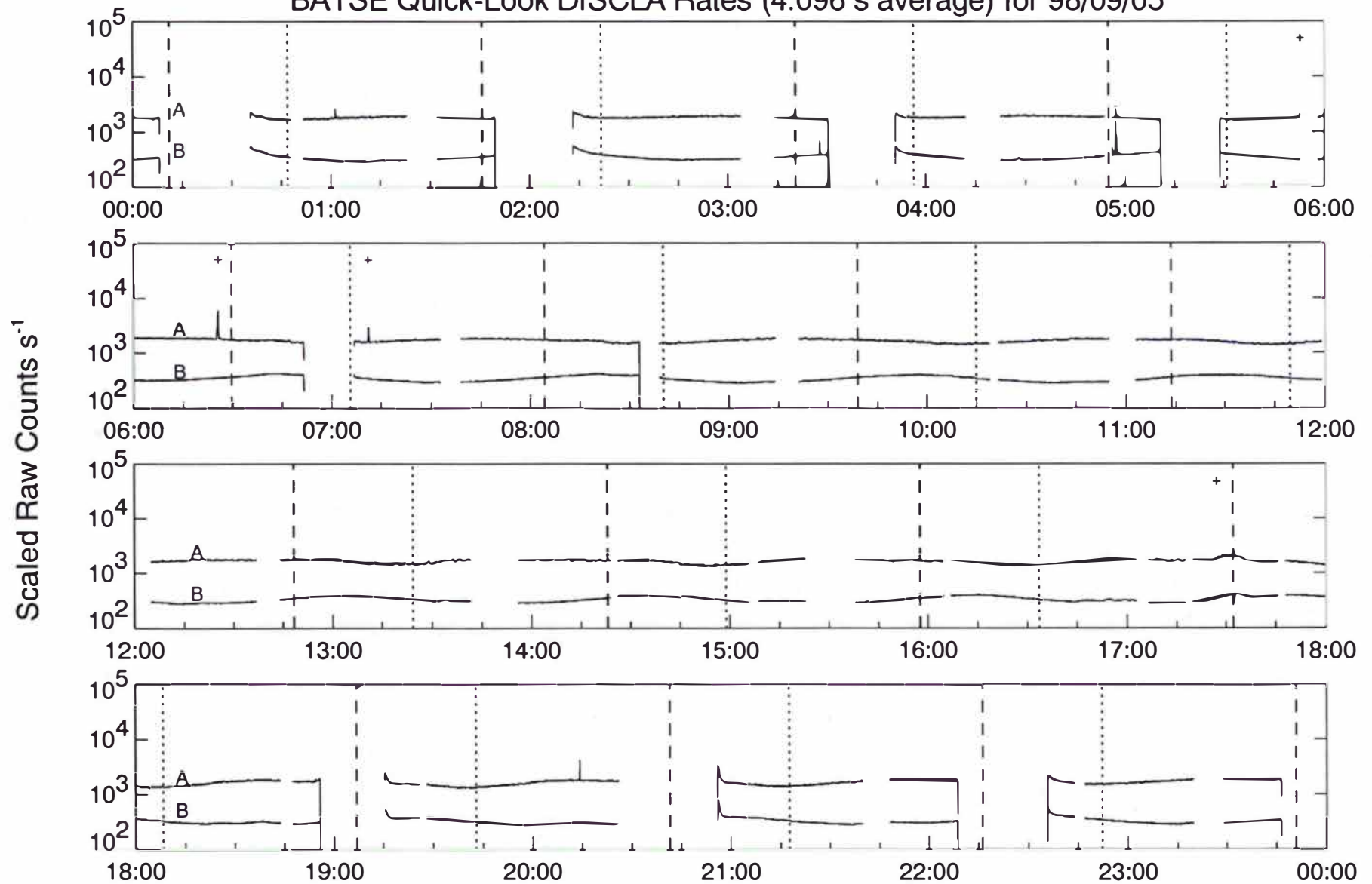
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
SAA ENTRY.

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/09/05

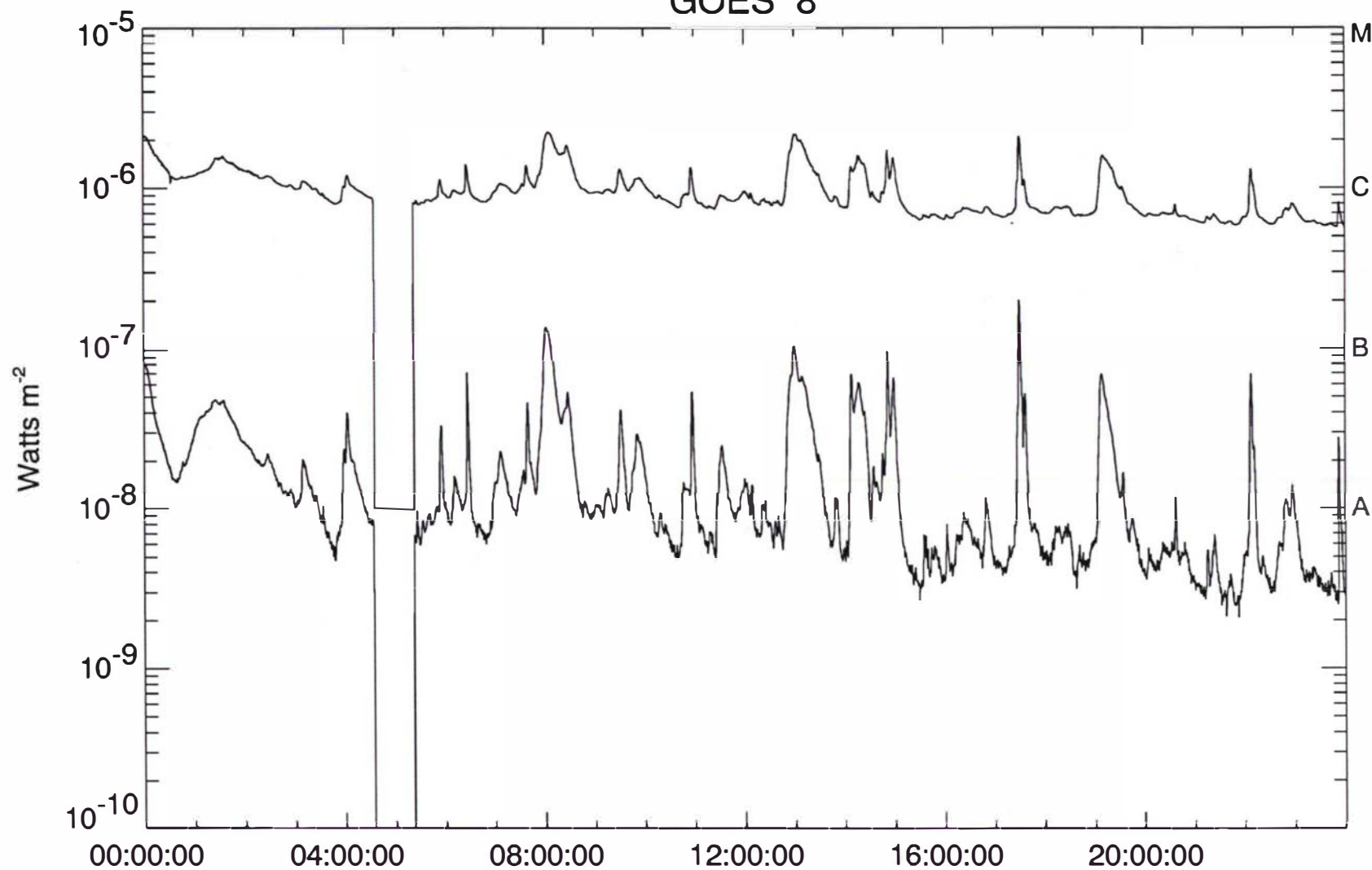


Current Time: 98/09/09, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 98/09/05, 0000:00

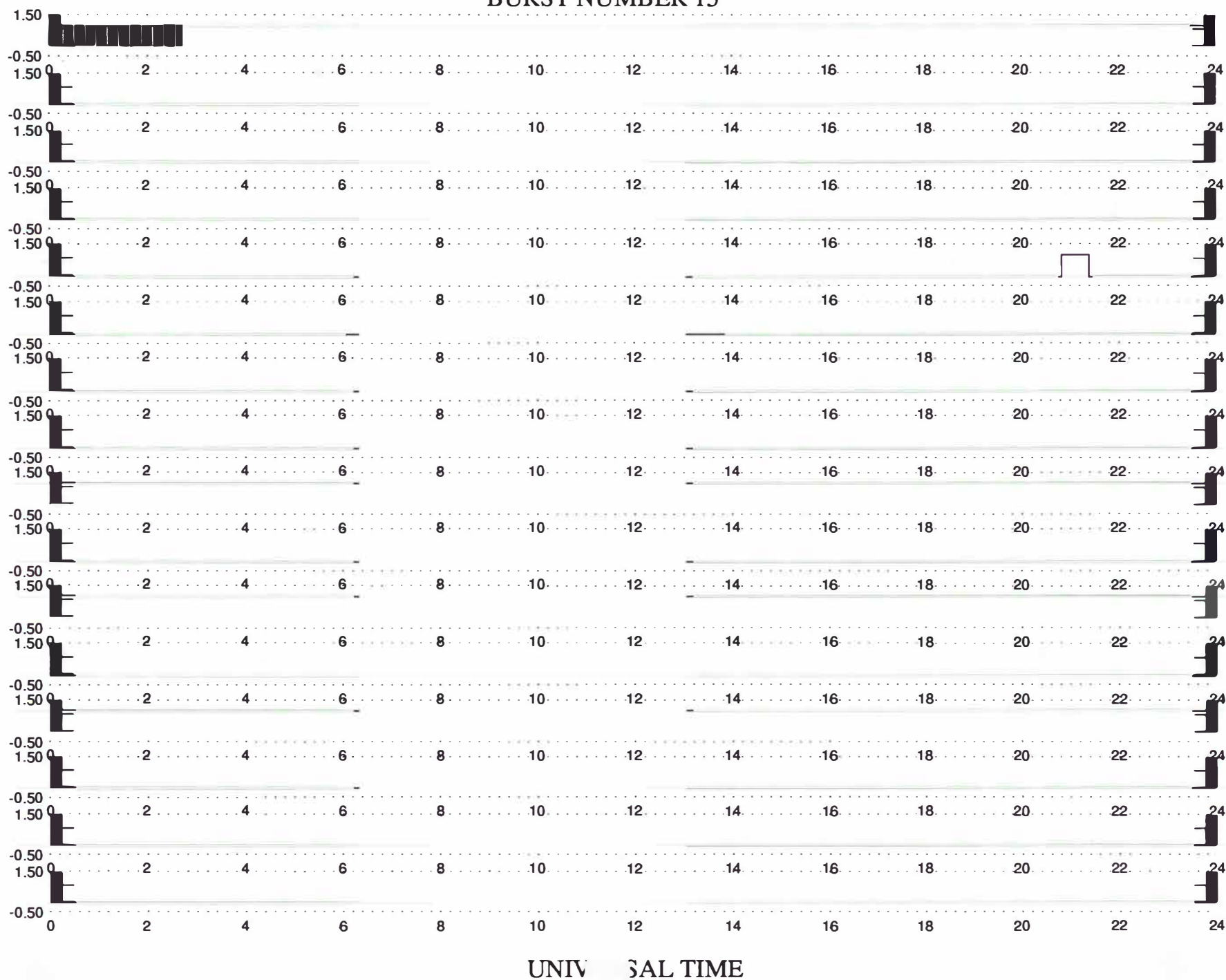
Plot created: 98/09/09, 1007

Channel

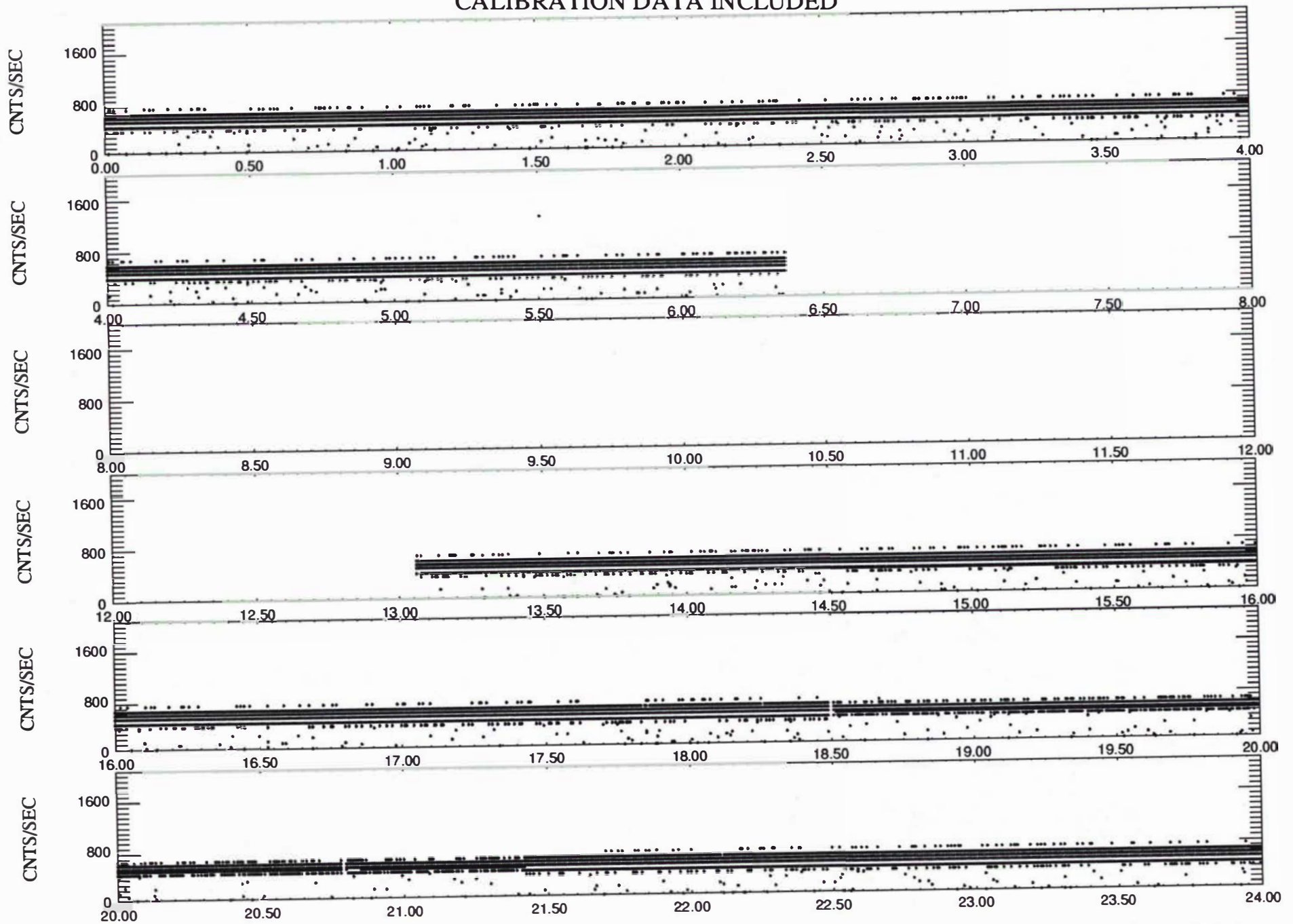
1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

Background not subtracted
Background not subtracted
Sample average = 10

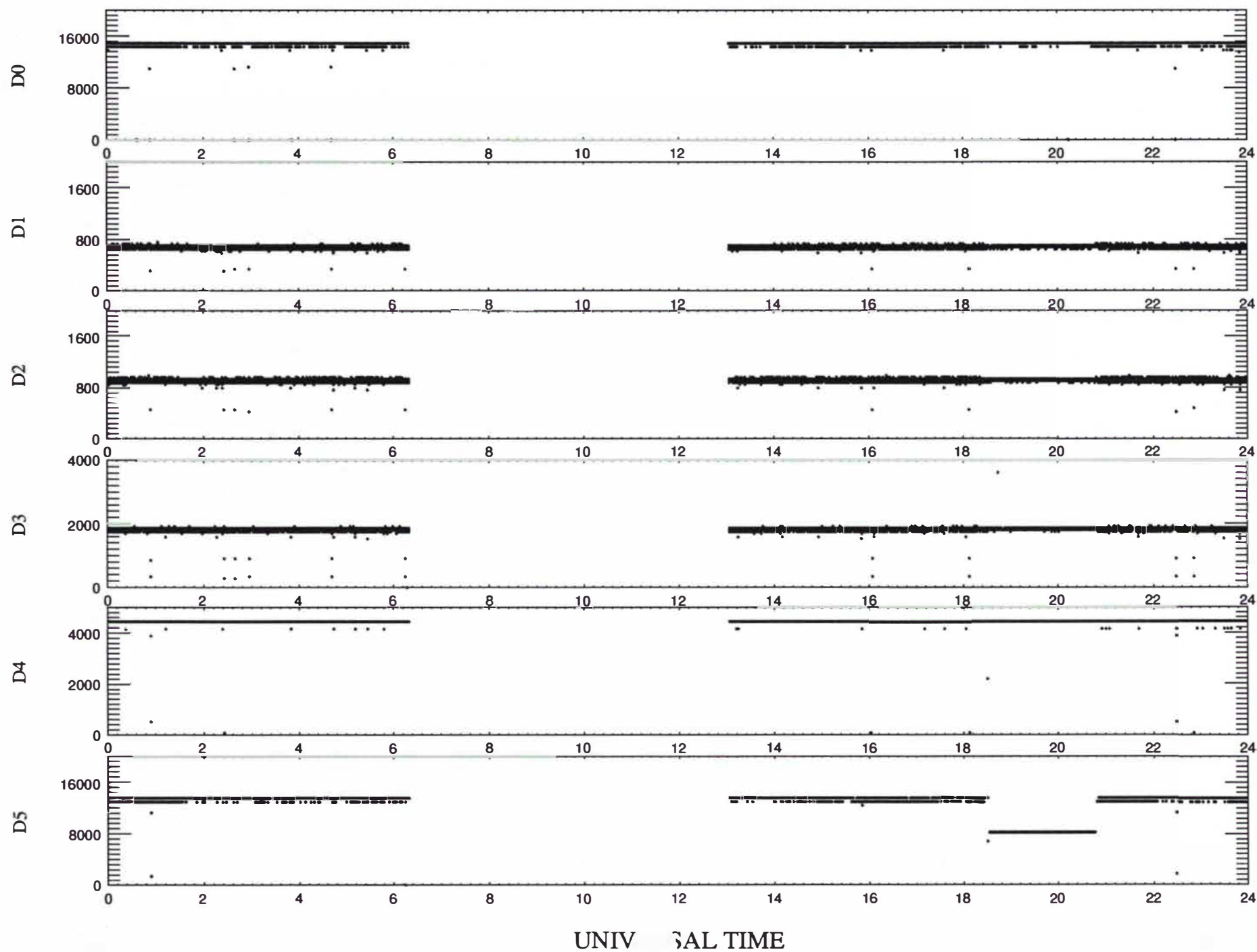
CBU	CCL	DMP	ROM	DMA	OSC	MP.	ICR	SPE	OPM	RSC	CAL	WCH	MEM	BRS	HUS
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----



CALIBRATION DATA INCLUDED



UNIV 3AL TIME



From khurley@sunspot Tue Sep 22 08:19 PDT 1998
Date: Tue, 22 Sep 1998 08:22:58 -0700
From: khurley@sunspot (Kevin Hurley)
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lhevax.gsfc.nasa.gov, cline@lhevax.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, woods@eagles.msfc.nasa.gov,
kraken@rosserv.gsfc.nasa.gov
Subject: GRBs, 980903 - 980915

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed the following bursts, all suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1800 s earlier.

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
3 SEP 98 04380	WEAK, 32 ms LONG	3150
6 SEP 98 73018	WEAK, 32 ms LONG	3150
7 SEP 98 80507	MODERATE, 32 ms LONG	3150
7 SEP 98 86027	MODERATE, 32 ms LONG	3150
8 SEP 98 48058	WEAK, 32 ms LONG	3150
9 SEP 98 31734	WEAK, 32 ms LONG	3150
11 SEP 98 29109	WEAK, 32 ms LONG	3150
11 SEP 98 67983	STRONG, 1 s LONG	3150
12 SEP 98 78457	STRONG, 64 ms LONG	3150
14 SEP 98 55913	WEAK, 32 ms LONG	3150
SEP 98 79827	MODERATE, 32 ms LONG	3150

Were these events detected by anyone else?

CC: ulyssesbursts alias list
(barthelmy, butterworth, cline, frontera, kouveliotou, kurczyski, marar, tee

From HENZE@fender.msfc.nasa.gov Wed Sep 9 11:05:21 1998
Date: Wed, 9 Sep 1998 13:04:54 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7068

TIME: TJD=1062 SECONDS= 7872

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 5.8 AZIMUTH= 73.7 ERROR= 0.1 DEGREES

COMMENTS:

GOES C2.3, OPTICAL SN FLARE. COMPLEX, MAIN PULSE STARTS AT APPROX. T+50 S,
DUR. APPROX. 70 S, MAX AT APPROX. T+90 S. NOT VISIBLE ABOVE 300 KEV.
THIS IS A CORRECTED MESSAGE.

From HENZE@fender.msfc.nasa.gov Wed Sep 9 11:15:38 1998
Date: Wed, 9 Sep 1998 13:14:58 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@heavx.gsfc.nasa.gov, barthelmy@heavx.gsfc.nasa.gov,
bacodine@heavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@heavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7069

TIME: TJD=1062 SECONDS=44659

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 6.5 AZIMUTH= 70.9 ERROR= 0.8 DEGREES

COMMENTS:

THIS IS A CORRECTED MESSAGE.

SOLAR FLARE UNCLASSIFIED BY NOAA. SINGLE PULSE, DUR. APPROX. 20 S.

NOT VISIBLE ABOVE 100 KEV.

From HENZE@fender.msfc.nasa.gov Wed Sep 9 11:28:27 1998
Date: Wed, 9 Sep 1998 13:28:00 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lhev.gsfc.nasa.gov, barthelmy@lhev.gsfc.nasa.gov,
bacodine@lhev.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhev.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7070

TIME: TJD=1062 SECONDS=66823

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

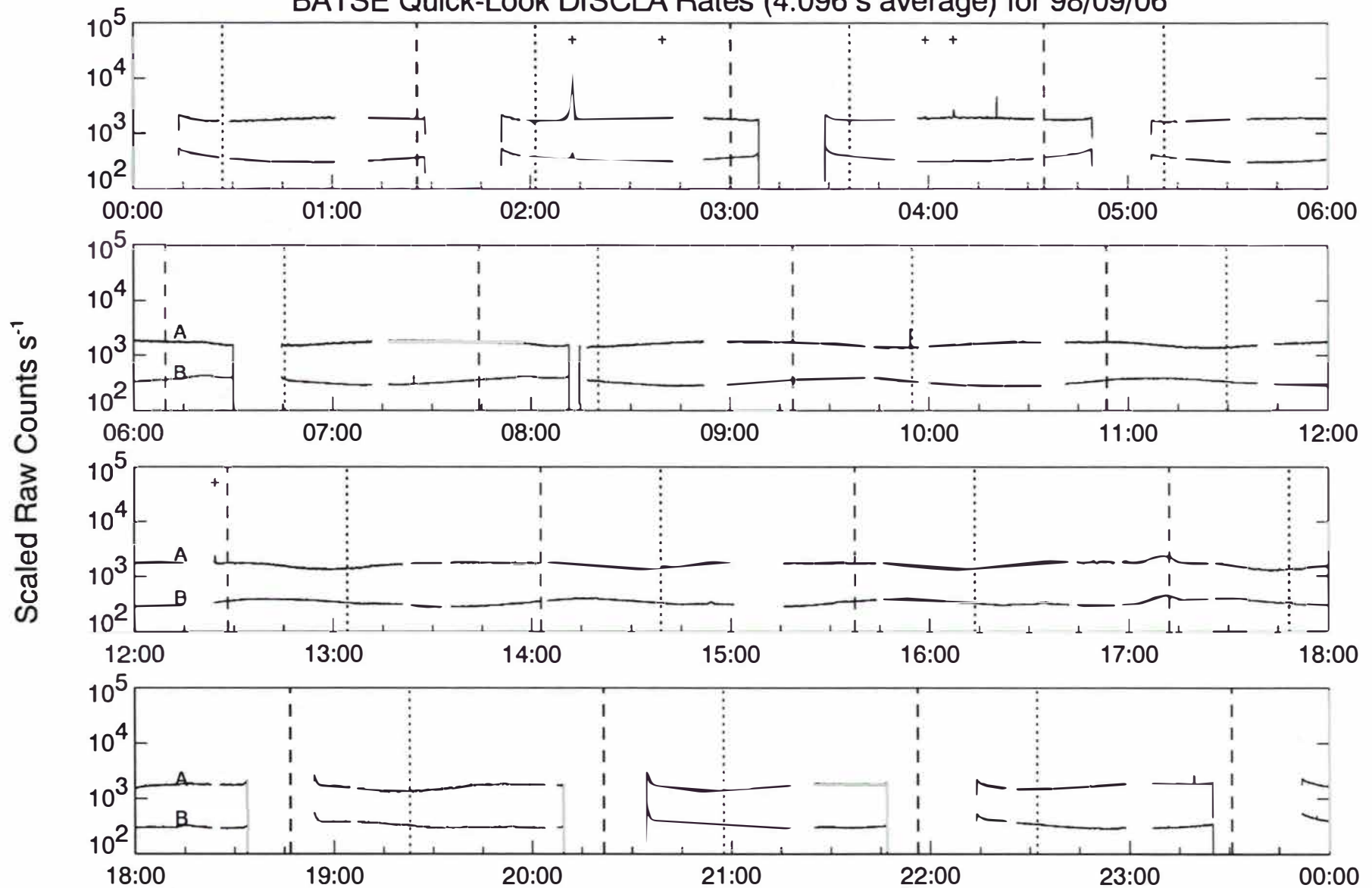
LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SAA ENTRY. HV OFF AT APPROX T+5 S.

THIS IS A CORRECTED MESSAGE.

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/09/06

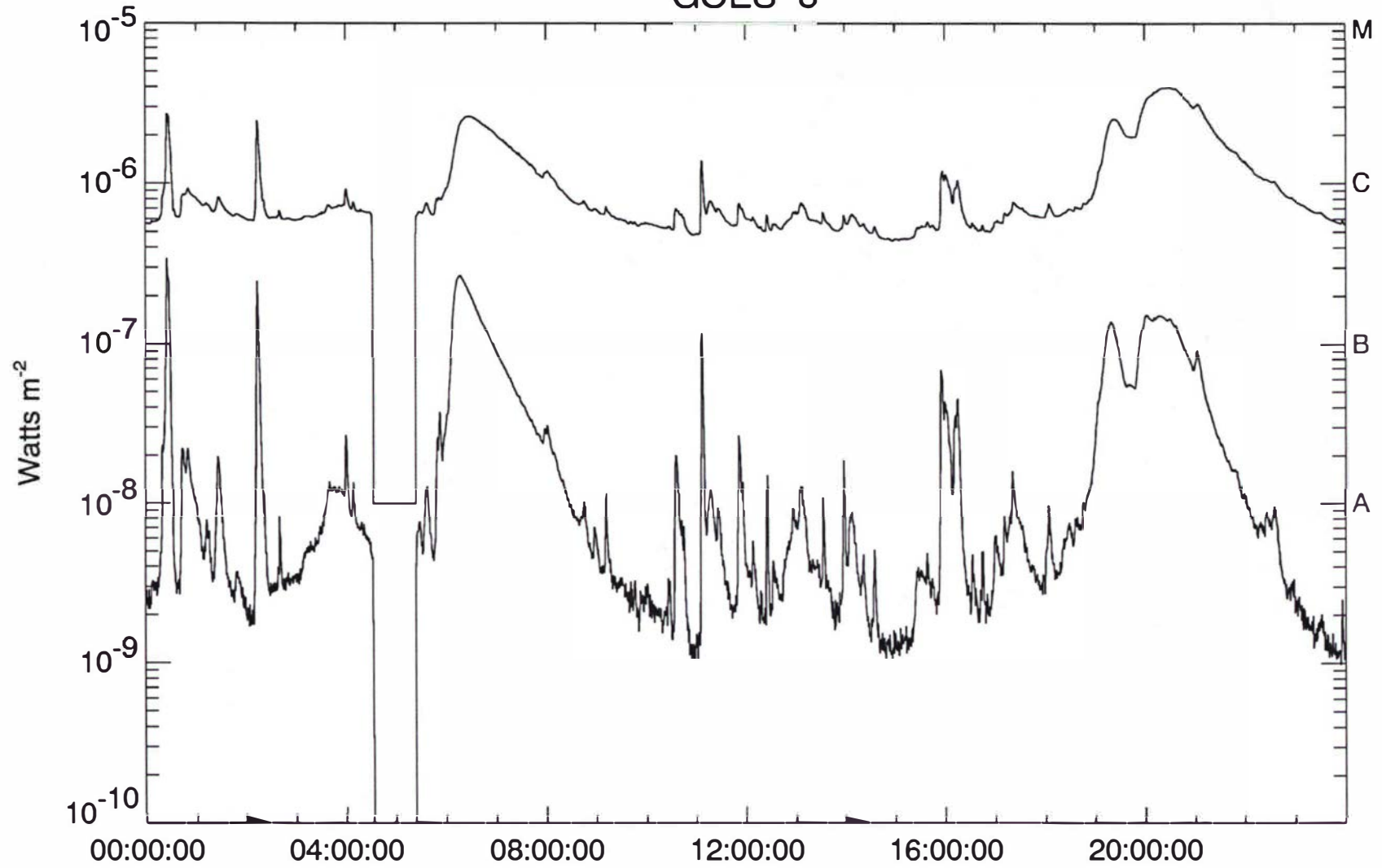


Current Time: 98/09/10, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 98/09/06, 0000:00

Plot created: 98/09/10, 1007

Channel 1 (1.0 - 8.0 Angstroms)

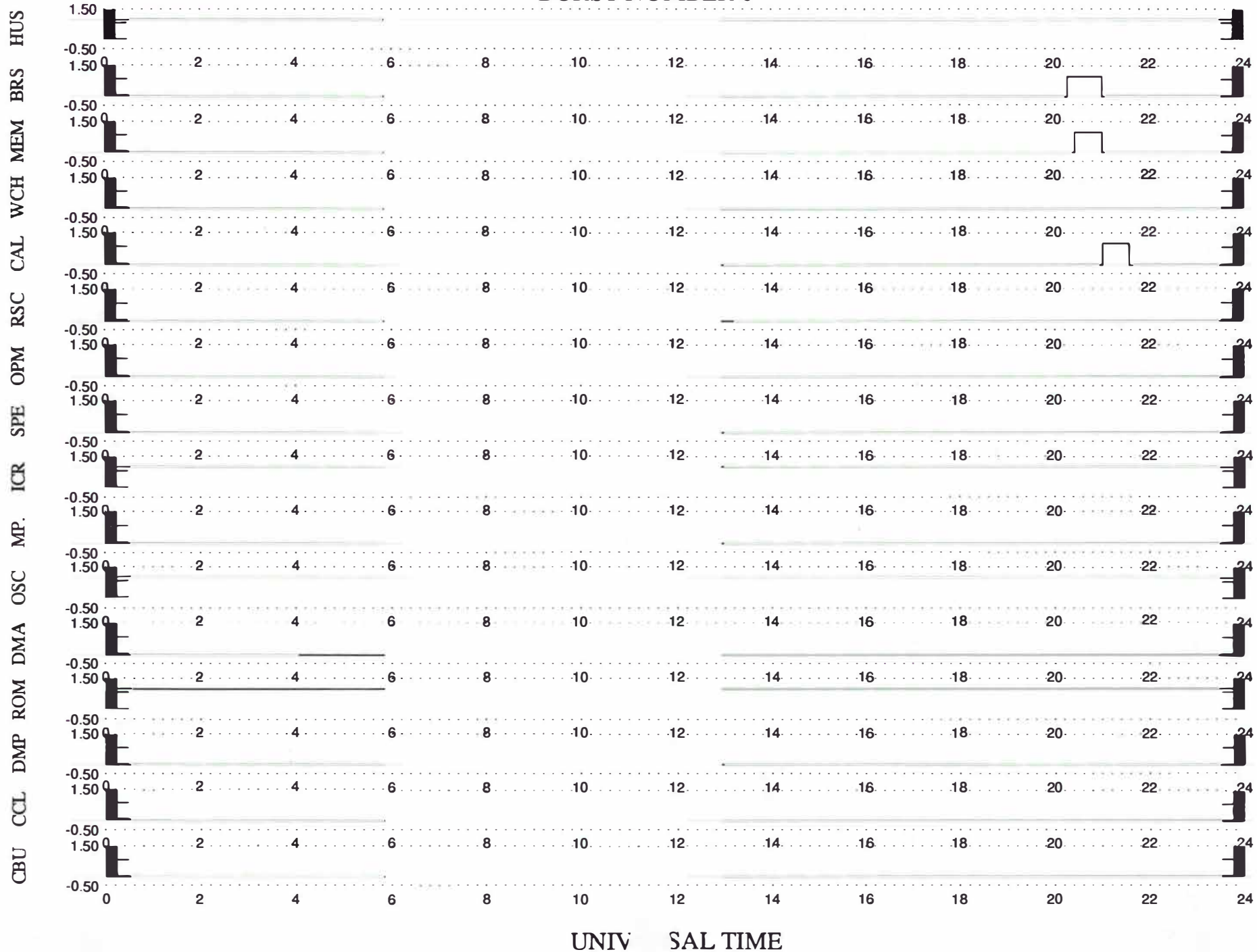
Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms)

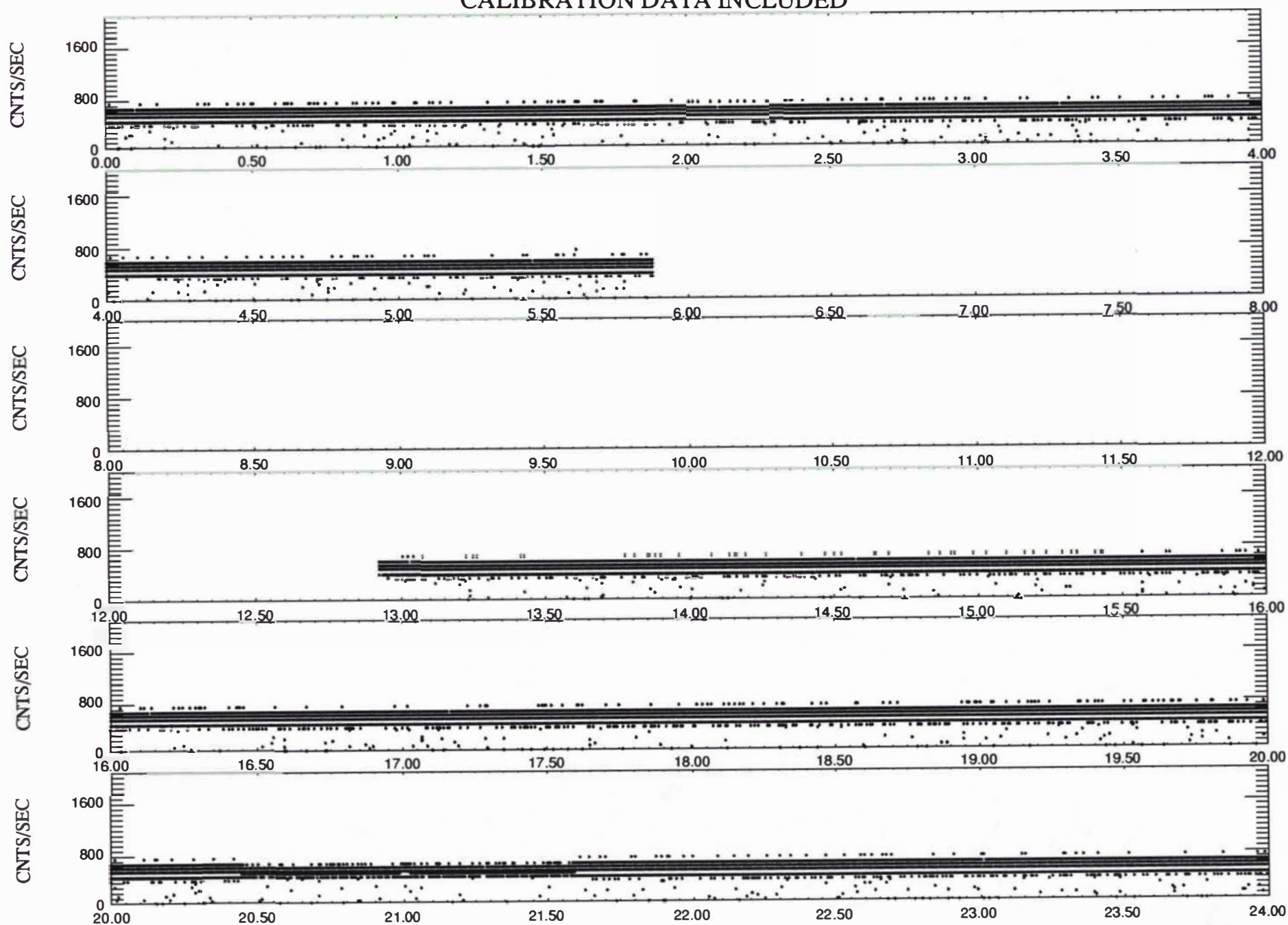
Background not subtracted

Sample average = 10

BURST NUMBER 0

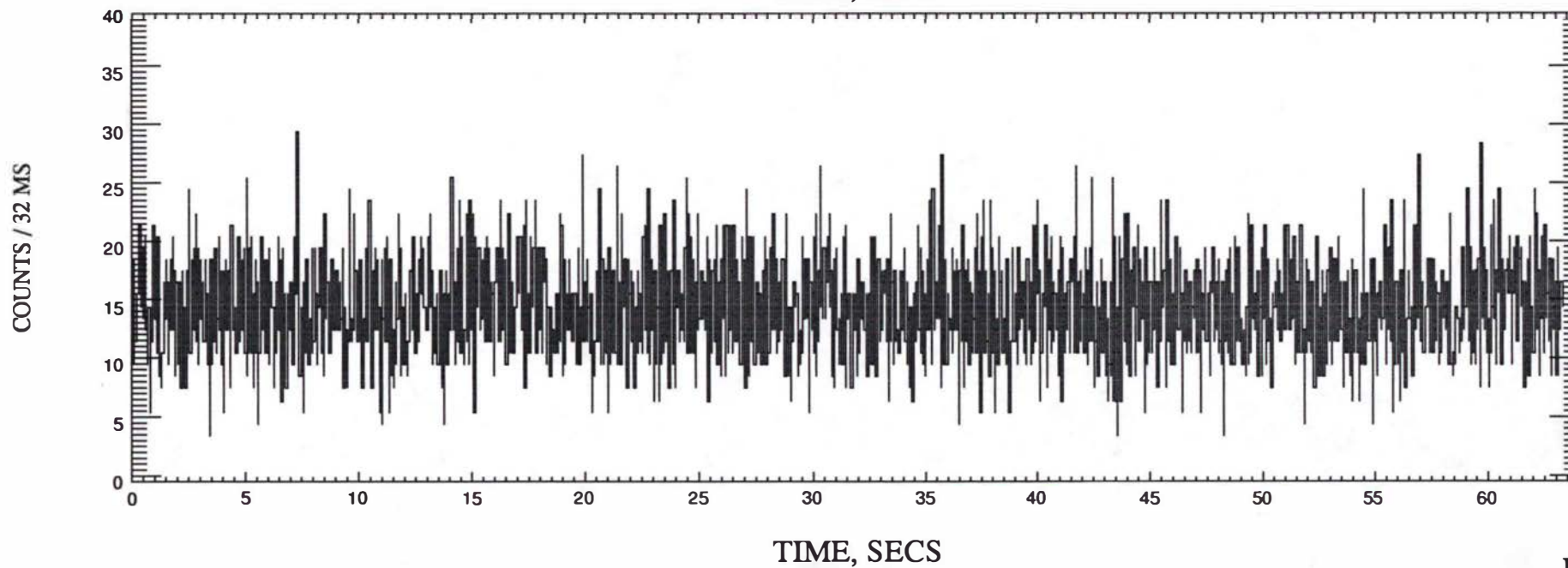
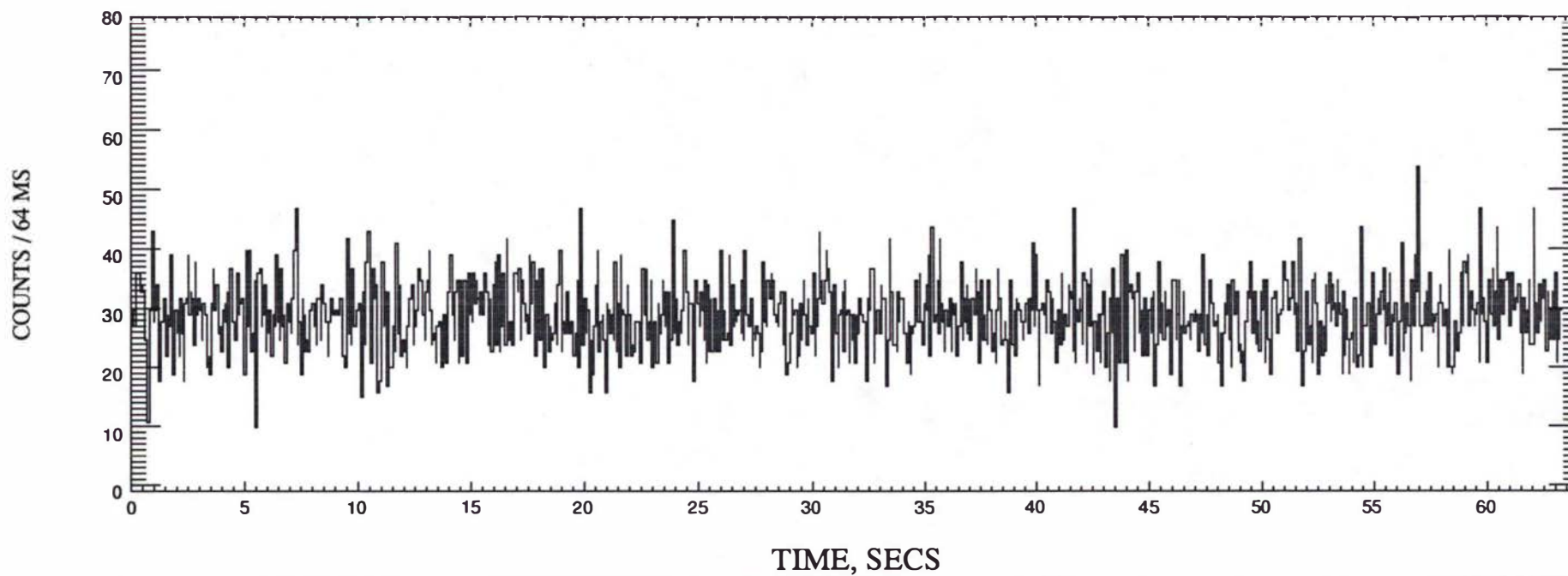


CALIBRATION DATA INCLUDED

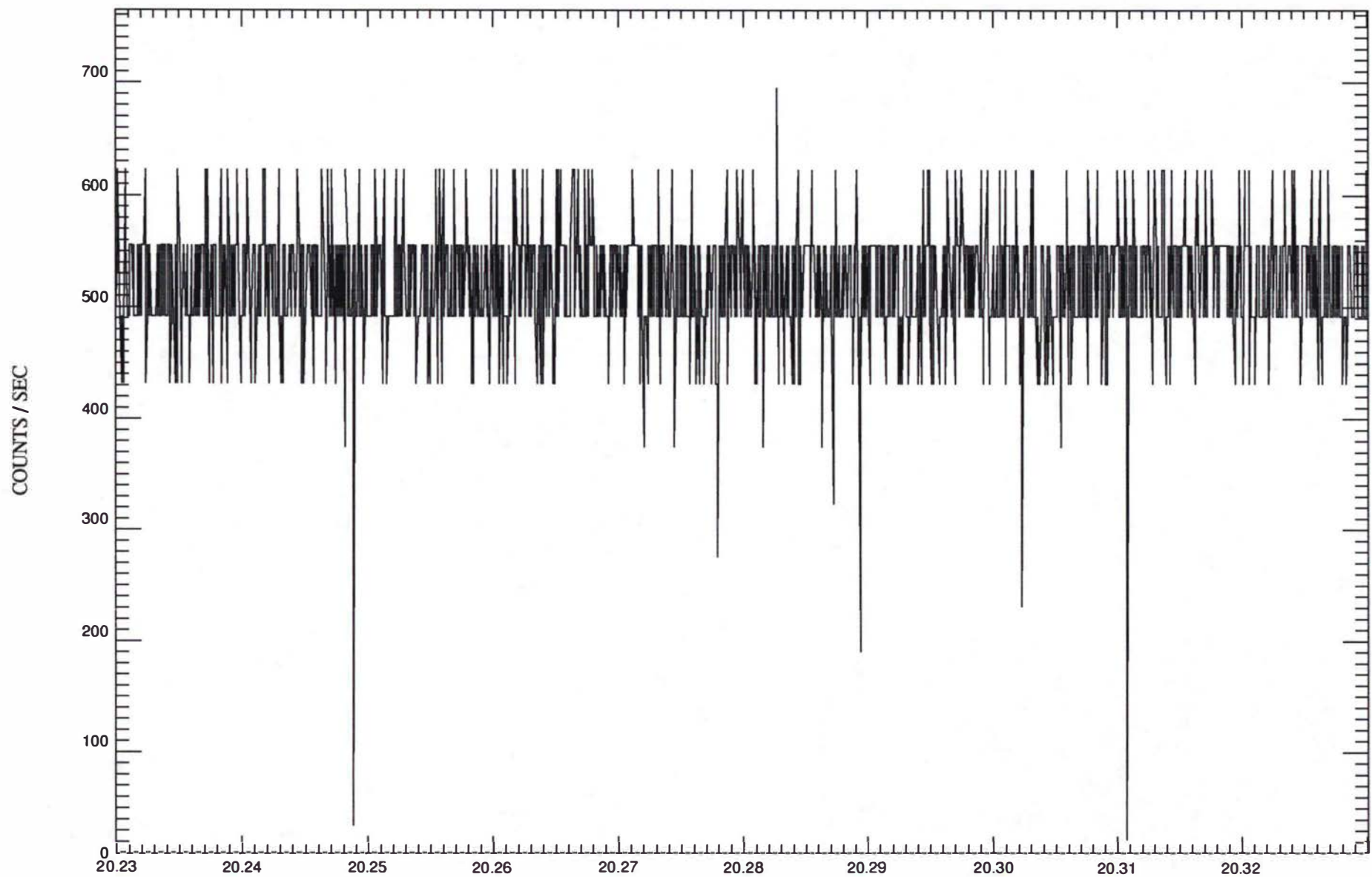


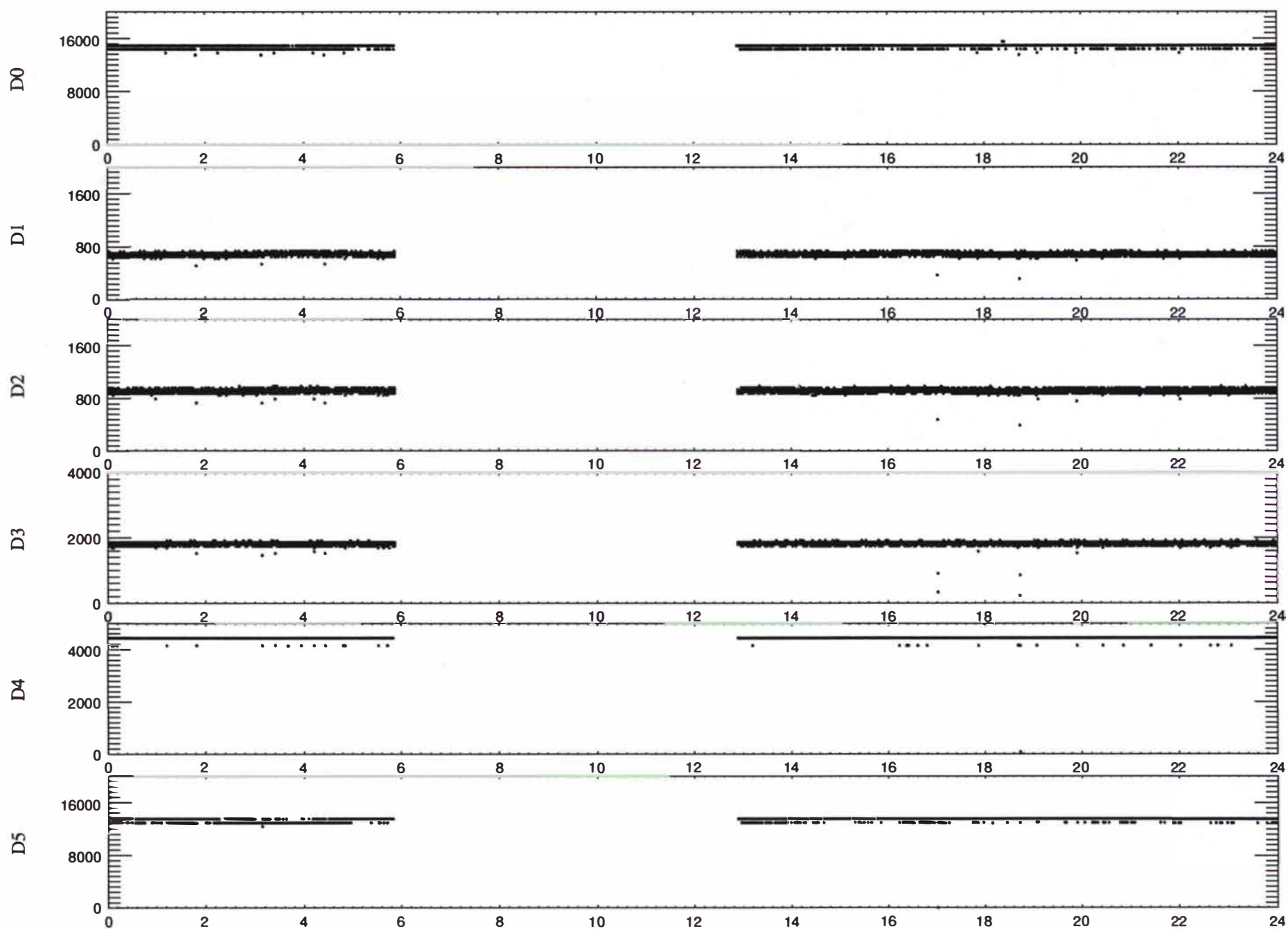
UNIV SAL TIME

Burst Counter 0 at UT=20.282783699036 h=73018.021 s 20:16:58.021



CALIBRATION DATA INCLUDED





UNIV SAL TIME

From khurley@sunspot Tue Sep 22 08:19 PDT 1998
Date: Tue, 22 Sep 1998 08:22:58 -0700
From: khurley@sunspot (Kevin Hurley)
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lhevax.gsfc.nasa.gov, cline@lhevax.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, woods@eagles.msfc.nasa.gov,
kraken@rosserv.gsfc.nasa.gov
Subject: GRBs, 980903 - 980915

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed the following bursts, all suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1800 s earlier.

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
3 SEP 98 04380	WEAK, 32 ms LONG	3150
6 SEP 98 73018	WEAK, 32 ms LONG	3150
7 SEP 98 80507	MODERATE, 32 ms LONG	3150
7 SEP 98 86027	MODERATE, 32 ms LONG	3150
8 SEP 98 48058	WEAK, 32 ms LONG	3150
9 SEP 98 31734	WEAK, 32 ms LONG	3150
11 SEP 98 29109	WEAK, 32 ms LONG	3150
11 SEP 98 67983	STRONG, 1 s LONG	3150
12 SEP 98 78457	STRONG, 64 ms LONG	3150
14 SEP 98 55913	WEAK, 32 ms LONG	3150
SEP 98 79827	MODERATE, 32 ms LONG	3150

Were these events detected by anyone else?

CC: ulyssesbursts alias list
(barthelmy, butterworth, cline, frontera, kouveliotou, kurczynski, marar, tee

From RICHARDSON@fender.msfc.nasa.gov Wed Sep 9 10:07:06 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Wed, 9 Sep 1998 12:06:00 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lhevax.gsfc.nasa.gov, barthelmy@lhevax.gsfc.nasa.gov,
bacodine@lhevaww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhevax.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7071

TIME: TJD=1063 SECONDS=2446

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=9.8 AZIMUTH=114.6 ERROR=2.6 DEGREES

COMMENTS:

SOLAR FLARE. NO GOES OR OPTICAL CLASSIFICATION.

WEAK SINGLE PULSE IN A DATA GAP. DURATION AT LEAST 35 SEC.

NOT VISIBLE ABOVE 100KEV.

SAX GRBM
HUS DATA

19 / 07 / 05

ULYSSES RT

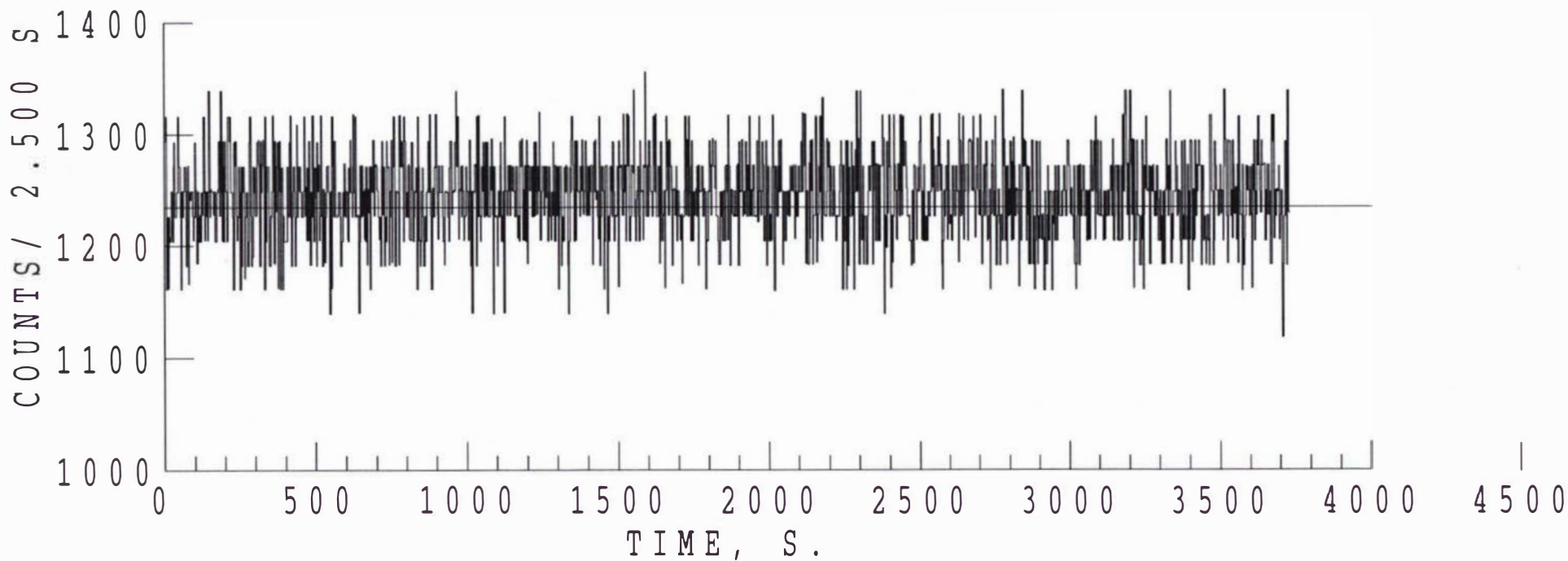
07/09/98 37224.188 s

0.500 S INTERVALS REGROUPED BY 5

0 - 0 keV

M= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

M= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From RICHARDSON@fender.msfc.nasa.gov Wed Sep 9 10:11:55 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Wed, 9 Sep 1998 12:11:32 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lhev.gsfc.nasa.gov, barthelmy@lhev.gsfc.nasa.gov,
bacodine@lhev.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhev.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7072

TIME: TJD=1063 SECONDS=39739

11:02:19

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=117.5 AZIMUTH=147.4 ERROR=4.4 DEGREES

COMMENTS:

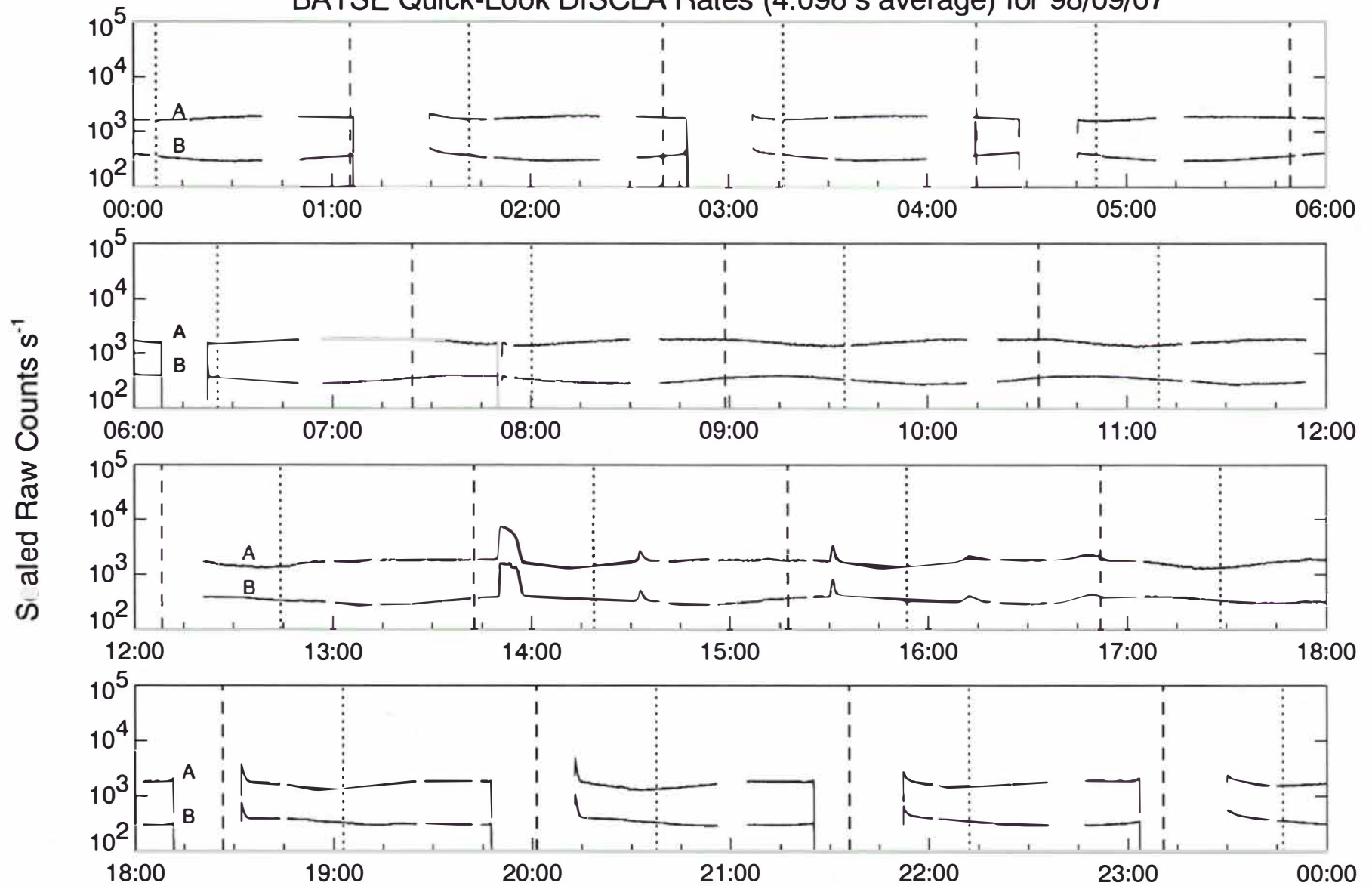
SGR 1900+14.

SINGLE SPIKE. SECOND SPIKE AT APPROX. T+18 SEC. PROBABLY PHOSPHORESCENT.

DURATION OF SGR APPROX. = 0.04 SEC. NOT VISIBLE ABOVE 100KEV.

Sep 7 286.8, 9.3

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/09/07

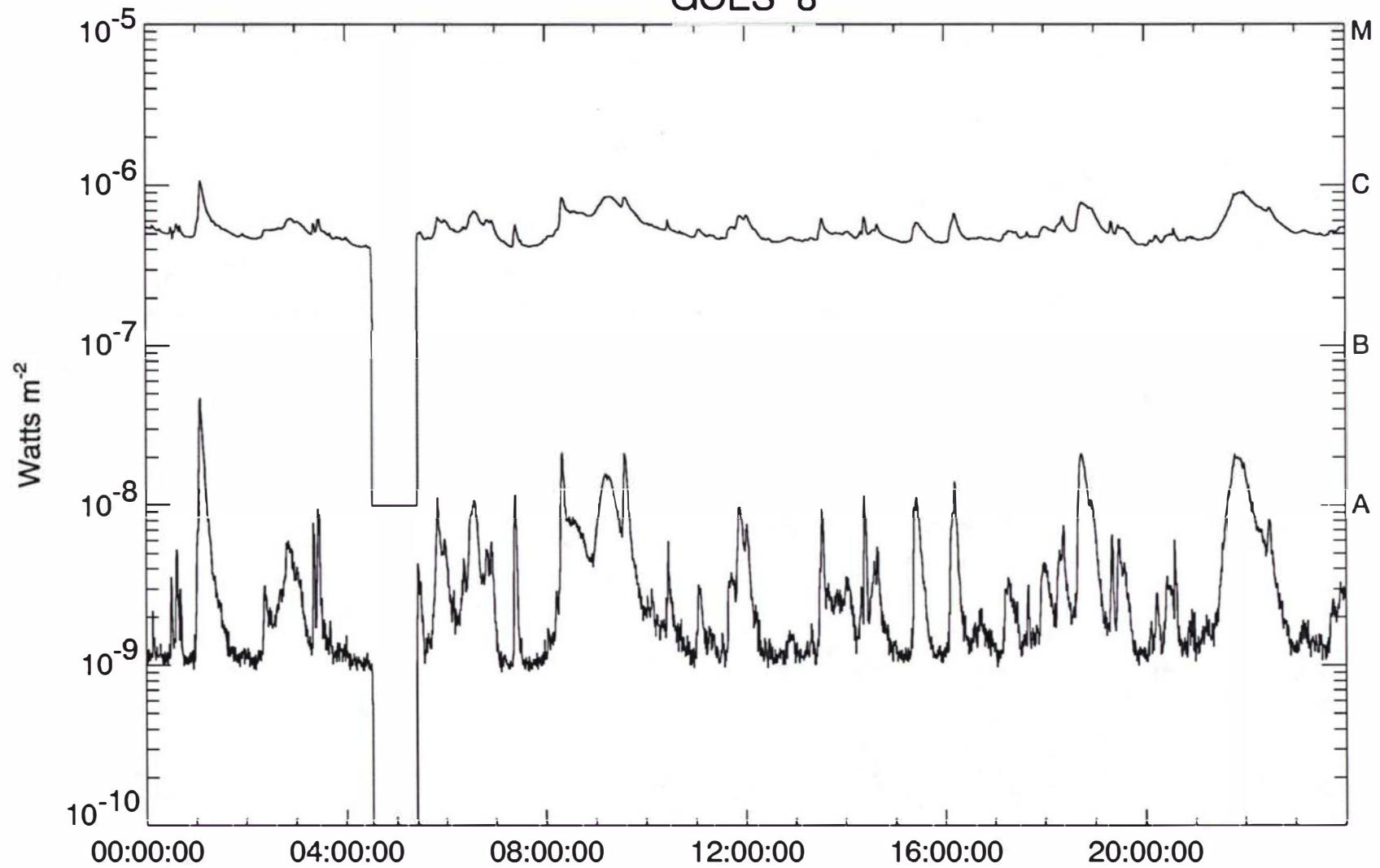


Current Time: 98/09/11, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 98/09/07, 0000:00

Plot created: 98/09/11, 1007

Channel

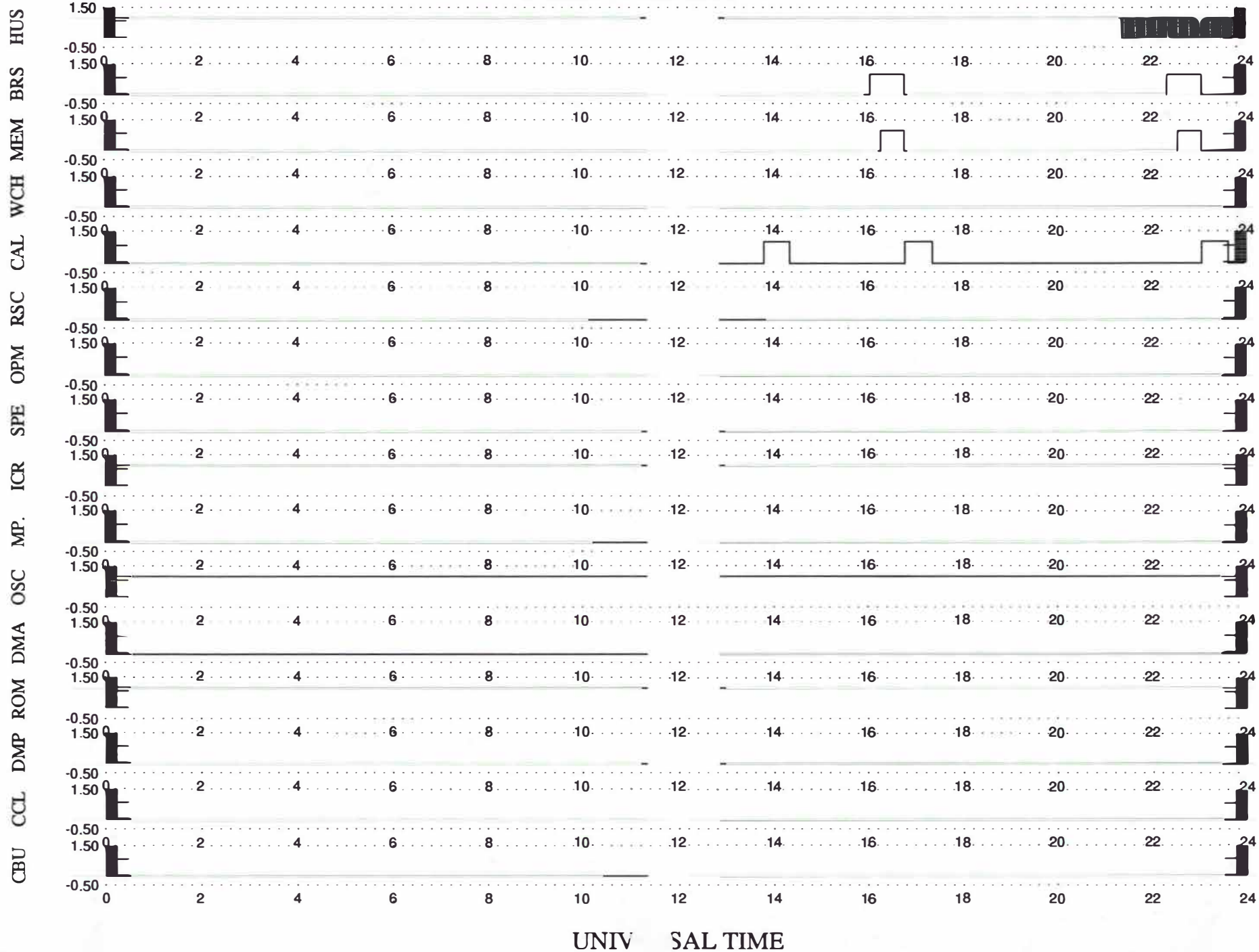
1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

Background not subtracted

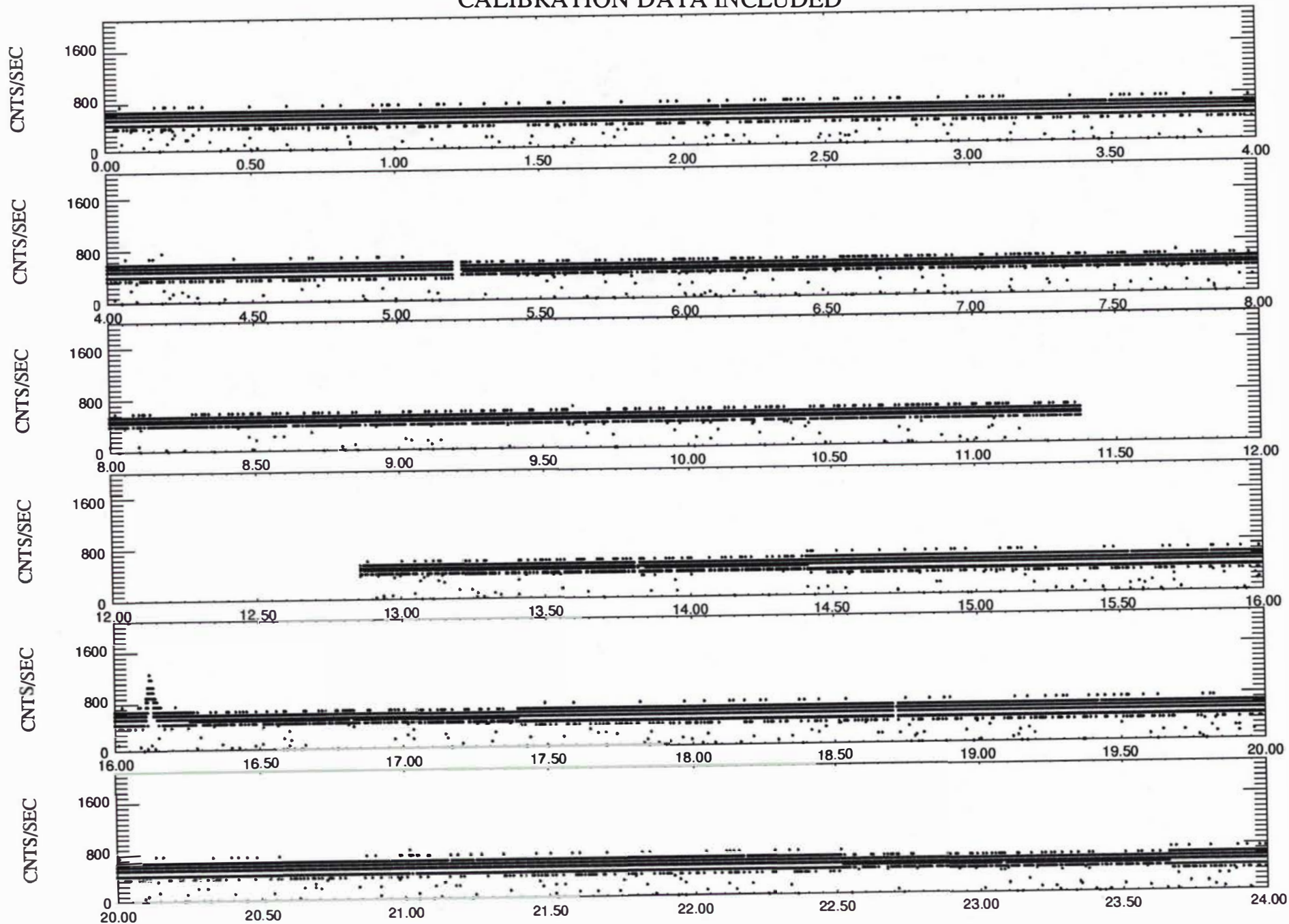
Background not subtracted

Sample average = 10

BURST NUMBER 1 - 3

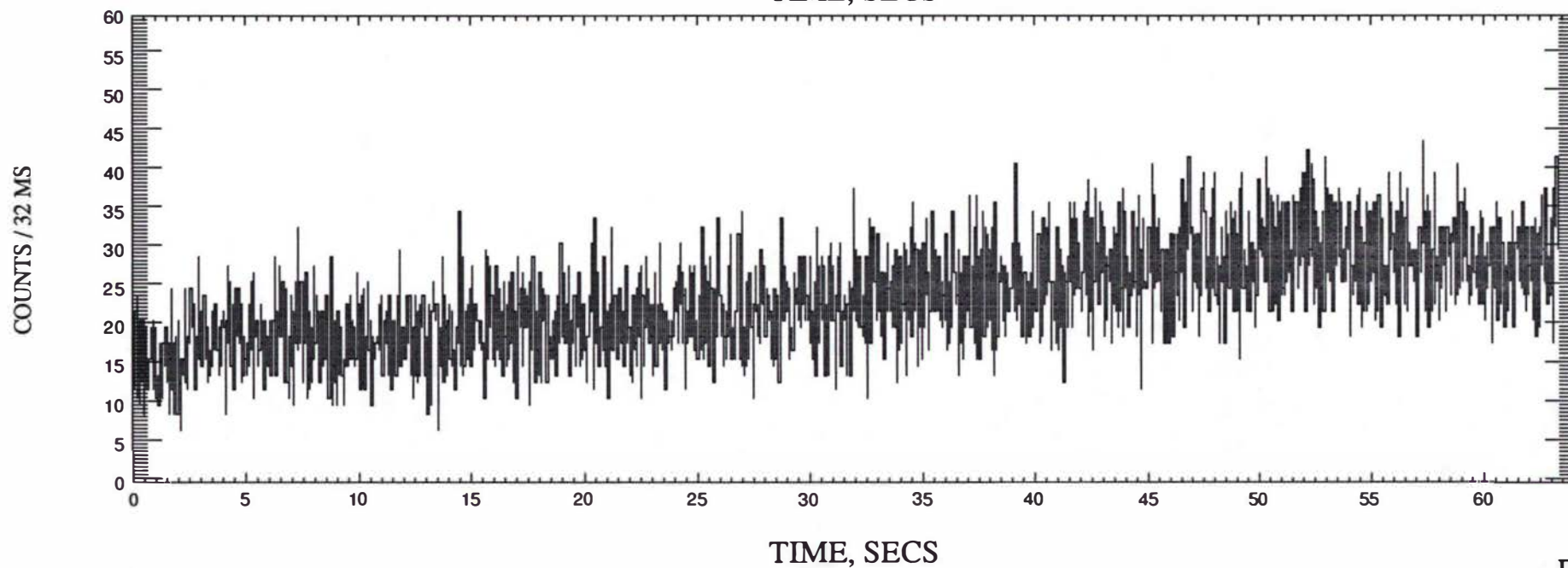
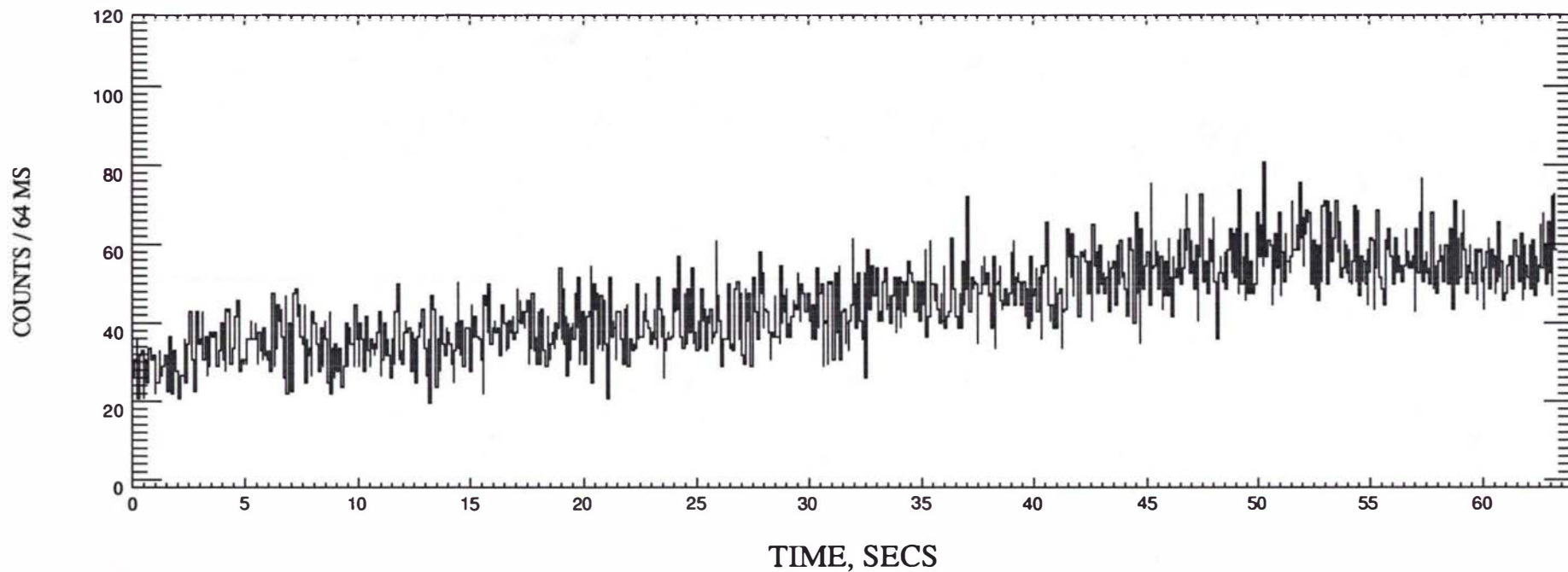


CALIBRATION DATA INCLUDED

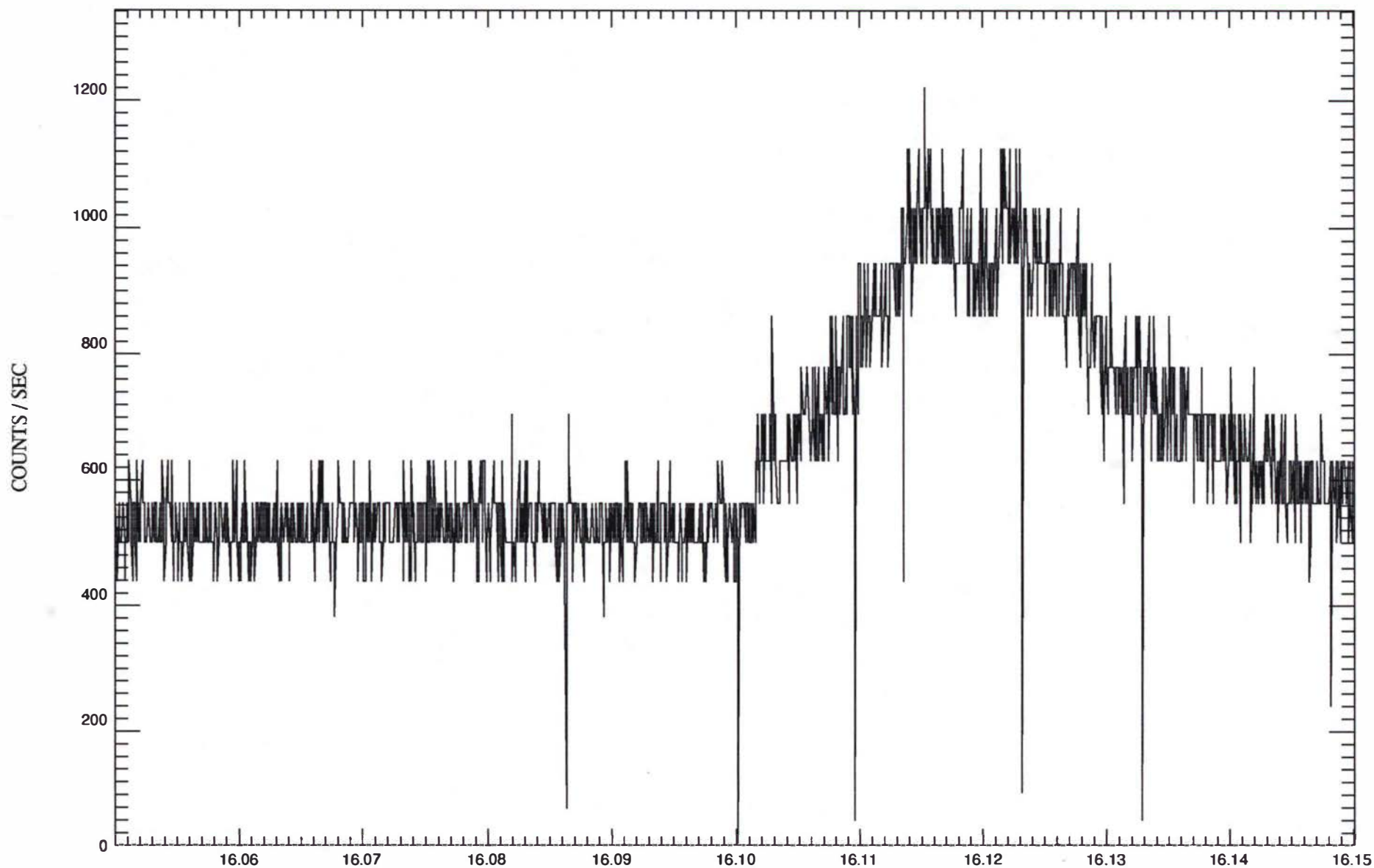


UNIV SAL TIME

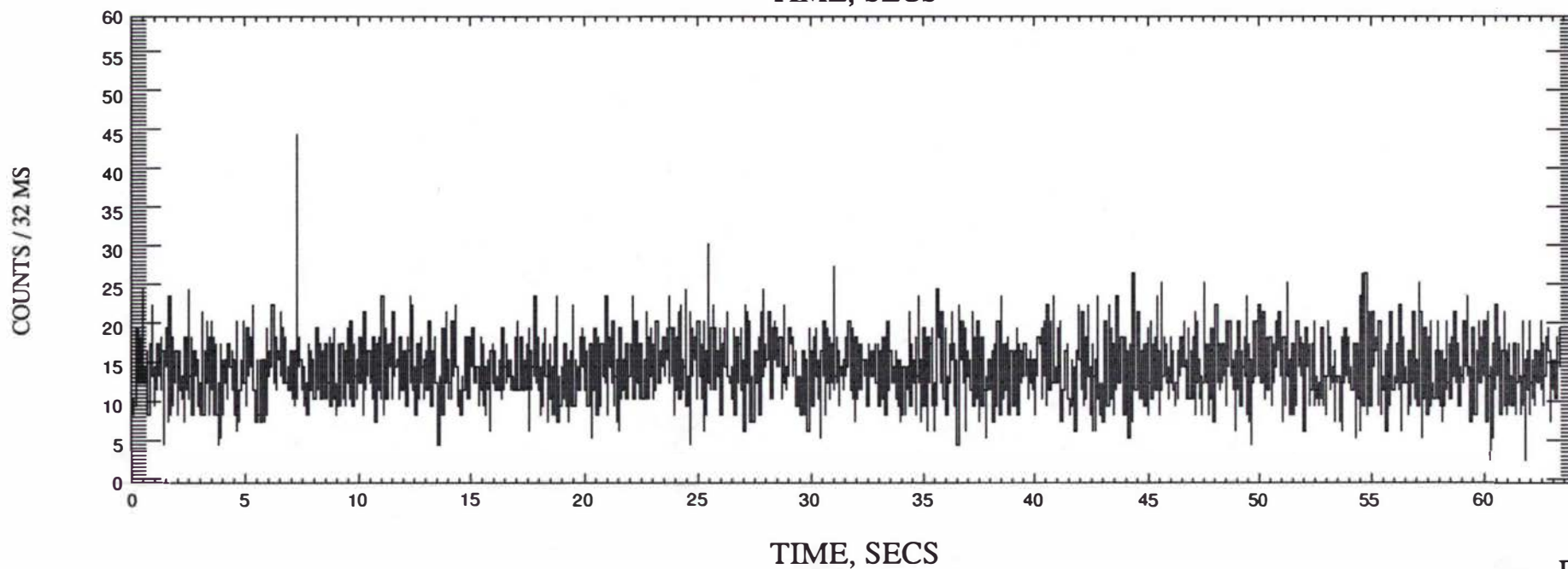
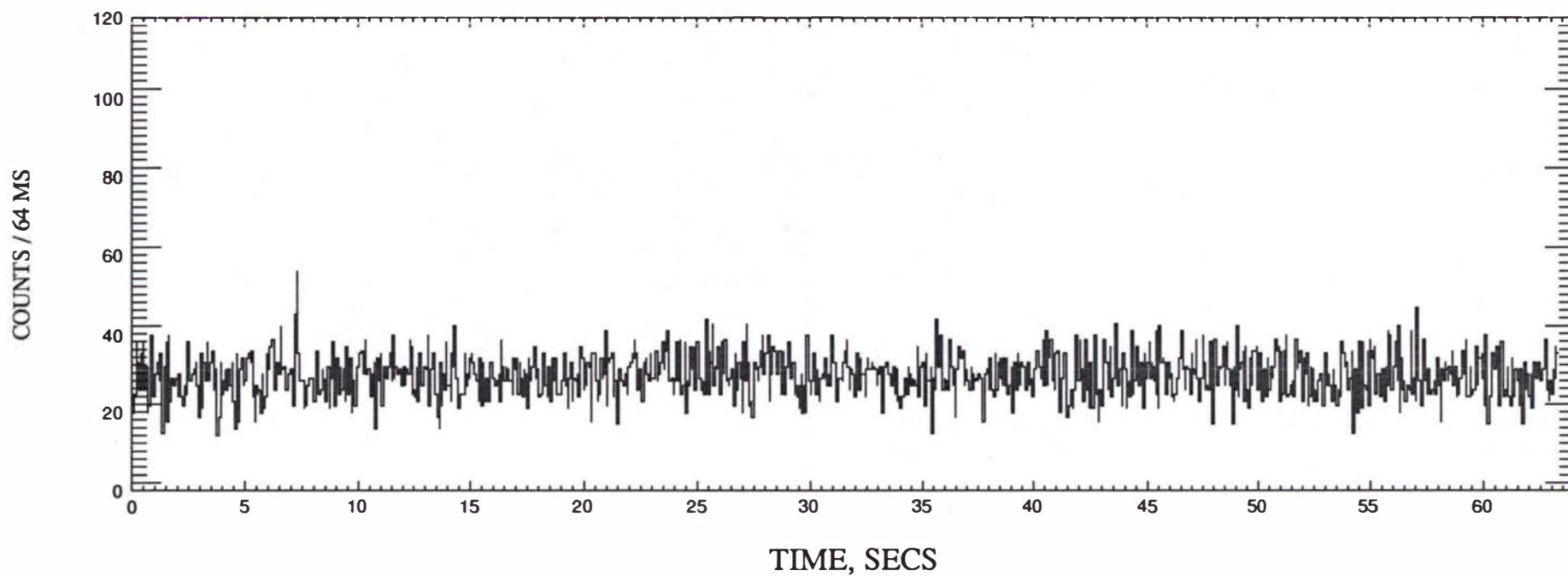
Burst Counter 1 at UT=16.102956877814 h=57970.645 s 16:06:10.645



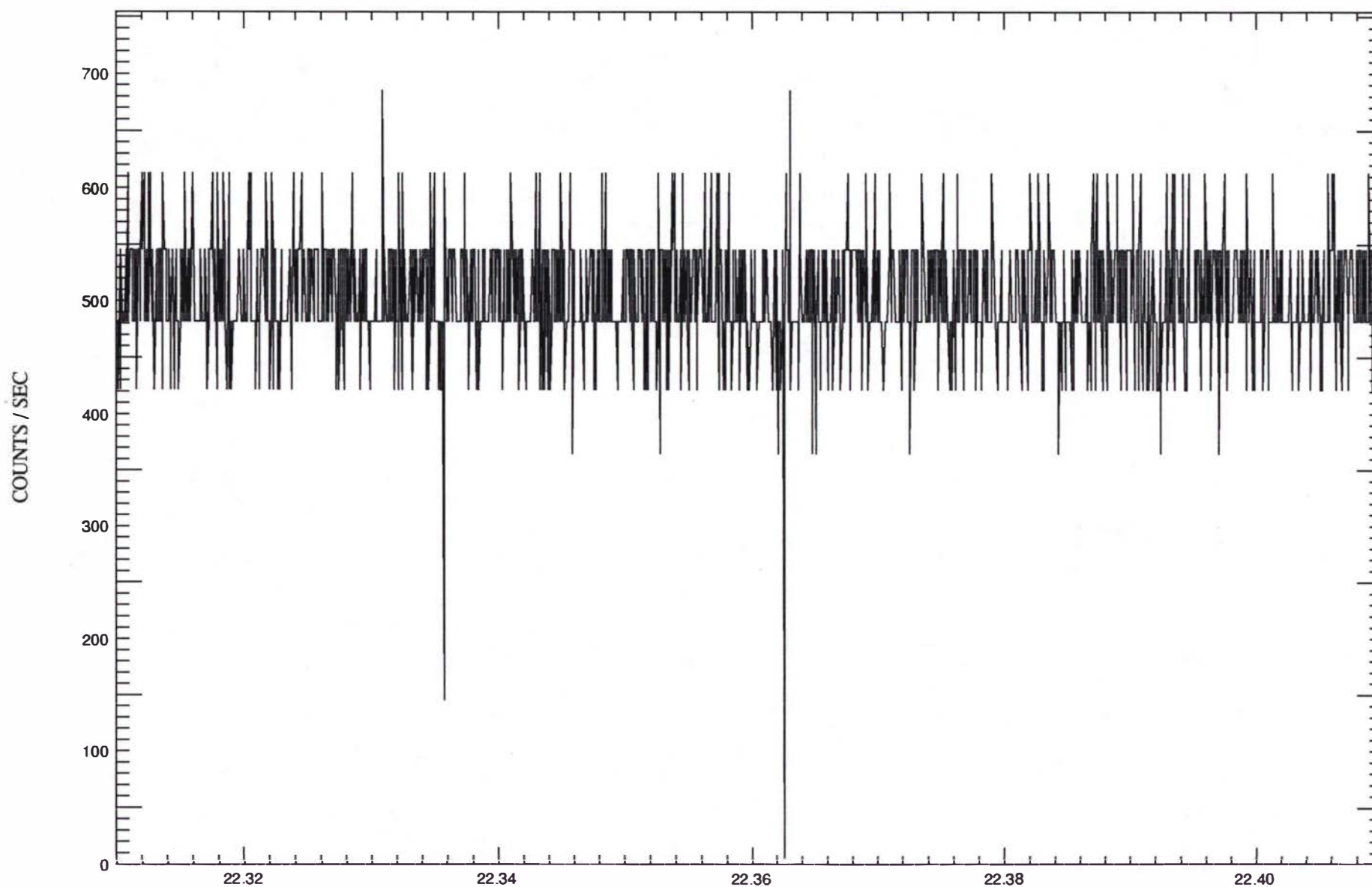
CALIBRATION DATA INCLUDED



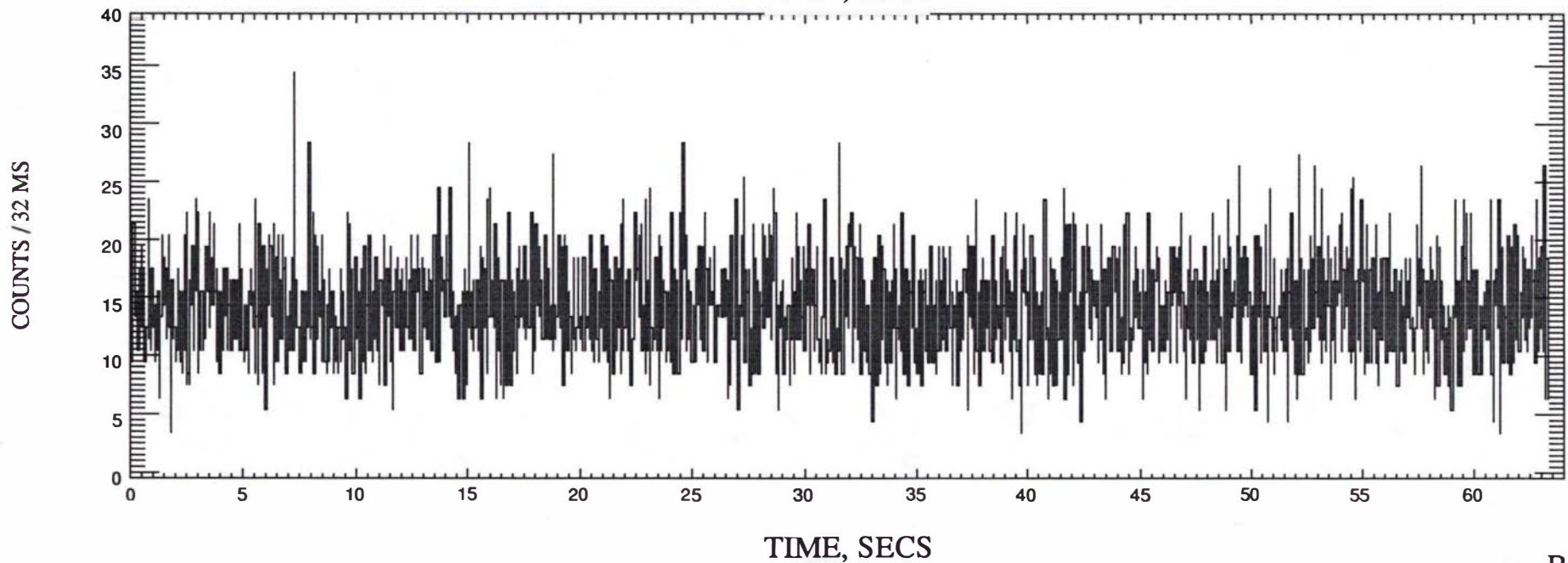
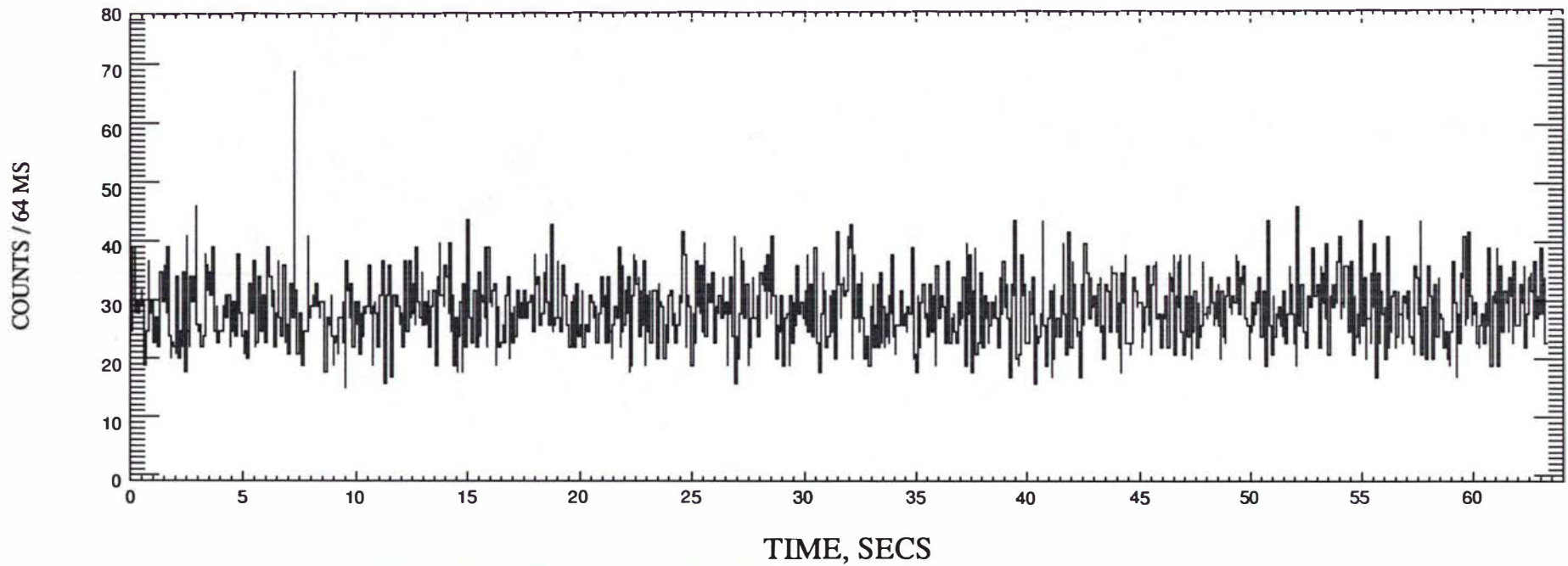
Burst Counter 2 at UT=22.363196063572 h=80507.506 s 22:21:47.506



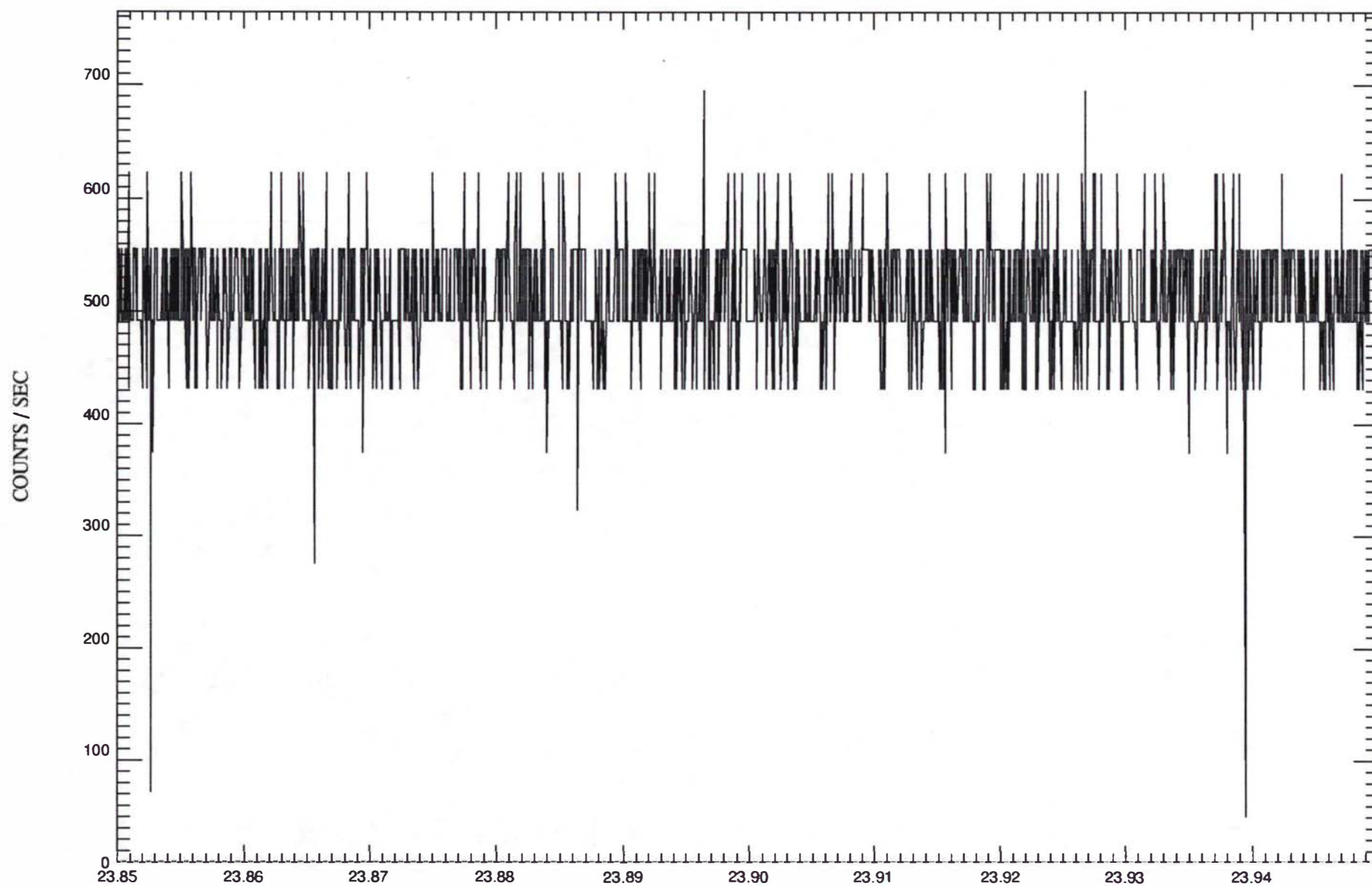
CALIBRATION DATA INCLUDED

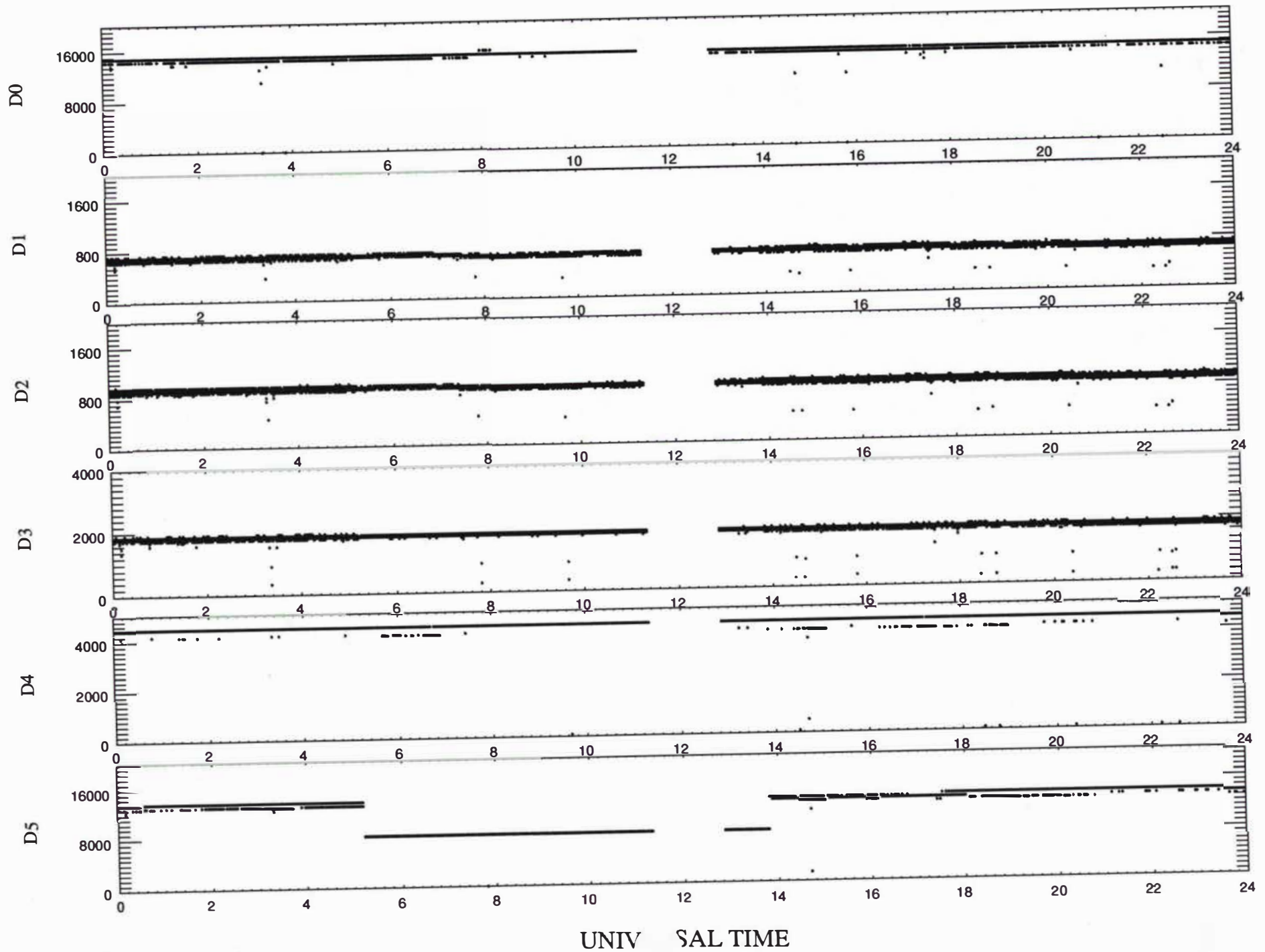


Burst Counter 3 at UT=23.896541451348 h=86027.549 s 23:53:47.549



CALIBRATION DATA INCLUDED





From khurley@sunspot Tue Sep 22 08:19 PDT 1998
Date: Tue, 22 Sep 1998 08:22:58 -0700
From: khurley@sunspot (Kevin Hurley)
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, woods@eagles.msfc.nasa.gov,
kraken@rosserv.gsfc.nasa.gov
Subject: GRBs, 980903 - 980915

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed the following bursts, all suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1800 s earlier.

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
3 SEP 98 04380	WEAK, 32 ms LONG	3150
6 SEP 98 73018	WEAK, 32 ms LONG	3150
7 SEP 98 80507	MODERATE, 32 ms LONG	3150
7 SEP 98 86027	MODERATE, 32 ms LONG	3150
8 SEP 98 48058	WEAK, 32 ms LONG	3150
9 SEP 98 31734	WEAK, 32 ms LONG	3150
11 SEP 98 29109	WEAK, 32 ms LONG	3150
11 SEP 98 67983	STRONG, 1 s LONG	3150
12 SEP 98 78457	STRONG, 64 ms LONG	3150
14 SEP 98 55913	WEAK, 32 ms LONG	3150
SEP 98 79827	MODERATE, 32 ms LONG	3150

Were these events detected by anyone else?

CC: ulyssesbursts alias list
(barthelmy, butterworth, cline, frontera, kouveliotou, kurczynski, marar, tee

From HENZE@joplin.msfc.nasa.gov Fri Sep 11 09:54:32 1998
Date: Fri, 11 Sep 1998 11:52:44 -0500
From: Bill Henze (256-544-7616) <HENZE@joplin.msfc.nasa.gov>
To: burst@compel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmattes@ucsd.edu, PACIESAS@joplin.msfc.nasa.gov,
HORACK@joplin.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7073

Sep 8

272.2, -20.4

TIME: TJD=1064 SECONDS=12570

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=109.2 AZIMUTH=106.0 ERROR= 1.2 DEGREES

COMMENTS:

SGR 1806-20. DOUBLE PULSE, MAXES AT APPROX. T-0.045 S, T+0.01 S,
TOTAL DUR. APPROX. 0.12 S. NOT VISIBLE ABOVE 100 KEV.

BATSE BURST# 7073

ULYSSES RT

22 / 9 / 98

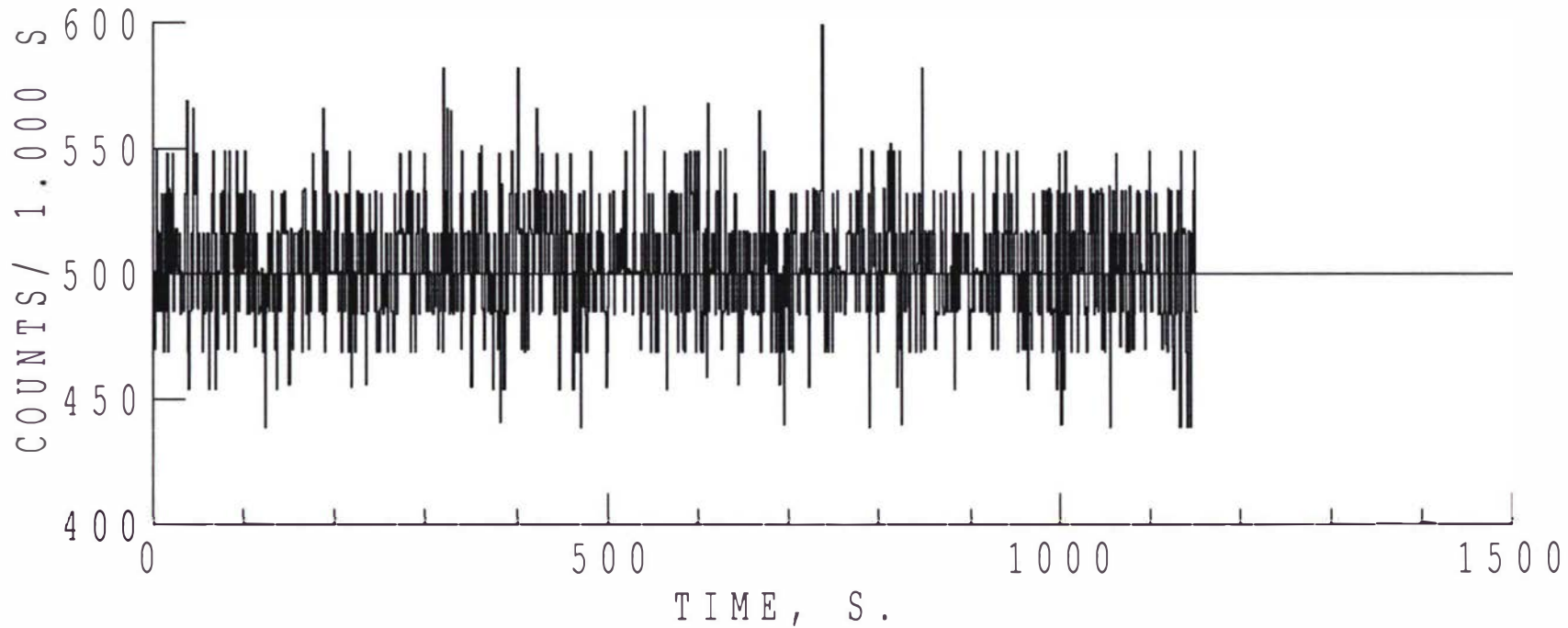
8 / 9 / 98 13212.089 s

0.250 S INTERVALS REGROUPED BY 4

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Thu Sep 10 14:52:20 1998
Date: Thu, 10 Sep 1998 16:51:56 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7074

TIME: TJD=1064 SECONDS=24220 *Sep 8 286.8 9.3 06:43:40*

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

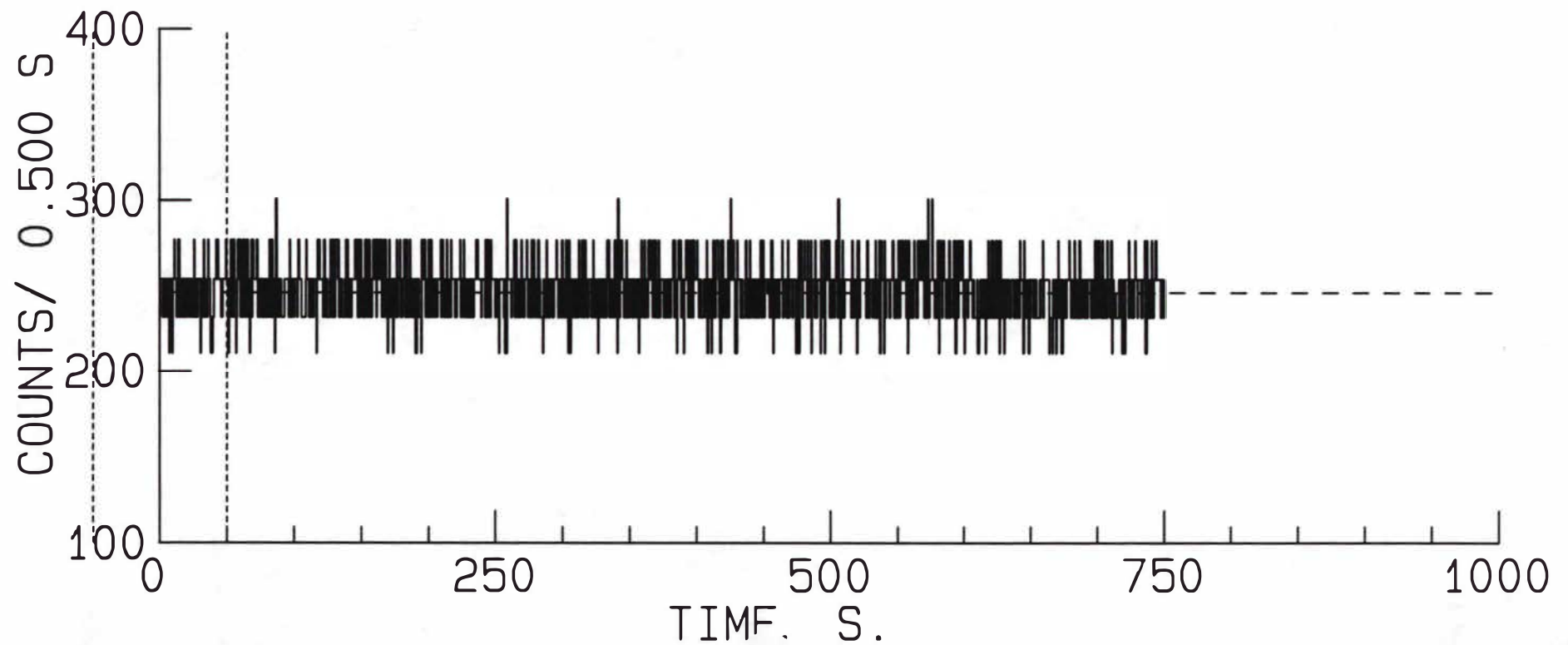
LOCATION: ZENITH=119.4 AZIMUTH=143.4 ERROR= 2.8 DEGREES

COMMENTS:

SGR 1900+14. SINGLE PULSE, DUR. APPROX. 0.04 S. NOT VISIBLE ABOVE 100 KEV.

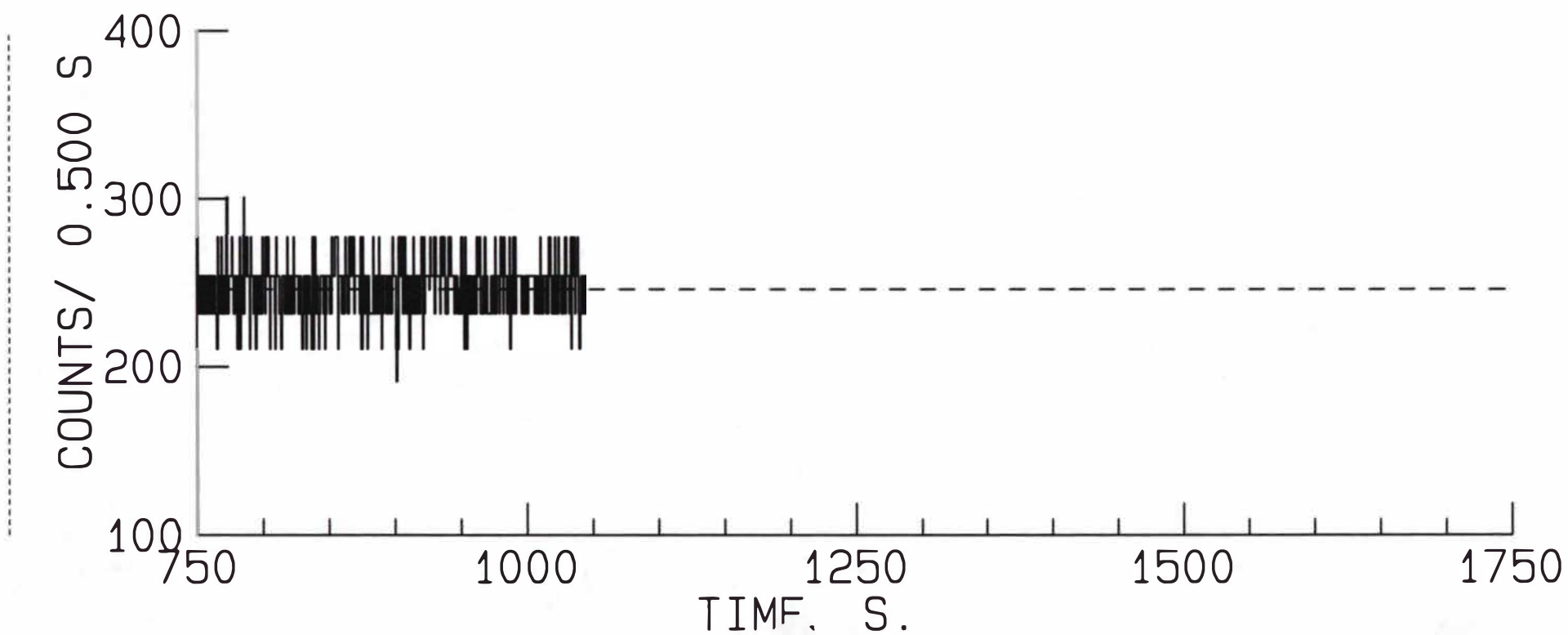
ULYSSES RT
8/ 9/98 25560.469 s
22- 150 keV

20 / 2 / 99



ULYSSES RT
8/ 9/98 25560.469 s
22- 150 keV

20 / 2 / 99



Date: Nov 19 '08

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

- ☐ Jim Schmidling's stat file correction applied?
- ☐ Final ephemeris used?
- ☐ Final, CDROM data used?
- ☐ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution?

2. BATSE Data *N/A*

- ☐ BATSE ephemeris for T_0 ?
- ☐ Error circle position and radius from public catalog used?
- ☐ If MER data were used, is a 30 ms systematic error included?

3. NEAR Data

- ☒ Final, correct time used? (Files postmarked vw@boccl, from from Teresa Sheets, postmarked May 2 1999 or later have the correct time; files on website have incorrect times)
- ☐ BATSE >100 keV data used for NEAR correlation? *N/A*

4. For Konus events *N/A*

- ☒ Konus ecliptic latitude used with latest calibration?

5. For 3 Spacecraft events

- ☐ $\Sigma 3\Delta t$'s calculated?
- ☐ ACCESS database updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

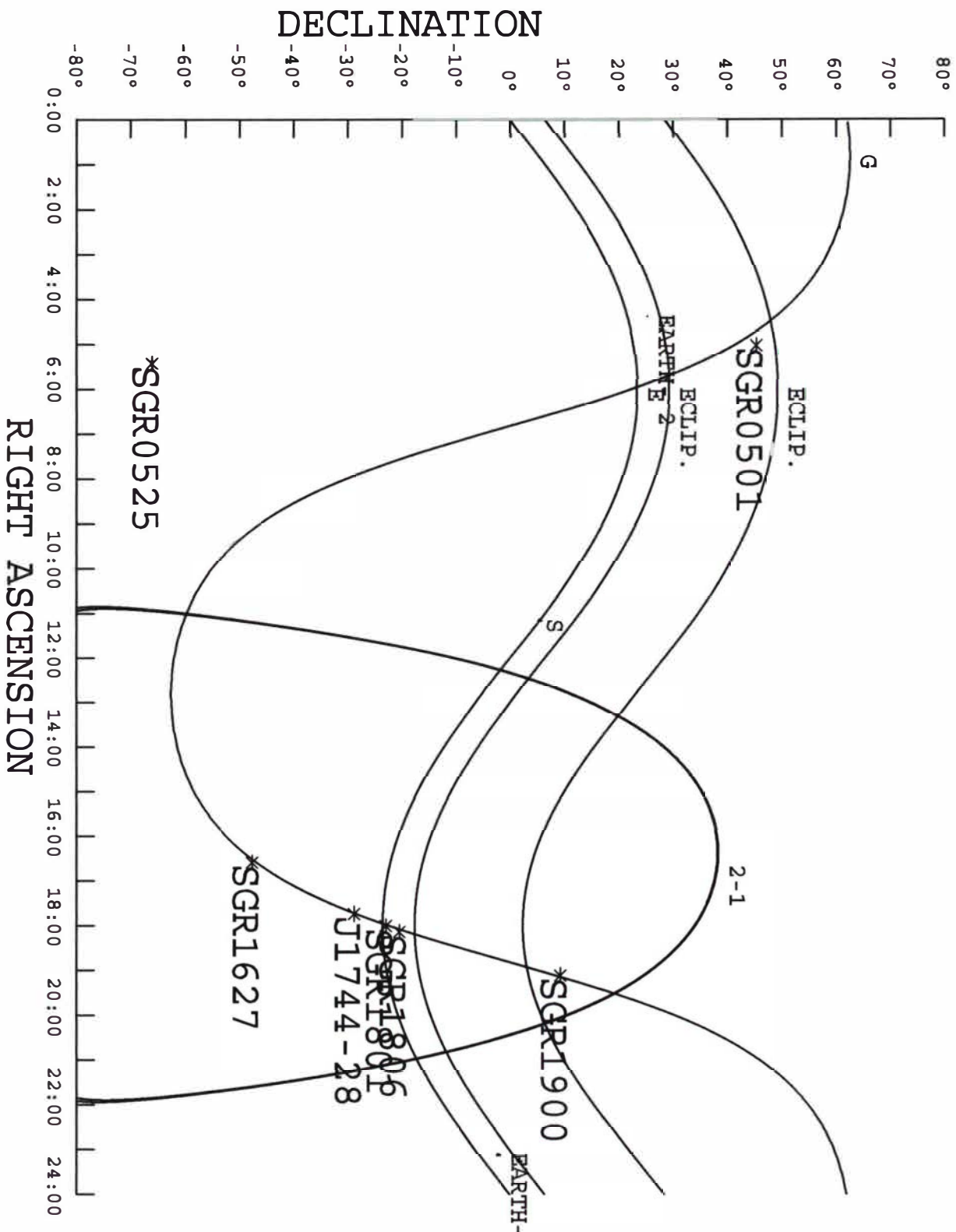
G=GALACTIC EQUATOR

1 KONUS2

2 NEAR

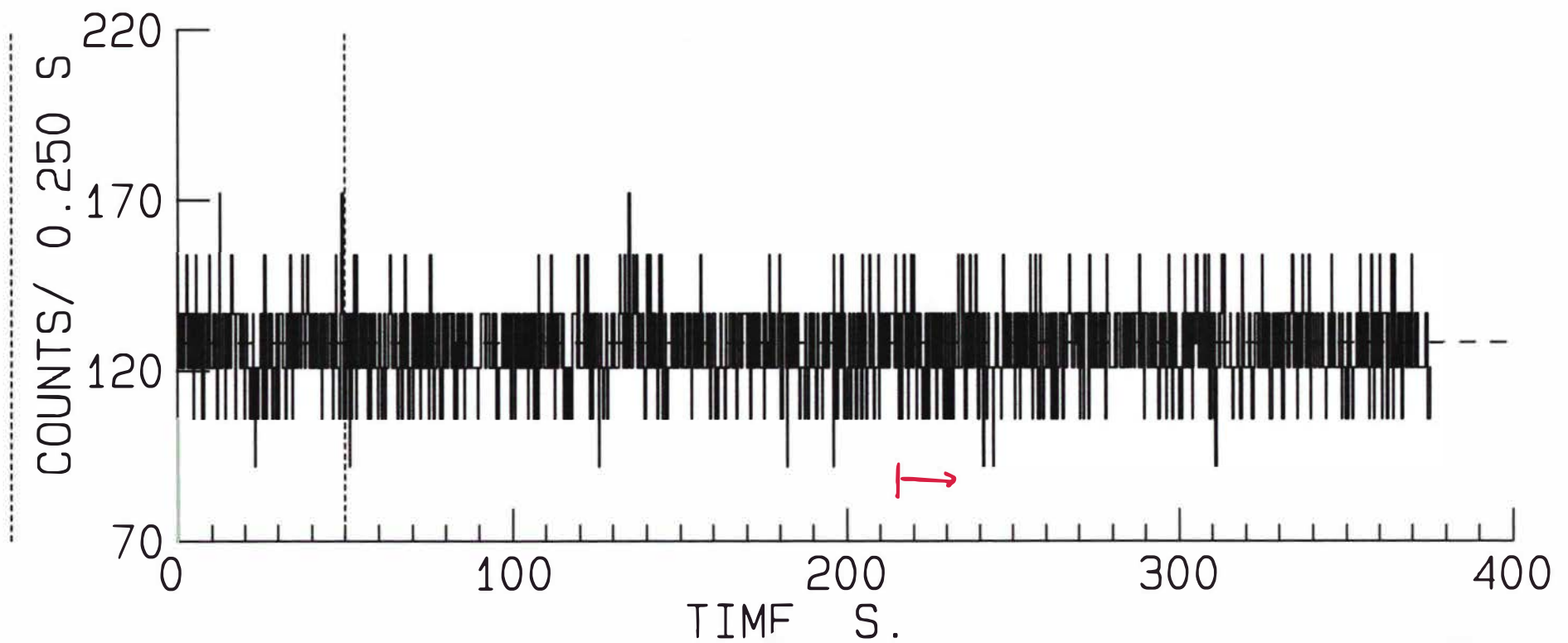
EVENT OF SEP 8, 1998 22:51

19/11/ 8



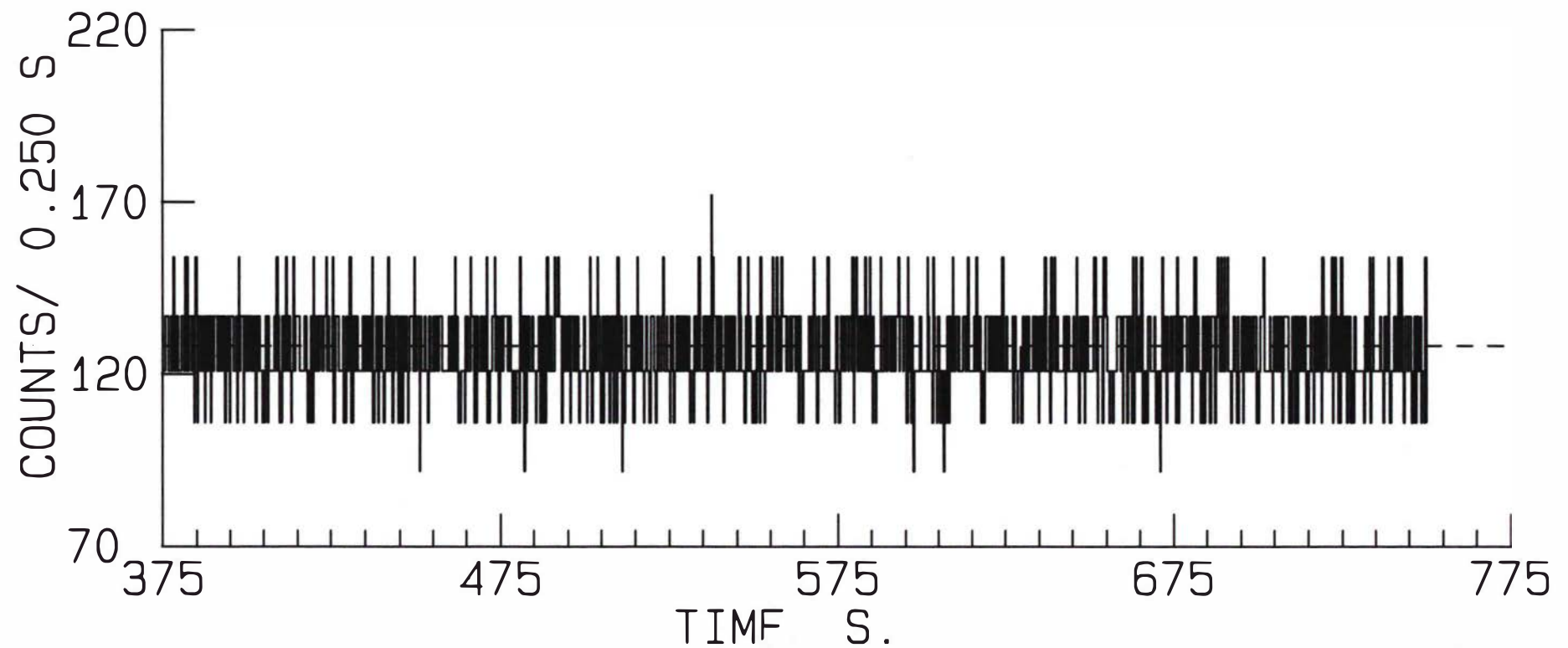
ULYSSES RT
8/ 9/98 79056.031 s
22- 150 keV

19/11/ 8



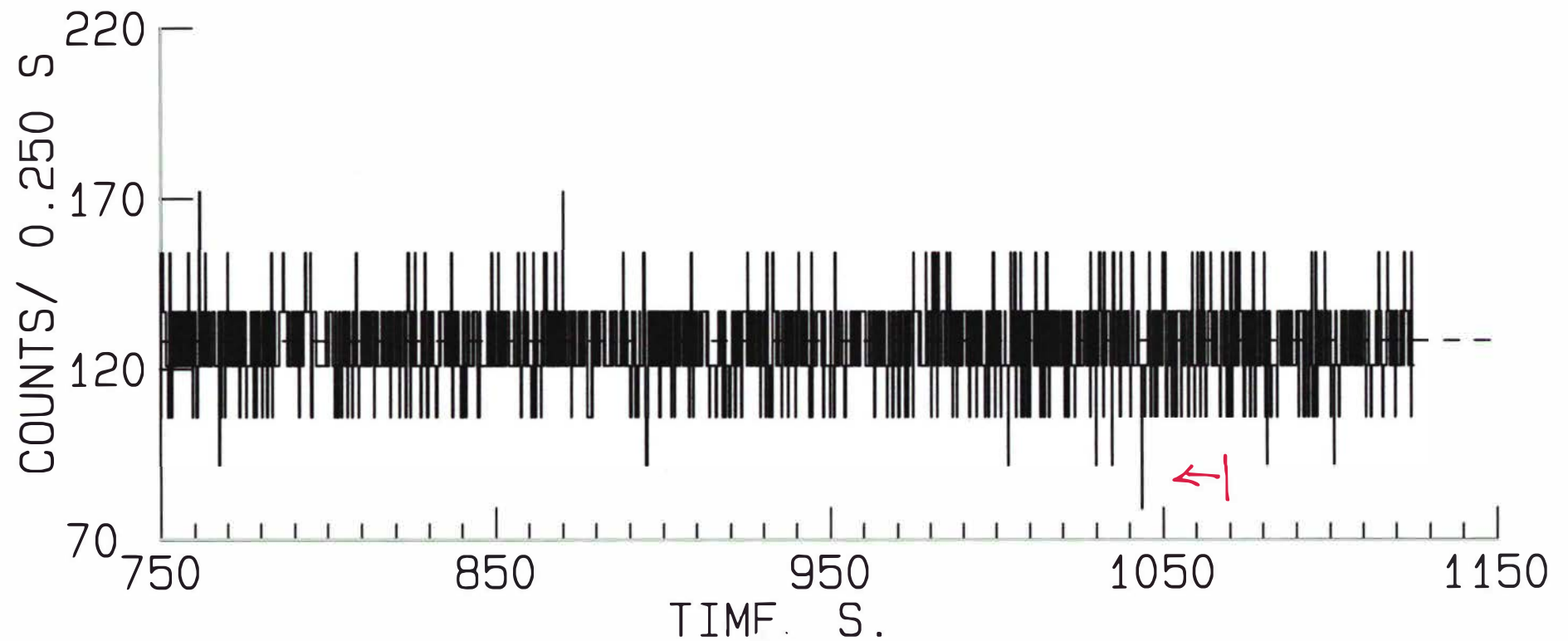
ULYSSES RT
8/ 9/98 79056.031 s
22- 150 keV

19/11/ 8



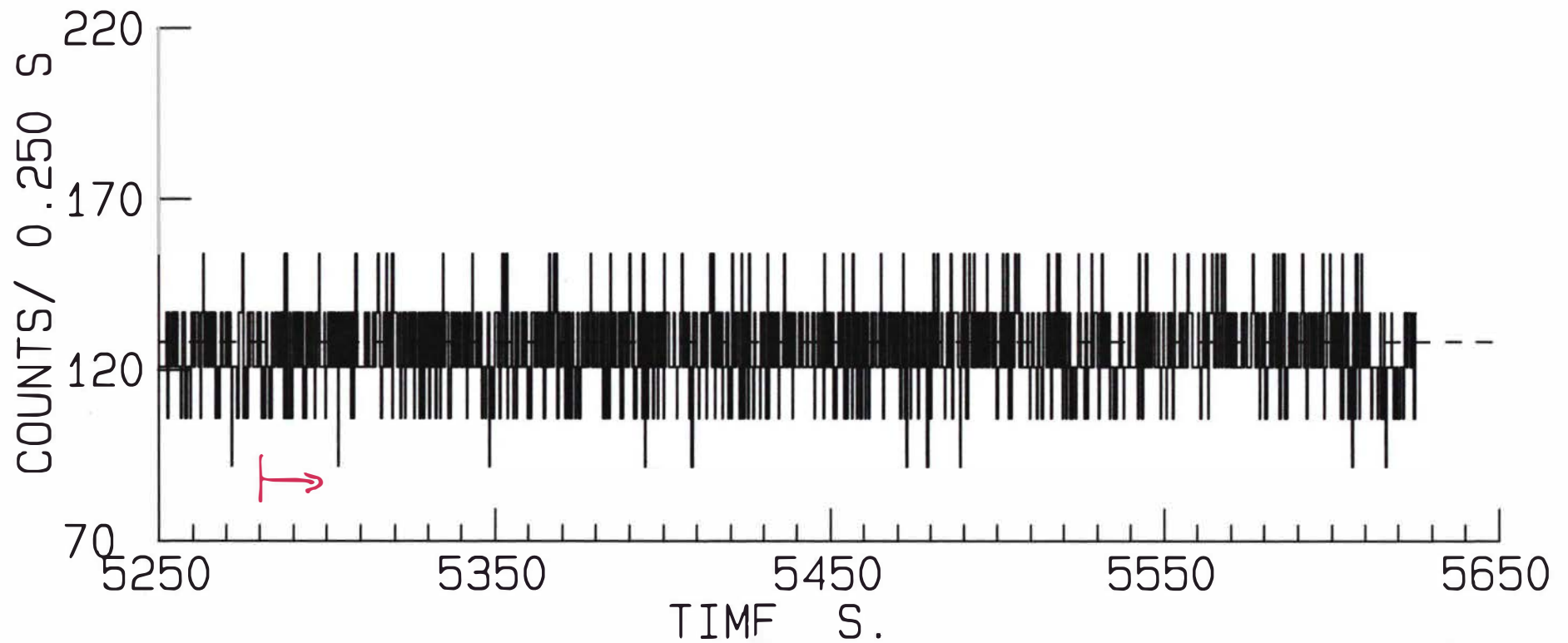
ULYSSES RT
8/ 9/98 79056.031 s
22- 150 keV

19/11/8



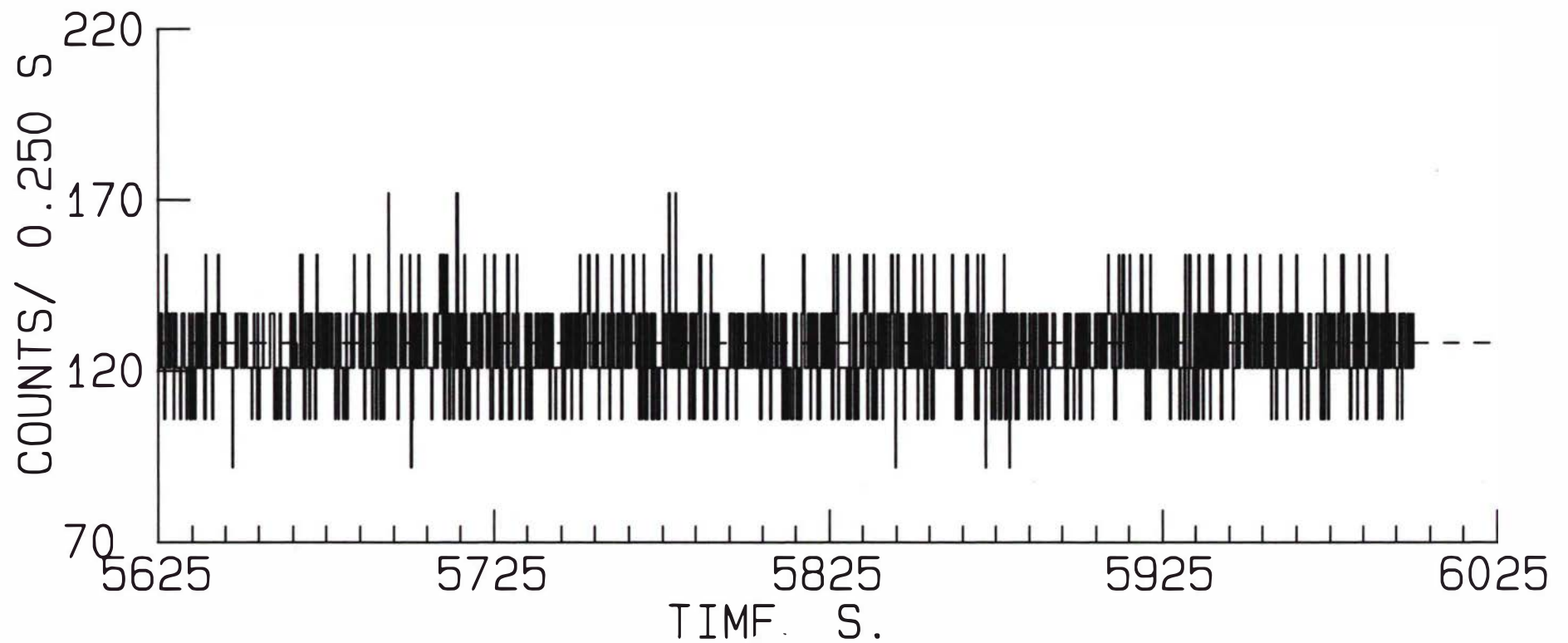
ULYSSES RT
8/ 9/98 79056.031 s
22- 150 keV

19/11/8



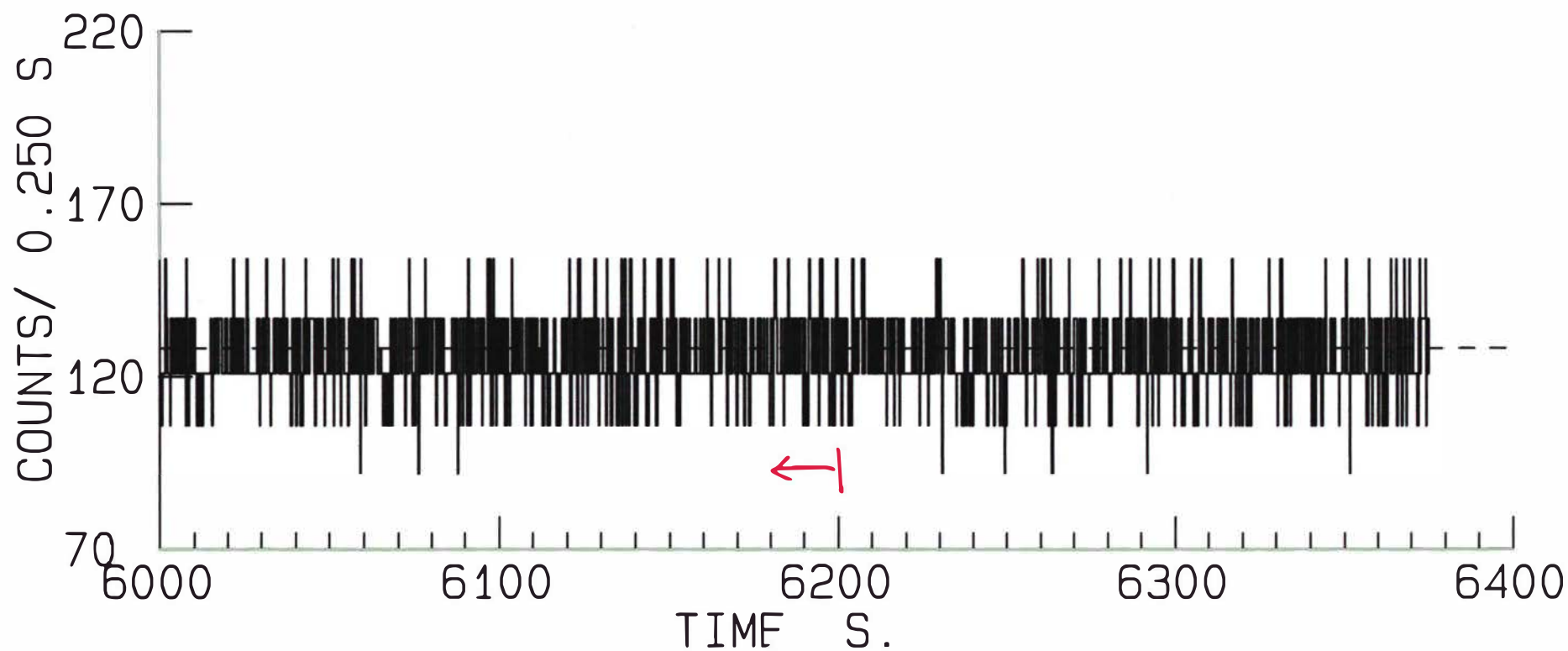
ULYSSES RT
8/ 9/98 79056.031 s
22- 150 keV

19/11/8



ULYSSES RT
8/ 9/98 79056.031 s
22- 150 keV

19/11/8



KONUS2

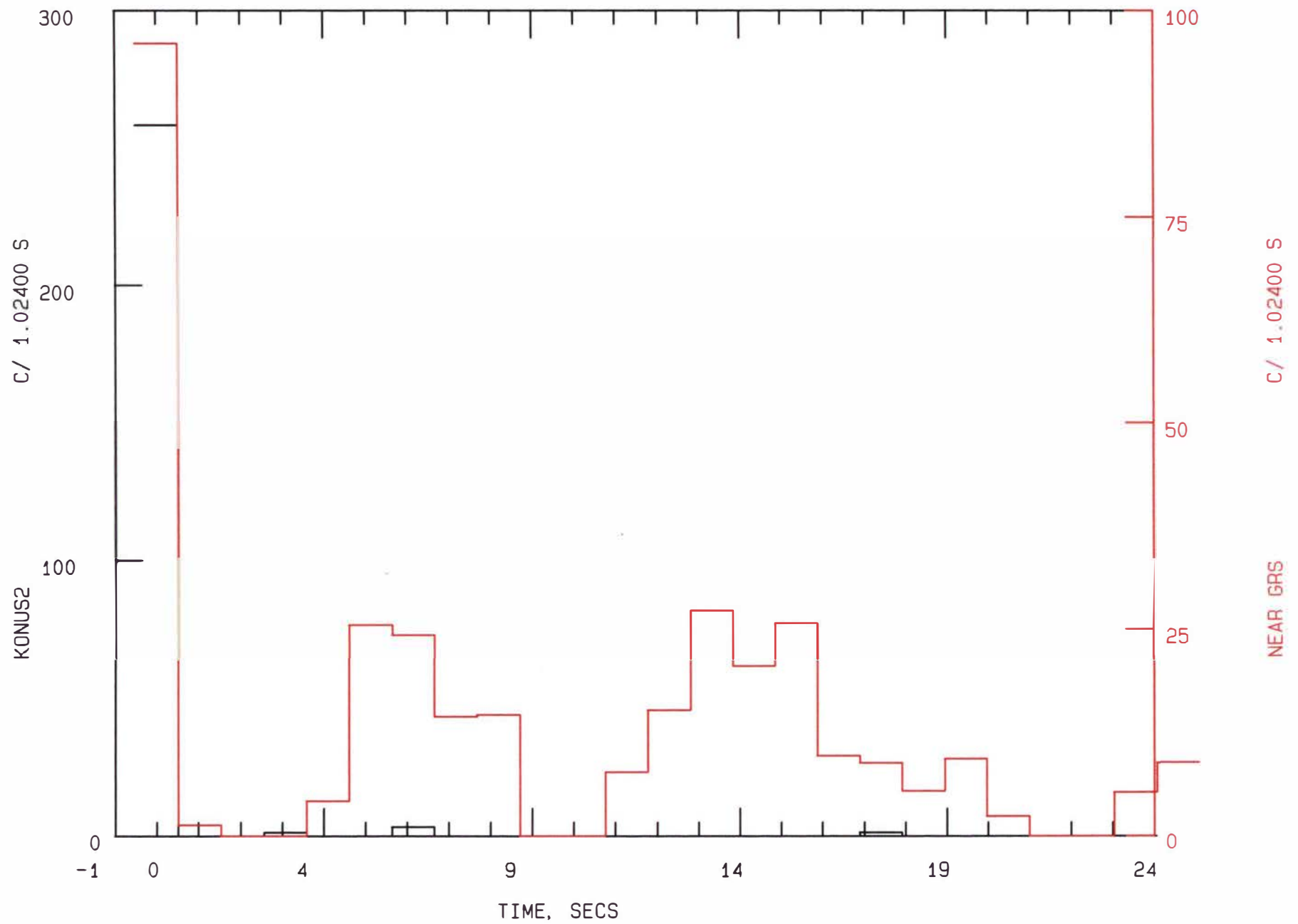
-NEAR GRS

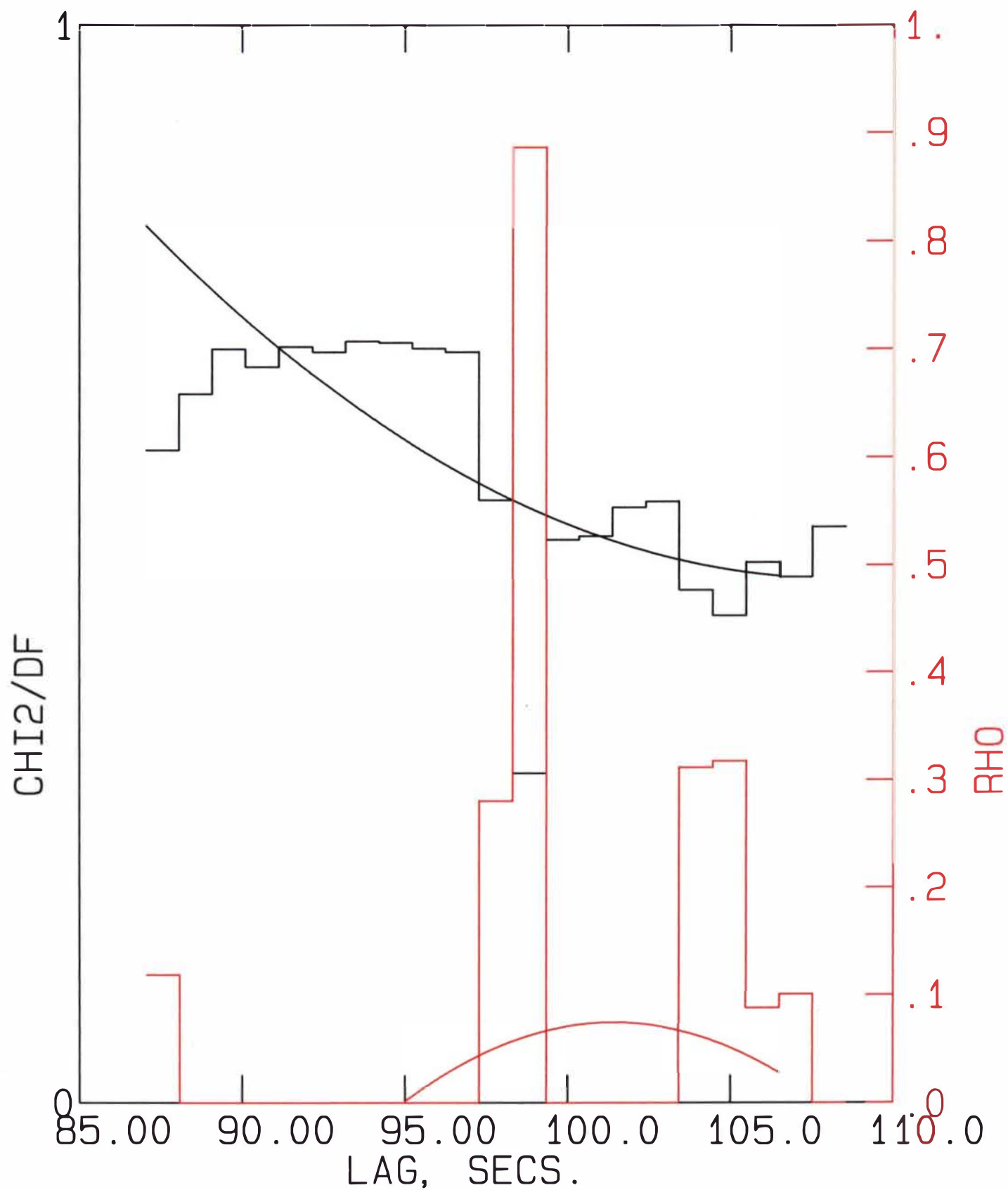
CORRELATION

08/09/98

82263.835

19/11/ 8





KONUS2 19980908 82253

ULYSSES RT

10/01/02

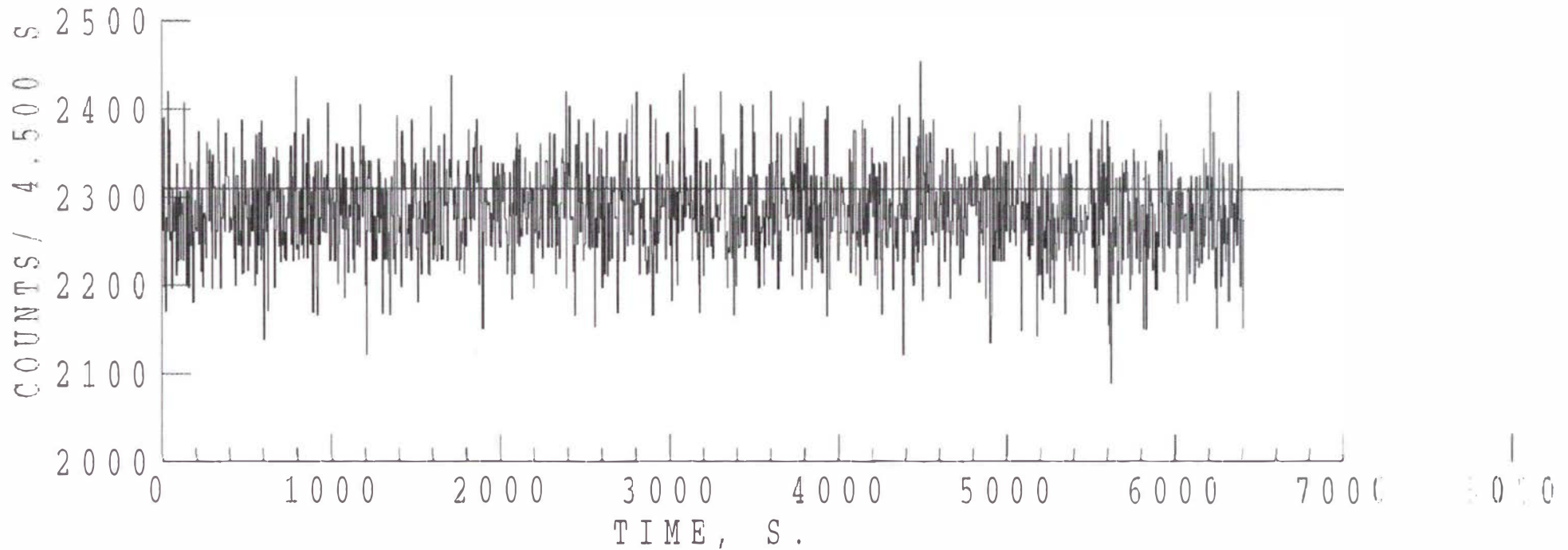
08/09/98 79056.031 s

0.250 S INTERVALS REGROUPED BY 18

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS



KONUS2

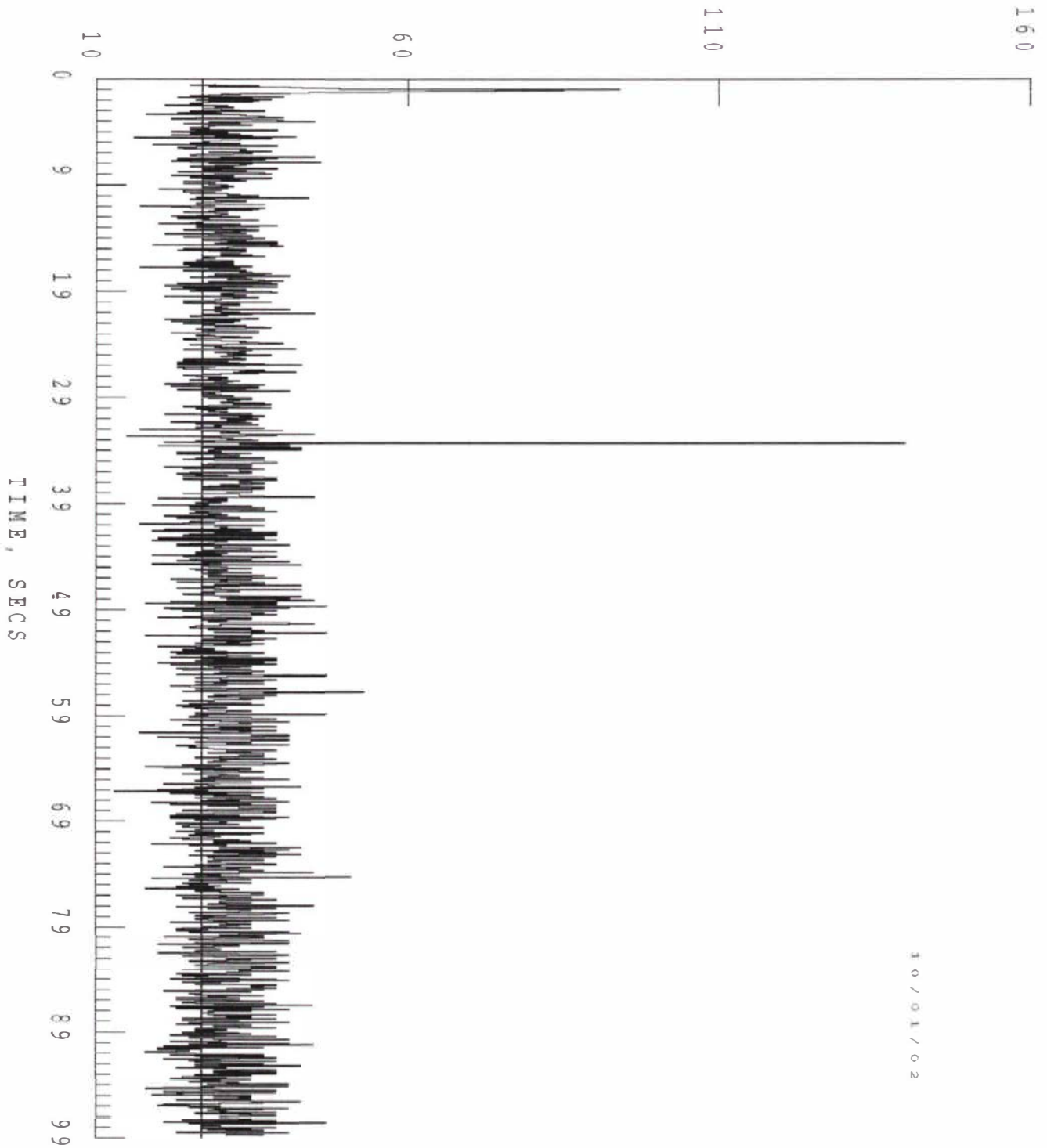
08/09/98

82263.835

50 - 200 keV

22:51:03

COUNTS/0.064 S



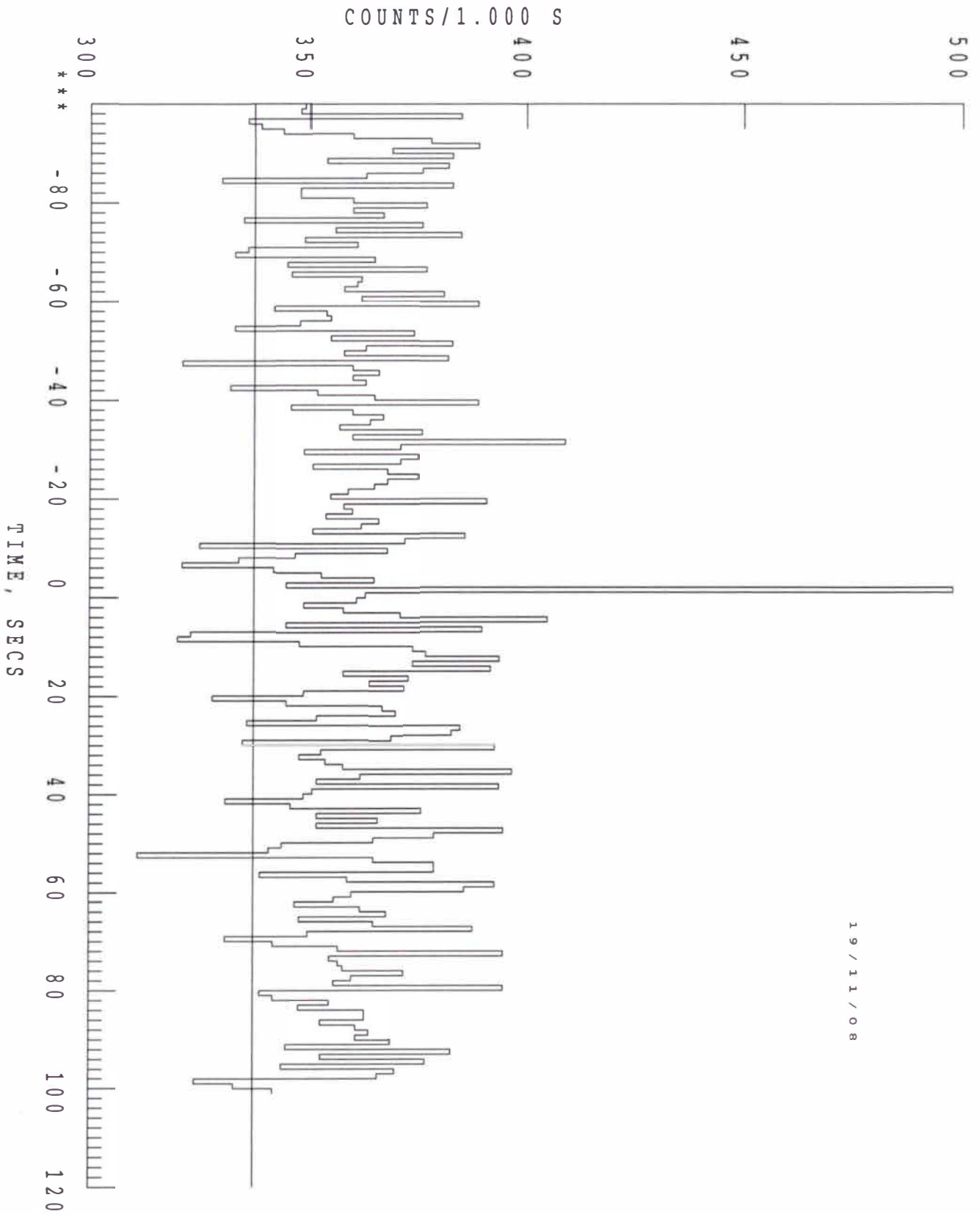
10/01/02

NEAR

08/09/98

81929.894

100-1000 keV



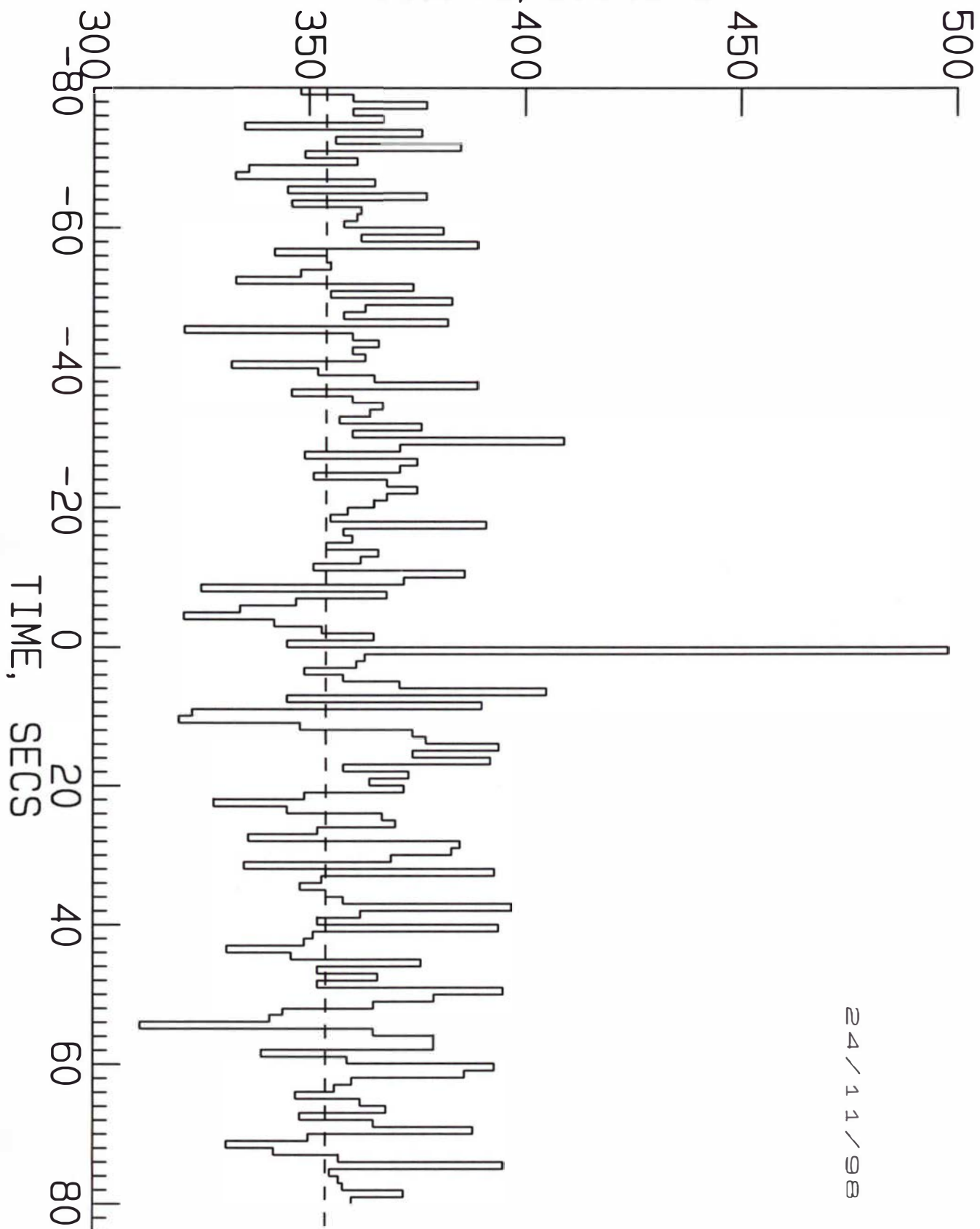
19/11/08

NEAR

08/09/98 81930.817

100-1000 keV

COUNTS/1.000 S



24 / 11 / 98

*Re-do.
look for shorter event
Done - not detected*

NEAR

ULYSSES RT

9 / 9 / 98

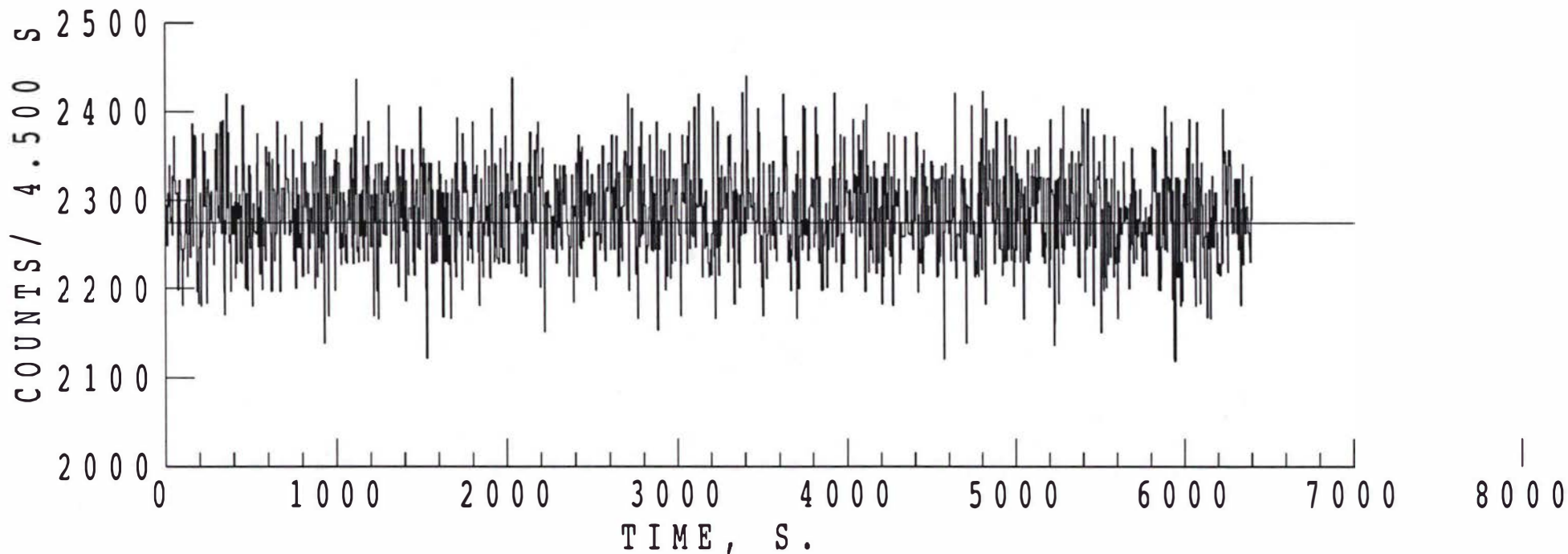
8 / 9 / 98 78732.031 s

0.250 S INTERVALS REGROUPED BY 18

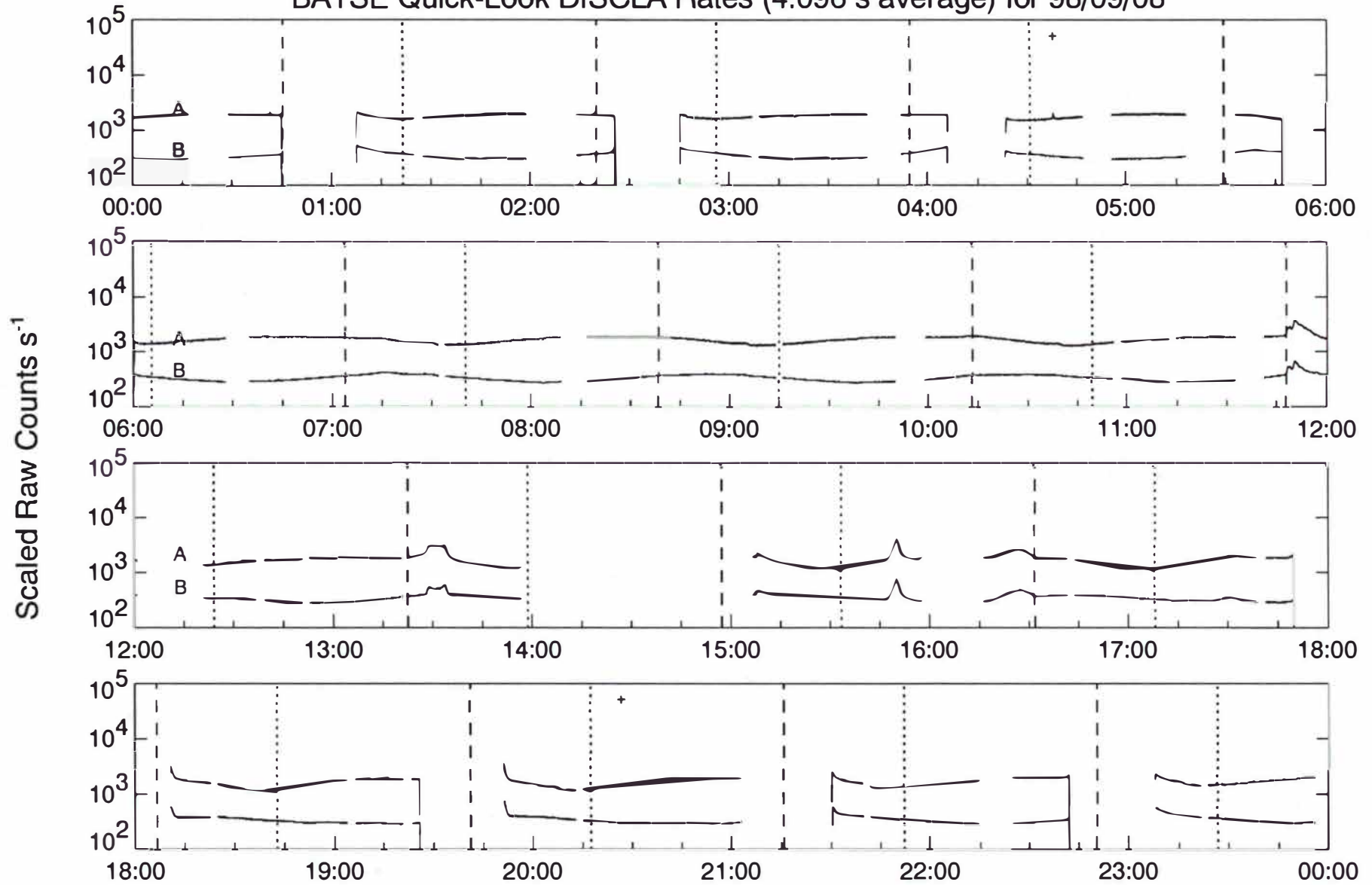
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/09/08

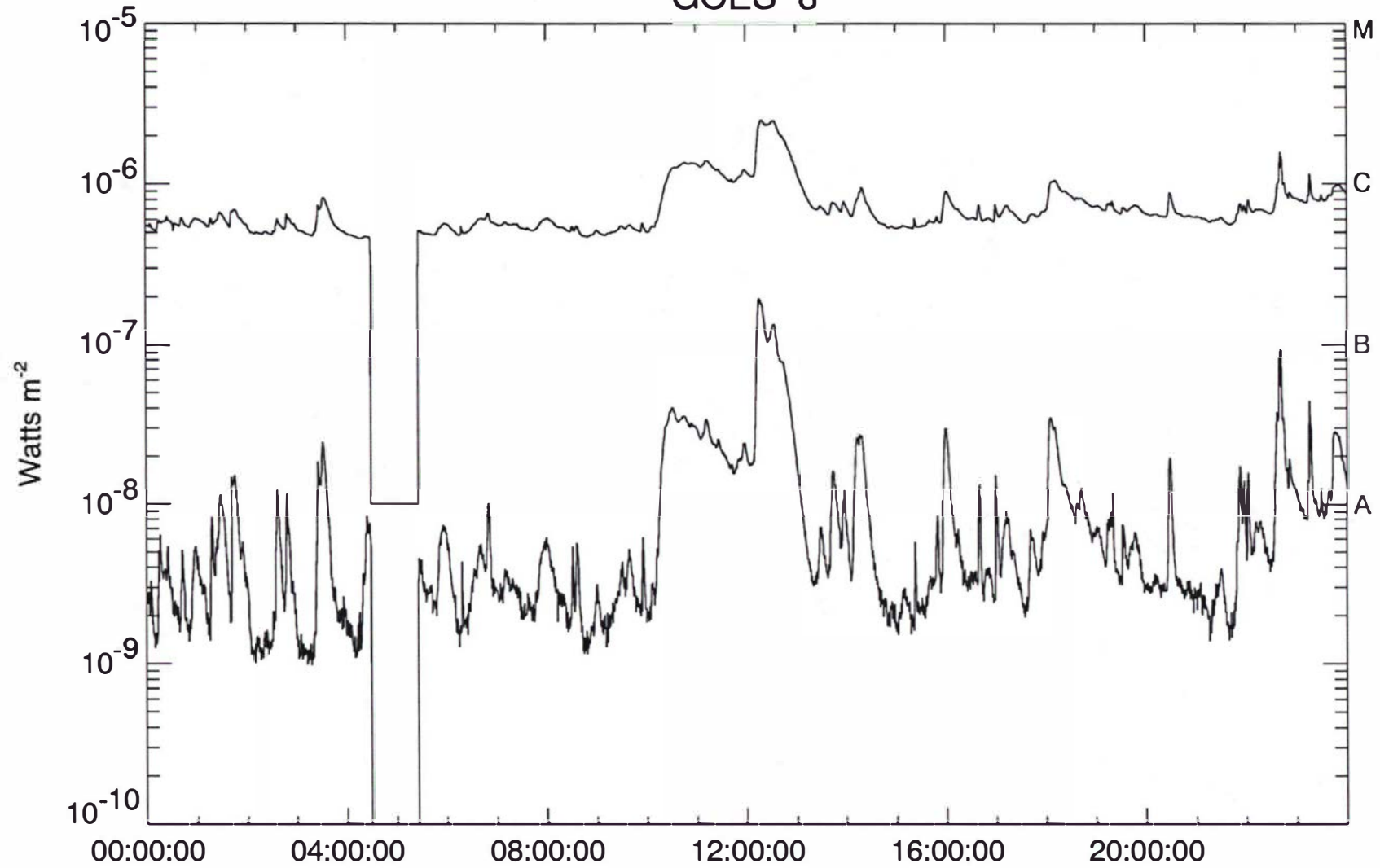


Current Time: 98/09/12, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 98/09/08, 0000:00

Plot created: 98/09/12, 1007

Channel

1 (1.0 - 8.0 Angstroms)

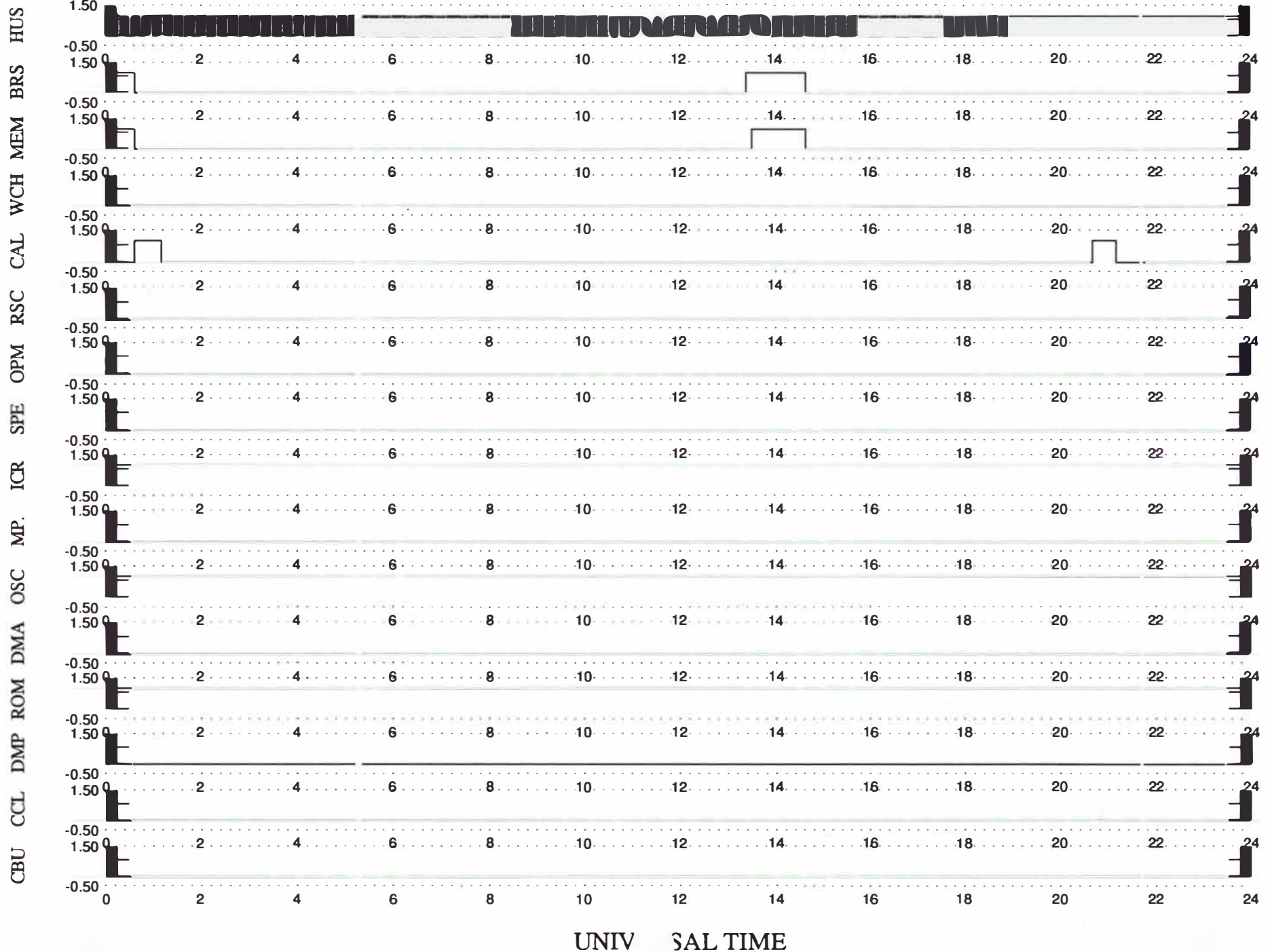
Background not subtracted

2 (0.5 - 4.0 Angstroms)

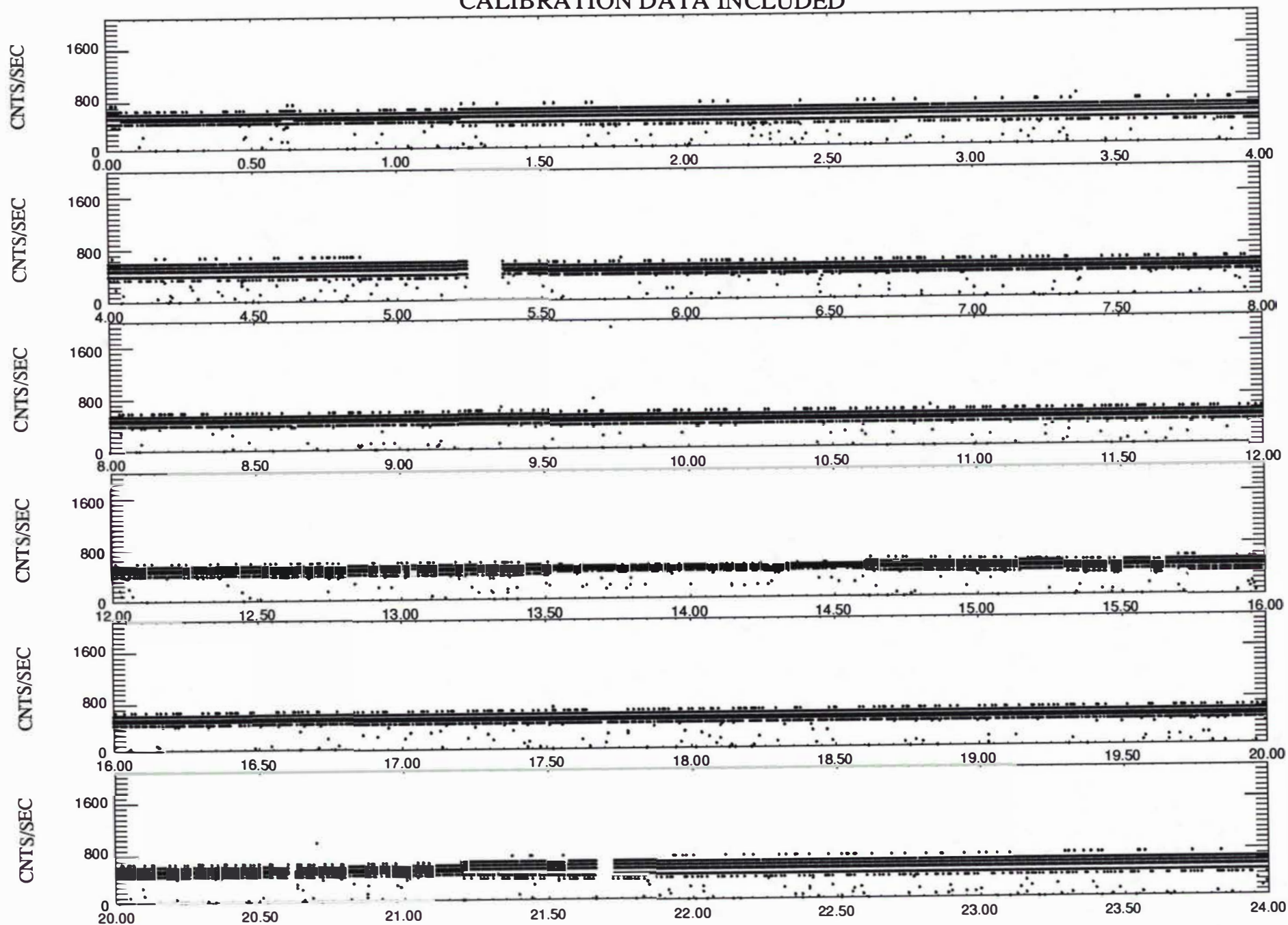
Background not subtracted

Sample average = 10

BURST NUMBER 4

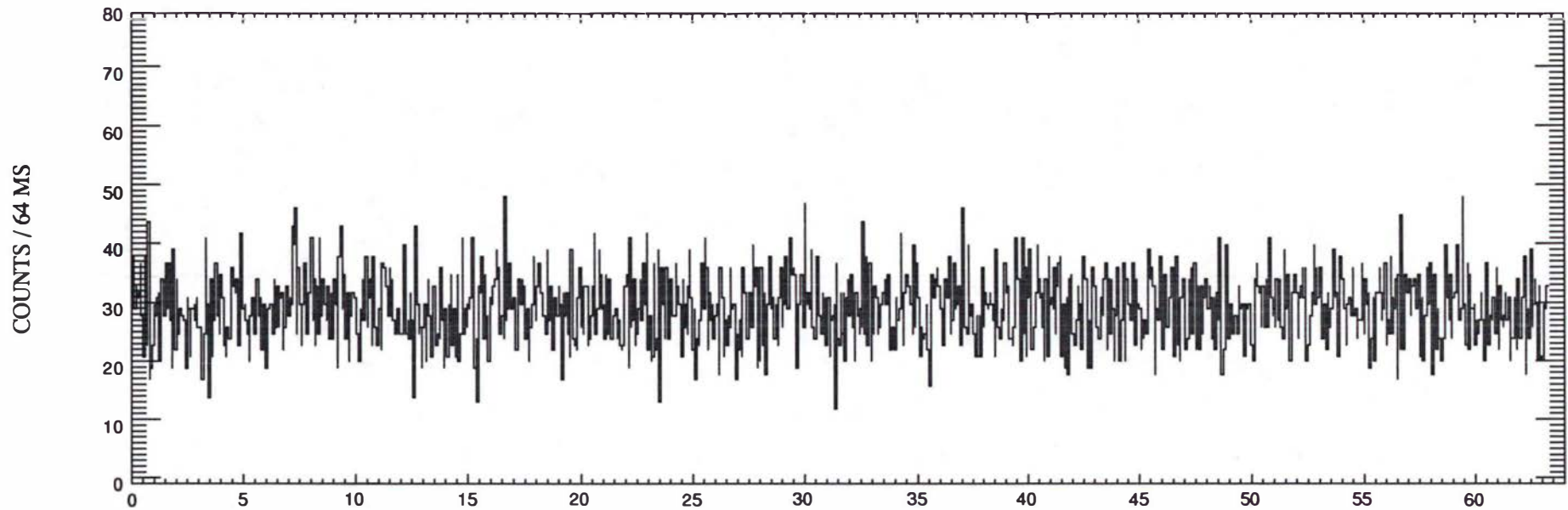


CALIBRATION DATA INCLUDED

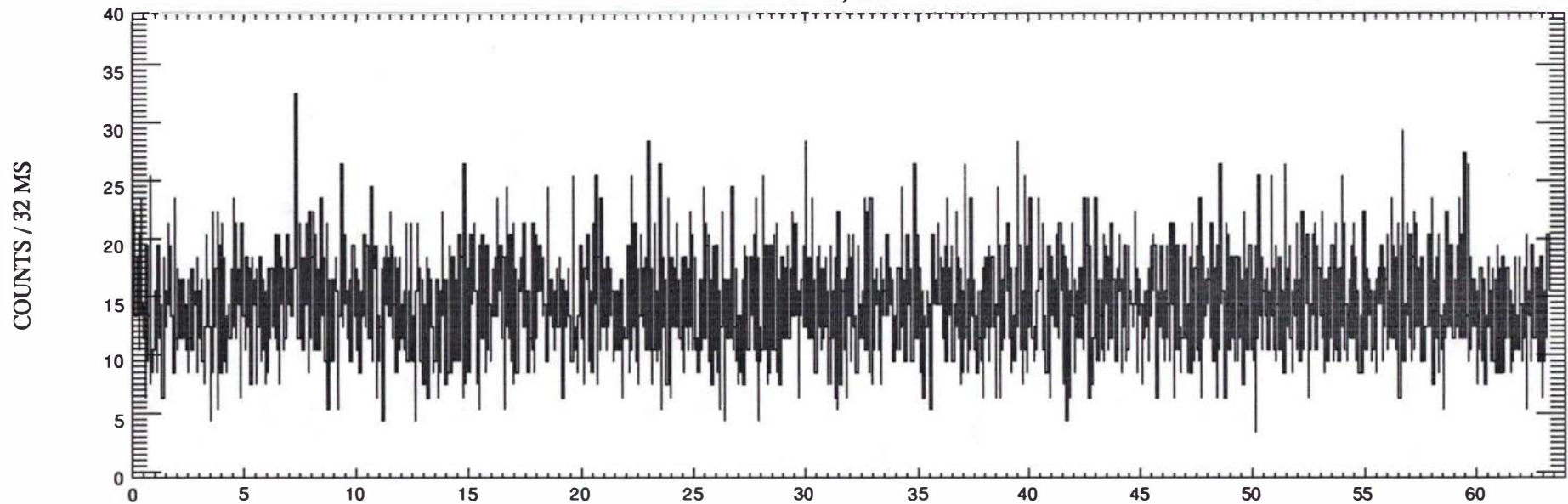


UNIV SAL TIME

Burst Counter 4 at UT=13.349569625854 h=48058.451 s 13:20:58.451

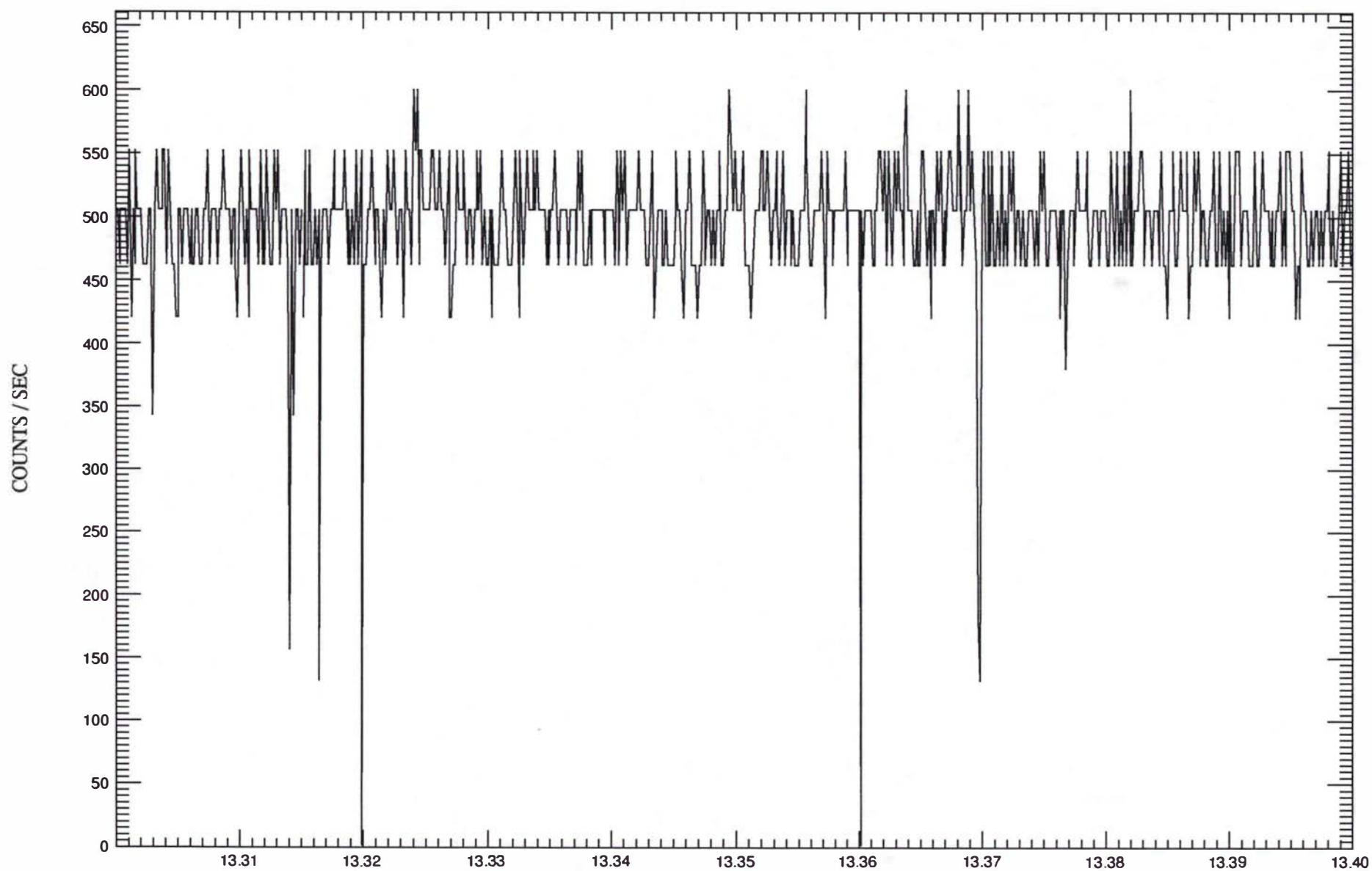


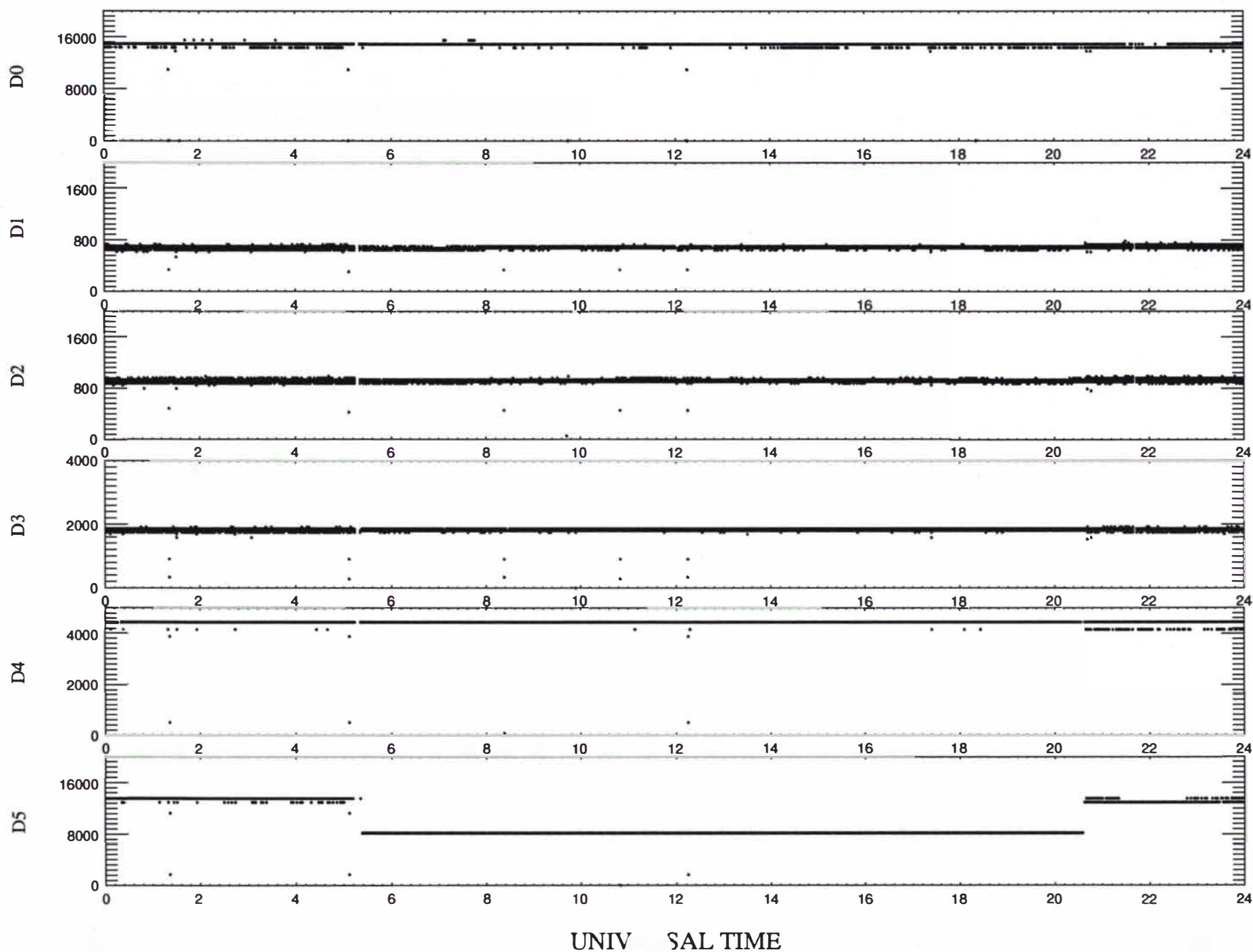
TIME, SECS



TIME, SECS

CALIBRATION DATA INCLUDED





From khurley@sunspot Tue Sep 22 08:19 PDT 1998
Date: Tue, 22 Sep 1998 08:22:58 -0700
From: khurley@sunspot (Kevin Hurley)
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, woods@eagles.msfc.nasa.gov,
kraken@rosserv.gsfc.nasa.gov
Subject: GRBs, 980903 - 980915

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed the following bursts, all suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1800 s earlier.

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
3 SEP 98 04380	WEAK, 32 ms LONG	3150
6 SEP 98 73018	WEAK, 32 ms LONG	3150
7 SEP 98 80507	MODERATE, 32 ms LONG	3150
7 SEP 98 86027	MODERATE, 32 ms LONG	3150
8 SEP 98 48058	WEAK, 32 ms LONG	3150
9 SEP 98 31734	WEAK, 32 ms LONG	3150
11 SEP 98 29109	WEAK, 32 ms LONG	3150
11 SEP 98 67983	STRONG, 1 s LONG	3150
12 SEP 98 78457	STRONG, 64 ms LONG	3150
14 SEP 98 55913	WEAK, 32 ms LONG	3150
SEP 98 79827	MODERATE, 32 ms LONG	3150

Were these events detected by anyone else?

CC: ulyssesbursts alias list
(barthelmy, butterworth, cline, frontera, kouveliotou, kurczyski, marar, tee

From WOODSP@fender.msfc.nasa.gov Fri Sep 11 10:57:46 1998
From: WOODSP@fender.msfc.nasa.gov
Date: Fri, 11 Sep 1998 12:56:51 -0500 (CDT)
To: burst@compel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lhev.gsfc.nasa.gov, barthelmy@lhev.gsfc.nasa.gov,
bacodine@lhev.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhev.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7075

TIME: TJD=1065 SECONDS=17716

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=9.3 AZIMUTH=50.2 ERROR=0.2 DEGREES

COMMENTS:

SOLAR FLARE, M2.8. NO OPTICAL ID.

From WOODSP@fender.msfc.nasa.gov Fri Sep 11 10:58:37 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Fri, 11 Sep 1998 12:58:18 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7076

Sep 9

TIME: TJD=1065 SECONDS=25927

TYPE: SGR

07:12:07

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=115.1 AZIMUTH=135.3 ERROR=3.3 DEGREES

COMMENTS:

SGR 1900+14. SINGLE PULSE WITH SUBSTRUCTURE LASTING ABOUT 0.14 SEC.

NOT VISIBLE ABOVE 100 KEV.

BATSE BURST# 7076

ULYSSES RT

22 / 9 / 98

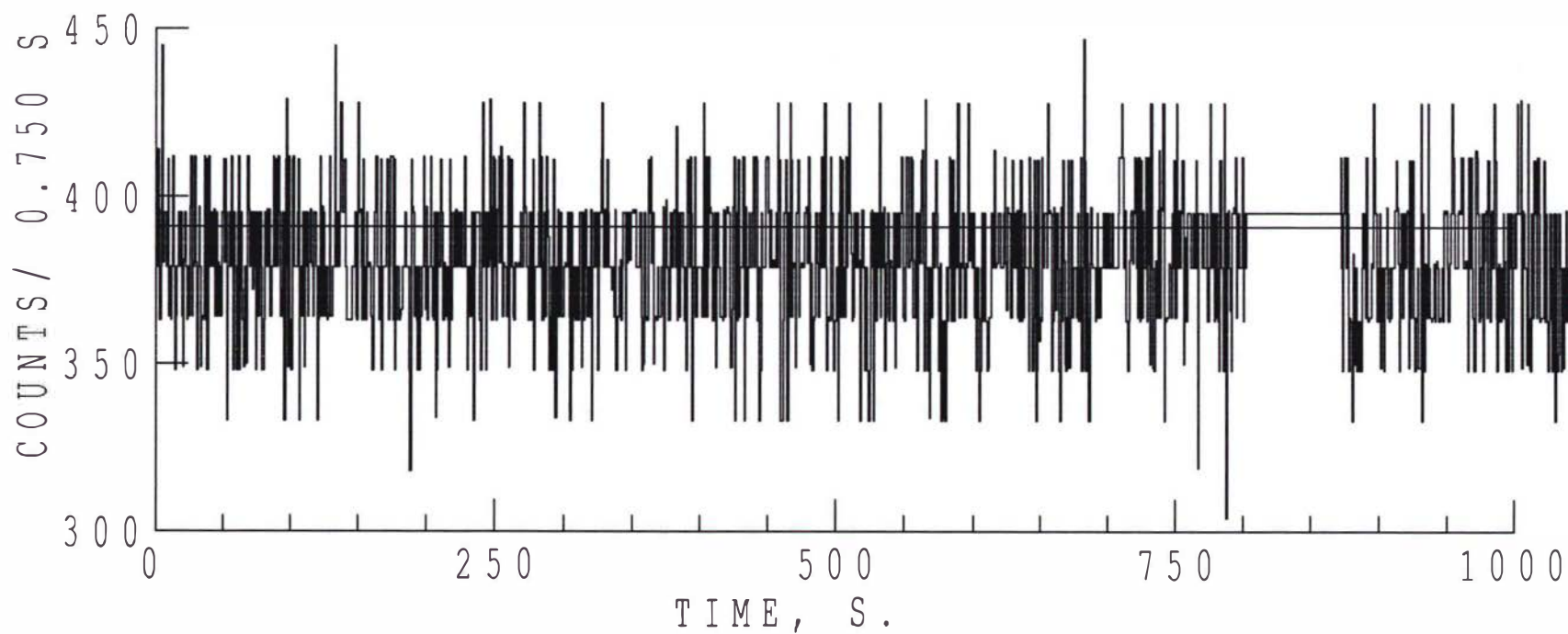
9 / 9 / 98 27288.145 s

0.250 S INTERVALS REGROUPED BY 3

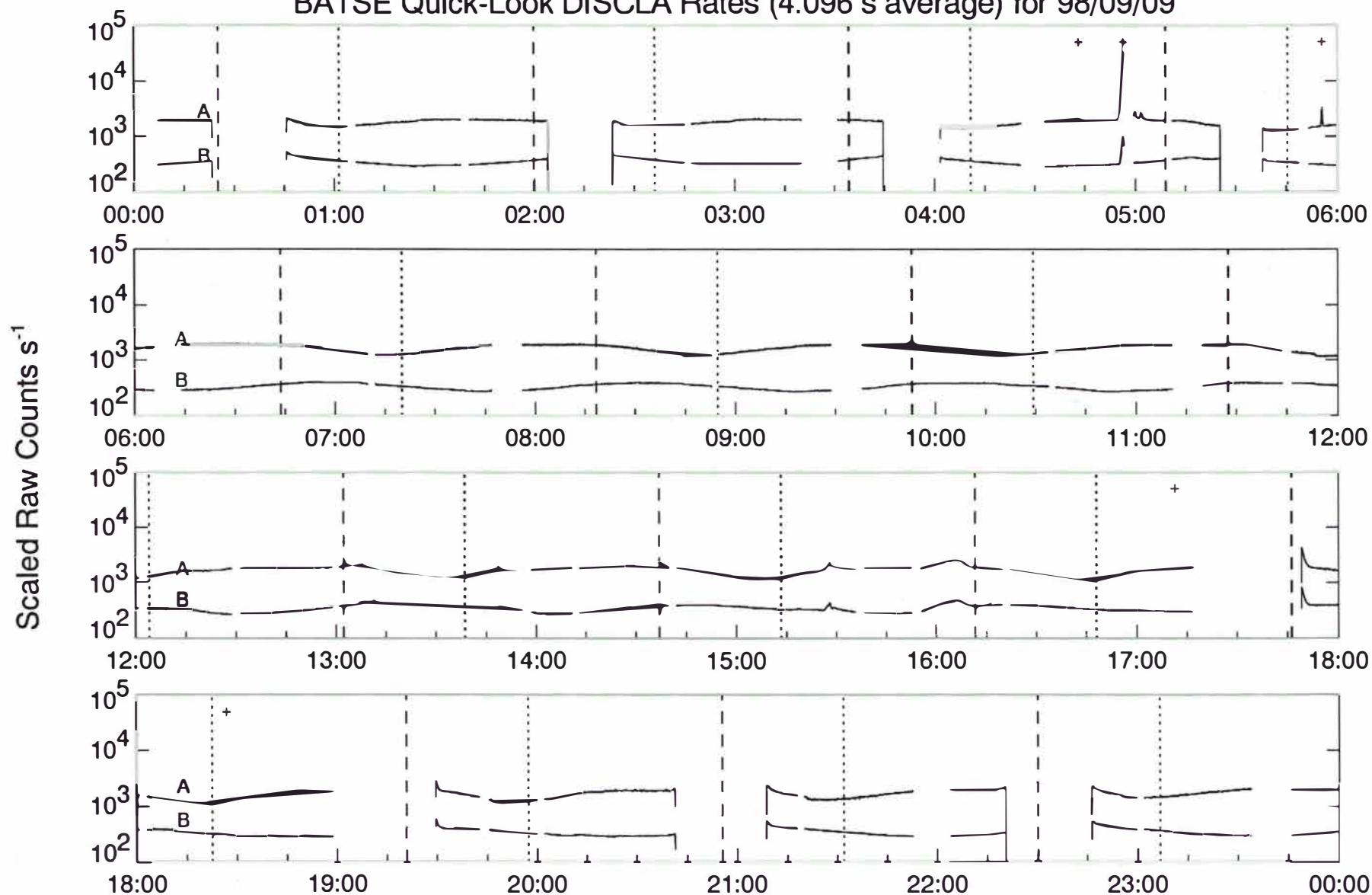
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/09/09



Current Time: 98/09/13, 1008 EDT

A: Channel 0 Most Sunward LAD

B: Sum Channel 0 Anti-Sunward LADs X .05

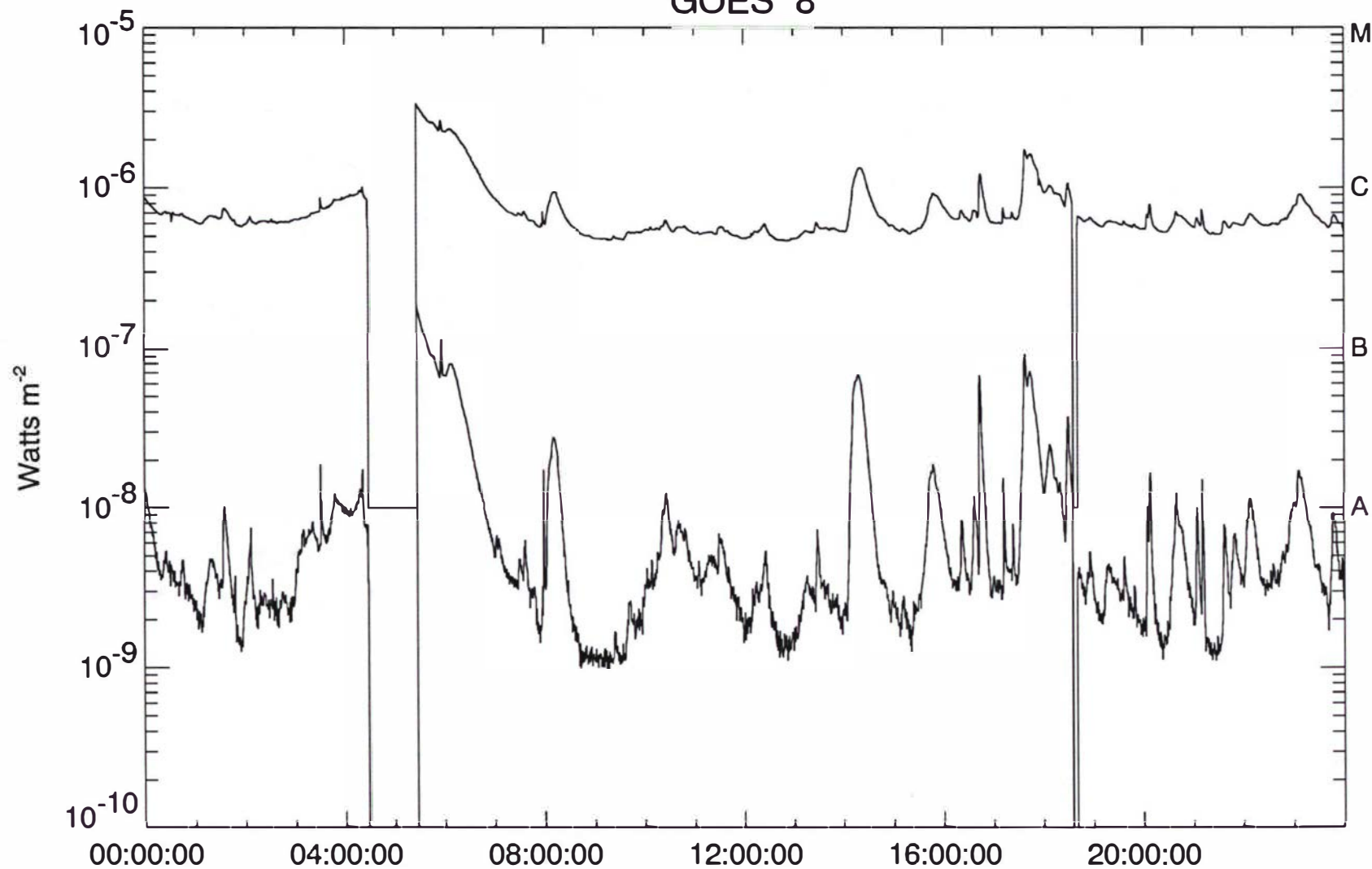
Dotted line: Day entry

Dashed line: Night entry

* Solar Burst Trigger

+ Solar Flare

GOES 8



Data Start: 98/09/09, 0000:00

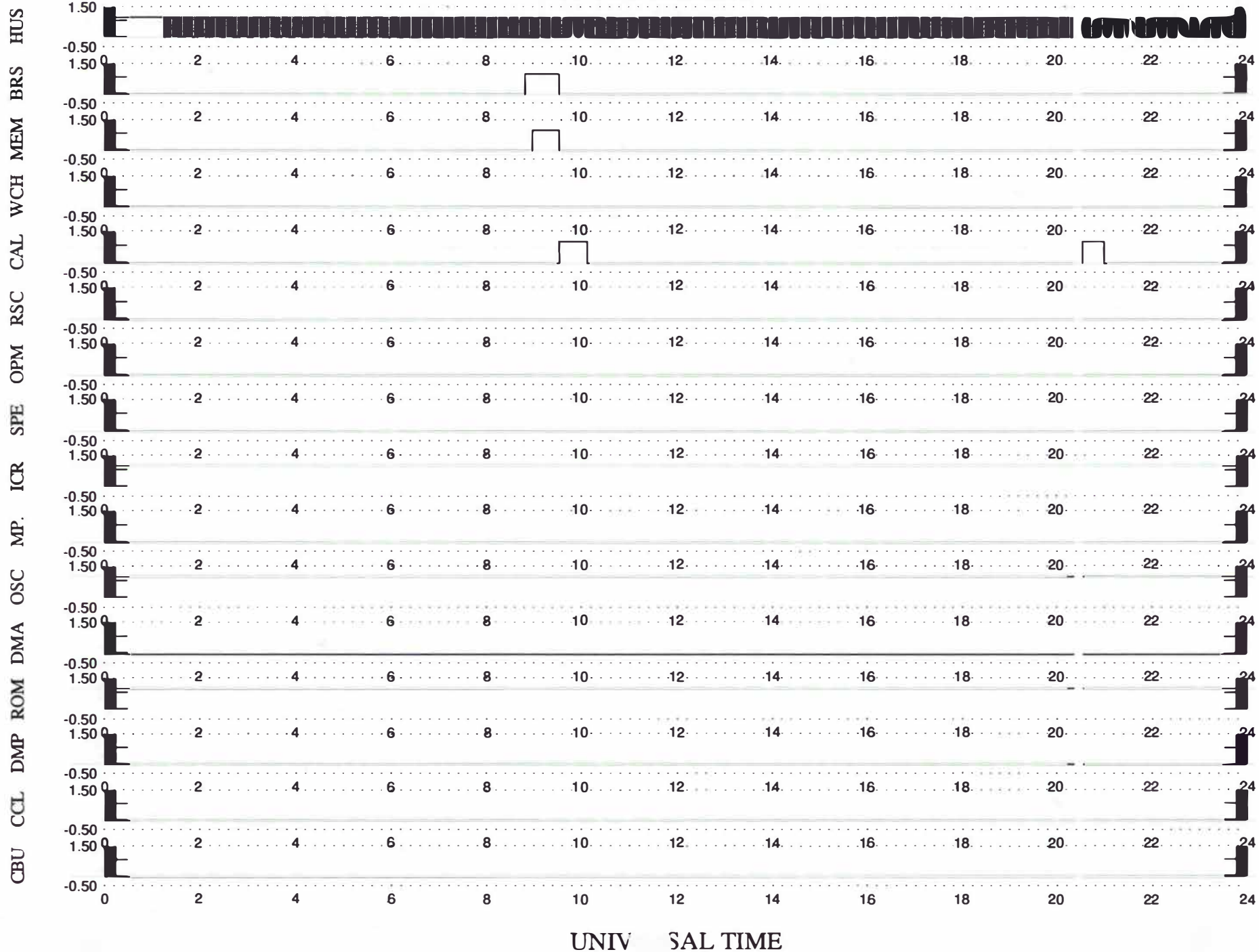
Plot created: 98/09/13, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

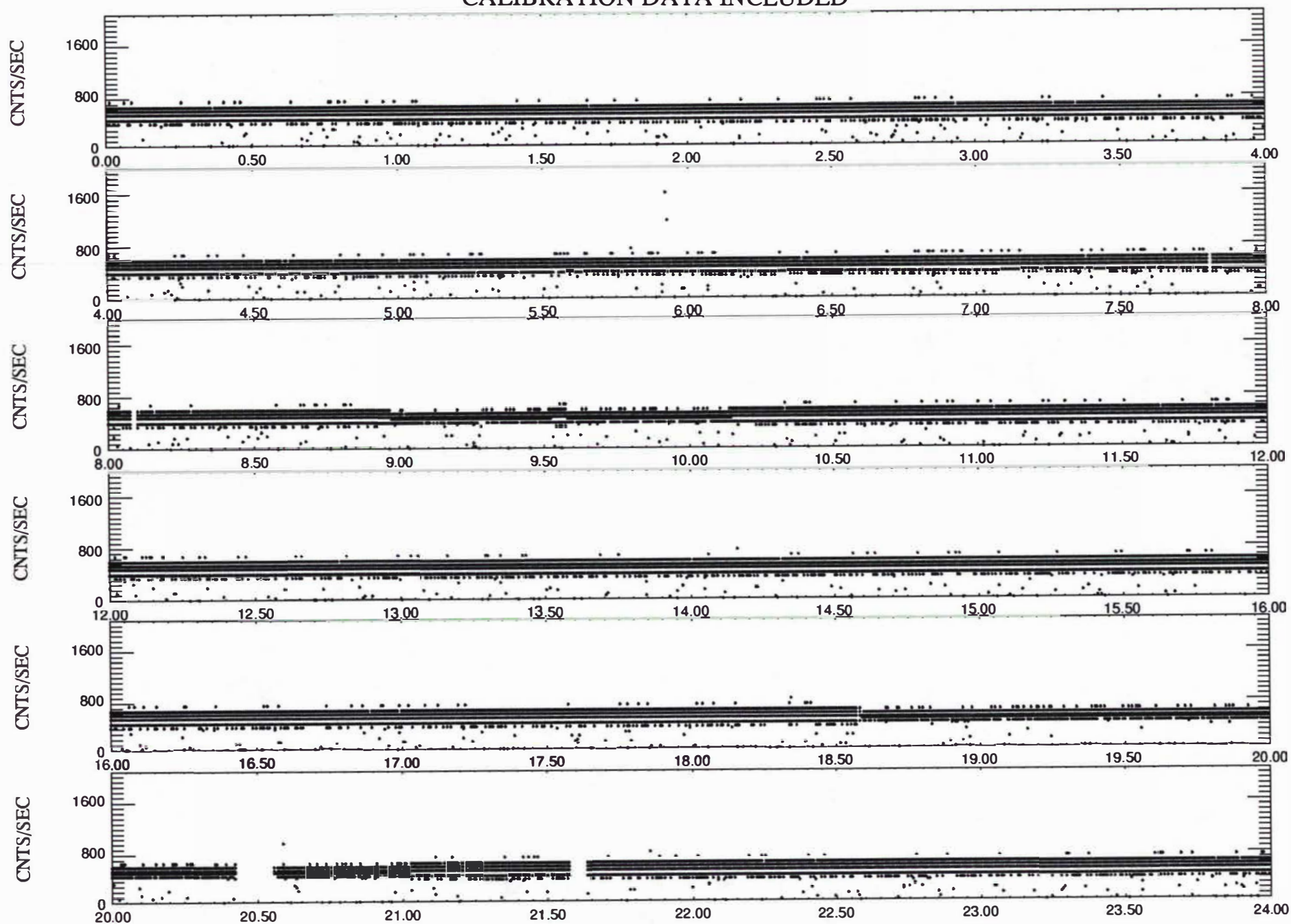
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BURST NUMBER 5

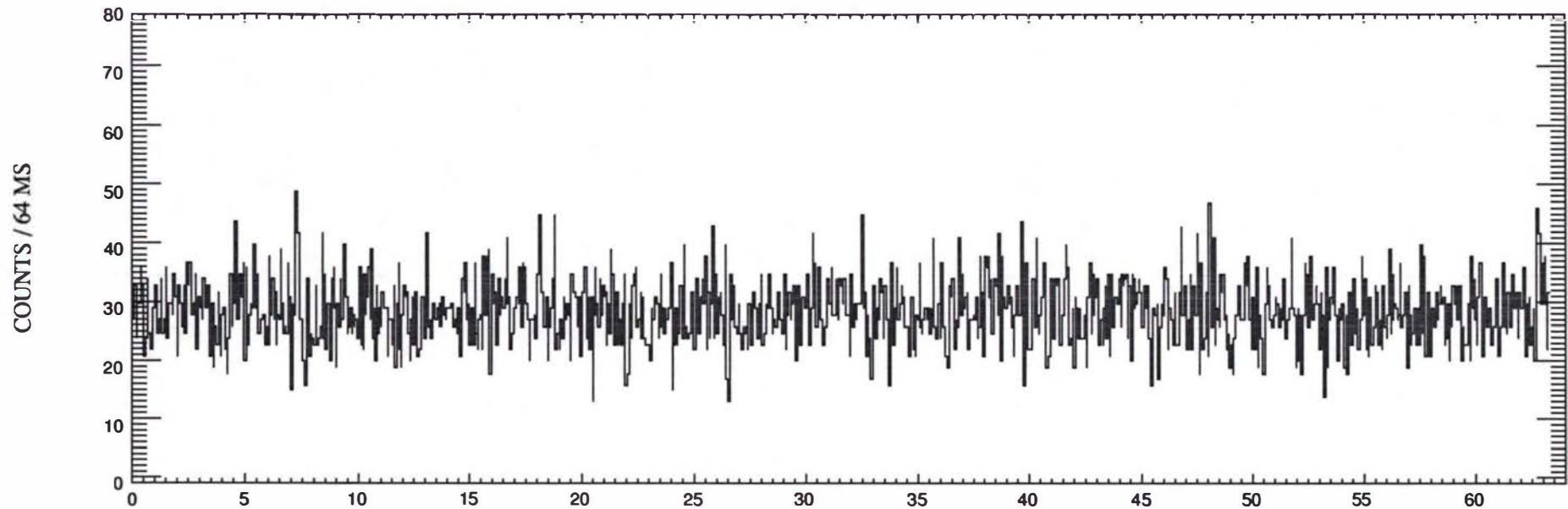


CALIBRATION DATA INCLUDED

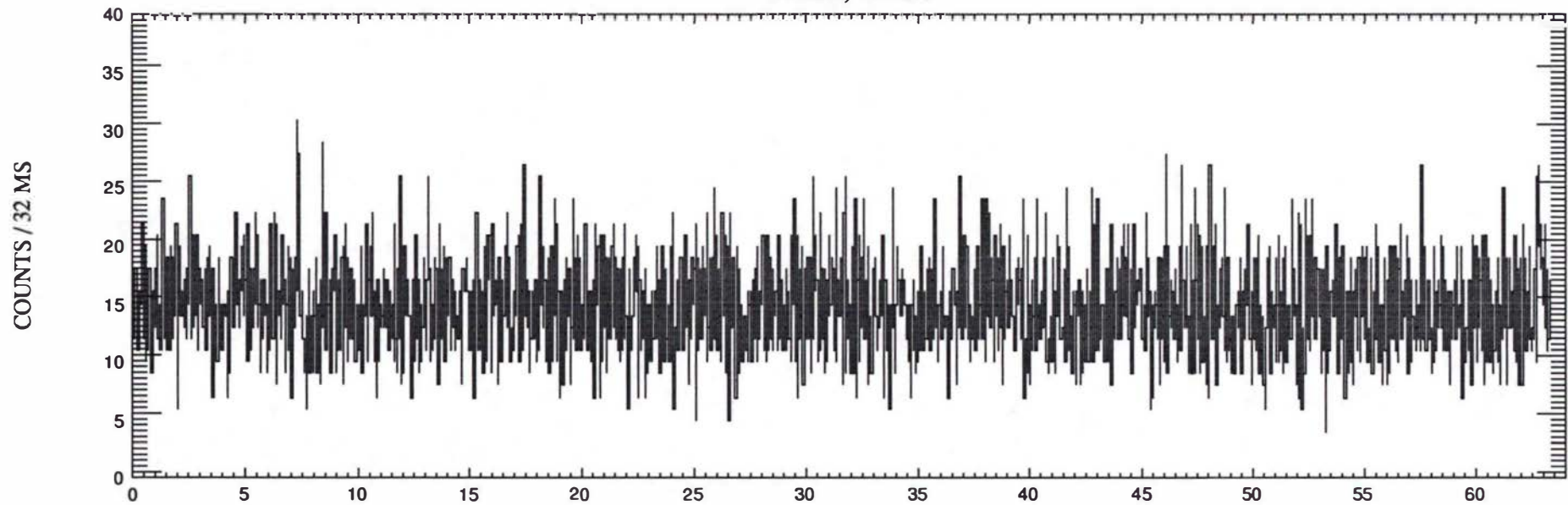


UNIV SAL TIME

Burst Counter 5 at UT= 8.815085063510 h=31734.306 s 08:48:54.306

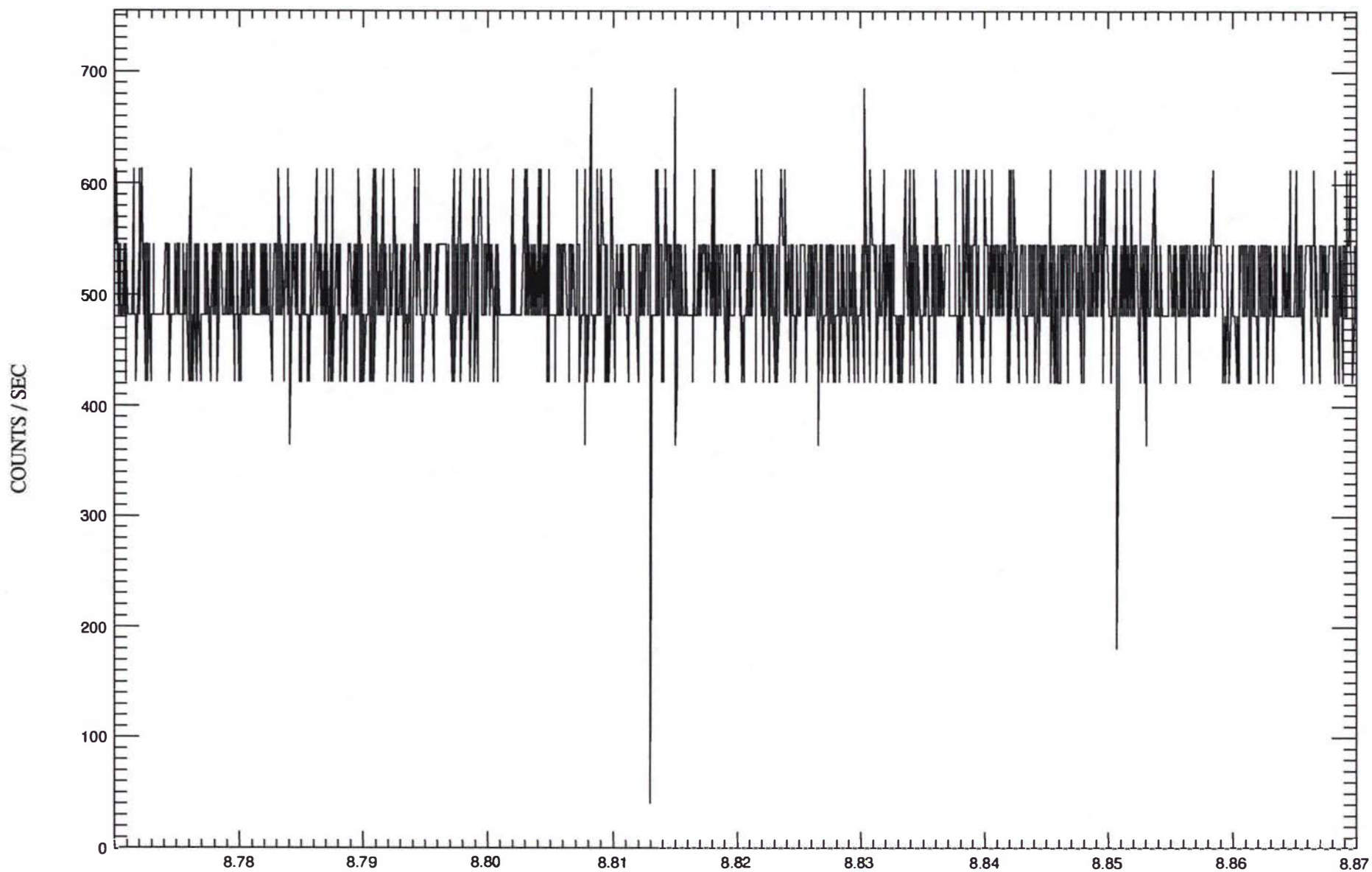


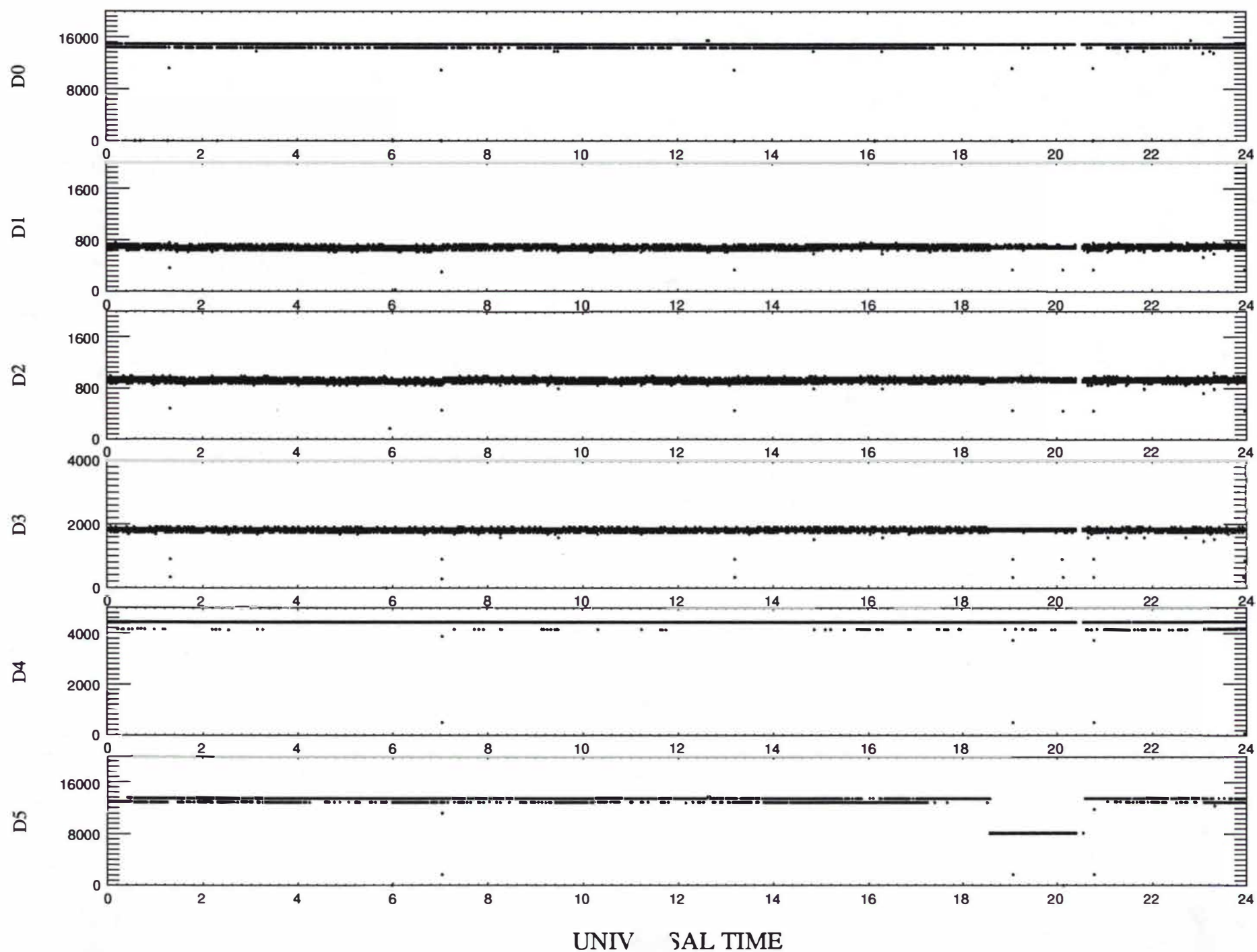
TIME, SECS



TIME, SECS

CALIBRATION DATA INCLUDED





GRBM 19980910 10463

ULYSSES RT

08/05/07

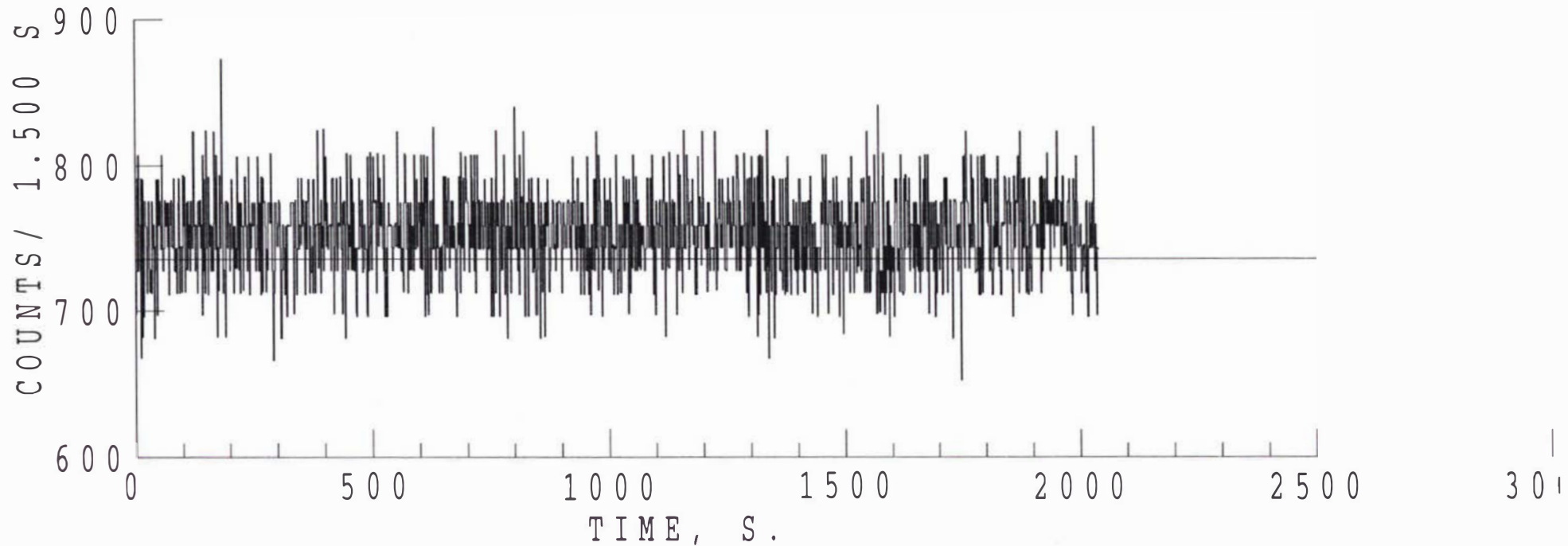
10/09/98 9586.864 s

0.250 S INTERVALS REGROUPED BY 6

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SURASAK@fender.msfc.nasa.gov Mon Sep 14 14:28:41 1998
Return-Path: <SURASAK@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id OAA03216; Mon, 14 Sep 1998 14:28:41 -0700
From: SURASAK@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id OAA27811; Mon, 14 Sep 1998 14:28:40 -0700
Date: Mon, 14 Sep 1998 16:28:41 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980914162841.2022ae23@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7077
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7077
EVENT OF 1998 SEP 10 DAY OF YEAR=253
EVENT CROSSING TIME AT BATSE : 61064. S. OR 16:57:44.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 195.000 -21.000
BATSE PEAK COUNTING RATE: 6100 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 10/ 9/ 98 IS:
RA= 159.711 DEC= 2.963 DIST= 6.332 AU
BATSE-ULYSSES DISTANCE = 947280150. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=137.94 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2346.12 SECS.
CROSSING TIME AT ULYSSES IS 58718. S. OR 16:18:37 +/- 381.84 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 10/ 9/ 98 IS:
RA= 135.695 DEC= 18.032 DIST= 2.350 AU
MARS-BATSE DISTANCE = 351629120. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=110.01 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -401.39 SECS.
CROSSING TIME AT MARS IS 60663. S. OR 16:51:02 +/- 185.24 SECONDS

BATSE BURST TRIGGER

NO.: 7077

TIME: TJD=1066 SECONDS=61064

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=47.2 AZIMUTH=68.4 ERROR=6.817 DEGREES

COMMENTS:

GRB. IN DATA GAP. SINGLE SPIKE. DURATION ABOUT 0.3 S. VISIBLE ABOVE 300 KEV.

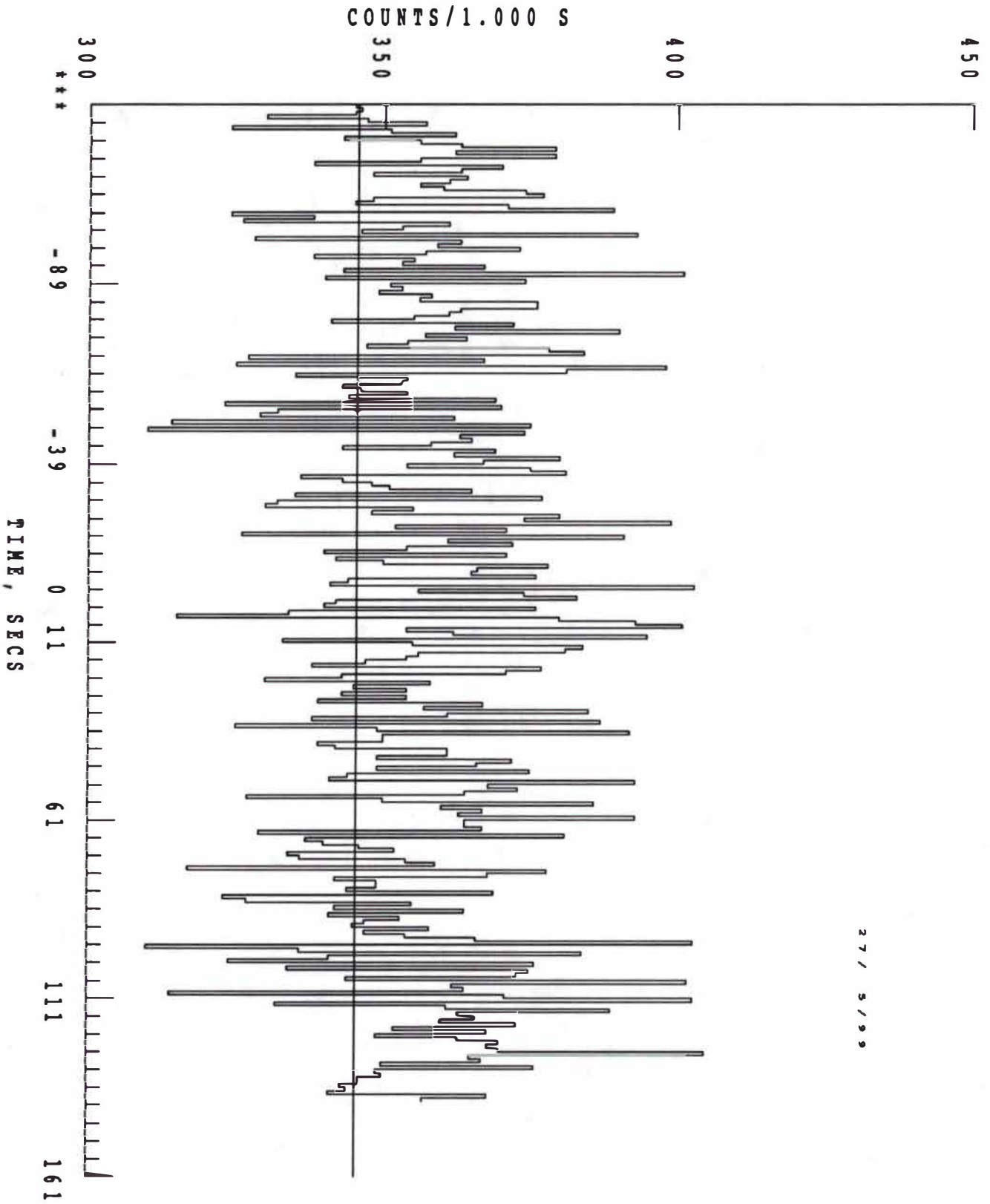
BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7077	980910	11066	61064	6100	195	-21	.3

NEAR

10/09/98

60541.855

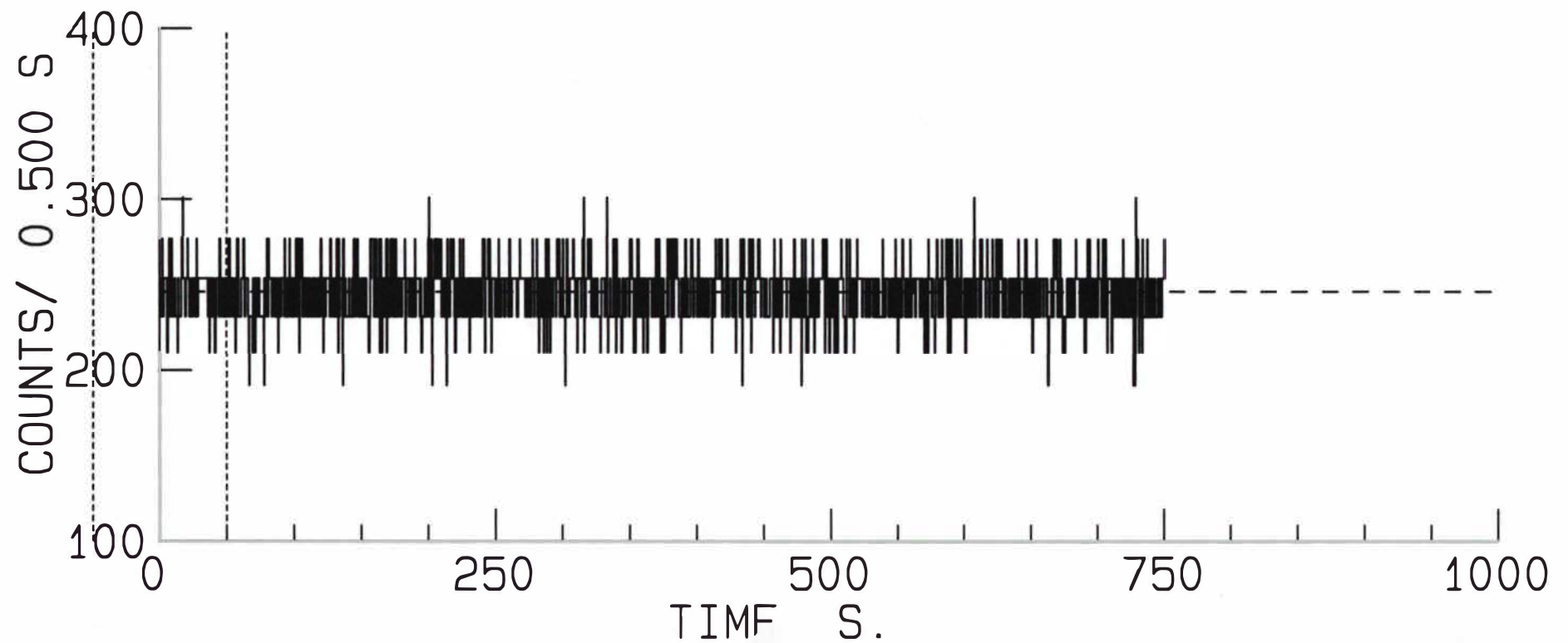
100-1000 keV



27 / 5 / 99

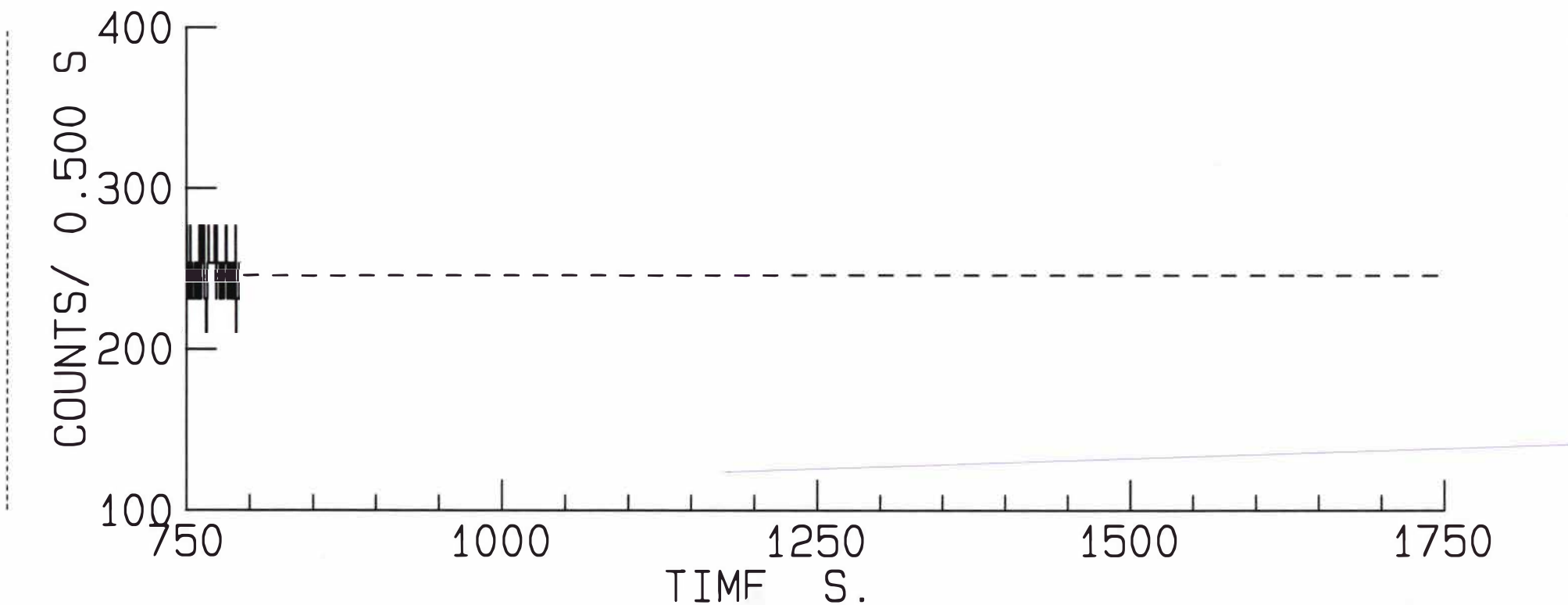
ULYSSES RT
10/ 9/98 58320.122 s
22- 150 keV

22 / 1 / 99



ULYSSES RT
10/ 9/98 58320.122 s
22- 150 keV

22 / 1 / 99



From SURASAK@fender.msfc.nasa.gov Mon Sep 14 14:31:24 1998
Return-Path: <SURASAK@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id OAA03278; Mon, 14 Sep 1998 14:31:23 -0700
From: SURASAK@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id OAA27866; Mon, 14 Sep 1998 14:31:22 -0700
Date: Mon, 14 Sep 1998 16:31:08 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980914163108.2022ae23@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7078
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7078
EVENT OF 1998 SEP 10 DAY OF YEAR=253
EVENT CROSSING TIME AT BATSE : 72141. S. OR 20:02:21.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 205.000 27.000
BATSE PEAK COUNTING RATE: 12400 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 10/ 9/ 98 IS:
RA= 159.728 DEC= 2.950 DIST= 6.332 AU
BATSE-ULYSSES DISTANCE = 947212881. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=130.51 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2052.35 SECS.
CROSSING TIME AT ULYSSES IS 70089. S. OR 19:28:08 +/- 435.90 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 10/ 9/ 98 IS:
RA= 135.695 DEC= 18.032 DIST= 2.350 AU
MARS-BATSE DISTANCE = 351629120. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=116.10 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -516.00 SECS.
CROSSING TIME AT MARS IS 71625. S. OR 19:53:44 +/- 175.03 SECONDS

BATSE BURST TRIGGER

NO.: 7078

TIME: TJD=1066 SECONDS=72141

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=42.3 AZIMUTH=141.3 ERROR=3.2 DEGREES

COMMENTS:

GRB. SINGLE SPIKE. DURATION ABOUT 0.1 S. NOT VISIBLE ABOVE 300 KEV.

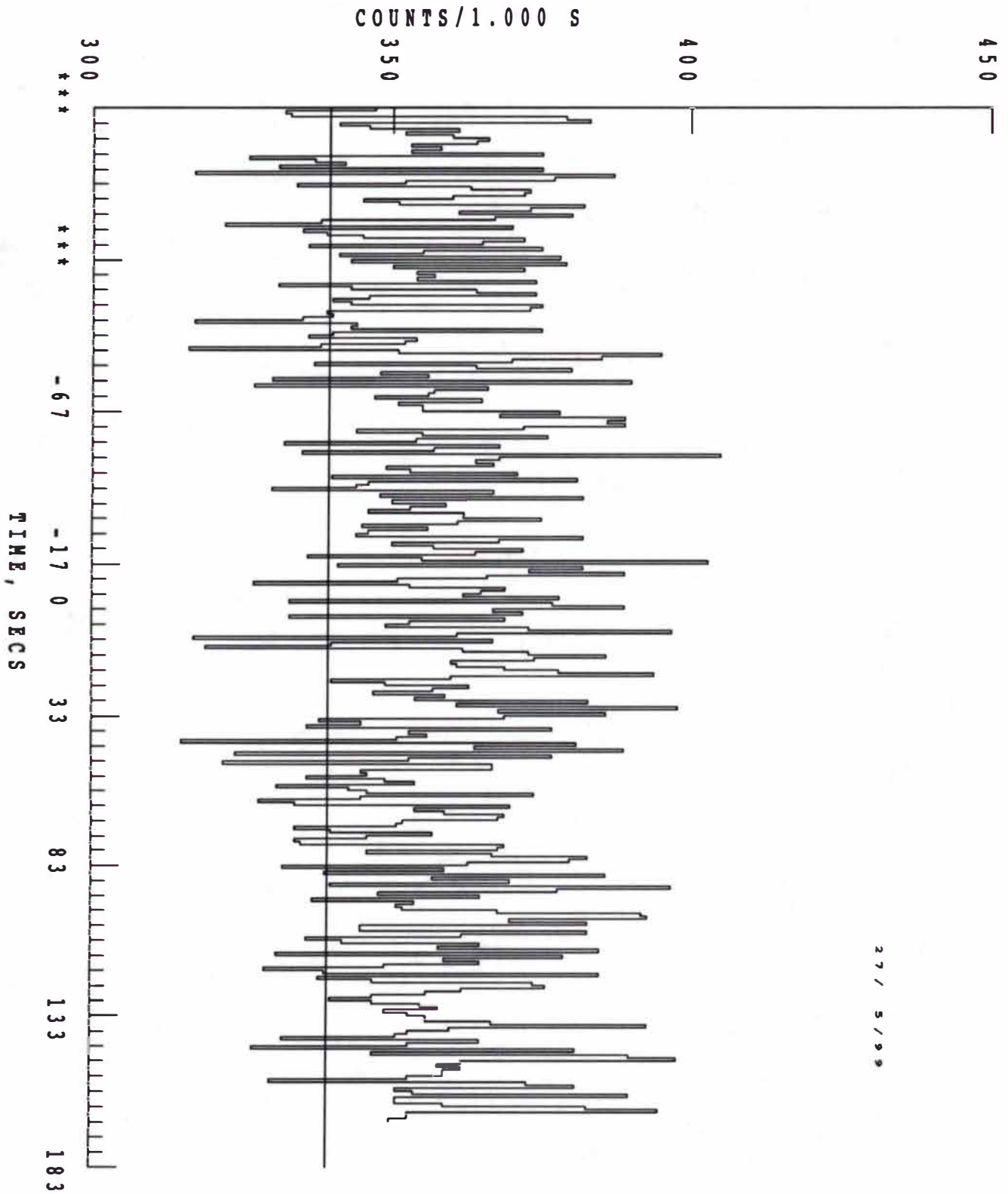
BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7078	980910	11066	72141	12400	205	+27	.1

NEAR

10/09/98

71827.852

100-1000 keV

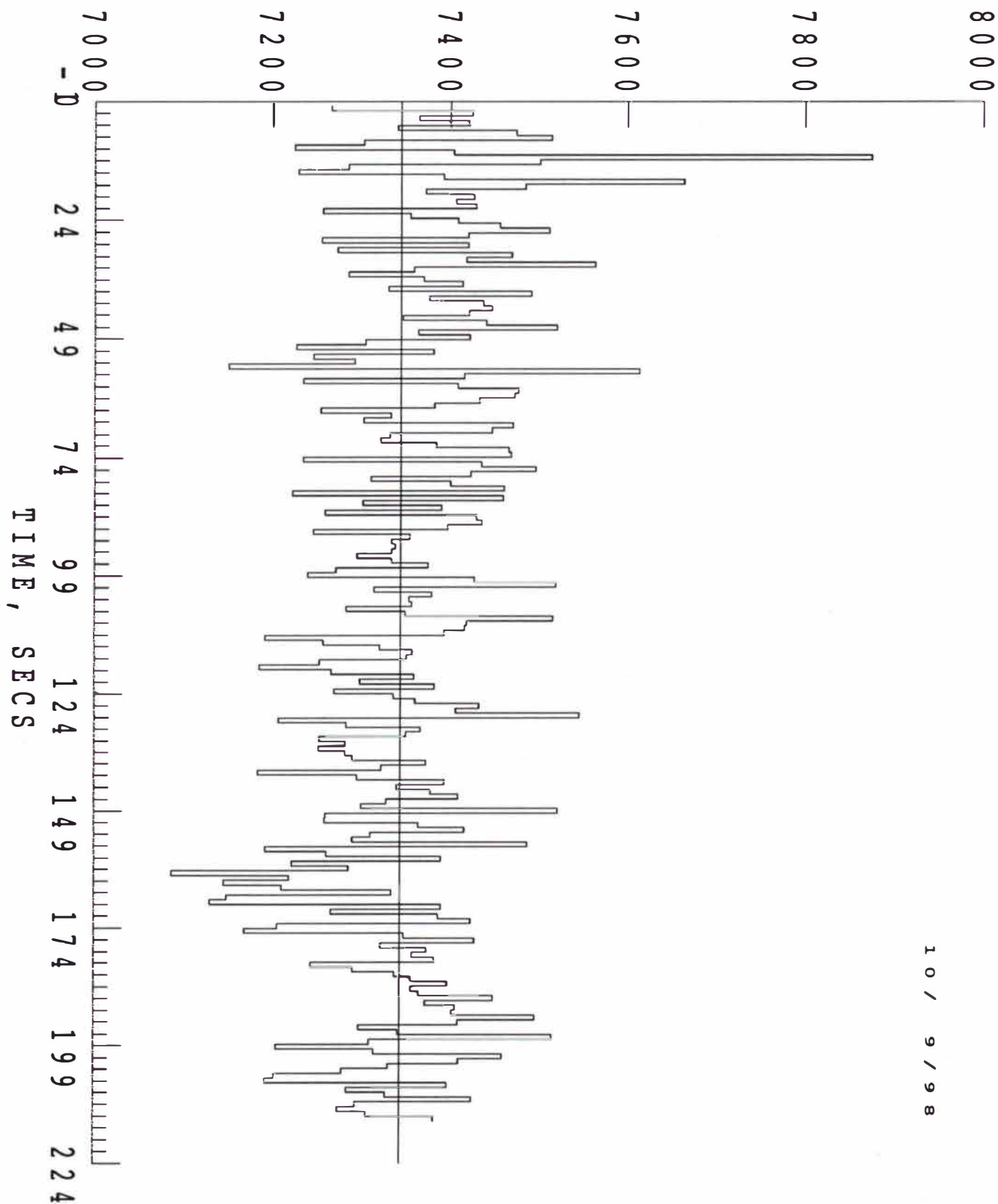


27 / 5 / 99

BACODINE 7078 10/09/98 72131.297

25- 100 keV

COUNTS/1.024 S



BACODINE# 7078

ULYSSES RT

17 / 9 / 98

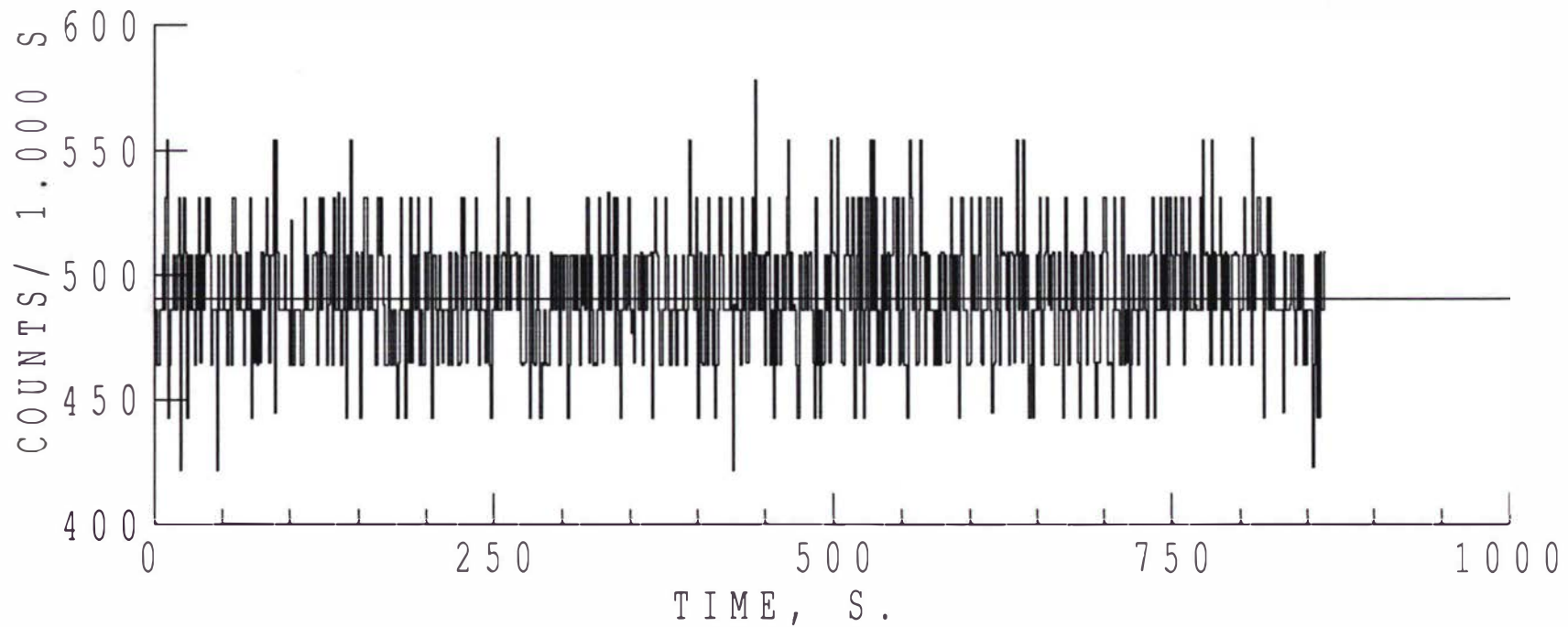
10 / 9 / 98 69624.242 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SURASAK@fender.msfc.nasa.gov Mon Sep 14 14:20:05 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Mon, 14 Sep 1998 16:19:31 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7079

TIME: TJD=1066 SECONDS=77560

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

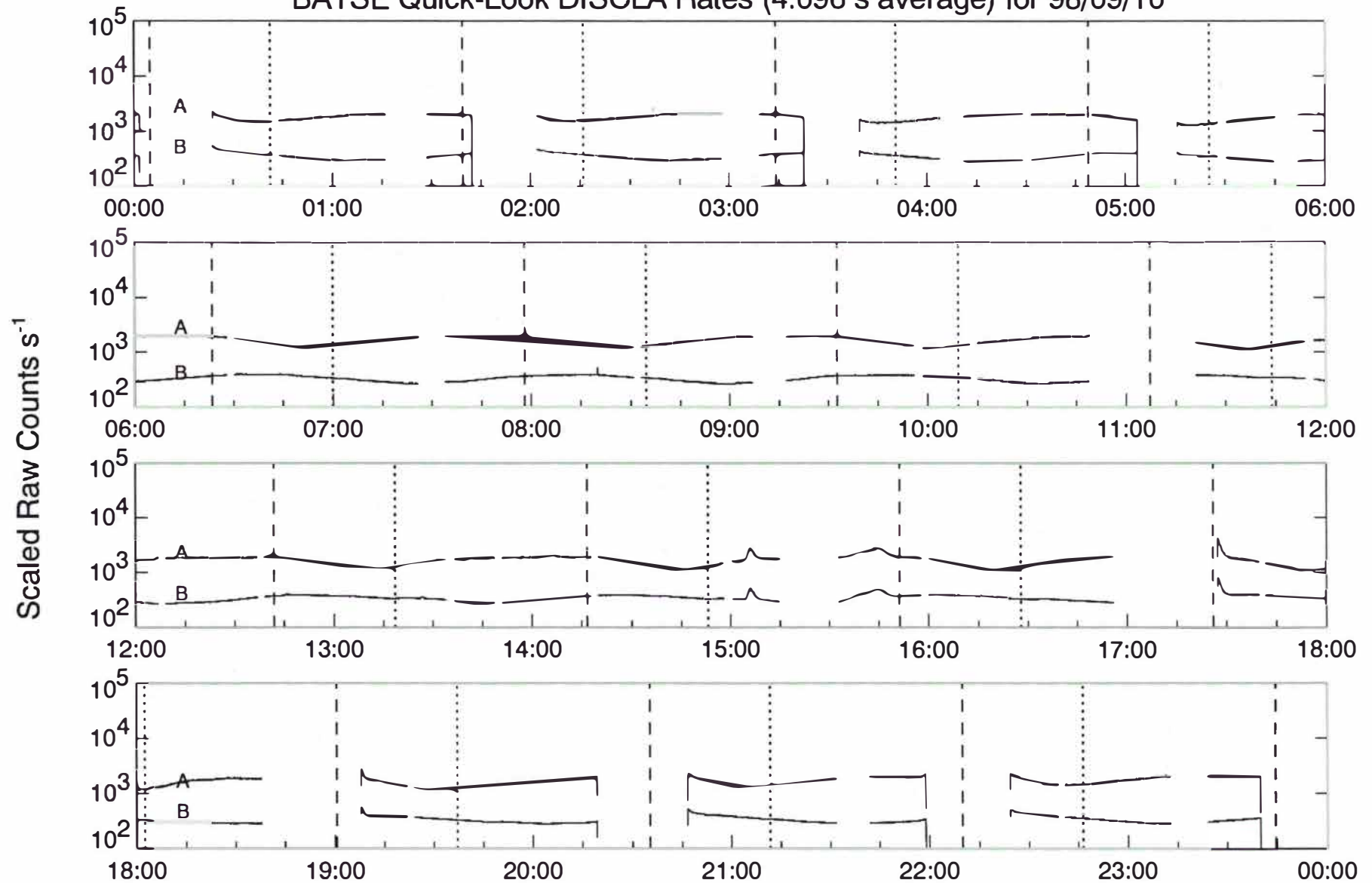
INTENSITY: COUNTS/CM2

LOCATION: ZENITH=11.2 AZIMUTH=60.5 ERROR=0.7 DEGREES

COMMENTS:

SOLAR FLARE. GOES C2.2, OPTICAL SF. SINGLE PULSE. DURATION ABOUT 30 S.
WEAKLY VISIBLE ABOVE 100 KEV. TRIGGER IN DATA GAP.

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/09/10

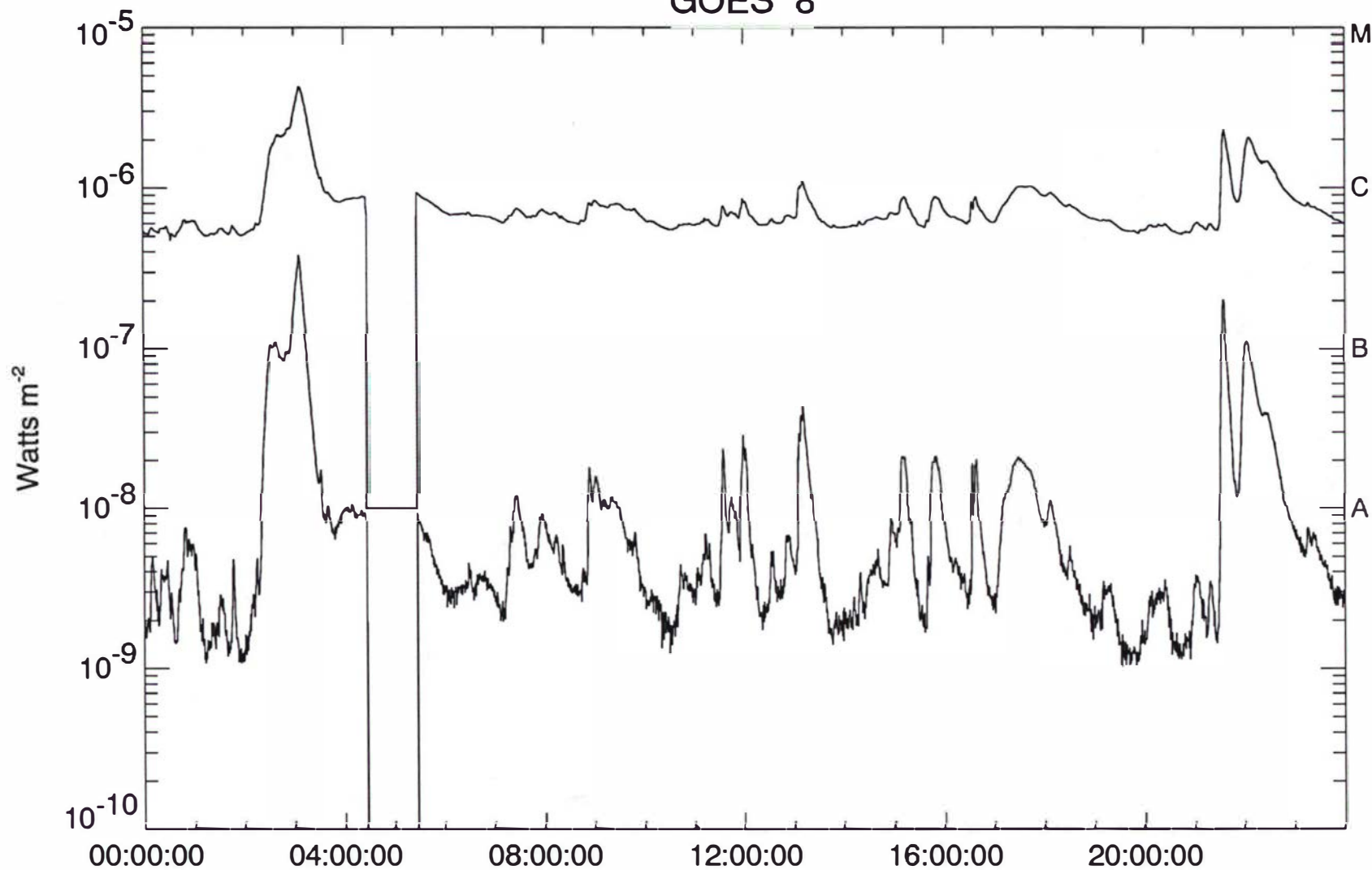


Current Time: 98/09/14, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 98/09/10, 0000:00

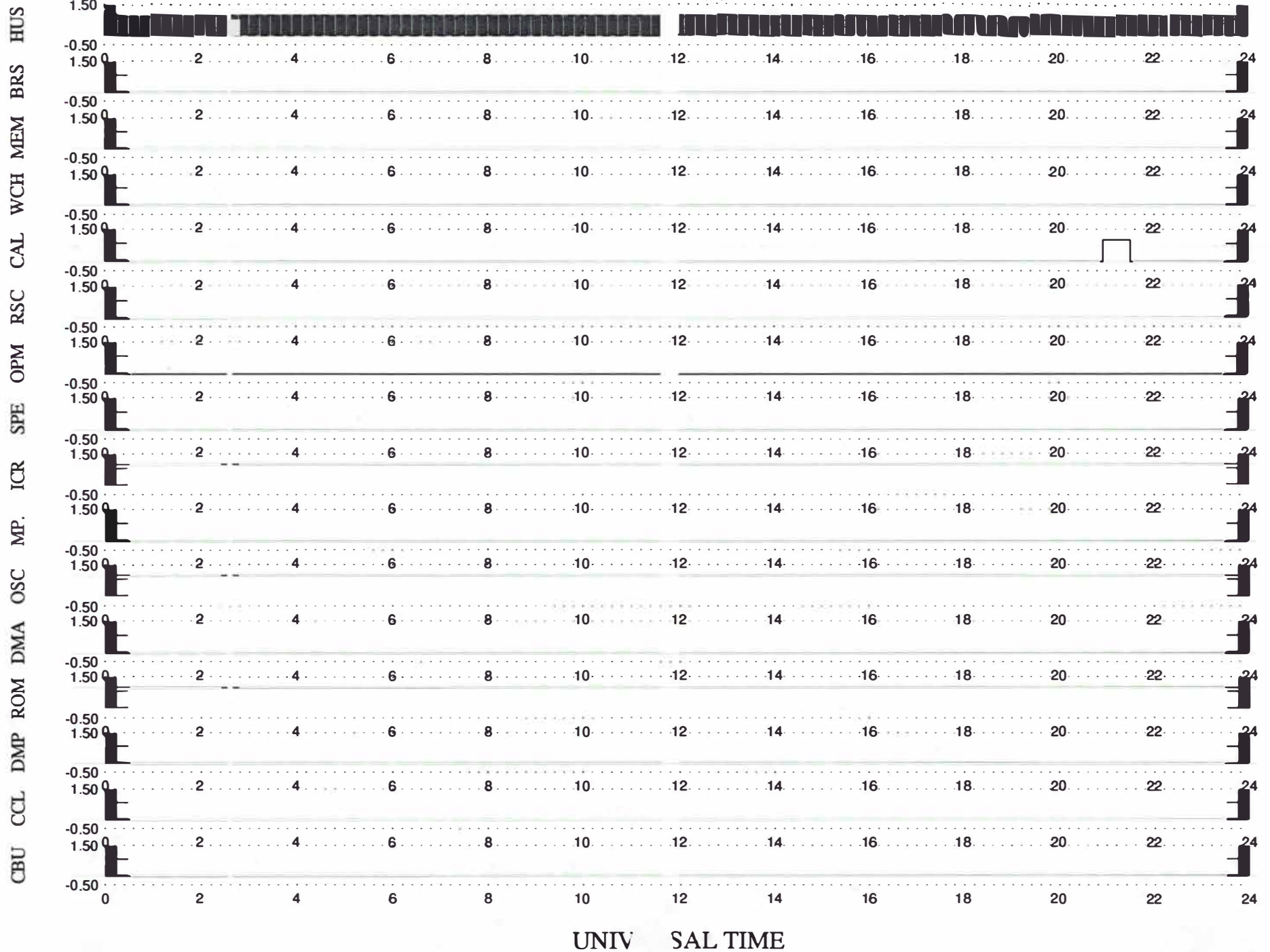
Plot created: 98/09/14, 1007

Channel

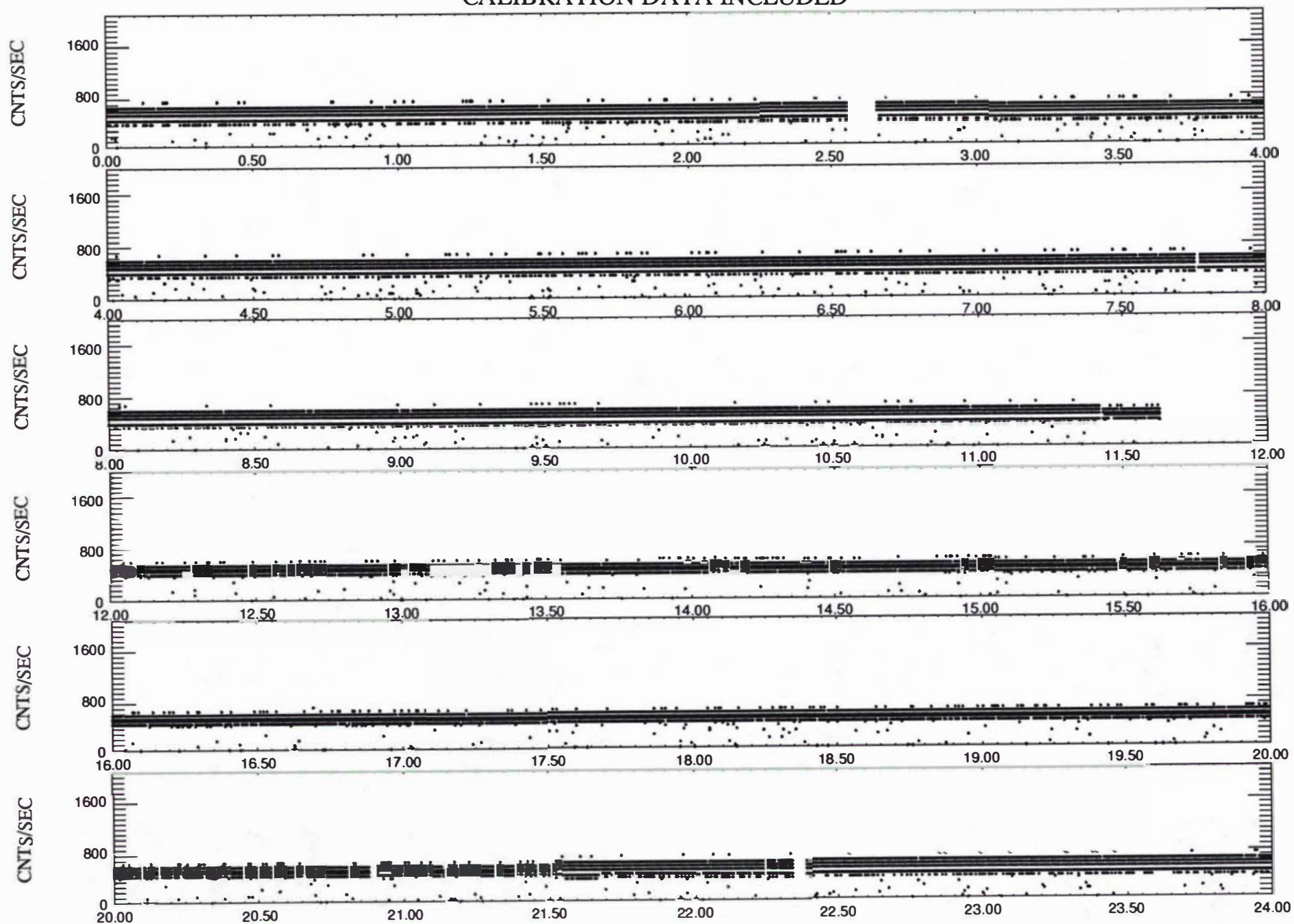
1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

Background not subtracted
Background not subtracted
Sample average = 10

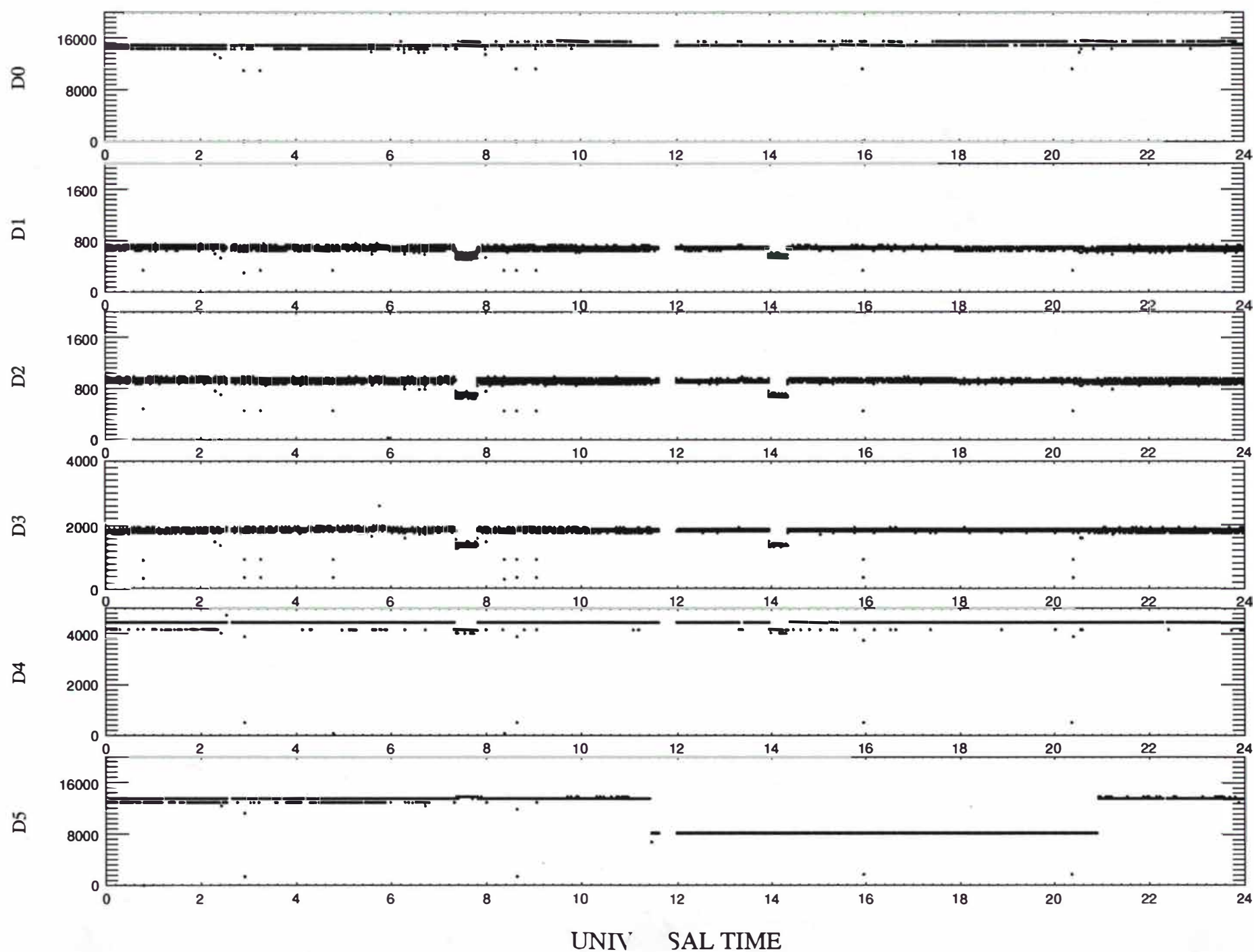
NO BURST (5)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



From khurley@sunspot Tue Sep 22 08:19 PDT 1998
Date: Tue, 22 Sep 1998 08:22:58 -0700
From: khurley@sunspot (Kevin Hurley)
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, woods@eagles.msfc.nasa.gov,
kraken@rosserv.gsfc.nasa.gov
Subject: GRBs, 980903 - 980915

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed the following bursts, all suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1800 s earlier.

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
3 SEP 98 04380	WEAK, 32 ms LONG	3150
6 SEP 98 73018	WEAK, 32 ms LONG	3150
7 SEP 98 80507	MODERATE, 32 ms LONG	3150
7 SEP 98 86027	MODERATE, 32 ms LONG	3150
8 SEP 98 48058	WEAK, 32 ms LONG	3150
9 SEP 98 31734	WEAK, 32 ms LONG	3150
11 SEP 98 29109	WEAK, 32 ms LONG	3150
11 SEP 98 67983	STRONG, 1 s LONG	3150
12 SEP 98 78457	STRONG, 64 ms LONG	3150
14 SEP 98 55913	WEAK, 32 ms LONG	3150
SEP 98 79827	MODERATE, 32 ms LONG	3150

Were these events detected by anyone else?

CC: ulyssesbursts alias list
(barthelmy, butterworth, cline, frontera, kouveliotou, kurczyski, marar, tee

From SAHI@fender.msfc.nasa.gov Mon Sep 14 11:52:14 1998

From: SAHI@fender.msfc.nasa.gov

Date: Mon, 14 Sep 1998 13:50:08 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7082

TIME: TJD=1067 SECONDS=55411

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

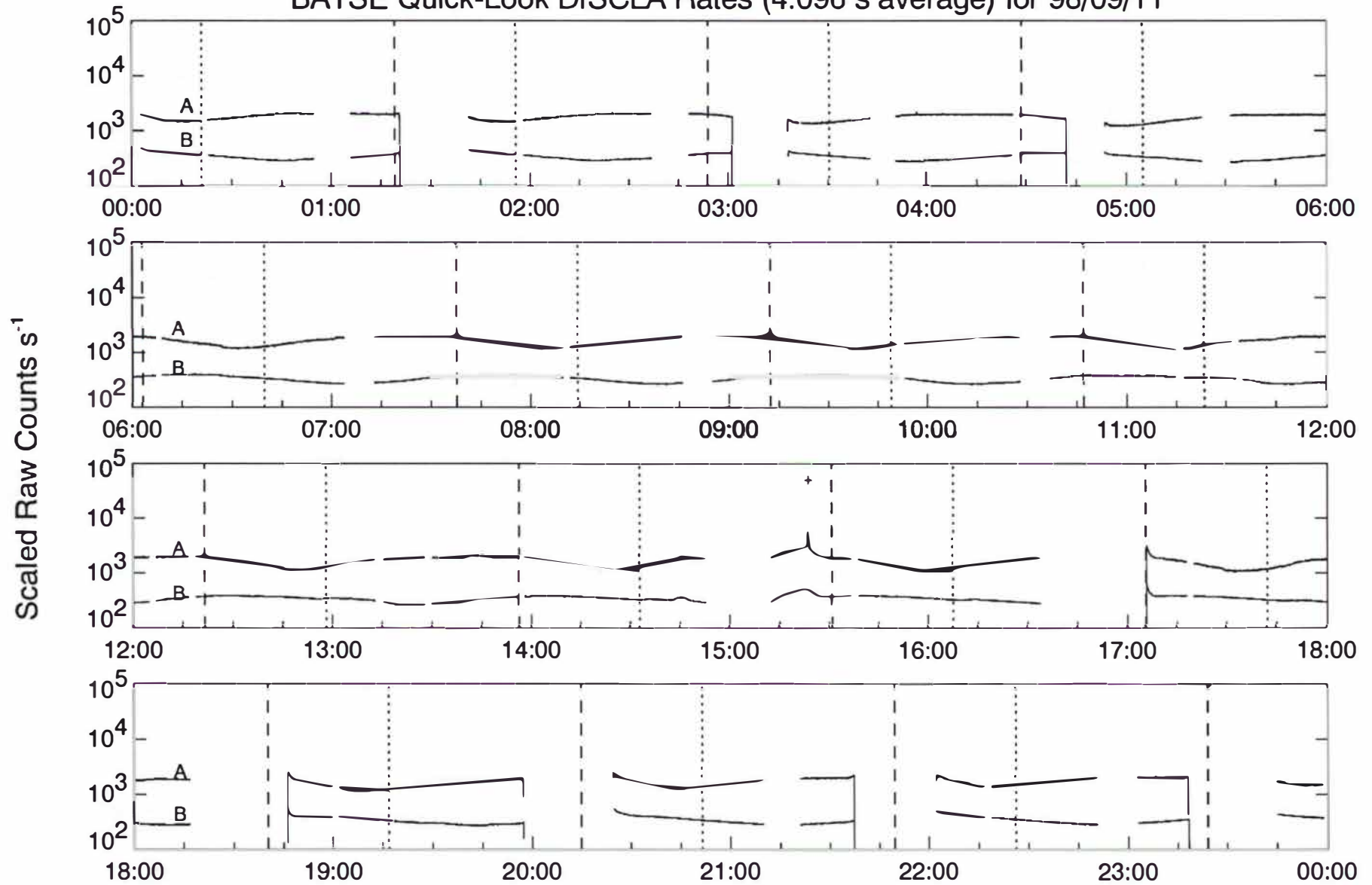
LOCATION: ZENITH=10.9 AZIMUTH=65.8 ERROR=0.44 DEGREES

COMMENTS:

GOES C2.5, OPTICAL SF. SINGLE PULSE, DUR. APPROX. 40 S.

NOT VISIBLE ABOVE 100 KEV.

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/09/11



Current Time: 98/09/15, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

From SAHI@fender.msfc.nasa.gov Mon Sep 14 11:45:40 1998

From: SAHI@fender.msfc.nasa.gov

Date: Mon, 14 Sep 1998 13:43:25 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7080

TIME: TJD=1067 SECONDS=16176

Sep 11 272.2 -20.4
04:29:36

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=104.3 AZIMUTH=96.3 ERROR=3.54 DEGREES

COMMENTS:

SGR.1806-20. SINGLE SPIKE, DUR. APPROX. 0.05 S. NOT VISIBLE ABOVE 100 KEV.

BATSE BURST# 7080

ULYSSES RT

22 / 9 / 98

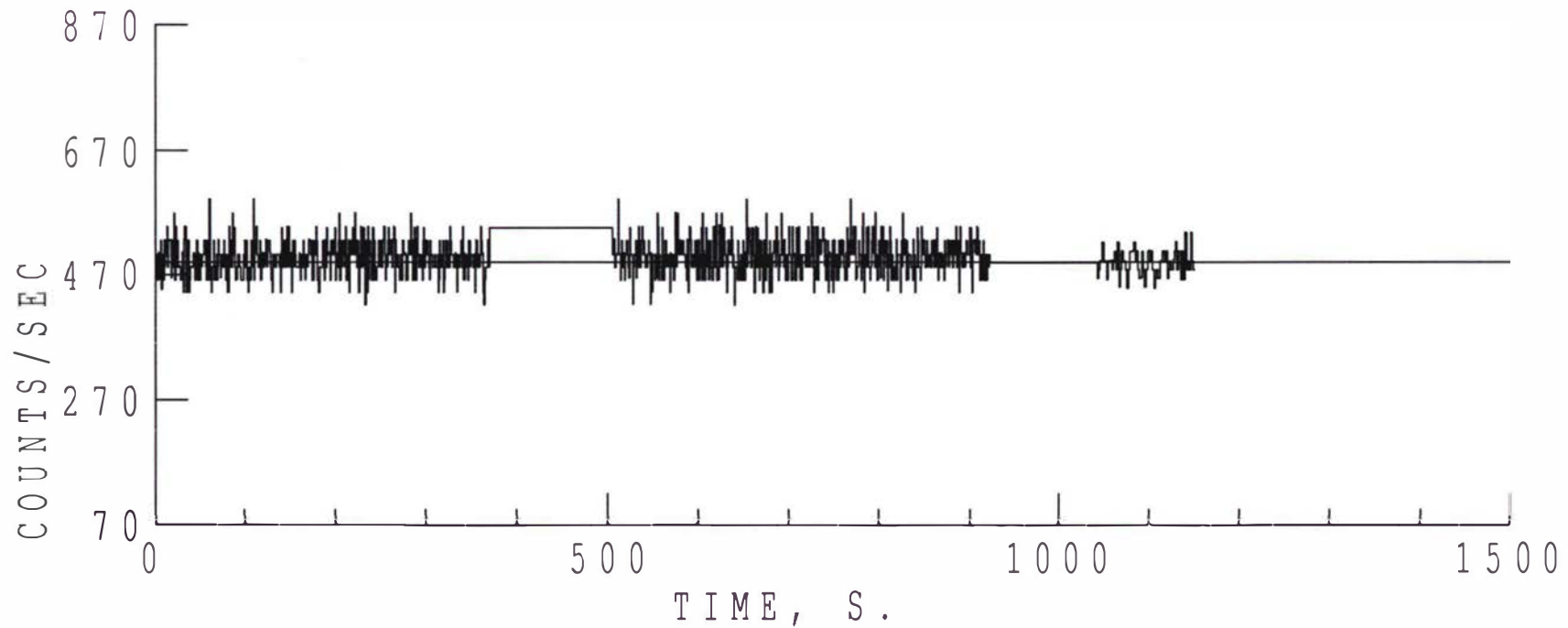
11 / 9 / 98 16776.096 s

INTERVALS REGROUPED BY 3

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SAHI@fender.msfc.nasa.gov Mon Sep 14 11:47:42 1998

From: SAHI@fender.msfc.nasa.gov

Date: Mon, 14 Sep 1998 13:46:45 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7081

TIME: TJD=1067 SECONDS=22689

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=116.1 AZIMUTH=136.1 ERROR=4.7 DEGREES

COMMENTS:

SGR.1900+14. SINGLE SPIKE WITH SUBSTRUCTURE, DUR. APPROX. 0.05 S. NOT VISIBLE
ABOVE 100 KEV.

BATSE BURST# 7081

ULYSSES RT

22 / 9 / 98

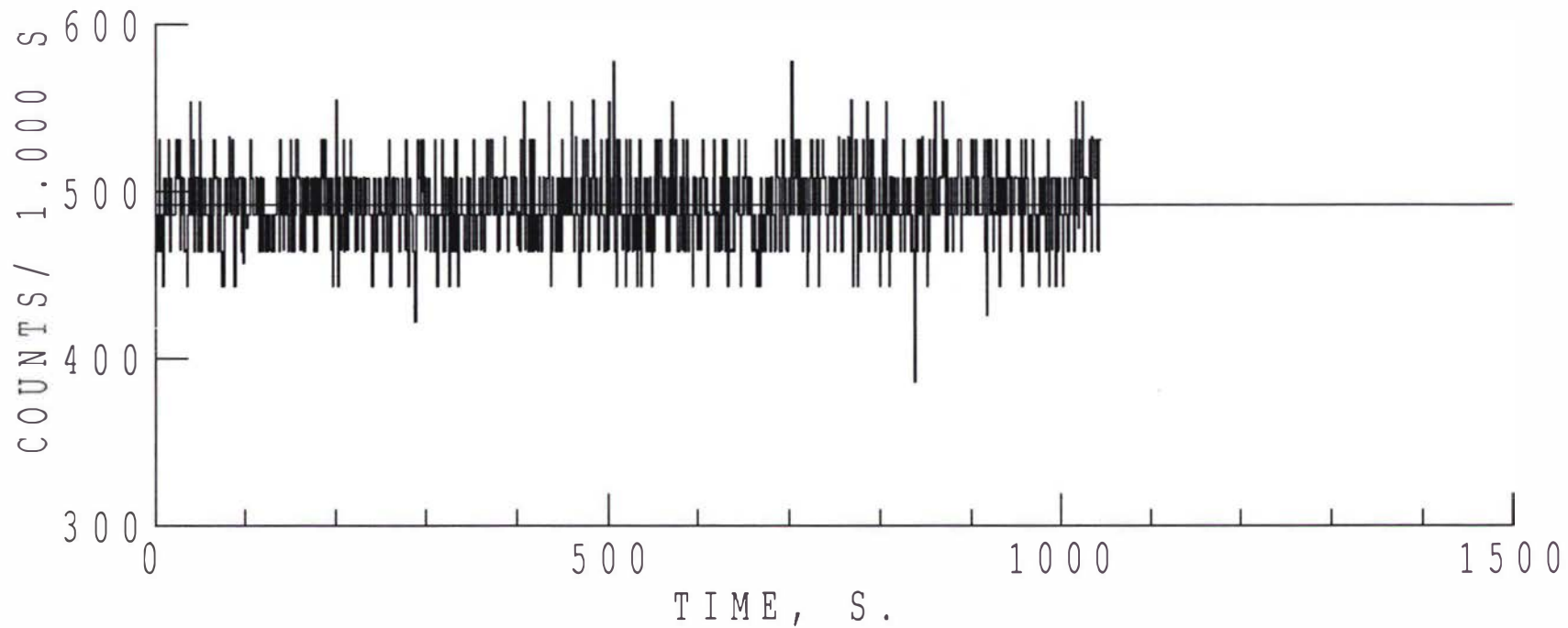
11 / 9 / 98 24012.168 s

0.500 S INTERVALS REGROUPED BY 2

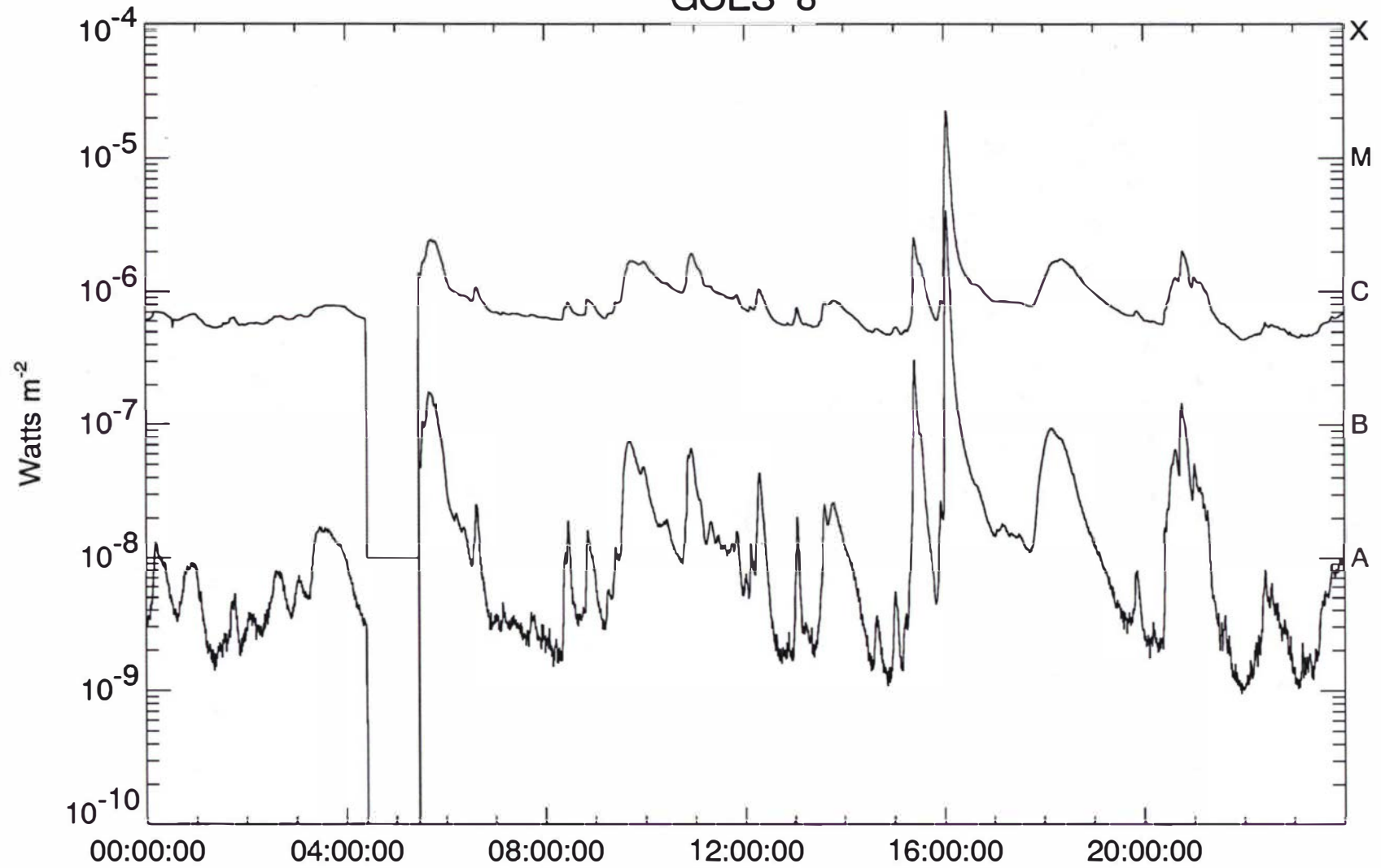
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



GOES 8



Data Start: 98/09/11, 0000:00

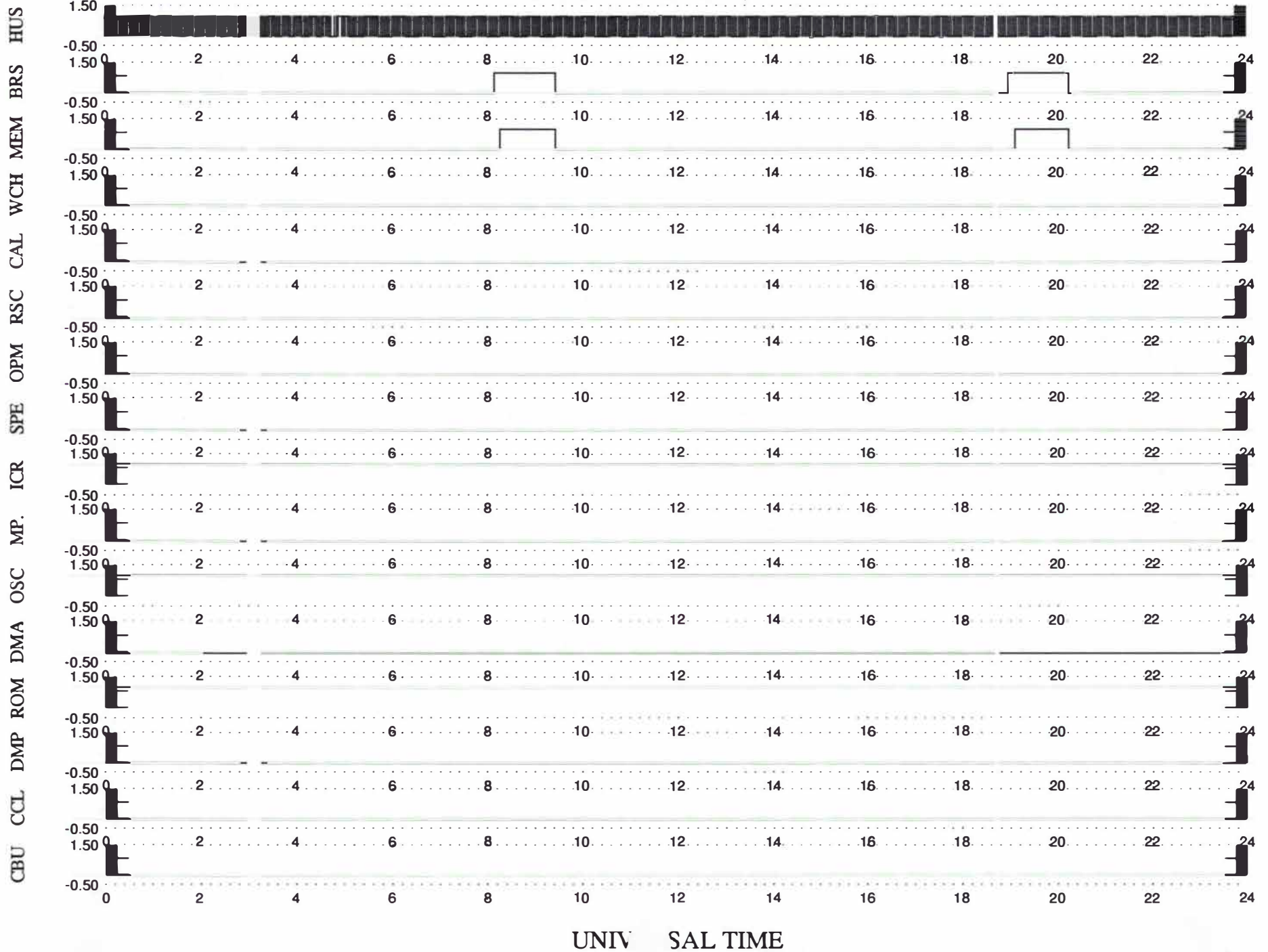
Plot created: 98/09/15, 1007

Channel

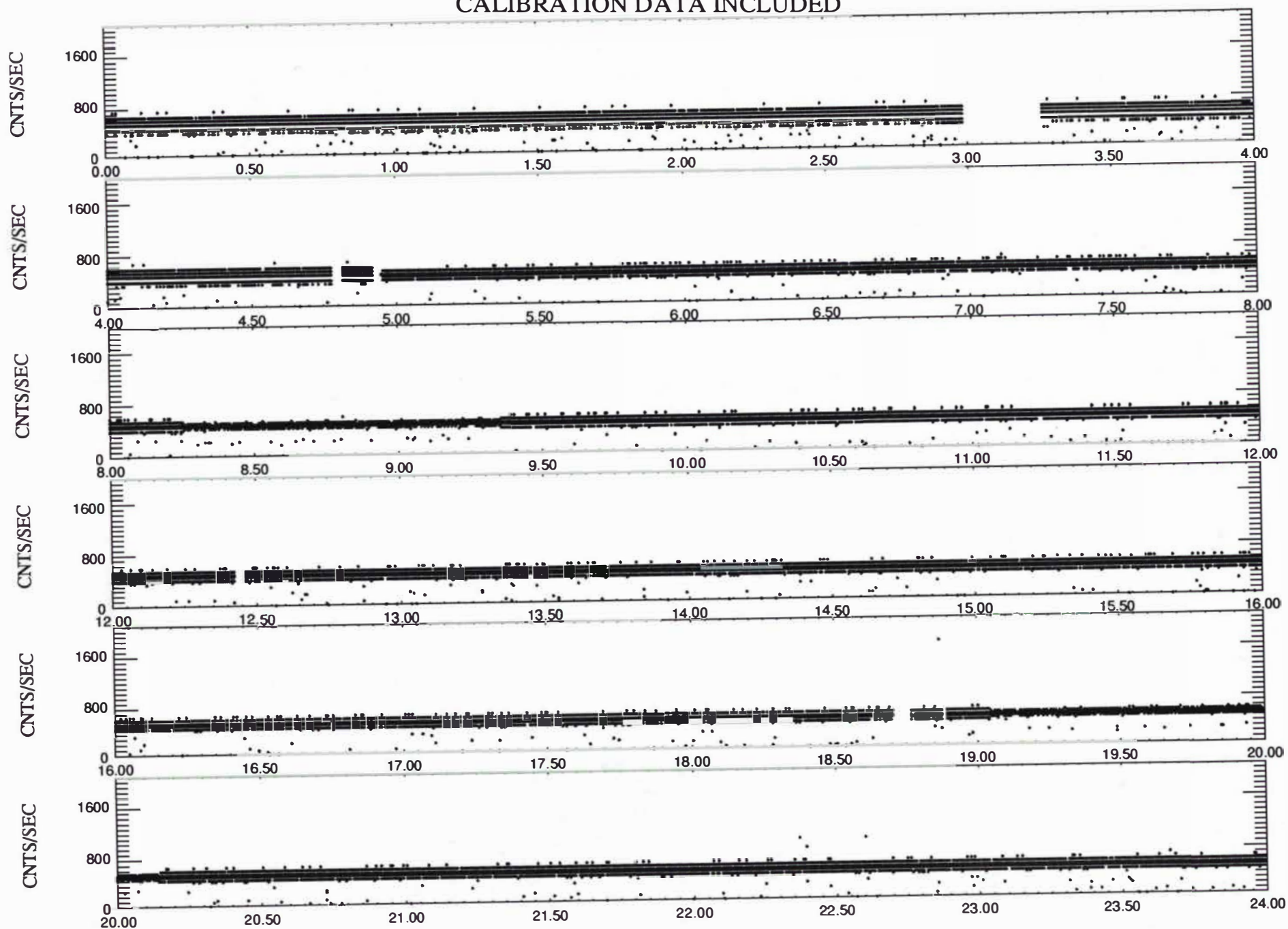
1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

Background not subtracted
Background not subtracted
Sample average = 10

BURST NUMBER 6, 7

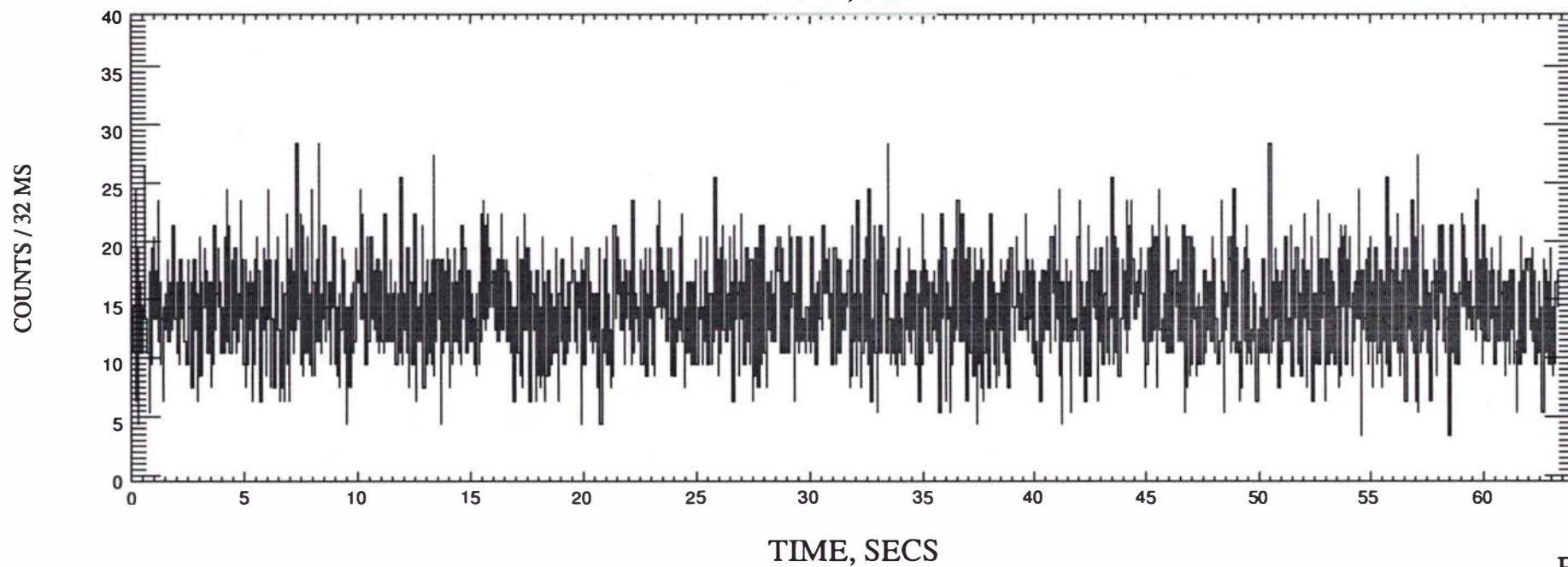
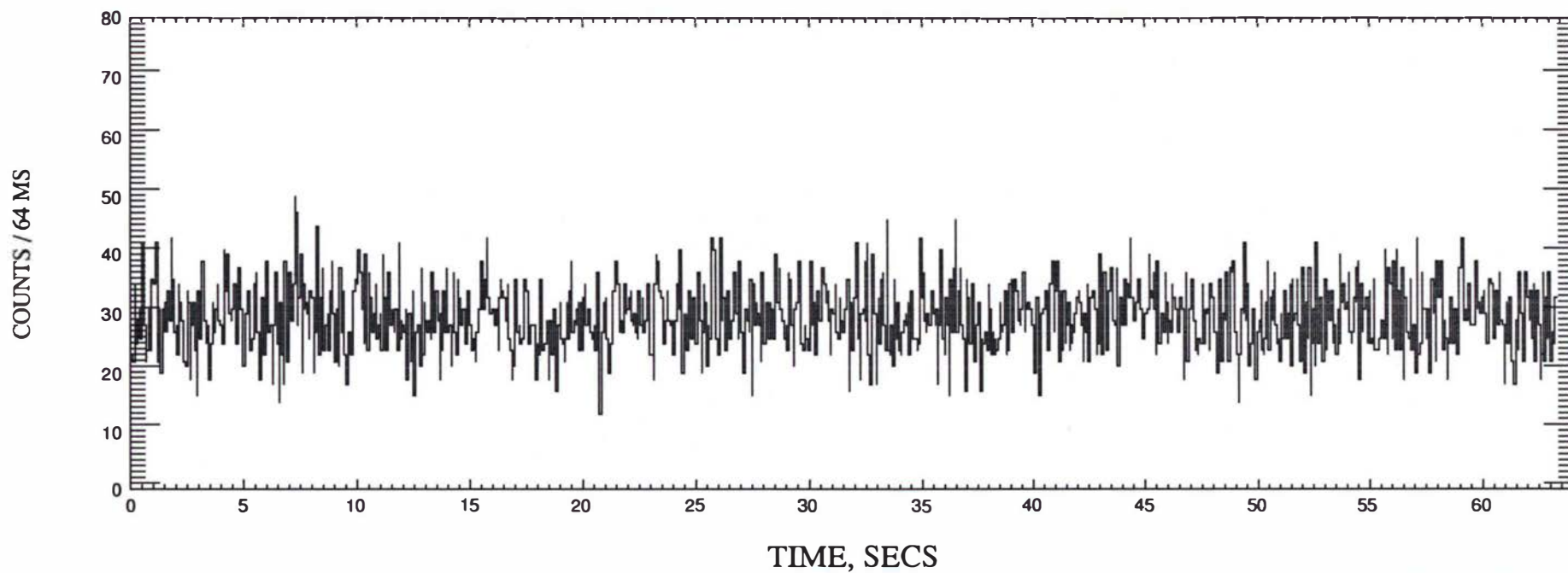


CALIBRATION DATA INCLUDED

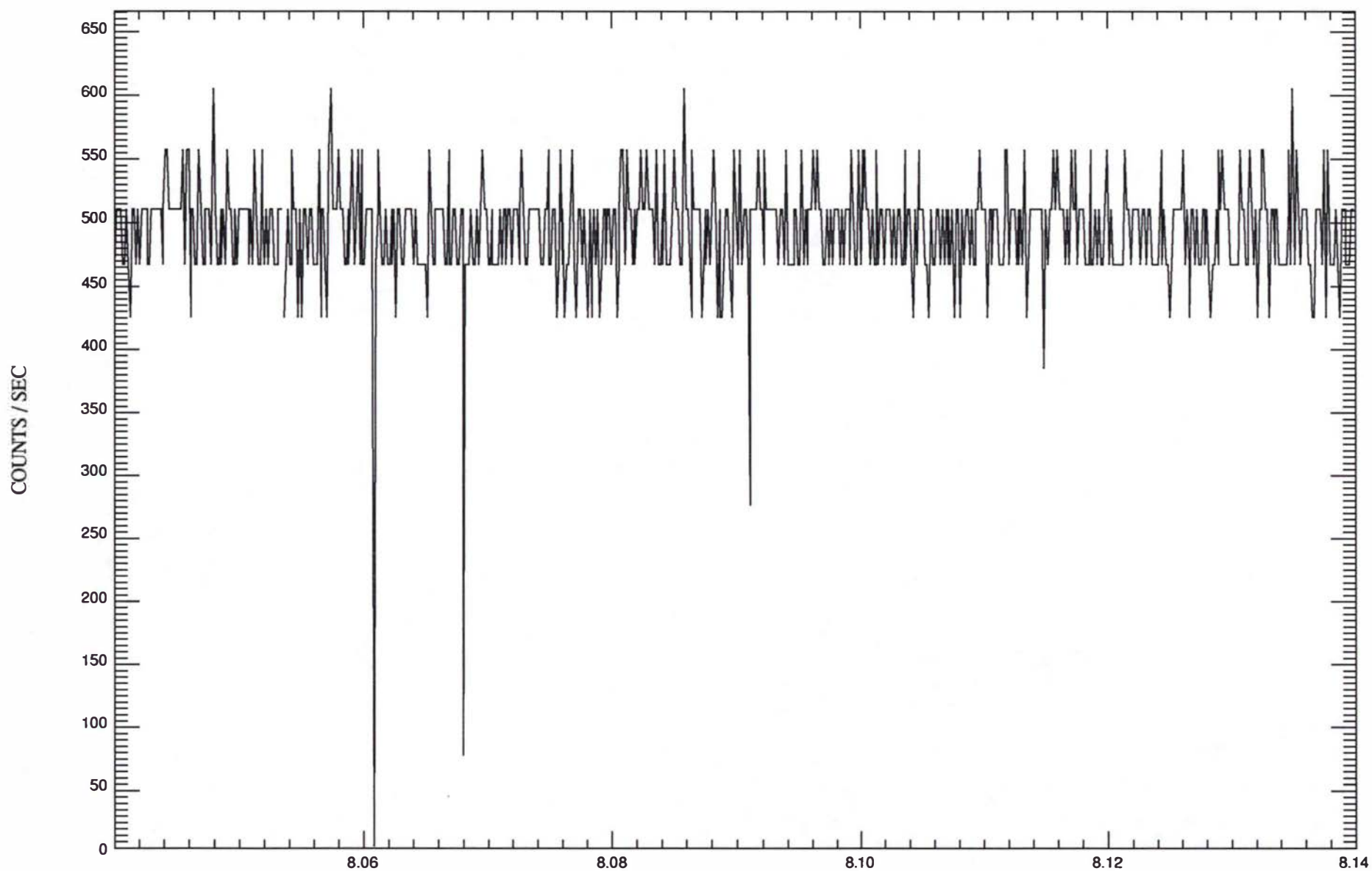


UNIV SAL TIME

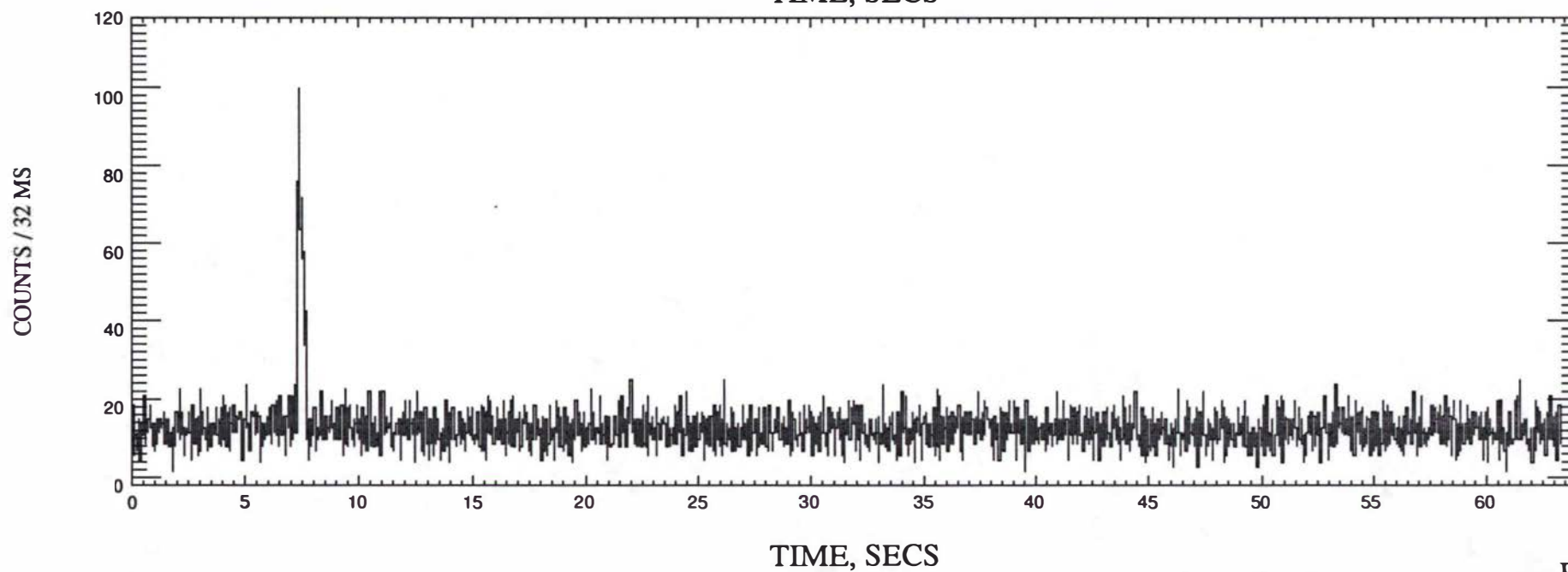
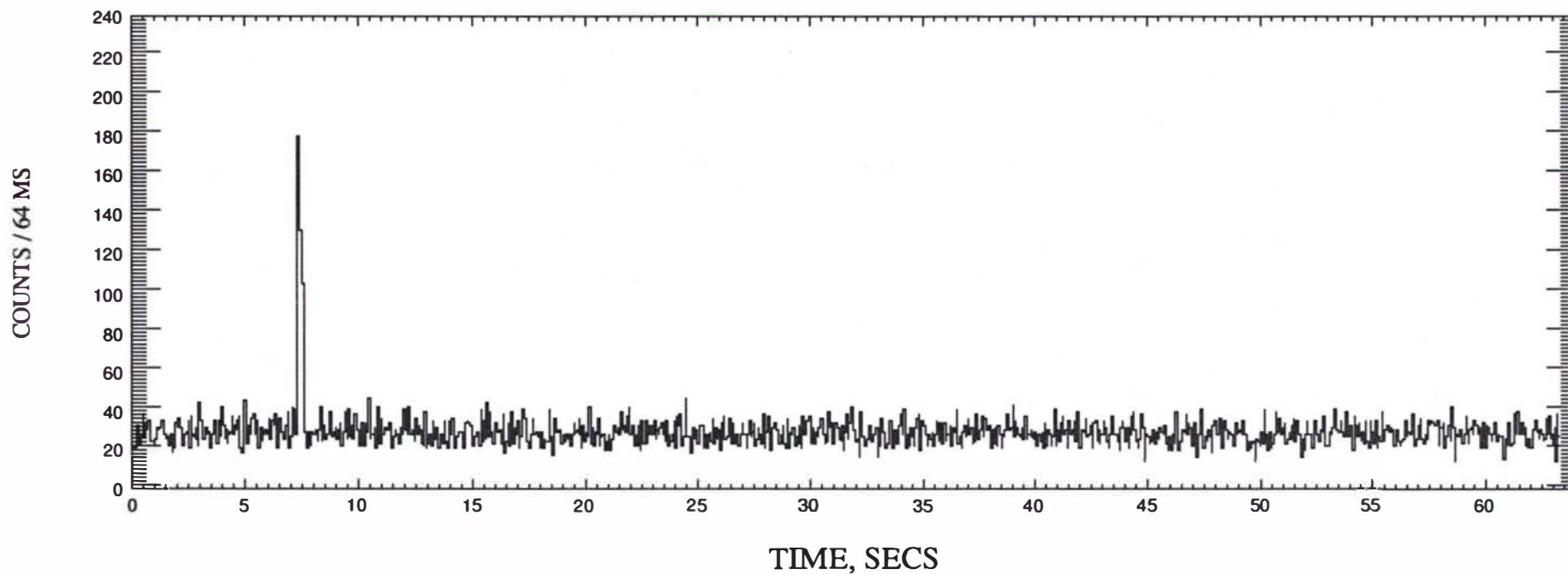
Burst Counter 6 at UT= 8.085926522149 h=29109.335 s 08:05:09.335



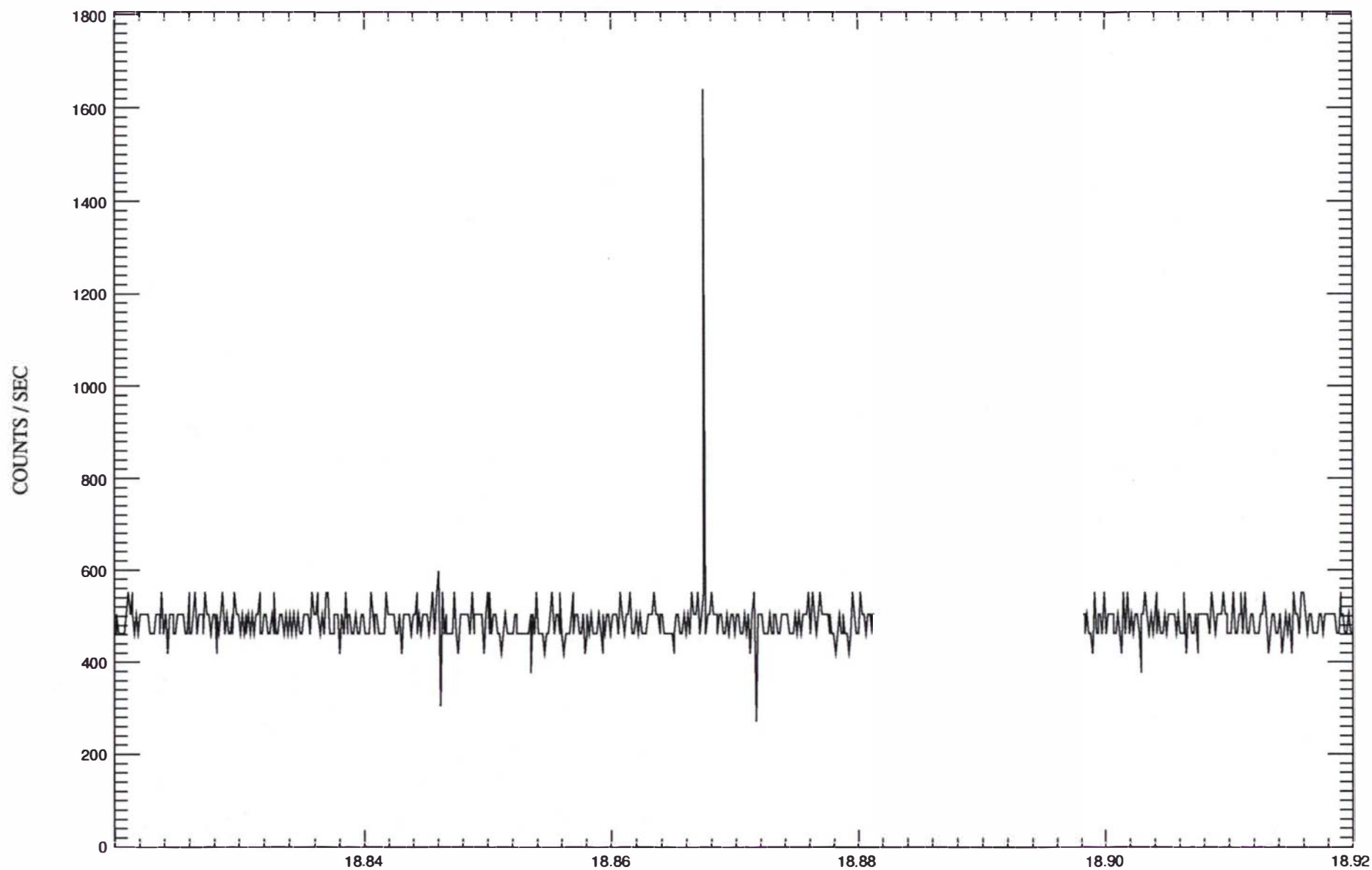
CALIBRATION DATA INCLUDED

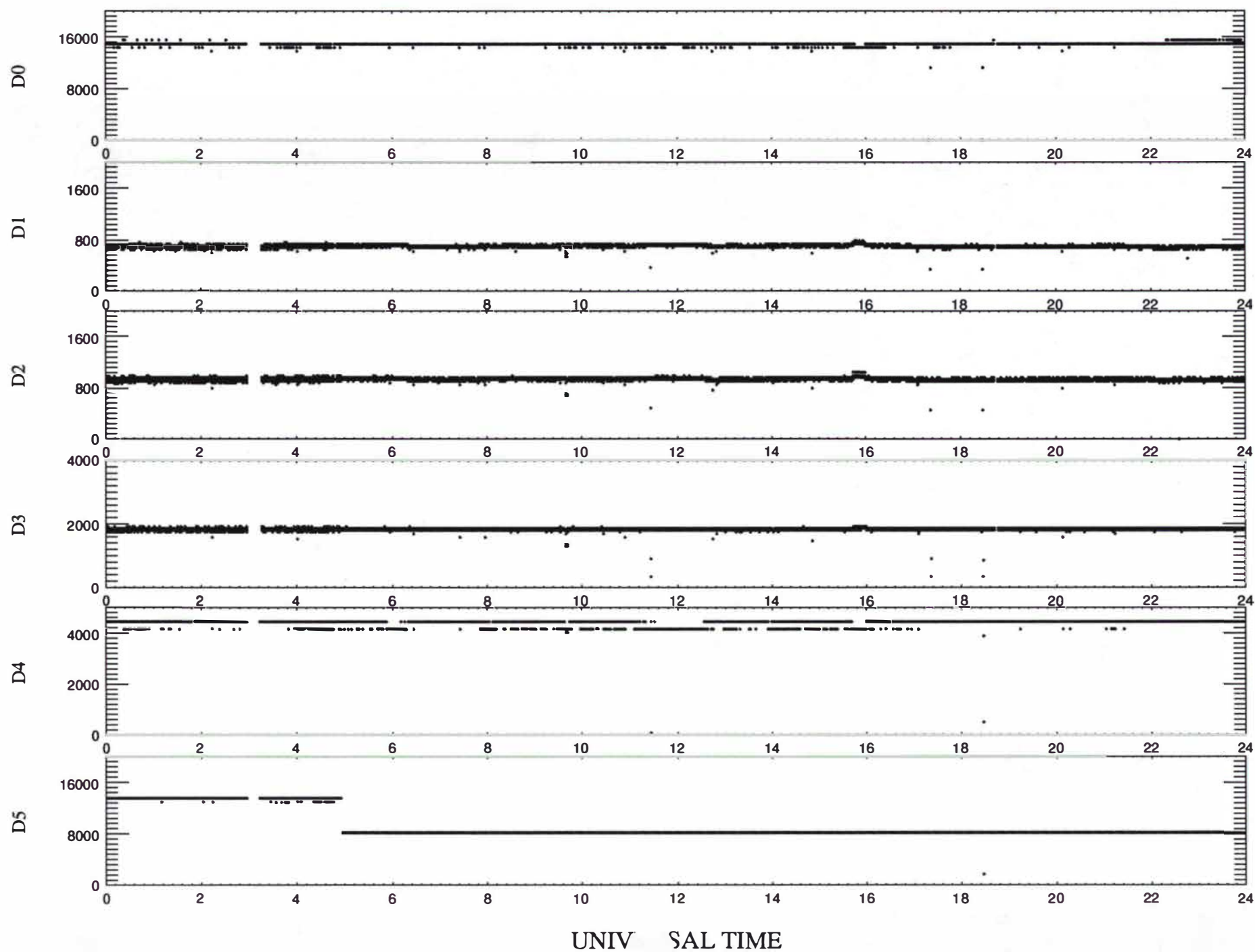


Burst Counter 7 at UT=18.867583317227 h=67923.300 s 18:52:03.300



CALIBRATION DATA INCLUDED





From khurley@sunspot Tue Sep 22 08:19 PDT 1998
Date: Tue, 22 Sep 1998 08:22:58 -0700
From: khurley@sunspot (Kevin Hurley)
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, woods@eagles.msfc.nasa.gov,
kraken@rosserv.gsfc.nasa.gov
Subject: GRBs, 980903 - 980915

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed the following bursts, all suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1800 s earlier.

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
3 SEP 98 04380	WEAK, 32 ms LONG	3150
6 SEP 98 73018	WEAK, 32 ms LONG	3150
7 SEP 98 80507	MODERATE, 32 ms LONG	3150
7 SEP 98 86027	MODERATE, 32 ms LONG	3150
8 SEP 98 48058	WEAK, 32 ms LONG	3150
9 SEP 98 31734	WEAK, 32 ms LONG	3150
11 SEP 98 29109	WEAK, 32 ms LONG	3150
11 SEP 98 67983	STRONG, 1 s LONG	3150
12 SEP 98 78457	STRONG, 64 ms LONG	3150
14 SEP 98 55913	WEAK, 32 ms LONG	3150
SEP 98 79827	MODERATE, 32 ms LONG	3150

Were these events detected by anyone else?

CC: ulyssesbursts alias list
(barthelmy, butterworth, cline, frontera, kouveliotou, kurczynski, marar, tee

From RICHARDSON@fender.msfc.nasa.gov Tue Sep 15 06:24:42 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Tue, 15 Sep 1998 8:24:04 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7083

TIME: TJD=1068 SECONDS=17224

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=10.3 AZIMUTH=57.0 ERROR=2.8 DEGREES

COMMENTS:

SOLAR FLARE NO GOES, NO OPTICAL, LASTING 10 SEC. TRIGGERED CROSSING
BOUNDARY TO SUNRISE.
NOT VISIBLE ABOVE 100 KEV

From RICHARDSON@fender.msfc.nasa.gov Tue Sep 15 06:29:28 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Tue, 15 Sep 1998 8:28:56 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7084

TIME: TJD=1068 SECONDS=25304

TYPE: SGR

Solar 12
07:01:44
SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=113.5 AZIMUTH=127.2 ERROR=7.4 DEGREES

COMMENTS:

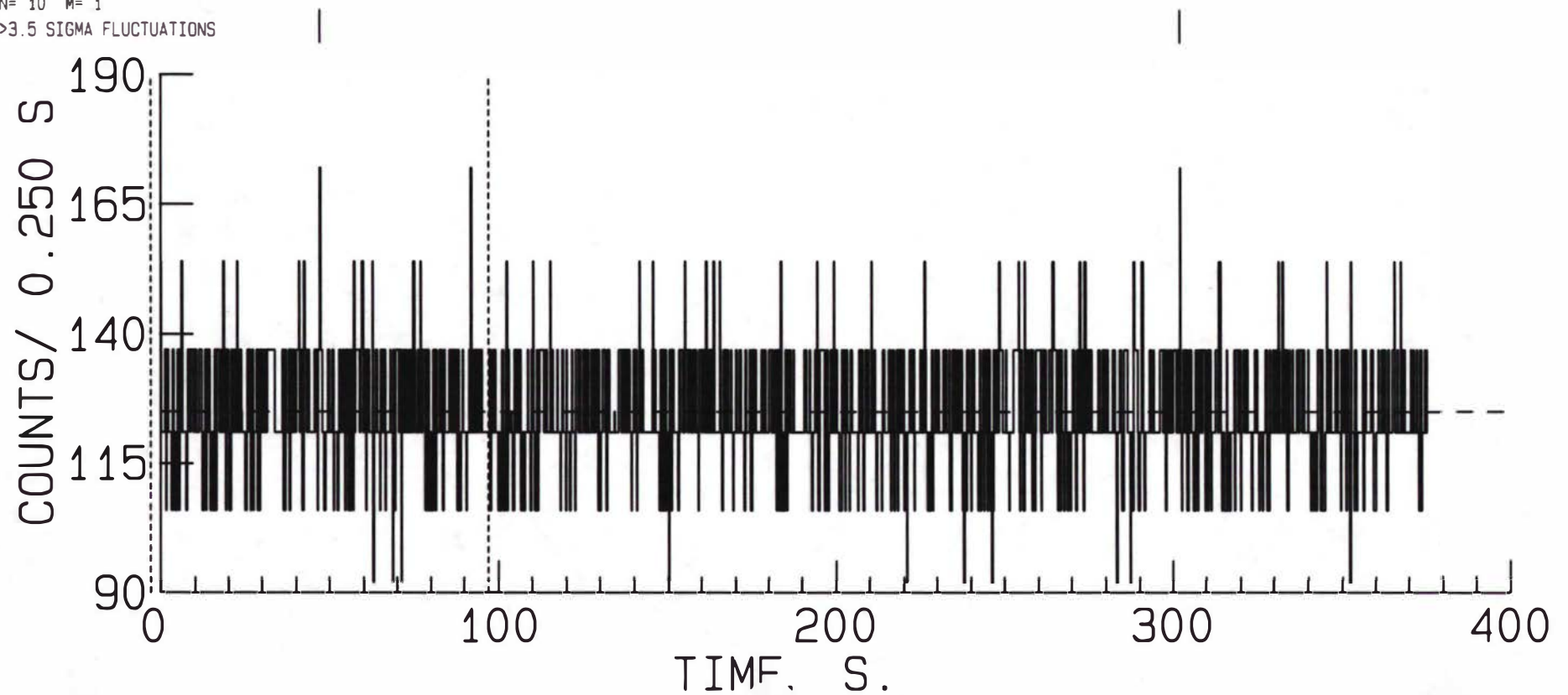
SGR 1900 14

DURATION APPROX. 0.1 SEC. WITH SECONDARY WEAK PULSE. NOT VISIBLE ABOVE
100 KEV.

ULYSSES RT
12/ 9/98 26640.102 s
22- 150 keV

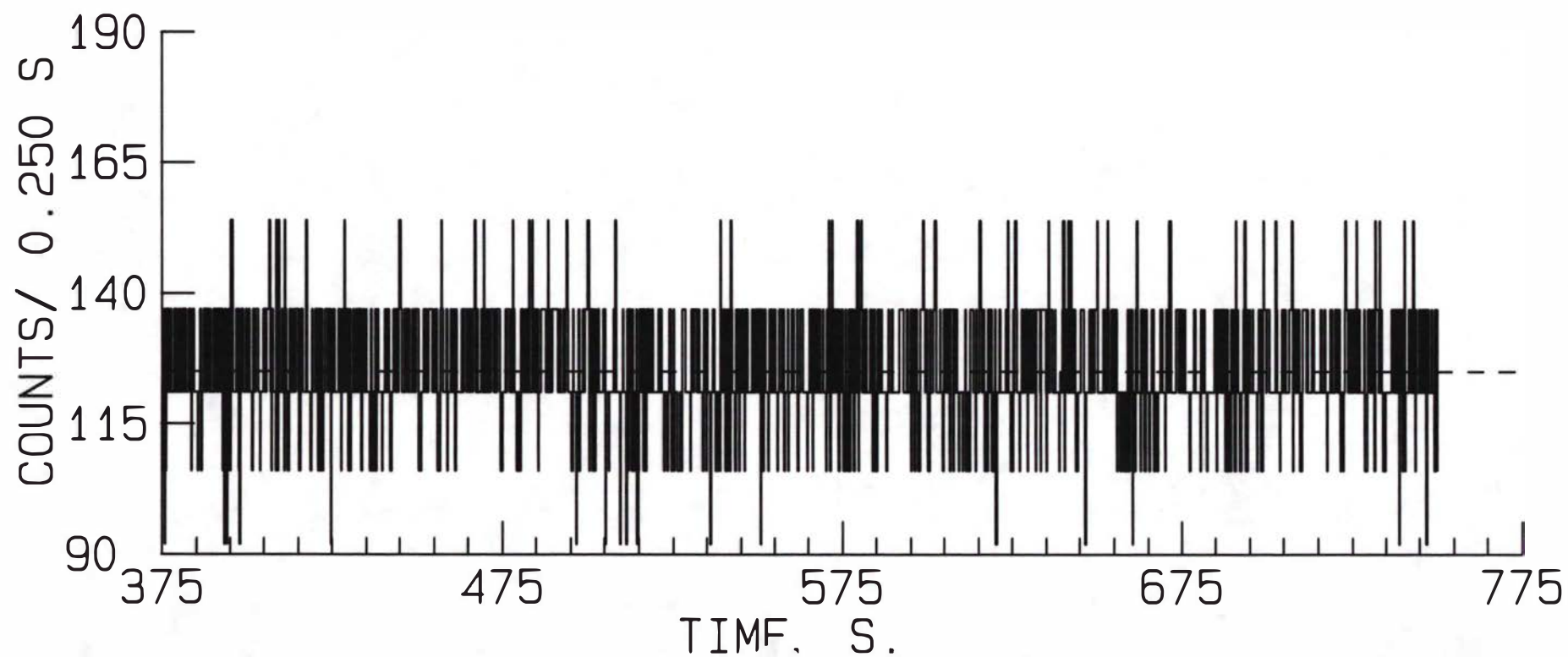
20 / 2 / 99

N= 10 M= 1
>3.5 SIGMA FLUCTUATIONS



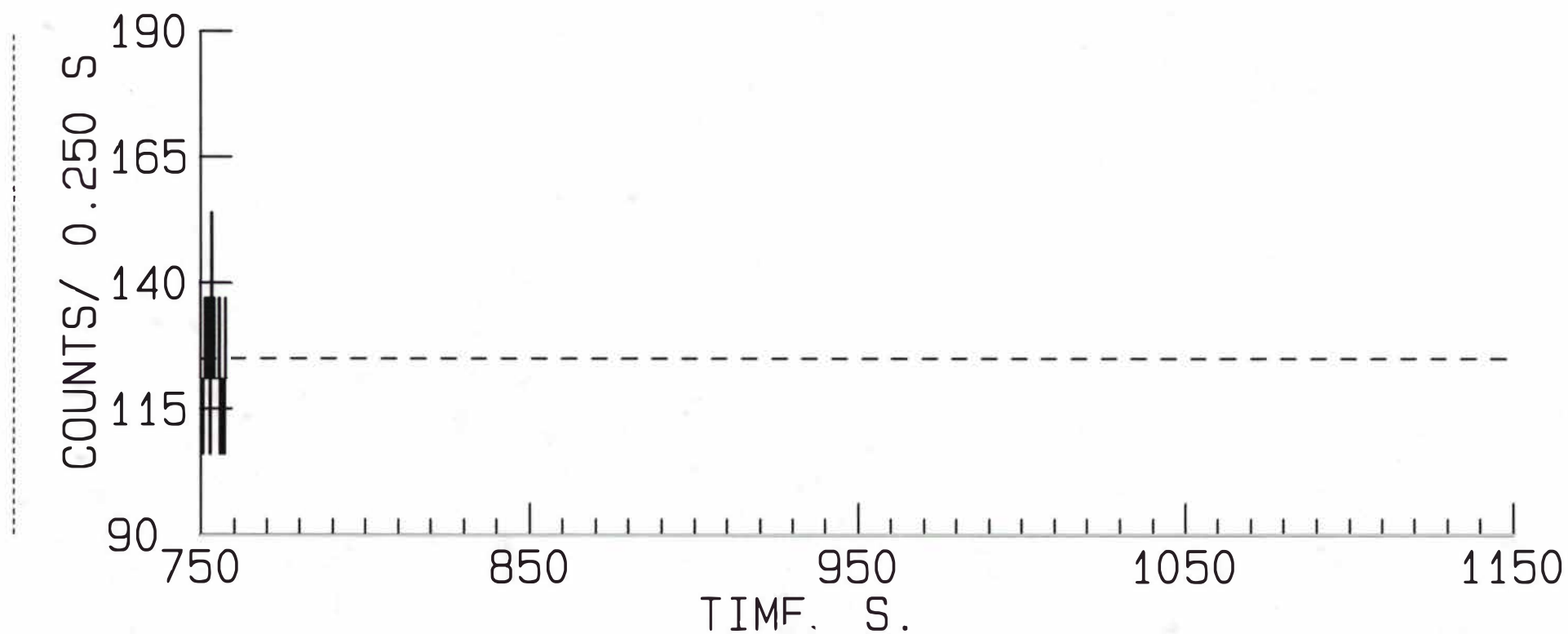
ULYSSES RT
12/ 9/98 26640.102 s
22- 150 keV

20 / 2 / 99



ULYSSES RT
12/ 9/98 26640.102 s
22- 150 keV

20 / 2 / 99



From GIBLIN@fender.msfc.nasa.gov Tue Sep 15 09:19:02 1998

From: GIBLIN@fender.msfc.nasa.gov

Date: Tue, 15 Sep 1998 11:18:25 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7085

TIME: TJD=1068 SECONDS=54914

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT

Date: Nov 10 '09

BURST TRIANGULATION CHECKLIST

I. Ulysses Data

- ☒ Jim Schmidling's stat file correction applied?
- ☒ Final ephemeris used?
- ☒ Final, CDROM data used?
- ☐ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution? **No**

2. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

2. For Odyssey events

- ☐ Was CHECKMO run to eliminate data gaps?
- ☐ Did the Odyssey ephemeris correspond to the event time? (When there is data in the database, the ephemeris is for the start of record, usually ~1320 s prior to the request time; when there is no data in the database, the ephemeris is for the request time in the e-mail, so the request time in mosearch should be equal to the GRB time. Note that the time in the return e-mail will be ~1320 s prior to the time requested, in the line "no HEND data...")
- ☐ Was Mars-blocking used?
- ☐ For cruise phase data (April – October 2001), was the updated data used? (Old data has timing errors)
- ☐ GRS database searched for triggered data? Database data between August 2005 and January 2006 should be re-extracted, due to timing errors. (E-mailed data should be OK).
- ☐ GRS and HEND data cross-correlated to check timing?

2. For 3 or More Spacecraft events

- ☐ $\Sigma 3\Delta t$'s calculated, and/or BMAPSUM executed?

3. For INTEGRAL events

- ☐ INTEGRAL SPI-ACS website checked for bursts that weren't transmitted automatically?
- ☐ 125 ms added to INTEGRAL SPI-ACS time for bursts prior to April 2 2004 11:00 UT?
- ☐ Updated ephemeris used for bursts prior to September 30, 2003?

-
- ☒ ACCESS and MBL4 databases updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

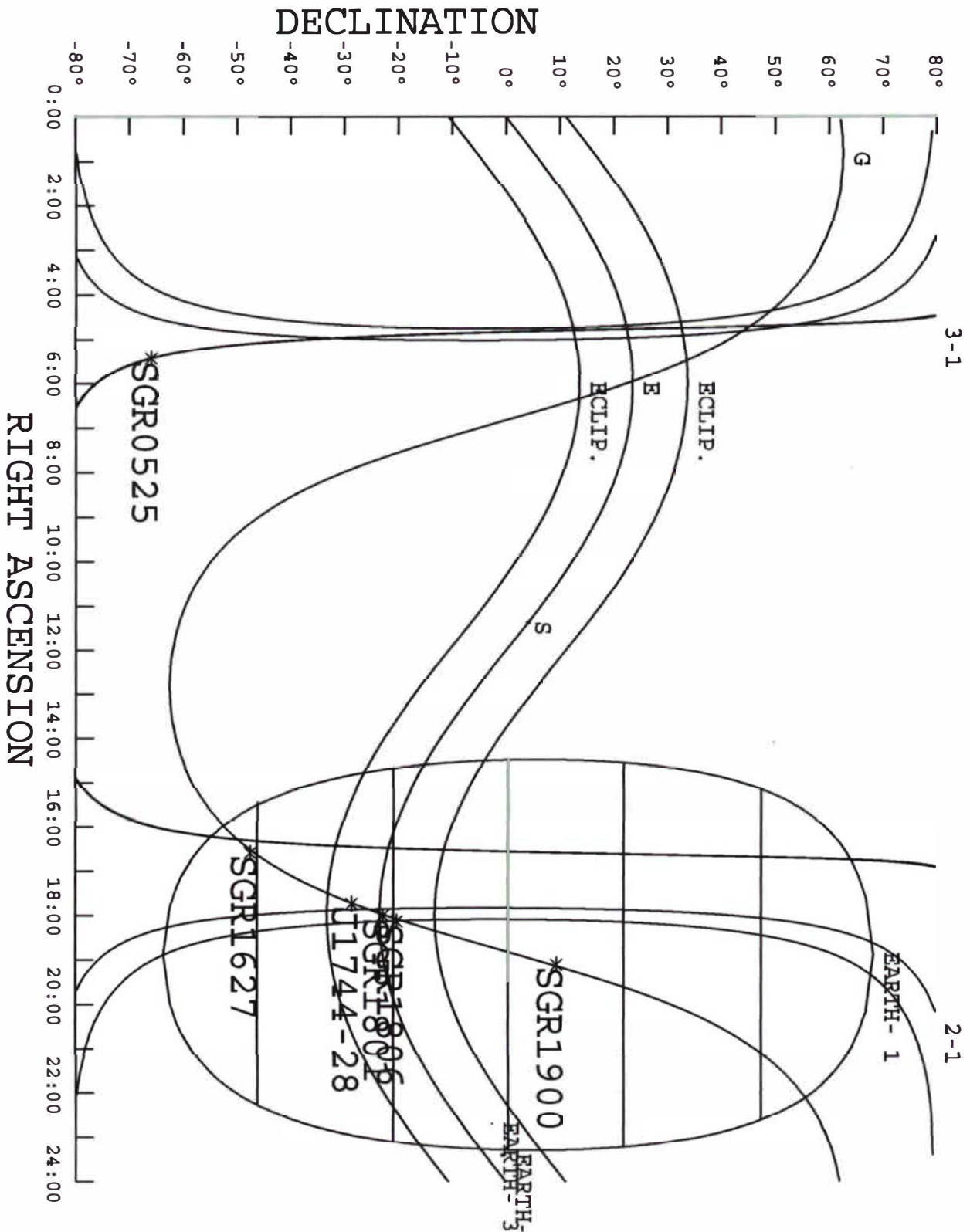
1 SAX

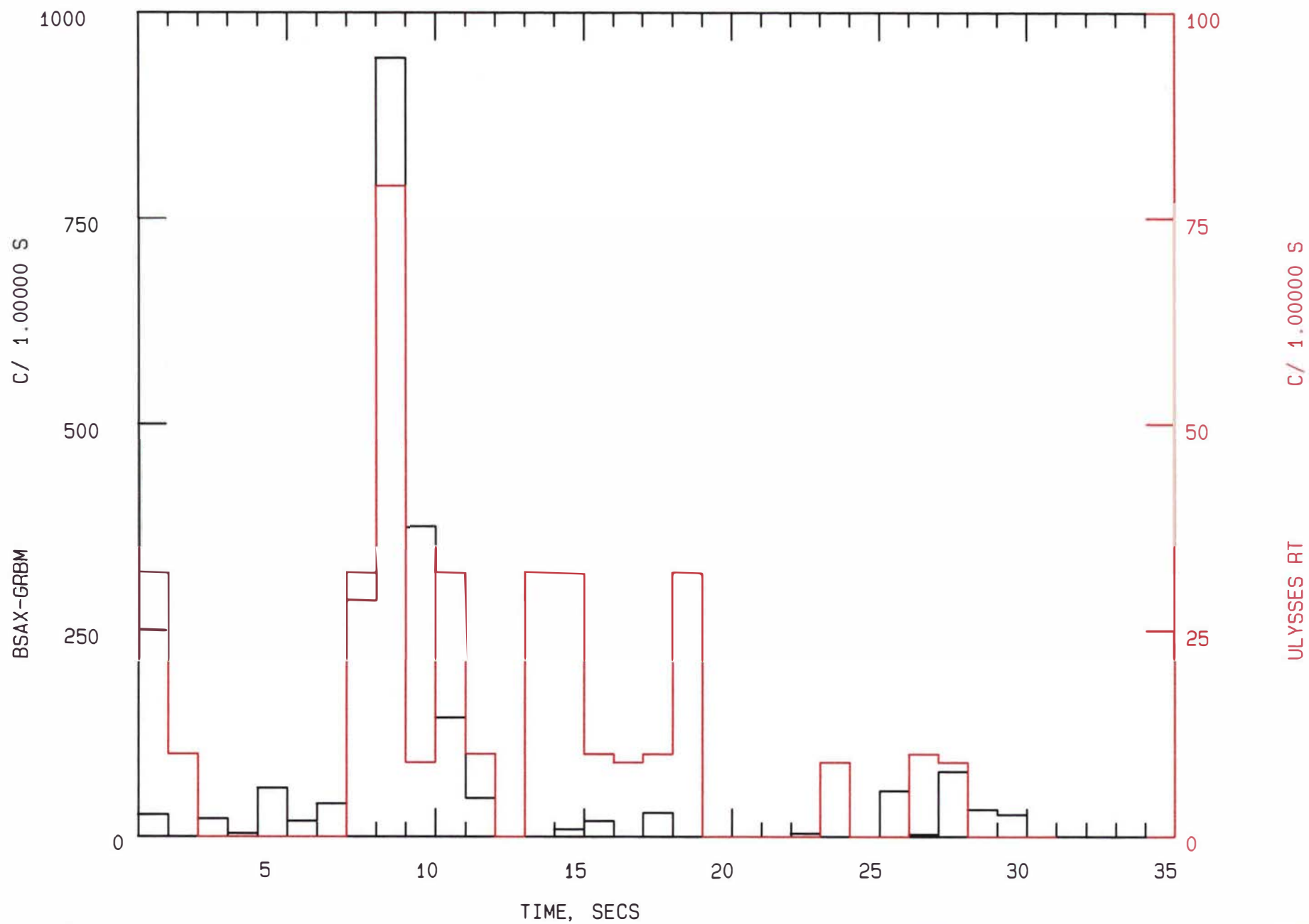
2 KONUS2

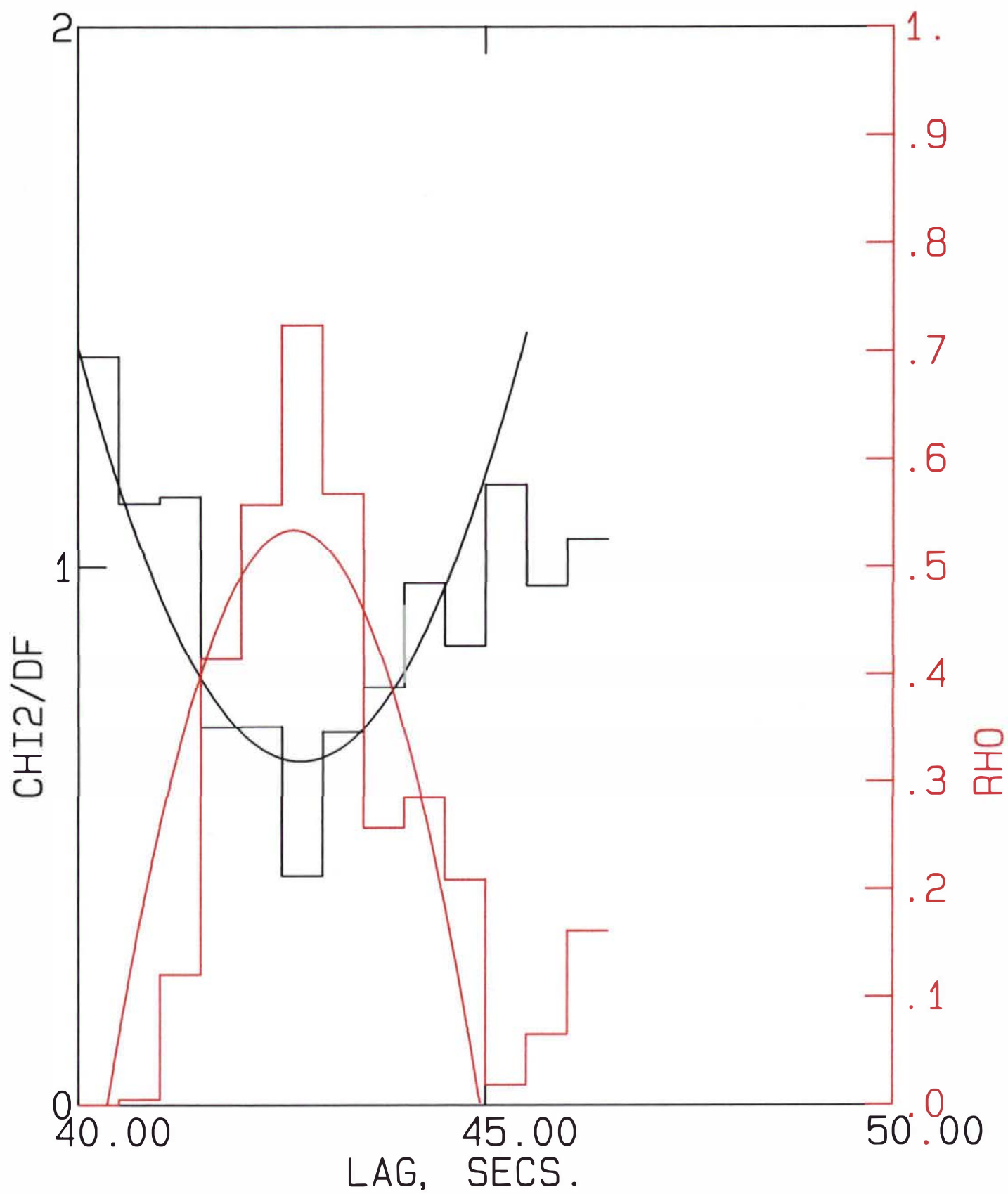
3 ULYSSES

EVENT OF SEP 12, 1998 15:15

7 / 5 / 7







GRBM 19980912 54761

ULYSSES RT

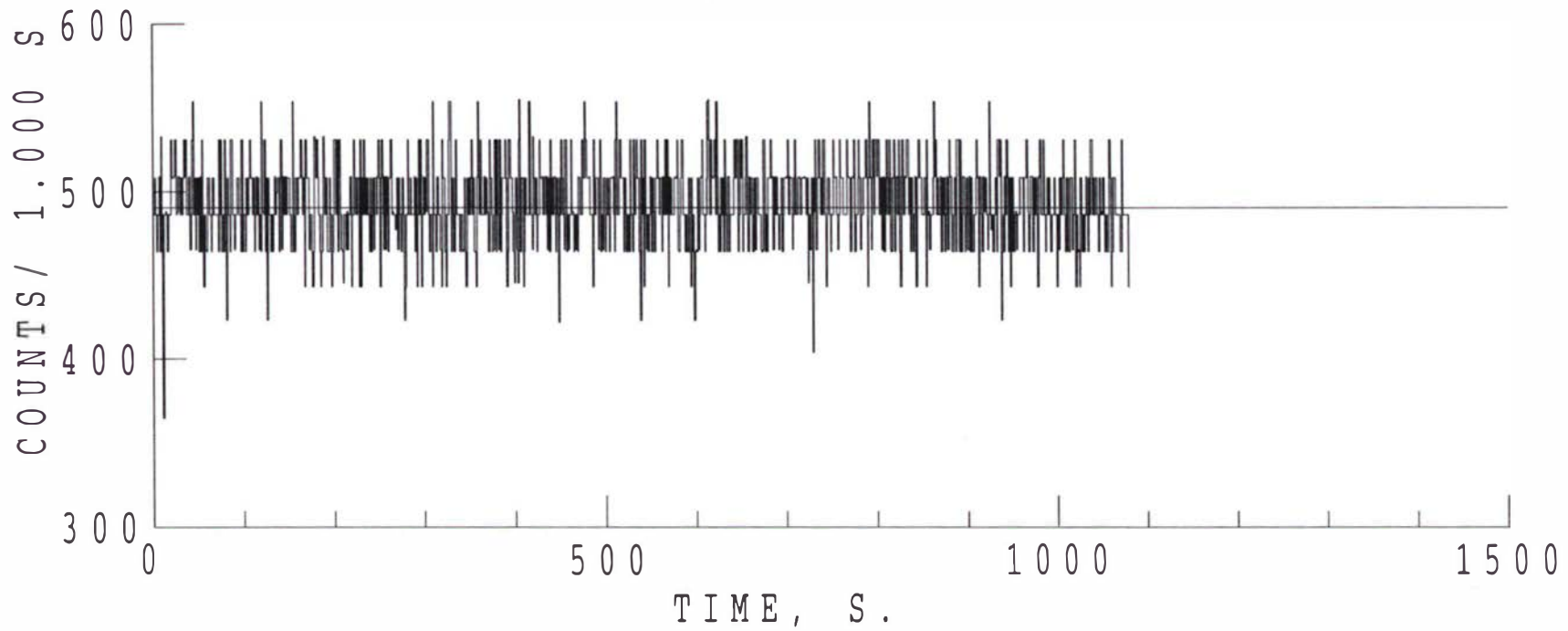
Position at RA, Dec = ~ 72, 12
07 / 05 / 07

12/09/98 54216.391 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



GRBM 19980912 55990

Position at RA, Dec ~ 268, -20

07/05/07

ULYSSES RT

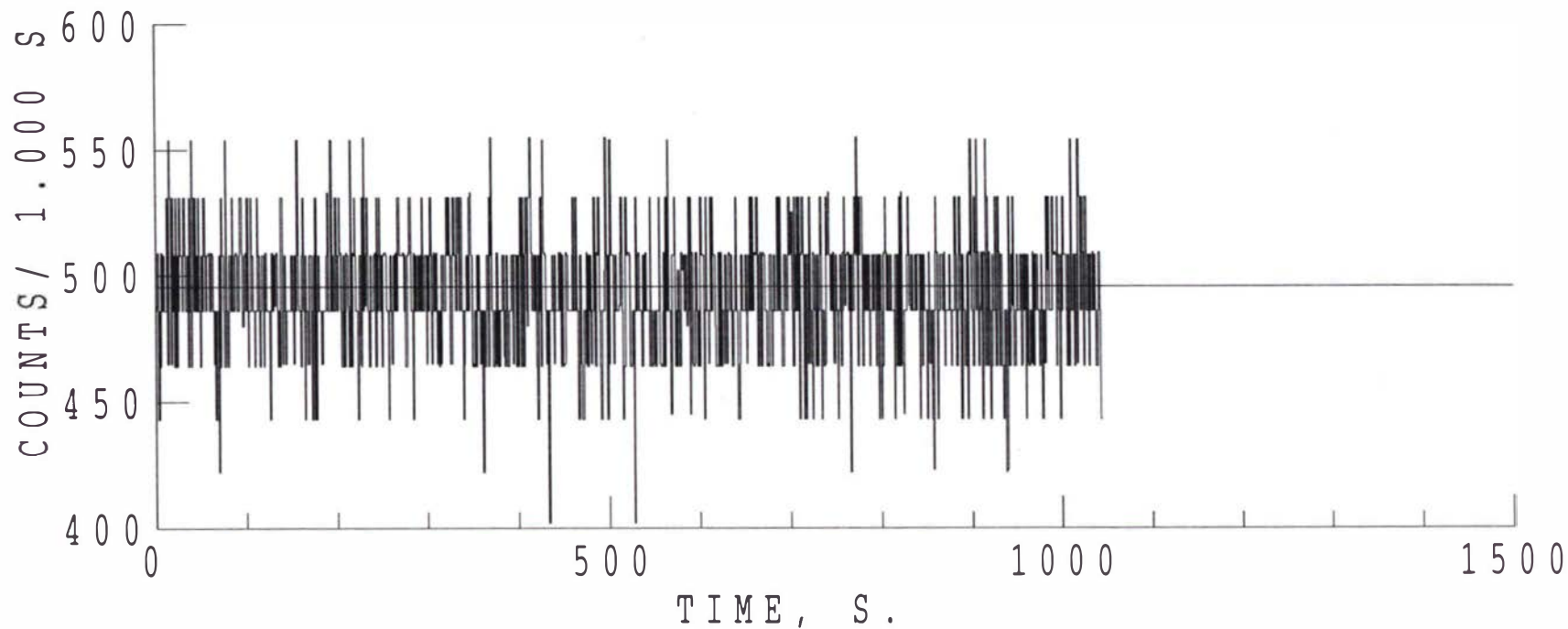
12/09/98 55476.402 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



KONUS2 19980912 54940

ULYSSES RT

10/01/02

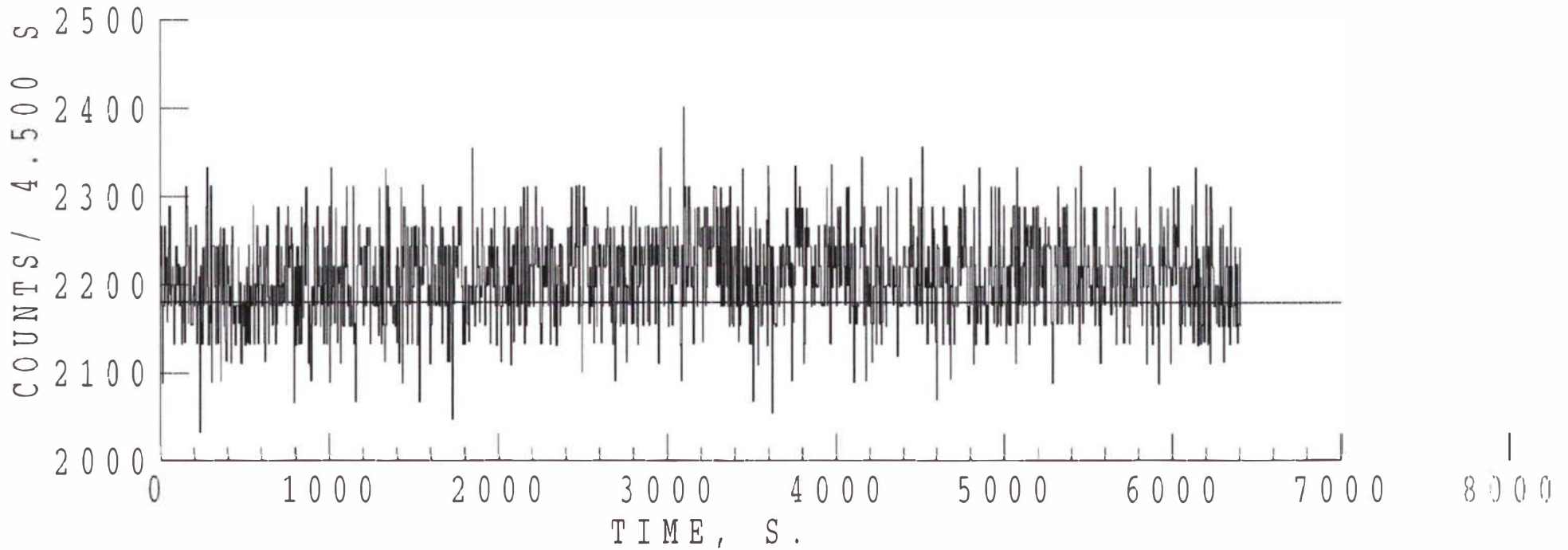
12/09/98 51732.367 s

0.500 S INTERVALS REGROUPED BY 9

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



NEAR

ULYSSES RT

24 / 11 / 98

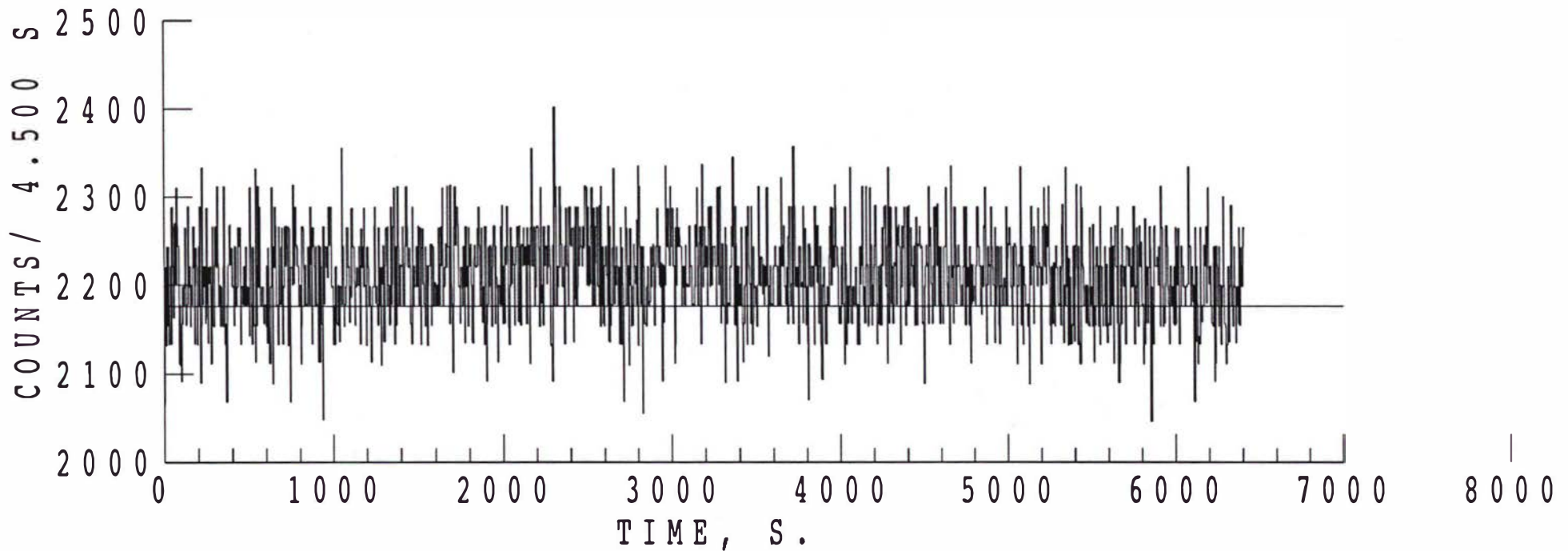
12 / 9 / 98 52524.371 s

0.500 S INTERVALS REGROUPED BY 9

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

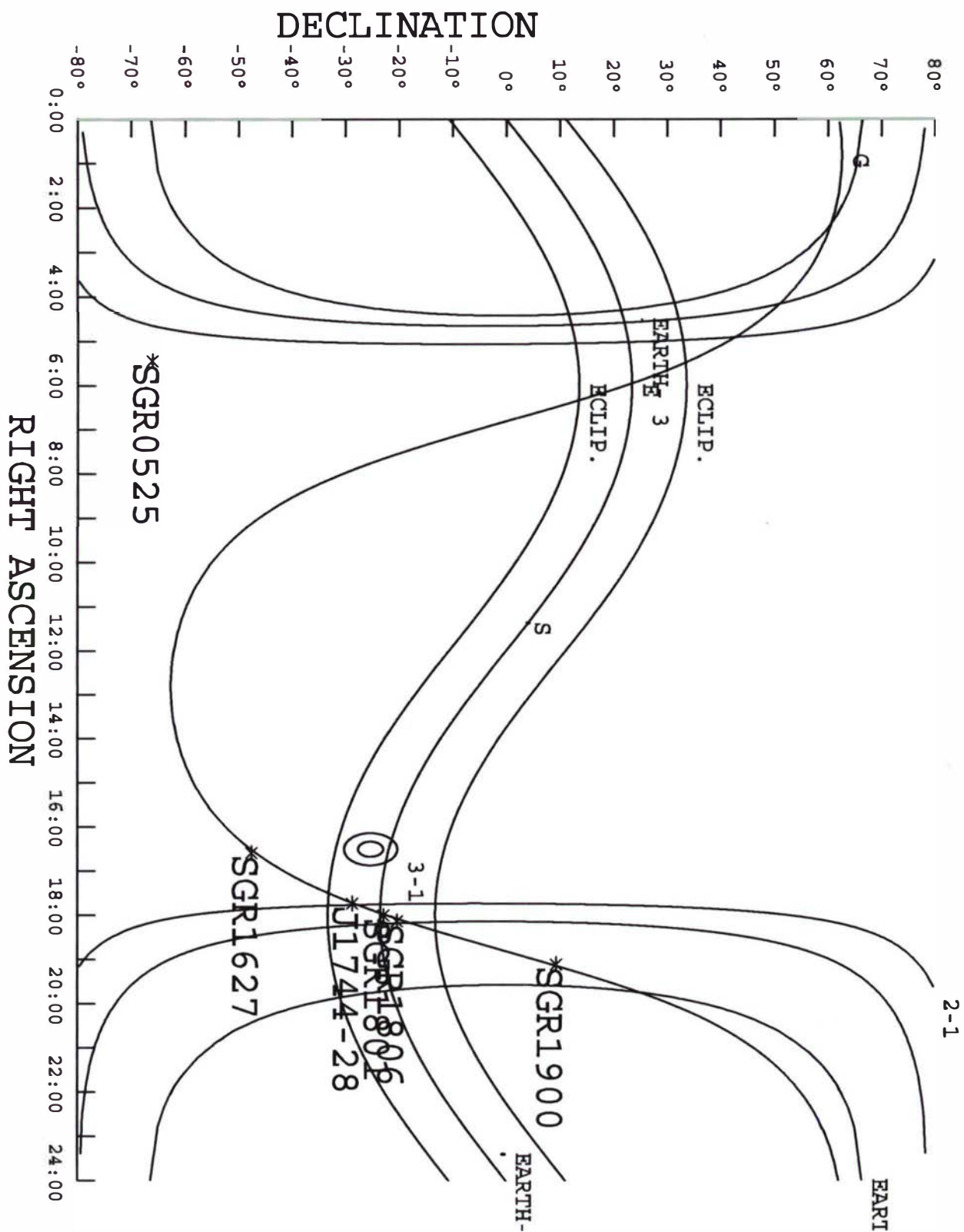
1 SAX

2 KONUS2

3 NEAR

EVENT OF SEP 12, 1998 15:15

7 / 5 / 7



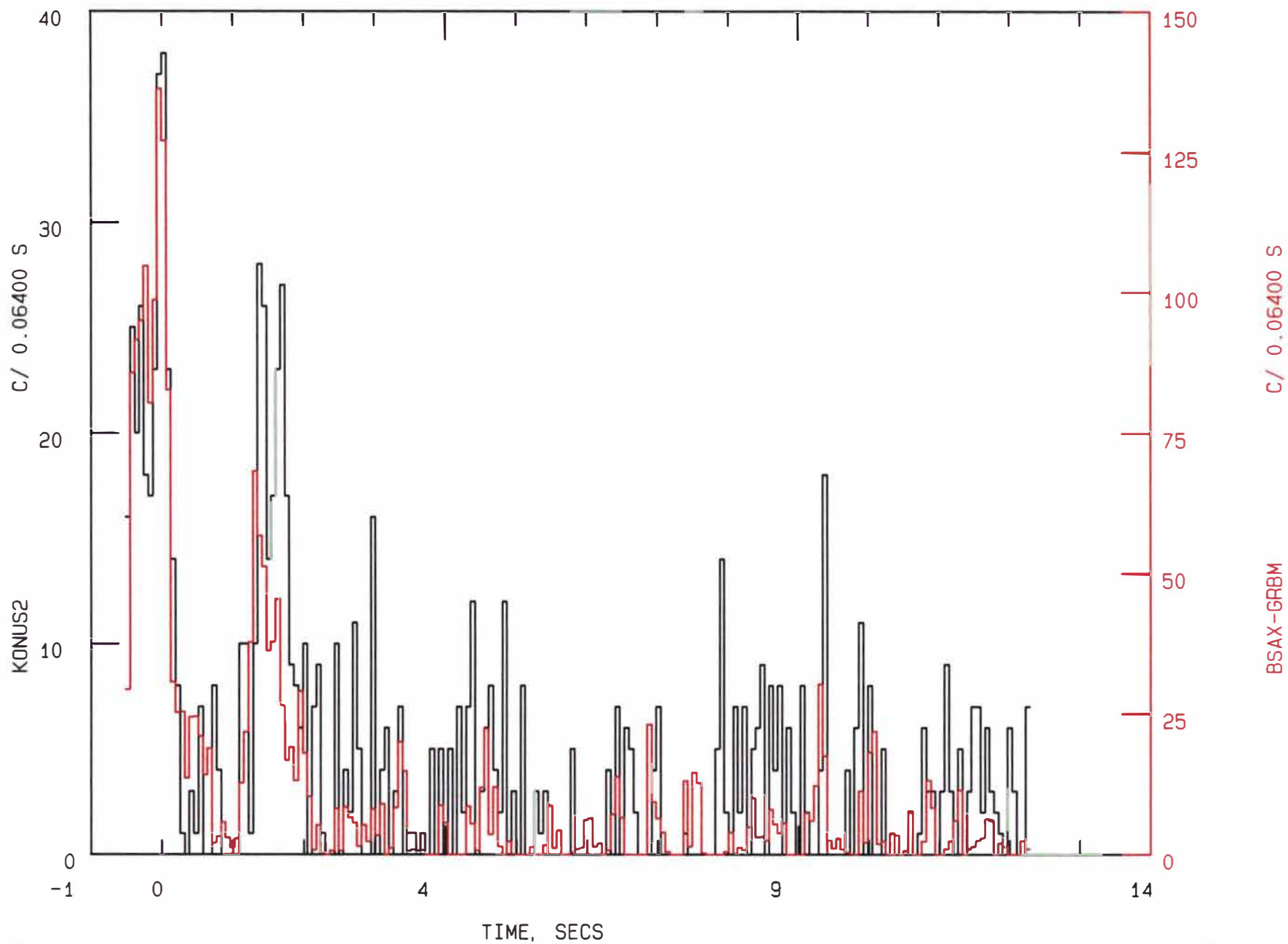
KONUS2

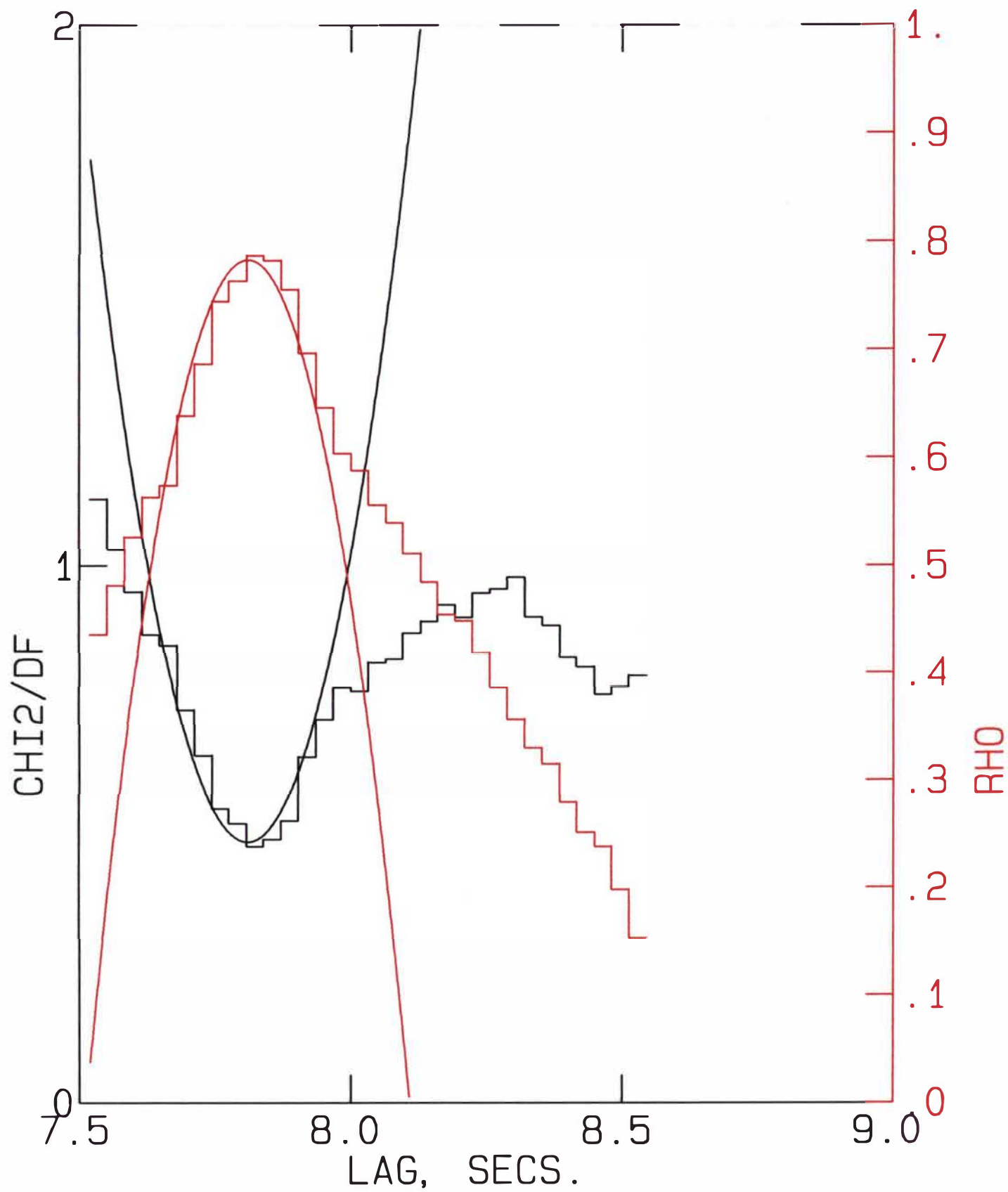
-BSAX-GRBM CORRELATION

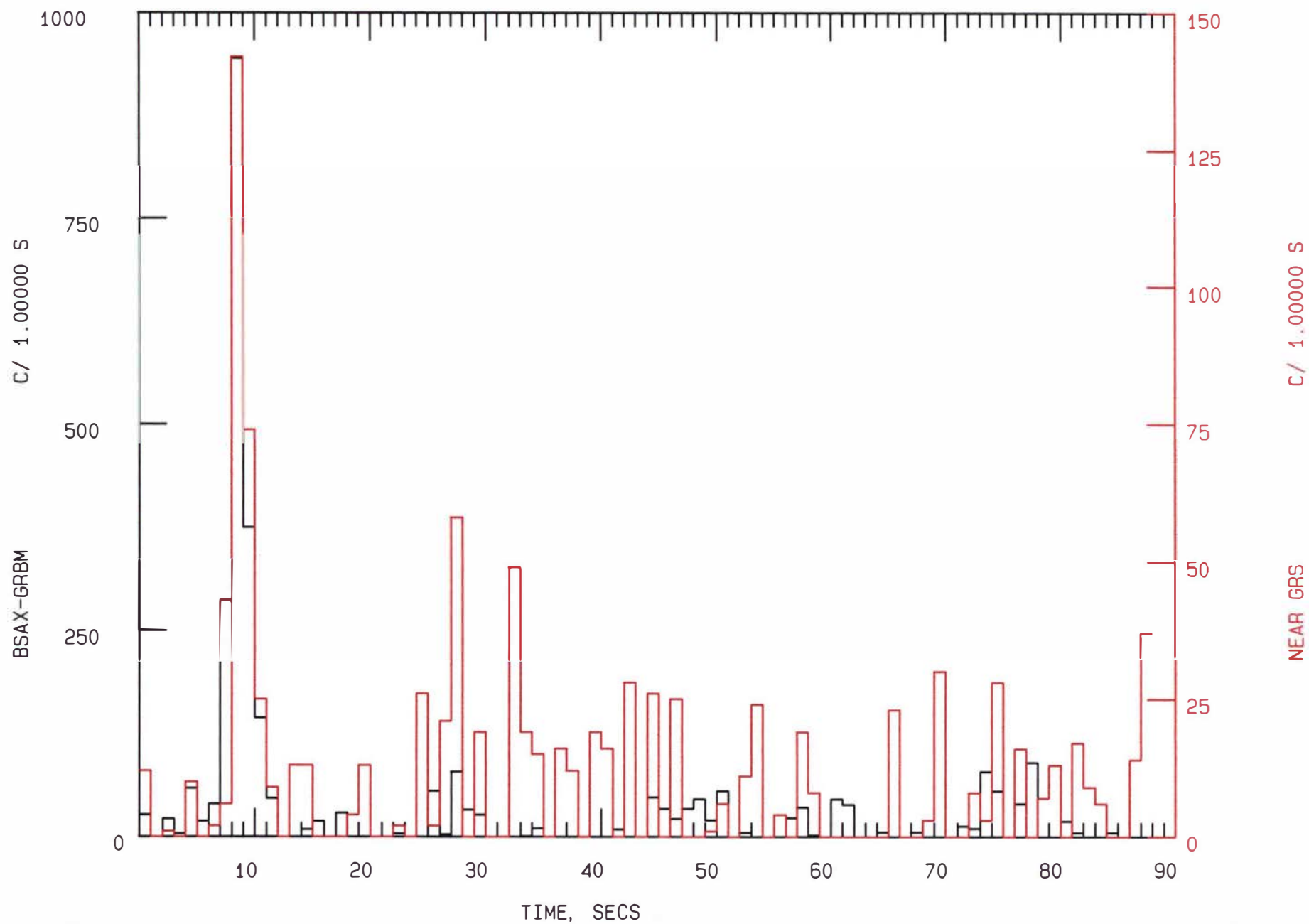
12/09/98

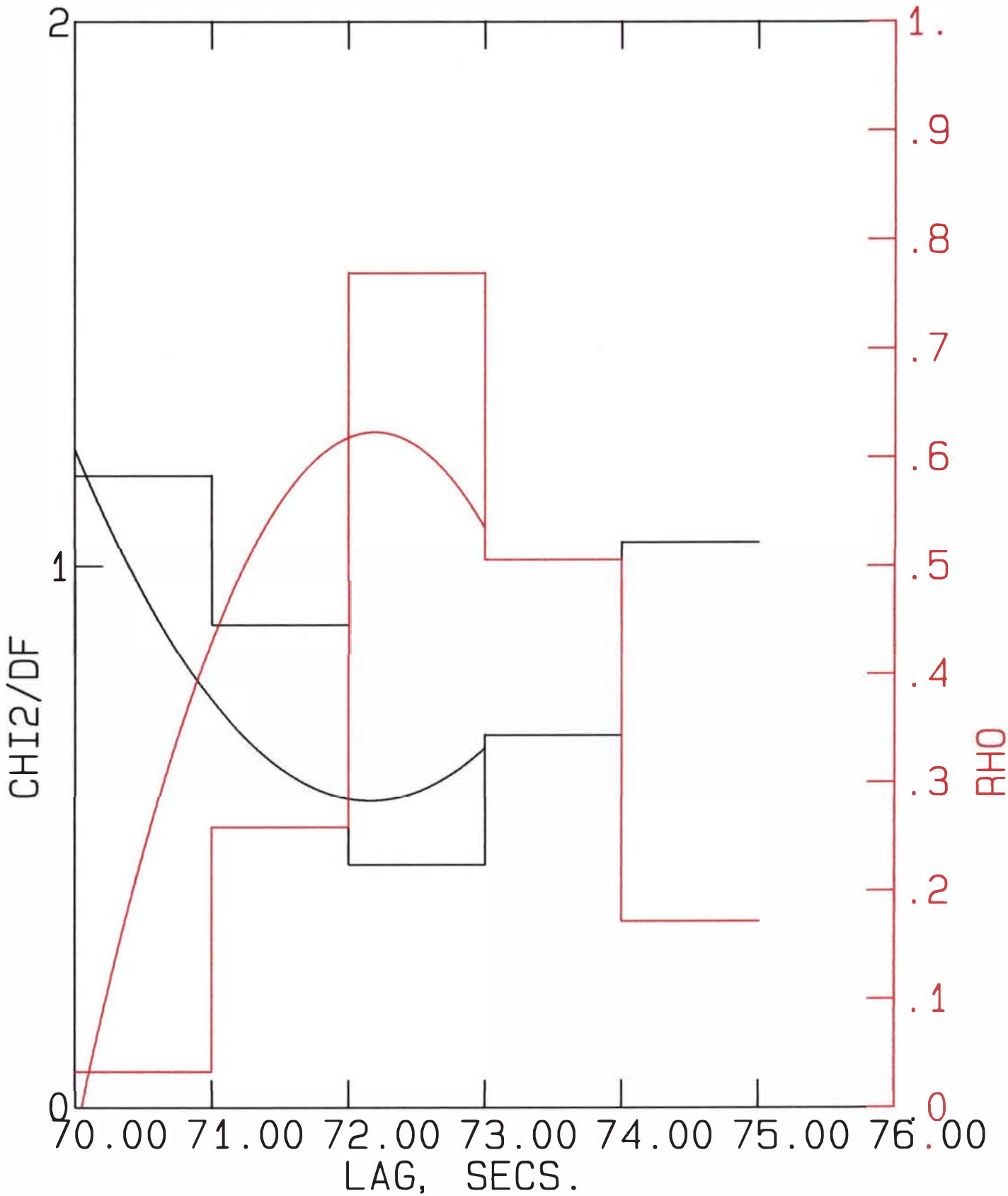
54940.182

7/ 5/ 7









KONUS2

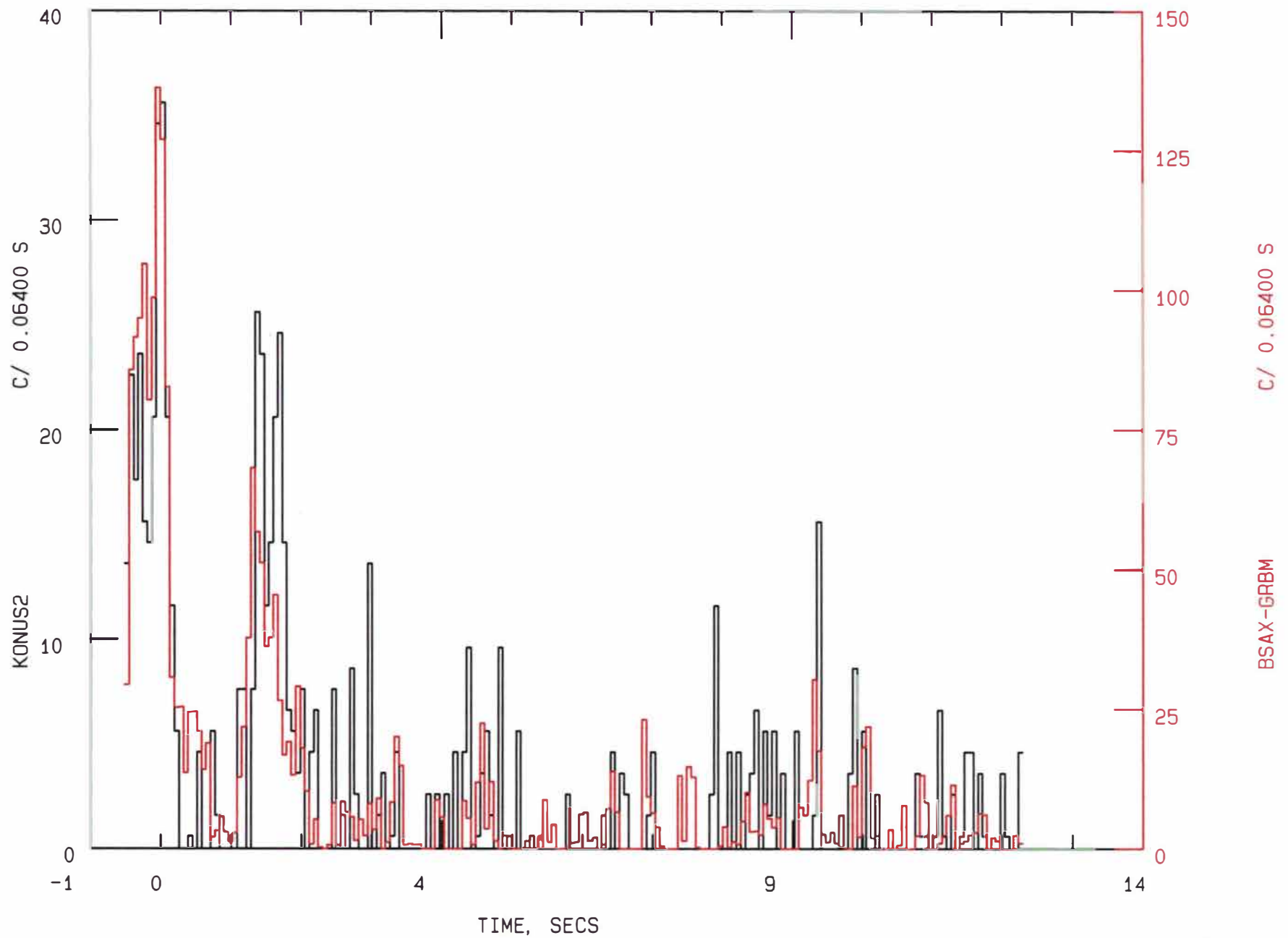
-BSAX-GRBM

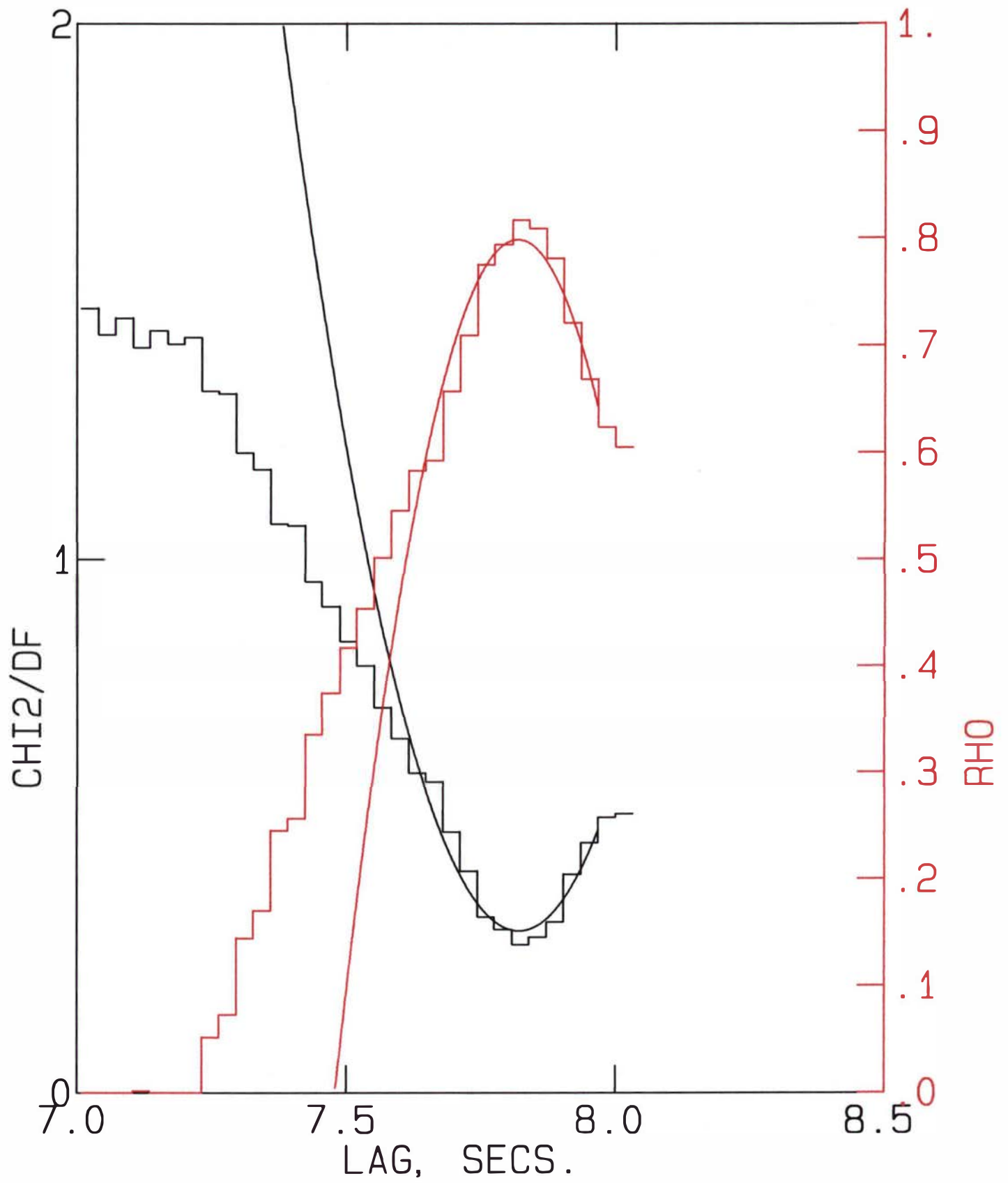
CORRELATION

12/09/98

54940.182

7/ 5/ 7



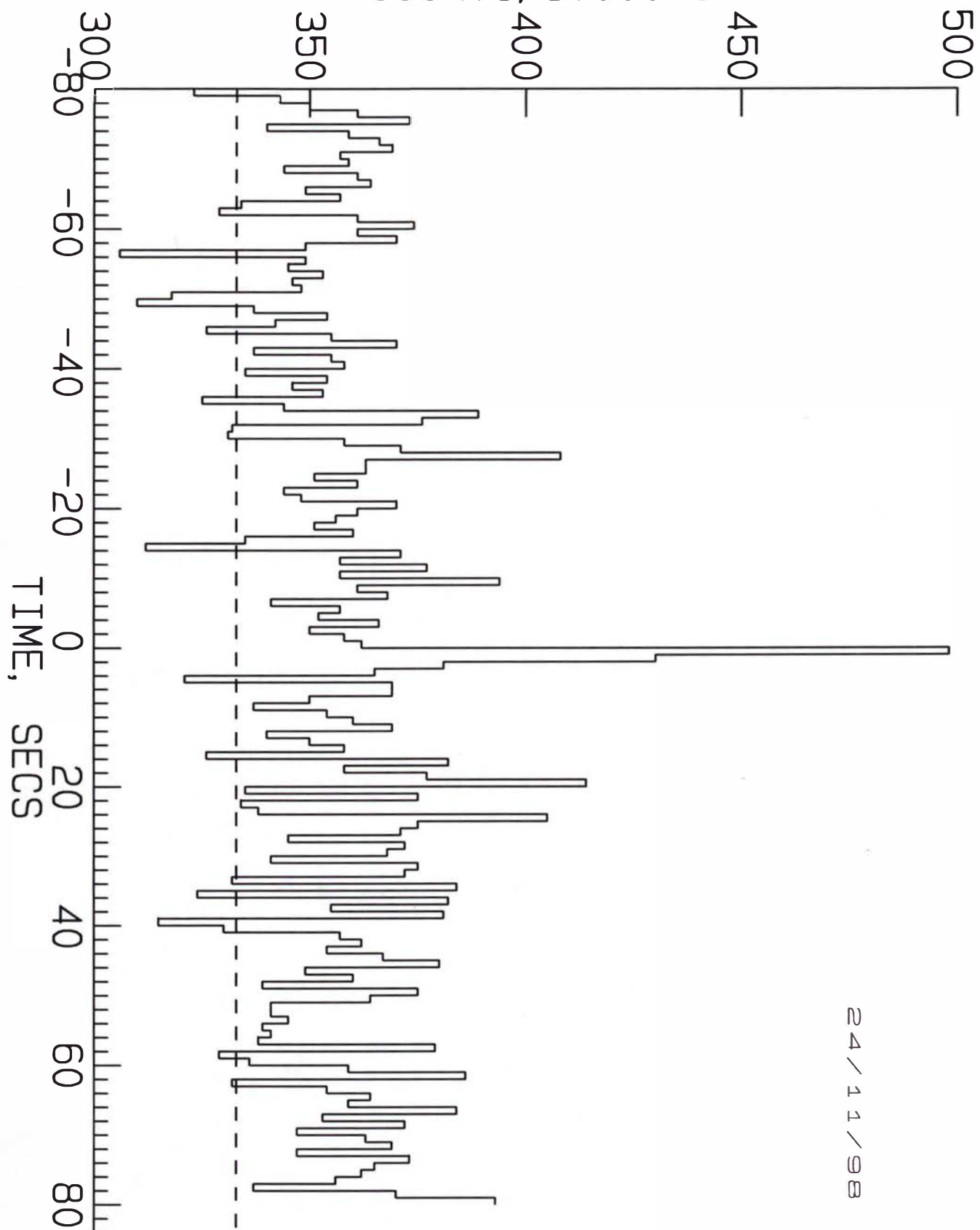


NEAR

12/09/98 55717.818

100-1000 keV

COUNTS/1.000 S



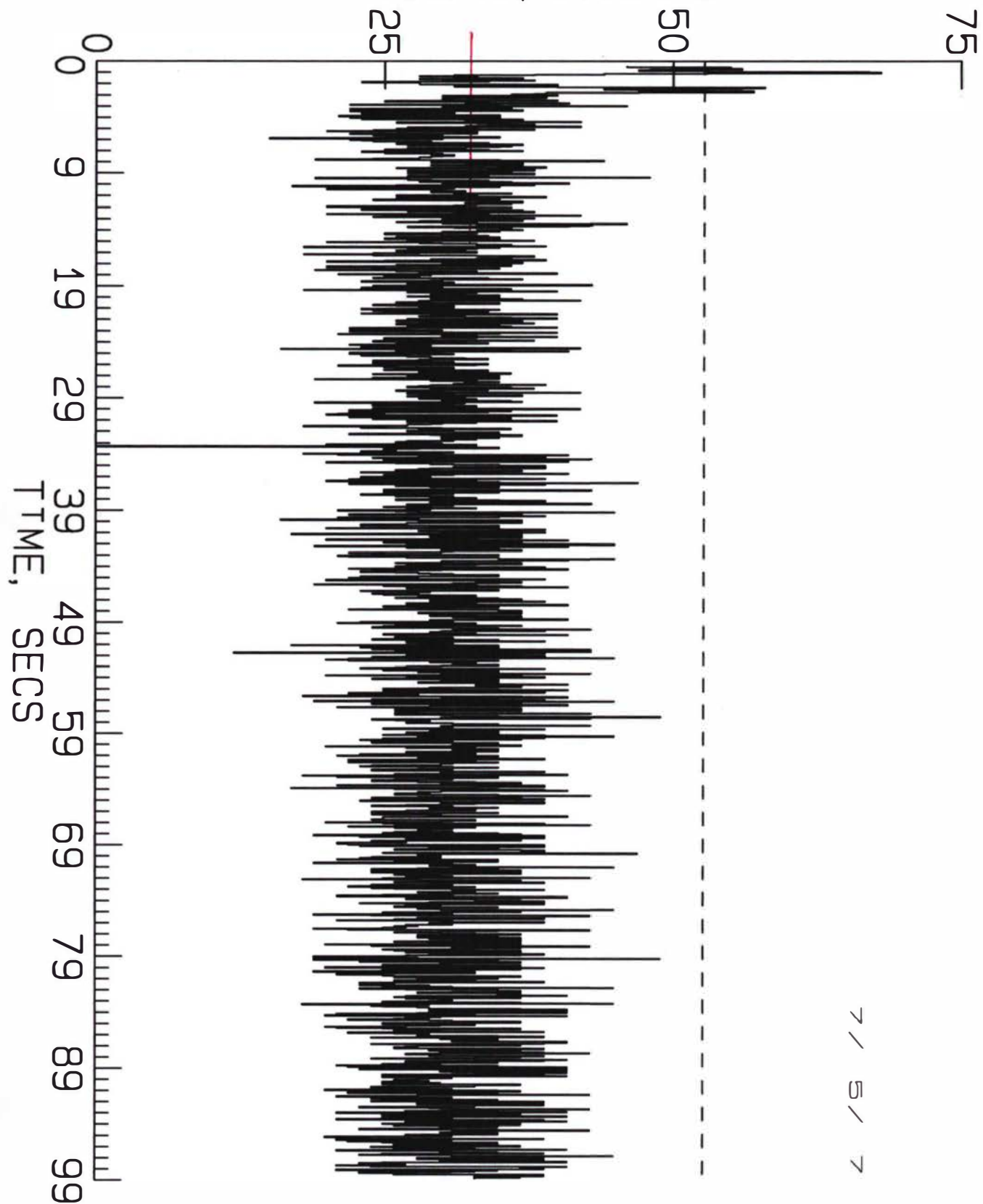
24 / 11 / 98

KONUS

12/09/98 54940.100

50- 200 keV

COUNTS/0.064 S



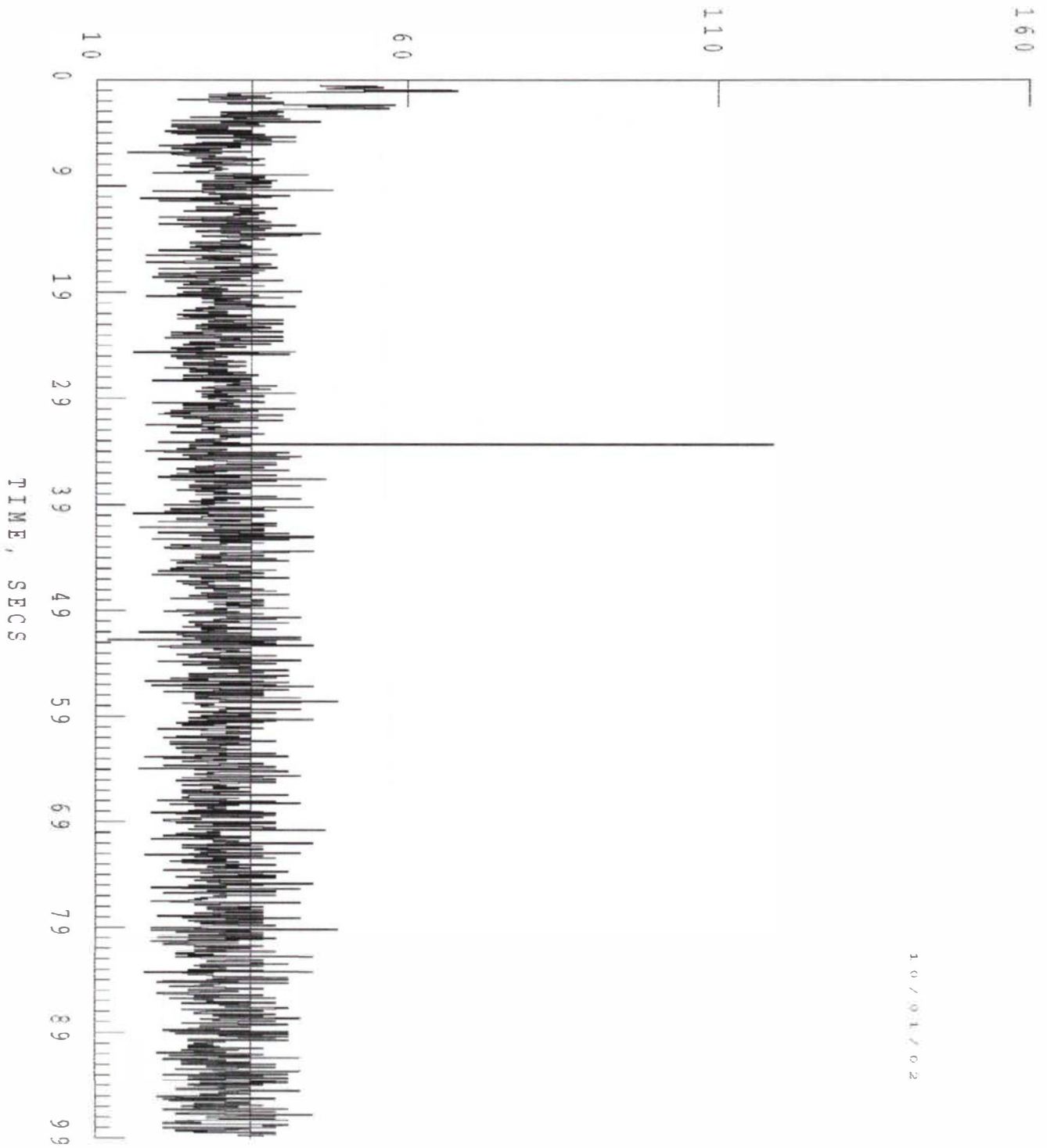
KONUS2

12/09/98

54940.182

50 - 200 keV

COUNTS/0.064 S



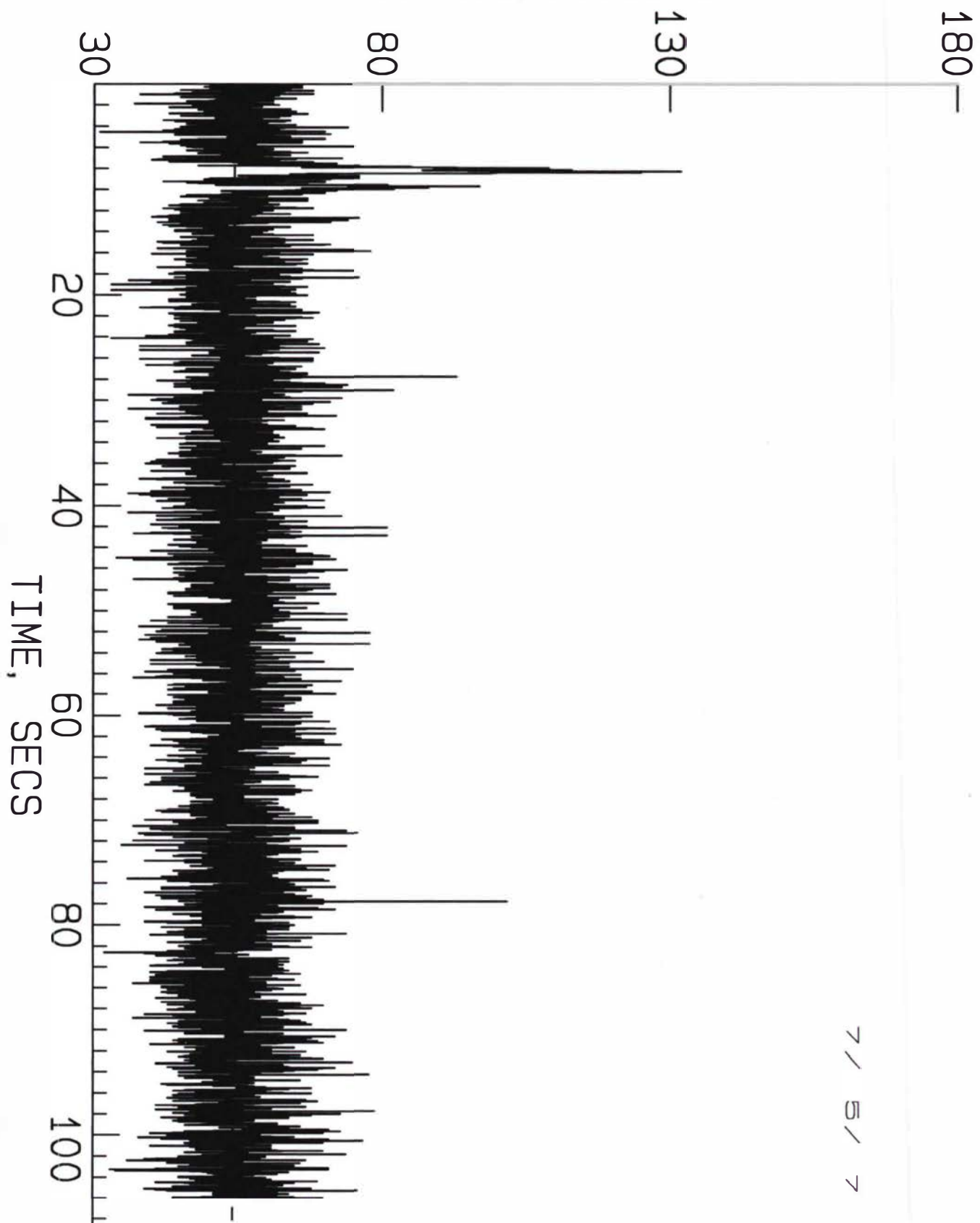
10/01/02

SAX GRBM

12/09/98 54931.330

40- 700 keV

COUNTS/0.031 S

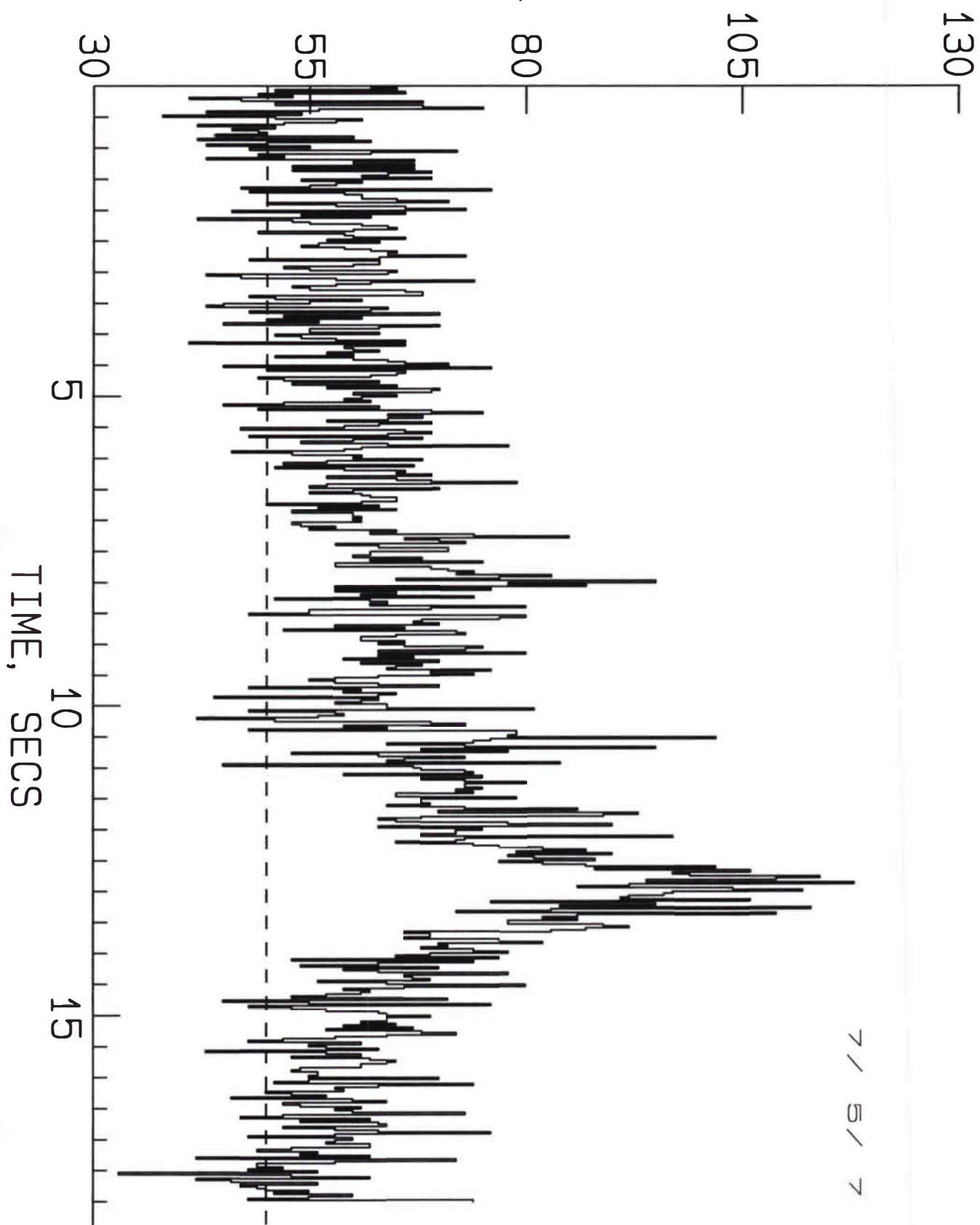


SAX GRBM

25/09/98 72283.946

40- 700 keV

COUNTS/0.031 S

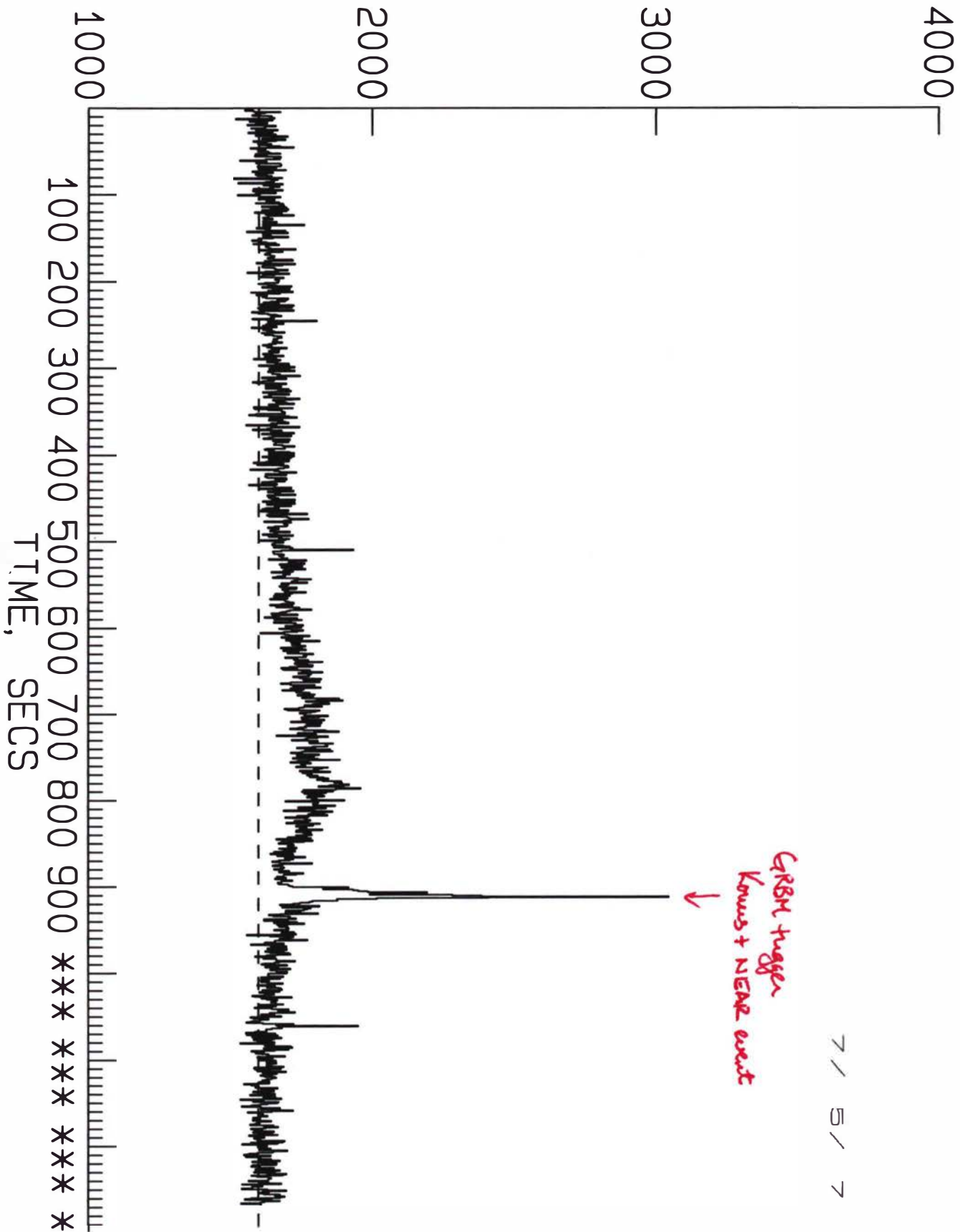


SAX GRBM

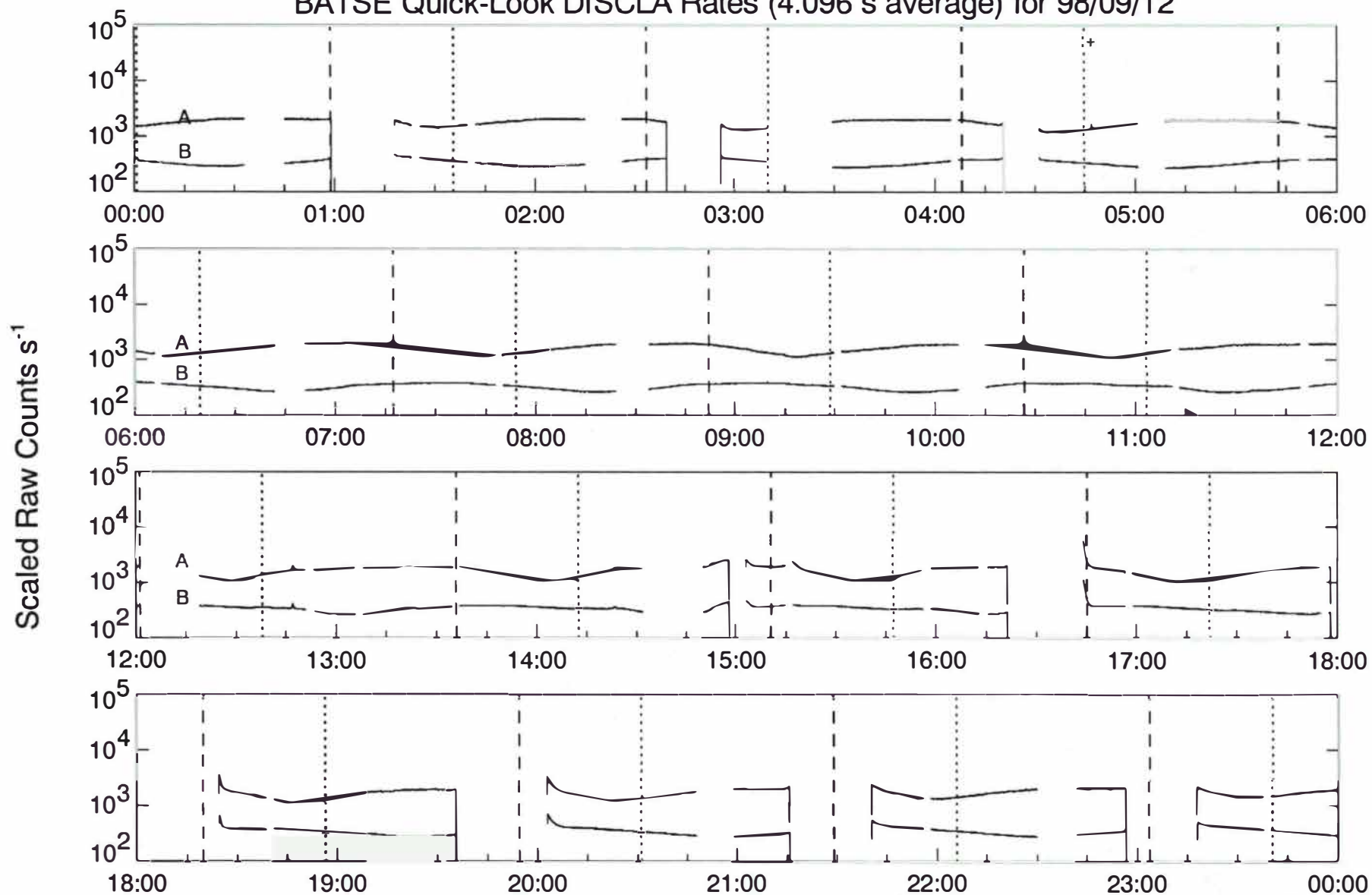
25/09/98 71385.257

40- 700 keV

COUNTS/1.000 S



BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/09/12

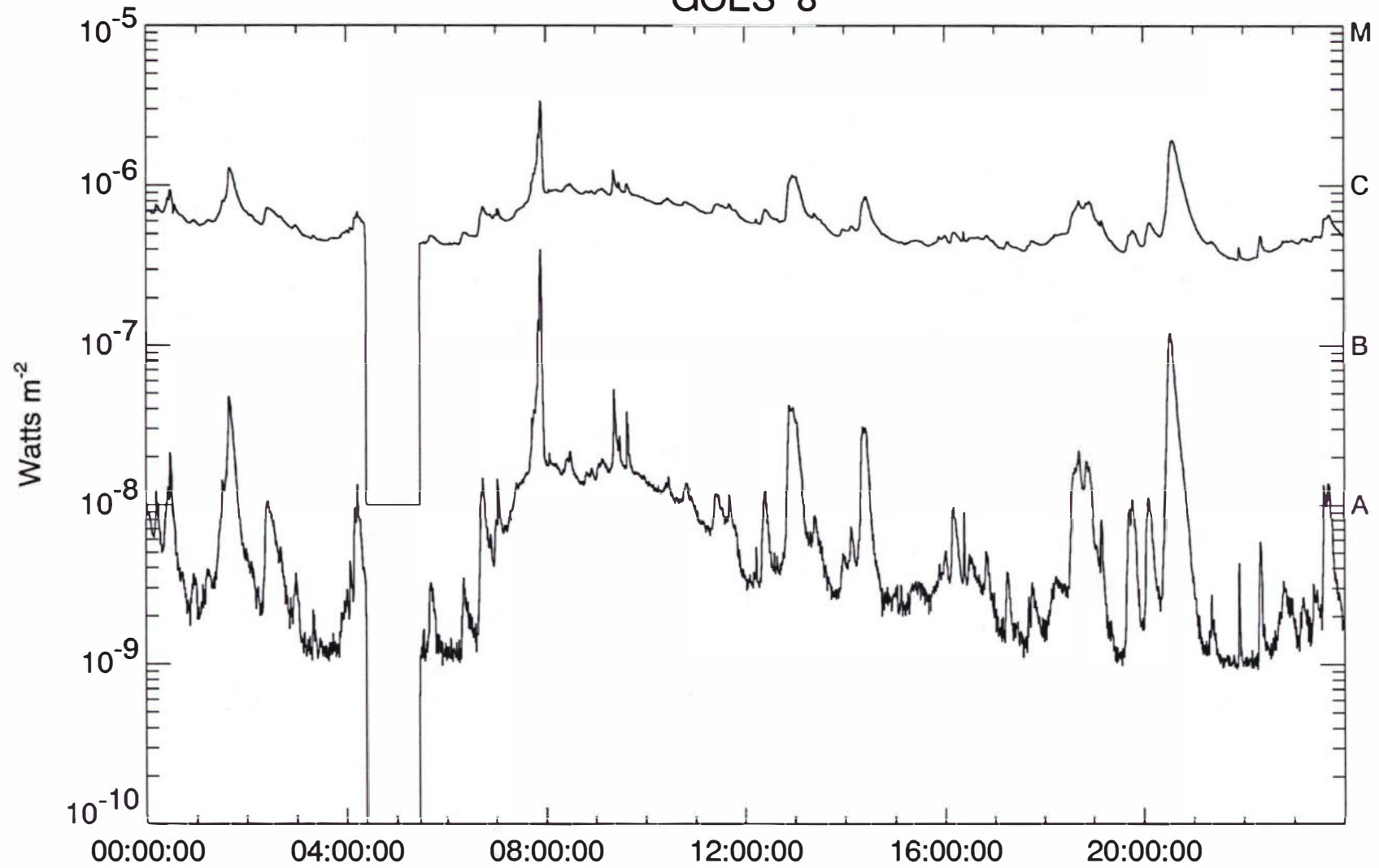


Current Time: 98/09/16, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8

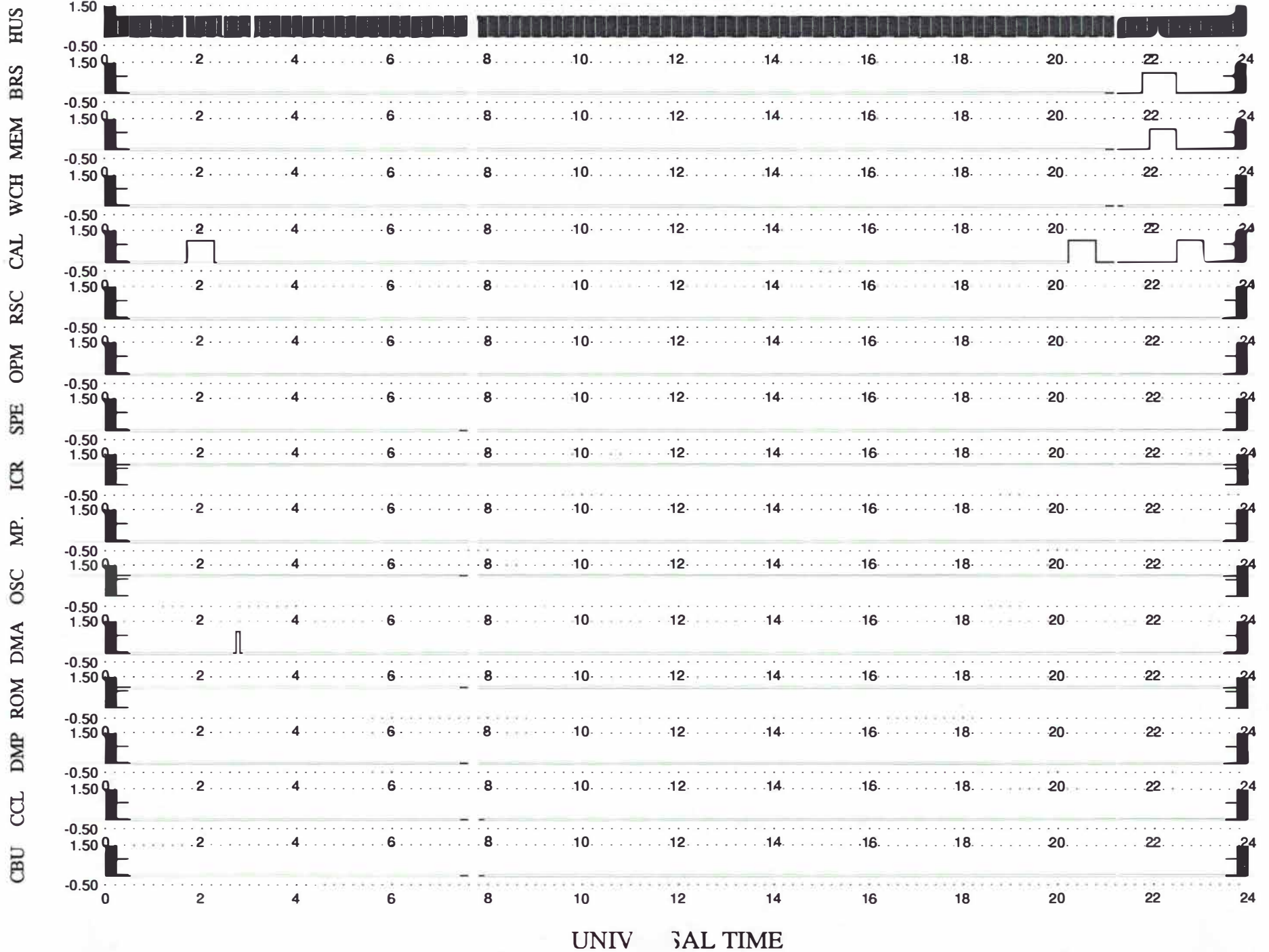


Data Start: 98/09/12, 0000:00

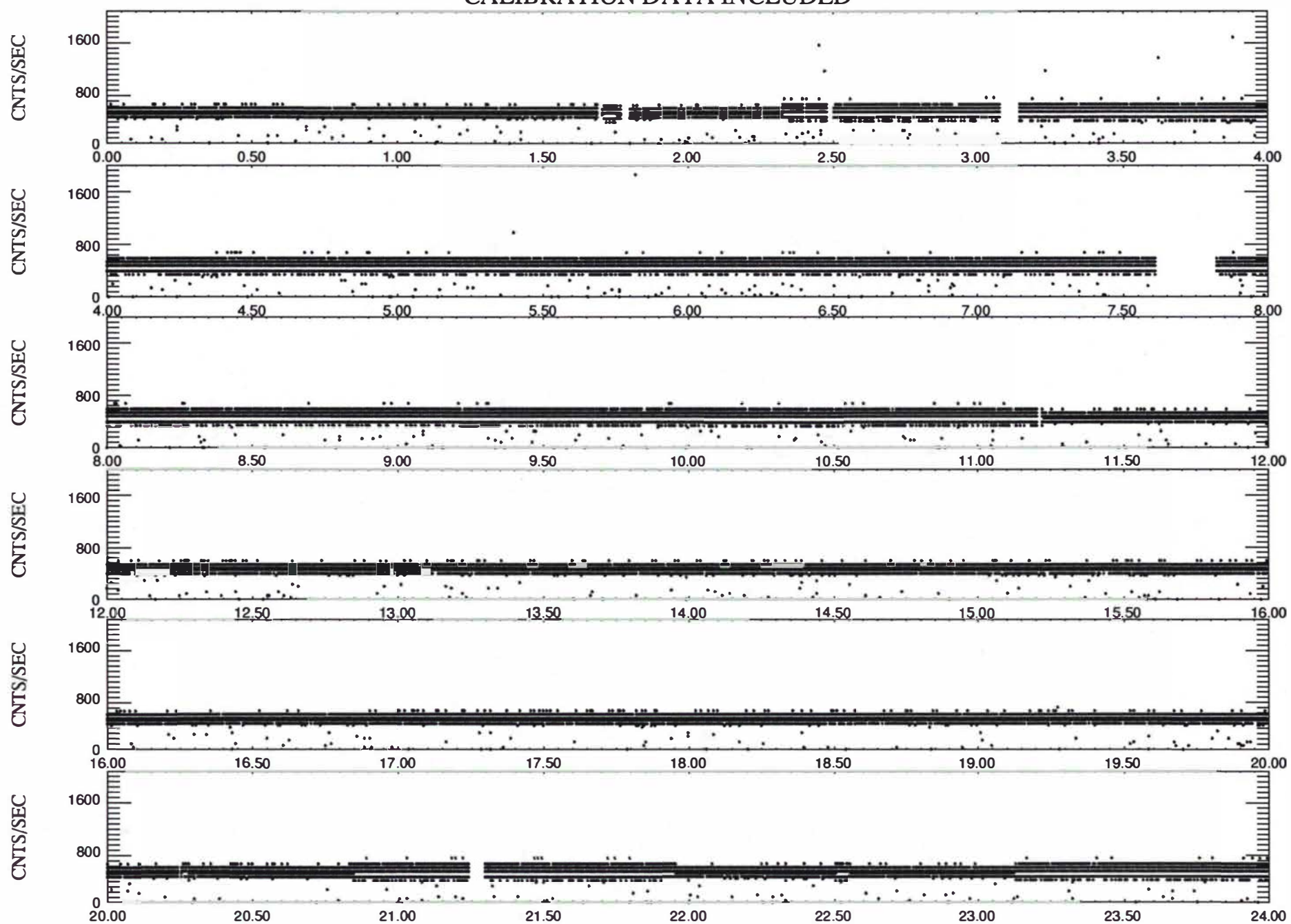
Plot created: 98/09/16, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted
Sample average = 10

BURST NUMBER 8

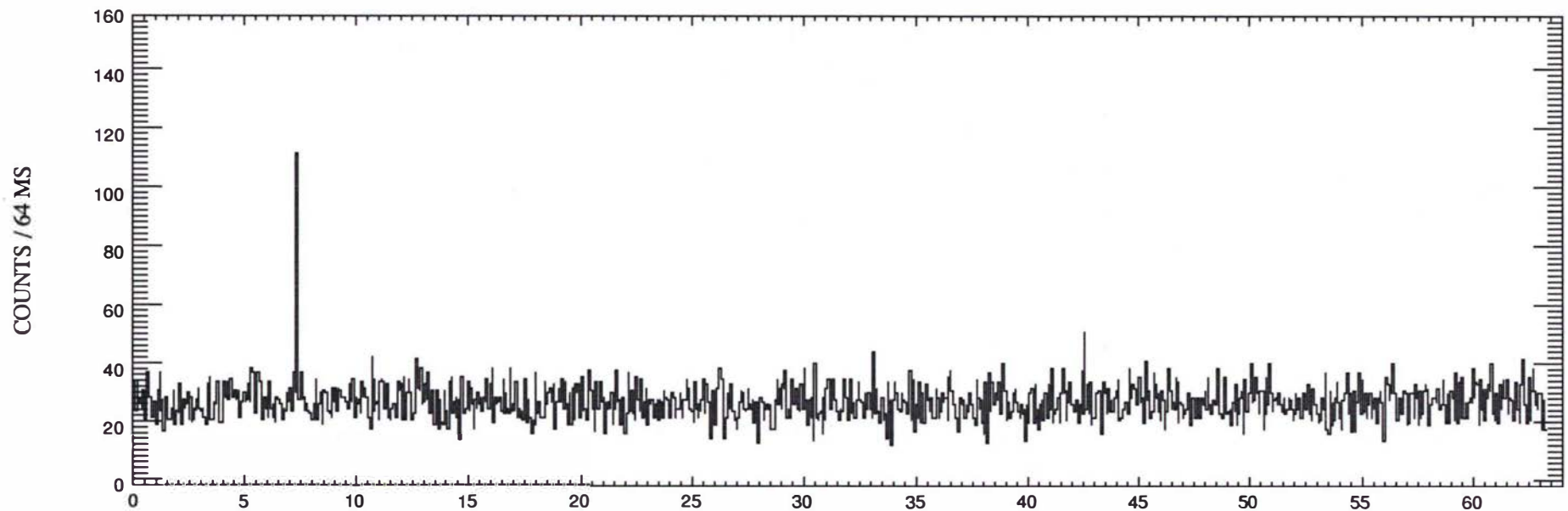


CALIBRATION DATA INCLUDED

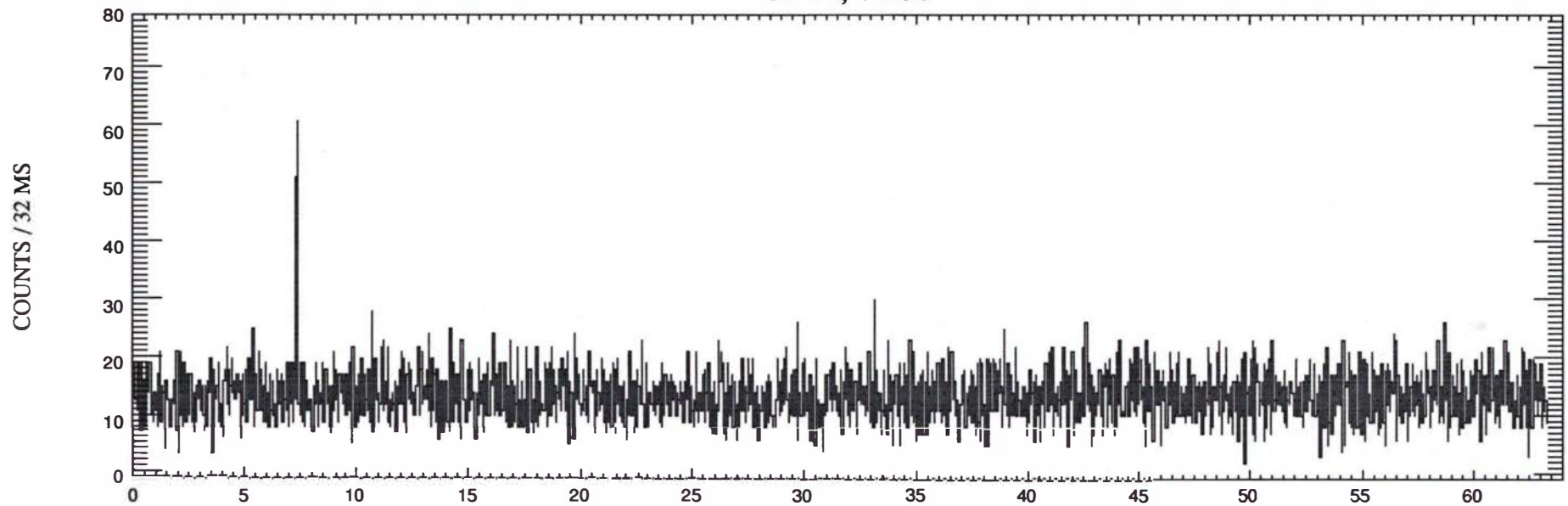


UNIV SAL TIME

Burst Counter 8 at UT=21.793788049486 h=78457.637 s 21:47:37.637

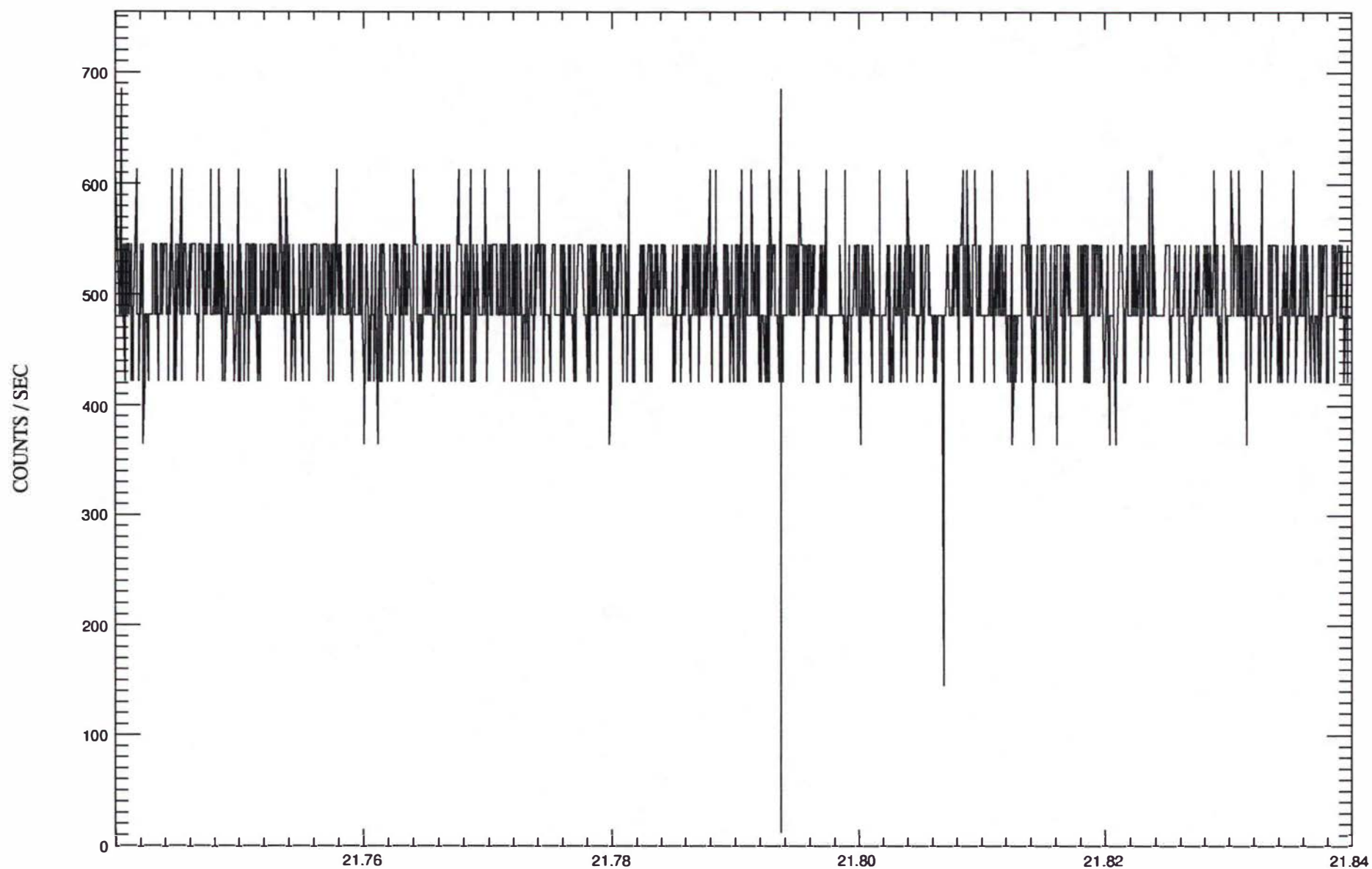


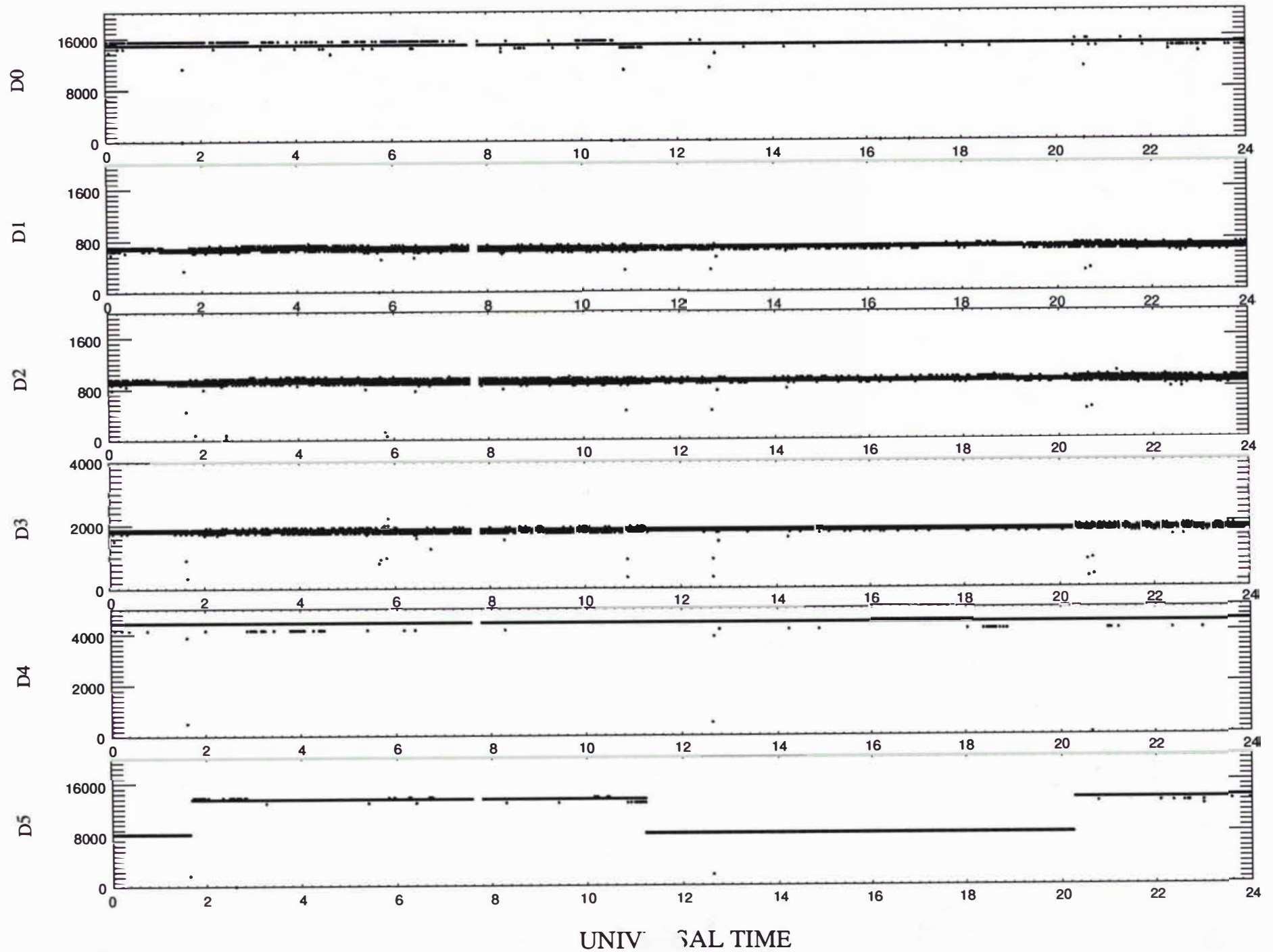
TIME, SECS



TIME, SECS

CALIBRATION DATA INCLUDED





From WOODSP@fender.msfc.nasa.gov Tue Sep 15 11:08:20 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Tue, 15 Sep 1998 13:07:47 -0500 (CDT)

To: burst@compTEL.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lhevX.gsfc.nasa.gov, barthelmy@lhevX.gsfc.nasa.gov,
bacodine@lhevwww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhevX.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7086

TIME: TJD=1069 SECONDS=14223

Sep 13
03:57:03

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=108.8 AZIMUTH=136.7 ERROR=14 DEGREES

COMMENTS:

SGR 1900+14. SINGLE PULSE LASTING ABOUT 0.05 SEC. NOT VISIBLE
ABOVE 100 KEV.

BATSE BURST# 7086

ULYSSES RT

22 / 9 / 98

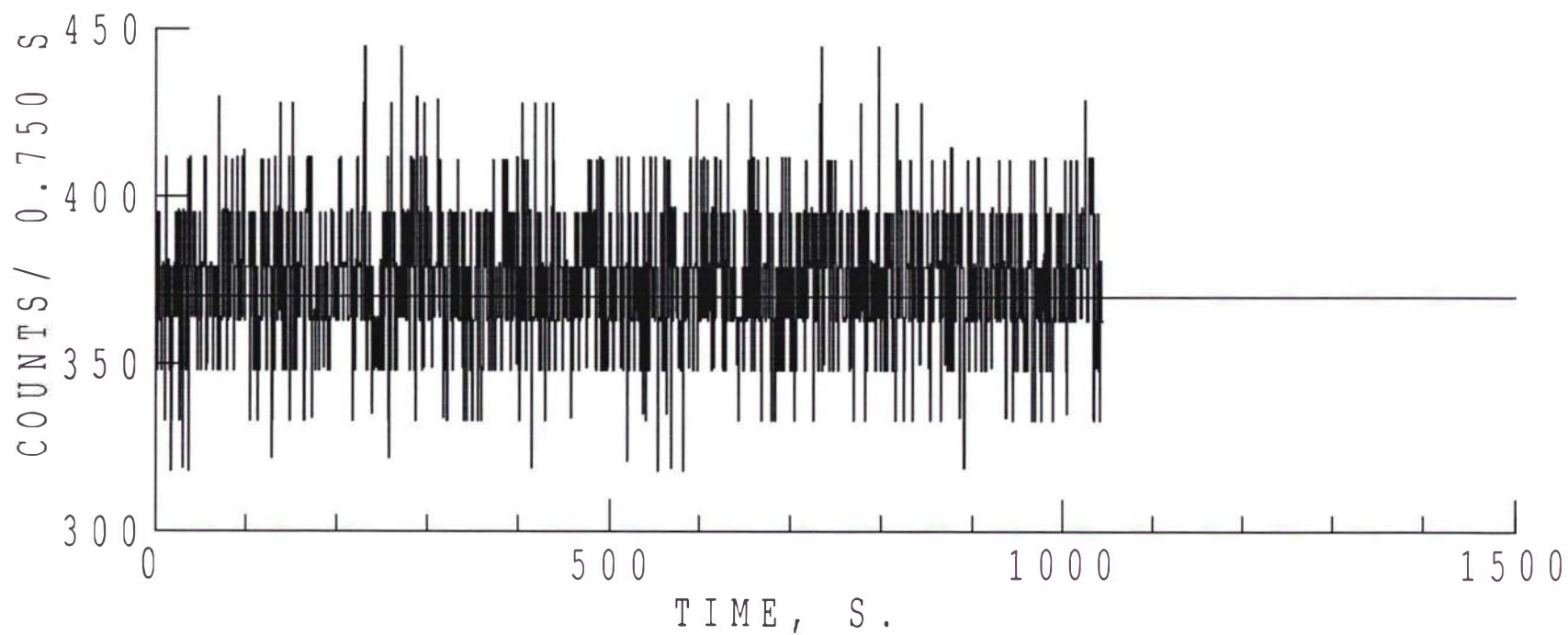
13 / 9 / 98 15552.141 s

0.250 S INTERVALS REGROUPED BY 3

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From WOODSP@fender.msfc.nasa.gov Tue Sep 15 11:11:46 1998
Return-Path: <WOODSP@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA20657; Tue, 15 Sep 1998 11:11:46 -0700
From: WOODSP@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA14192; Tue, 15 Sep 1998 11:11:43 -0700
Date: Tue, 15 Sep 1998 13:11:44 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980915131144.2024076b@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7087
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7087
EVENT OF 1998 SEP 13 DAY OF YEAR=256
EVENT CROSSING TIME AT BATSE : 19984. S. OR 05:33:04.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 9.000 8.000
BATSE PEAK COUNTING RATE: 5100 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 13/ 9/ 98 IS:
RA= 160.047 DEC= 2.707 DIST= 6.322 AU
BATSE-ULYSSES DISTANCE = 945820853. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 30.80 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 2709.95 SECS.
CROSSING TIME AT ULYSSES IS 22694. S. OR 06:18:13 +/- 371.62 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 13/ 9/ 98 IS:
RA= 137.602 DEC= 17.506 DIST= 2.337 AU
MARS-BATSE DISTANCE = 349611584. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 56.81 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 638.31 SECS.
CROSSING TIME AT MARS IS 20622. S. OR 05:43:42 +/- 179.14 SECONDS

BATSE BURST TRIGGER

NO.: 7087

TIME: TJD=1069 SECONDS=19984

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=146.0 AZIMUTH=256.6 ERROR=1.8 DEGREES

COMMENTS:

GRB LASTING ABOUT 80 SEC. SINGLE PULSE FRED WITH NO VISIBLE
SUBSTRUCTURE. CRAB RISE AT T+185 SEC. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7087	980913	11069	19984	5100	009	+08	80

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

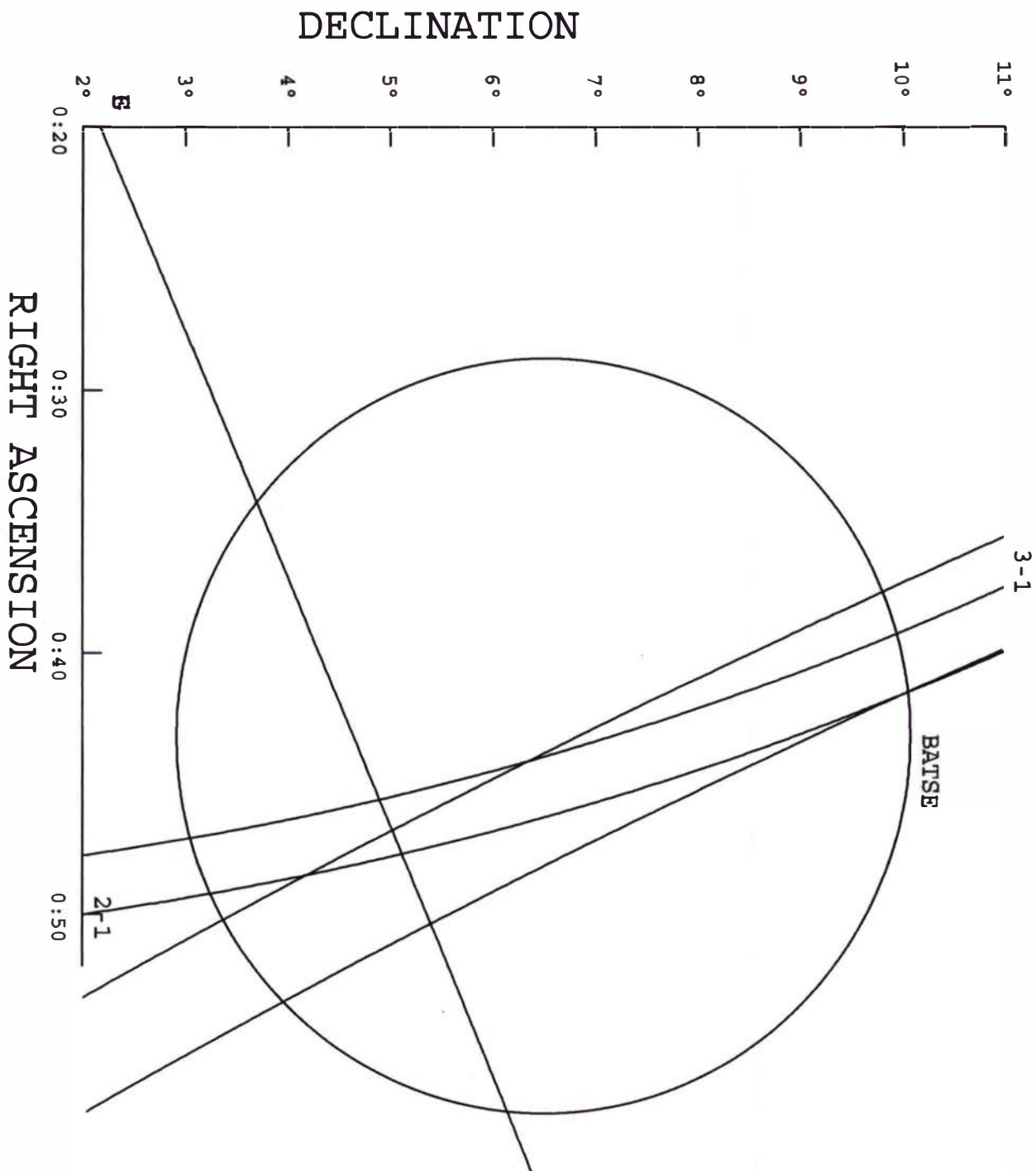
1 BATSE

2 ULYSSES

3 NEAR

EVENT OF SEP 13, 1998 5:33

14 / 7 / 3



BATSE

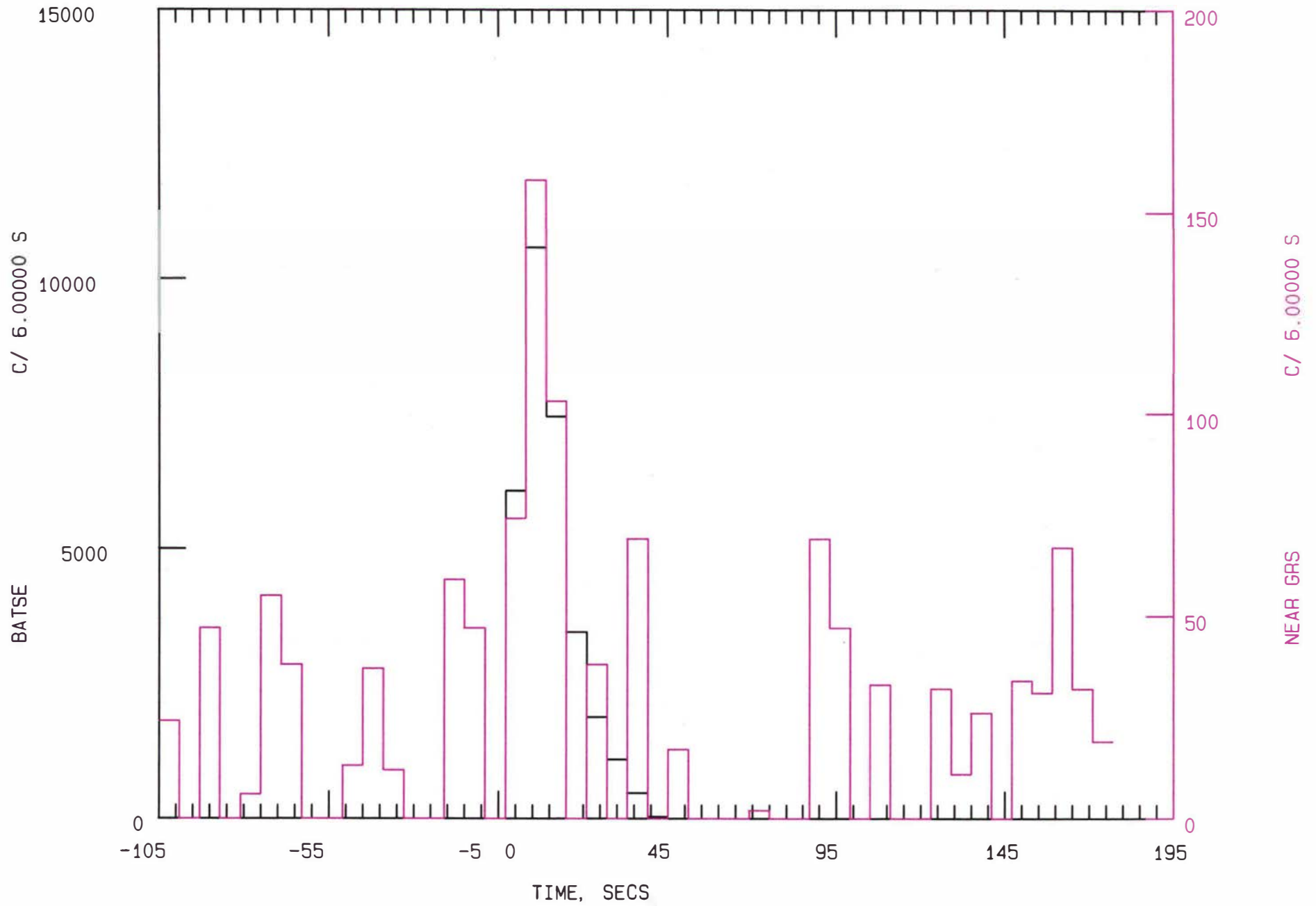
-NEAR GRS

CORRELATION

13/09/98

19982.561

14/ 7/ 3



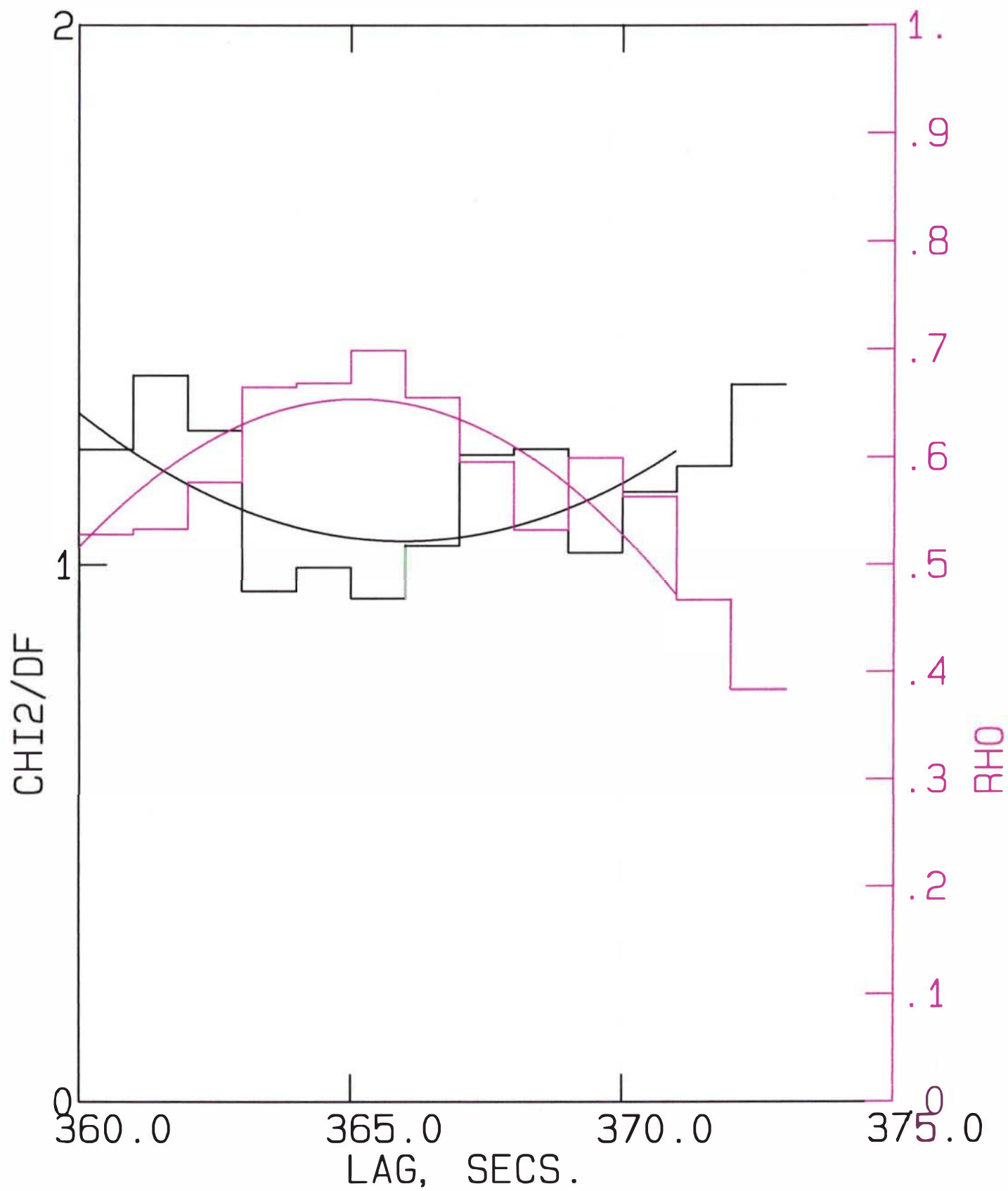
BATSE

-NEAR GRS

CORRELATION

13/09/98

19982.561



N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

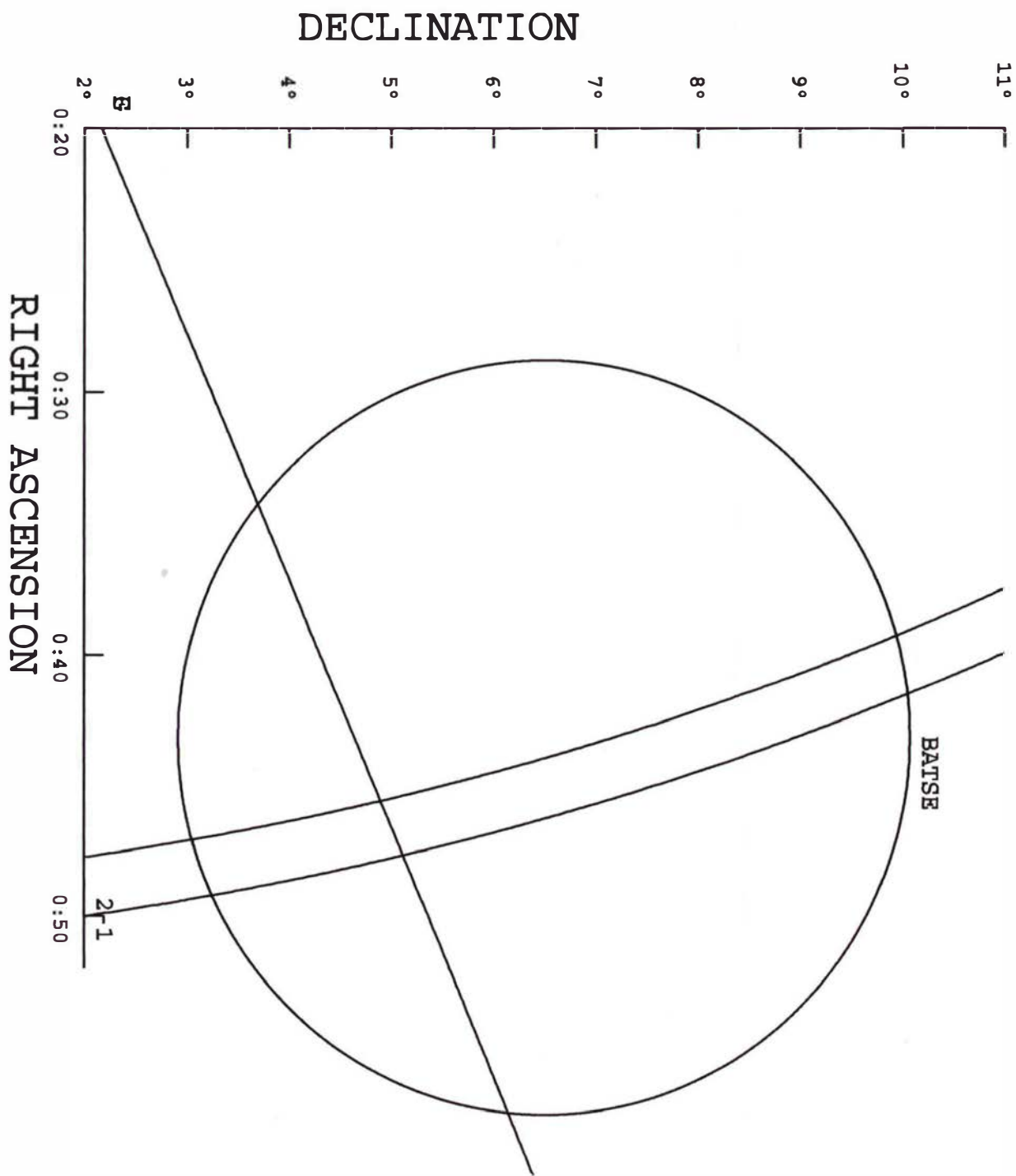
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF SEP 13, 1998 5:33

10/ 7/ 3



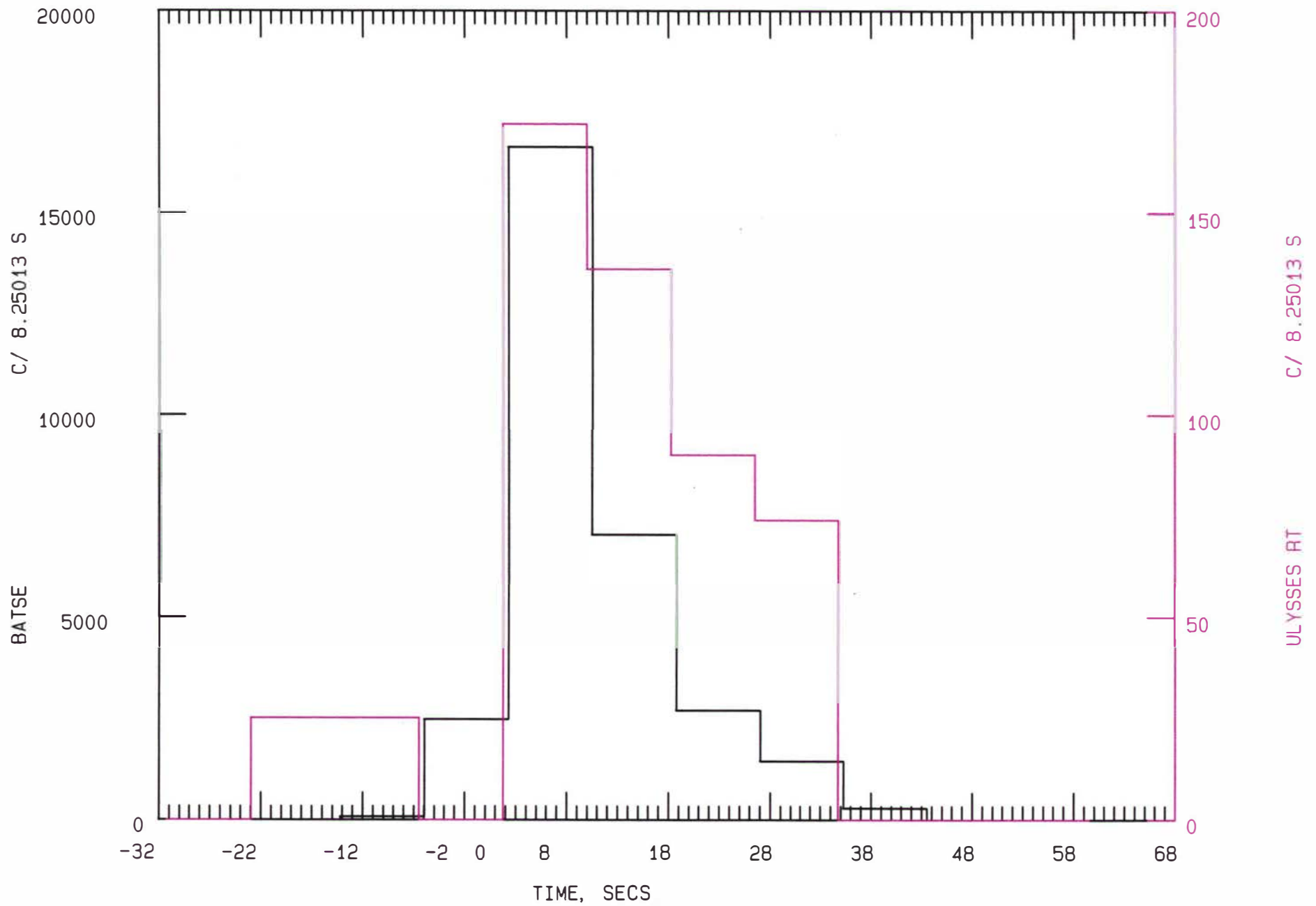
BATSE

-ULYSSES RT CORRELATION

13/09/98

19982.561

10/ 7/ 3

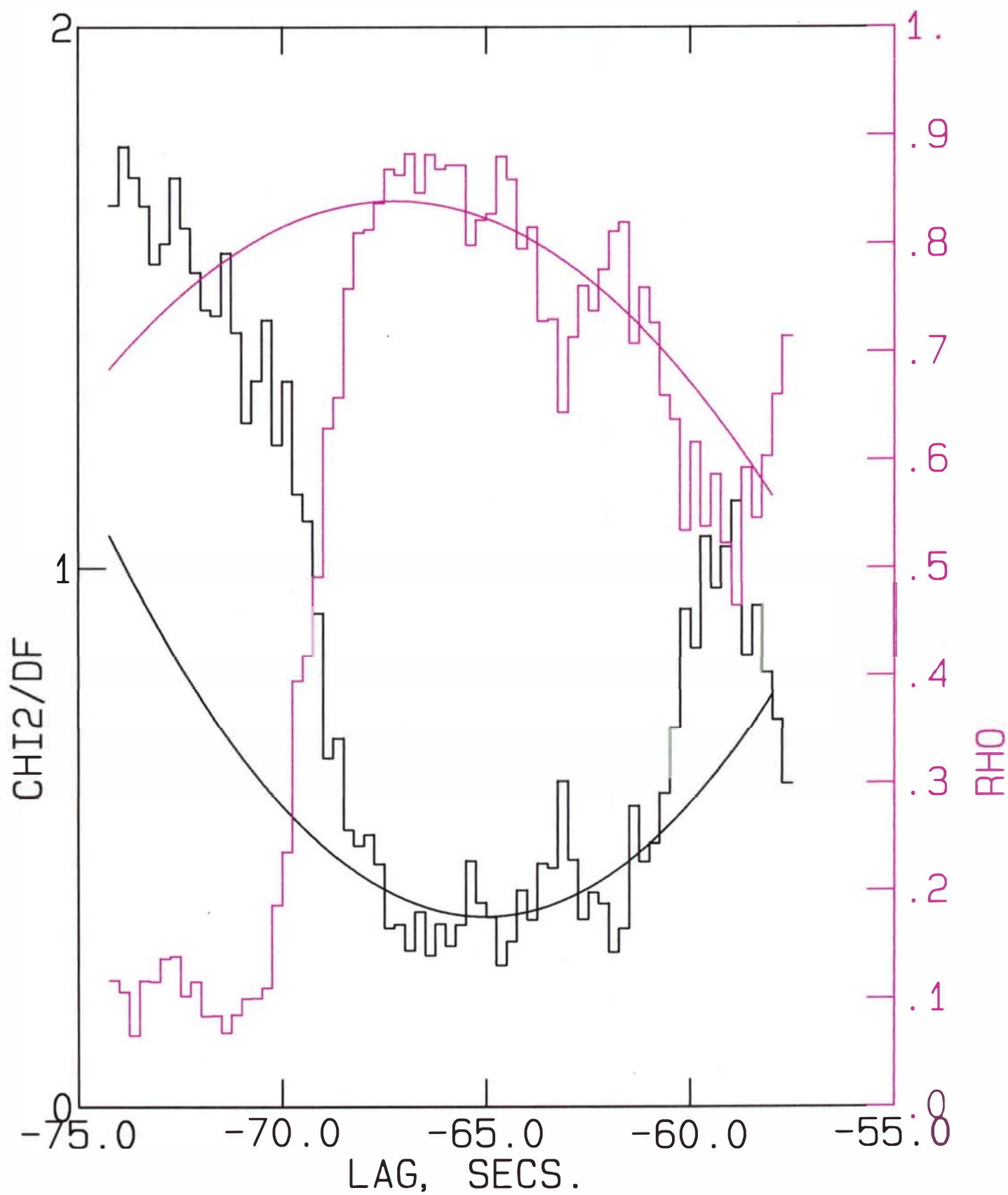


BATSE

-ULYSSES RT CORRELATION

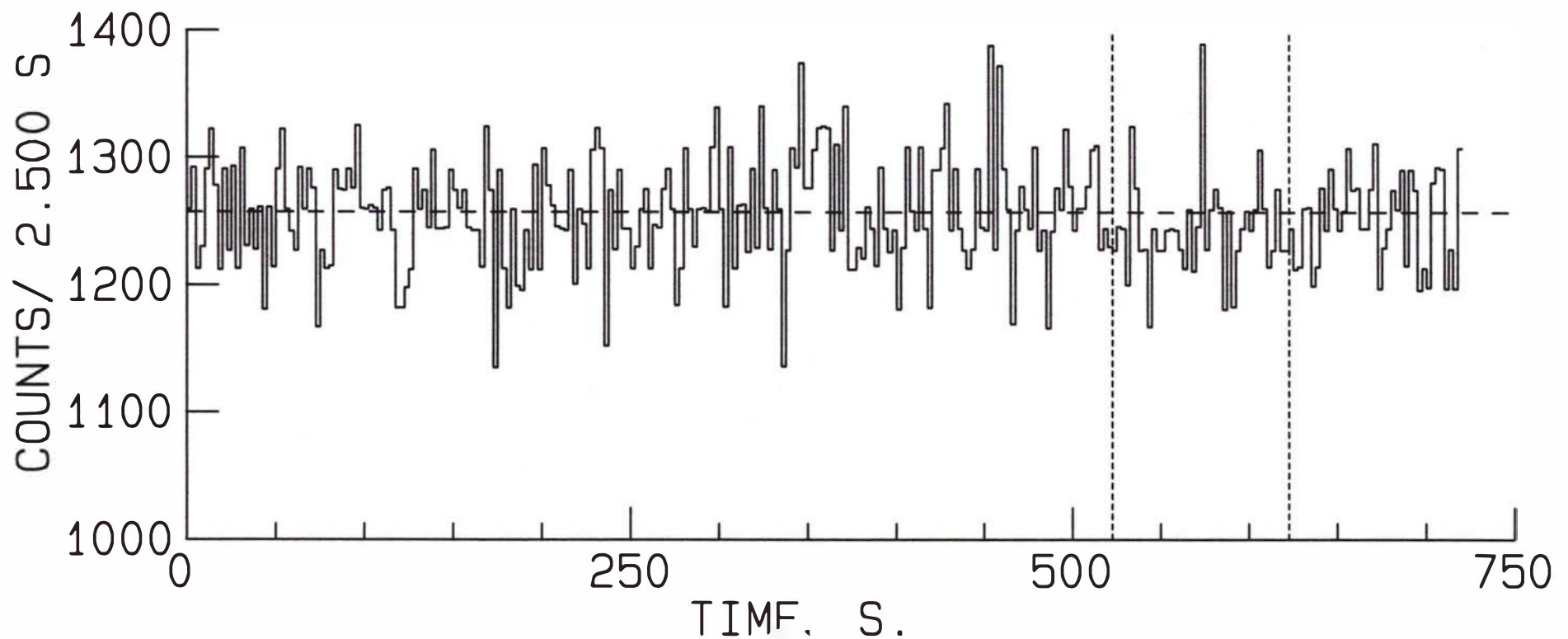
13/09/98

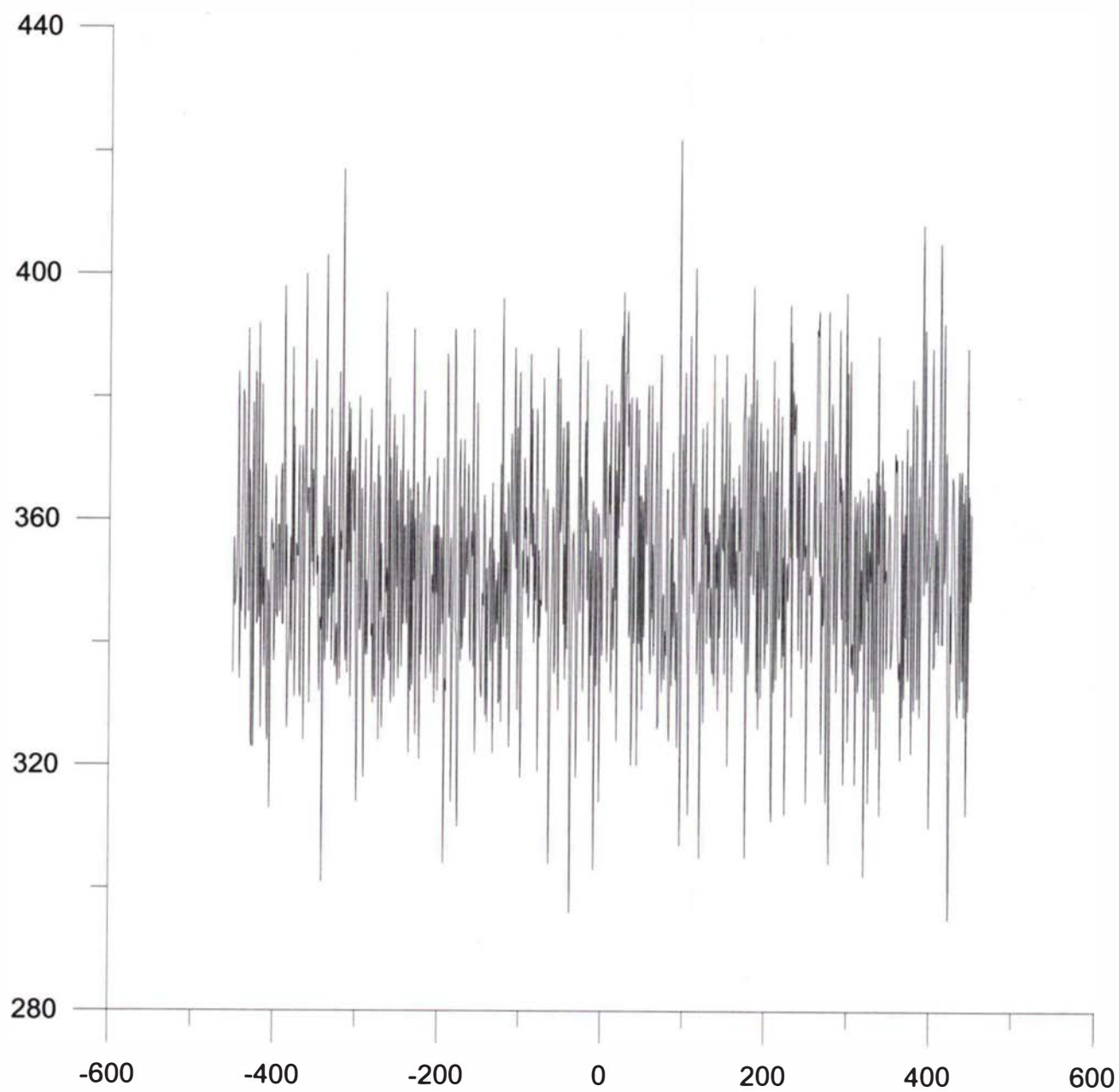
19982.561



ULYSSES RT
13/ 9/98 22320.215 s
0.250 S INTERVALS REGROUPED BY 10
22- 149 keV

10 / 7 / 3





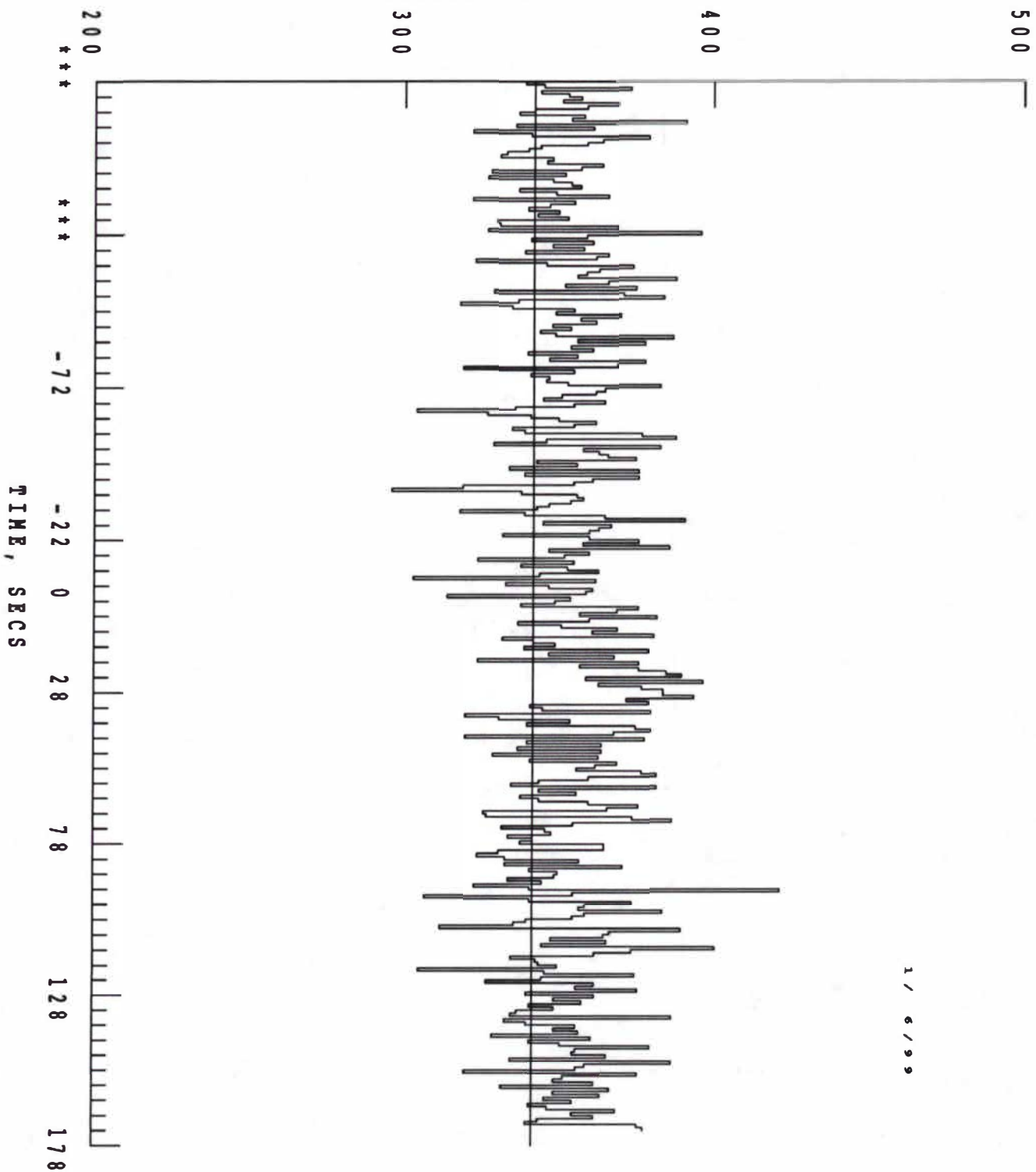
NEAR

13/09/98

20390.798

100-1000 keV

COUNTS/1.000 S



1 / 6 / 9 9

BACODINE# 7087

ULYSSES RT

17 / 9 / 98

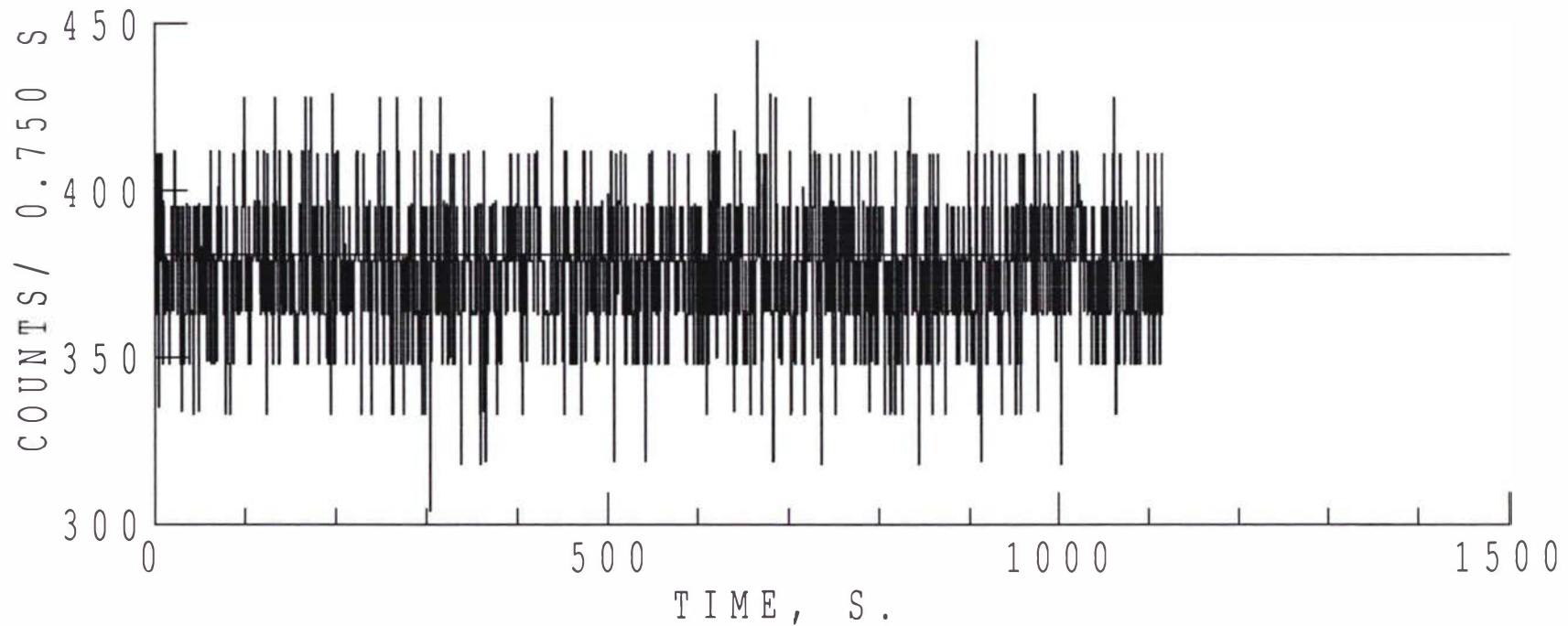
13 / 9 / 98 20916.195 s

0.250 S INTERVALS REGROUPED BY 3

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

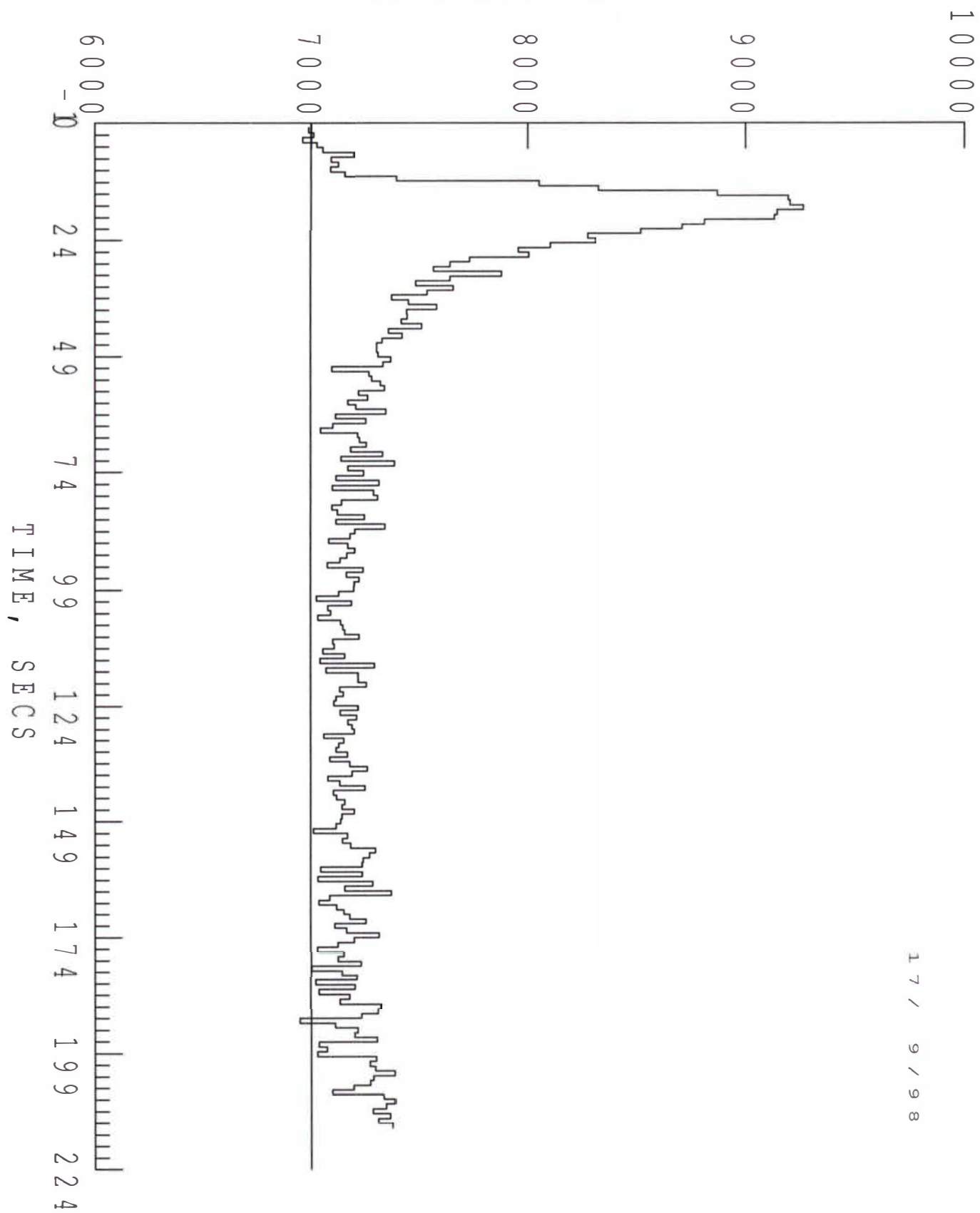
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



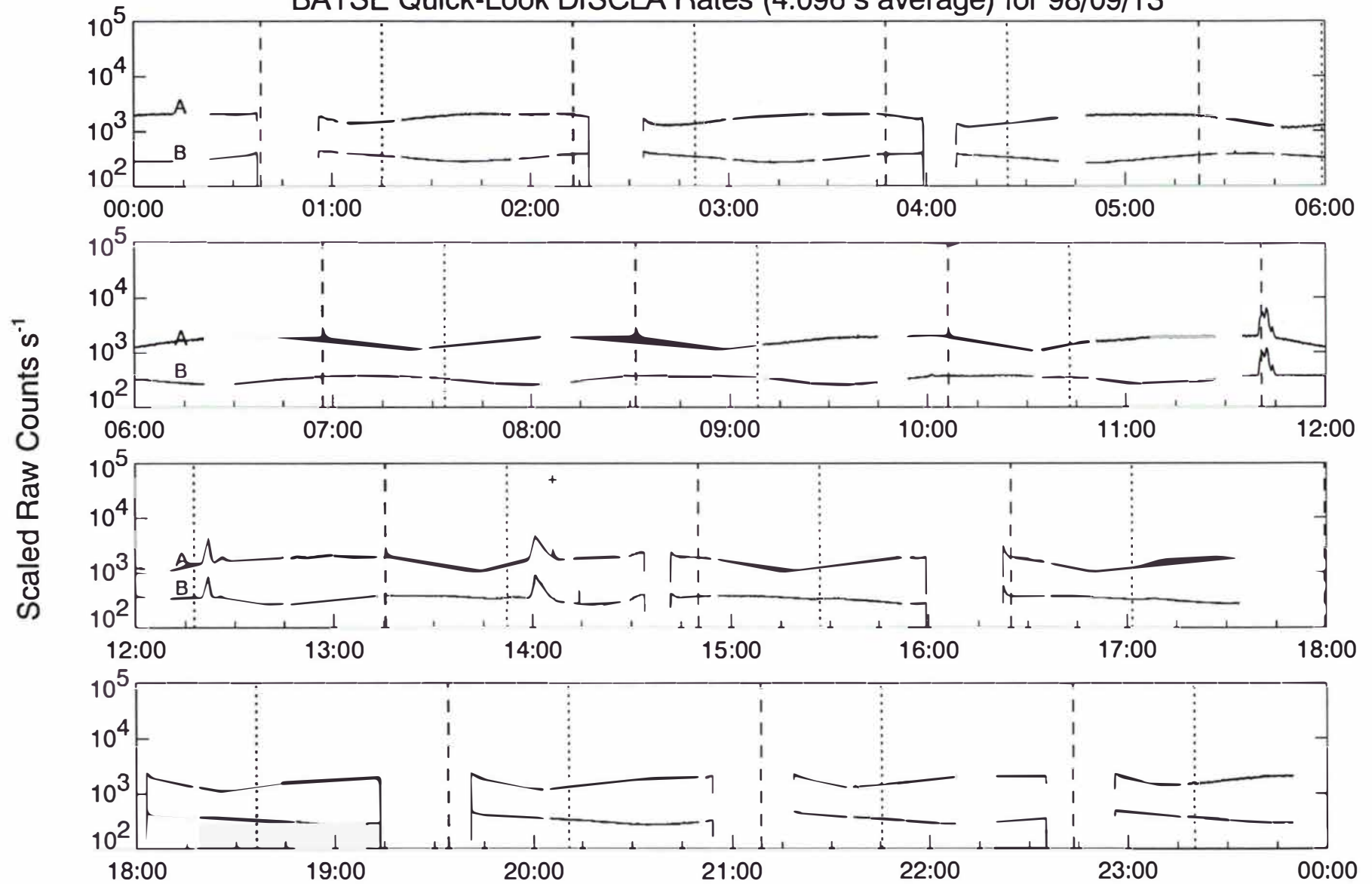
BACODINE 7087 13/09/98 19971.809

25- 100 keV

COUNTS/1.024 S



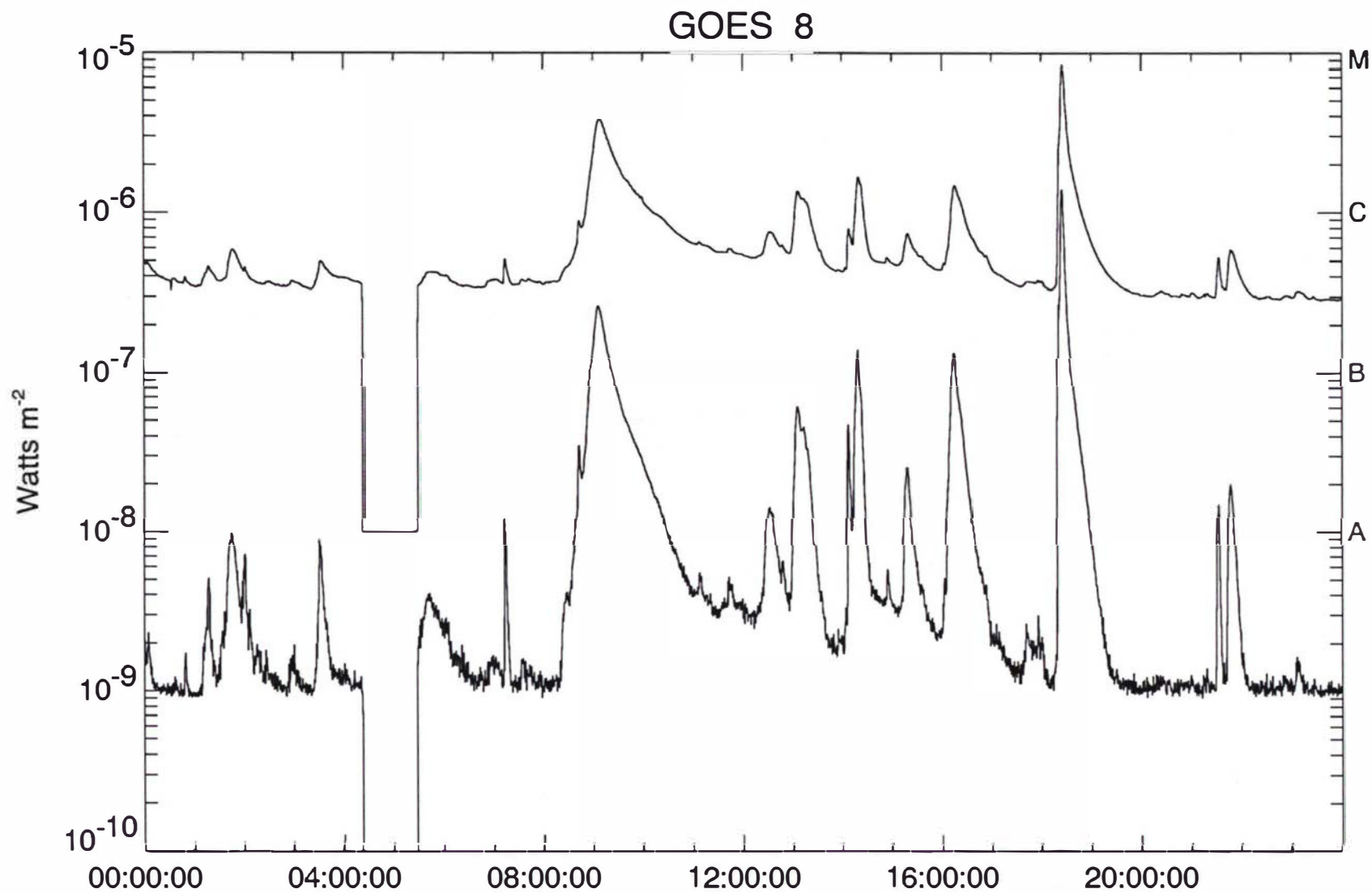
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/09/13



Current Time: 98/09/17, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare



Data Start: 98/09/13, 0000:00

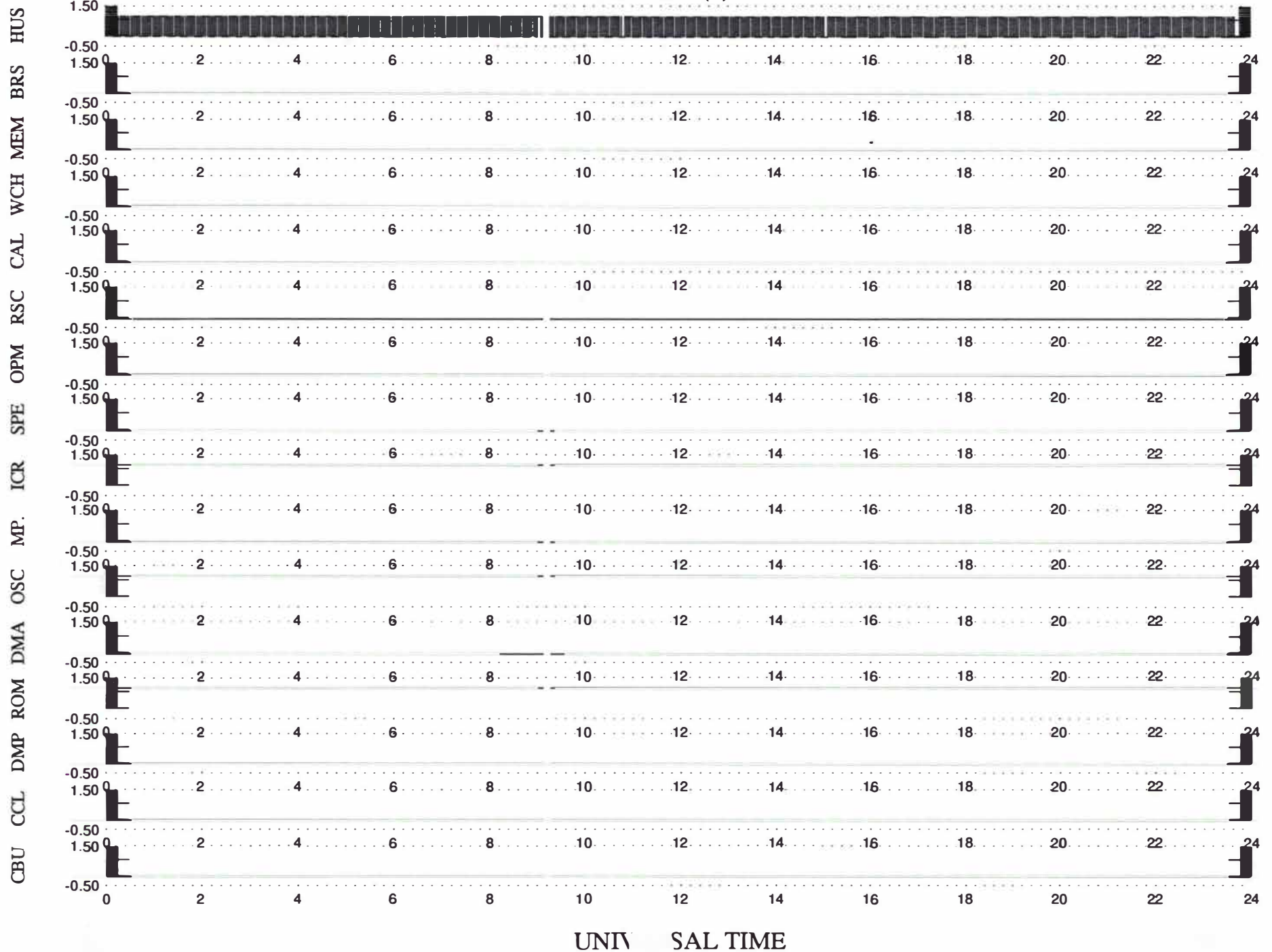
Plot created: 98/09/17, 1007

Channel

1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

Background not subtracted
Background not subtracted
Sample average = 10

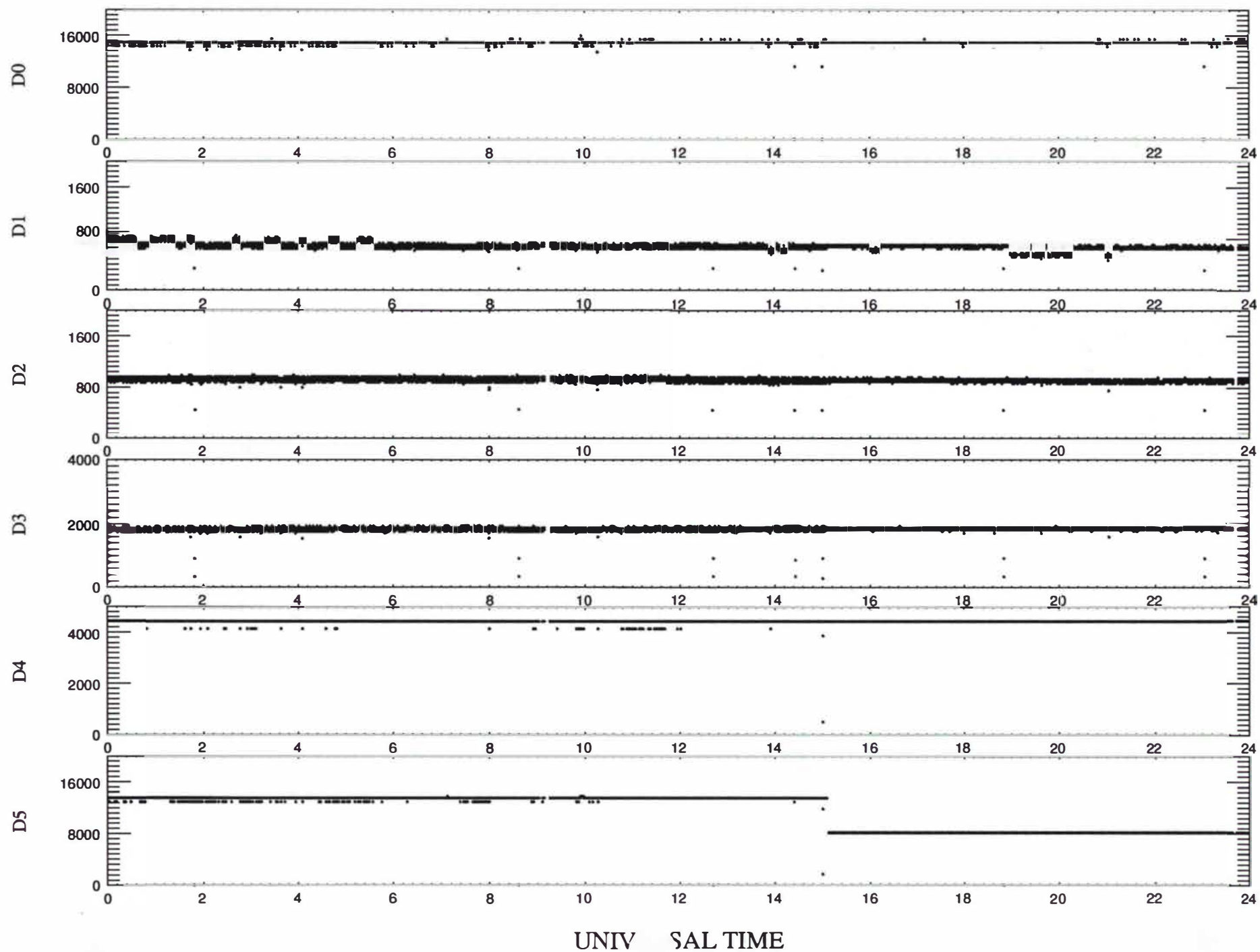
NO BURST (8)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



From khurley@sunspot Tue Sep 22 08:19 PDT 1998
Date: Tue, 22 Sep 1998 08:22:58 -0700
From: khurley@sunspot (Kevin Hurley)
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, woods@eagles.msfc.nasa.gov,
kraken@rosserv.gsfc.nasa.gov
Subject: GRBs, 980903 - 980915

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed the following bursts, all suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1800 s earlier.

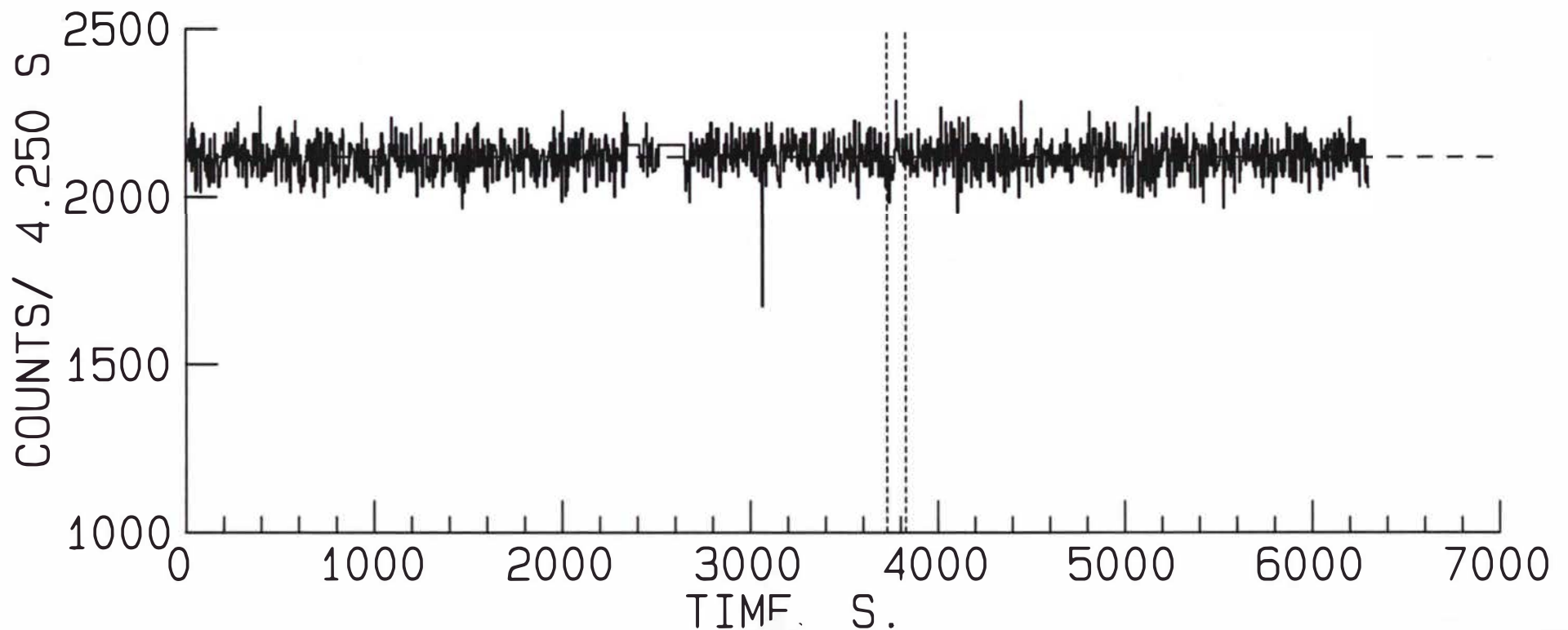
ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
3 SEP 98 04380	WEAK, 32 ms LONG	3150
6 SEP 98 73018	WEAK, 32 ms LONG	3150
7 SEP 98 80507	MODERATE, 32 ms LONG	3150
7 SEP 98 86027	MODERATE, 32 ms LONG	3150
8 SEP 98 48058	WEAK, 32 ms LONG	3150
9 SEP 98 31734	WEAK, 32 ms LONG	3150
11 SEP 98 29109	WEAK, 32 ms LONG	3150
11 SEP 98 67983	STRONG, 1 s LONG	3150
12 SEP 98 78457	STRONG, 64 ms LONG	3150
14 SEP 98 55913	WEAK, 32 ms LONG	3150
SEP 98 79827	MODERATE, 32 ms LONG	3150

Were these events detected by anyone else?

CC: ulyssesbursts alias list
(barthelmy, butterworth, cline, frontera, kouveliotou, kurczyski, marar, tee

ULYSSES RT
14/ 9/98 75204.172 s
0.250 S INTERVALS REGROUPED BY 17
22- 149 keV

22/ 9/ 5



SAX GRBM
HUS DATA

ULYSSES RT

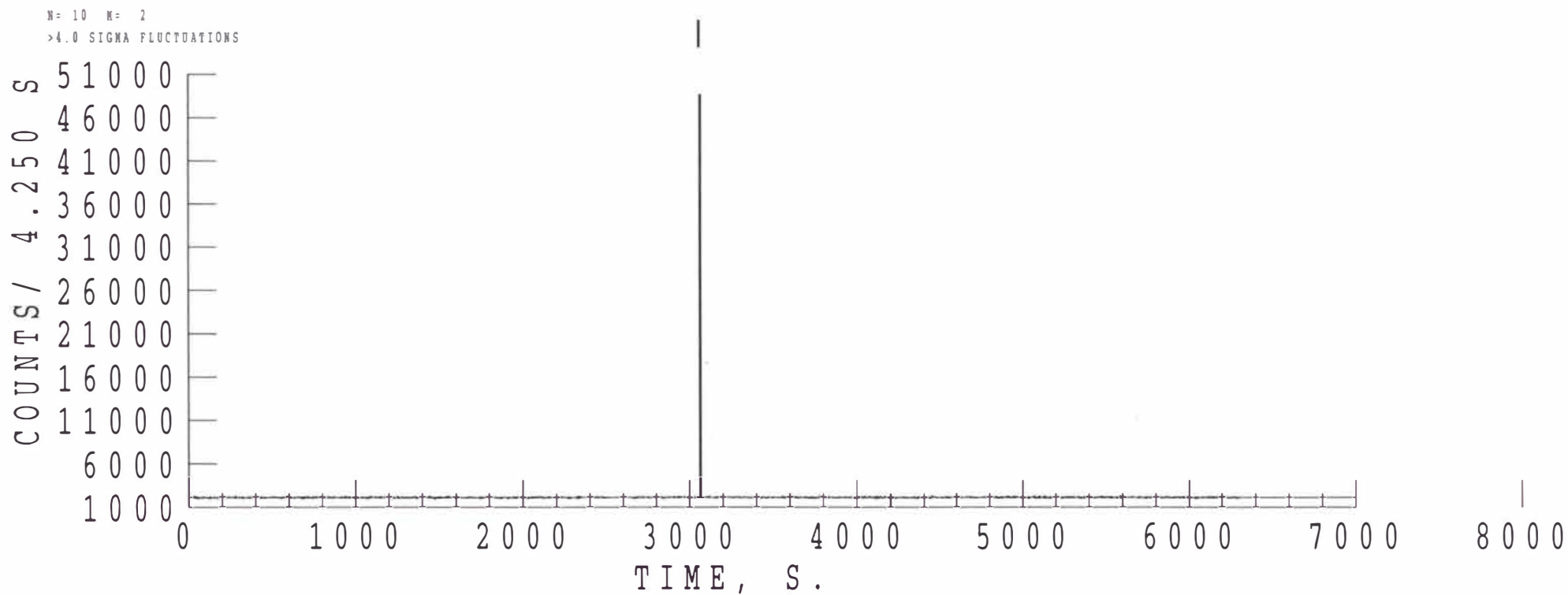
~~240-sec~~
250 = 7m

19 / 07 / 05

14 / 09 / 98 75204.172 s

0.250 S INTERVALS REGROUPED BY 17

0 - 0 keV



From RICHARDSON@fender.msfc.nasa.gov Wed Sep 16 10:50:01 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Wed, 16 Sep 1998 12:49:07 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7088

TIME: TJD=1070 SECONDS=78655

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=24.1 AZIMUTH=83.3 ERROR=5.1 DEGREES

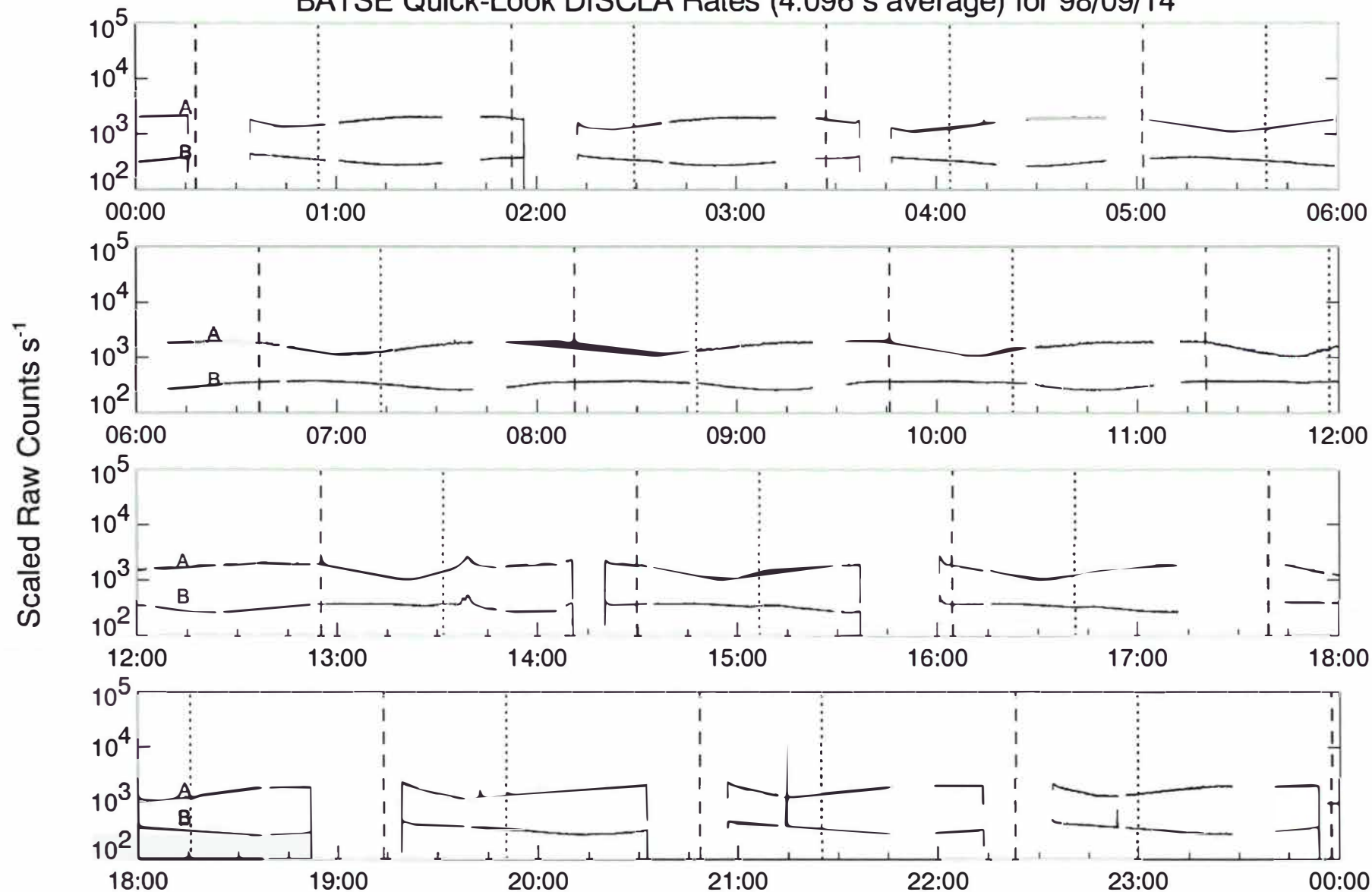
COMMENTS:

SOLAR FLARE, NO GOES, NO OPTICAL.

SINGLE PULSE, DURATION APPROX. = 15 SEC.

NOT VISIBLE ABOVE 100KEV.

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/09/14

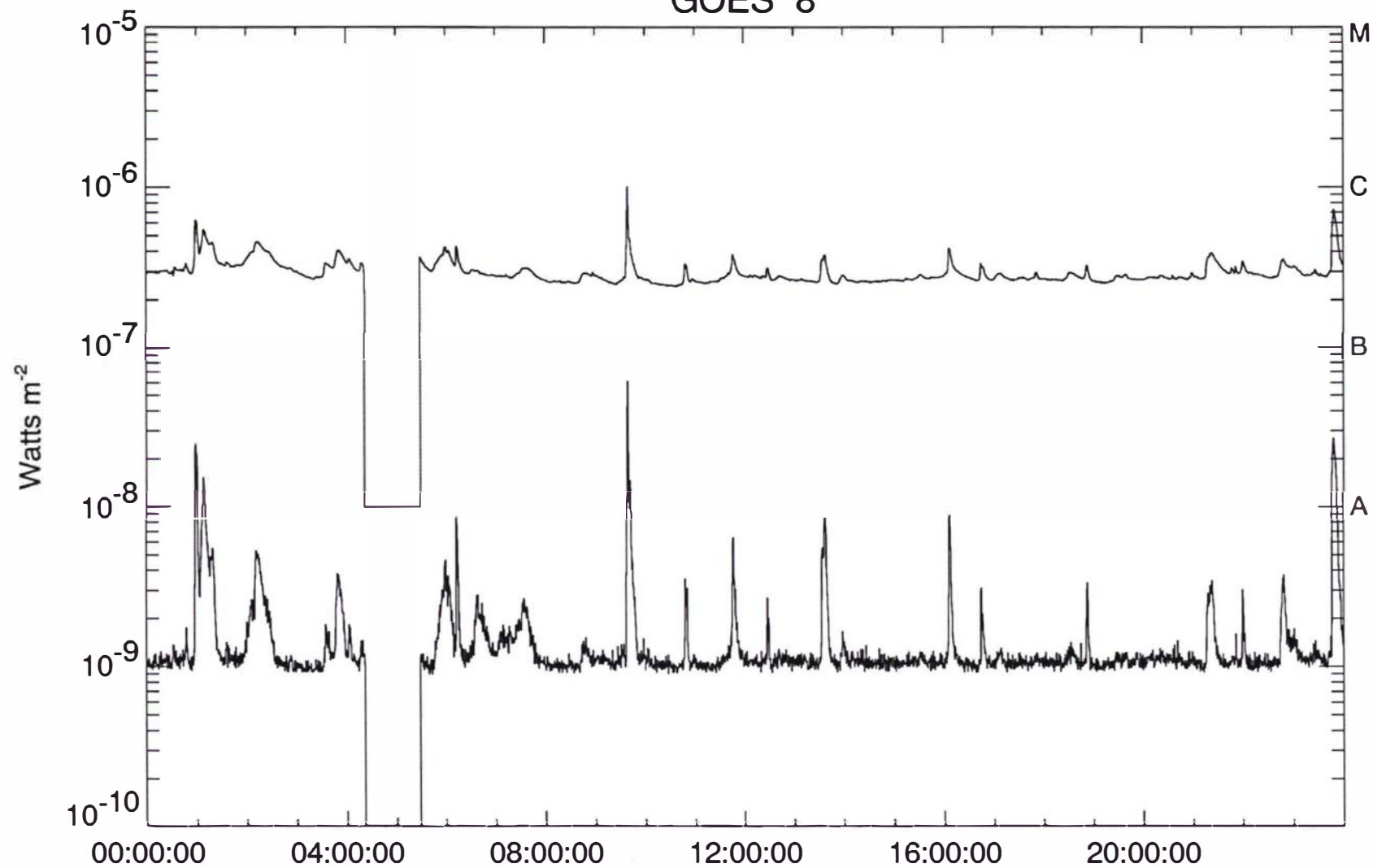


Current Time: 98/09/18, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8

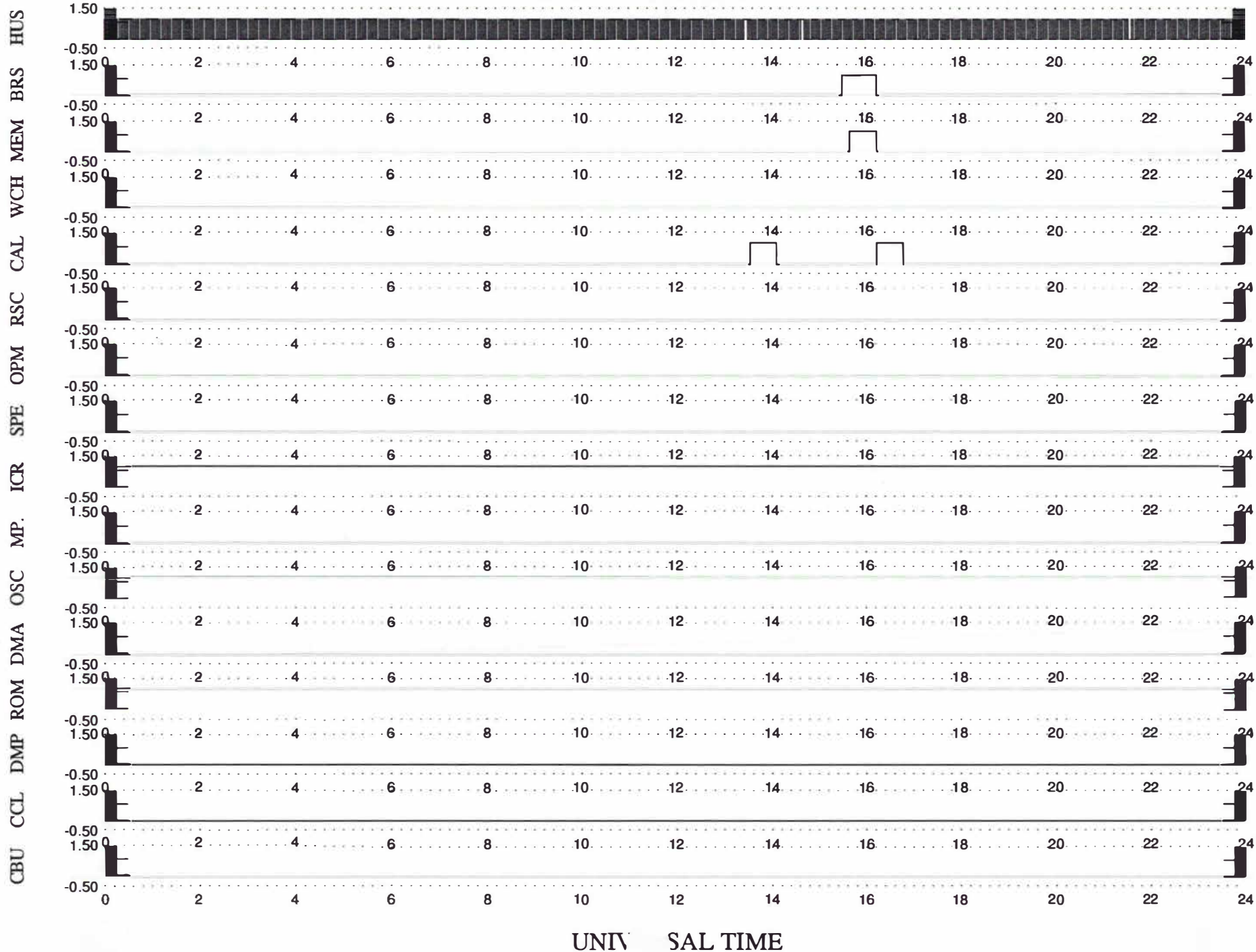


Data Start: 98/09/14, 0000:00

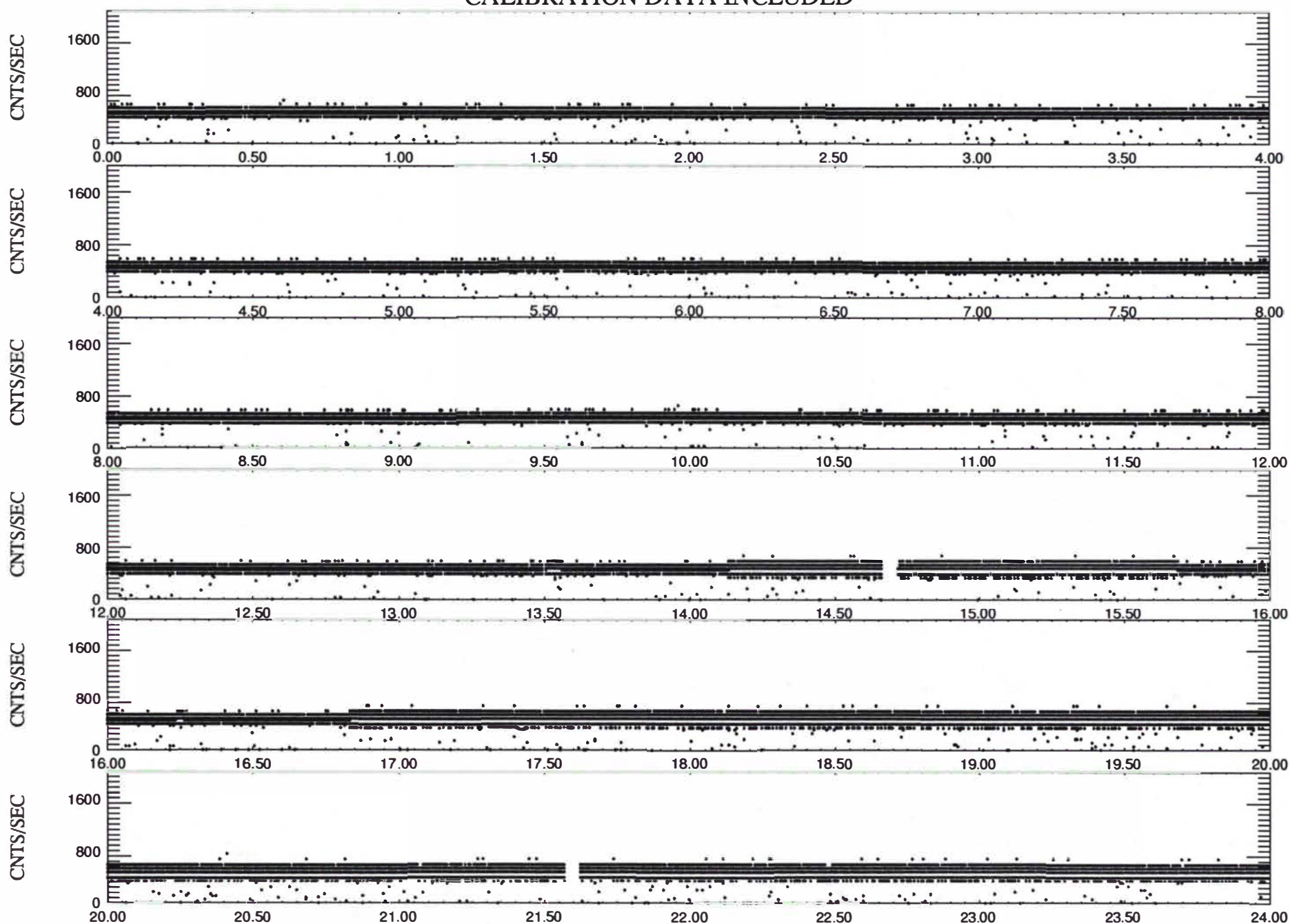
Plot created: 98/09/18, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted
Sample average = 10

BURST NUMBER 9

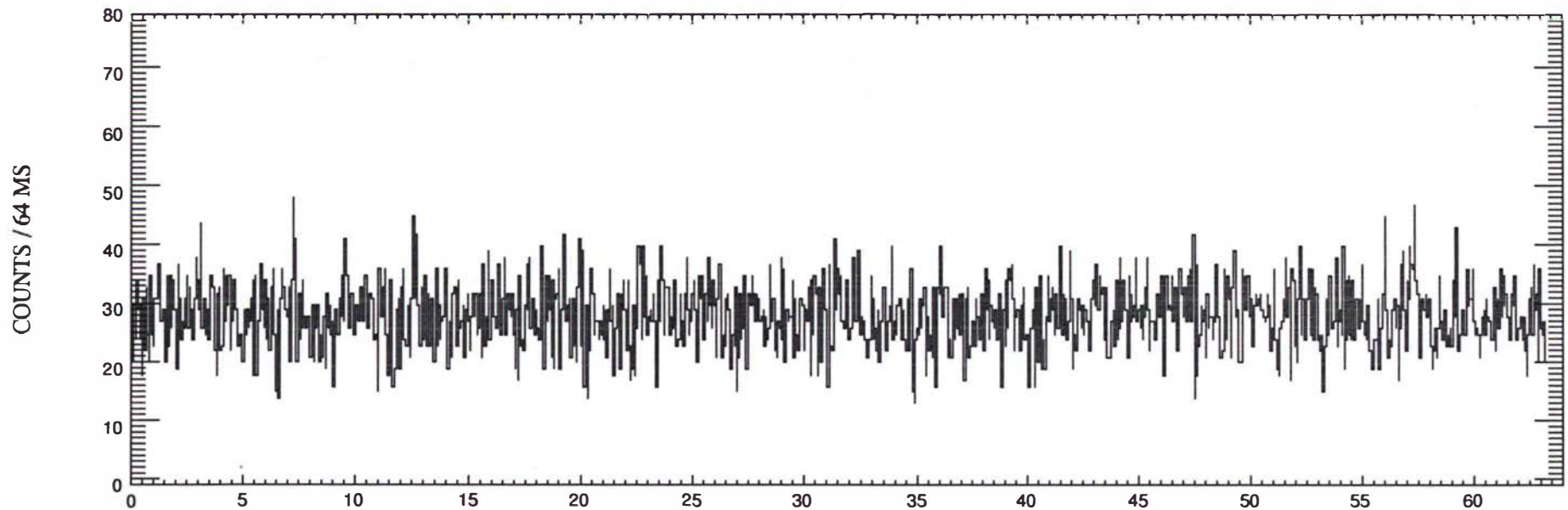


CALIBRATION DATA INCLUDED

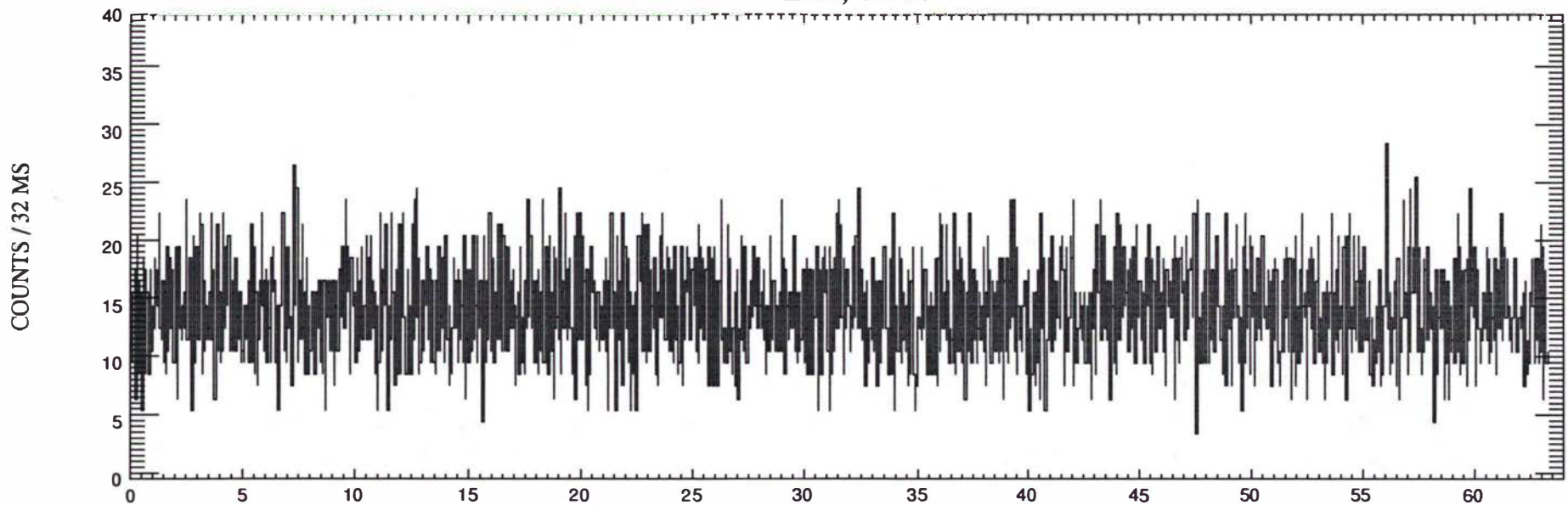


UNIV SAL TIME

Burst Counter 9 at UT=15.531620737712 h=55913.835 s 15:31:53.835

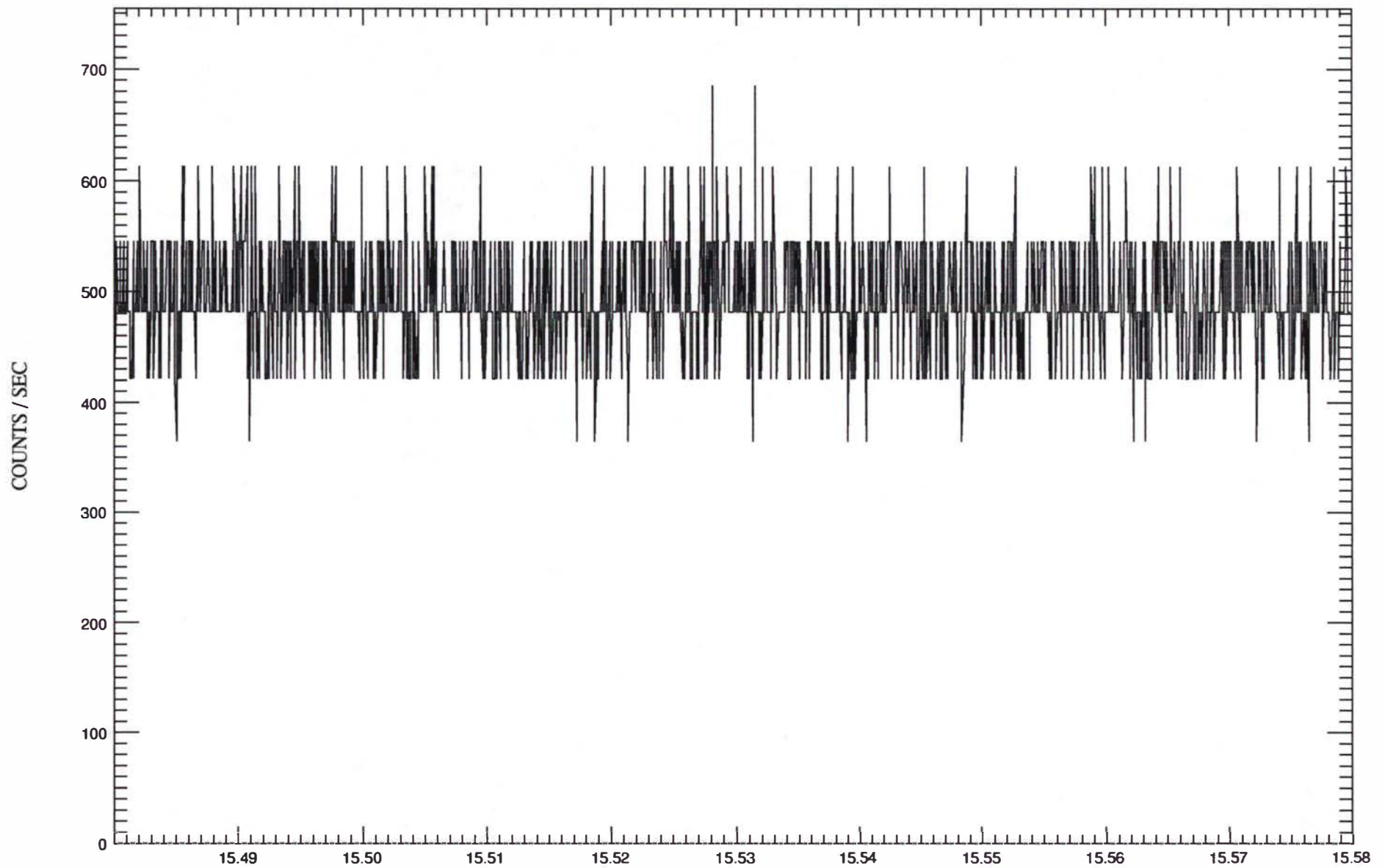


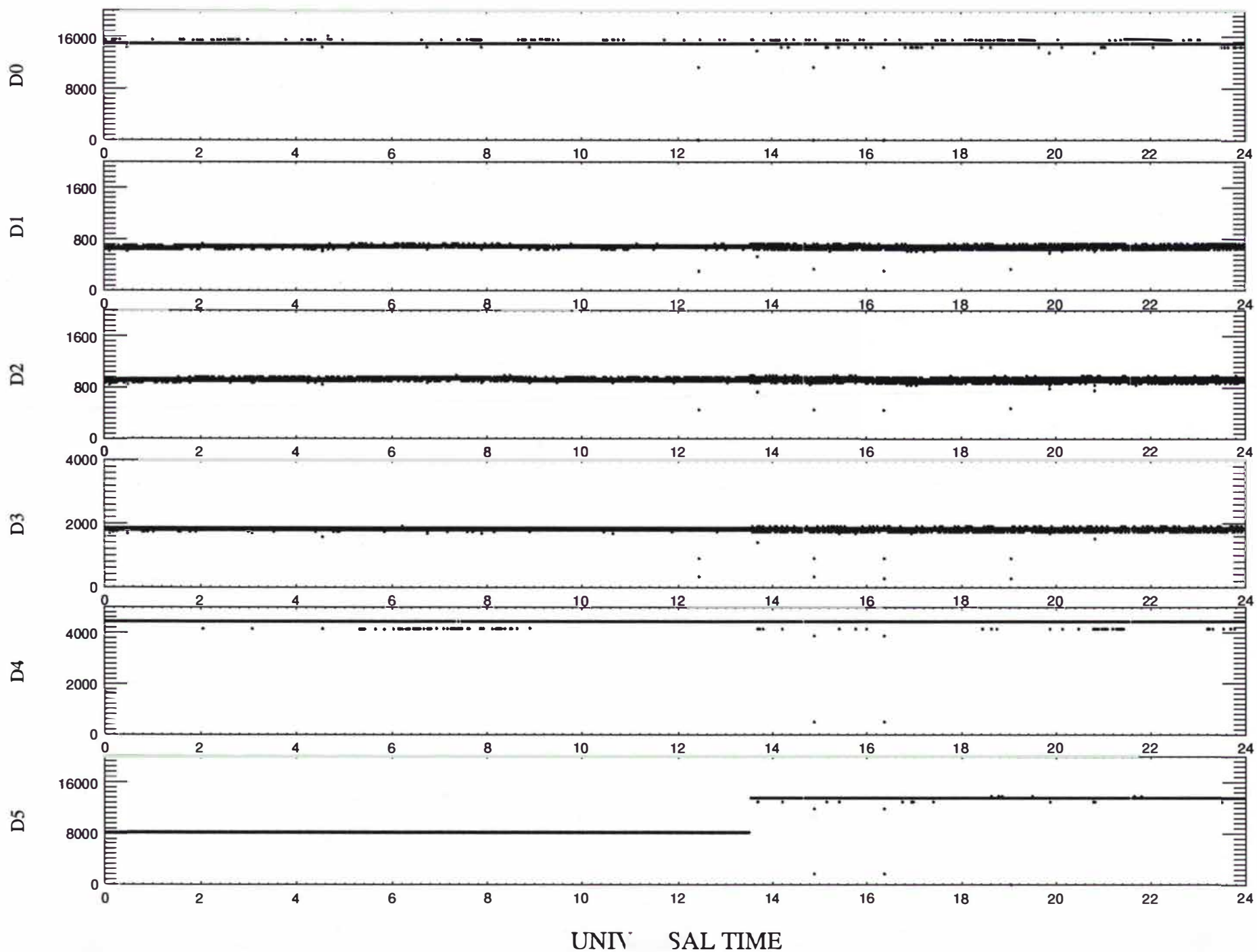
TIME, SECS



TIME, SECS

CALIBRATION DATA INCLUDED





From khurley@sunspot Tue Sep 22 08:19 PDT 1998
Date: Tue, 22 Sep 1998 08:22:58 -0700
From: khurley@sunspot (Kevin Hurley)
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, woods@eagles.msfc.nasa.gov,
kraken@rosserv.gsfc.nasa.gov
Subject: GRBs, 980903 - 980915

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed the following bursts, all suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1800 s earlier.

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
3 SEP 98 04380	WEAK, 32 ms LONG	3150
6 SEP 98 73018	WEAK, 32 ms LONG	3150
7 SEP 98 80507	MODERATE, 32 ms LONG	3150
7 SEP 98 86027	MODERATE, 32 ms LONG	3150
8 SEP 98 48058	WEAK, 32 ms LONG	3150
9 SEP 98 31734	WEAK, 32 ms LONG	3150
11 SEP 98 29109	WEAK, 32 ms LONG	3150
11 SEP 98 67983	STRONG, 1 s LONG	3150
12 SEP 98 78457	STRONG, 64 ms LONG	3150
14 SEP 98 55913	WEAK, 32 ms LONG	3150
SEP 98 79827	MODERATE, 32 ms LONG	3150

Were these events detected by anyone else?

CC: ulyssesbursts alias list
(barthelmy, butterworth, cline, frontera, kouveliotou, kurczyski, marar, tee

From WOODSP@fender.msfc.nasa.gov Thu Sep 17 10:54:19 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Thu, 17 Sep 1998 12:53:33 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7089

TIME: TJD=1071 SECONDS=74150 *Sep 15* 20:35:50

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=26.1 AZIMUTH=3.6 ERROR=10 DEGREES

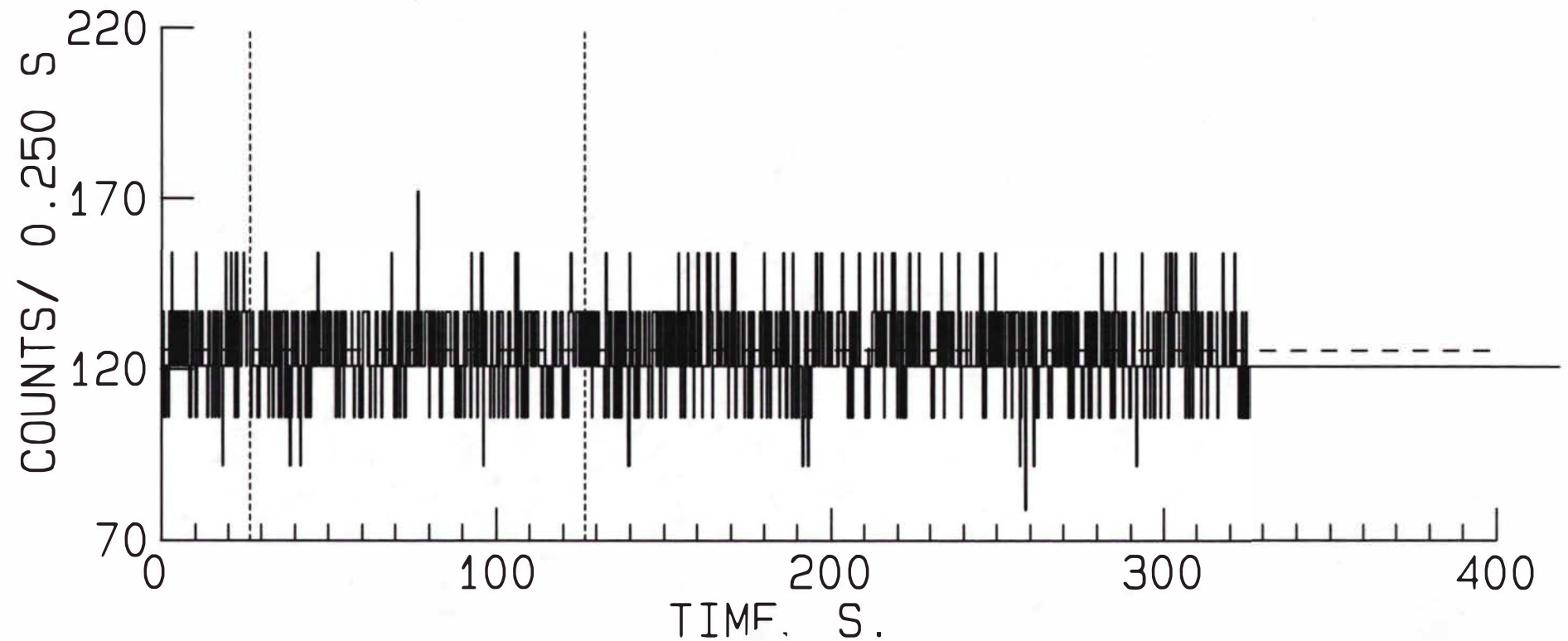
COMMENTS:

SGR 1900+14. SINGLE PULSE LASTING LESS THAN 0.1 SEC. VISIBLE
ABOVE 100 KEV.

ULYSSES RT
15/ 9/98 75456.080 s
22- 150 keV

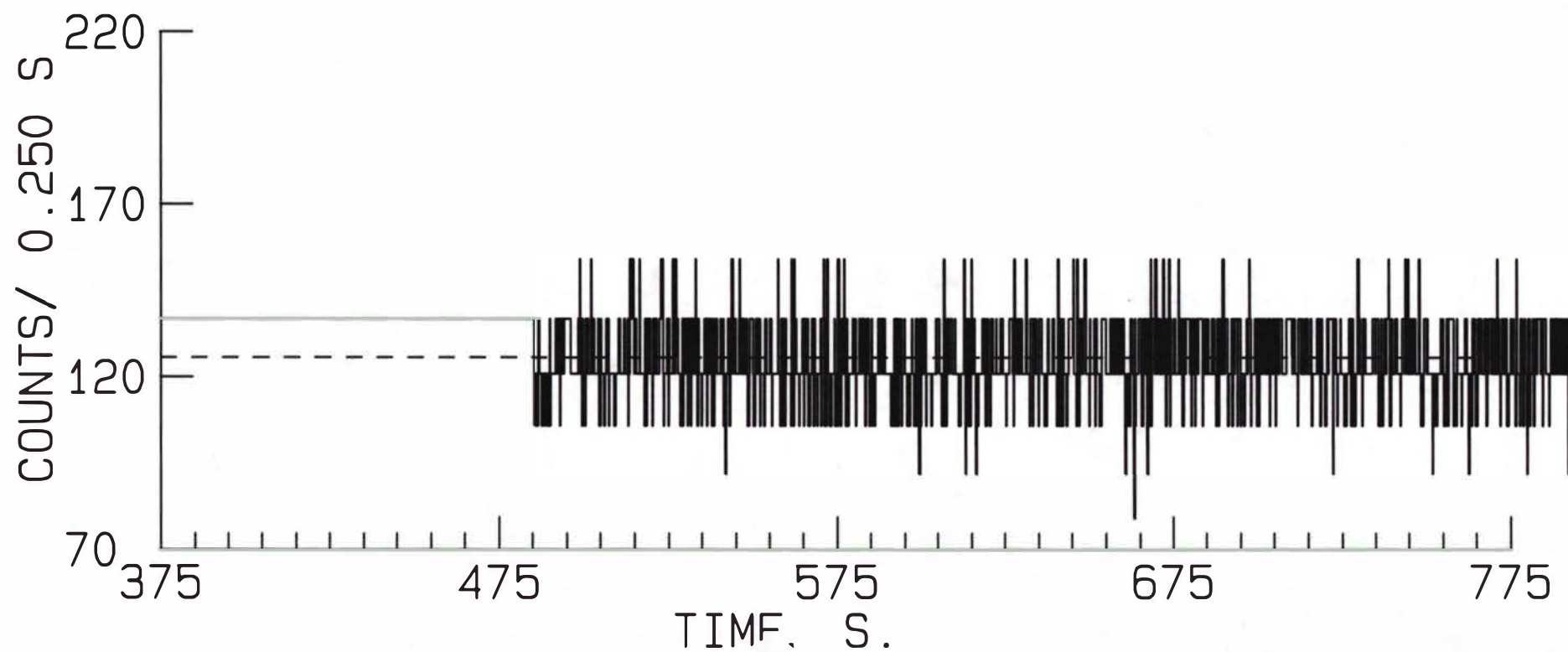
20 / 2 / 99

N= 10 M= 1
>3.5 SIGMA FLUCTUATIONS



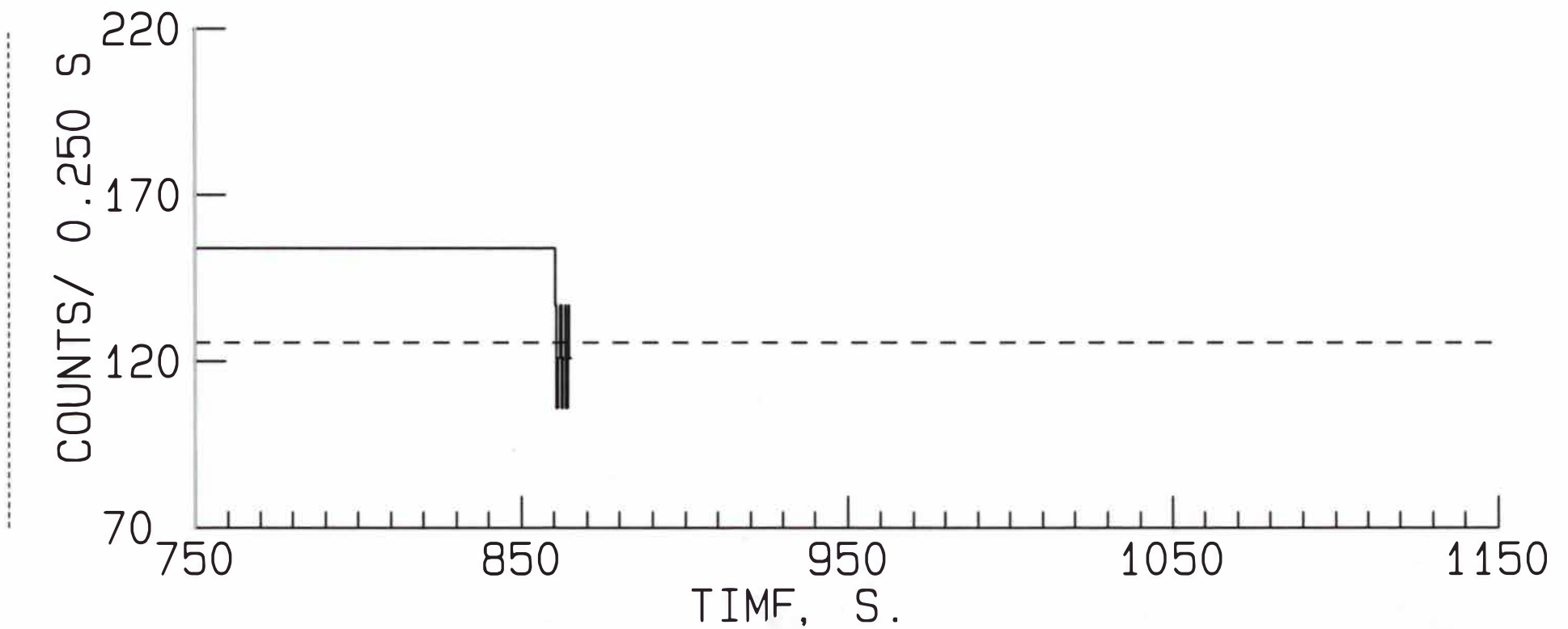
ULYSSES RT
15/ 9/98 75456.080 s
22- 150 keV

20 / 2 / 99

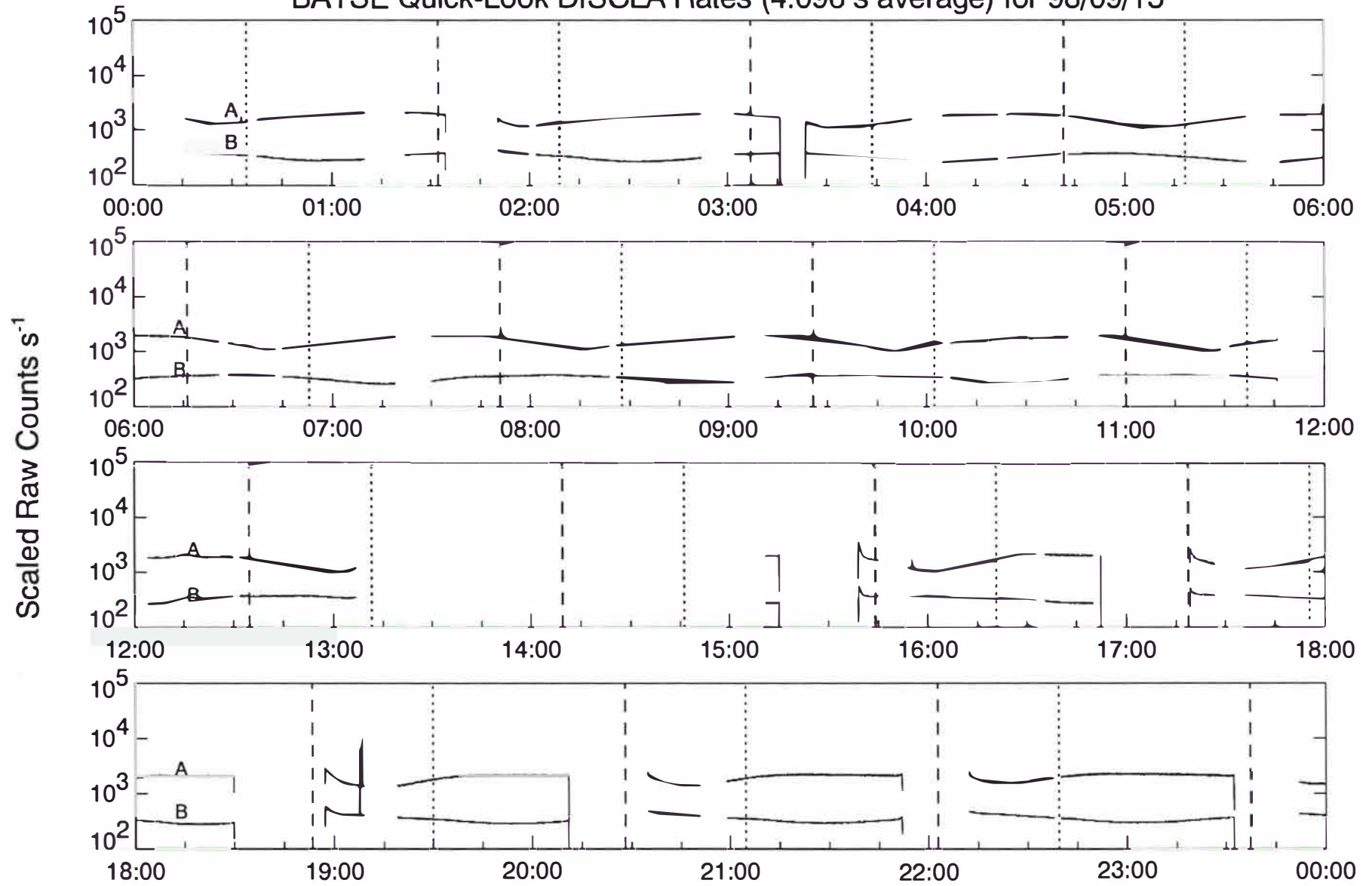


ULYSSES RT
15/ 9/98 75456.080 s
22- 150 keV

20 / 2 / 99



BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/09/15

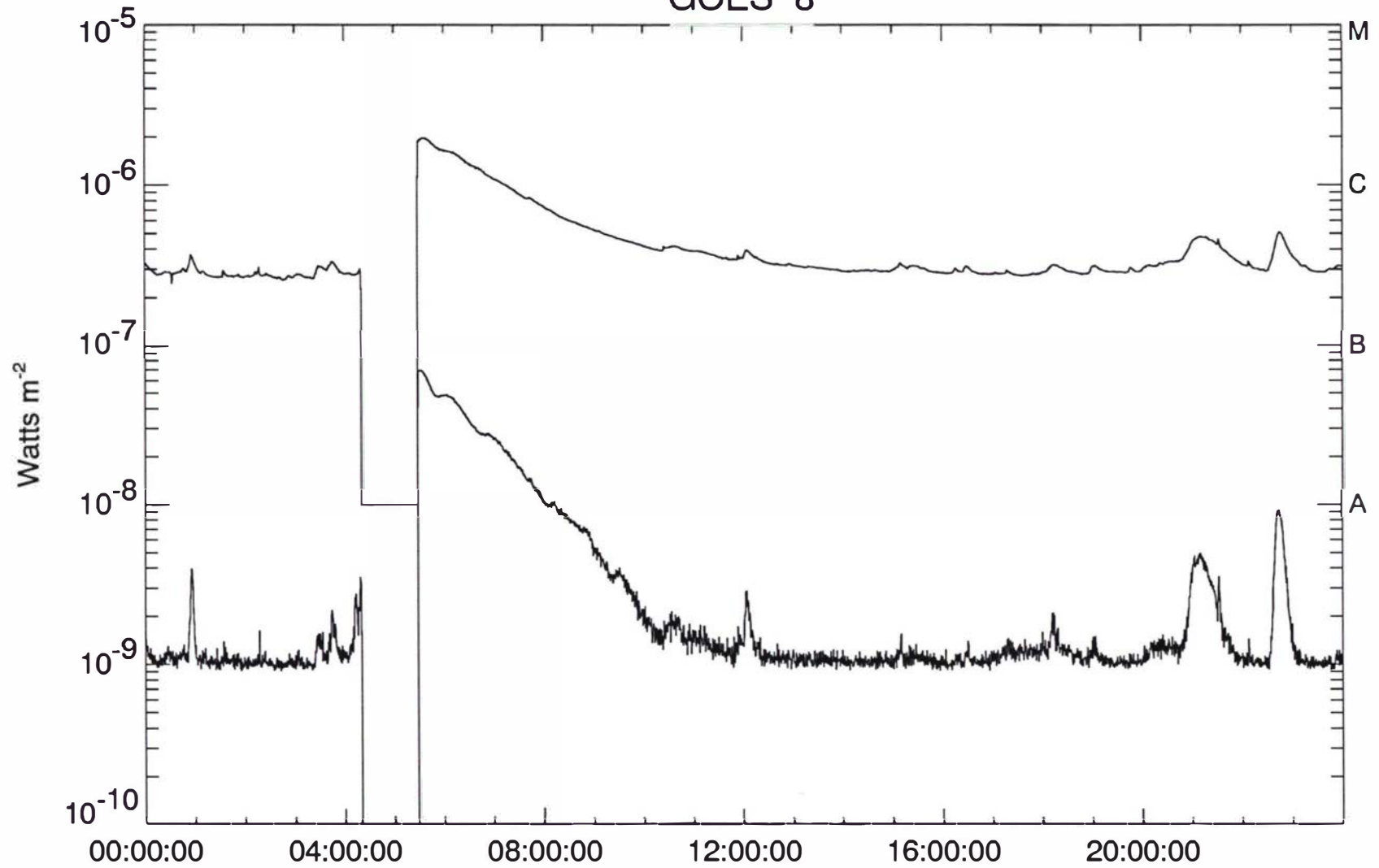


Current Time: 98/09/19, 1009 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 98/09/15, 0000:00

Plot created: 98/09/19, 1008

Channel 1 (1.0 - 8.0 Angstroms)

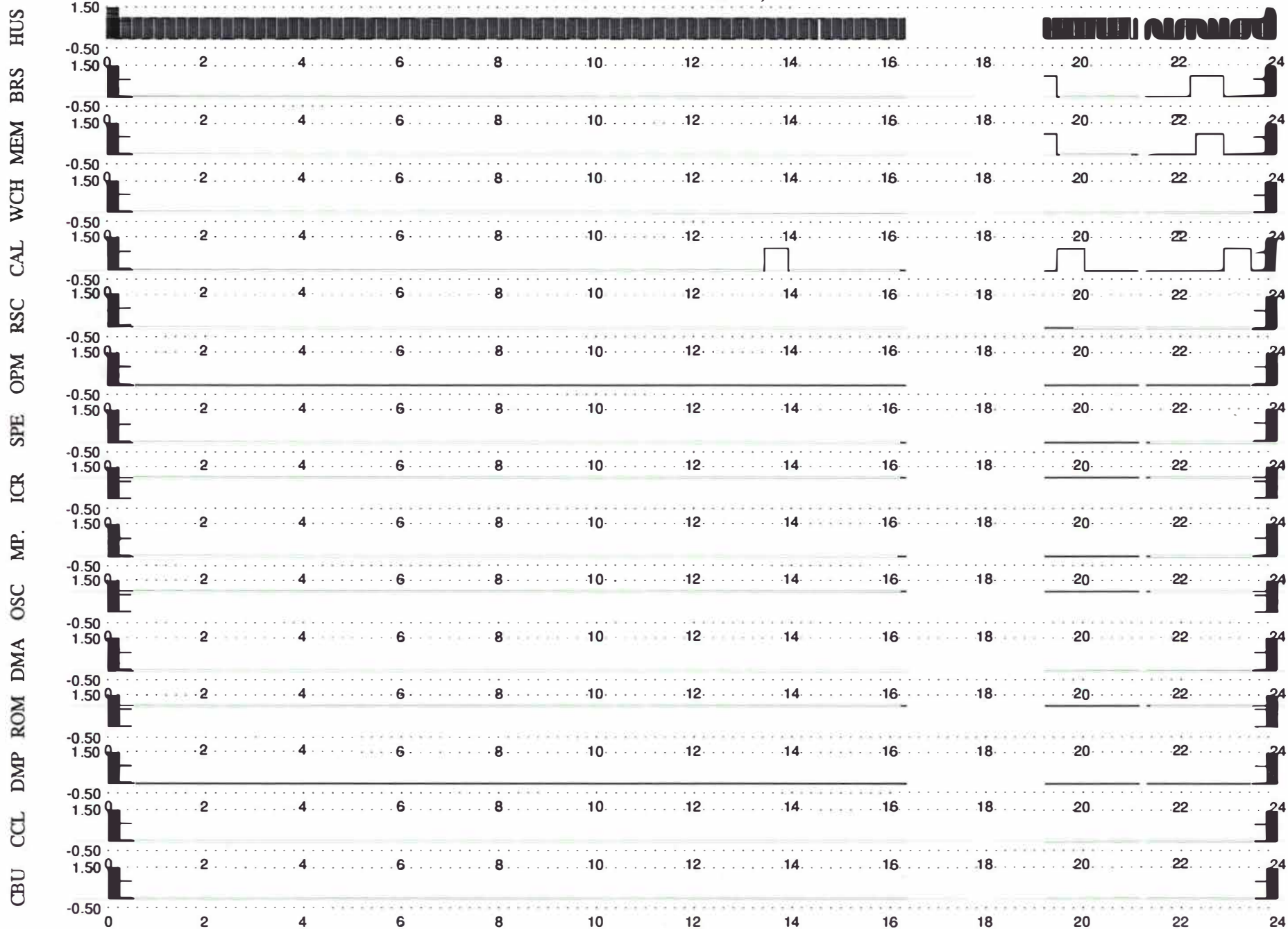
Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms)

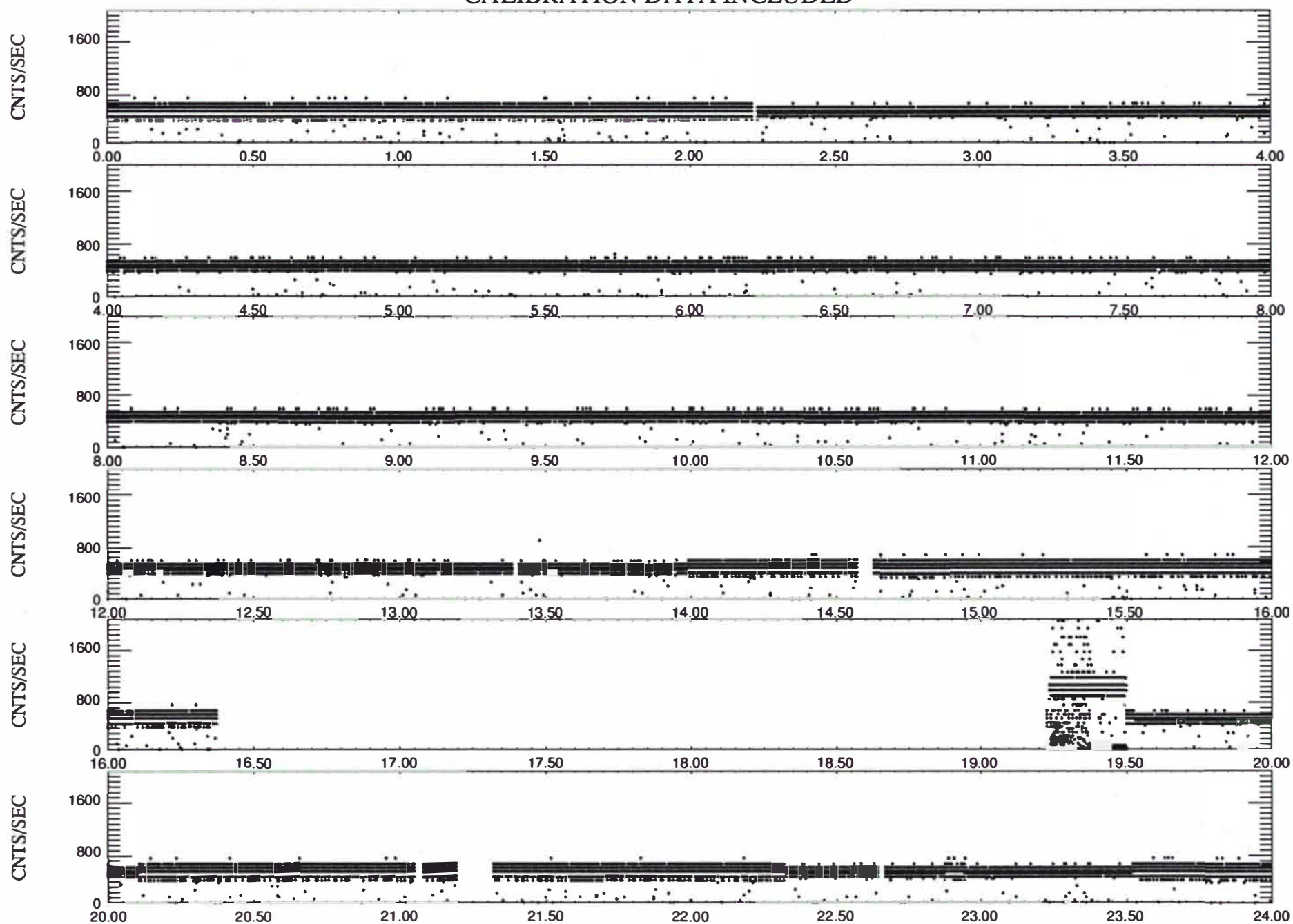
Background not subtracted

Sample average = 10

UNIV SAL TIME

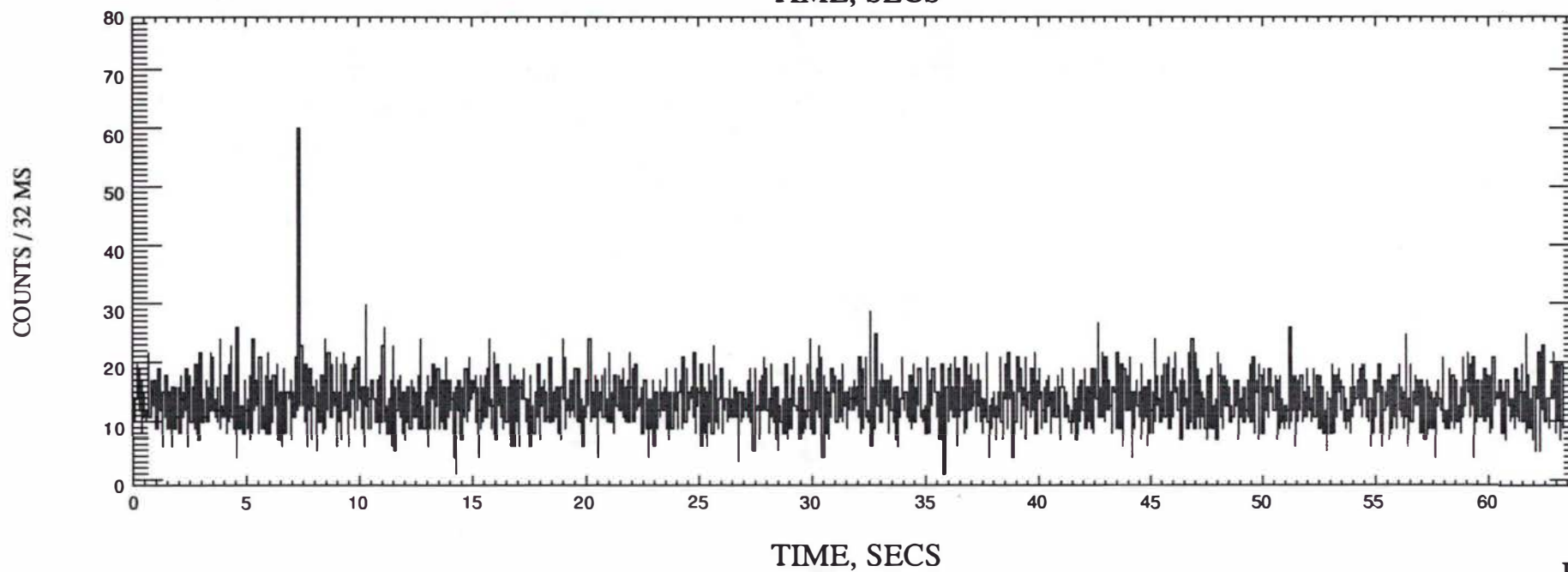
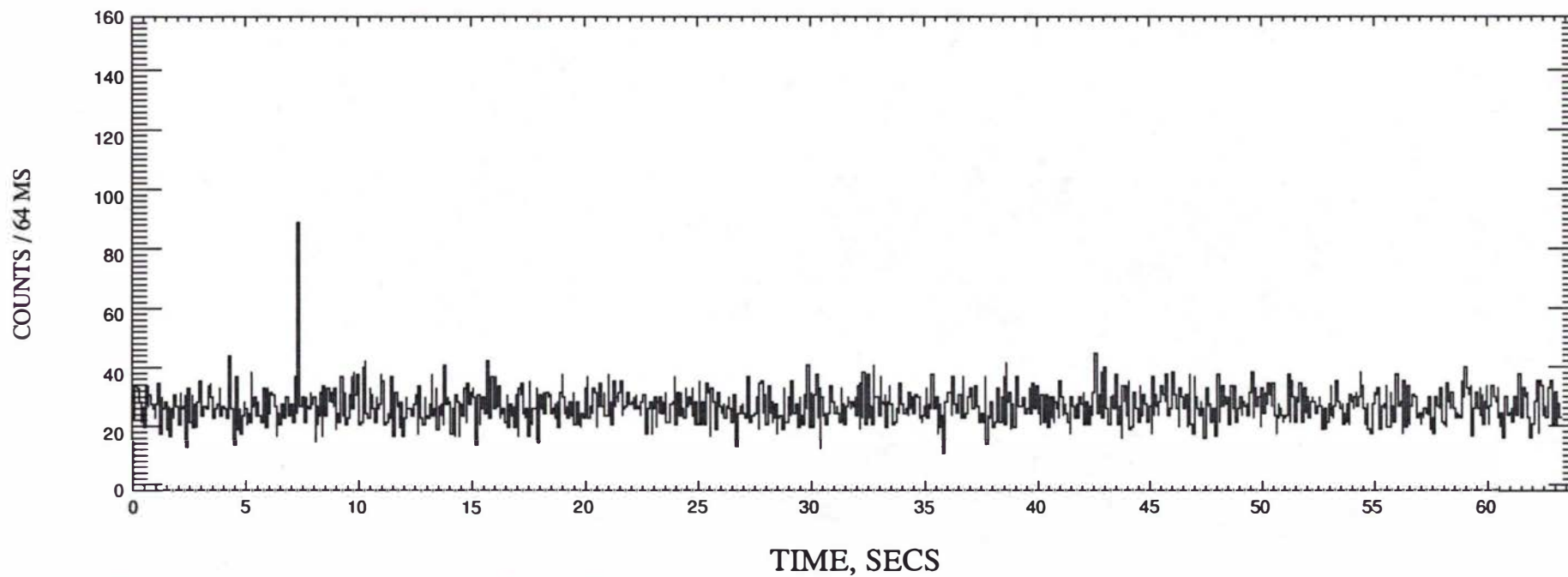


CALIBRATION DATA INCLUDED

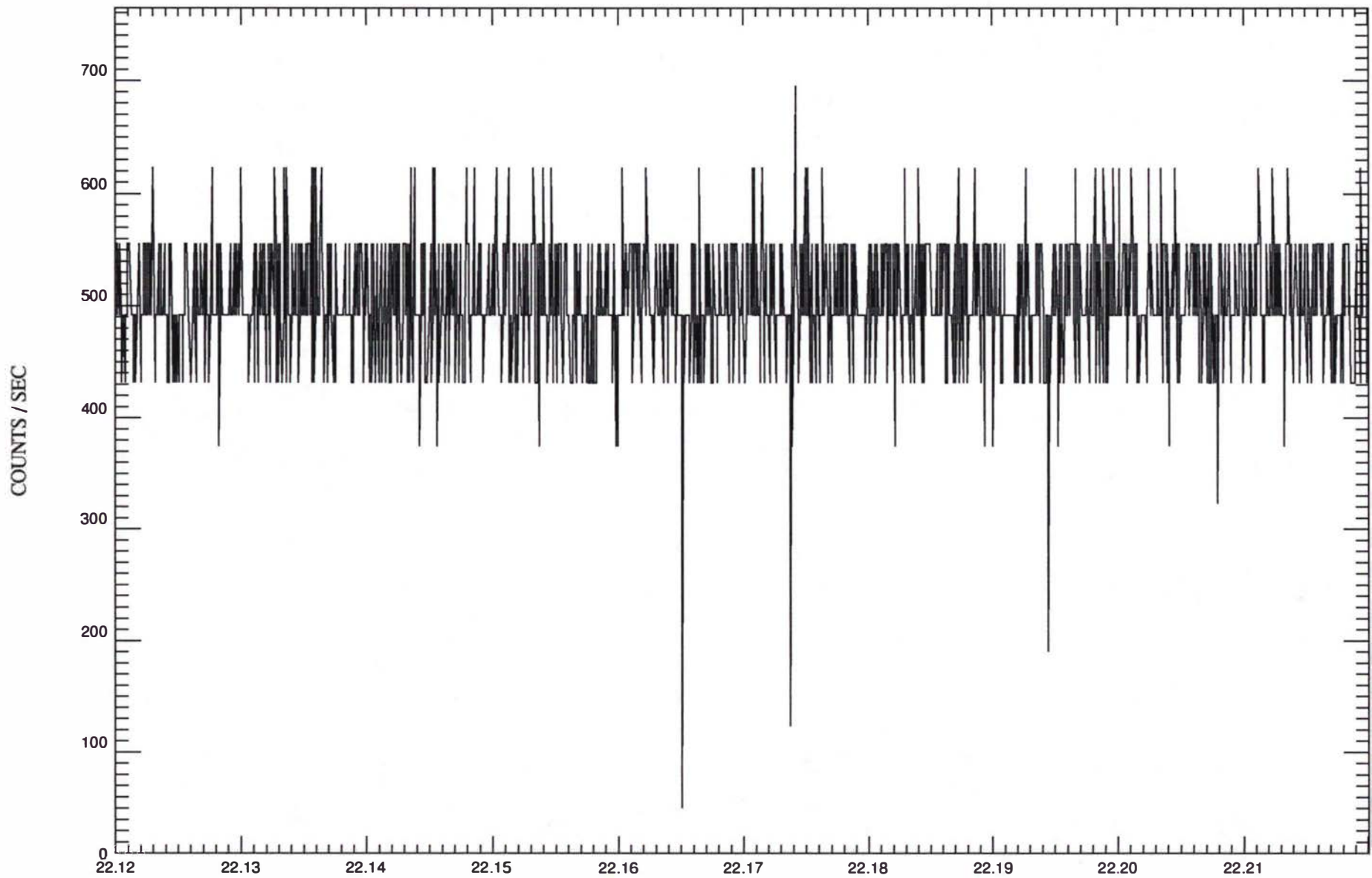


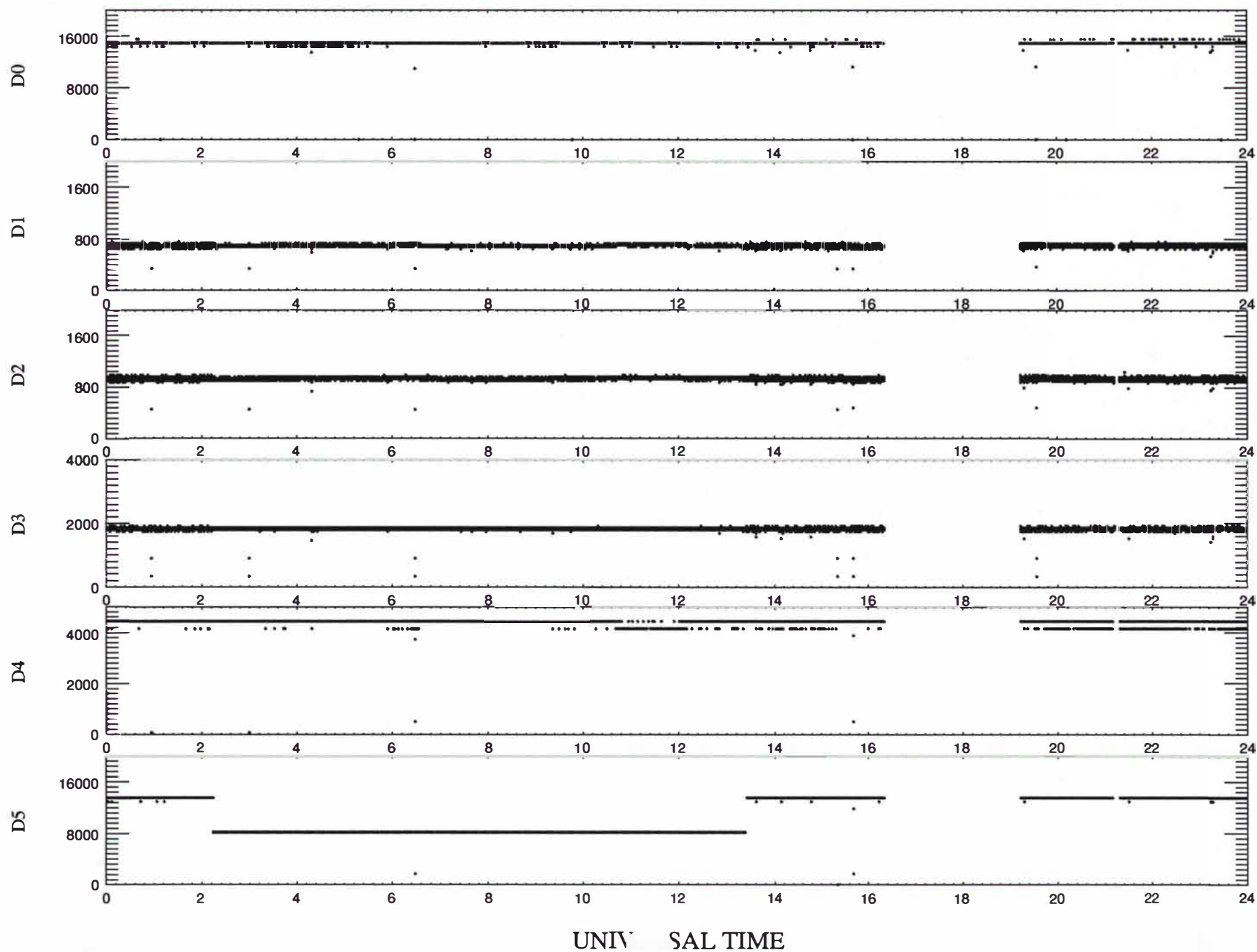
UNIV SAL TIME

Burst Counter 11 at UT=22.174268671672 h=79827.367 s 22:10:27.367



CALIBRATION DATA INCLUDED





From MEEGAN@joplin.msfc.nasa.gov Thu Sep 17 09:21:39 1998

From: MEEGAN@joplin.msfc.nasa.gov

Date: Thu, 17 Sep 1998 11:20:19 -0500

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@joplin.msfc.nasa.gov,
HORACK@joplin.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 07091

Sep 16

TIME: TJD=1072 SECONDS=37705

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 13.5 AZIMUTH=357.0 ERROR= 7.3 DEGREES

COMMENTS:

SGR 1900+14. WEAK 0.1 S PULSE. NOT VISIBLE ABOVE 100 KEV.

BATSE BURST# 7091

ULYSSES RT

22 / 9 / 98

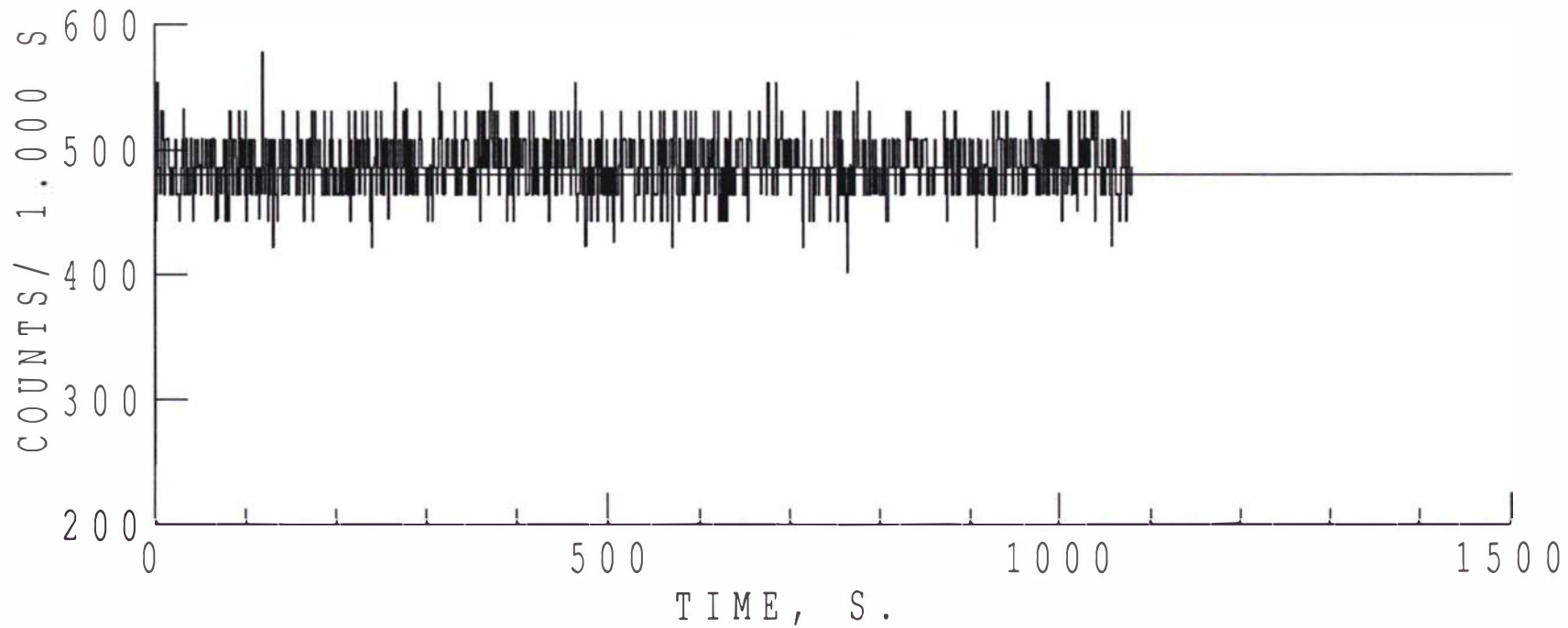
16 / 9 / 98 38988.352 s

0.500 S INTERVALS REGROUPED BY 2

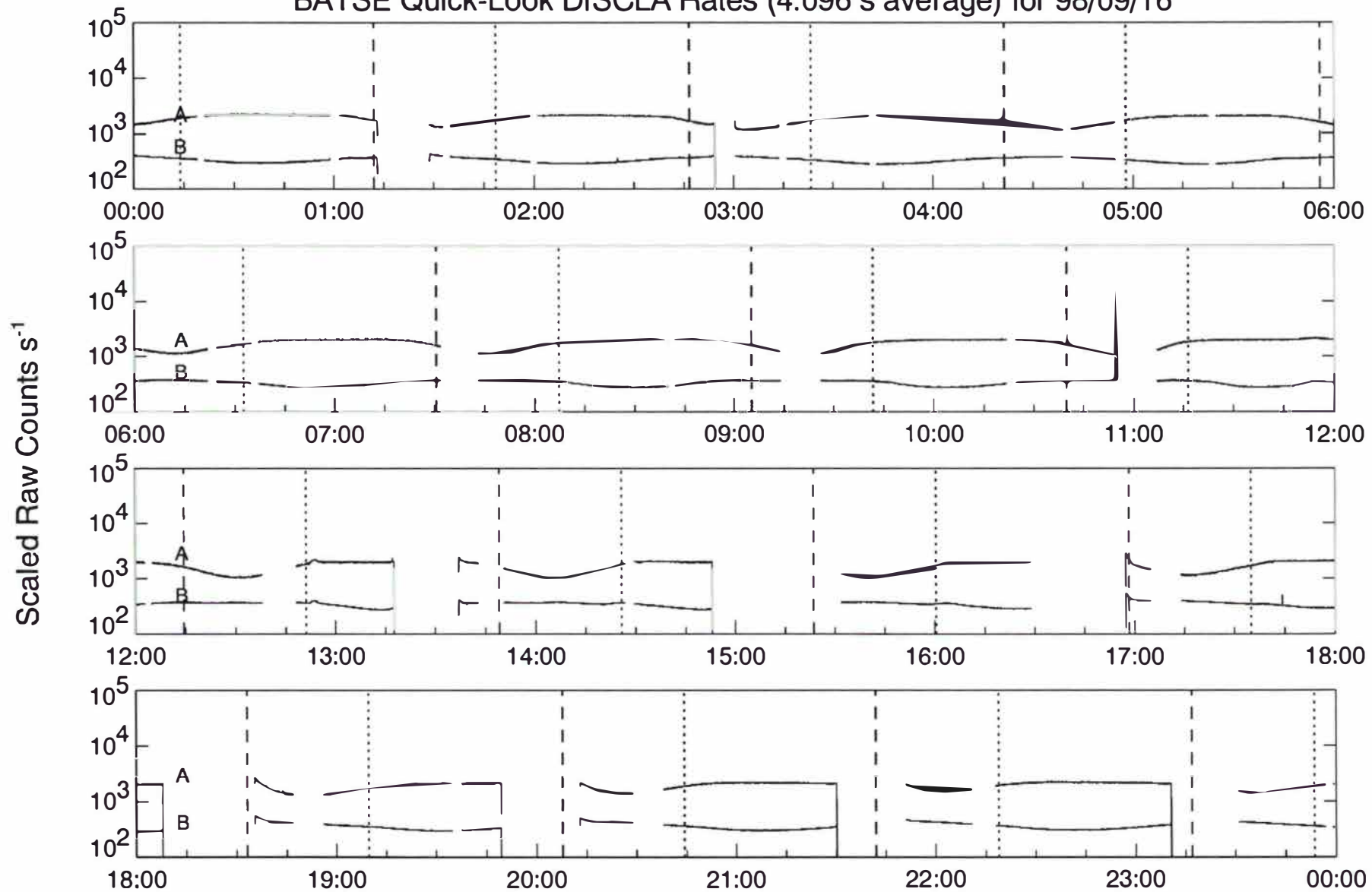
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



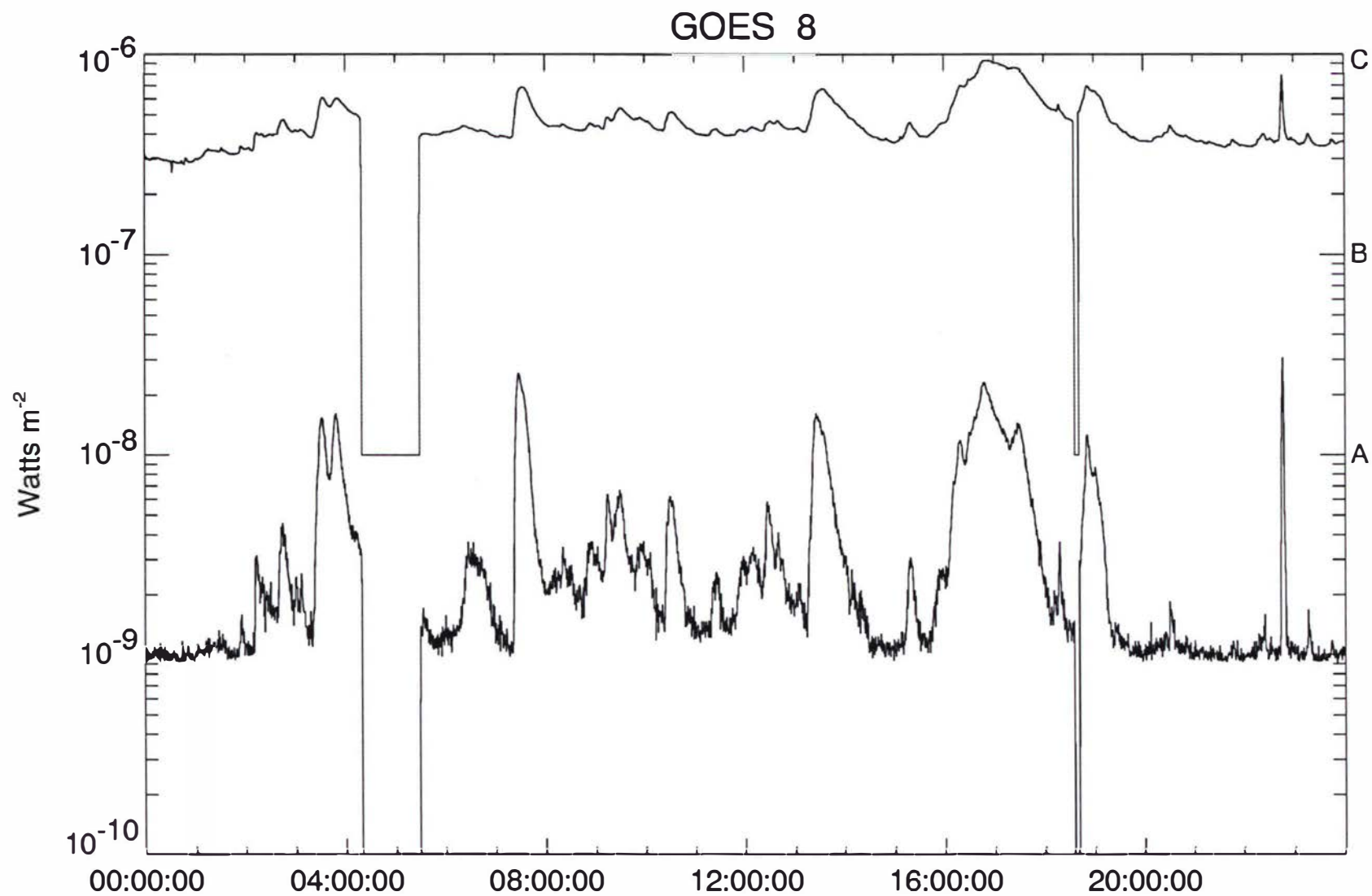
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/09/16



Current Time: 98/09/20, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare



Data Start: 98/09/16, 0000:00

Plot created: 98/09/20, 1007

Channel 1 (1.0 - 8.0 Angstroms)

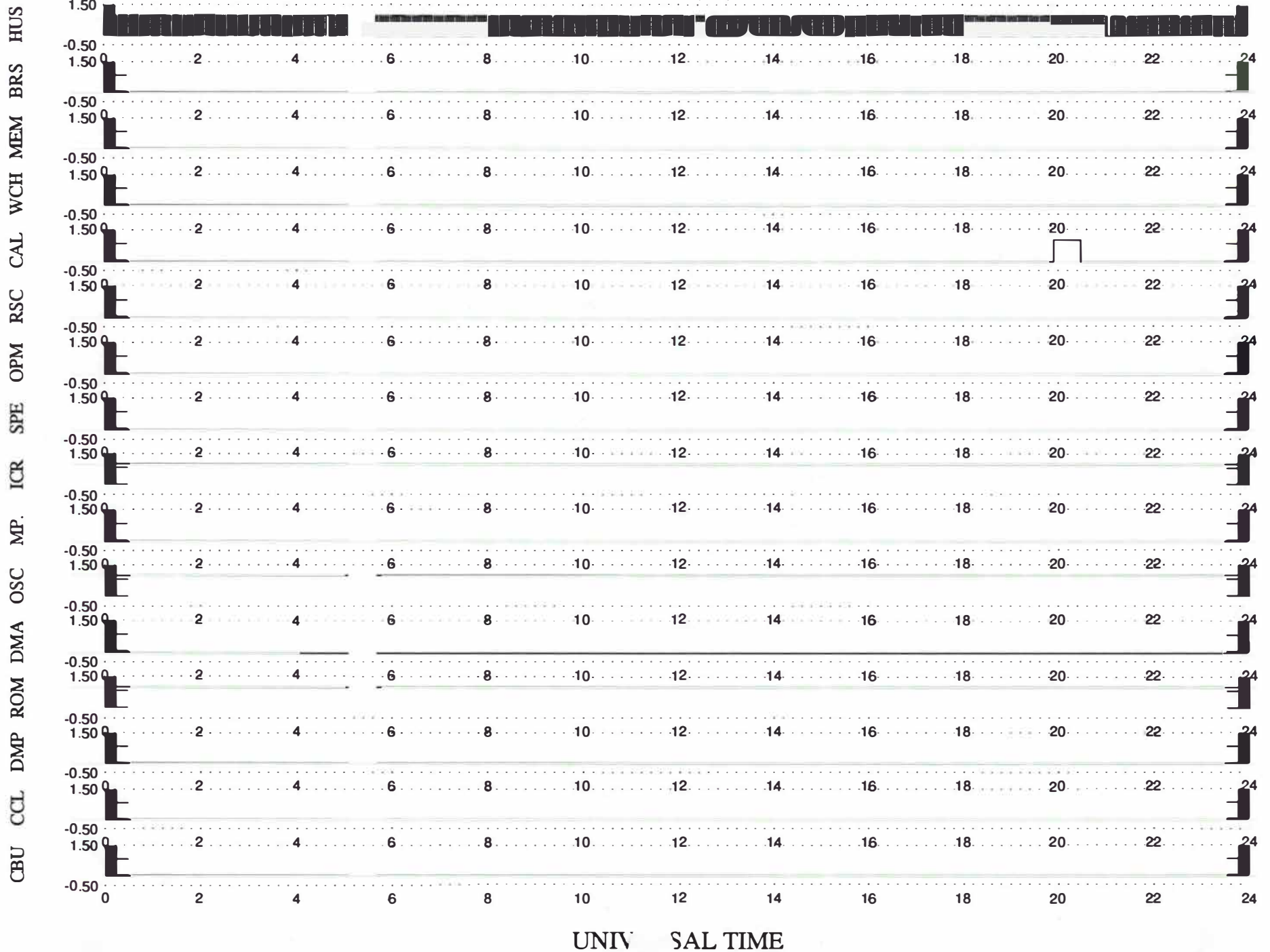
Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms)

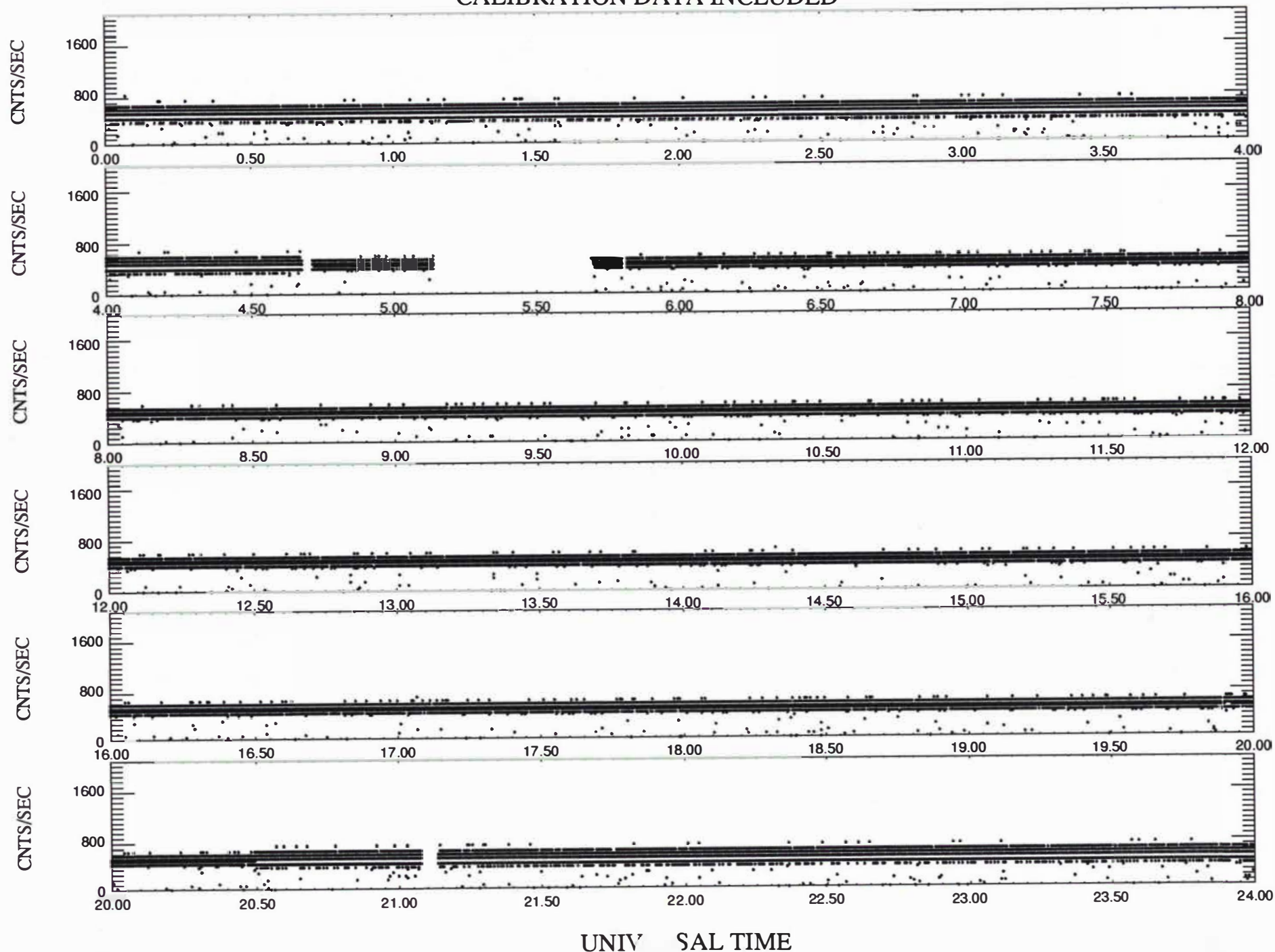
Background not subtracted

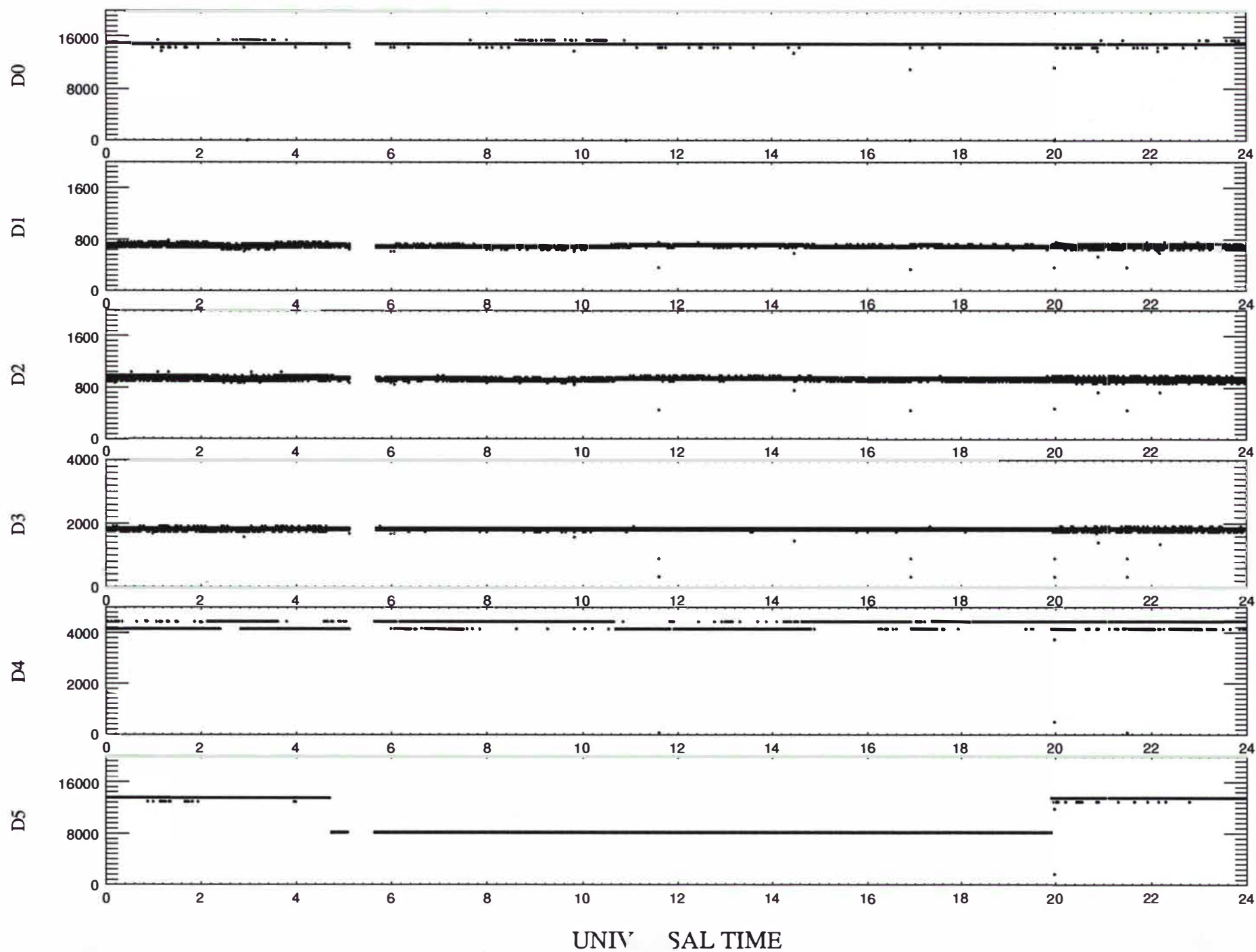
Sample average = 10

NO BURST (11)



CALIBRATION DATA INCLUDED





From SURASAK@fender.msfc.nasa.gov Mon Sep 21 14:25:31 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Mon, 21 Sep 1998 16:25:01 -0500 (CDT)

To: burst@compTEL.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7092

Sep 17

TIME: TJD=1073 SECONDS=15904 04:25:04

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=13.6 AZIMUTH=336.1 ERROR=7.176 DEGREES

COMMENTS:

SGR 1900+14. DOUBLE PEAK SPIKE. DURATION ABOUT 0.45 S. NOT VISIBLE
ABOVE 100 KEV.

BATSE BURST# 7092

ULYSSES RT

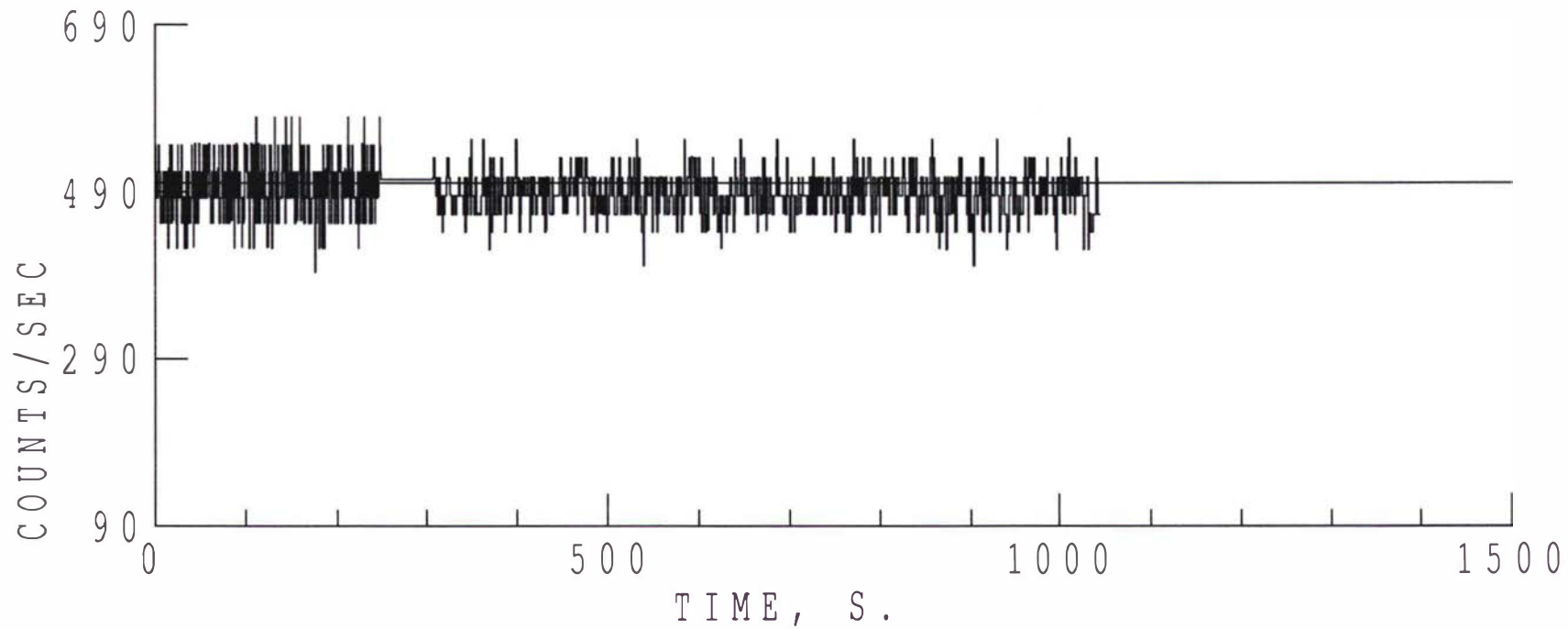
22 / 9 / 98

17 / 9 / 98 17208.029 s

INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 H= 2
>4.0 SIGMA FLUCTUATIONS



From SURASAK@fender.msfc.nasa.gov Mon Sep 21 15:04:26 1998
Return-Path: <SURASAK@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id PAA07510; Mon, 21 Sep 1998 15:04:25 -0700
From: SURASAK@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id PAA11509; Mon, 21 Sep 1998 15:04:23 -0700
Date: Mon, 21 Sep 1998 17:04:21 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980921170421.2024872b@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7093
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7093
EVENT OF 1998 SEP 17 DAY OF YEAR=260
EVENT CROSSING TIME AT BATSE : 22376. S. OR 06:12:56.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 320.000 58.000
BATSE PEAK COUNTING RATE: 5900 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 17/ 9/ 98 IS:
RA= 160.577 DEC= 2.296 DIST= 6.304 AU
BATSE-ULYSSES DISTANCE = 943009690. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 62.50 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1452.45 SECS.
CROSSING TIME AT ULYSSES IS 23828. S. OR 06:37:08 +/- 556.47 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 17/ 9/ 98 IS:
RA= 140.119 DEC= 16.781 DIST= 2.318 AU
MARS-BATSE DISTANCE = 346790592. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 74.78 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 303.66 SECS.
CROSSING TIME AT MARS IS 22680. S. OR 06:17:59 +/- 198.40 SECONDS

BATSE BURST TRIGGER

NO.: 7093

TIME: TJD=1073 SECONDS=22376

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=43.9 AZIMUTH=245.7 ERROR=7.998 DEGREES

COMMENTS:

GRB. SINGLE SPIKE. DURATION ABOUT 0.5 S. VISIBLE ABOVE 300 KEV.

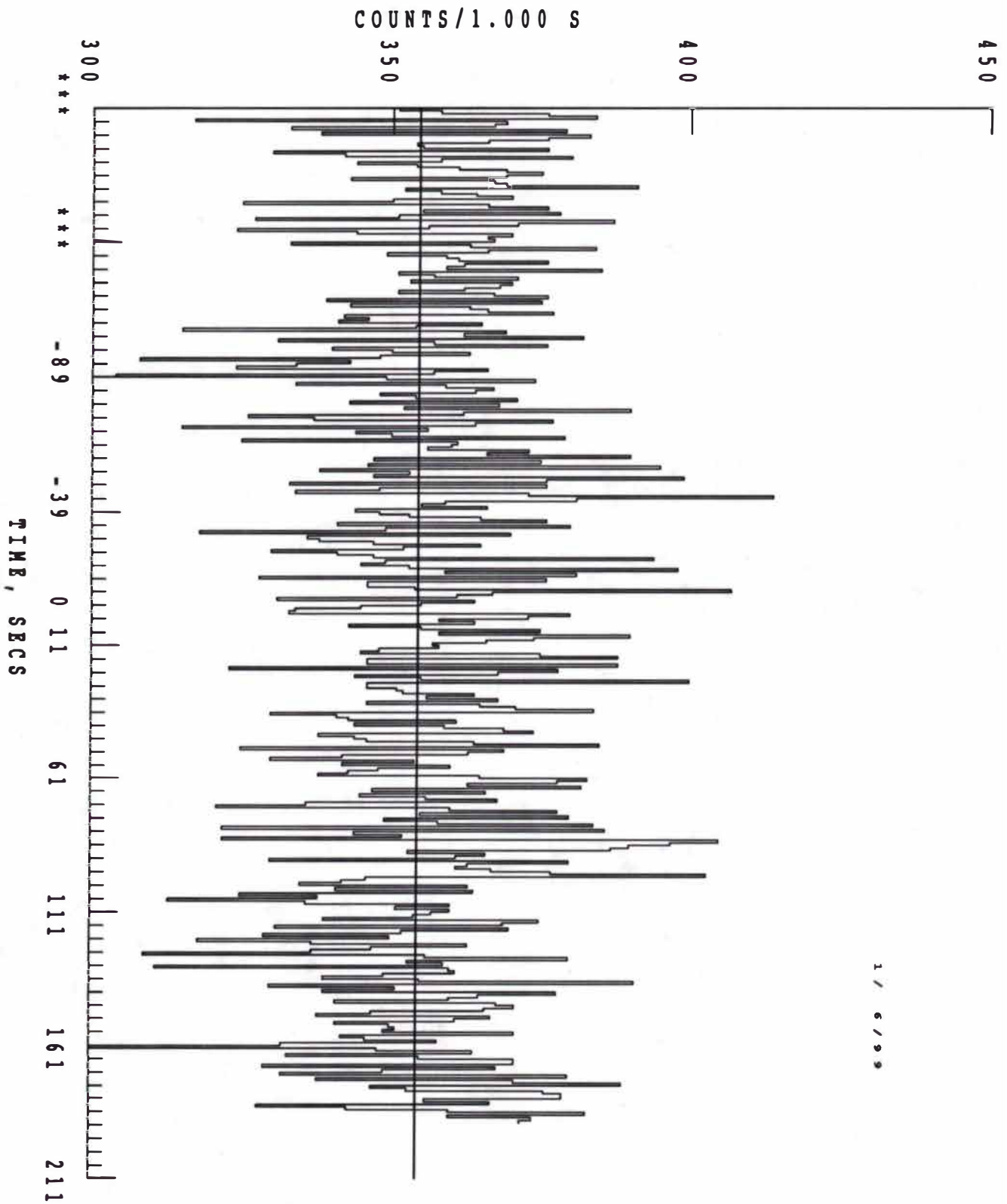
BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7093	980917	11073	22376	5900	320	+58	.5

NEAR

17/09/98

22536.714

100-1000 keV



From SURASAK@fender.msfc.nasa.gov Mon Sep 21 14:29:38 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Mon, 21 Sep 1998 16:29:22 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7094

Sep 17

TIME: TJD=1073 SECONDS=31437 08:43:57

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=16.9 AZIMUTH=354.6 ERROR=4.858 DEGREES

COMMENTS:

SGR 1900+14. DOUBLE PEAK SPIKE. DURATION ABOUT 0.5 S. NOT VISIBLE ABOVE
100 KEV.

BATSE BURST# 7094

ULYSSES RT

23 / 9 / 98

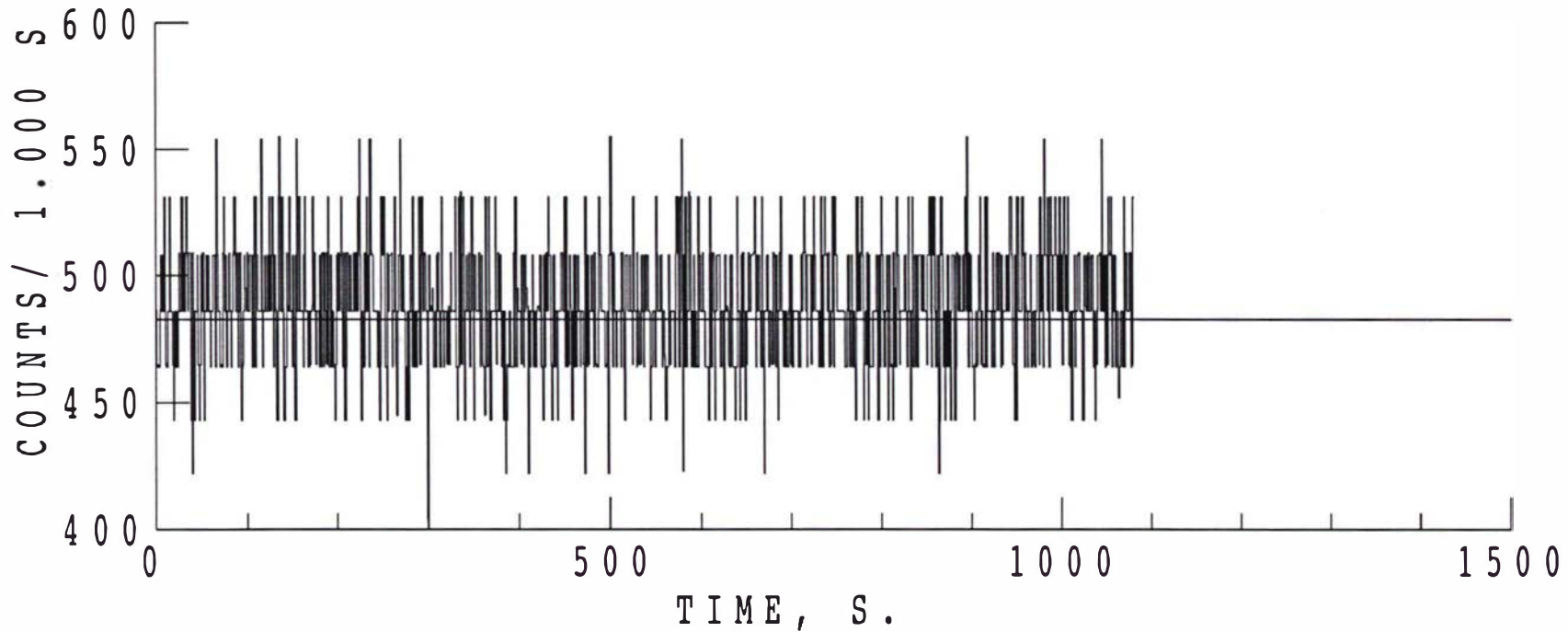
17 / 9 / 98 32688.191 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SURASAK@fender.msfc.nasa.gov Mon Sep 21 14:37:07 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Mon, 21 Sep 1998 16:36:39 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7095

Sep 17

TIME: TJD=1073 SECONDS=36415 10:06:55

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=25.2 AZIMUTH=357.2 ERROR=2.949 DEGREES

COMMENTS:

SGR 1900+14. SINGLE SPIKE. DURATION ABOUT 0.1 S. NOT VISIBLE ABOVE 100 KEV.

BATSE BURST# 7095

ULYSSES RT

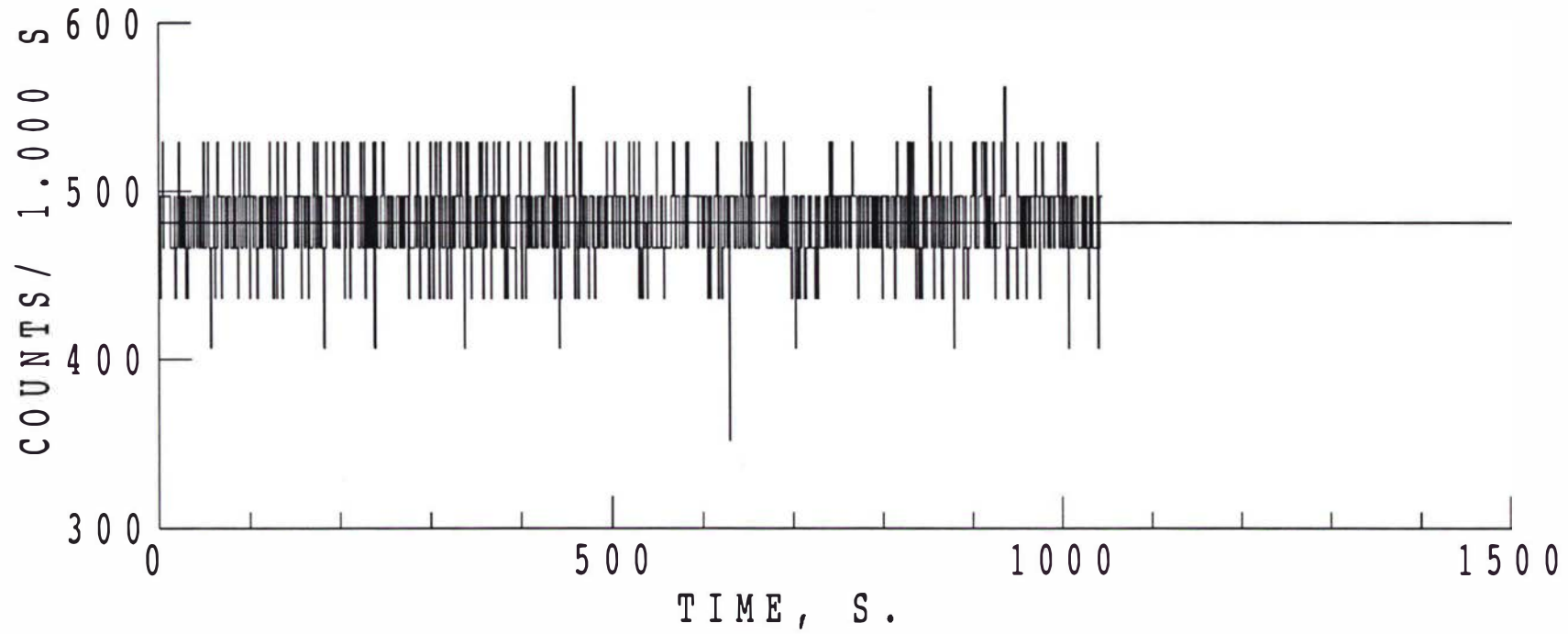
23 / 9 / 98

17 / 9 / 98 37692.242 s

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SURASAK@fender.msfc.nasa.gov Mon Sep 21 14:41:09 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Mon, 21 Sep 1998 16:40:53 -0500 (CDT)

To: burst@compTEL.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7096

Sep 17

TIME: TJD=1073 SECONDS=41628 11:33:48

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=18.0 AZIMUTH=5.1 ERROR=6.248 DEGREES

COMMENTS:

SGR 1900+14. SINGLE SPIKE. DURATION ABOUT 0.2 S. NOT VISIBLE ABOVE 100 KEV.

BATSE BURST# 7096

ULYSSES RT

23 / 9 / 98

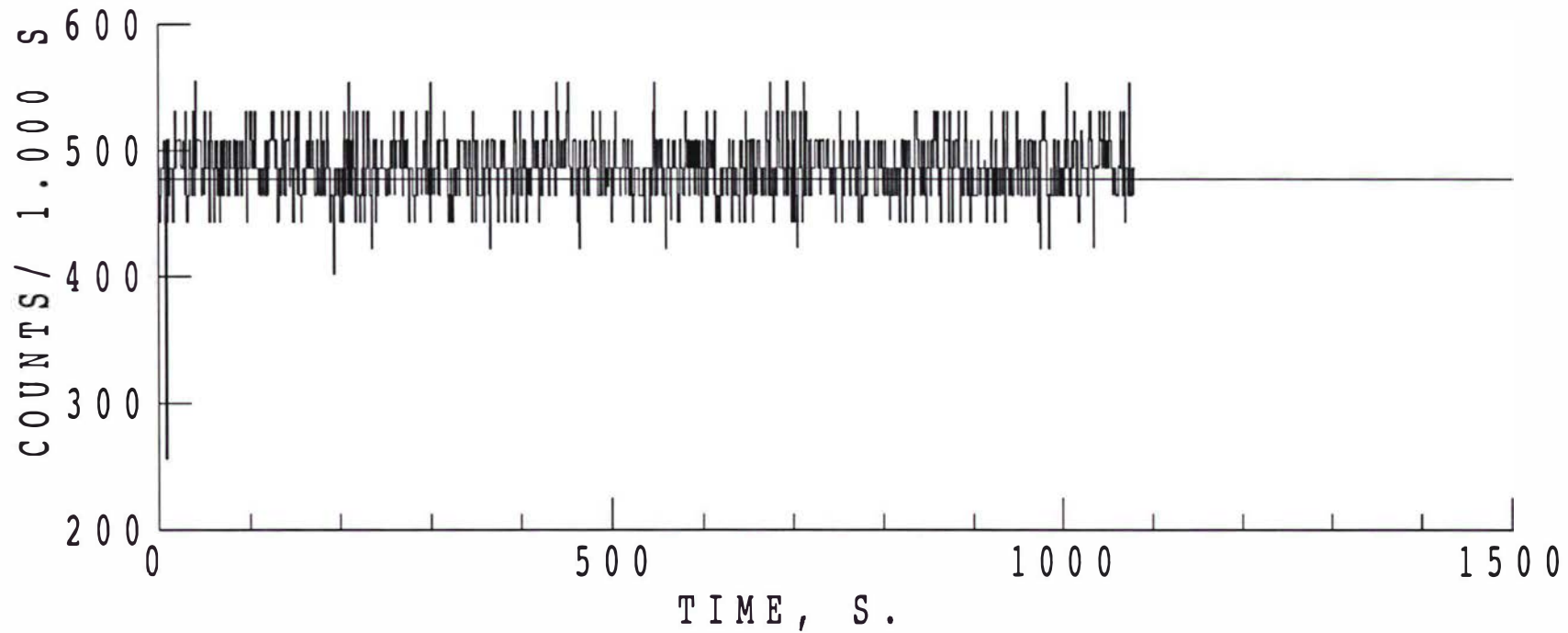
17 / 9 / 98 42876.301 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From WOODSP@fender.msfc.nasa.gov Wed Sep 23 08:50:24 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Wed, 23 Sep 1998 10:49:51 -0500 (CDT)

To: burst@compel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7097

286.8, 9.3

Sep 17

TIME: TJD=1073 SECONDS=54282

15:04:42

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=24.1 AZIMUTH=347.0 ERROR=6.1 DEGREES

COMMENTS:

SGR 1900+14. SINGLE SPIKE LASTING ABOUT 0.2 SEC. MARGINALLY
VISIBLE ABOVE 100 KEV.

BATSE BURST# 7097

ULYSSES RT

24 / 9 / 98

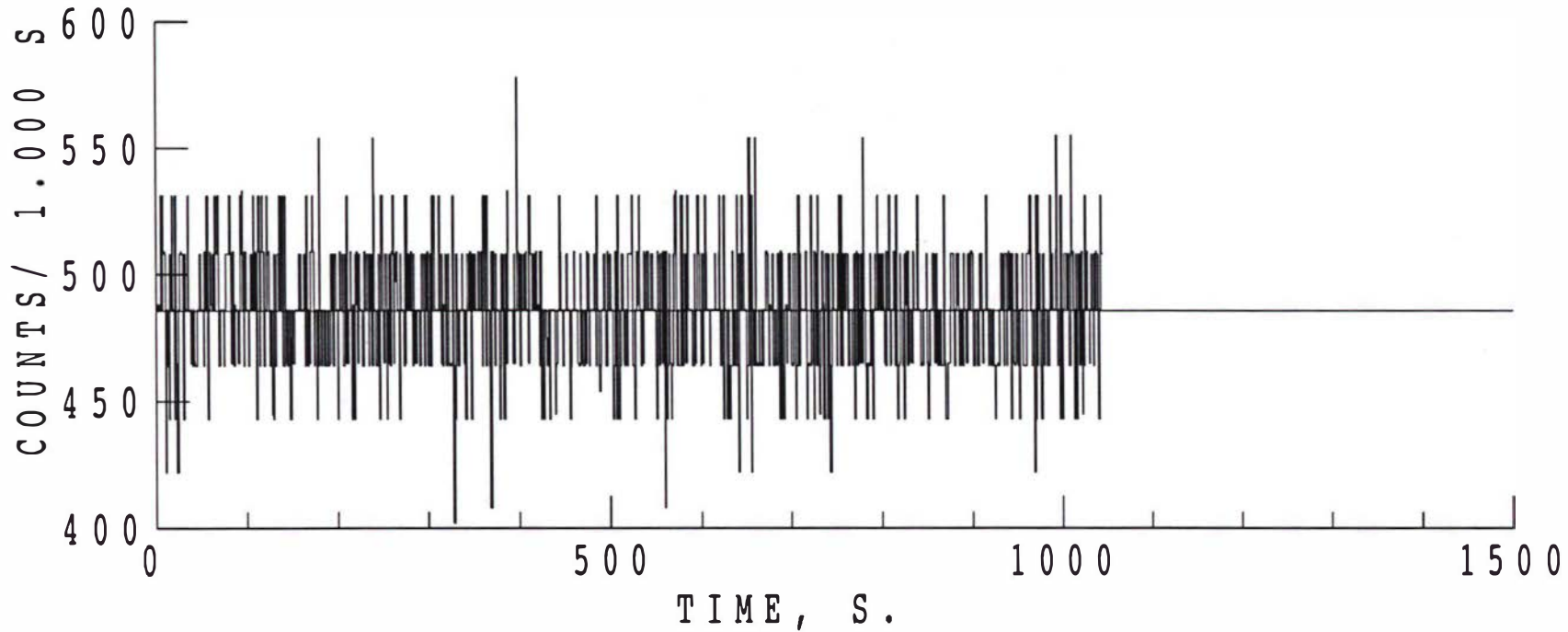
17 / 9 / 98 55584.434 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SURASAK@fender.msfc.nasa.gov Mon Sep 21 14:43:41 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Mon, 21 Sep 1998 16:43:24 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lhev.gsfc.nasa.gov, barthelmy@lhev.gsfc.nasa.gov,
bacodine@lhev.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhev.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7098

Sep 17

TIME: TJD=1073 SECONDS=55798 15:29:58

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=14.4 AZIMUTH=349.7 ERROR=5.696 DEGREES

COMMENTS:

SGR 1900+14. SINGLE SPIKE. DURATION ABOUT 0.2 S. NOT VISIBLE ABOVE 100 KEV.

BATSE BURST# 7098

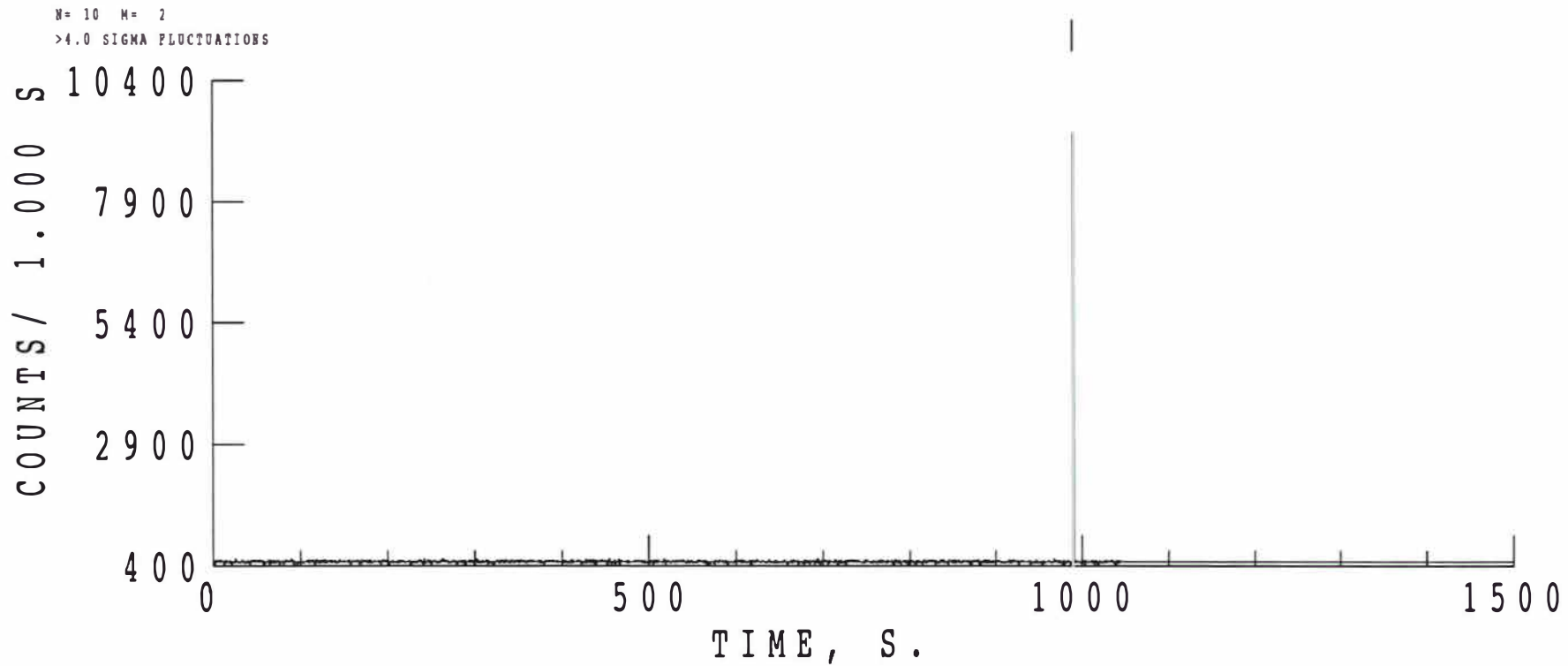
ULYSSES RT

23 / 9 / 98

17 / 9 / 98 57060.449 s

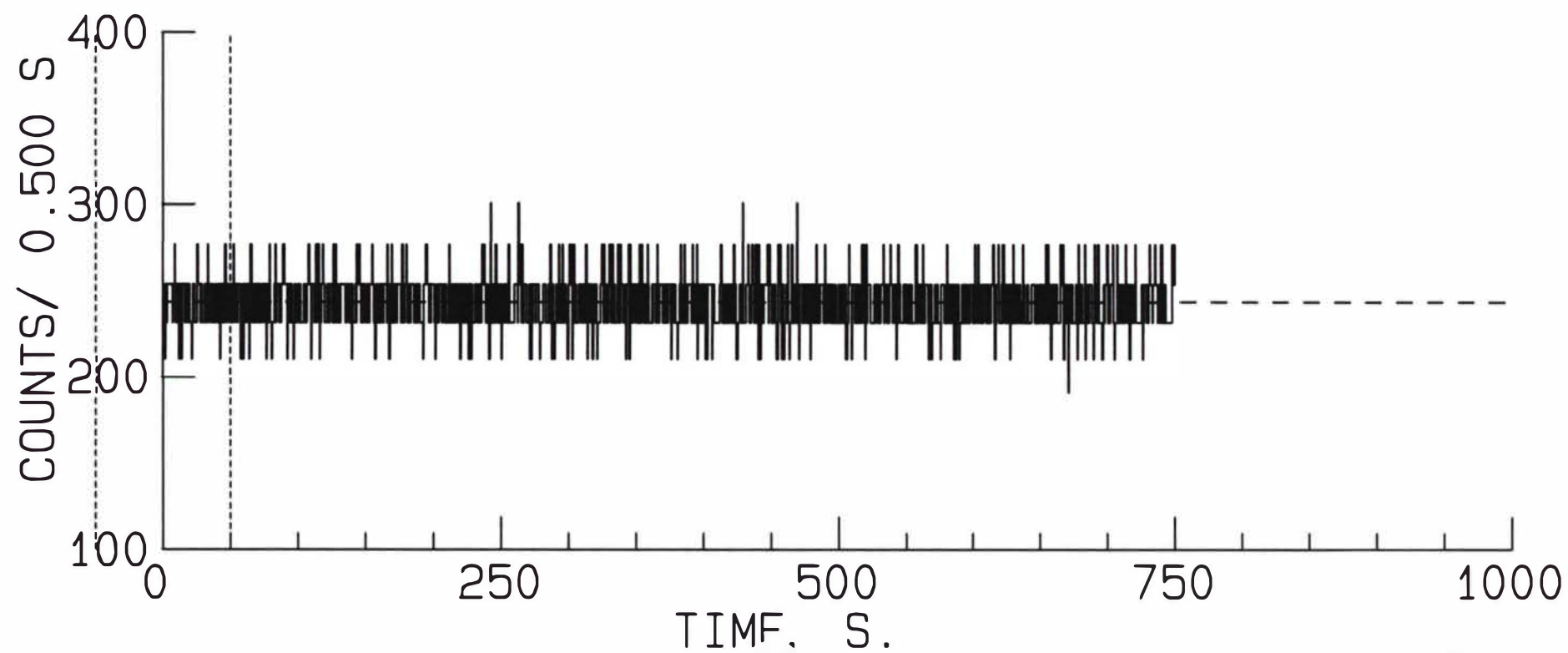
0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV



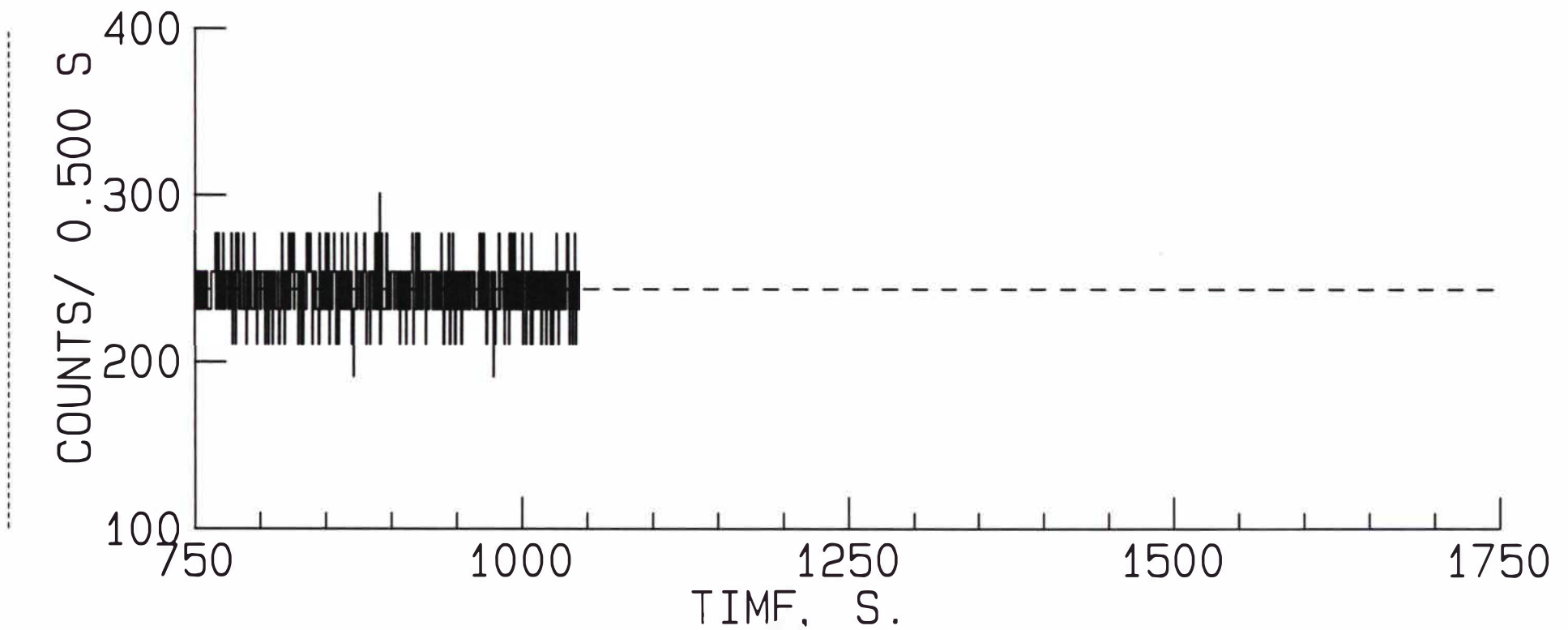
ULYSSES RT
17/ 9/98 57060.449 s
23- 155 keV

22/ 4/99



ULYSSES RT
17/ 9/98 57060.449 s
23- 155 keV

22/ 4/99



From SURASAK@fender.msfc.nasa.gov Mon Sep 21 14:46:03 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Mon, 21 Sep 1998 16:45:51 -0500 (CDT)

To: burst@compTEL.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7099

Sep 17

TIME: TJD=1073 SECONDS=60711 *16:51:51*

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=17.9 AZIMUTH=353.1 ERROR=4.152 DEGREES

COMMENTS:

SGR 1900+14. DOUBLE PEAK SPIKE. DURATION ABOUT 0.2 S. NOT VISIBLE ABOVE
100 KEV.

BATSE BURST# 7099

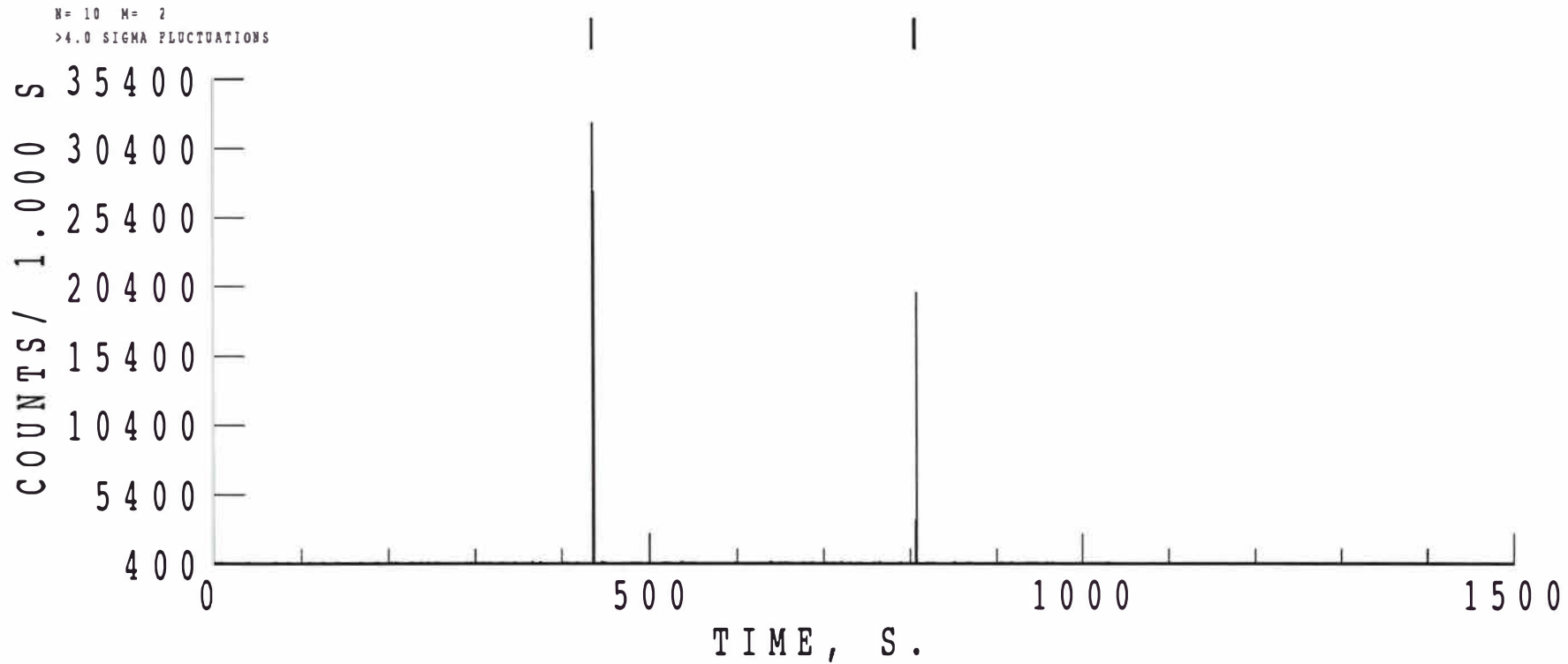
ULYSSES RT

23 / 9 / 98

17 / 9 / 98 61992.496 s

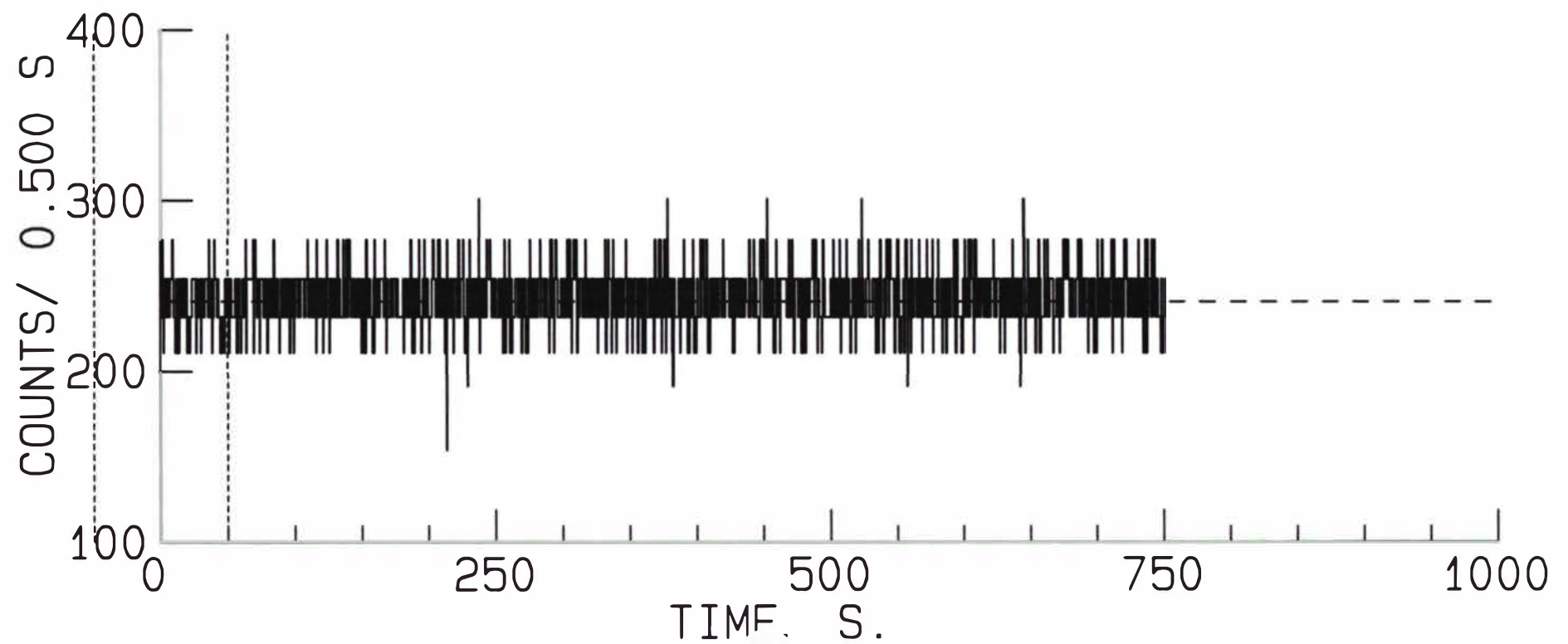
0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV



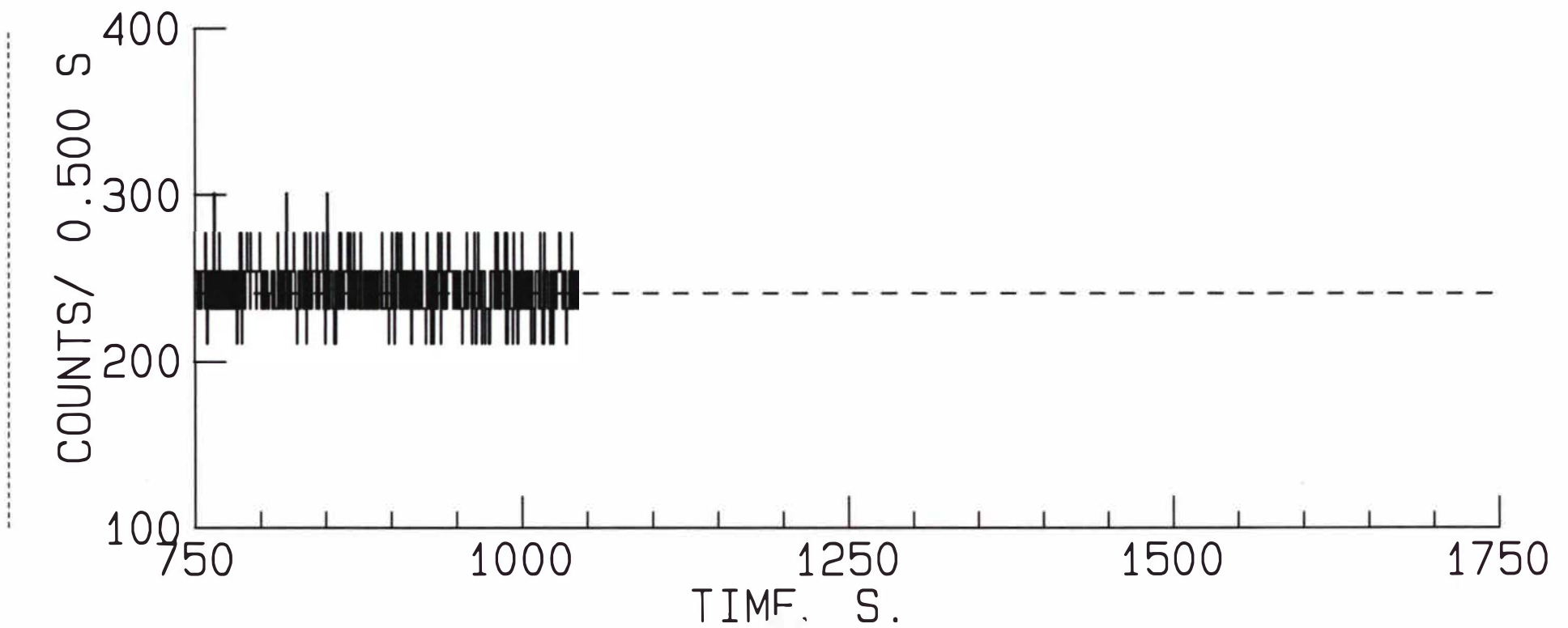
ULYSSES RT
17/ 9/98 61992.498 s
23- 155 keV

22/ 4/99



ULYSSES RT
17/ 9/98 61992.498 s
23- 155 keV

22/ 4/99



From SURASAK@fender.msfc.nasa.gov Mon Sep 21 14:47:45 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Mon, 21 Sep 1998 16:47:30 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7100

TIME: TJD=1073 SECONDS=77623 *Sep 17* 21:33:43

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=13.6 AZIMUTH=359.4 ERROR=3.836 DEGREES

COMMENTS:

SGR 1900+14. SINGLE SPIKE. NOT VISIBLE ABOVE 100 KEV.

BATSE BURST# 7100

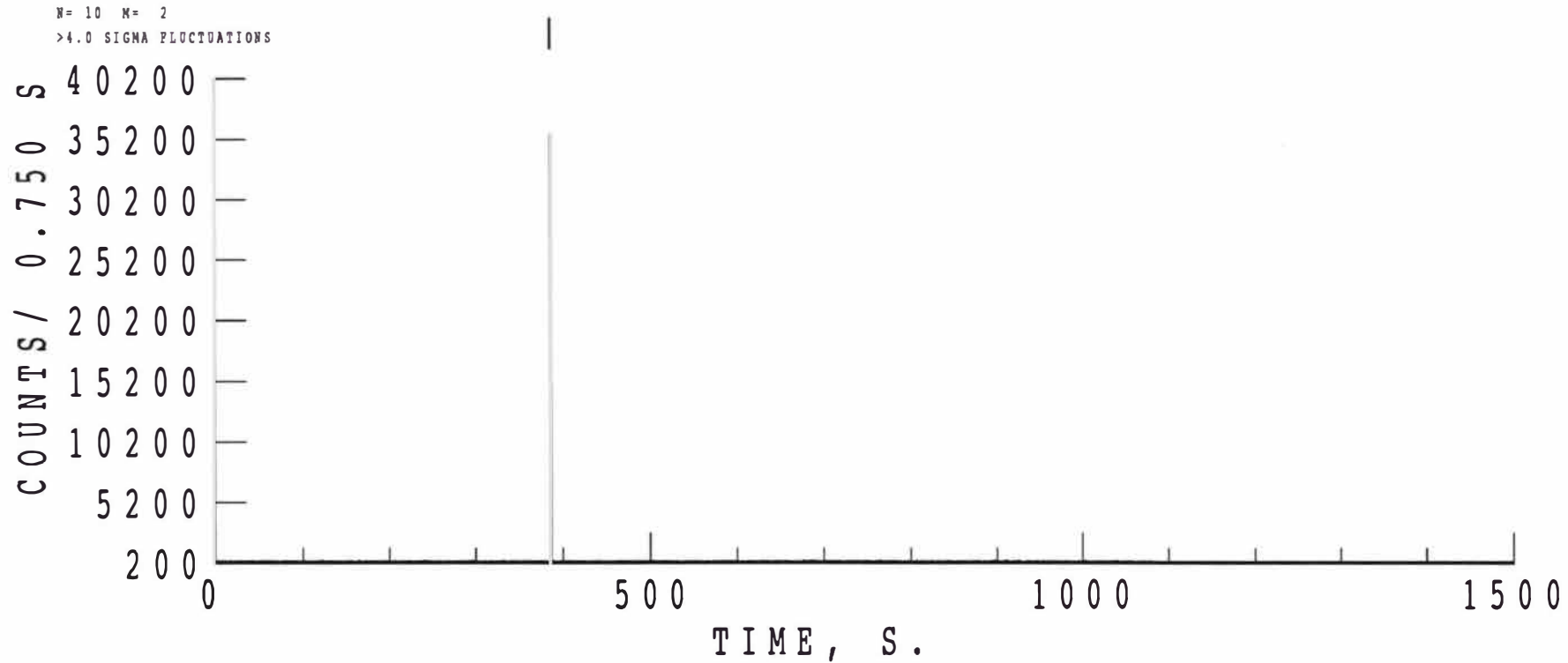
ULYSSES RT

23 / 9 / 98

17 / 9 / 98 78876.180 s

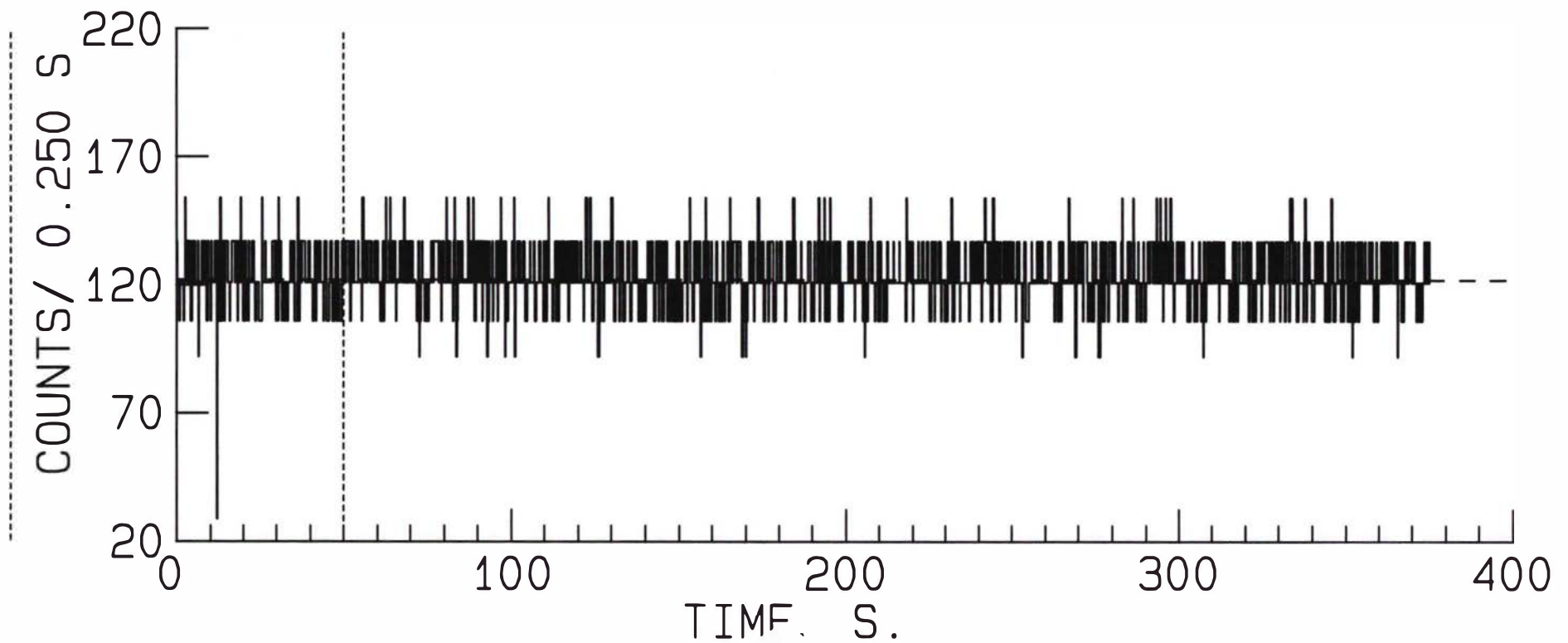
0.250 S INTERVALS REGROUPED BY 3

0 - 0 keV



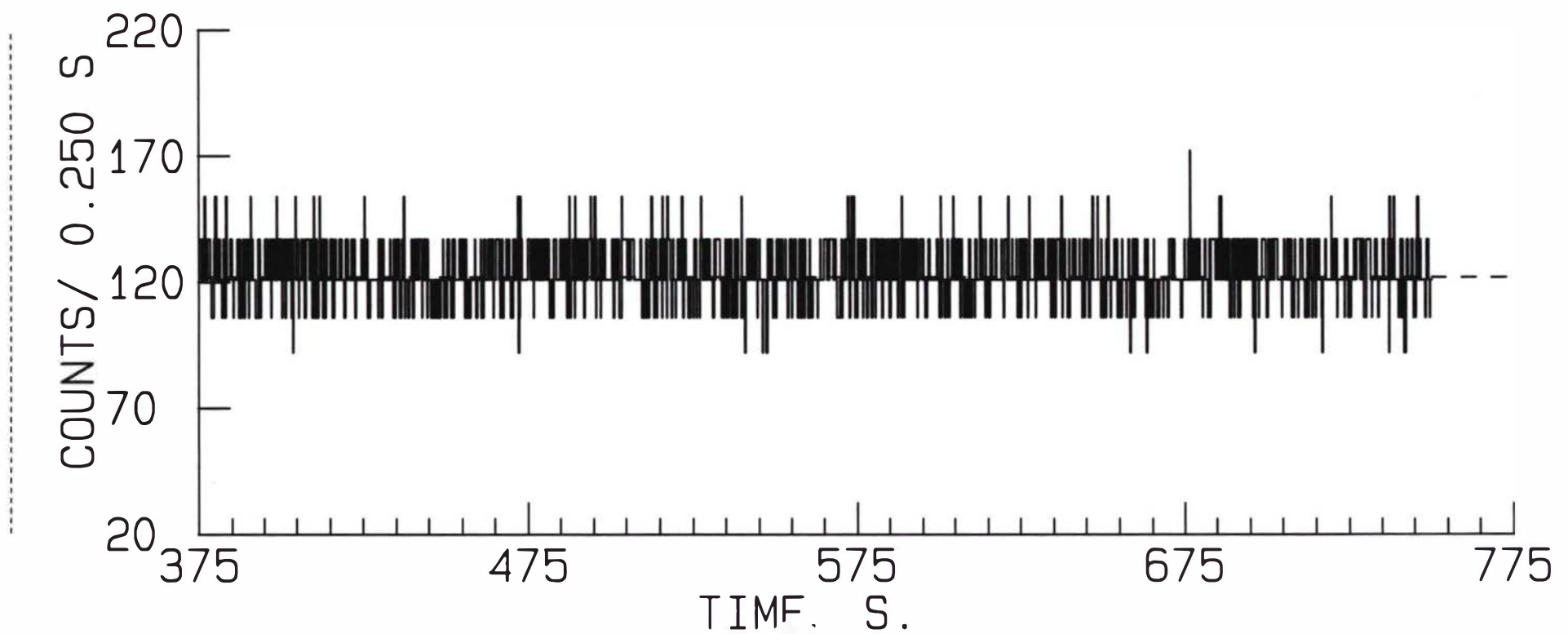
ULYSSES RT
17/ 9/98 78876.177 s
23- 155 keV

22/ 4/99



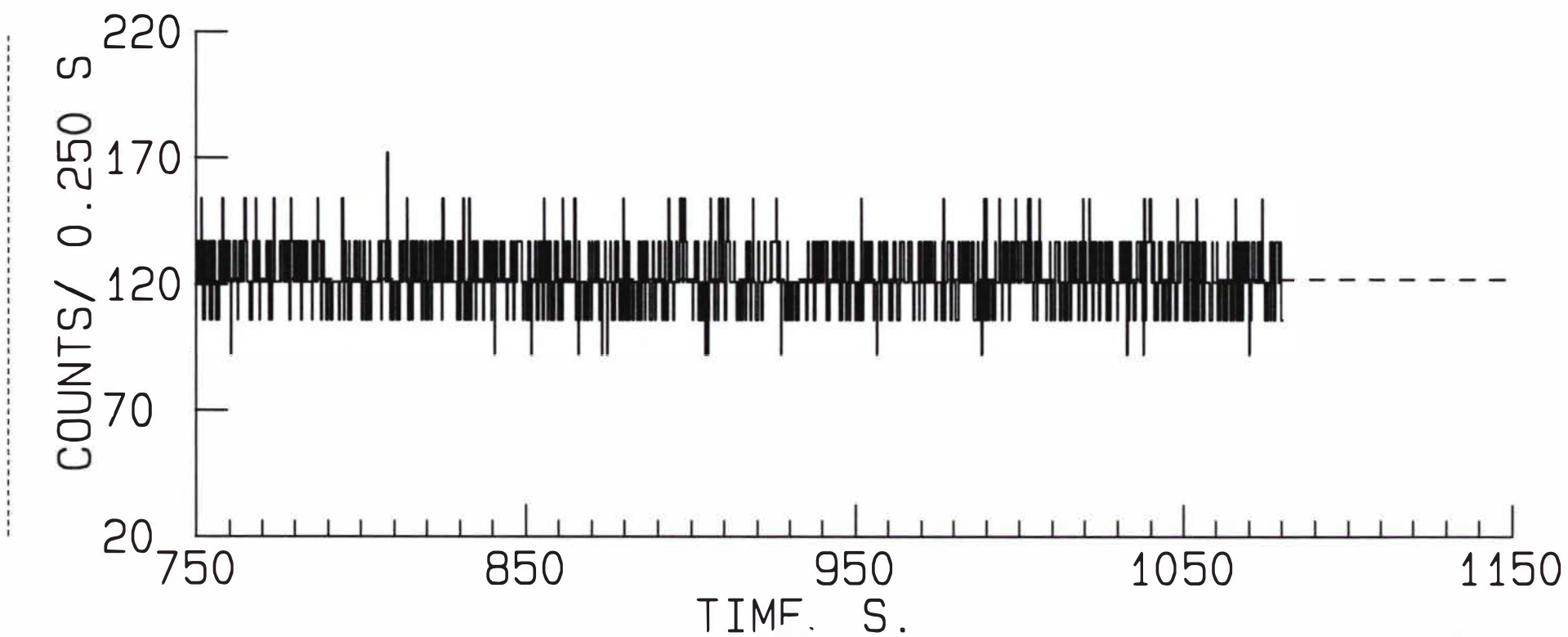
ULYSSES RT
17/ 9/98 78876.177 s
23- 155 keV

22/ 4/99

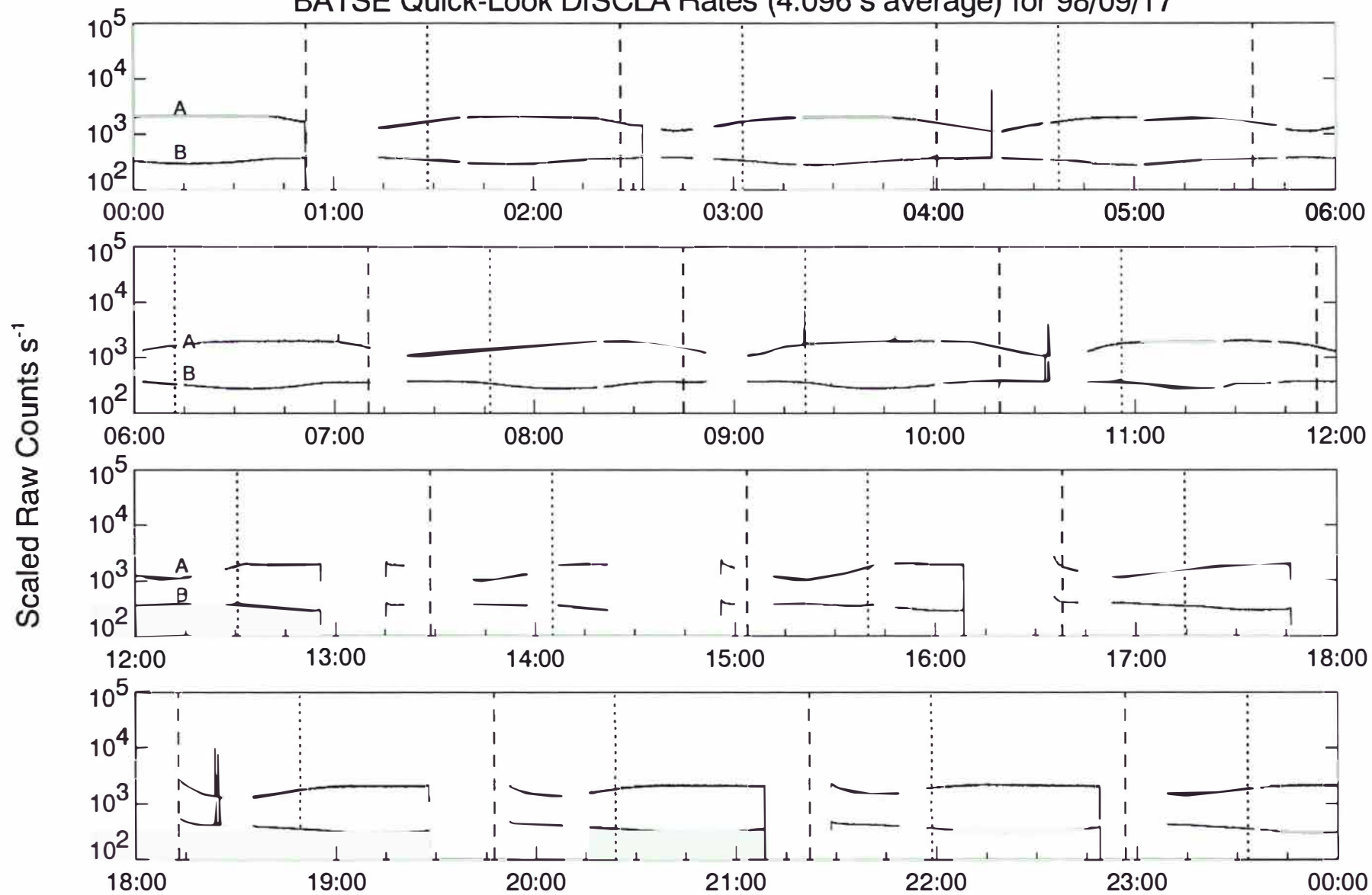


ULYSSES RT
17/ 9/98 78876.177 s
23- 155 keV

22/ 4/99



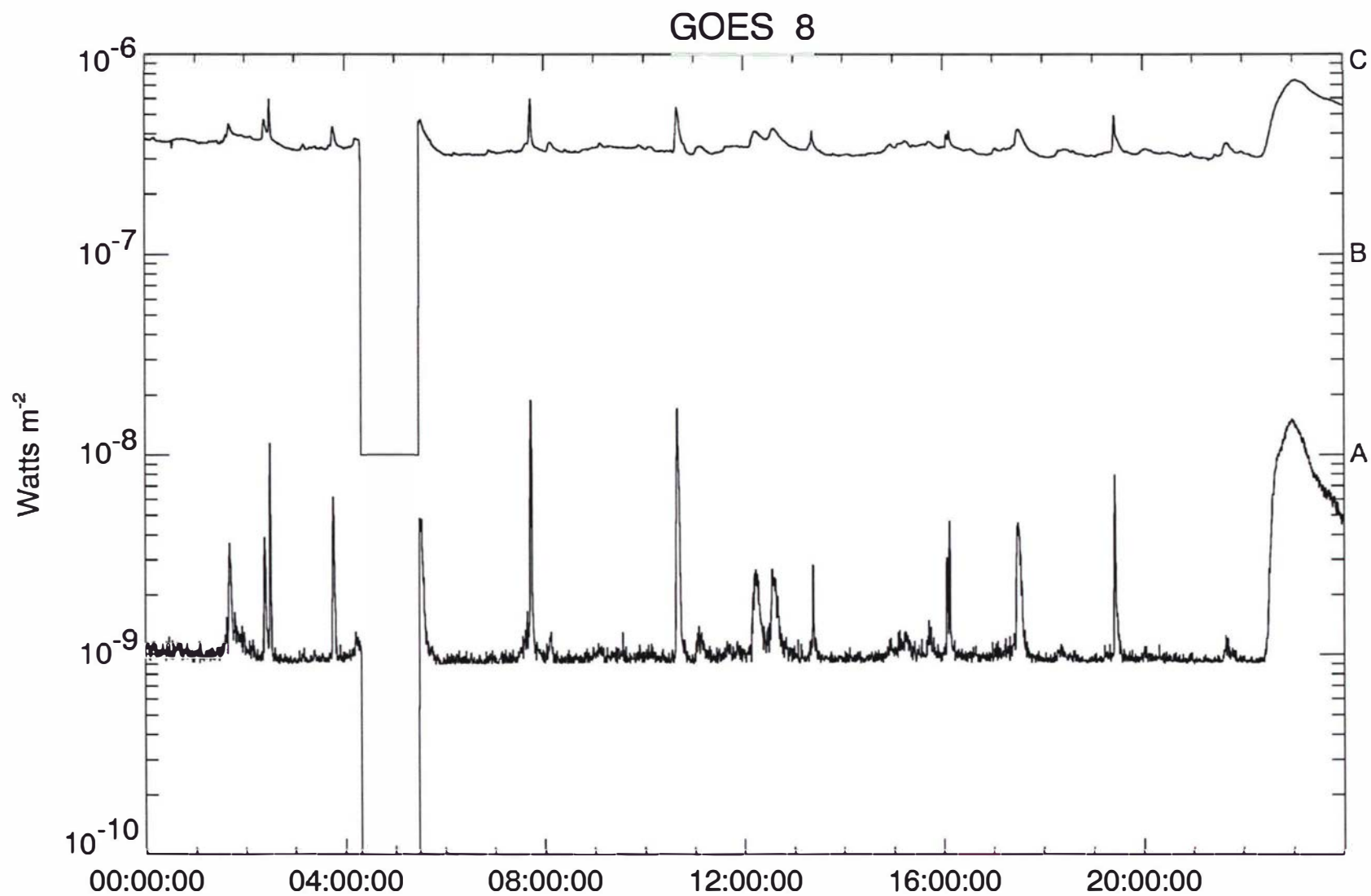
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/09/17



Current Time: 98/09/21, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare



Data Start: 98/09/17, 0000:00

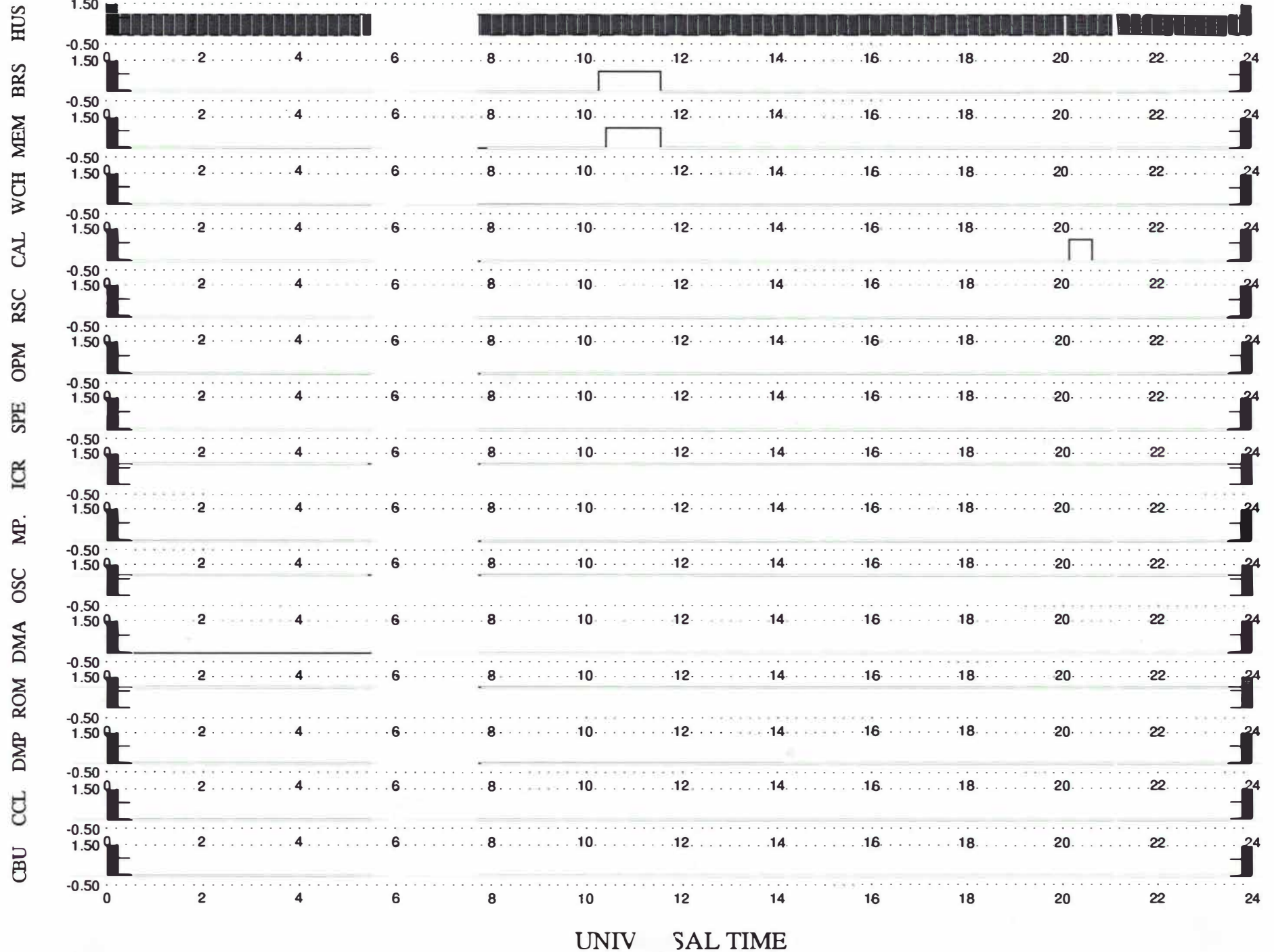
Plot created: 98/09/21, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

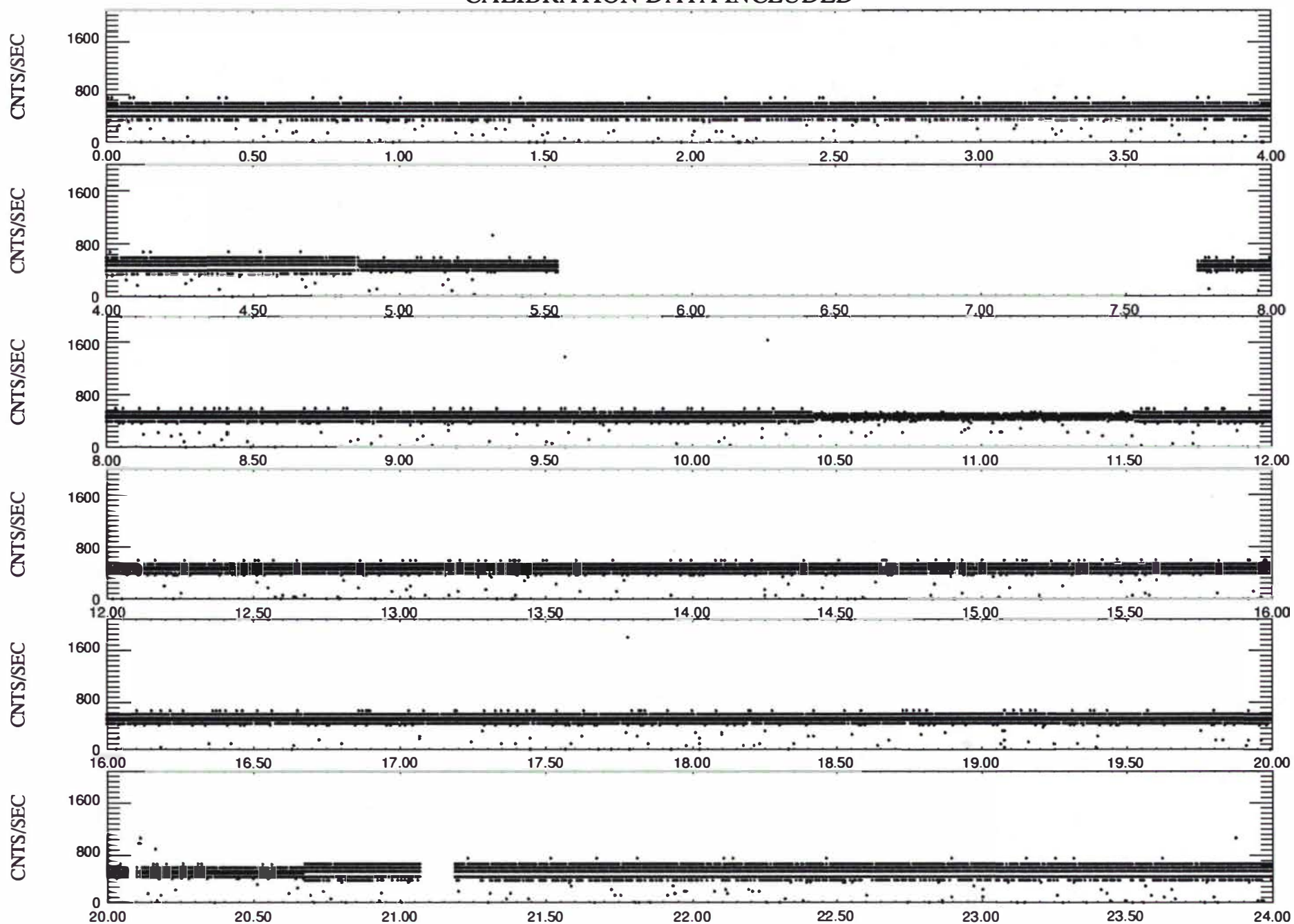
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BURST NUMBER 12

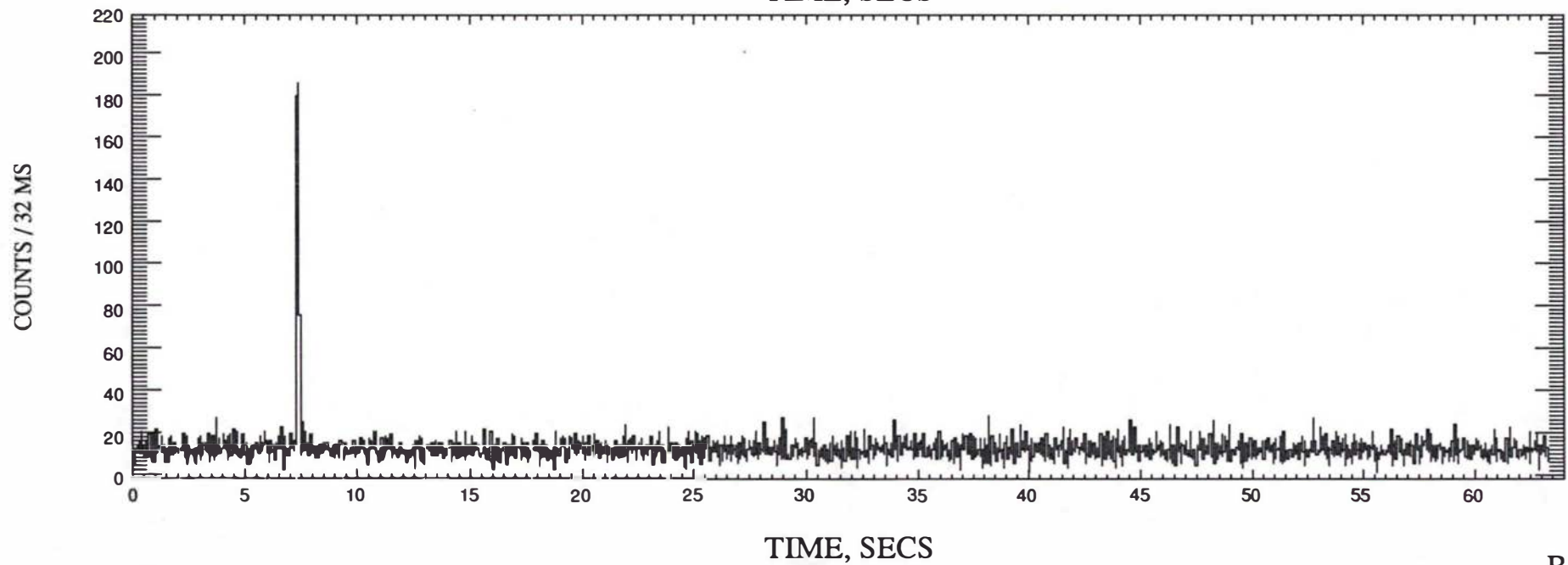
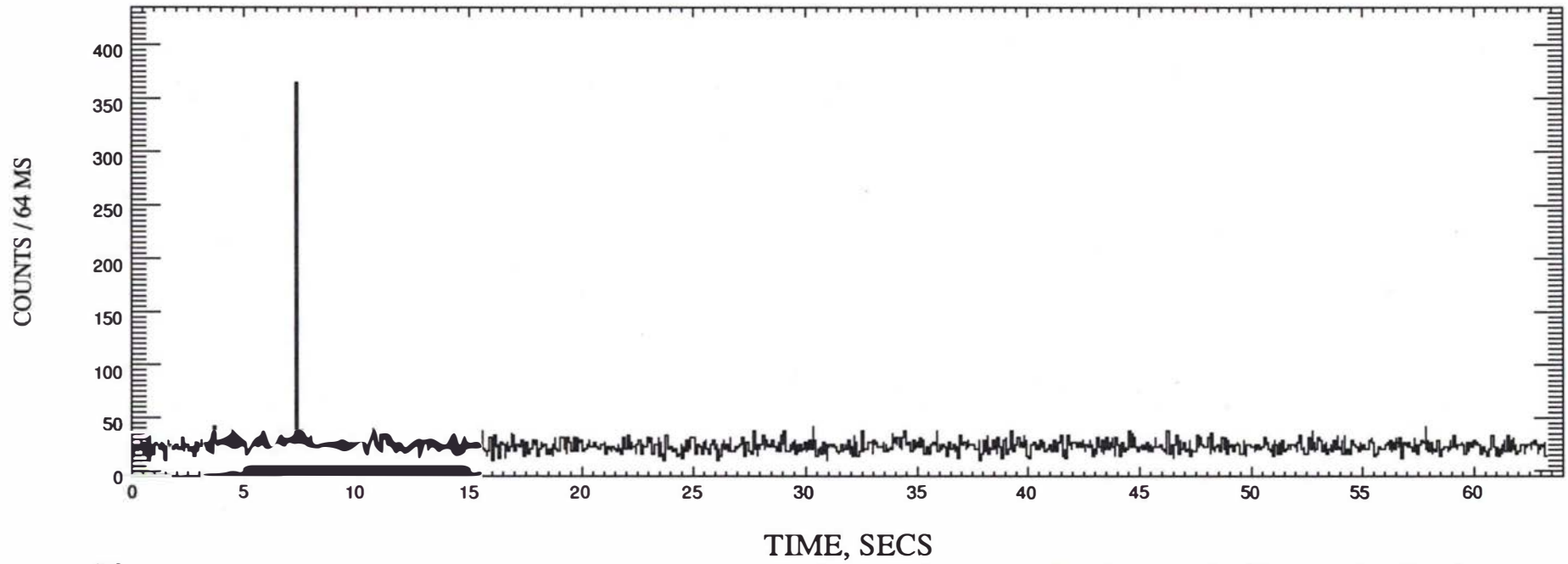


CALIBRATION DATA INCLUDED

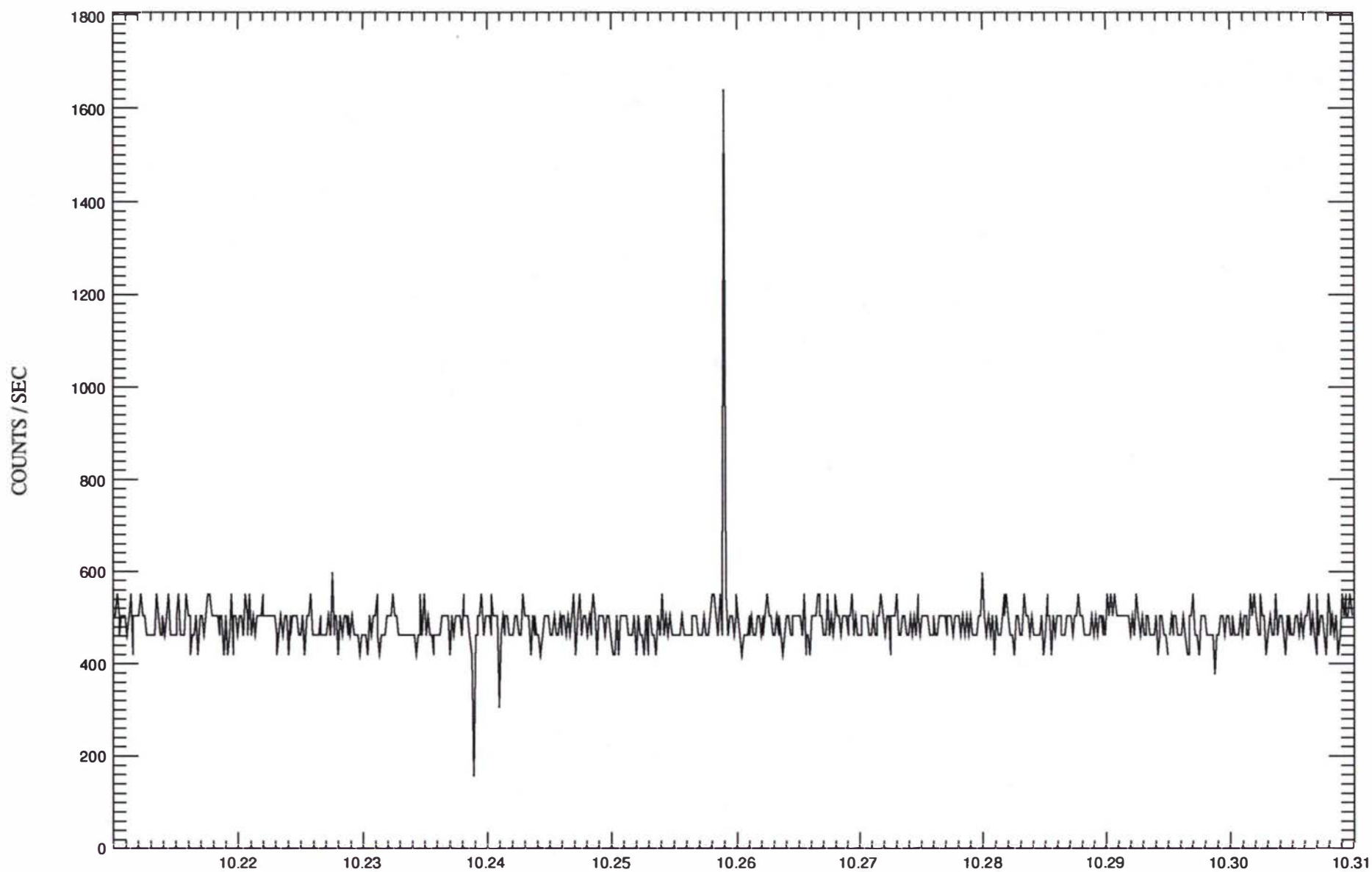


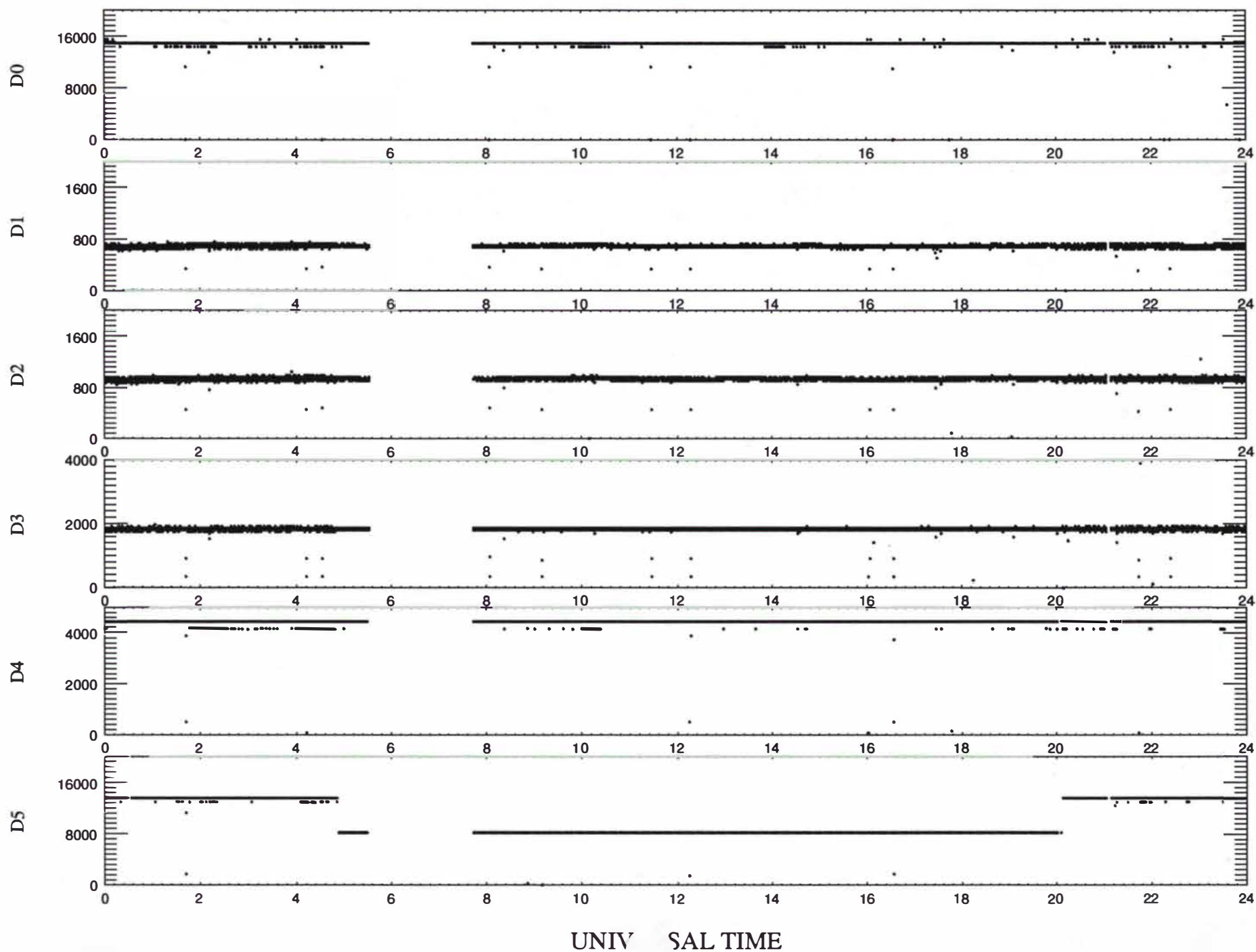
UNIV SAL TIME

Burst Counter 12 at UT=10.259201592339 h=36933.126 s 10:15:33.126



CALIBRATION DATA INCLUDED





From RICHARDSON@fender.msfc.nasa.gov Mon Sep 21 11:16:54 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Mon, 21 Sep 1998 13:16:28 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7101

TIME: TJD=1074 SECONDS=41174

Sep 18
11:26:14

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=22.5 AZIMUTH=353.6 ERROR=3.0 DEGREES

COMMENTS:

SGR 1900+14

SINGLE PULSE, DURATION APPROX. = 0.4 SEC. NOT VISIBLE ABOVE 100KEV.

BATSE BURST# 7101

ULYSSES RT

22 / 9 / 98

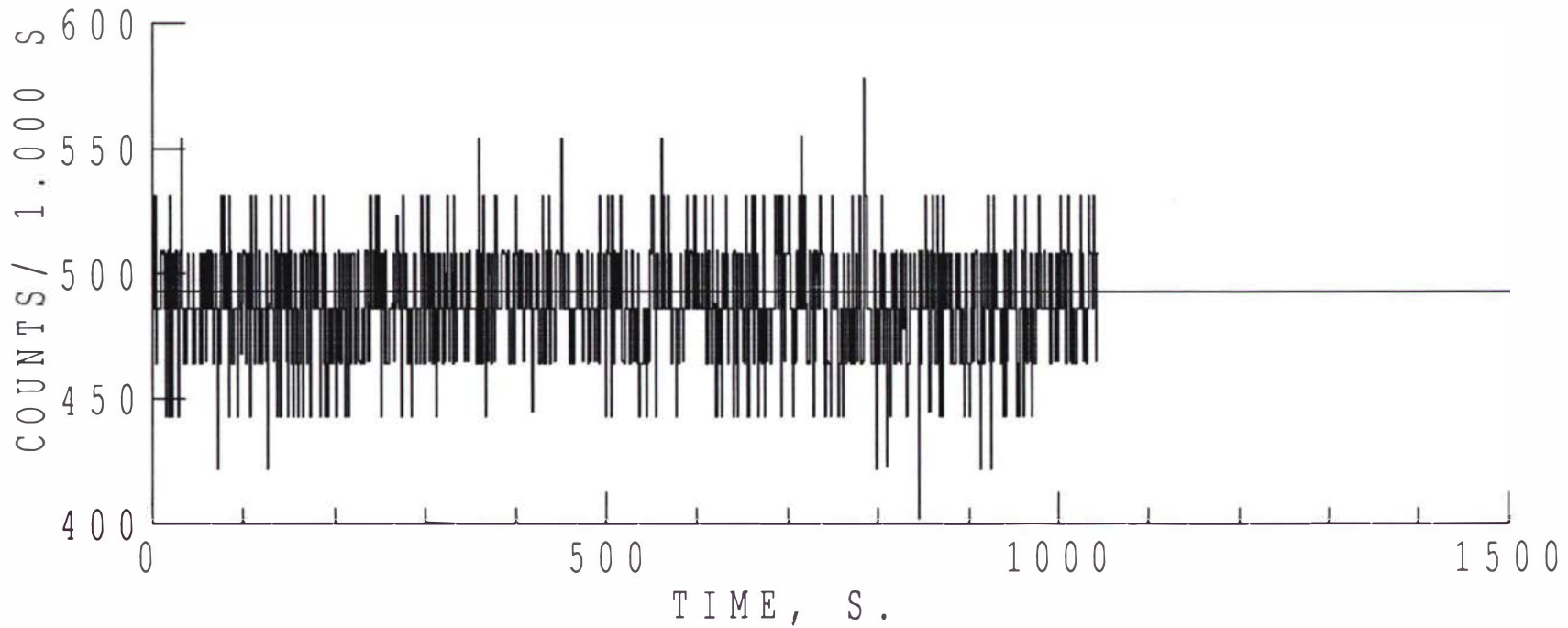
18 / 9 / 98 42480.199 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



Date: Dec 12 2012

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

- ☒ Jim Schmidling's stat file correction applied?
- ☒ Final ephemeris used?
- ☐ Final, CDROM data used?
- ☒ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution?

2. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

2. For Odyssey events

- ☐ Was CHECKMO run to eliminate data gaps?
- ☐ Did the Odyssey ephemeris correspond to the event time? (When there is data in the database, the ephemeris is for the start of record, usually ~1320 s prior to the request time; when there is no data in the database, the ephemeris is for the request time in the e-mail, so the request time in mosearch should be equal to the GRB time. Note that the time in the return e-mail will be ~1320 s prior to the time requested, in the line "no HEND data...")
- ☐ Was Mars-blocking used?
- ☐ For cruise phase data (April – October 2001), was the updated data used? (Old data has timing errors)
- ☐ GRS database searched for triggered data? Database data between August 2005 and January 2006 should be re-extracted, due to timing errors. (E-mailed data should be OK).
- ☐ GRS and HEND data cross-correlated to check timing?

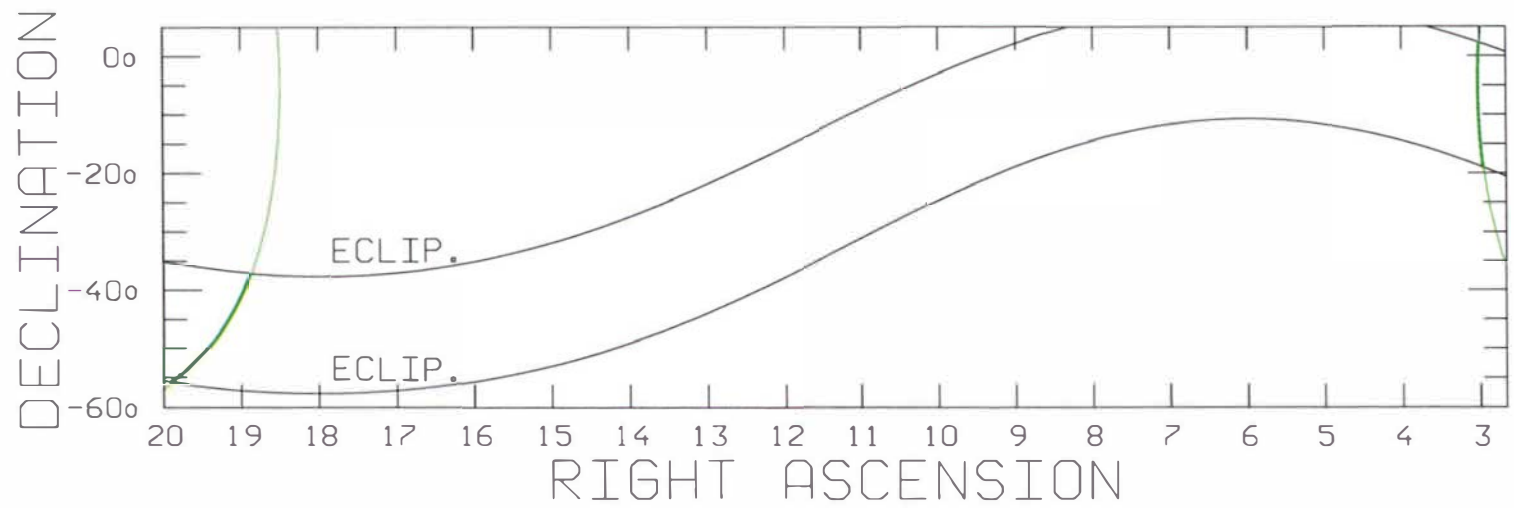
2. For 3 or More Spacecraft events

- ☐ $\Sigma 3\Delta t$'s calculated, and/or BMAPSUM executed?

3. For INTEGRAL events

- ☐ INTEGRAL SPI-ACS website checked for bursts that weren't transmitted automatically?
- ☐ 125 ms added to INTEGRAL SPI-ACS time for bursts prior to April 2 2004 11:00 UT?
- ☐ Updated ephemeris used for bursts prior to September 30, 2003?

-
- ☒ ACCESS and MBL4 databases updated with identical times?



KONUS 19980918 47800

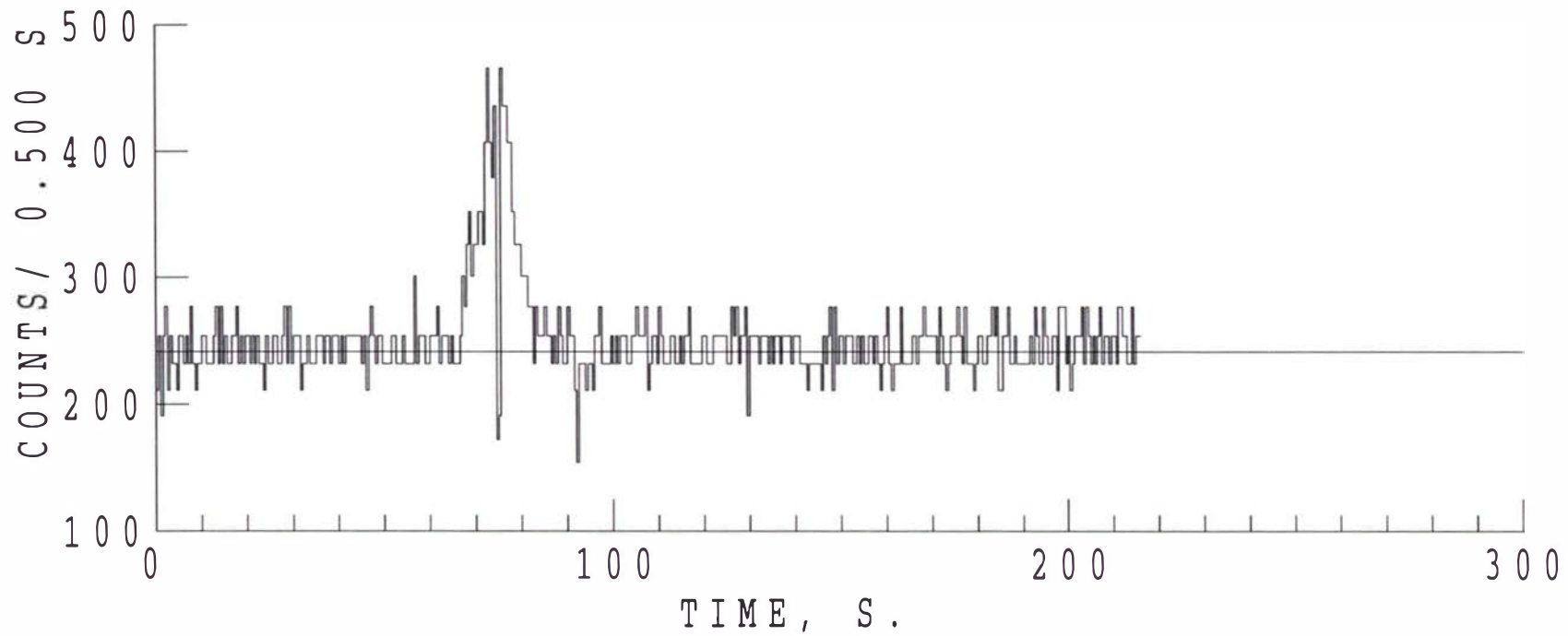
ULYSSES RT

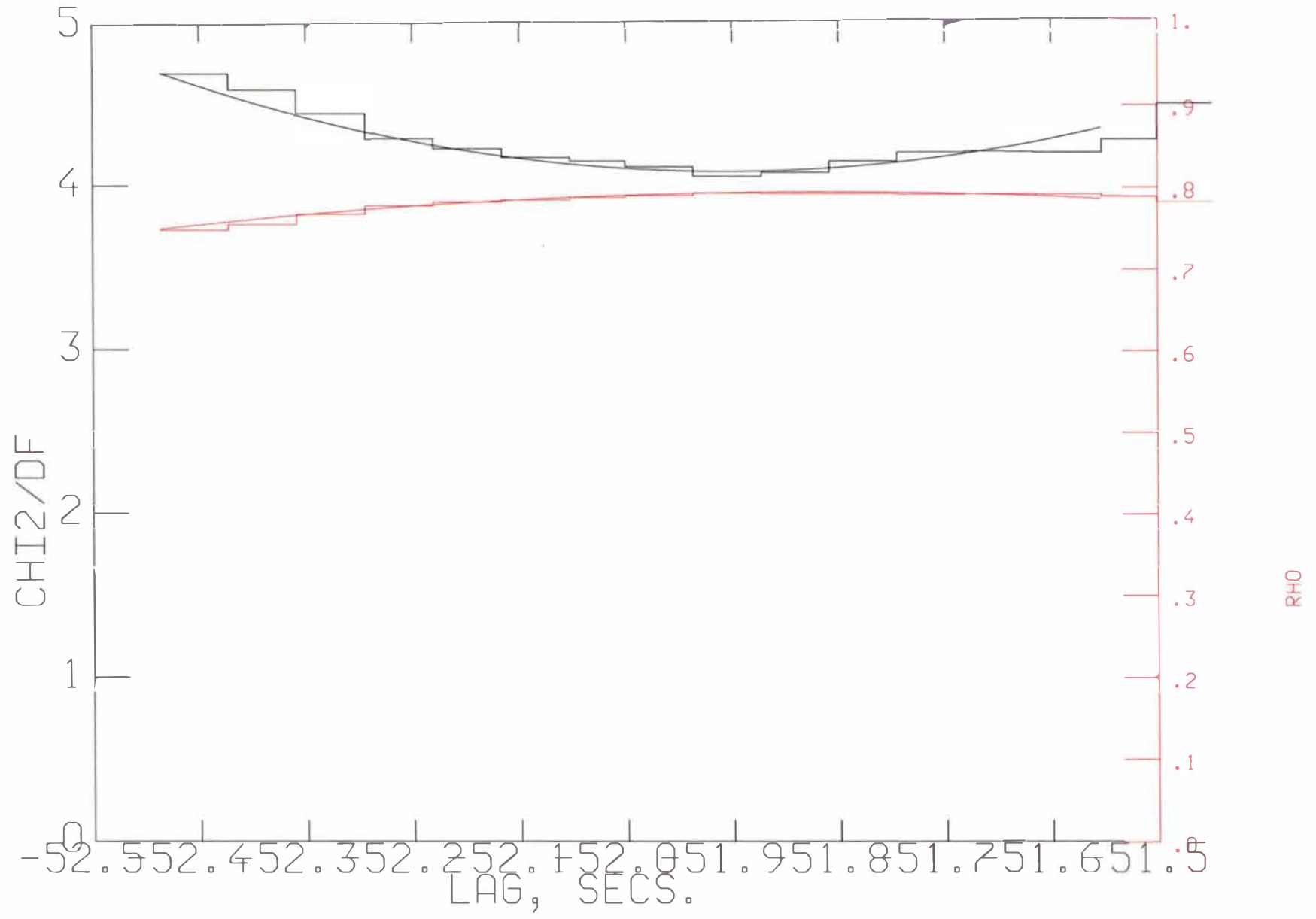
12 / 12 / 12

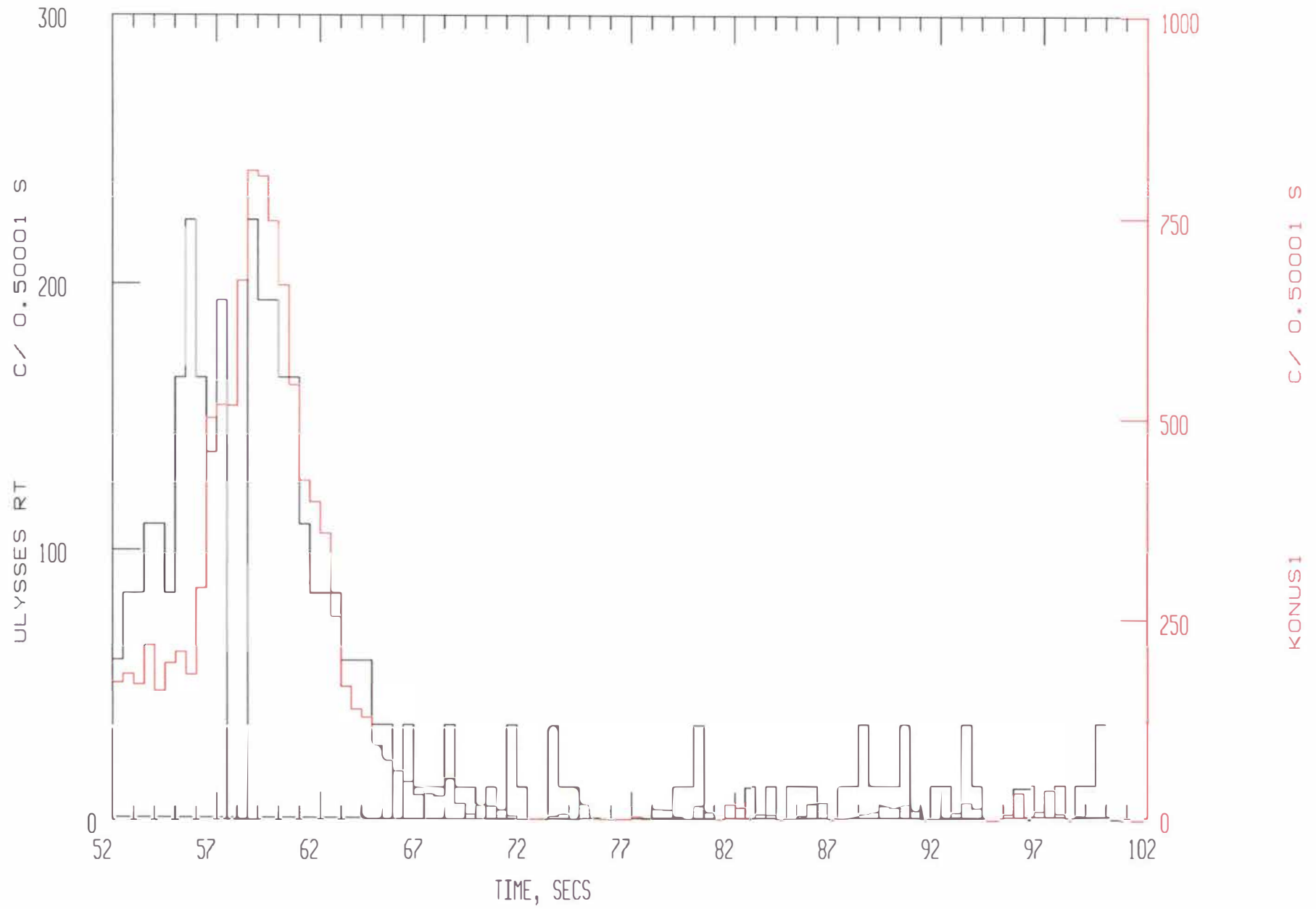
18/09/98 47700.258 s

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS





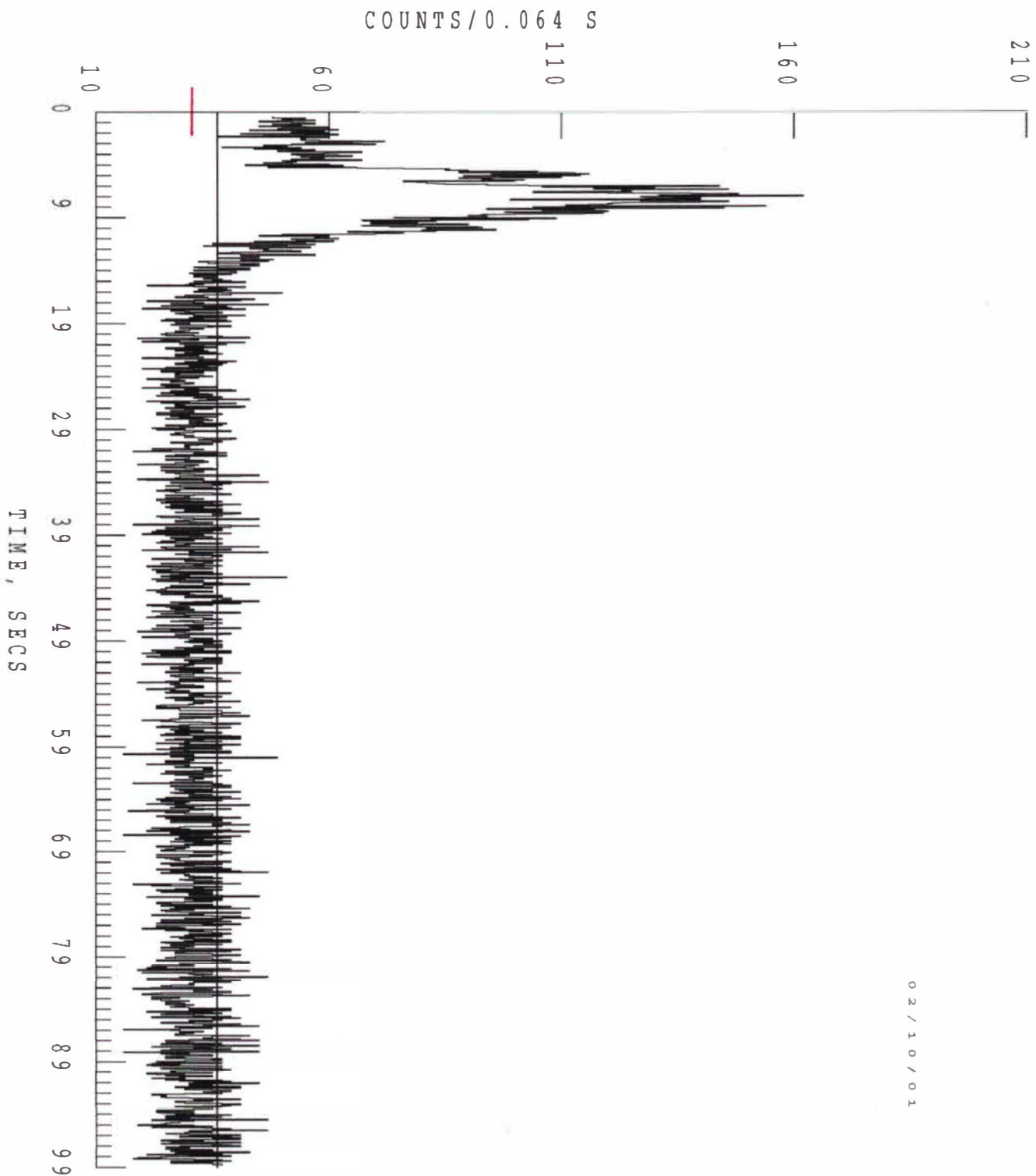


KONUS1

18/09/98

46384.643

50- 200 keV



From RICHARDSON@fender.msfc.nasa.gov Mon Sep 21 11:31:07 1998
Return-Path: <RICHARDSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA01028; Mon, 21 Sep 1998 11:31:06 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA07759; Mon, 21 Sep 1998 11:31:05 -0700
Date: Mon, 21 Sep 1998 13:30:03 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980921133003.2024eada@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7102
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7102
EVENT OF 1998 SEP 18 DAY OF YEAR=261
EVENT CROSSING TIME AT BATSE : 49797. S. OR 13:49:57.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 135.000 27.000
BATSE PEAK COUNTING RATE: 8500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 18/ 9/ 98 IS:
RA= 160.748 DEC= 2.161 DIST= 6.297 AU
BATSE-ULYSSES DISTANCE = 941961139. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=144.99 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2573.60 SECS.
CROSSING TIME AT ULYSSES IS 47223. S. OR 13:07:03 +/- 323.86 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 18/ 9/ 98 IS:
RA= 140.743 DEC= 16.596 DIST= 2.313 AU
MARS-BATSE DISTANCE = 346061728. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=168.31 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1130.41 SECS.
CROSSING TIME AT MARS IS 48667. S. OR 13:31:06 +/- 23.43 SECONDS

BATSE BURST TRIGGER

NO.: 7102

TIME: TJD=1074 SECONDS=49797

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=136.6 AZIMUTH=267.3 ERROR=11.2 DEGREES

COMMENTS:

GRB. SHORT SPIKE WITH THREE PEAKS. DURATION APPROX. = 0.35 SEC.
NOT VISIBLE ABOVE 300KEV.

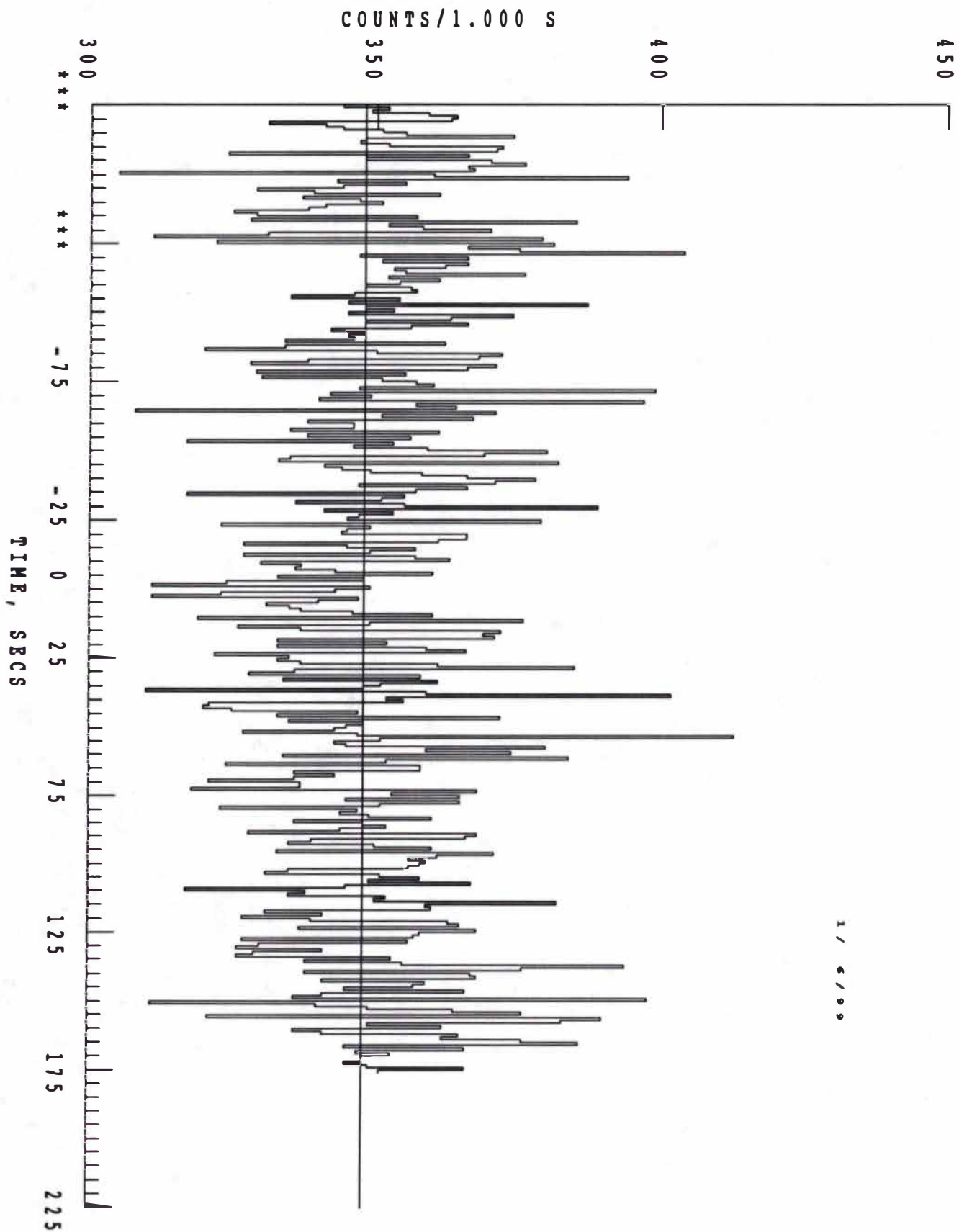
BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7102	980918	11074	49797	8500	135	+27	.35

NEAR

18/09/98

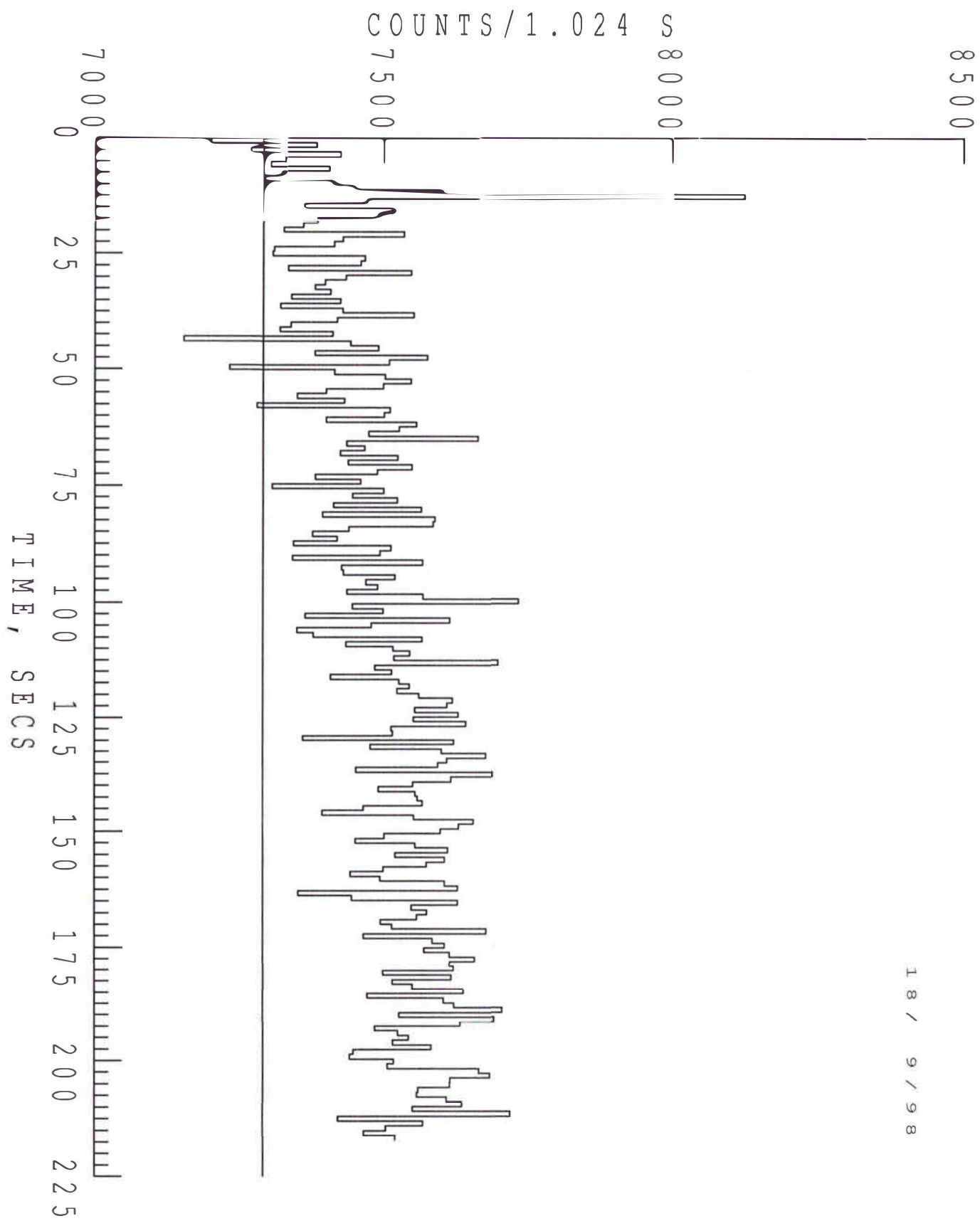
50243.685

100-1000 keV



BACODINE 7102 18/09/98 49785.569

25- 100 keV



BATSE BURST# 7102

ULYSSES RT

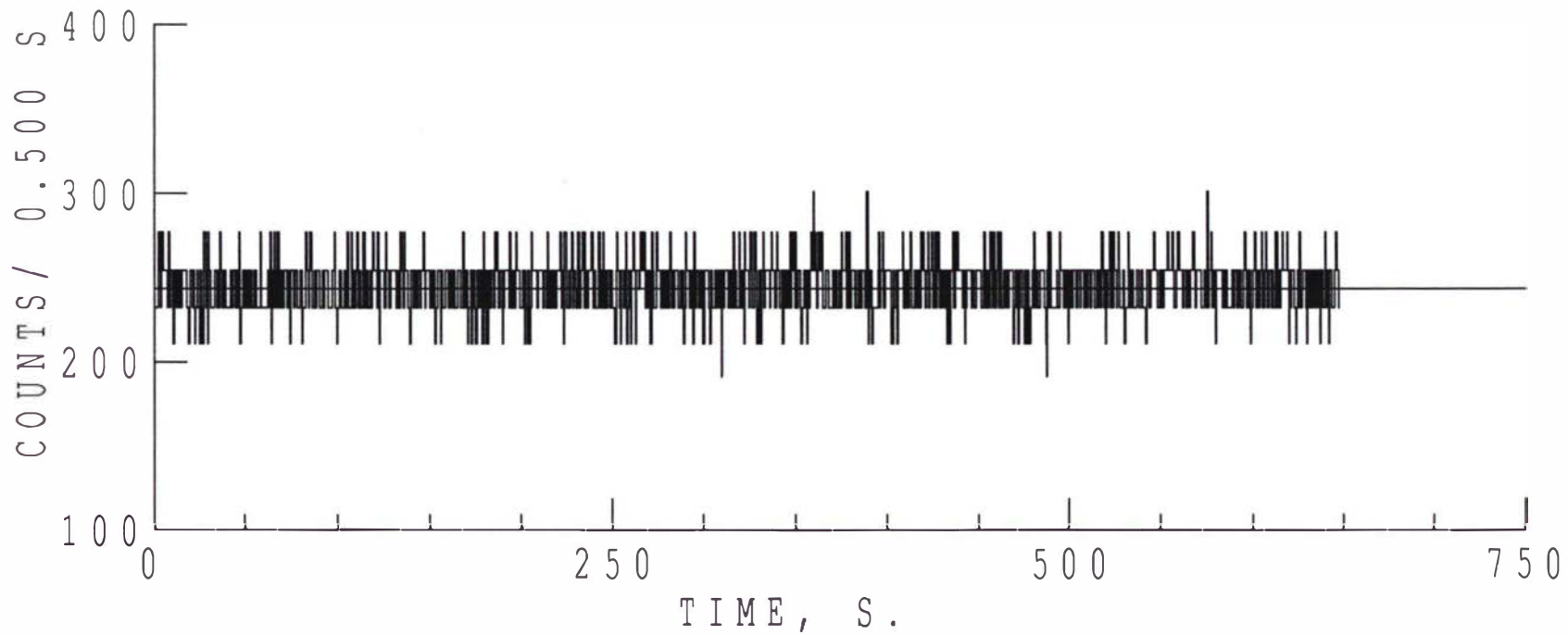
22 / 9 / 98

18 / 9 / 98 46908.242 s

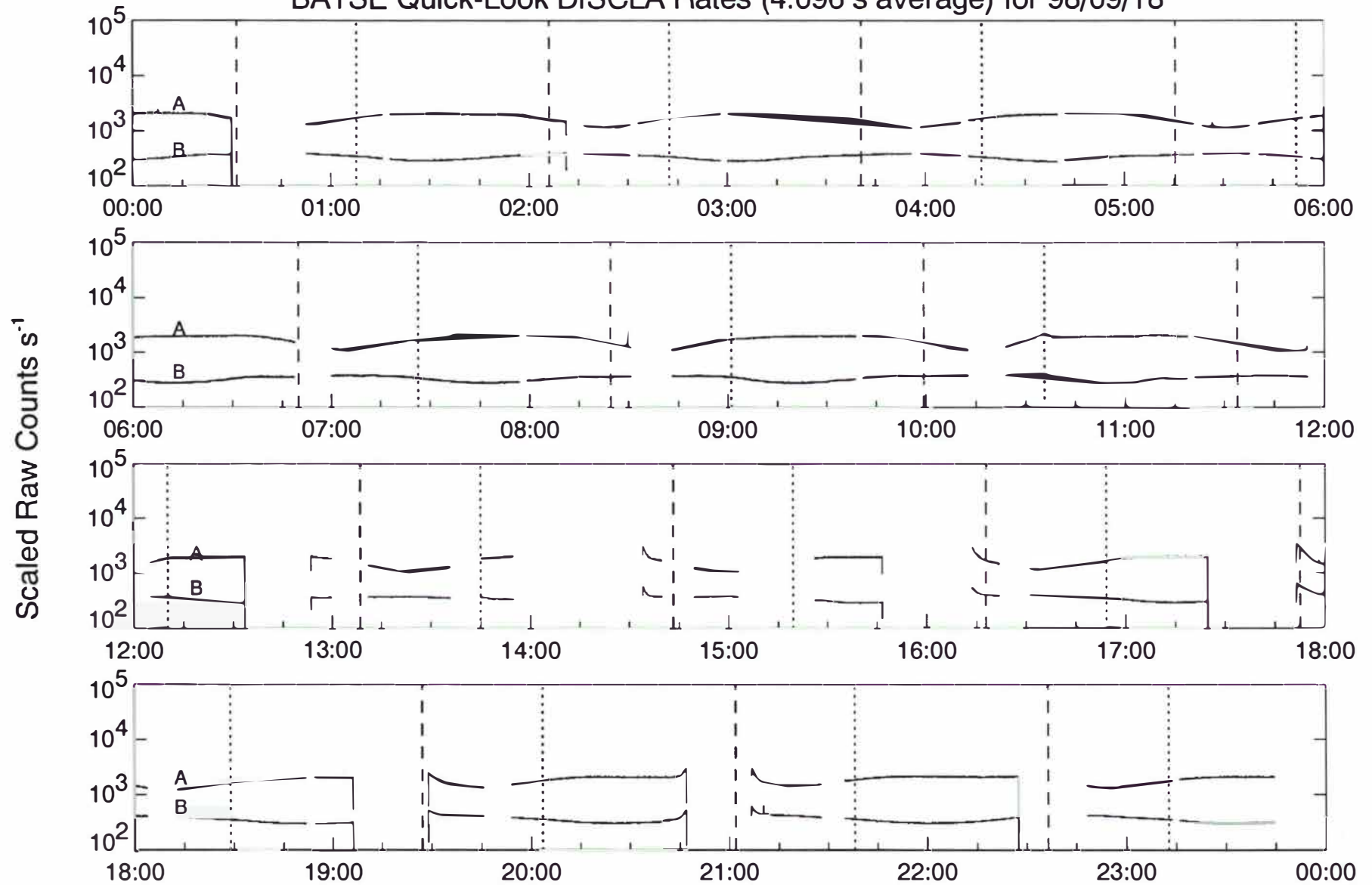
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/09/18

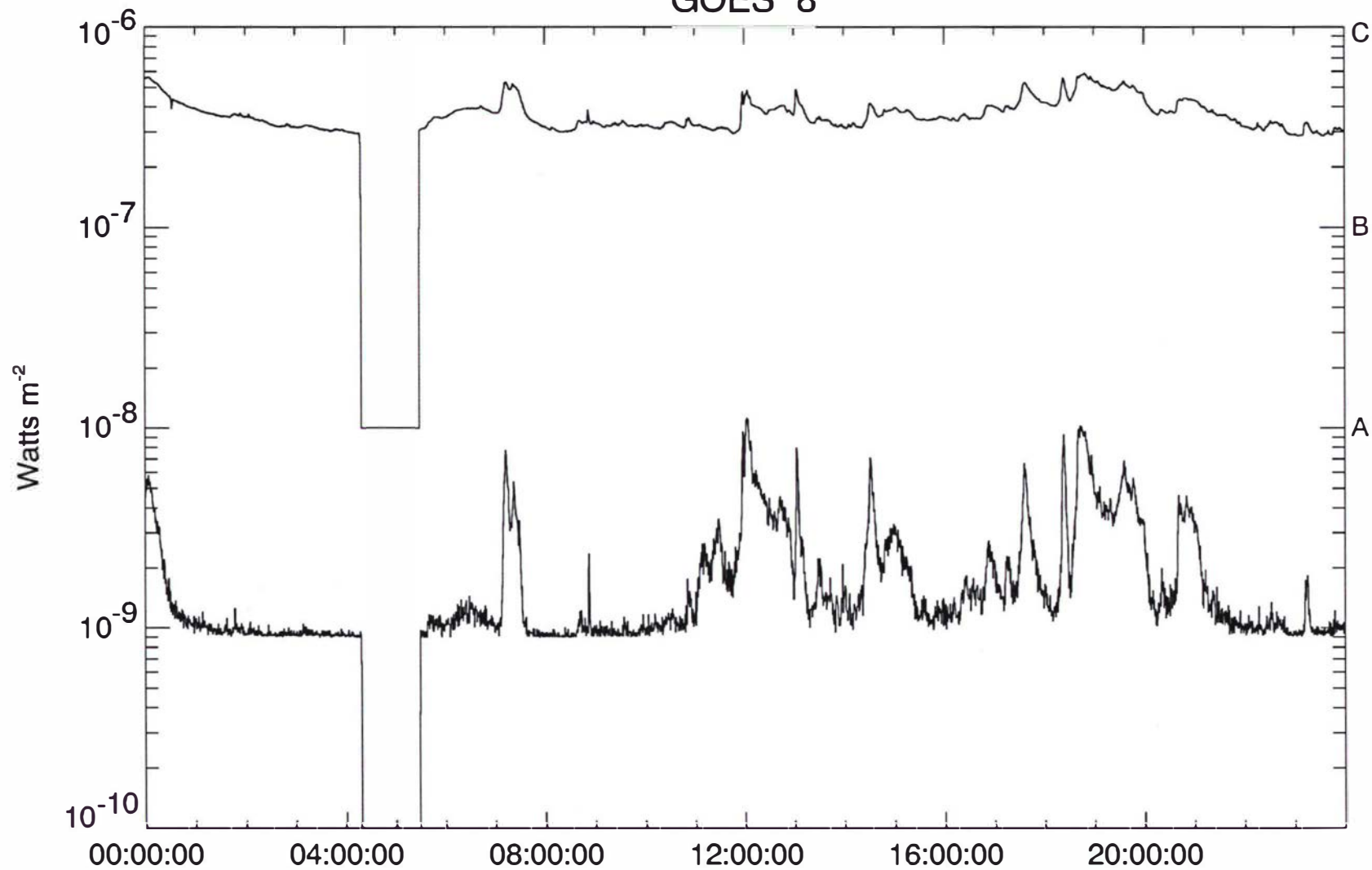


Current Time: 98/09/22, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 98/09/18, 0000:00

Plot created: 98/09/22, 1007

Channel 1 (1.0 - 8.0 Angstroms)

Background not subtracted

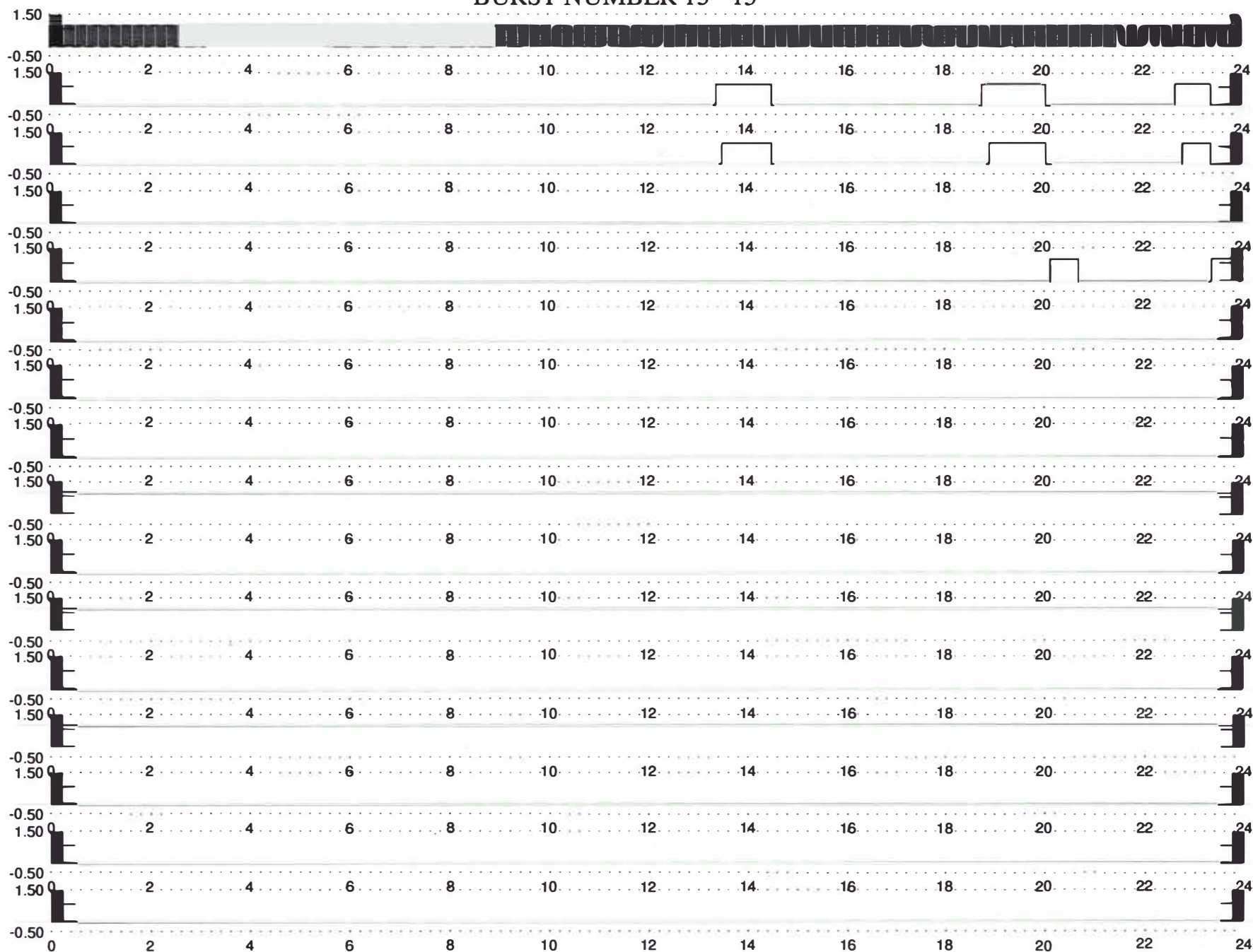
Channel 2 (0.5 - 4.0 Angstroms)

Background not subtracted

Sample average = 10

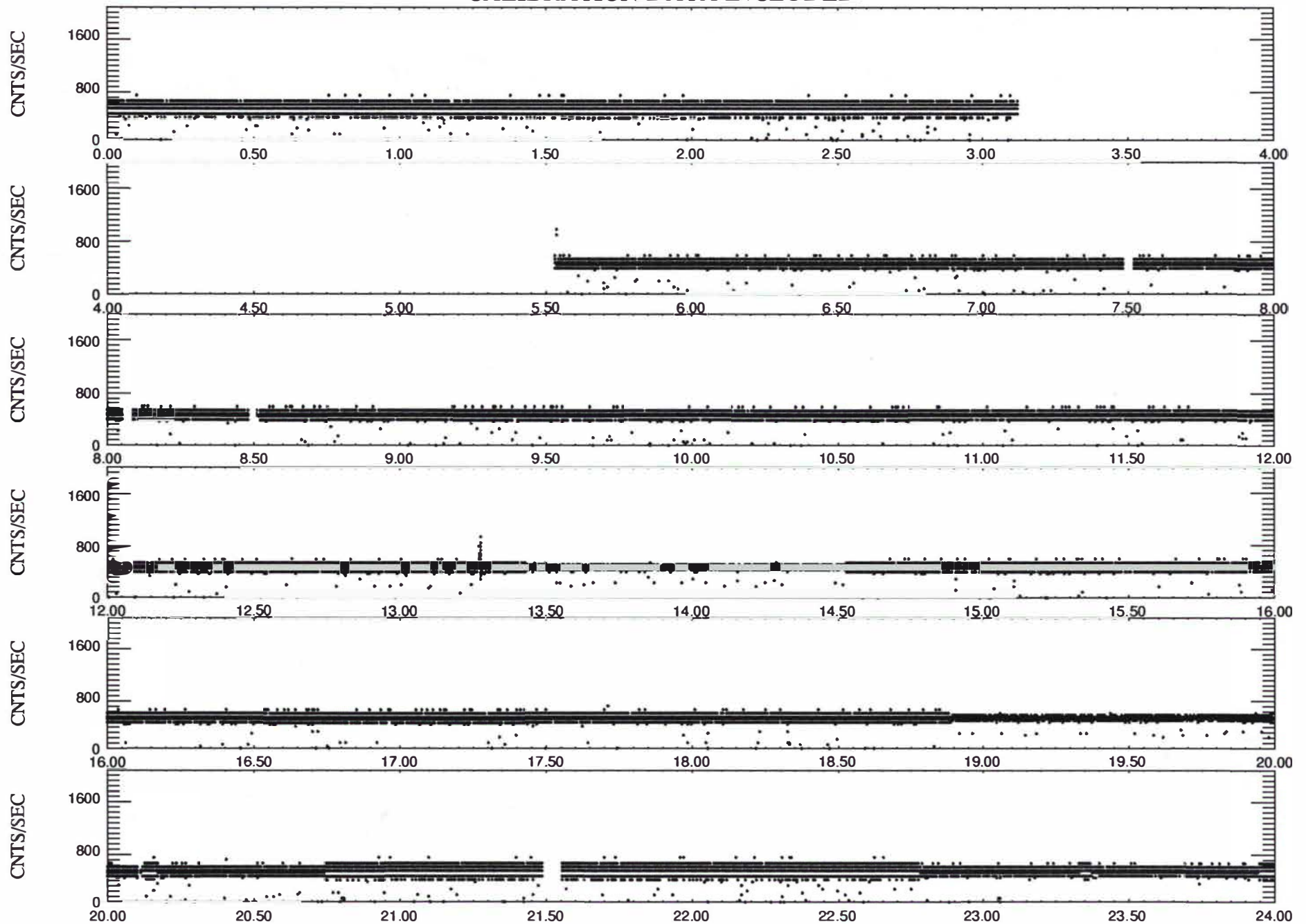
HUS
BRS
MEM
WCH
CAL
RSC
OPM
SPE
ICR
MP.
OSC
DMA
ROM
DMP
CCL
CBU

BURST NUMBER 13 - 15



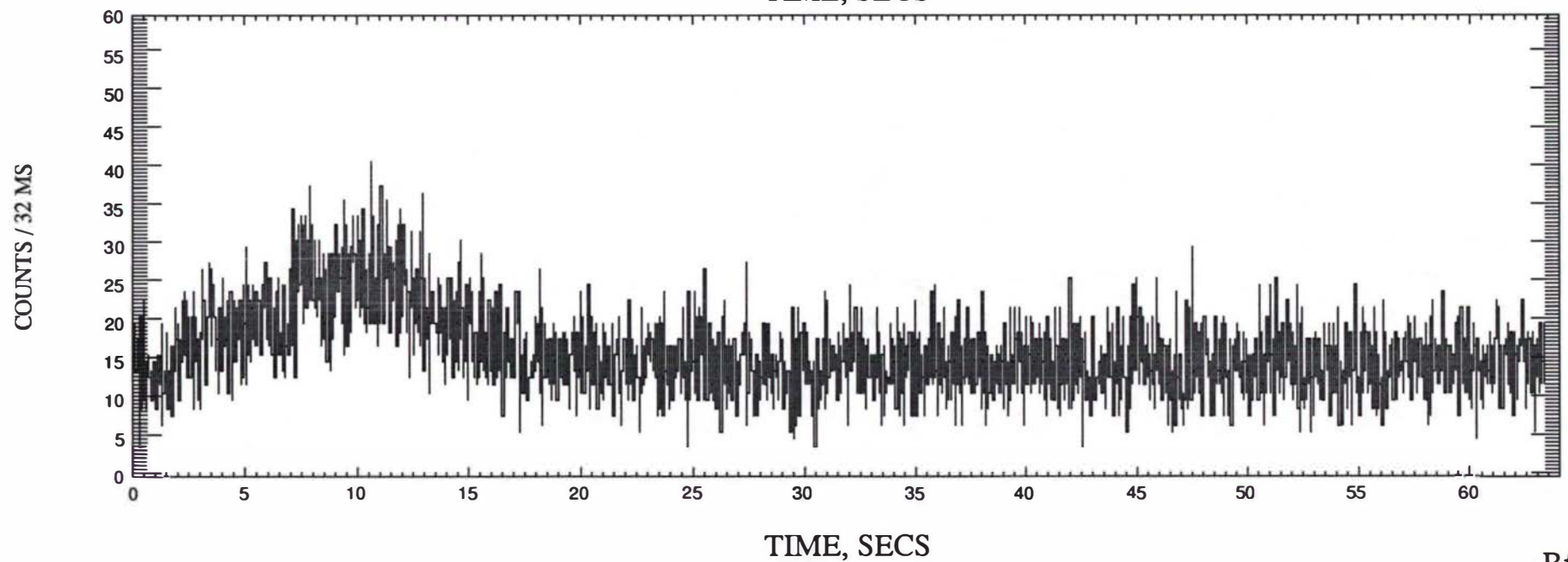
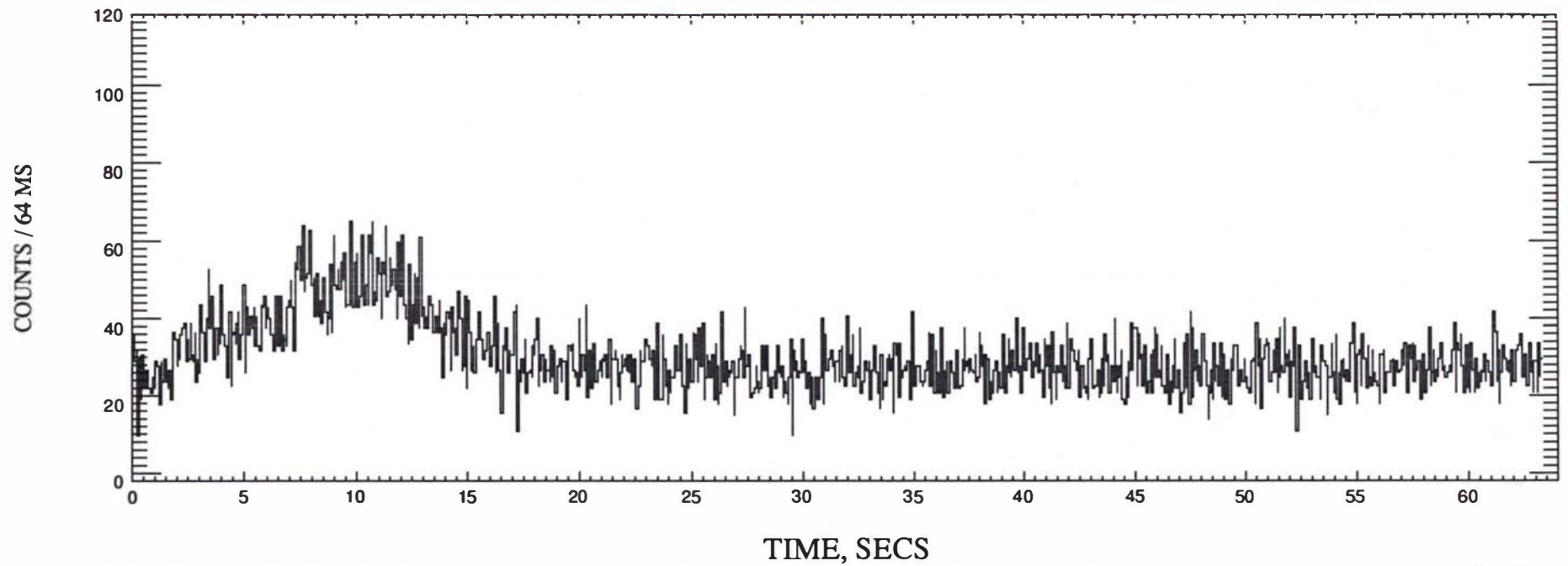
UNIV SAL TIME

CALIBRATION DATA INCLUDED

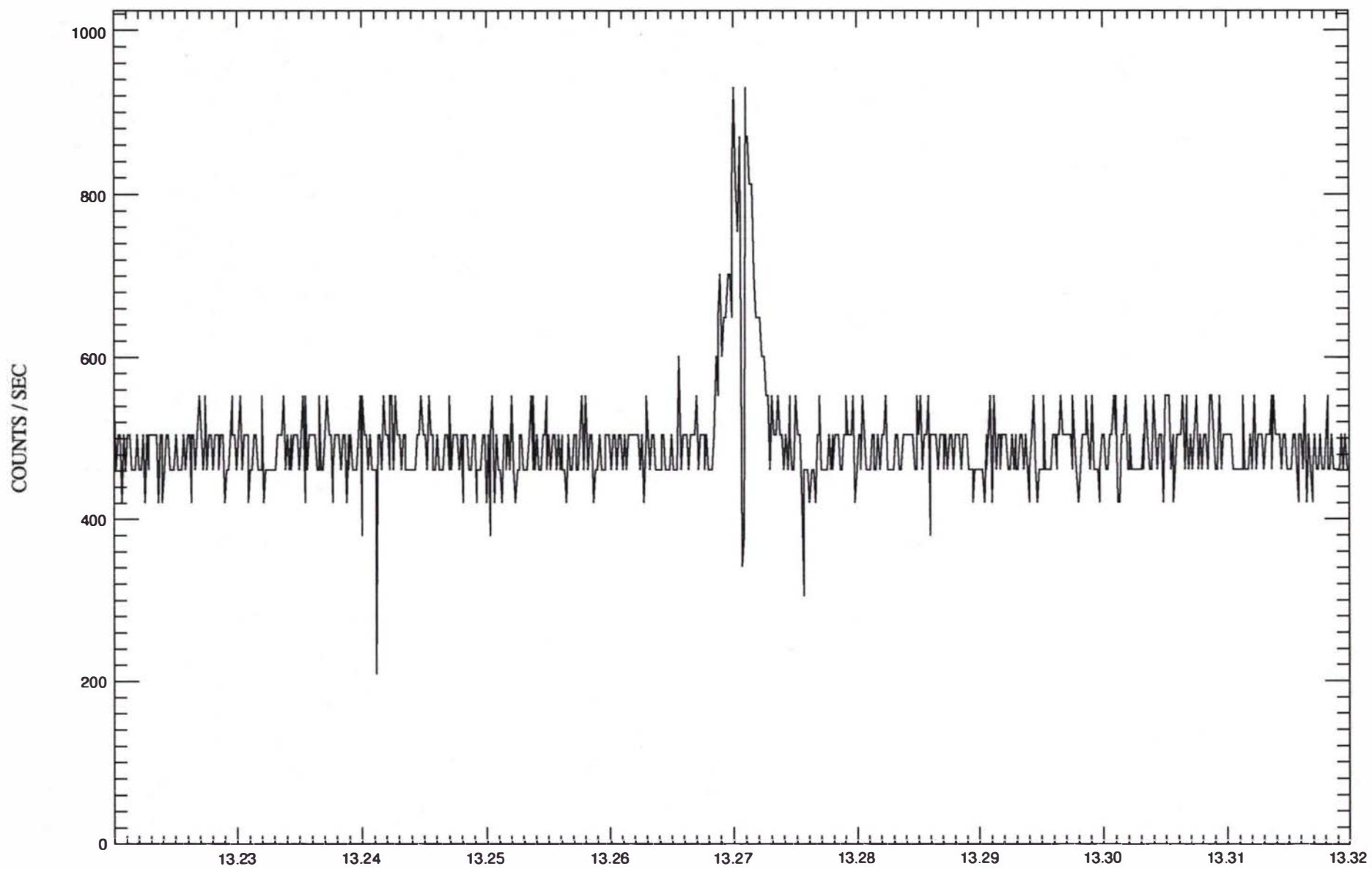


UNIV SAL TIME

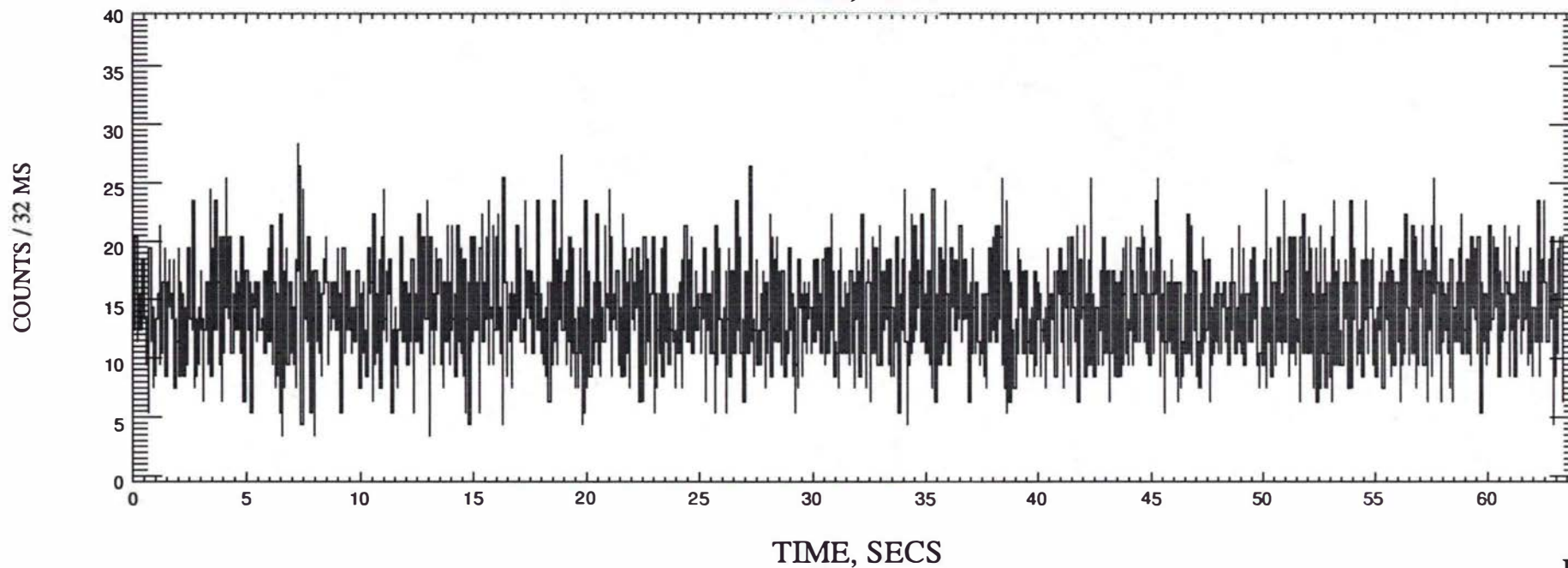
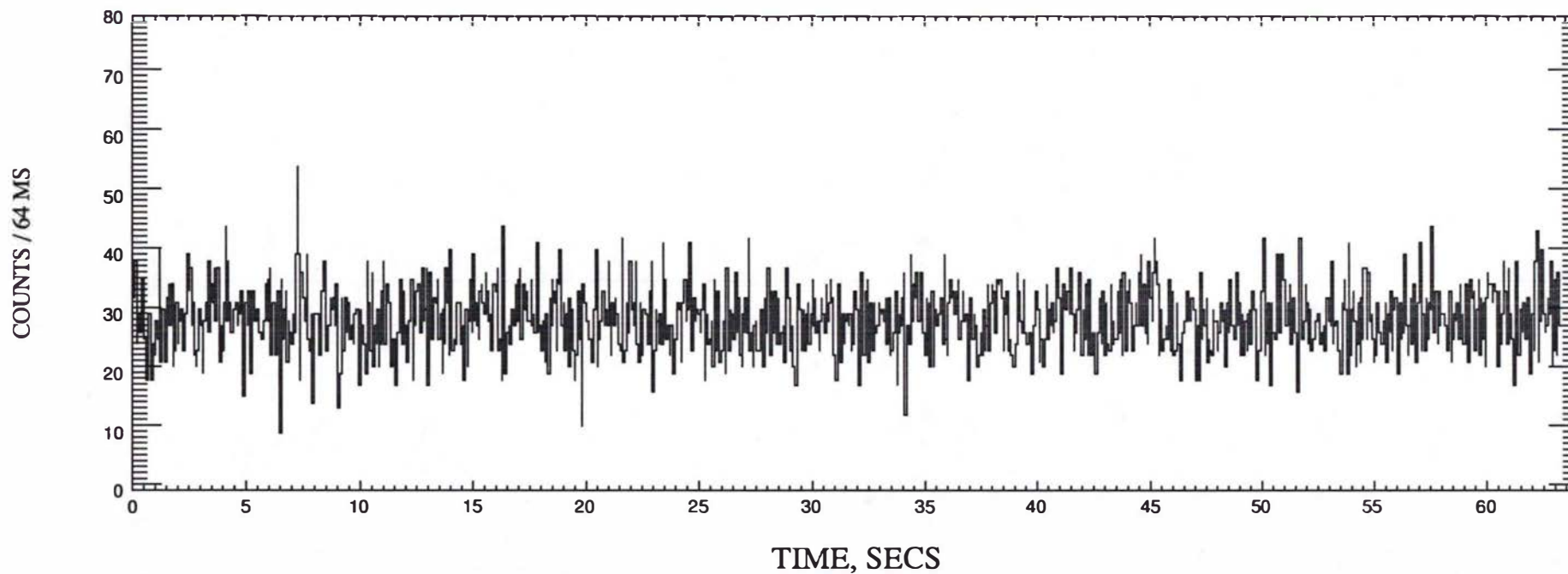
Burst Counter 13 at UT=13.270173068576 h=47772.623 s 13:16:12.623



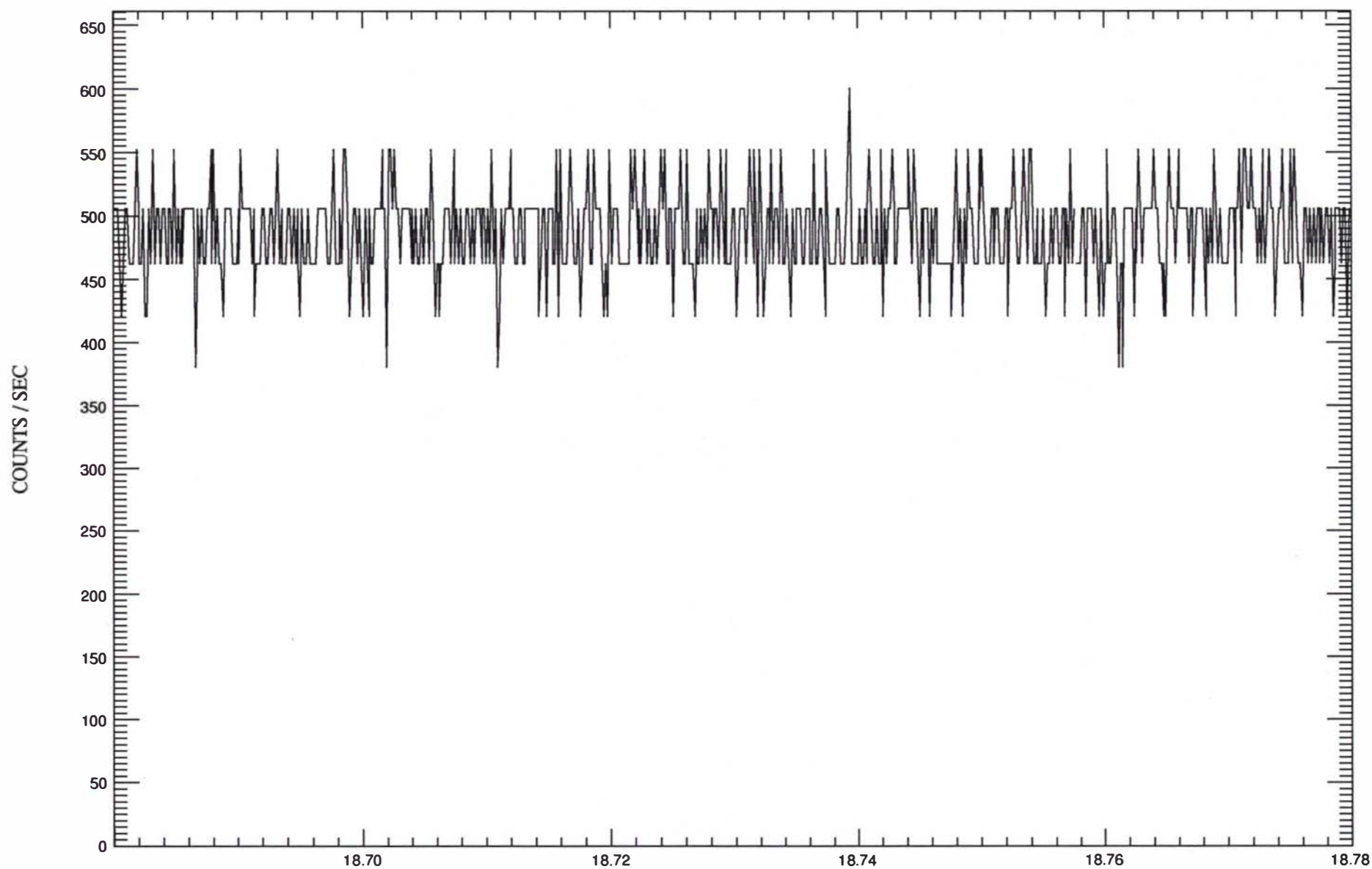
CALIBRATION DATA INCLUDED



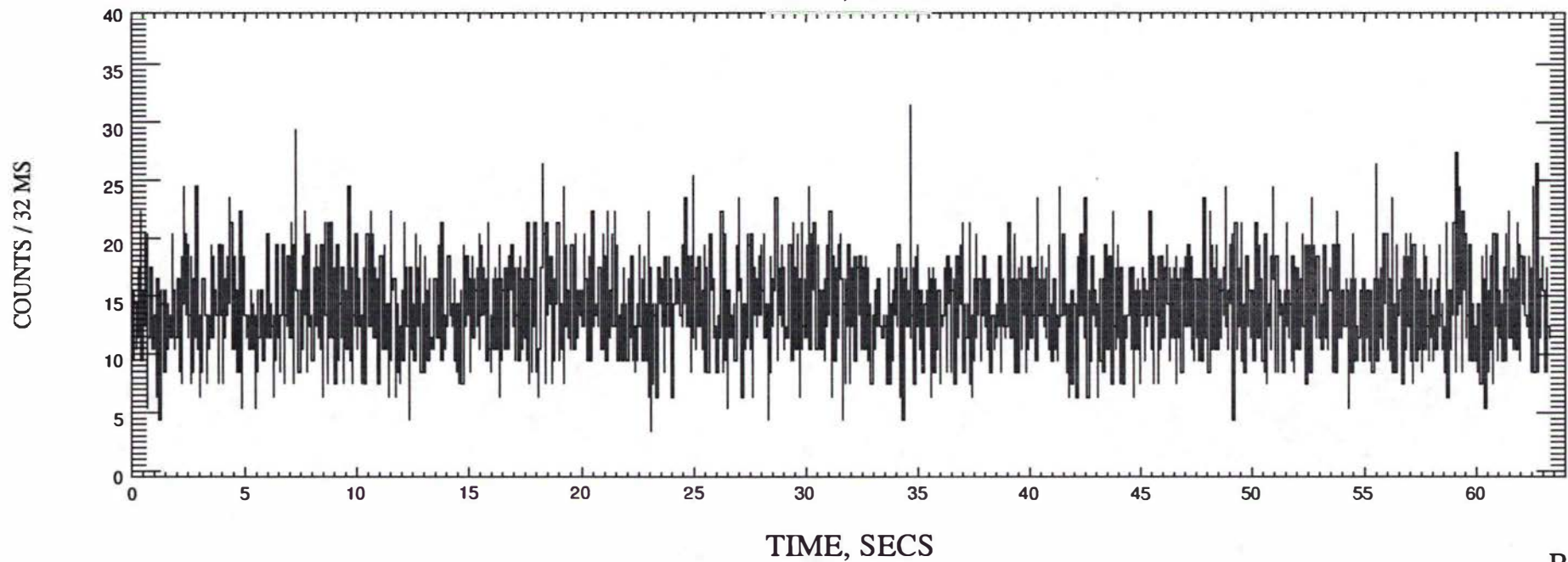
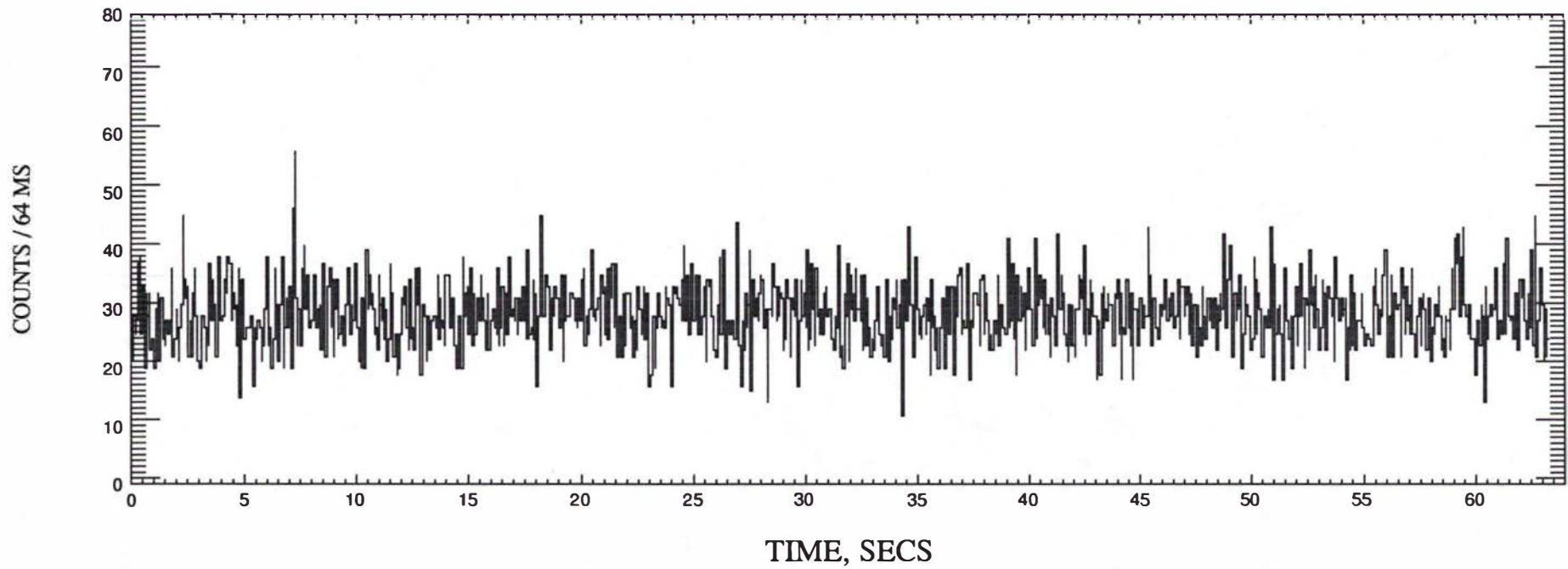
Burst Counter 14 at UT=18.729014422099 h=67424.452 s 18:43:44.452



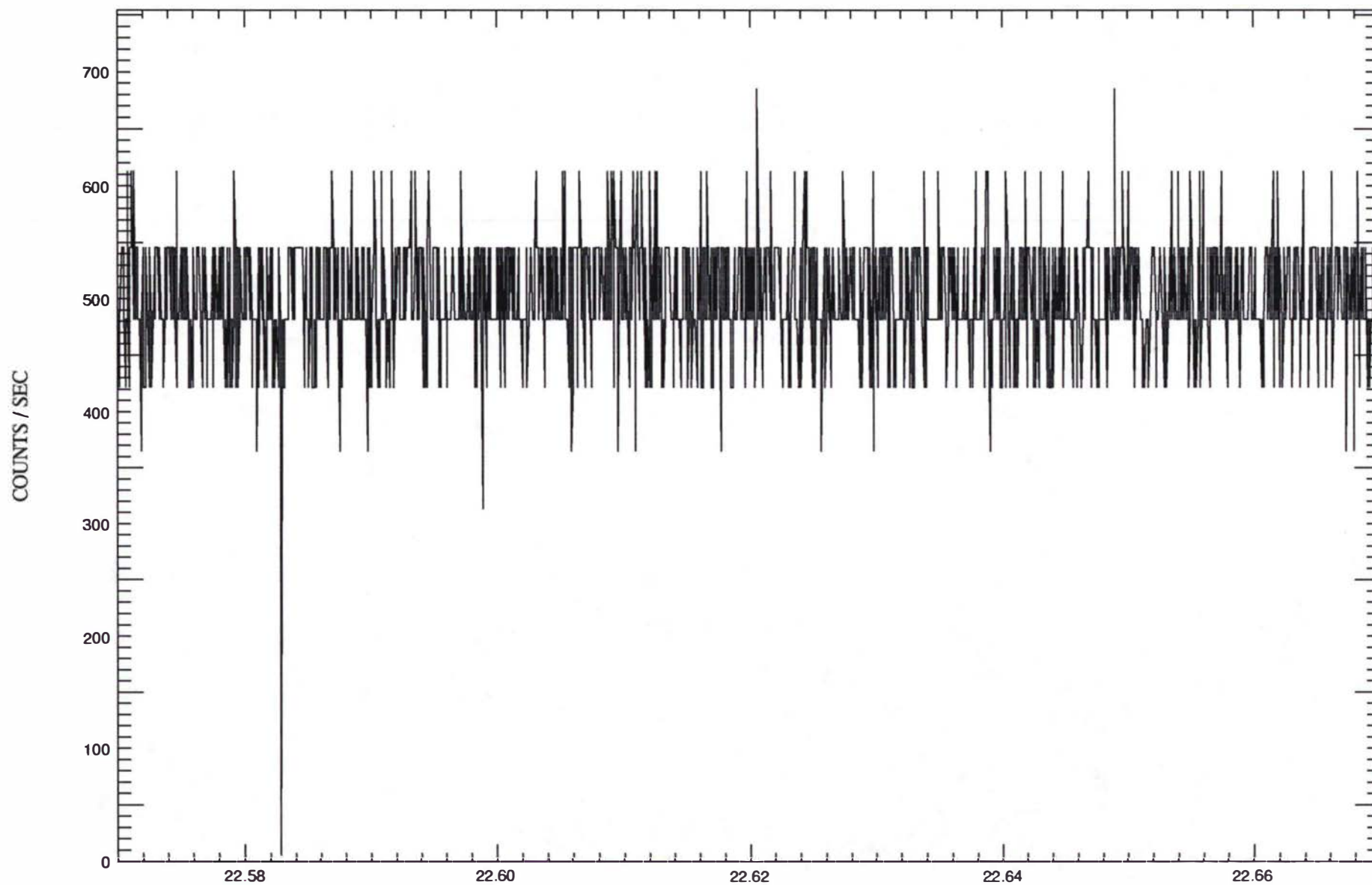
CALIBRATION DATA INCLUDED

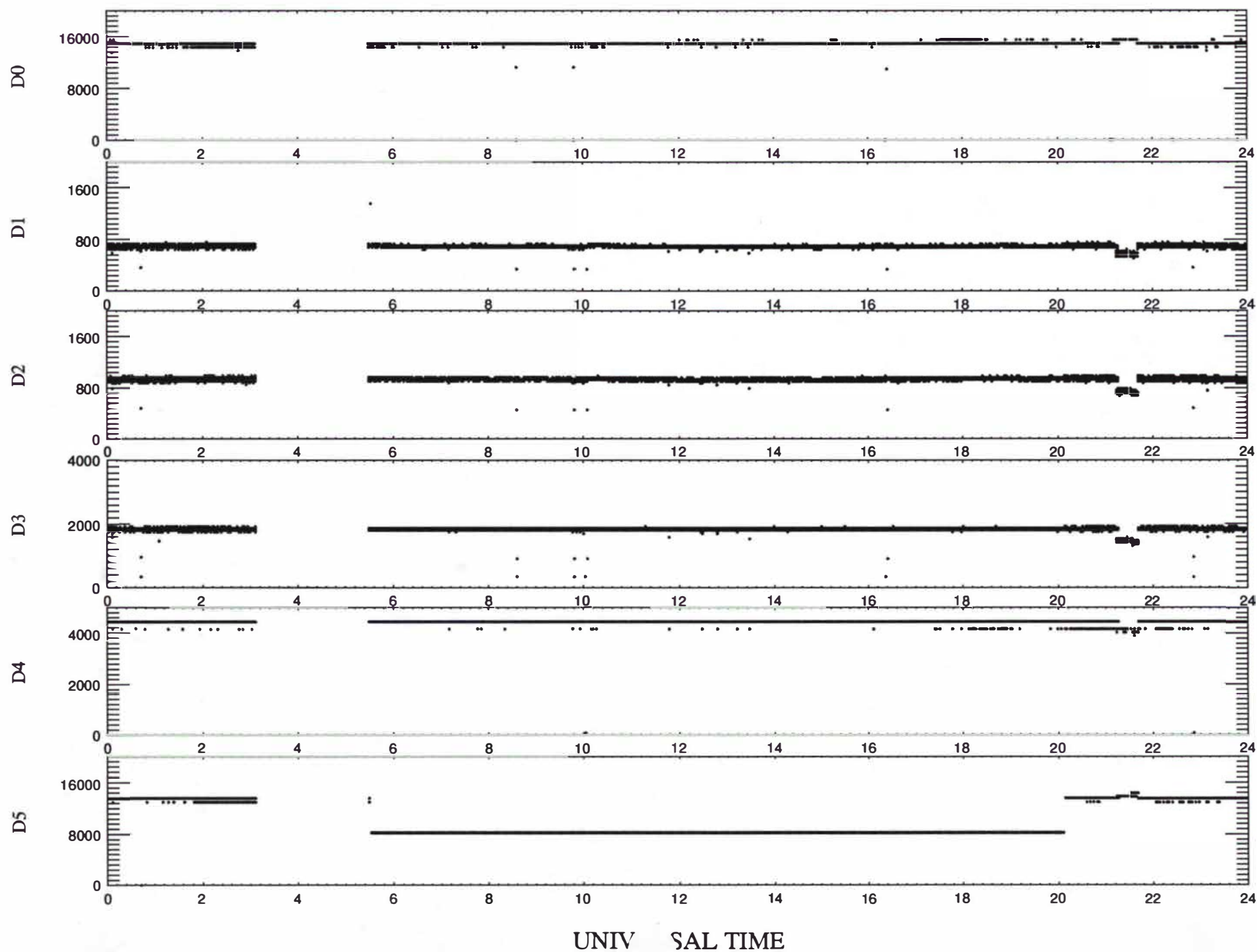


Burst Counter 15 at UT=22.624472257826 h=81448.100 s 22:37:28.100



CALIBRATION DATA INCLUDED





From khurley@sunspot Fri Sep 25 08:16 PDT 1998

Date: Fri, 25 Sep 1998 08:20:21 -0700

From: khurley@sunspot (Kevin Hurley)

To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, woods@eagles.msfc.nasa.gov,
kraken@rosserv.gsfc.nasa.gov

Subject: GRB 980919

ULYSSES GAMMA-RAY BURST NOT REPORTED BY BATSE:

Ulysses observed the following burst, suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1800 s earlier.

September 19 1998 14:42 Ulysses time; weak, 32 ms long

The spacecraft was about 3150 light-seconds from Earth.
Was this event detected by anyone else?

CC: ulyssesbursts alias list
(barthelmy, butterworth, cline, frontera, henze, kouveliotou, kurczyski, mar

Date: Dec 14 2012

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

- ☒ Jim Schmidling's stat file correction applied?
- ☒ Final ephemeris used?
- ☐ Final, CDROM data used?
- ☒ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution?

2. BATSE Data

- ☐ BATSE ephemeris for T_0 ?
- ☐ Error circle position and radius from public catalog used?
- ☐ If MER data were used, is a 30 ms systematic error included?

3. NEAR Data

- ☒ Final, correct time used? (Files postmarked vw@boccl, from from Teresa Sheets, postmarked May 2 1999 or later have the correct time; files on website have incorrect times)
- ☐ BATSE >100 keV data used for NEAR correlation?

4. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

5. For 3 Spacecraft events

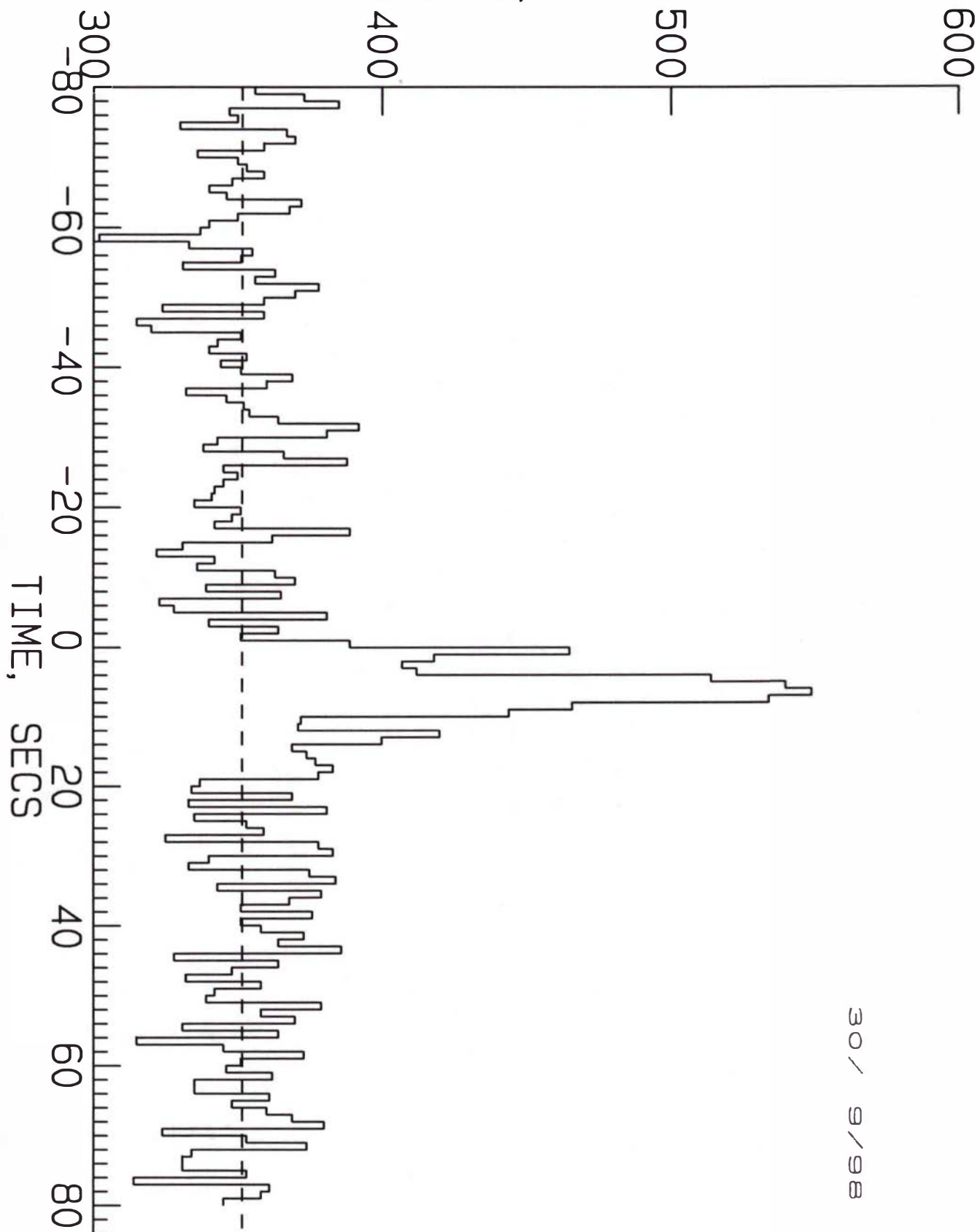
- ☐ $\Sigma 3\Delta t$'s calculated?
- ☒ ACCESS database updated?

NEAR

19/09/98 19221.818

100-1000 keV

COUNTS/1.000 S

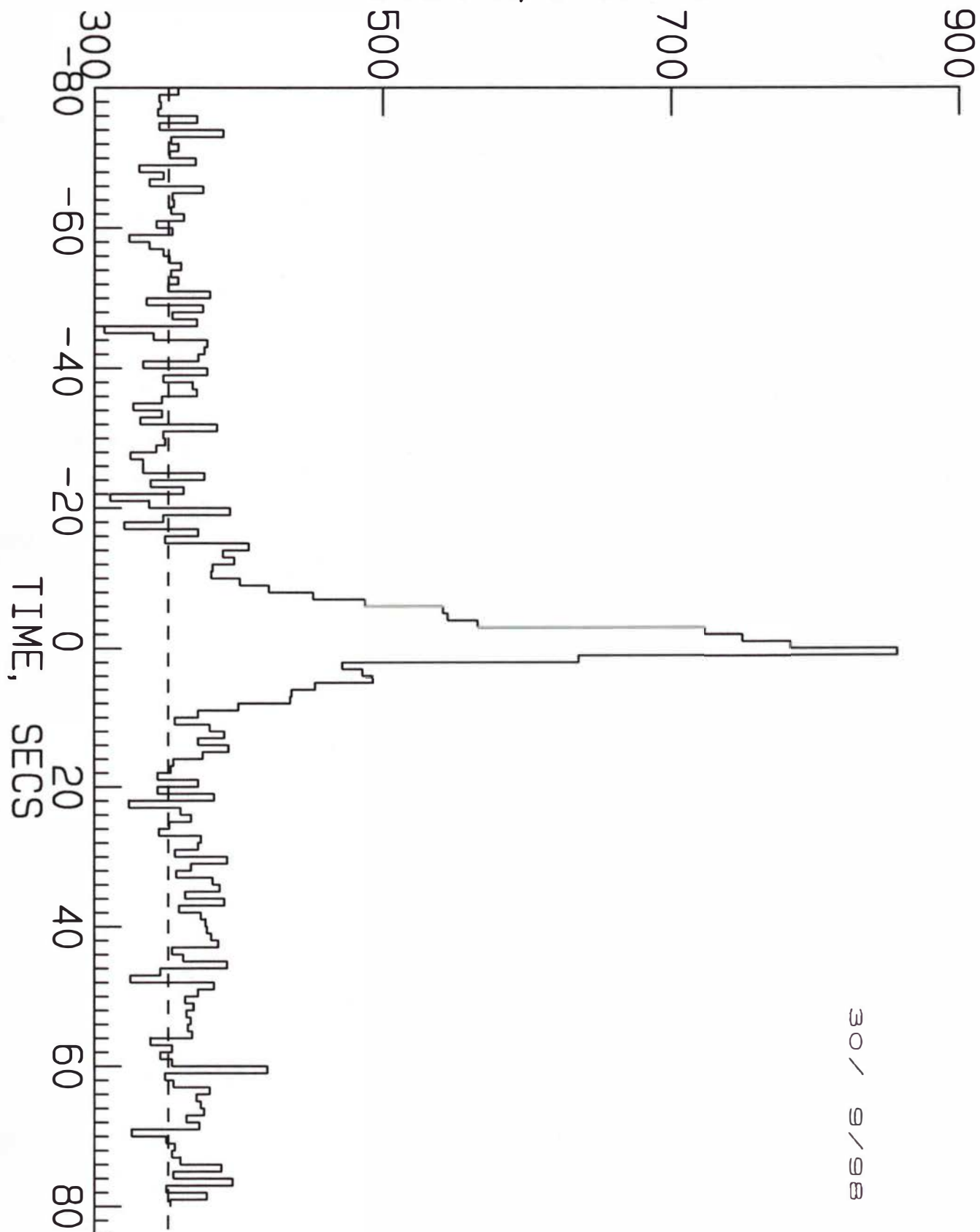


NEAR

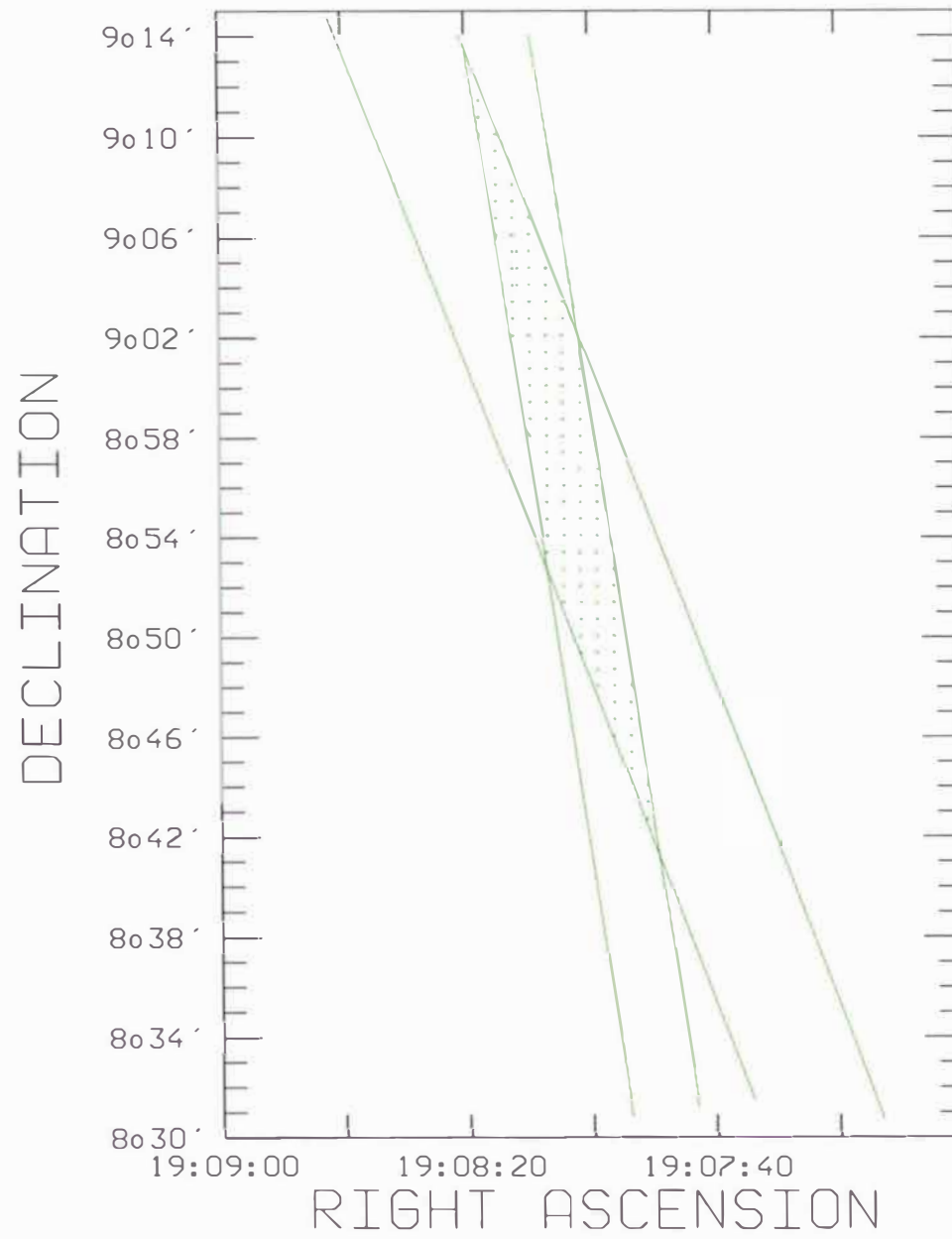
19/09/98 19379.818

100-1000 keV

COUNTS/1.000 S



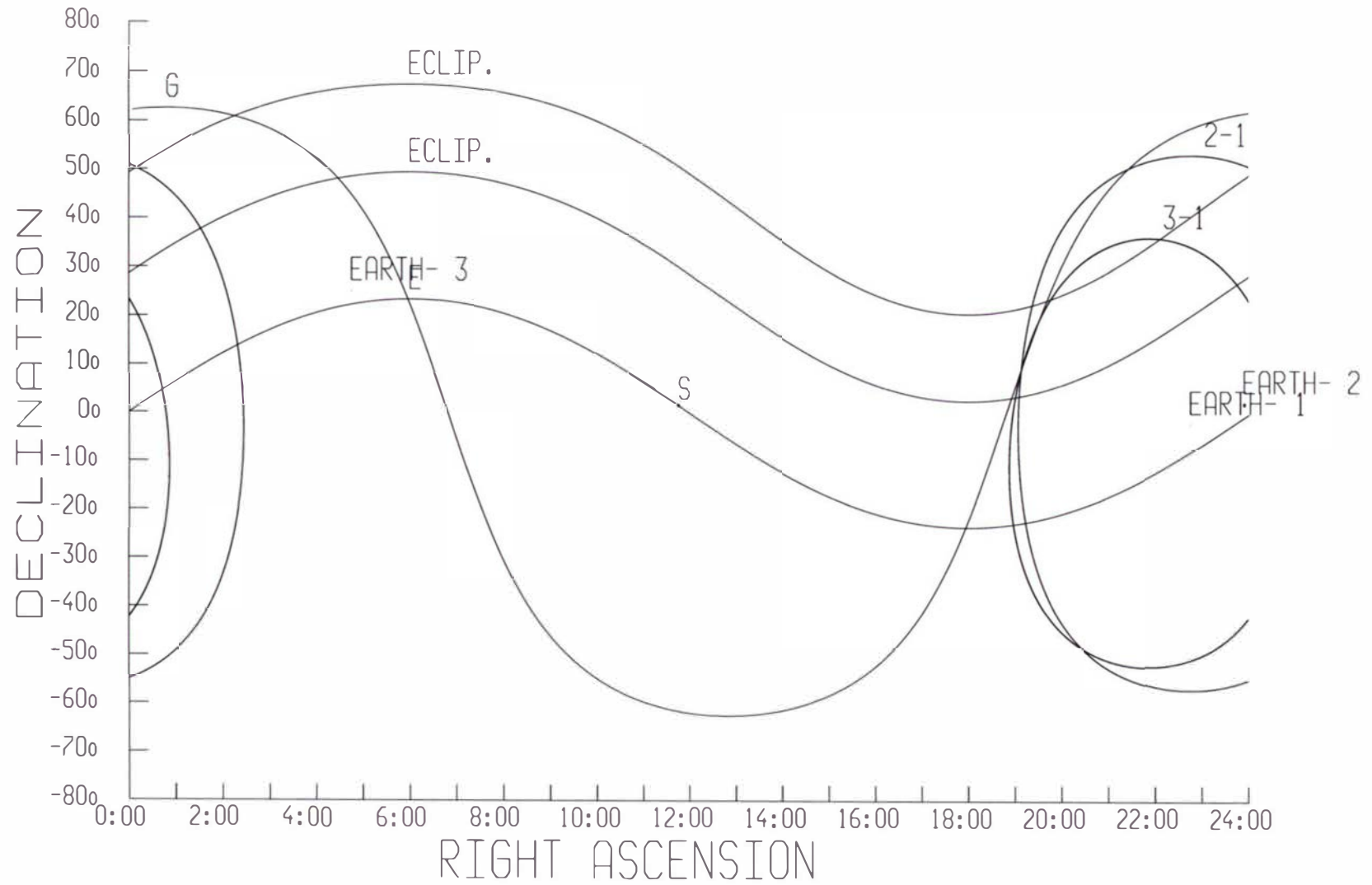
30 / 9/98

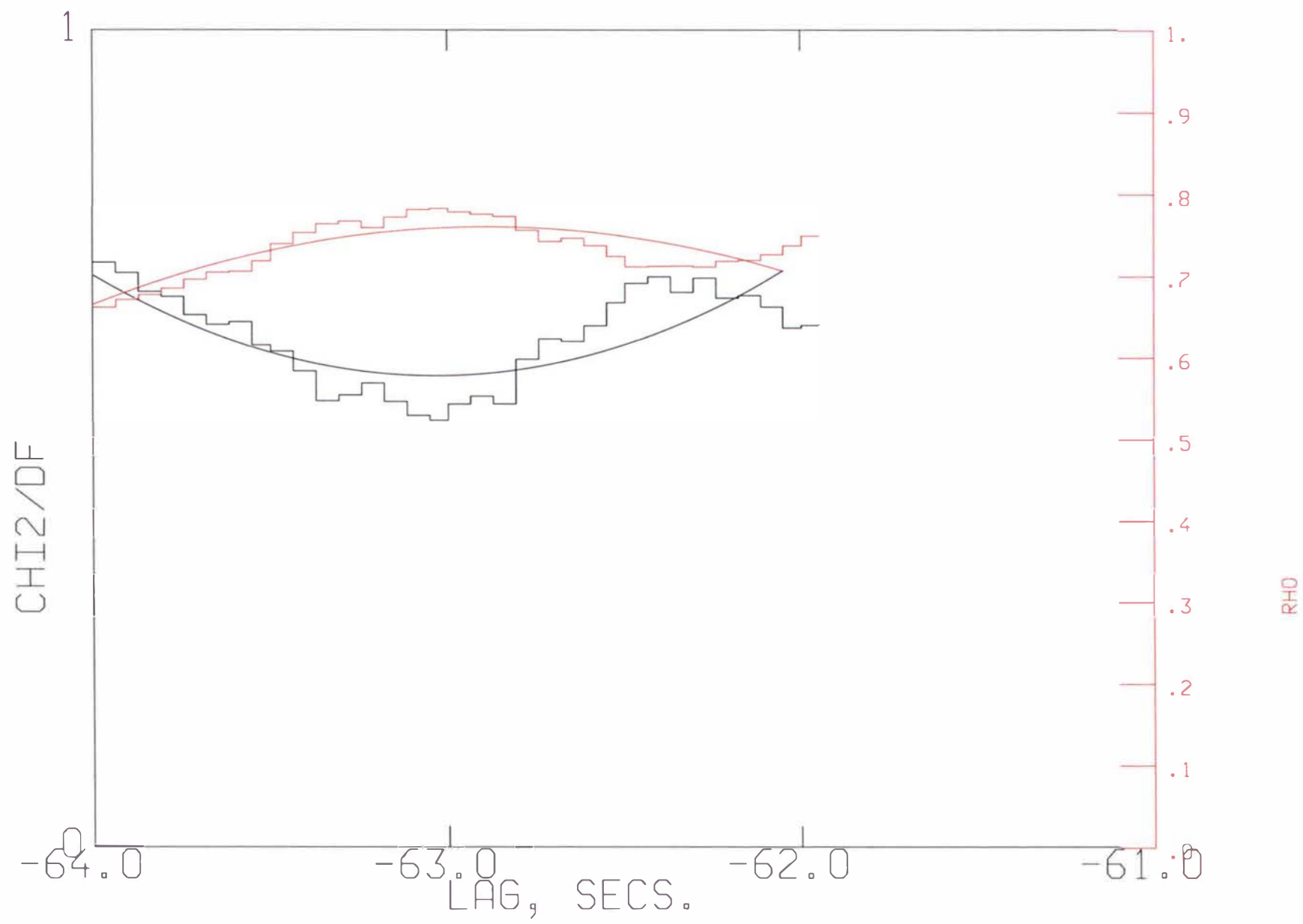


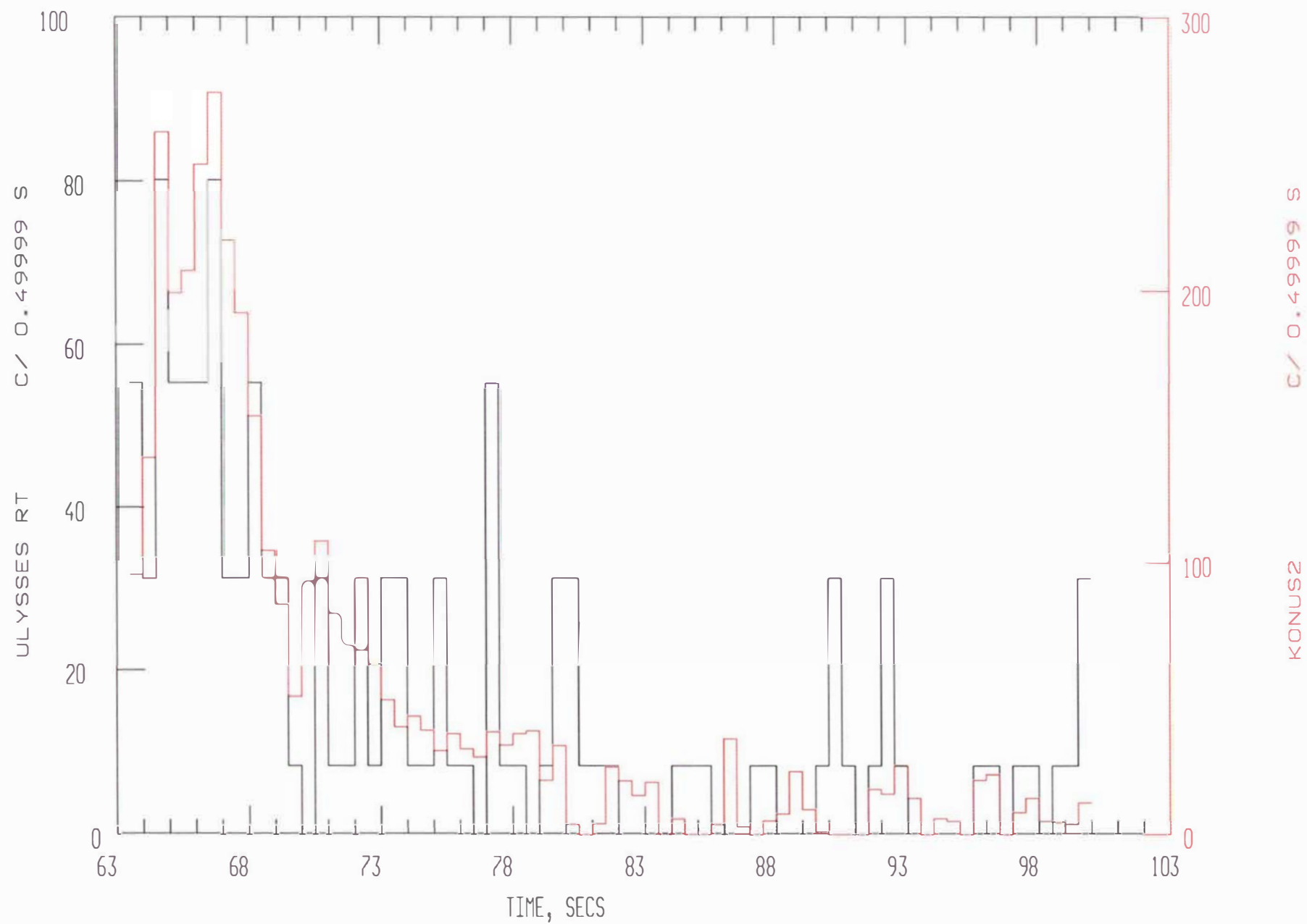
EVENT OF SEP 19, 1998 5:58

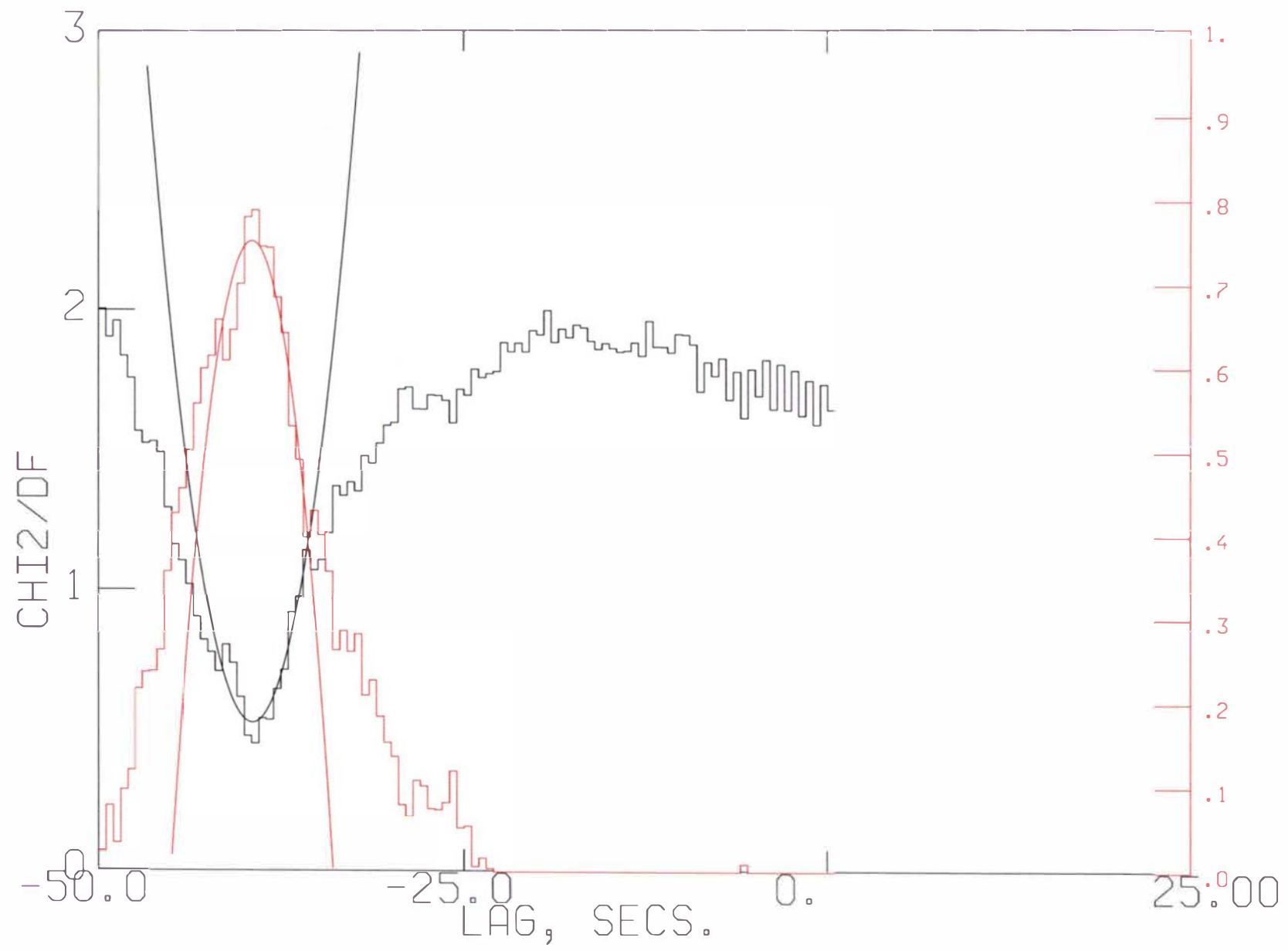
14/12/2012

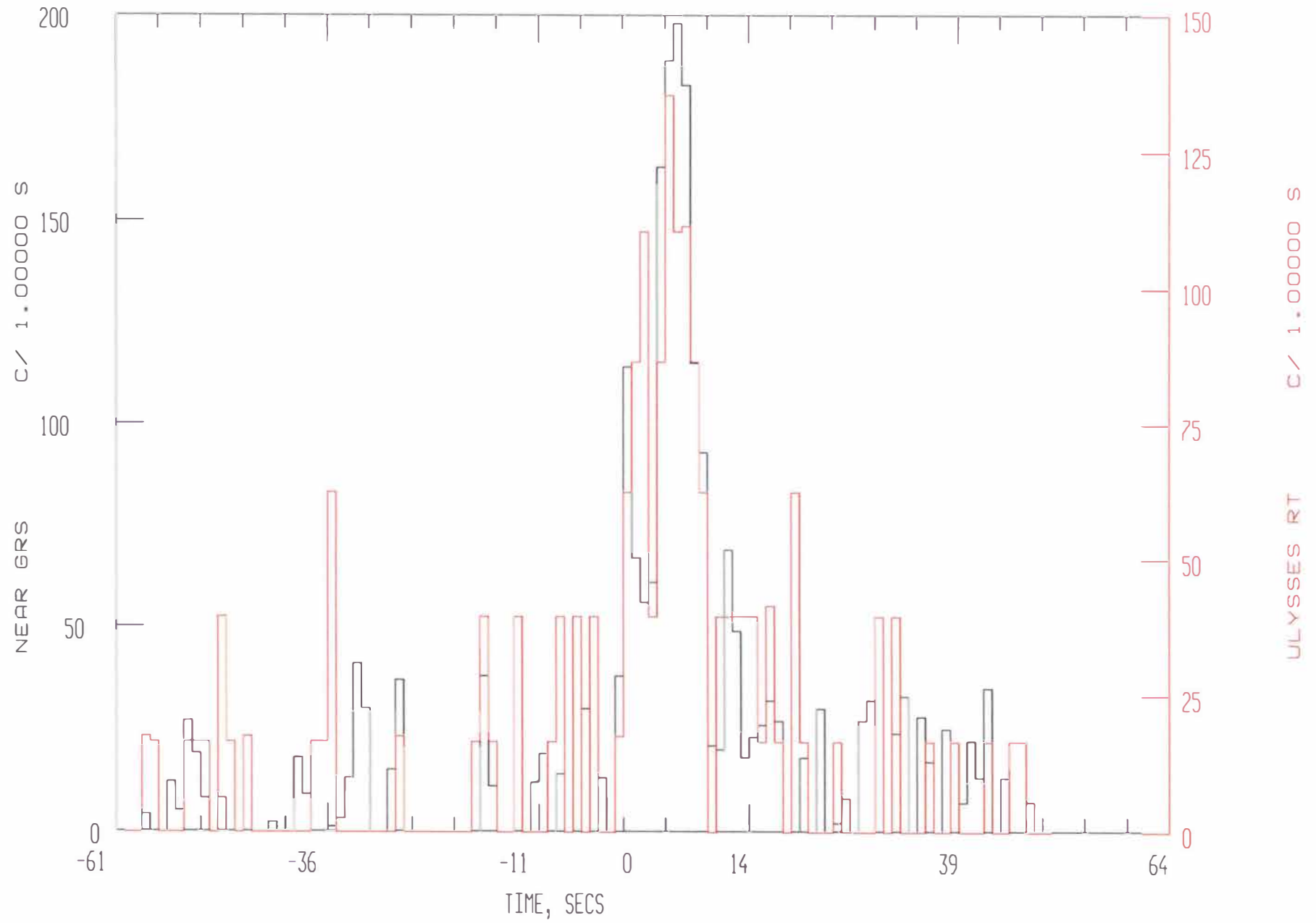
N-M = CORRELATION BETWEEN SATELLITES N AND M
EARTH-N = EARTH AS SEEN FROM SATELLITE N
S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
1 ULYSSES 2 KONUS2 3 NEAR











19980919 21700

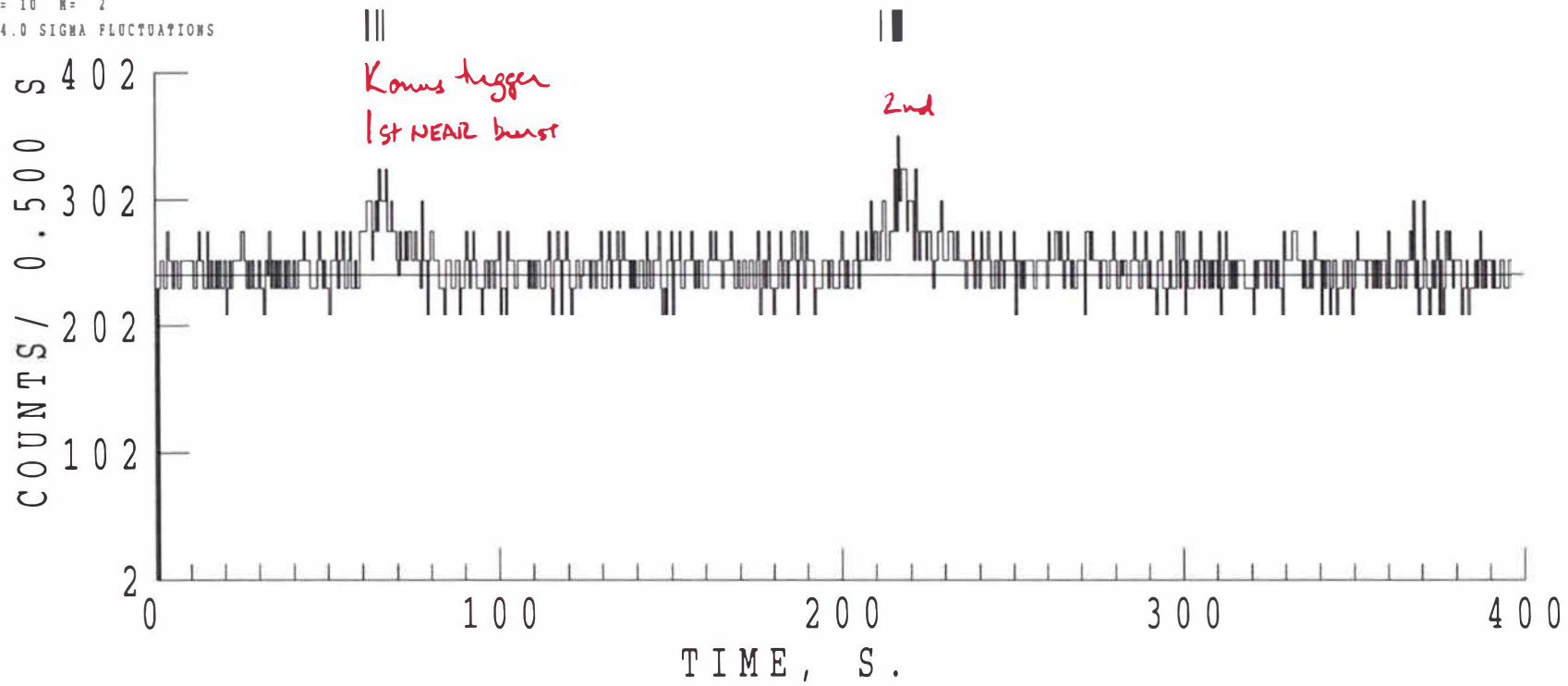
ULYSSES RT

12 / 12 / 12

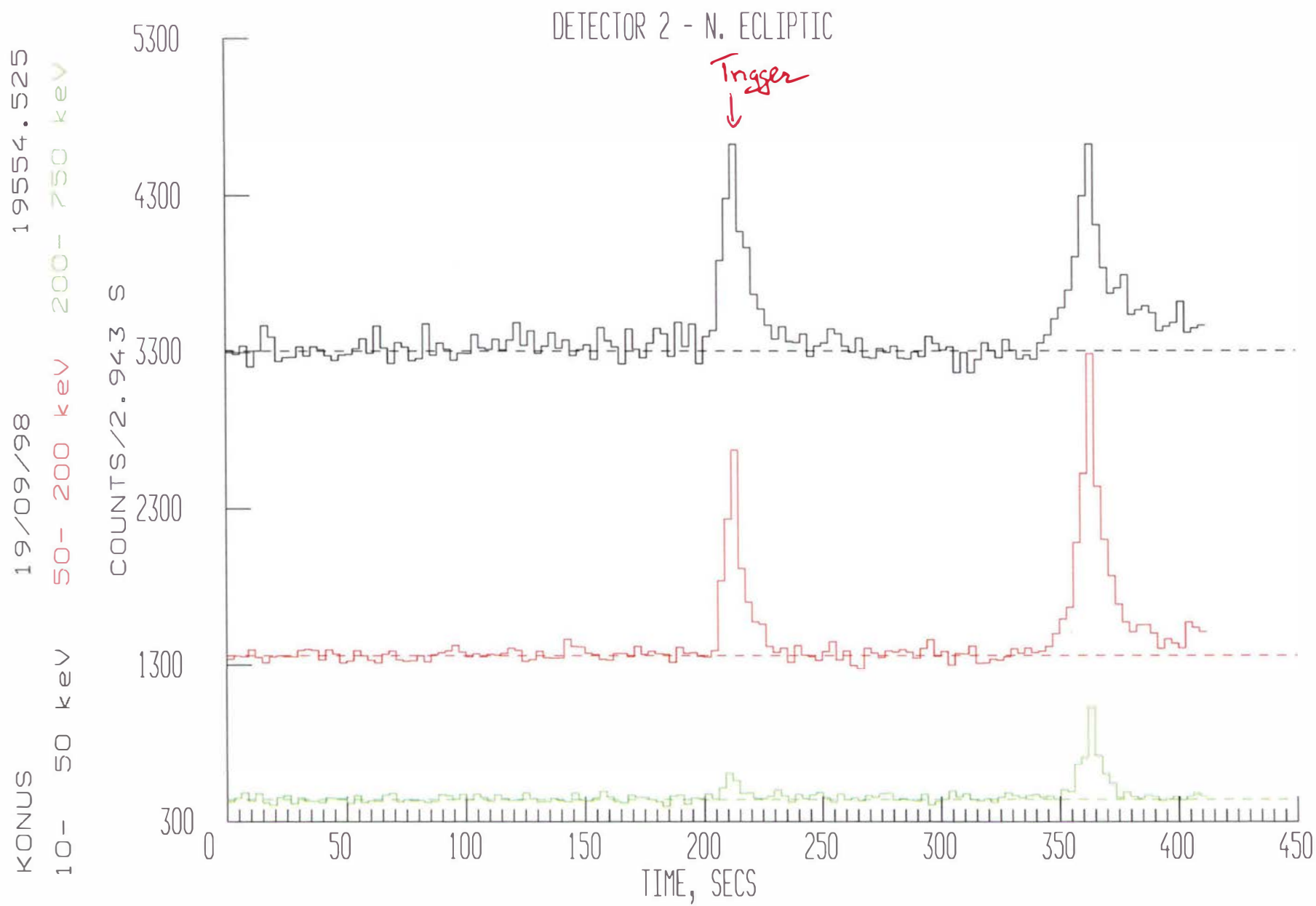
19/09/98 21492.385 s

0 - 0 keV

M= 10 N= 2
>4.0 SIGMA FLUCTUATIONS

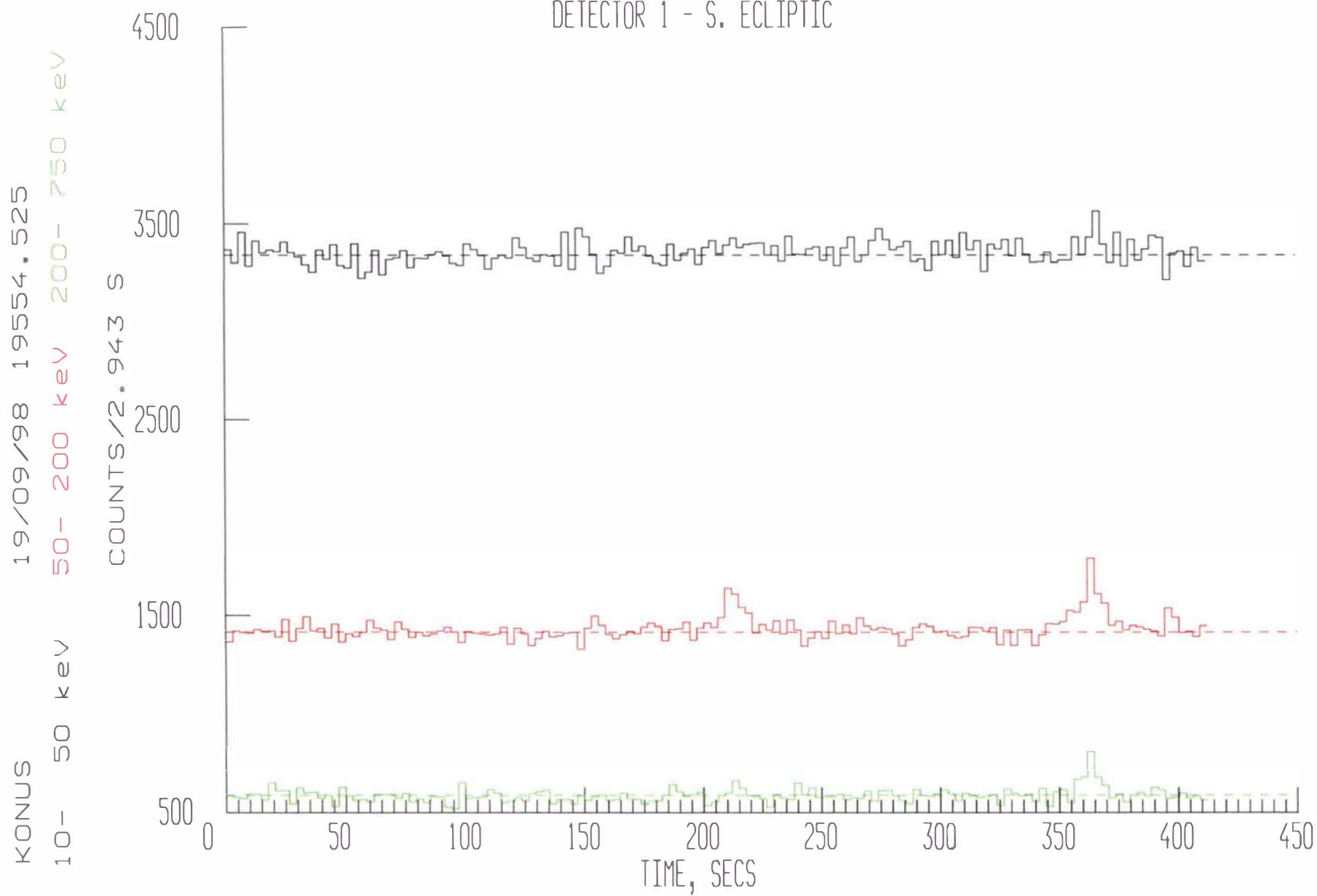


14/12/2012



14/12/2012

DETECTOR 1 - S. ECLIPTIC

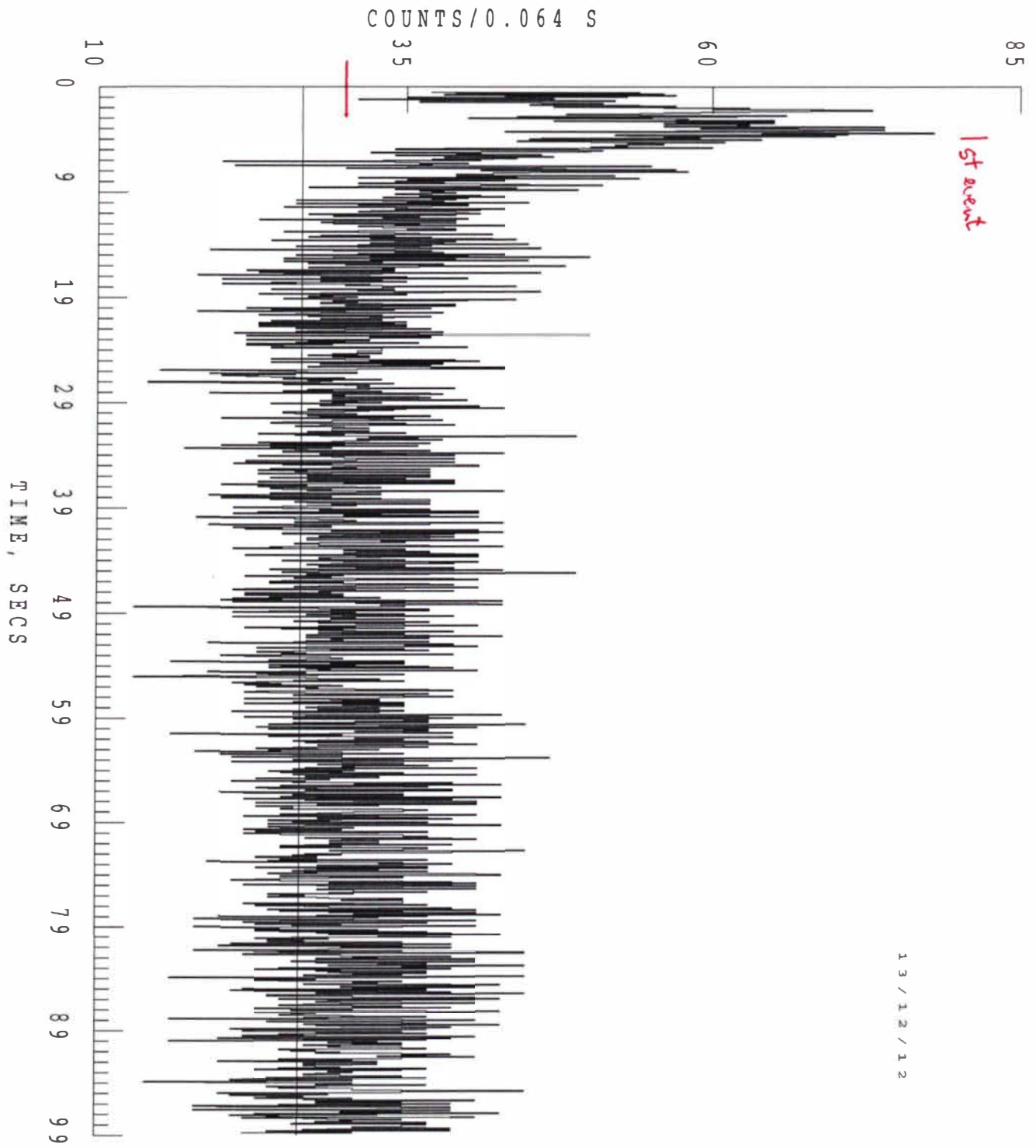


KONUS2

19/09/98

19764.753

50 - 200 keV



NEAR

ULYSSES RT

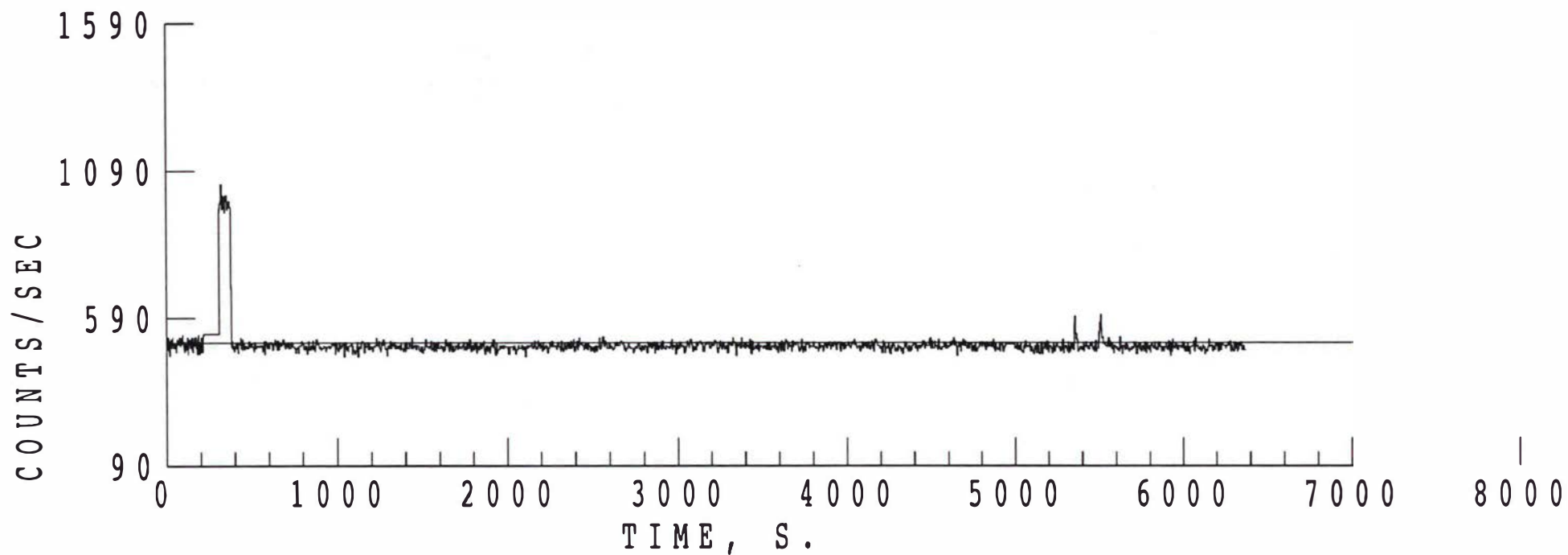
1 / 10 / 98

19 / 9 / 98 16200.081 s

INTERVALS REGROUPED BY 9

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From RICHARDSON@fender.msfc.nasa.gov Mon Sep 21 11:31:23 1998
Return-Path: <RICHARDSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA01042; Mon, 21 Sep 1998 11:31:20 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA07772; Mon, 21 Sep 1998 11:31:18 -0700
Date: Mon, 21 Sep 1998 13:31:14 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980921133114.2024eada@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7103
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7103
EVENT OF 1998 SEP 19 DAY OF YEAR=262
EVENT CROSSING TIME AT BATSE : 70134. S. OR 19:28:54.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 309.000 78.000
BATSE PEAK COUNTING RATE: 7000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 19/ 9/ 98 IS:
RA= 160.908 DEC= 2.034 DIST= 6.290 AU
BATSE-ULYSSES DISTANCE = 940925286. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 81.86 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 444.63 SECS.
CROSSING TIME AT ULYSSES IS 70579. S. OR 19:36:18 +/- 596.17 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 19/ 9/ 98 IS:
RA= 141.366 DEC= 16.410 DIST= 2.308 AU
MARS-BATSE DISTANCE = 345323392. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 94.68 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -93.89 SECS.
CROSSING TIME AT MARS IS 70040. S. OR 19:27:20 +/- 197.89 SECONDS

BATSE BURST TRIGGER

NO.: 7103

TIME: TJD=1075 SECONDS=70134

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=62.6 AZIMUTH=255.5 ERROR=3.9 DEGREES

COMMENTS:

GRB. MULTIPLE PULSES. DURATION APPROX. = 30 SEC. VISIBLE ABOVE 300KEV.

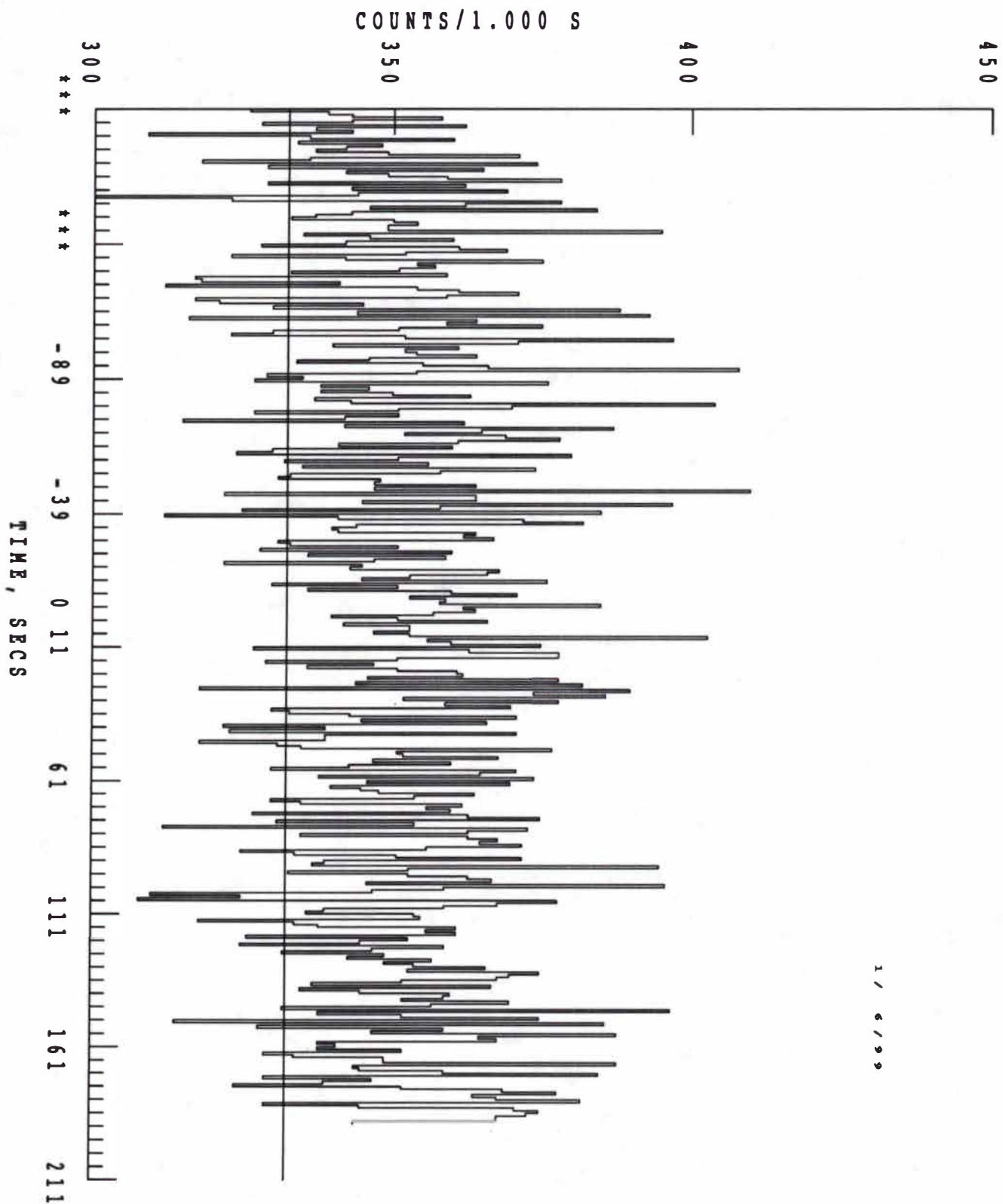
BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7103	980919	11075	70134	7000	309	+78	30

NEAR

19/09/98

70394.658

100-1000 keV



BATSE BURST# 7103

ULYSSES RT

22 / 9 / 98

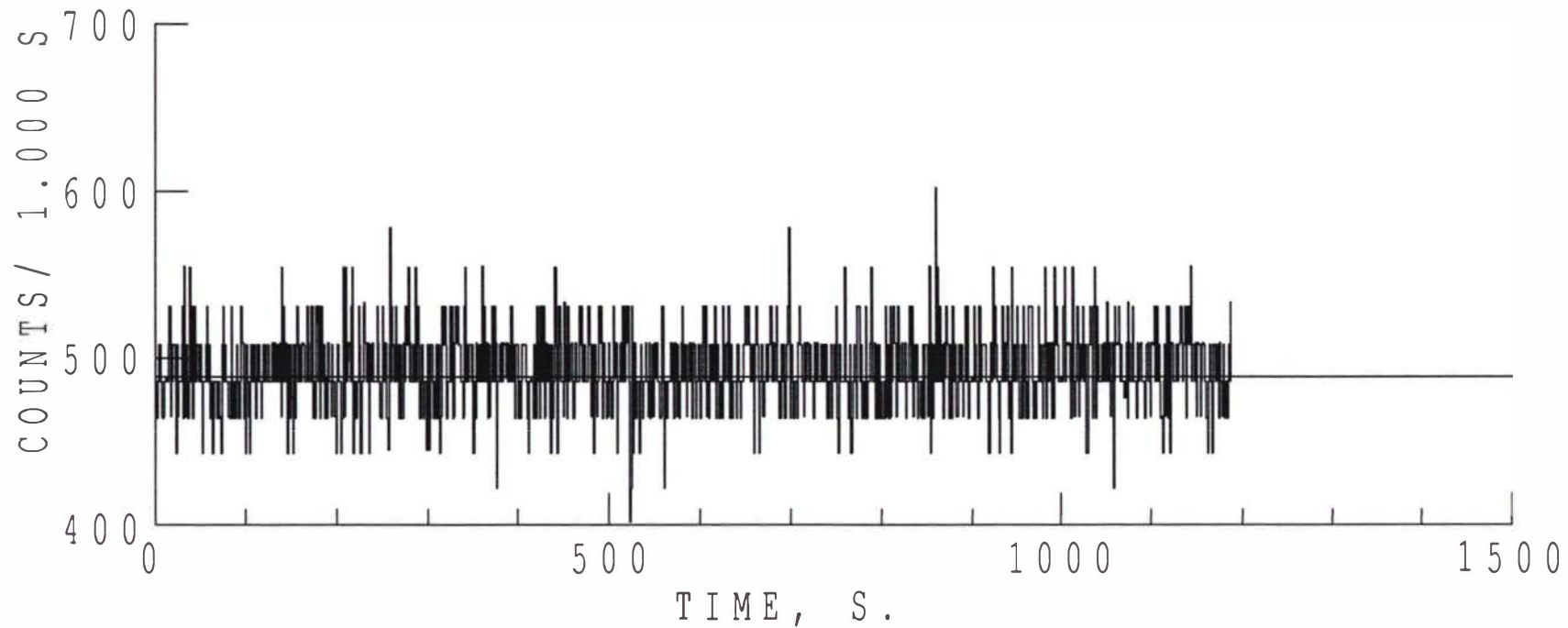
19 / 9 / 98 69984.391 s

0.500 S INTERVALS REGROUPED BY 2

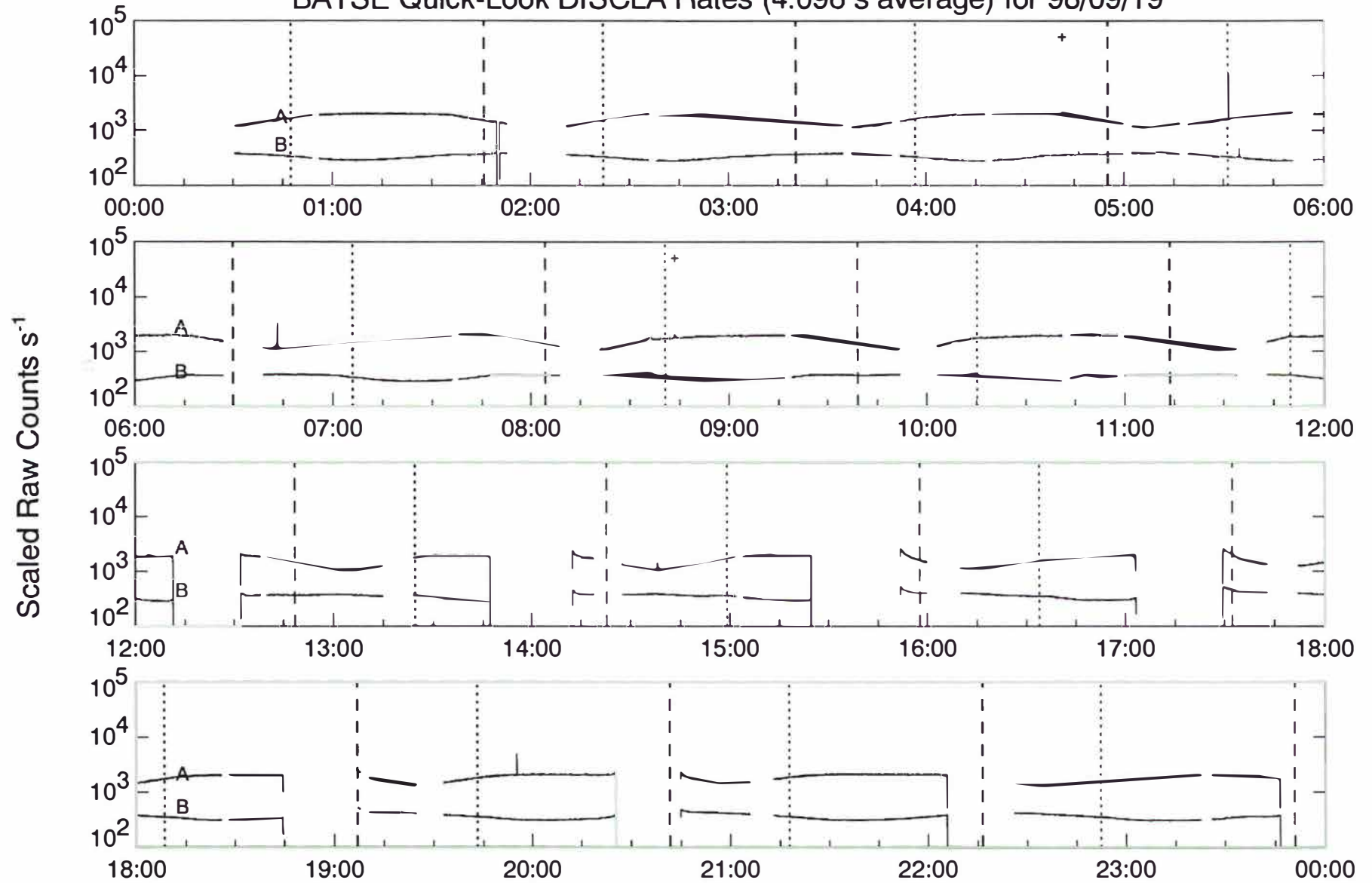
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



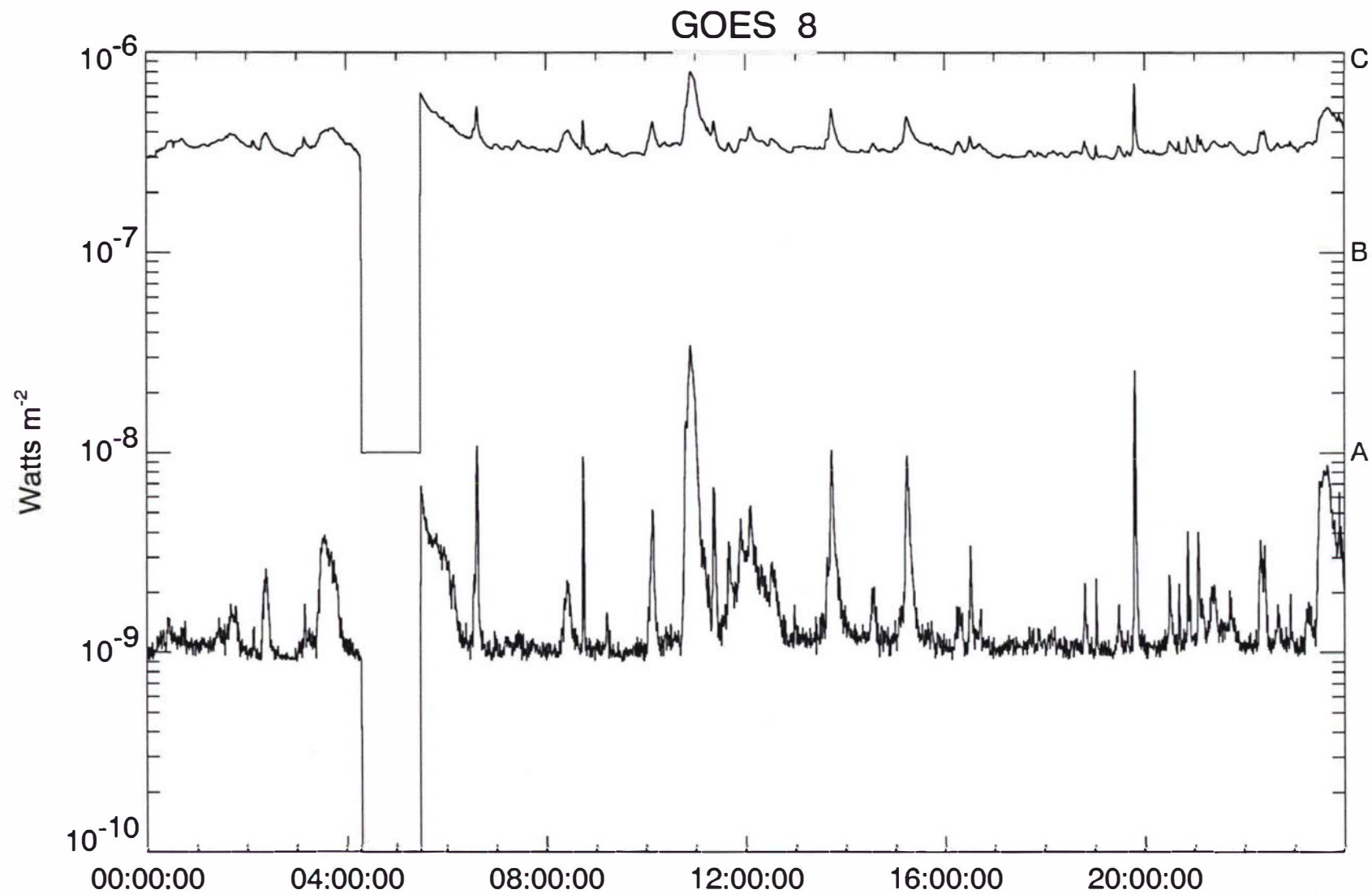
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/09/19



Current Time: 98/09/23, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare



Data Start: 98/09/19, 0000:00

Plot created: 98/09/23, 1007

Channel 1 (1.0 - 8.0 Angstroms)

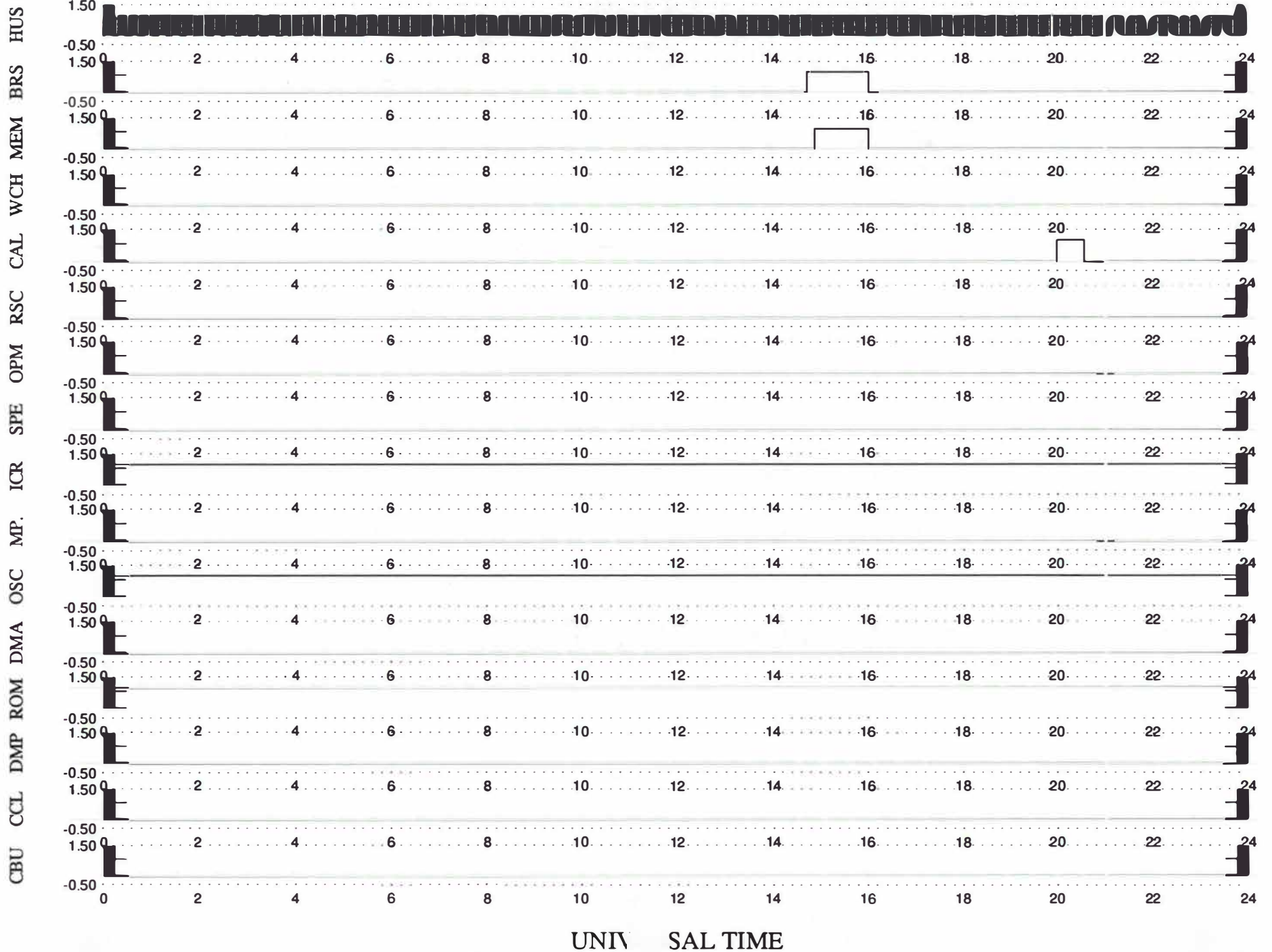
Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms)

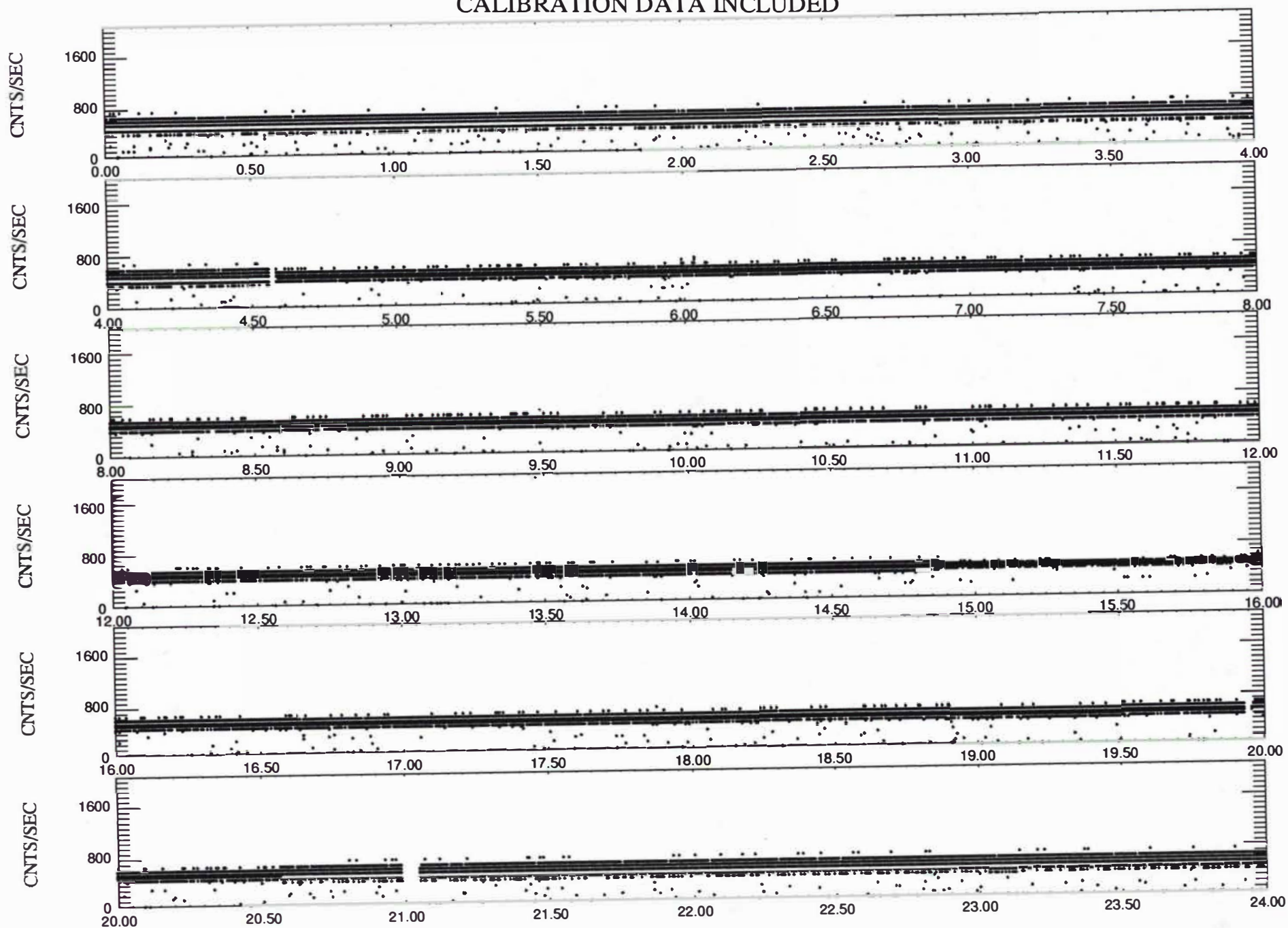
Background not subtracted

Sample average = 10

BURST NUMBER 0

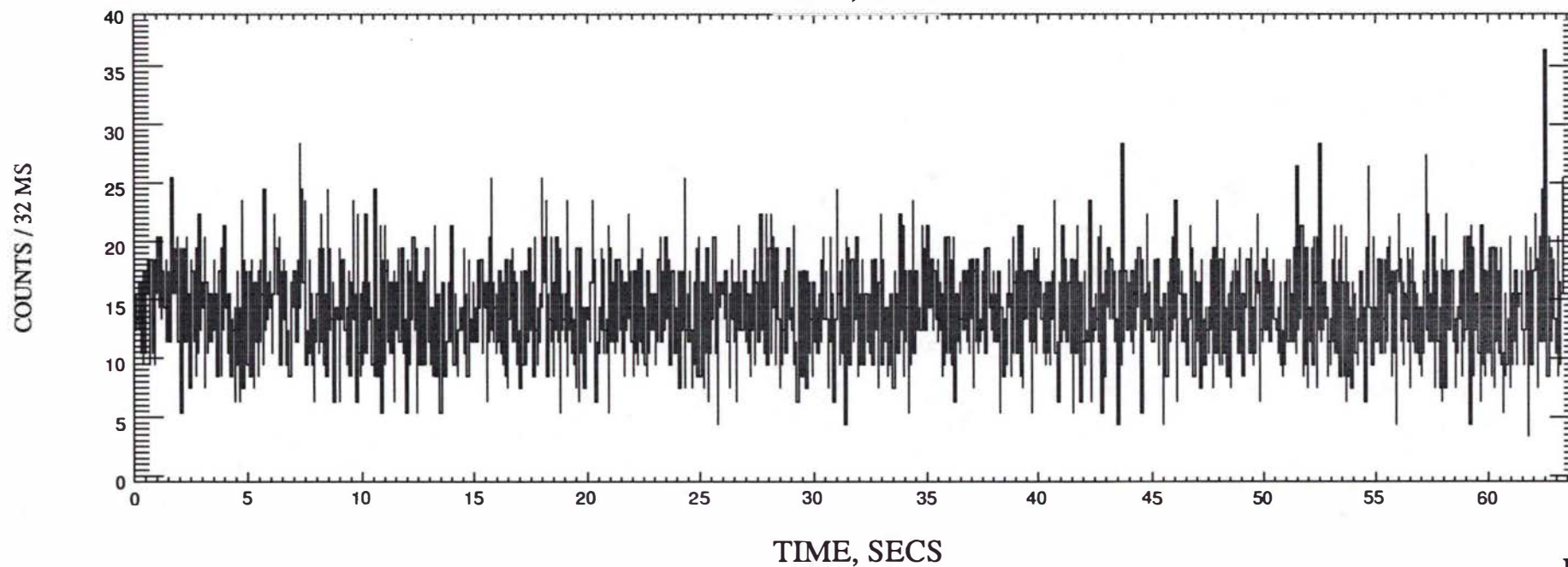
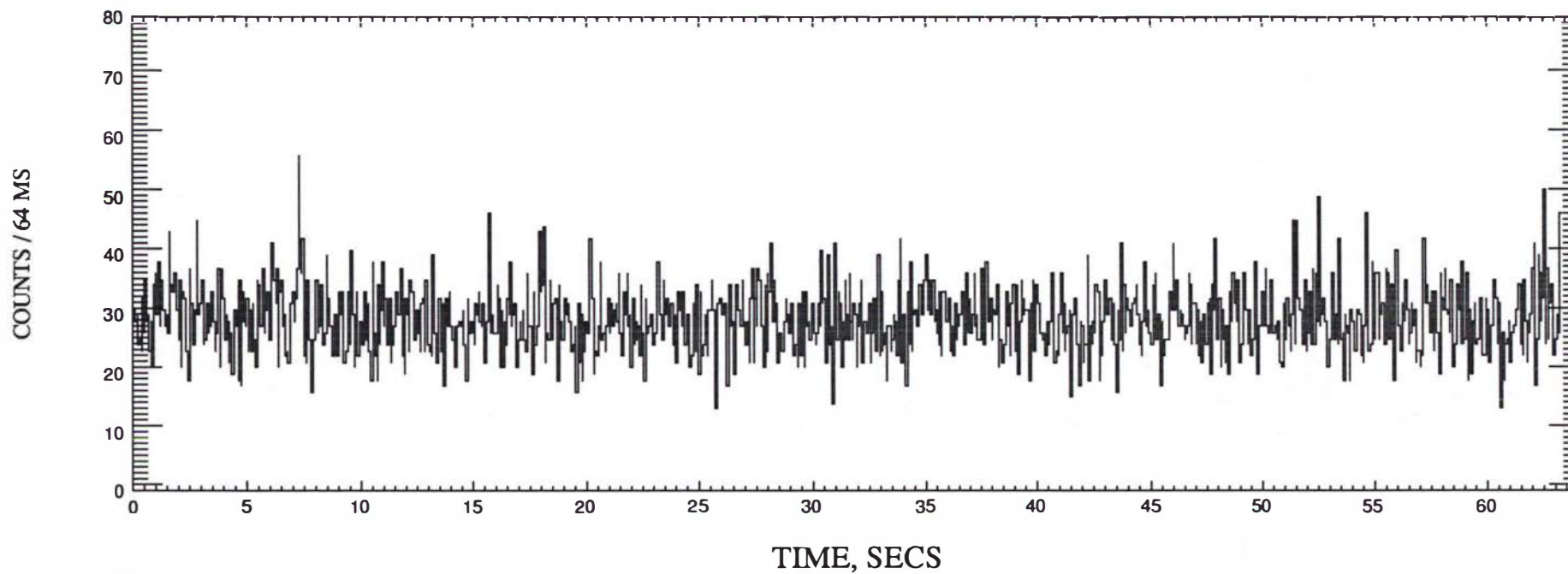


CALIBRATION DATA INCLUDED

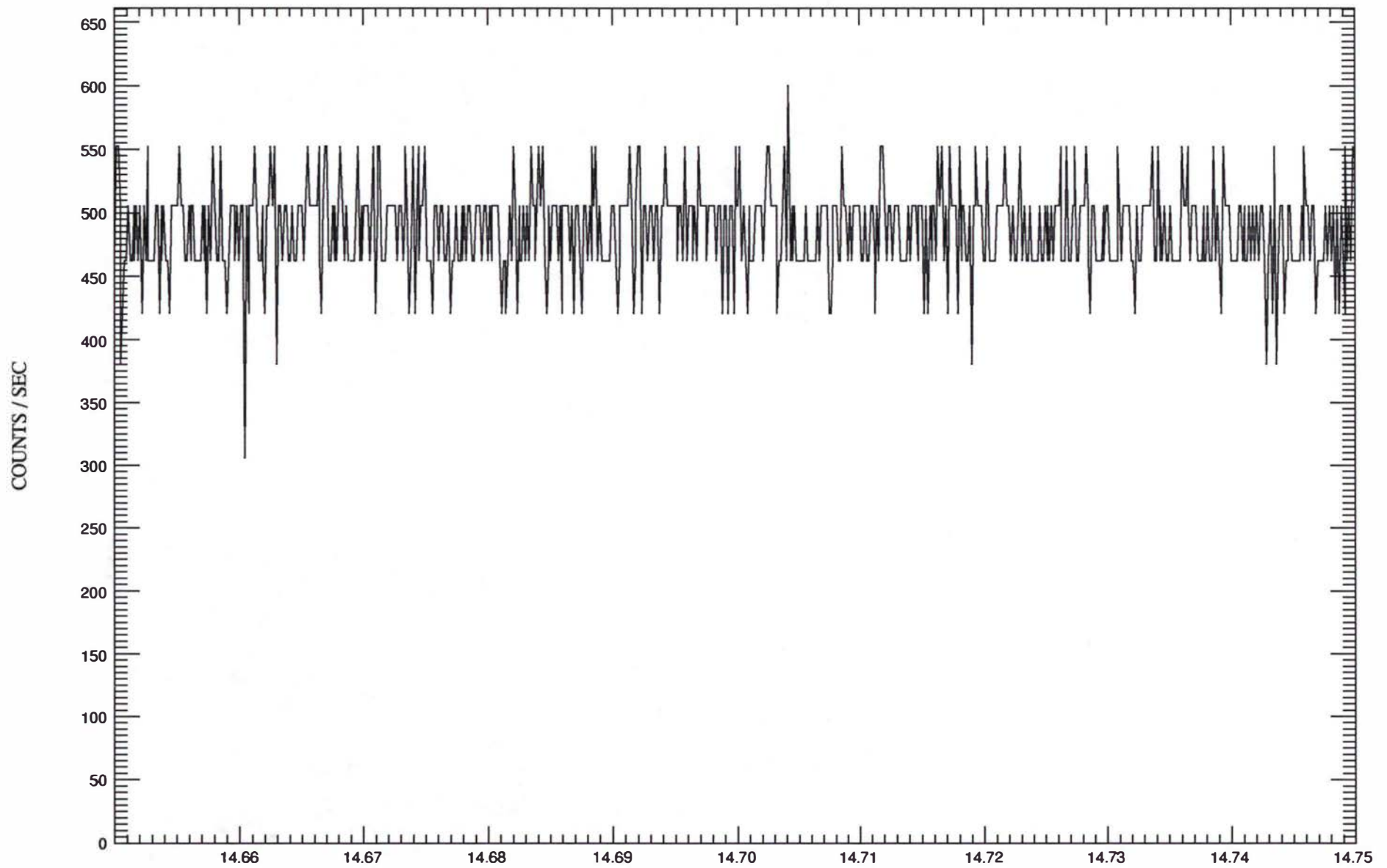


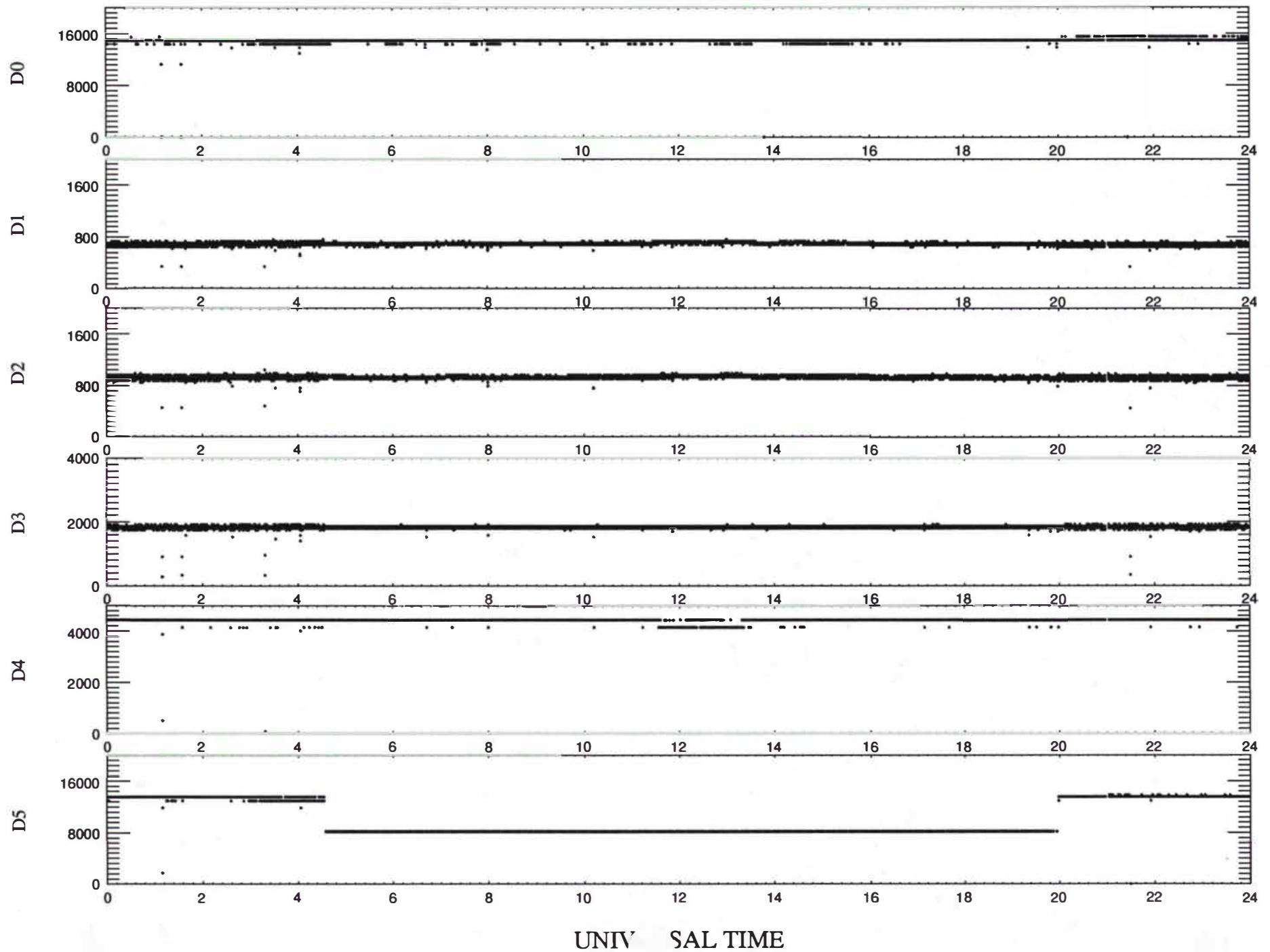
UNIV SAL TIME

Burst Counter 0 at UT=14.704292513529 h=52935.453 s 14:42:15.453



CALIBRATION DATA INCLUDED





From BRAINERD@fender.msfc.nasa.gov Tue Sep 22 13:54:17 1998

From: BRAINERD@fender.msfc.nasa.gov

Date: Tue, 22 Sep 1998 15:53:49 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7104

TIME: TJD=1076 SECONDS=09580

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: 116.8 SIGMA

INTENSITY: 7.00E+04 COUNTS/CM2

LOCATION: ZENITH=123.1 AZIMUTH=328.7 ERROR=000.3 DEGREES

COMMENTS:

SOLAR FLARE GOES M1.8. NO OPTICAL. VISIBLE ABOVE 300 KEV.

From BRAINERD@fender.msfc.nasa.gov Tue Sep 22 13:57:24 1998

From: BRAINERD@fender.msfc.nasa.gov

Date: Tue, 22 Sep 1998 15:57:06 -0500 (CDT)

To: burst@compel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lhev.gsfc.nasa.gov, barthelmy@lhev.gsfc.nasa.gov,
bacodine@lhev.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhev.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 07105

TIME: TJD=1076 SECONDS=28039 07:47:19

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=014.8 AZIMUTH=008.1 ERROR=010.6 DEGREES

COMMENTS:

SGR 1900+14

BATSE BURST# 7105

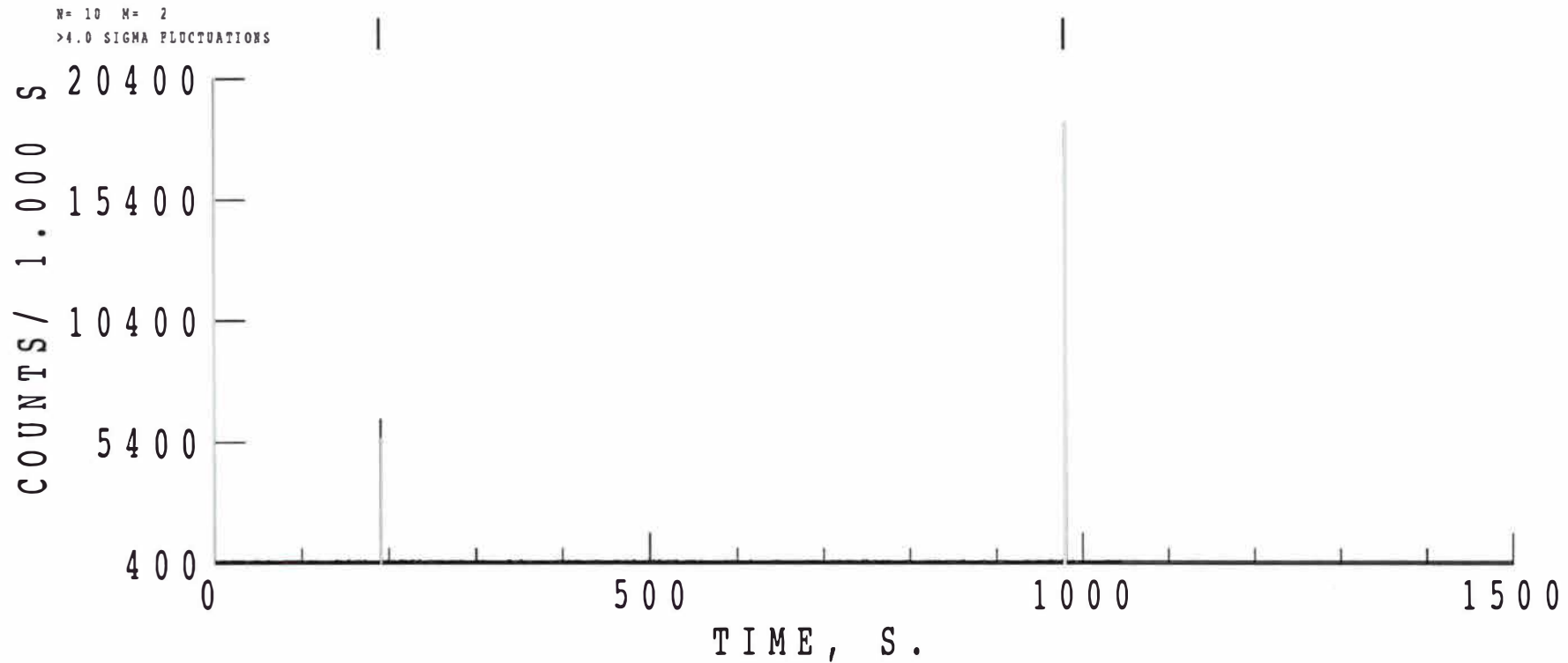
ULYSSES RT

23 / 9 / 98

20 / 9 / 98 29304.373 s

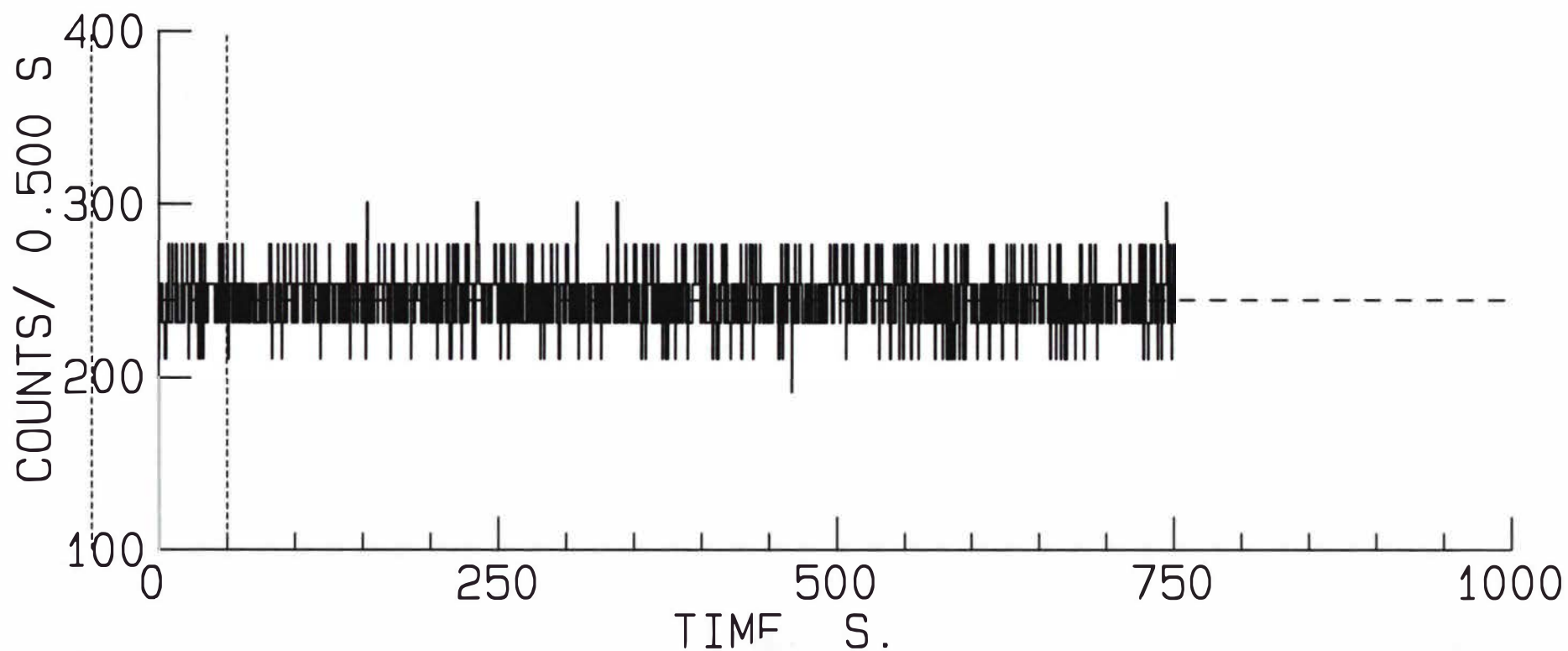
0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV



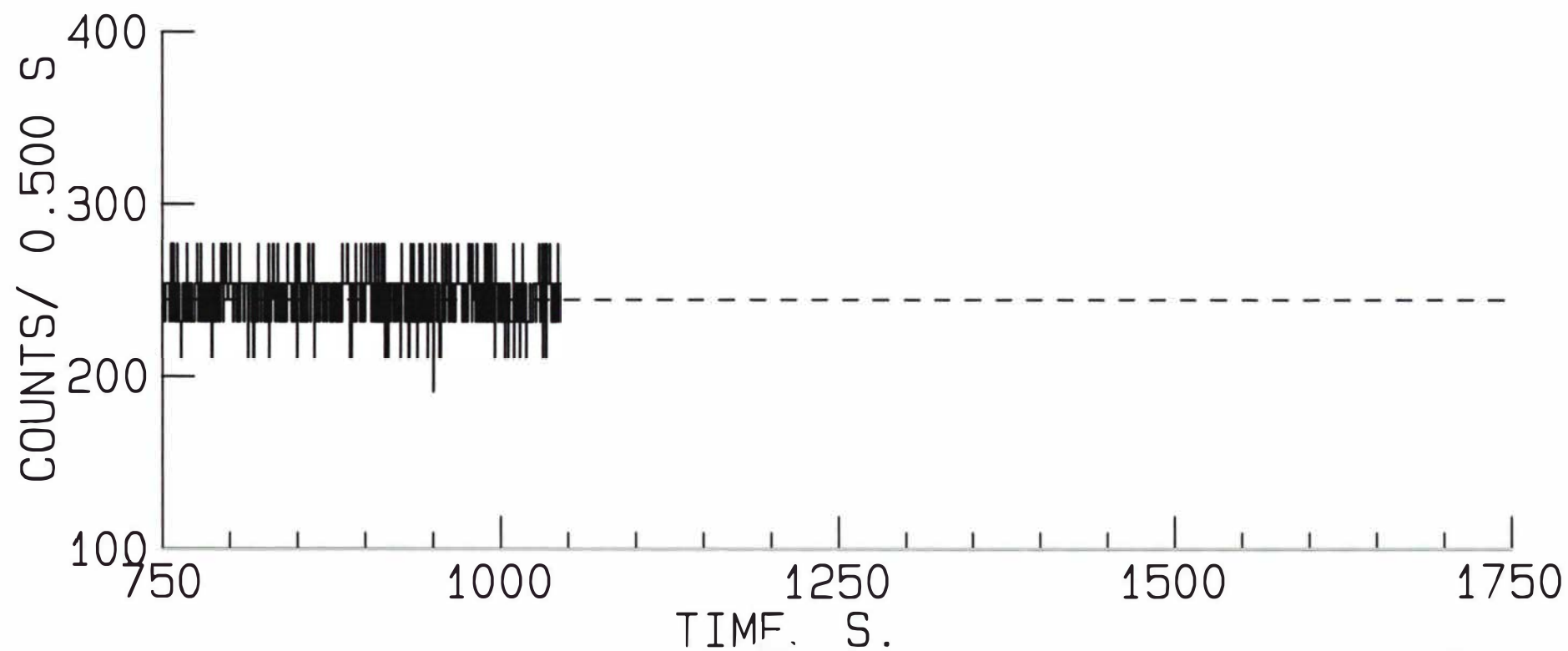
ULYSSES RT
20/ 9/98 29304.370 s
22- 150 keV

23/ 4/99



ULYSSES RT
20/ 9/98 29304.370 s
22- 150 keV

23/ 4/99



BATSEARCH PROGRAM

BATSE BURST # 7106
EVENT OF 1998 SEP 20 DAY OF YEAR=263
EVENT CROSSING TIME AT BATSE : 47930. S. OR 13:18:50.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 119.000 -6.000
BATSE PEAK COUNTING RATE: 5000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 20/ 9/ 98 IS:
RA= 161.005 DEC= 1.958 DIST= 6.285 AU
BATSE-ULYSSES DISTANCE = 940271502. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=137.31 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2305.31 SECS.
CROSSING TIME AT ULYSSES IS 45625. S. OR 12:40:24 +/- 384.21 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 20/ 9/ 98 IS:
RA= 141.987 DEC= 16.221 DIST= 2.303 AU
MARS-BATSE DISTANCE = 344575584. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=148.20 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -976.86 SECS.
CROSSING TIME AT MARS IS 46953. S. OR 13:02:33 +/- 90.32 SECONDS

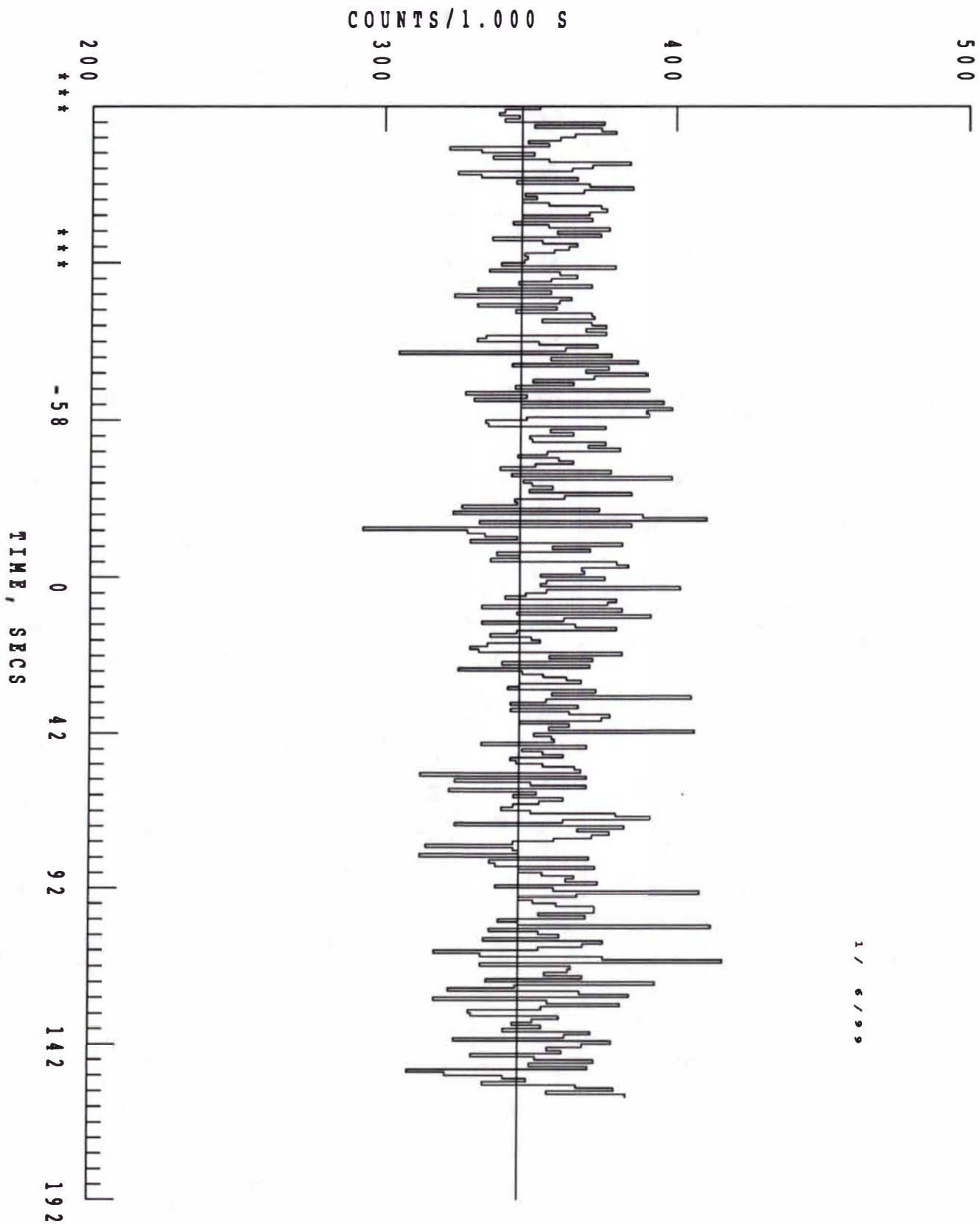
No other messages

NEAR

20/09/98

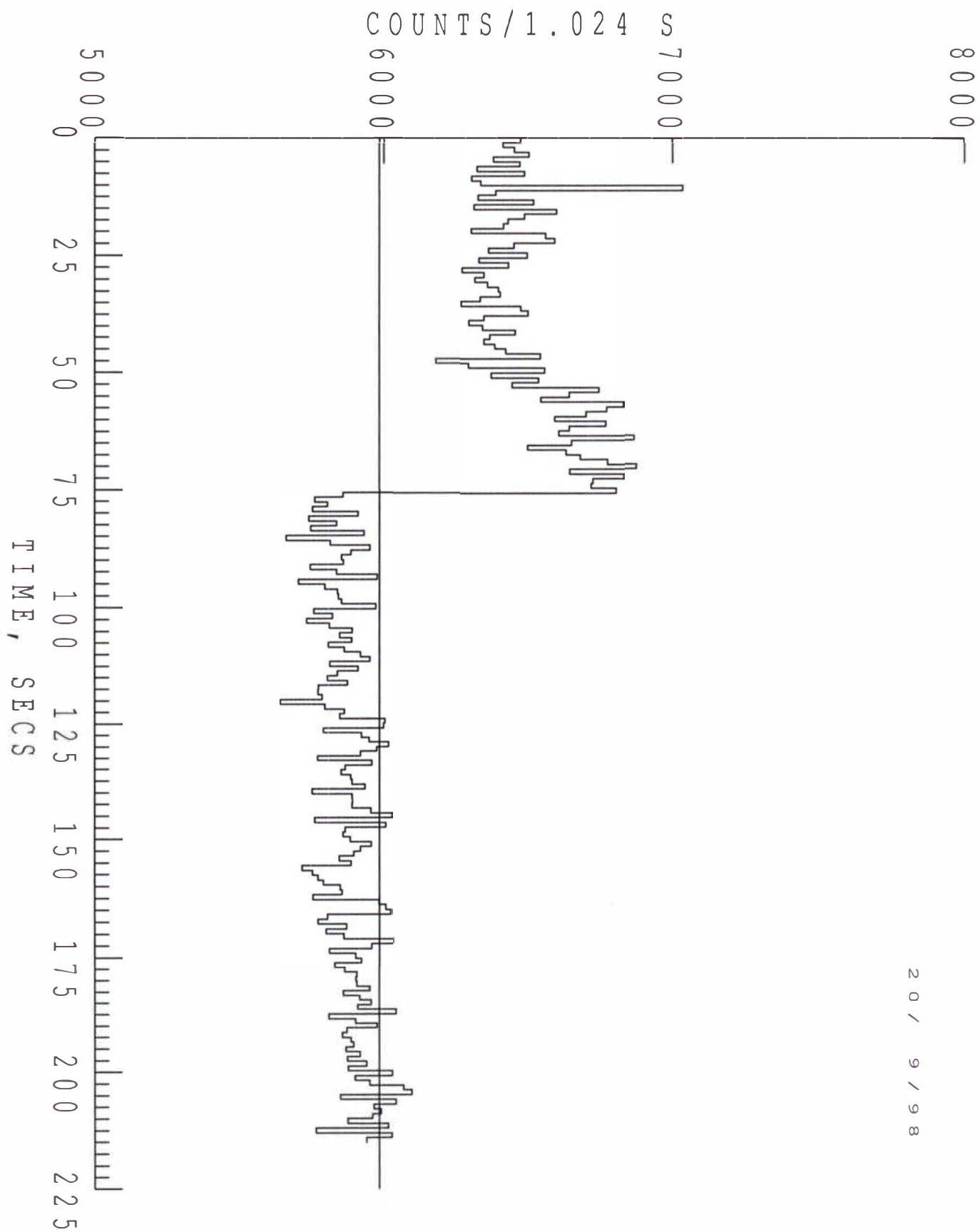
47441.642

100-1000 keV



BACODINE 7106 20/09/98 47919.841

25- 100 keV



BATSE BURST# 7106

ULYSSES RT

22 / 9 / 98

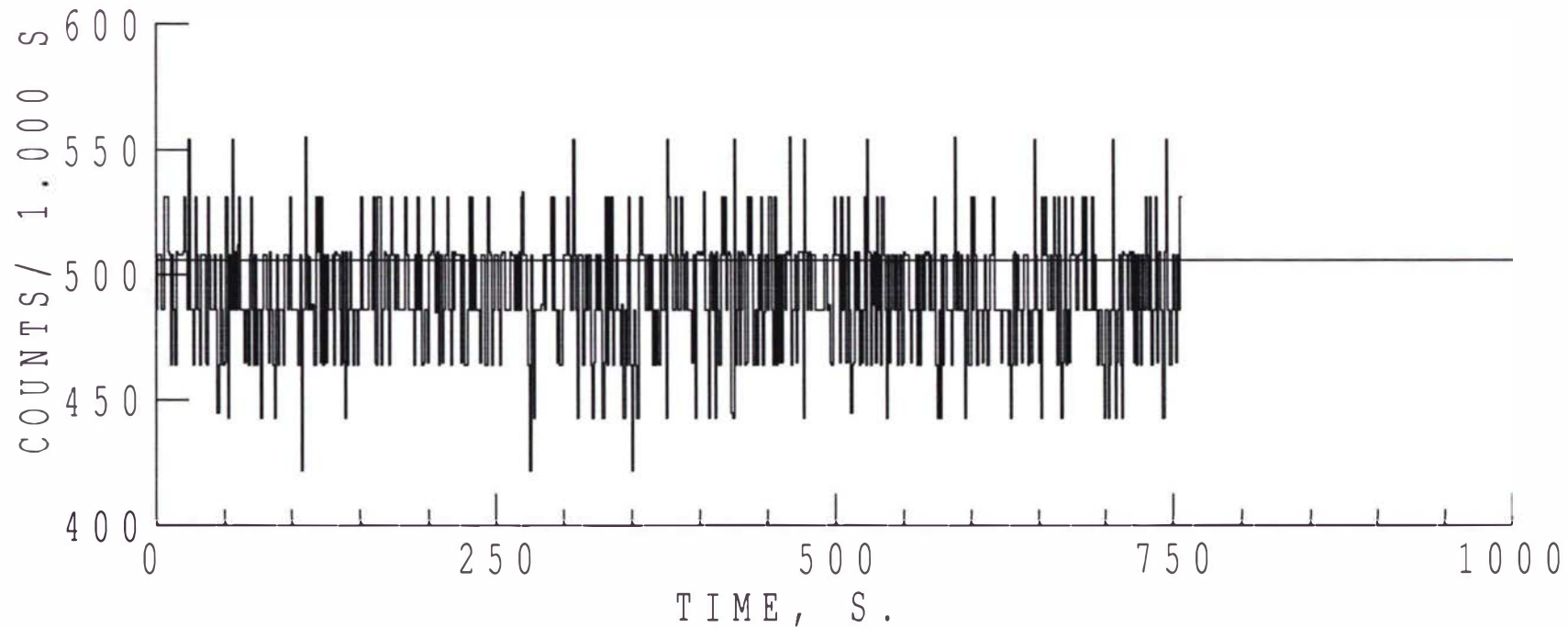
20 / 9 / 98 45252.039 s

0.500 S INTERVALS REGROUPED BY 2

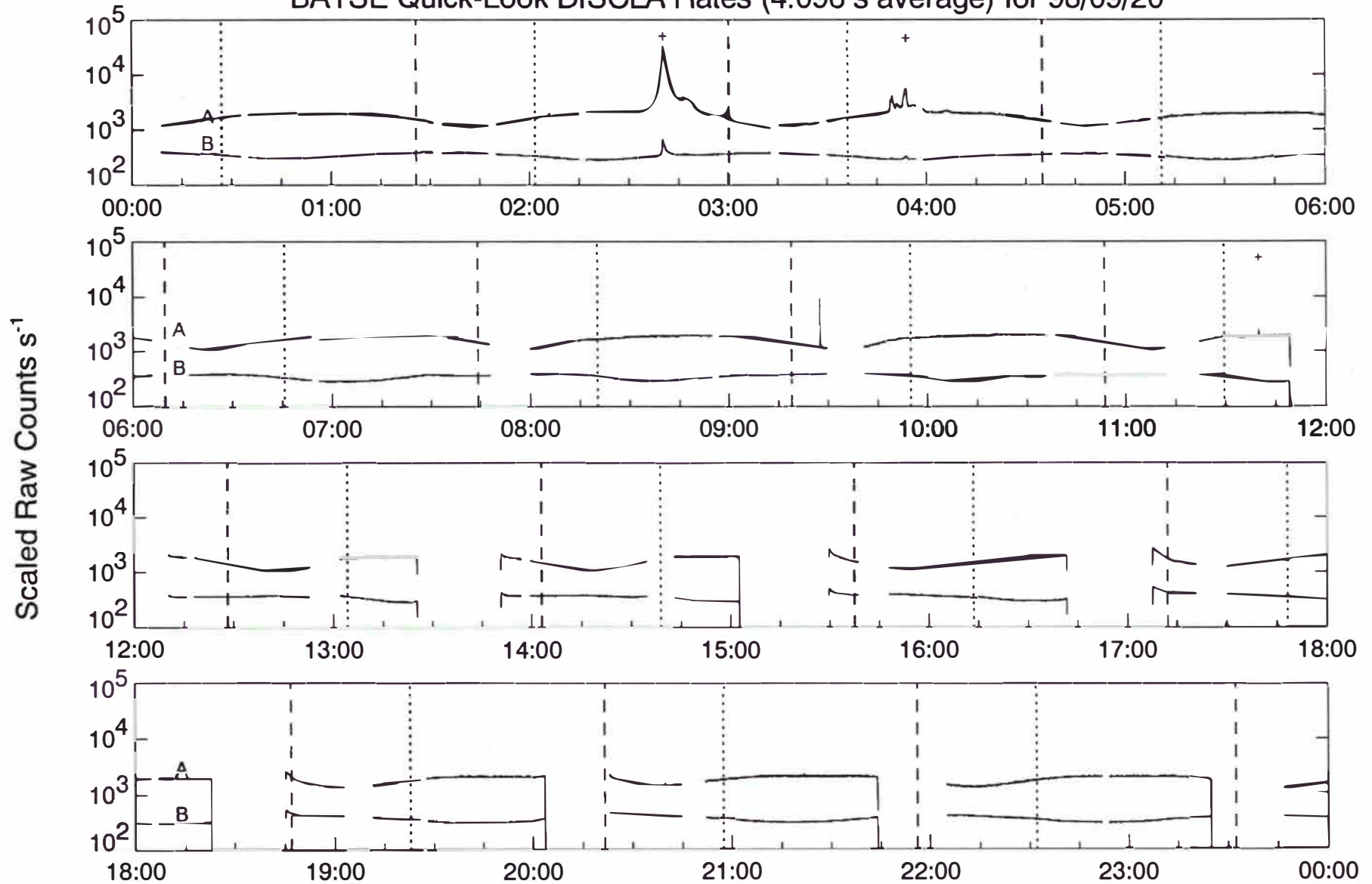
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/09/20

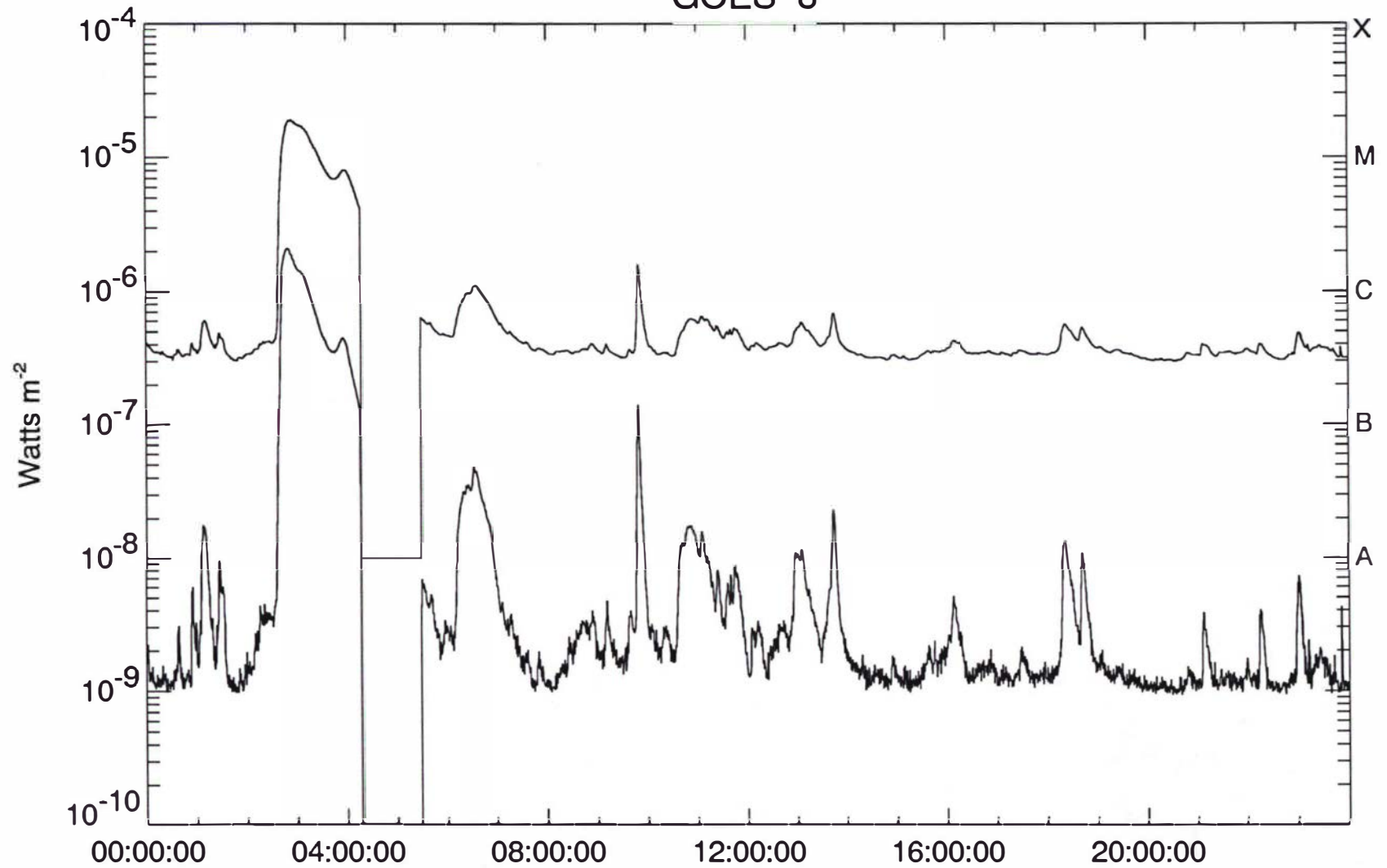


Current Time: 98/09/24, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8

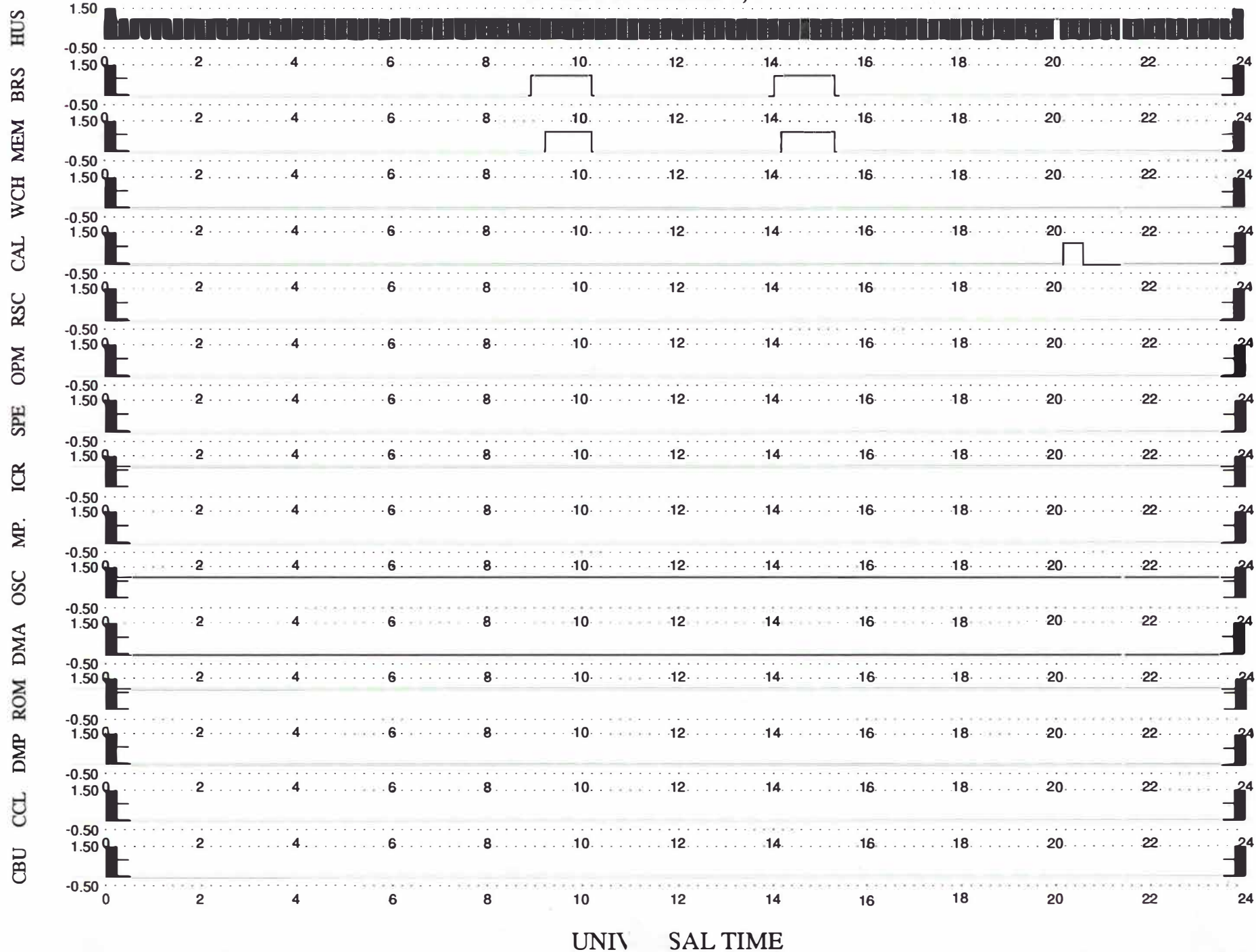


Data Start: 98/09/20, 0000:00

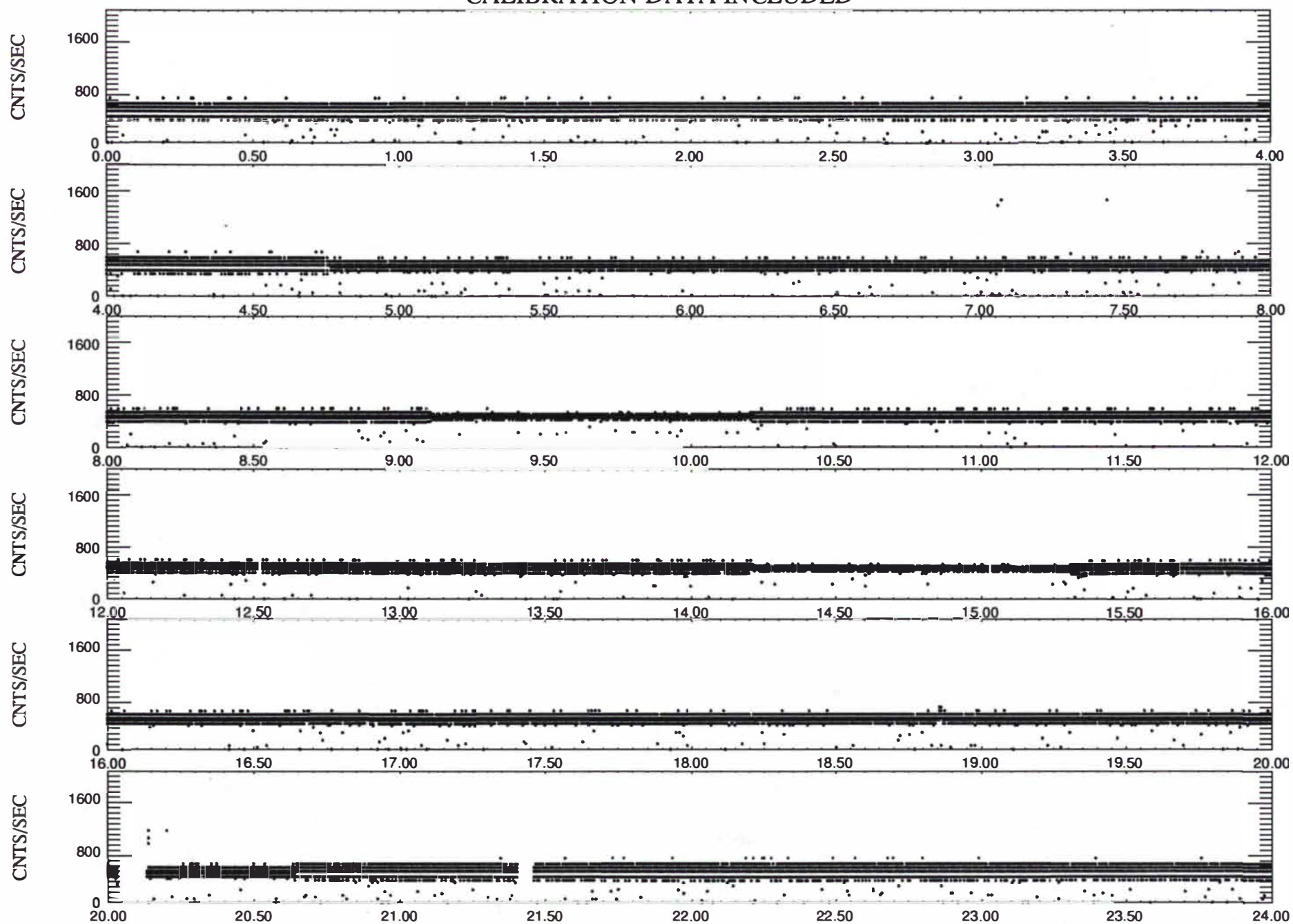
Plot created: 98/09/24, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted
Sample average = 10

BURST NUMBER 1, 2

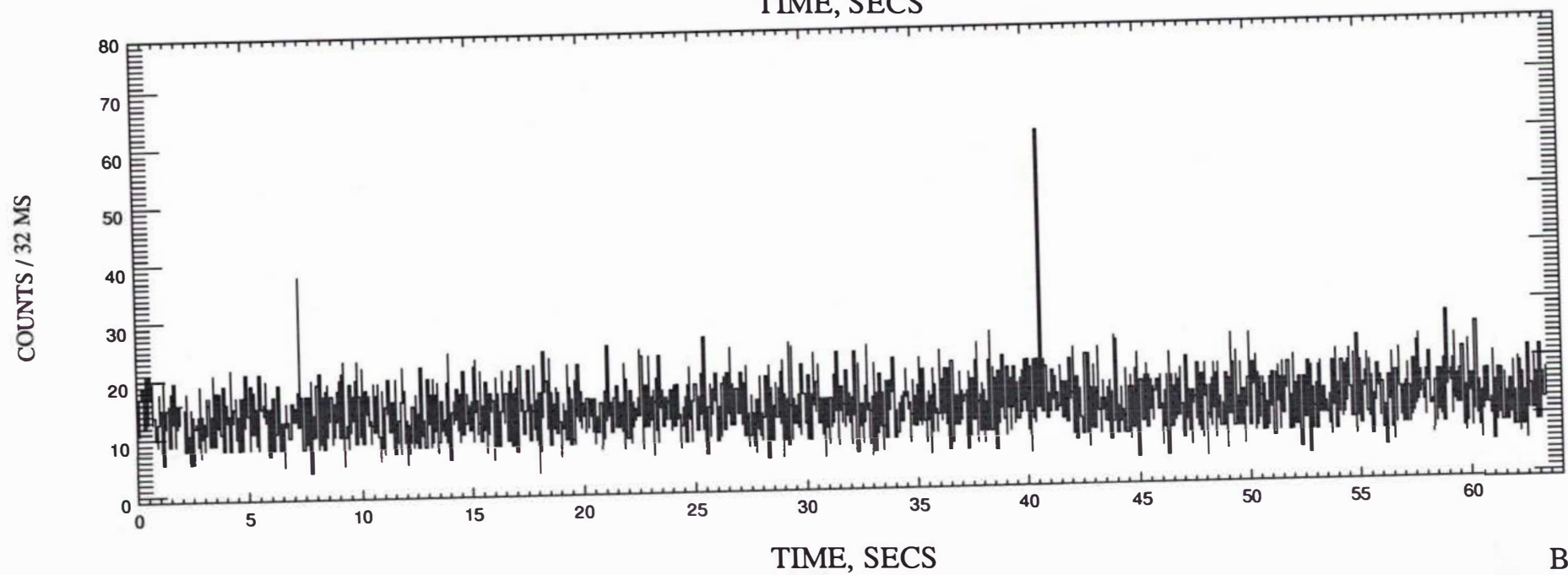
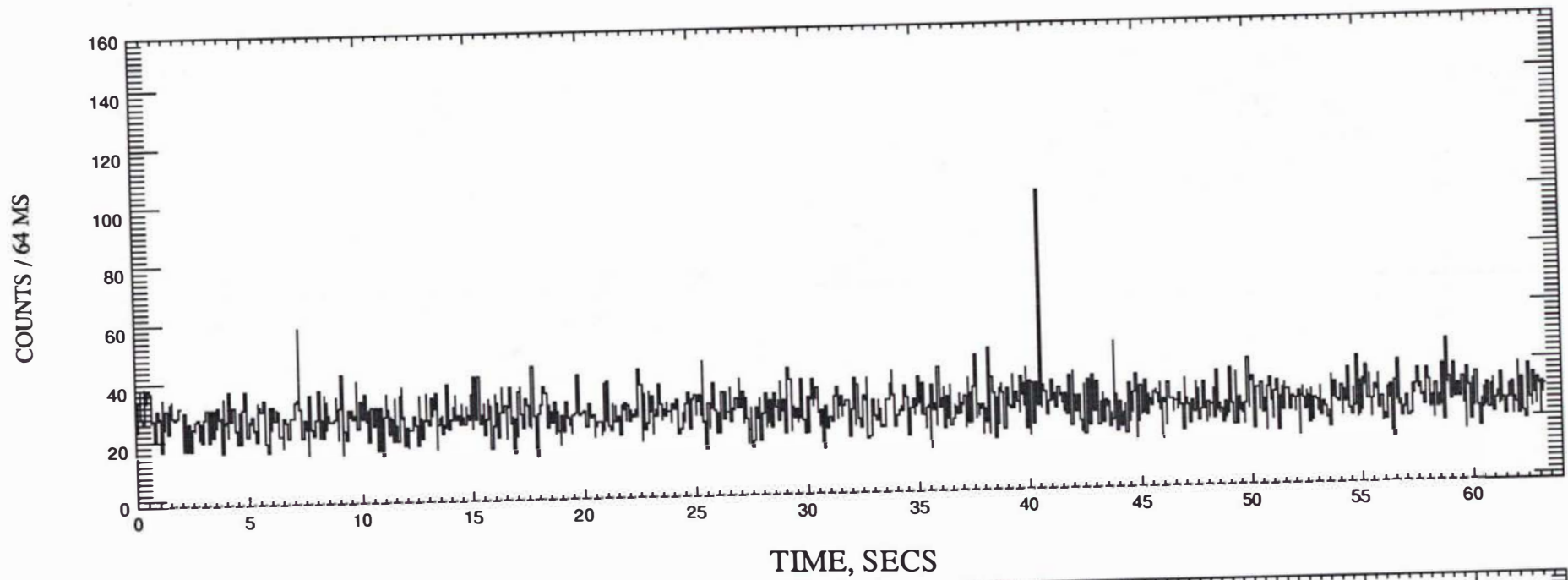


CALIBRATION DATA INCLUDED

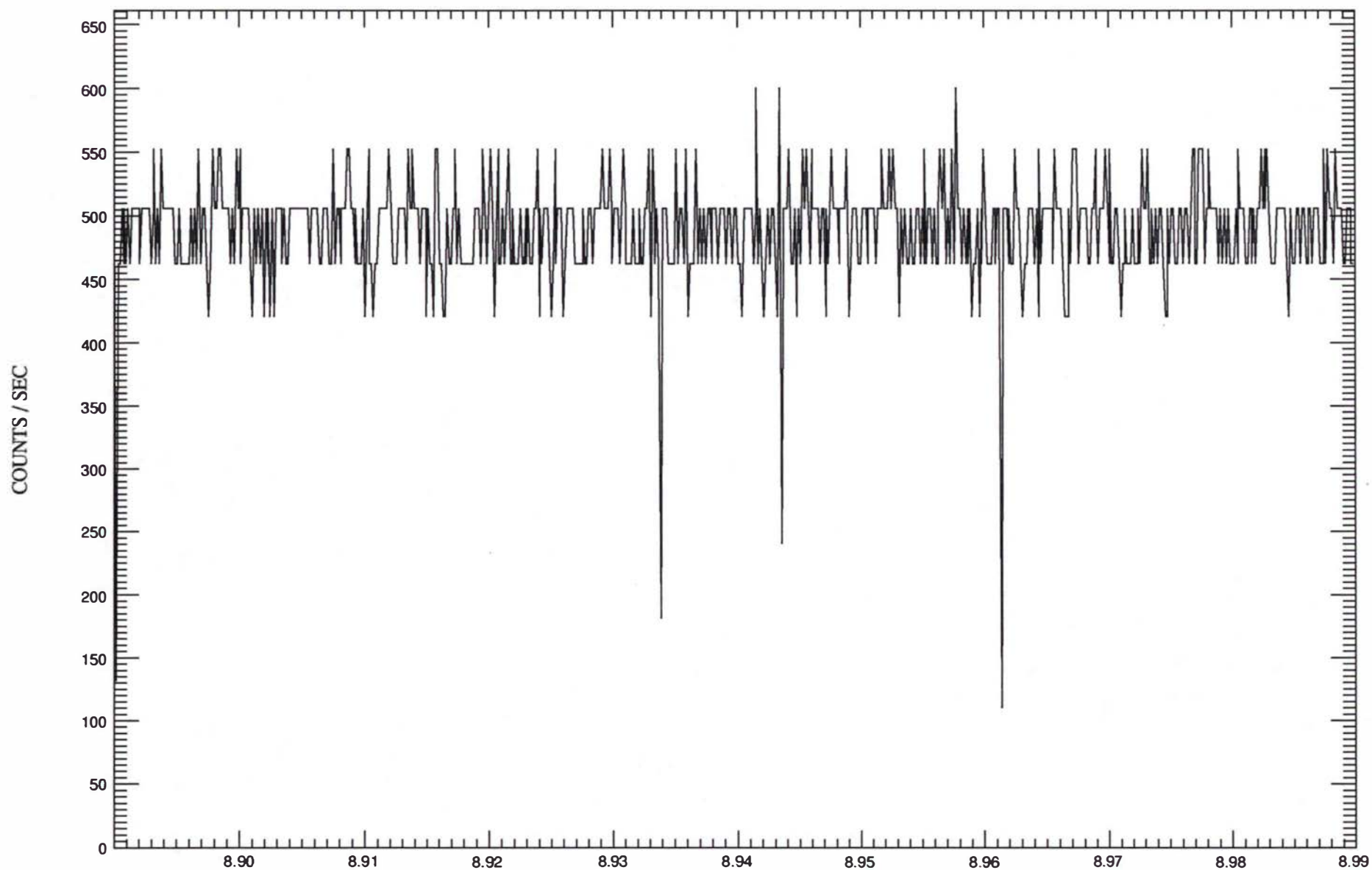


UNIV SAL TIME

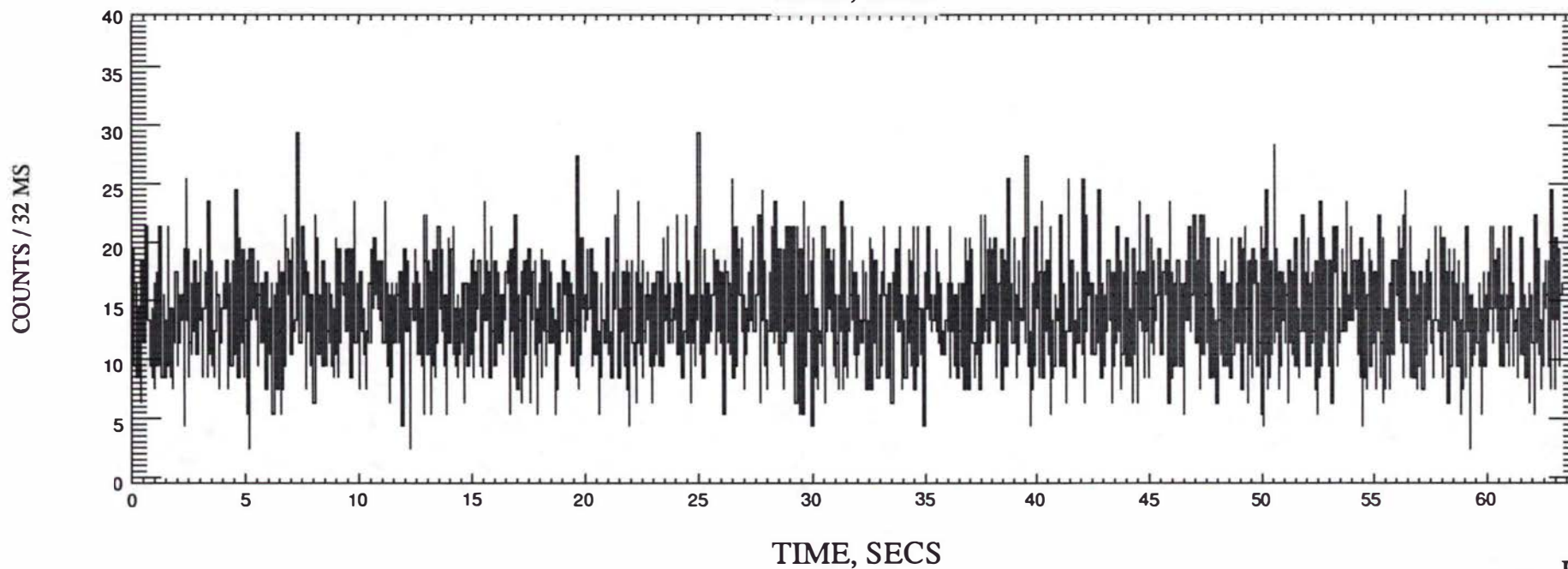
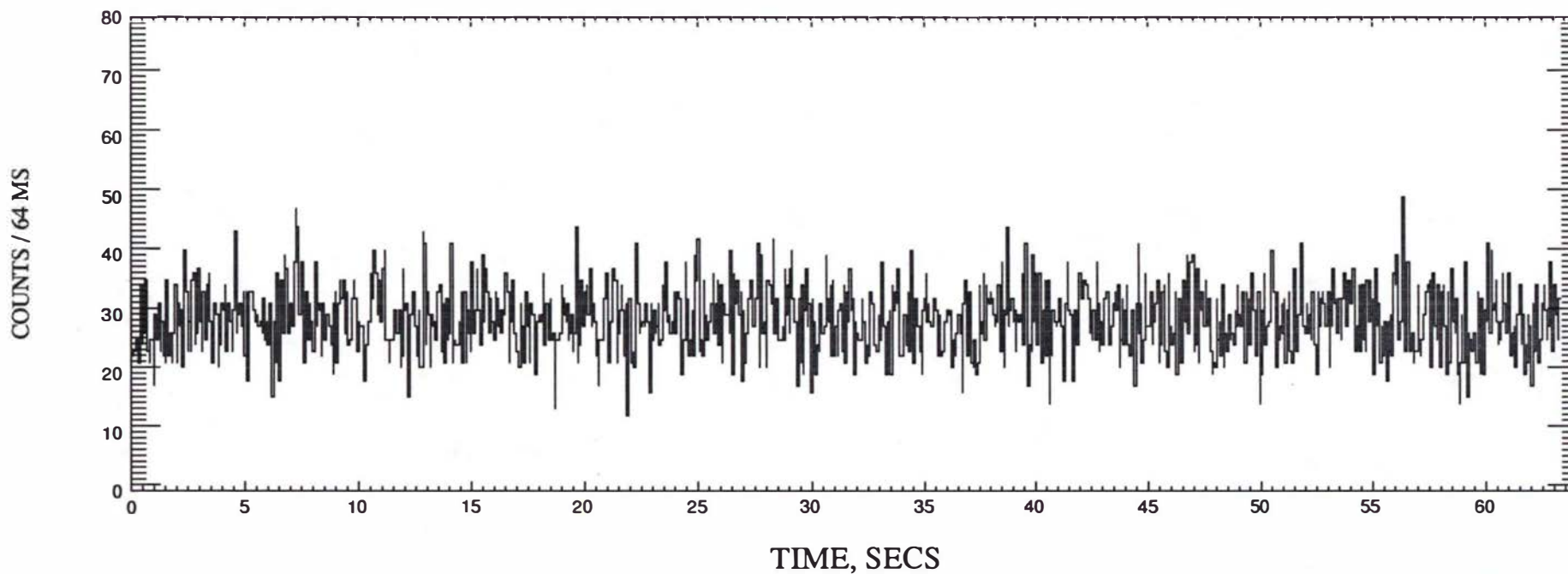
Burst Counter 1 at UT= 8.944691611396 h=32200.890 s 08:56:40.890



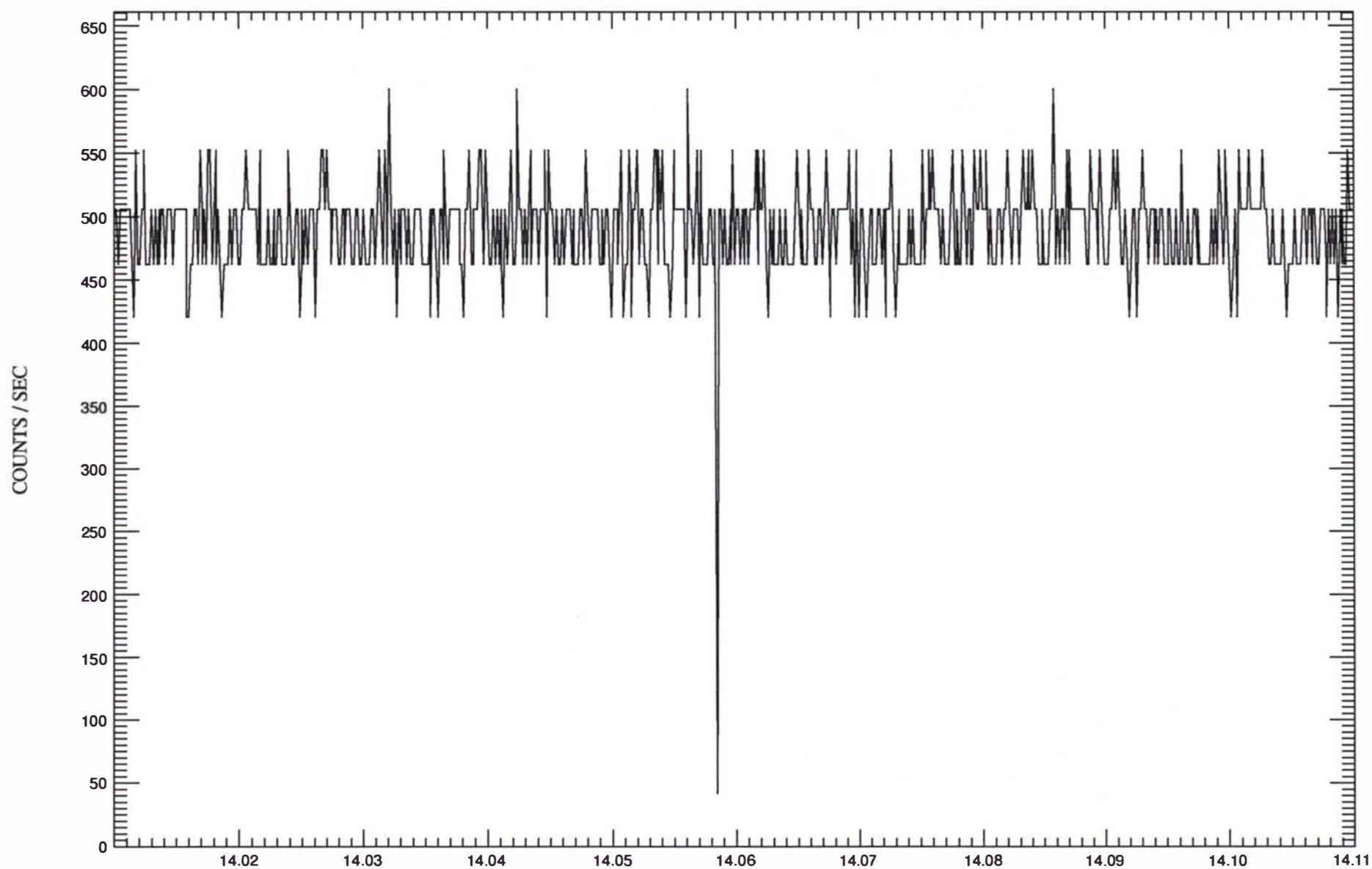
CALIBRATION DATA INCLUDED

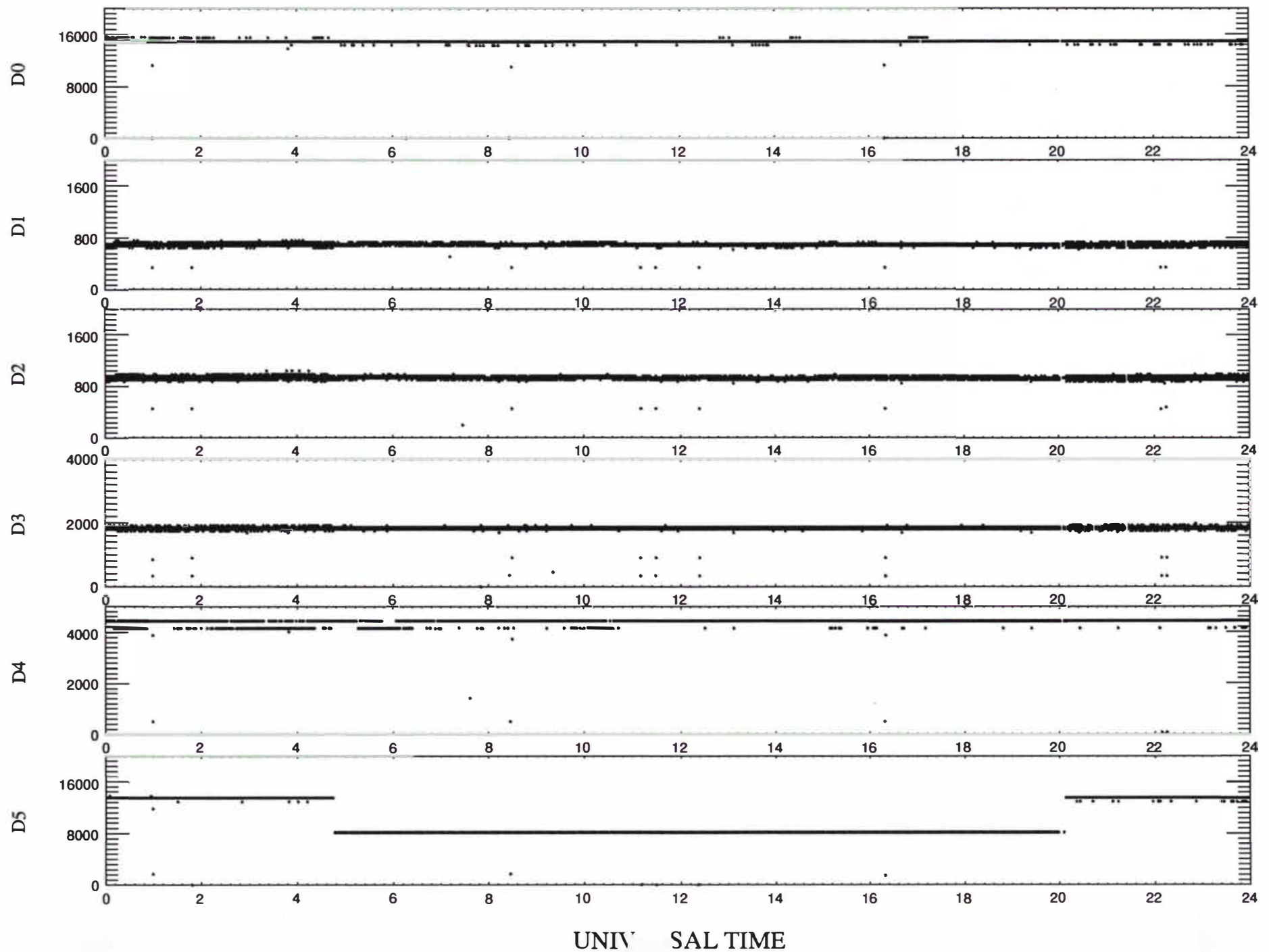


Burst Counter 2 at UT=14.056411933899 h=50603.083 s 14:03:23.083



CALIBRATION DATA INCLUDED





From HENZE@fender.msfc.nasa.gov Wed Sep 23 13:35:45 1998

Date: Wed, 23 Sep 1998 15:31:37 -0500 (CDT)

From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7107

TIME: TJD=1077 SECONDS=21143

05:52:23

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 30.0 AZIMUTH=340.0 ERROR= 10.0 DEGREES

COMMENTS:

SGR 1900+14. SINGLE SPIKE, DUR.~0.036 S. NOT VISIBLE ABOVE 300 KEV.

BATSE BURST# 7107

ULYSSES RT

1 / 10 / 98

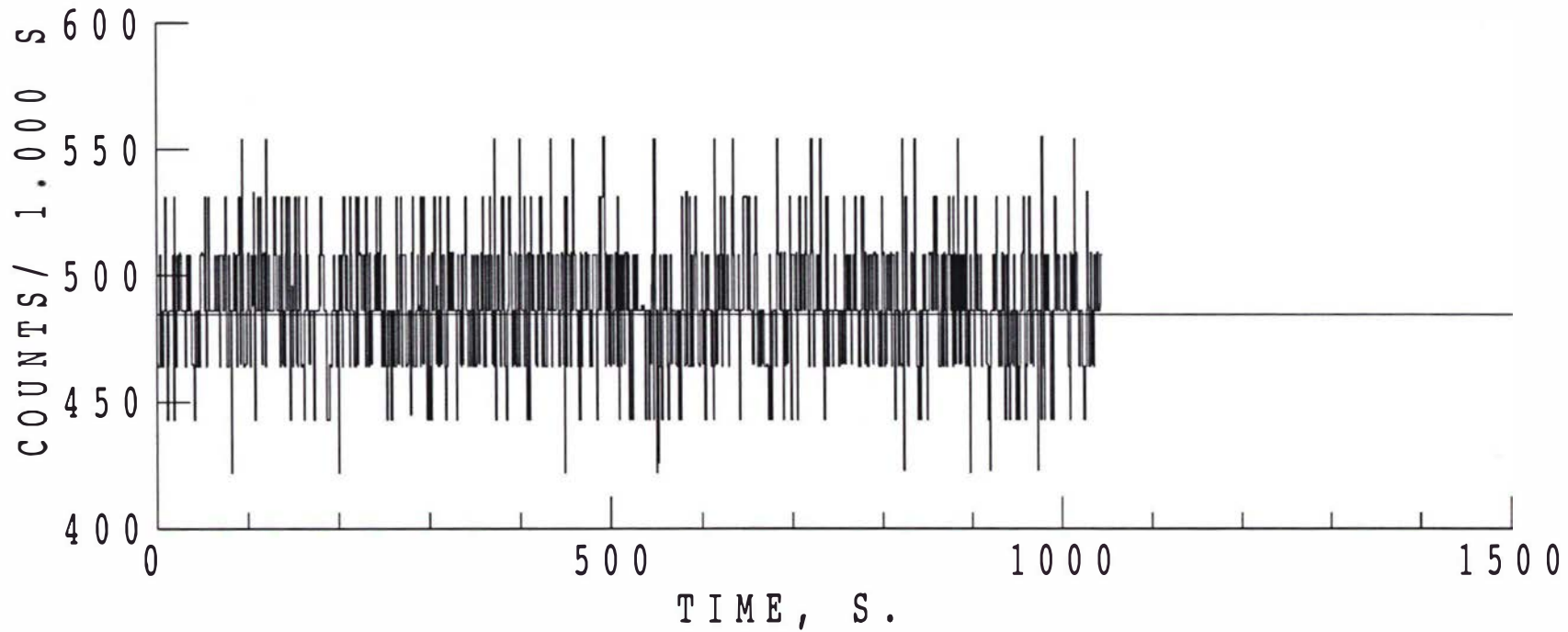
21 / 9 / 98 22428.207 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Thu Sep 24 11:26:11 1998
Return-Path: <HENZE@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA17419; Thu, 24 Sep 1998 11:26:10 -0700
From: HENZE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA09874; Thu, 24 Sep 1998 11:26:08 -0700
Date: Thu, 24 Sep 1998 13:21:07 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980924132107.20202239@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7108
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7108
EVENT OF 1998 SEP 21 DAY OF YEAR=264
EVENT CROSSING TIME AT BATSE : 38006. S. OR 10:33:26.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 203.000 22.000
BATSE PEAK COUNTING RATE: 4300 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 21/ 9/ 98 IS:
RA= 161.119 DEC= 1.867 DIST= 6.280 AU
BATSE-ULYSSES DISTANCE = 939468557. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=134.60 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2200.35 SECS.
CROSSING TIME AT ULYSSES IS 35806. S. OR 09:56:45 +/- 403.97 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 21/ 9/ 98 IS:
RA= 142.606 DEC= 16.032 DIST= 2.298 AU
MARS-BATSE DISTANCE = 343818304. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=122.94 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -623.55 SECS.
CROSSING TIME AT MARS IS 37382. S. OR 10:23:02 +/- 157.64 SECONDS

BATSE BURST TRIGGER

NO.: 7108

TIME: TJD=1077 SECONDS=38006

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 96.5 AZIMUTH=321.6 ERROR= 4.2 DEGREES

COMMENTS:

THREE PEAKS, TOTAL DUR. APPROX. 160 S. FIRST PEAK STRONGEST, MAX AT APPROX. T,
DUR. APPROX. 5 S. SECOND PEAK HAS MAX AT APPROX. T+78 S; THIRD PEAK HAS MAX
AT APPROX. T+150 S. FIRST PEAK MARGINALLY VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7108	980921	11077	38006	4300	203	+22	5

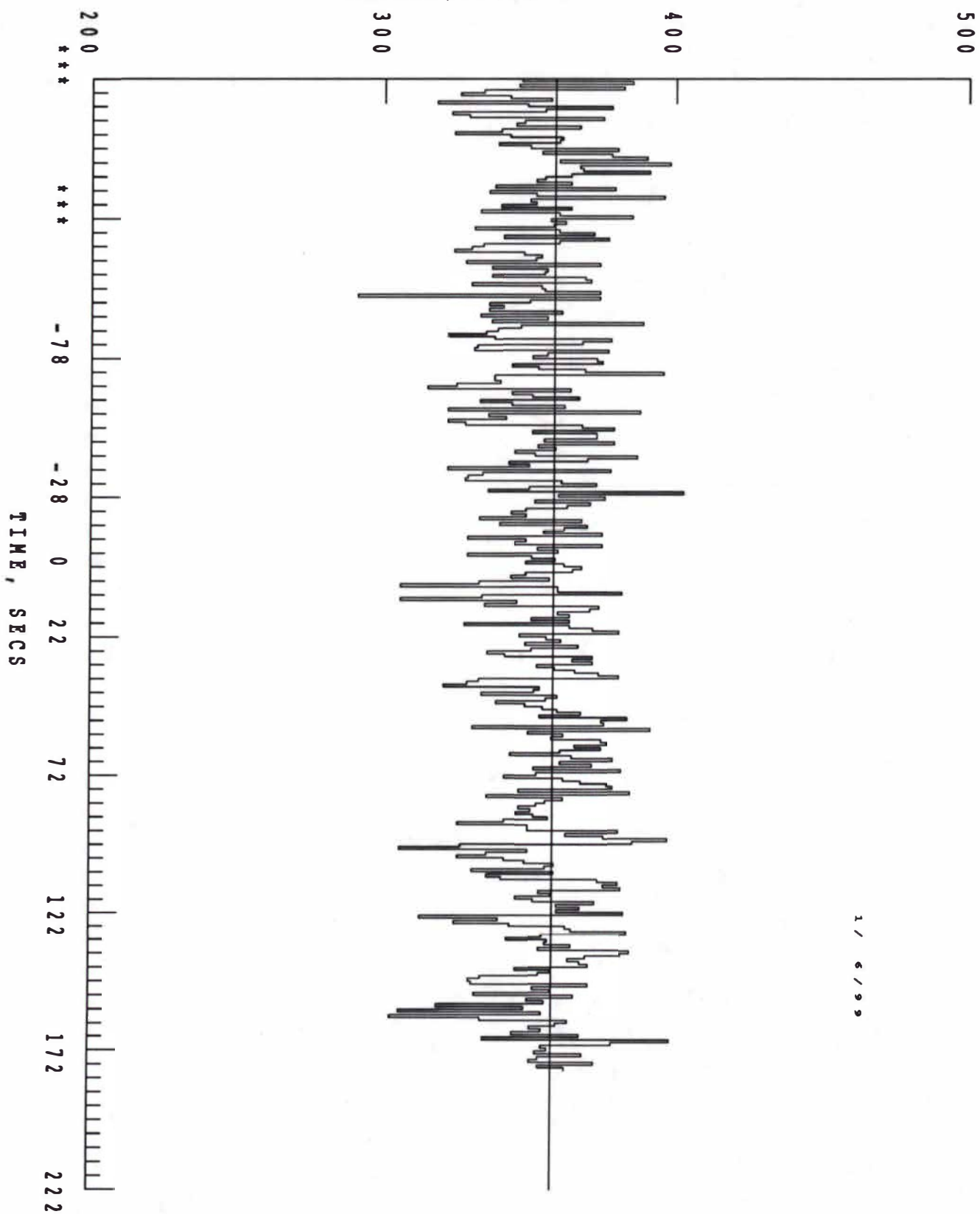
NEAR

21/09/98

37684.622

100-1000 keV

COUNTS/1.000 S

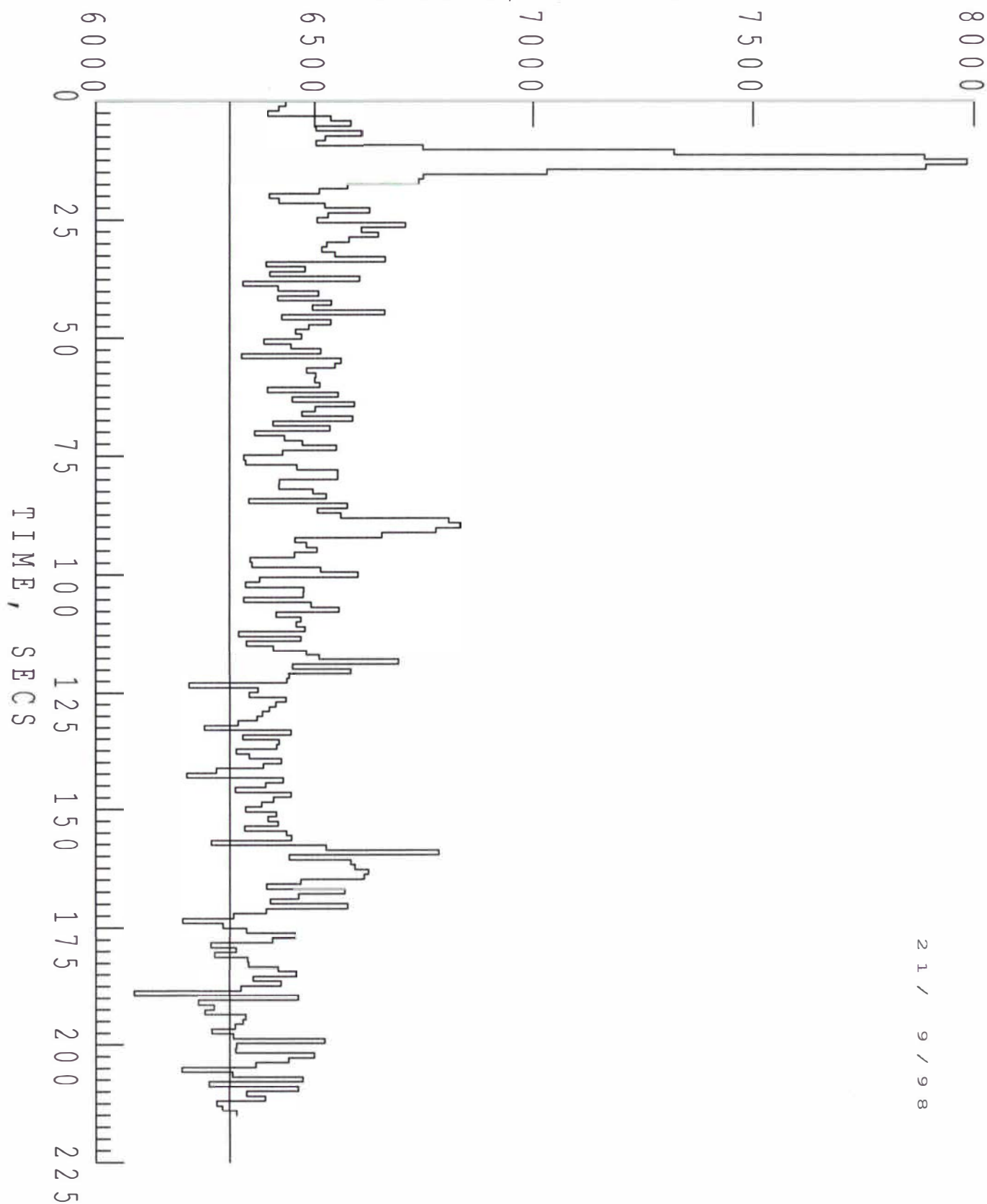


1 / 6 / 9 9

BACODINE 7108 21/09/98 37994.209

25- 100 keV

COUNTS/1.024 S



21 / 9 / 98

BACODINE# 7108

ULYSSES RT

1 / 10 / 98

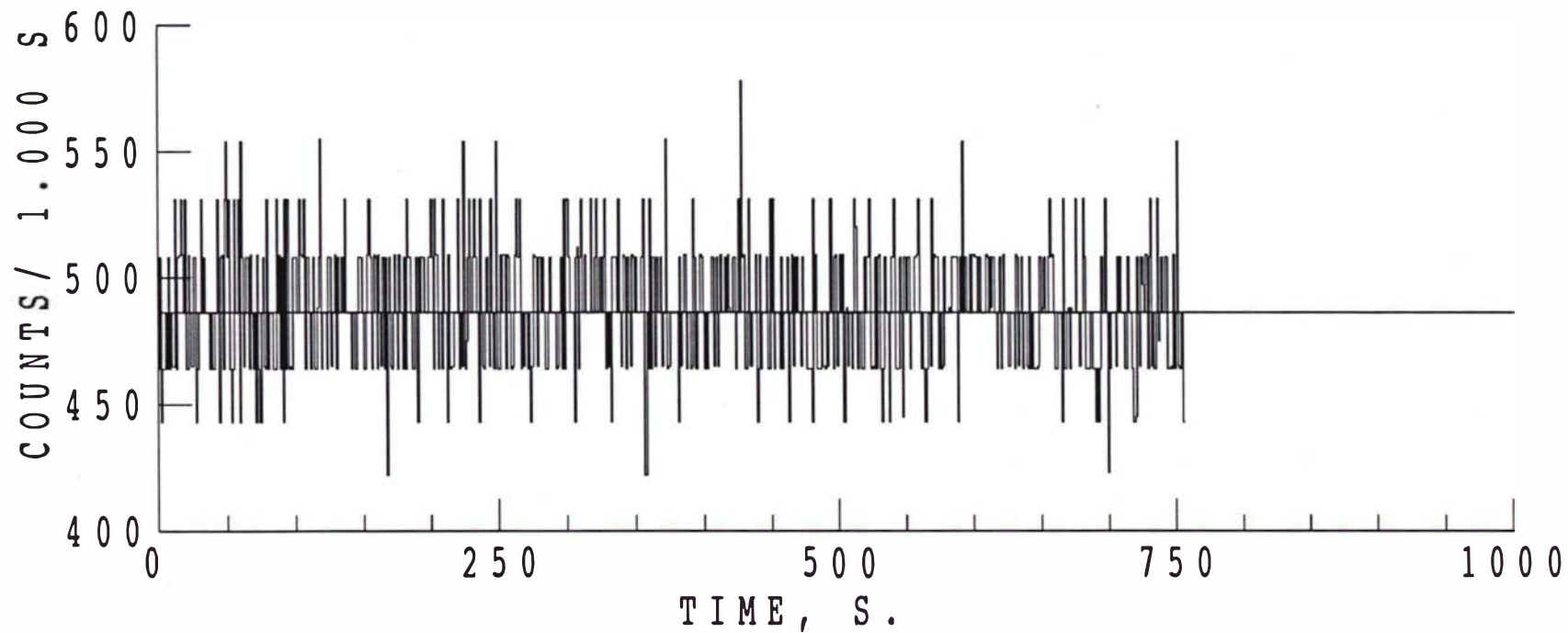
21 / 9 / 98 35244.336 s

0.500 S INTERVALS REGROUPED BY 2

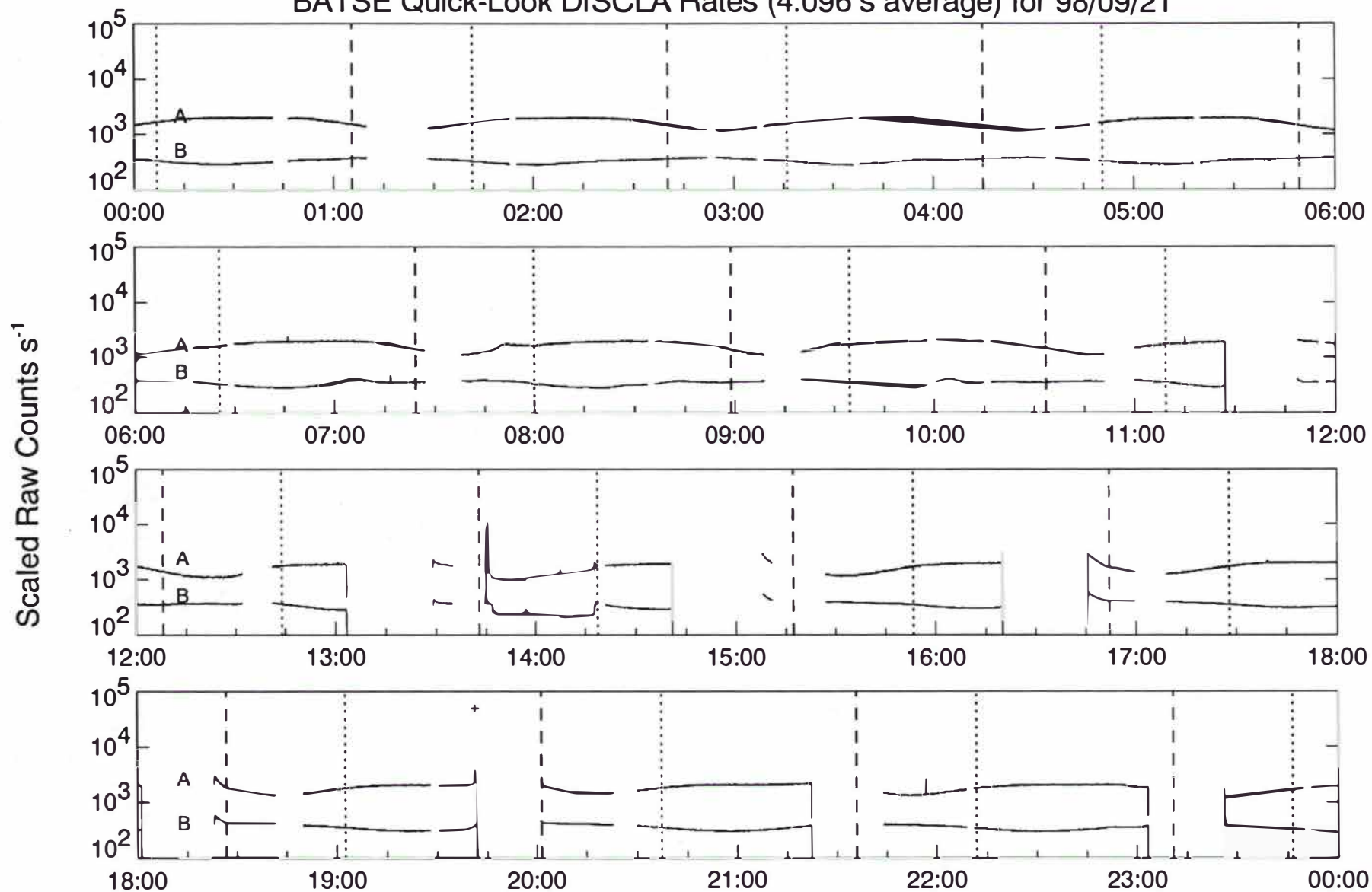
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/09/21

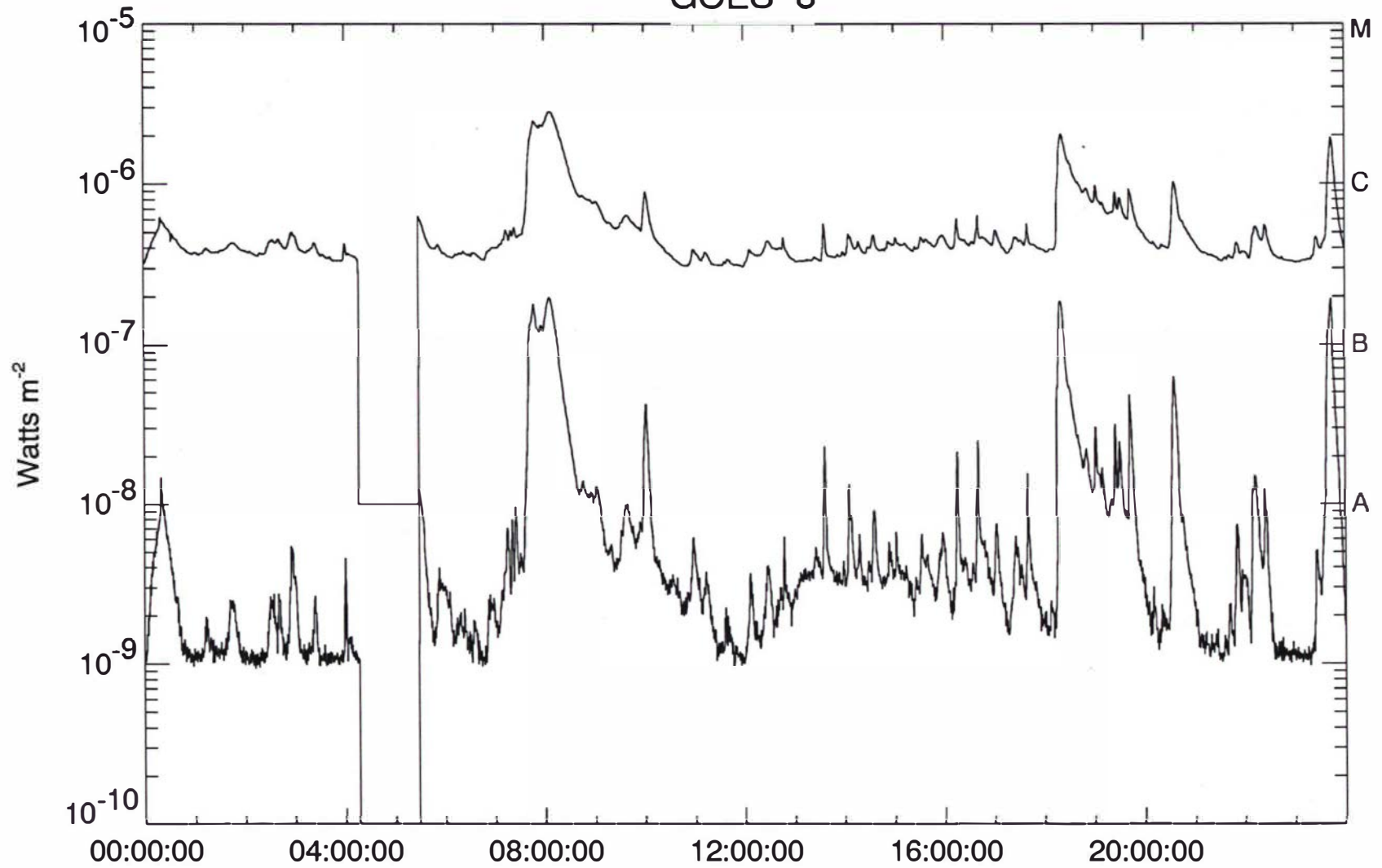


Current Time: 98/09/25, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 98/09/21, 0000:00

Plot created: 98/09/25, 1007

Channel 1 (1.0 - 8.0 Angstroms)

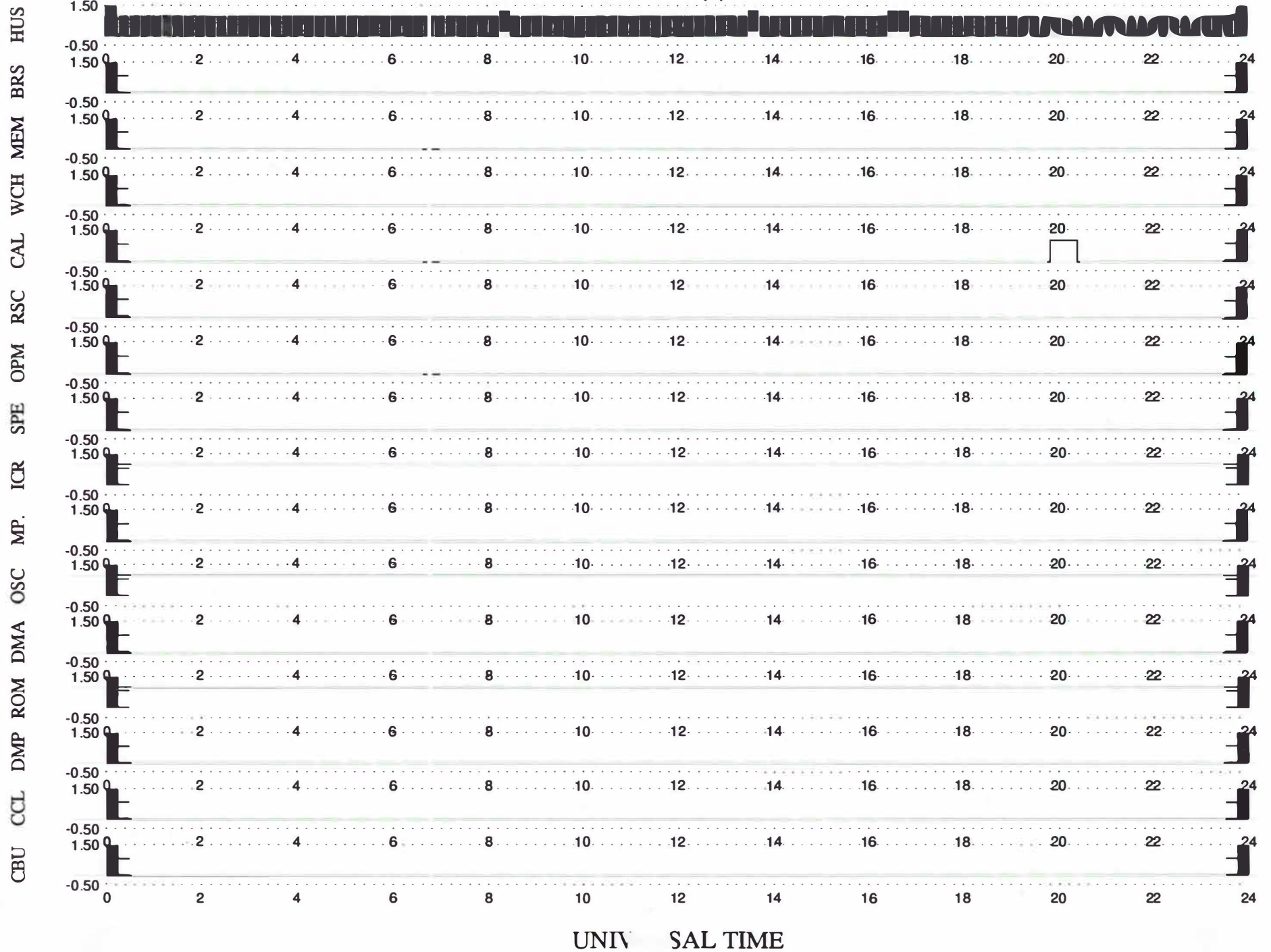
Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms)

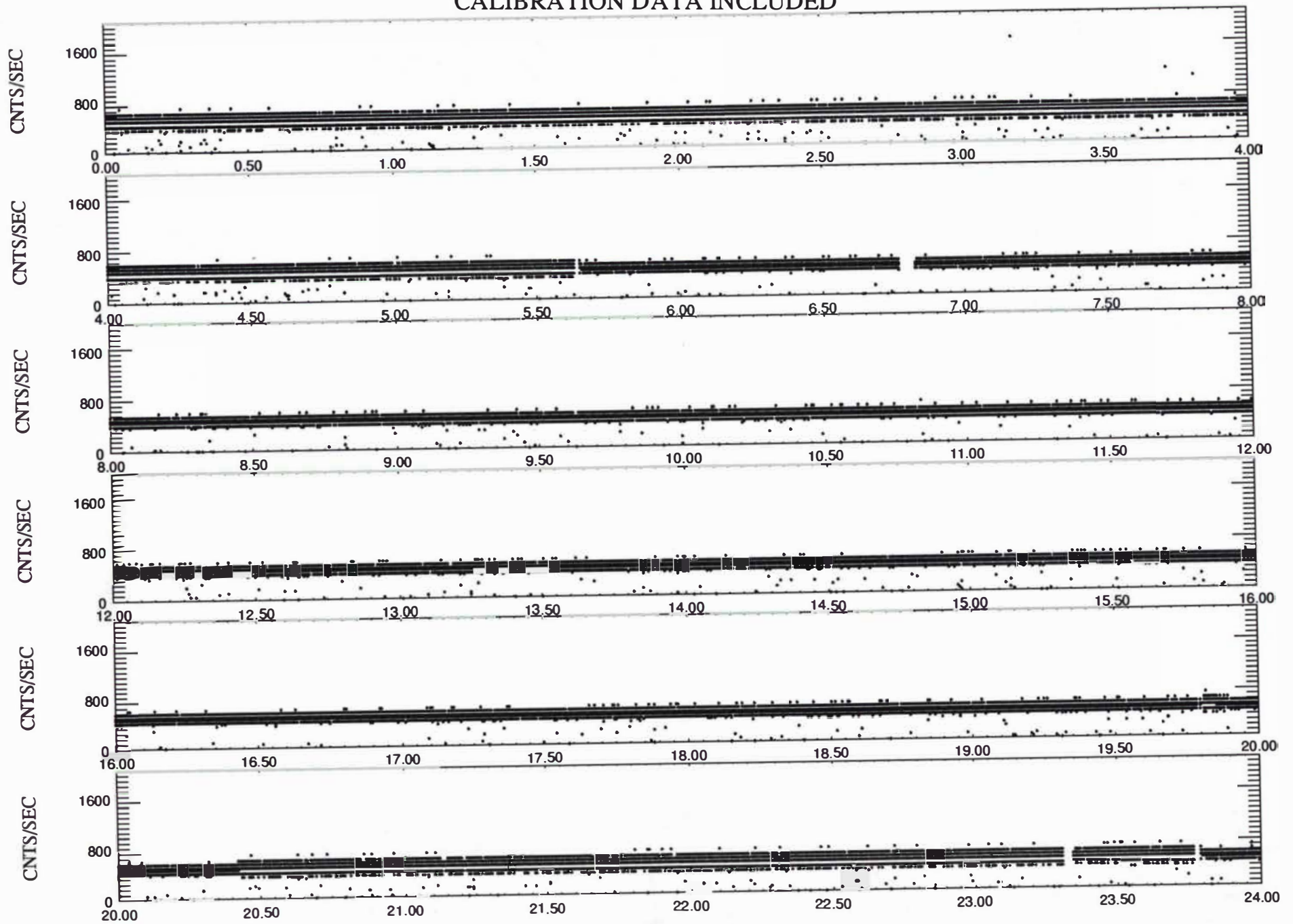
Background not subtracted

Sample average = 10

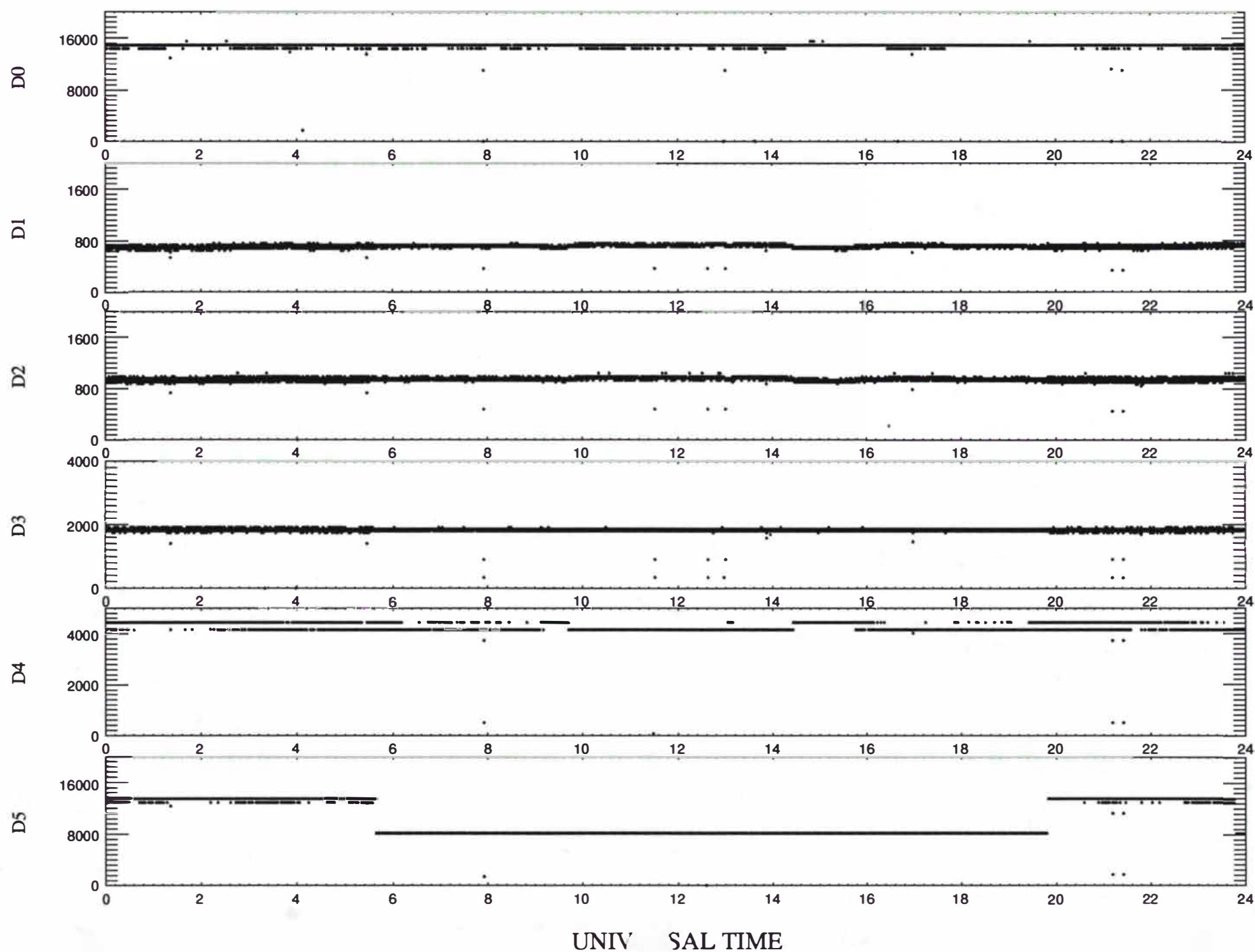
NO BURST (2)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



From SAHI@fender.msfc.nasa.gov Thu Sep 24 13:17:04 1998

From: SAHI@fender.msfc.nasa.gov

Date: Thu, 24 Sep 1998 15:11:33 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7109

Sep 22

272.2, -20.4

TIME: TJD=1078 SECONDS=6854 01:54:14

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=53.5 AZIMUTH=24.7 ERROR=7.9 DEGREES

COMMENTS:

SGR 1806-20. SINGLE SPIKE WITH SUBSTRUCTURE, DUR. APPROX. 0.15 S. NOT VISIBLE
ABOVE 100 KEV.

BATSE BURST# 7109

ULYSSES RT

25 / 9 / 98

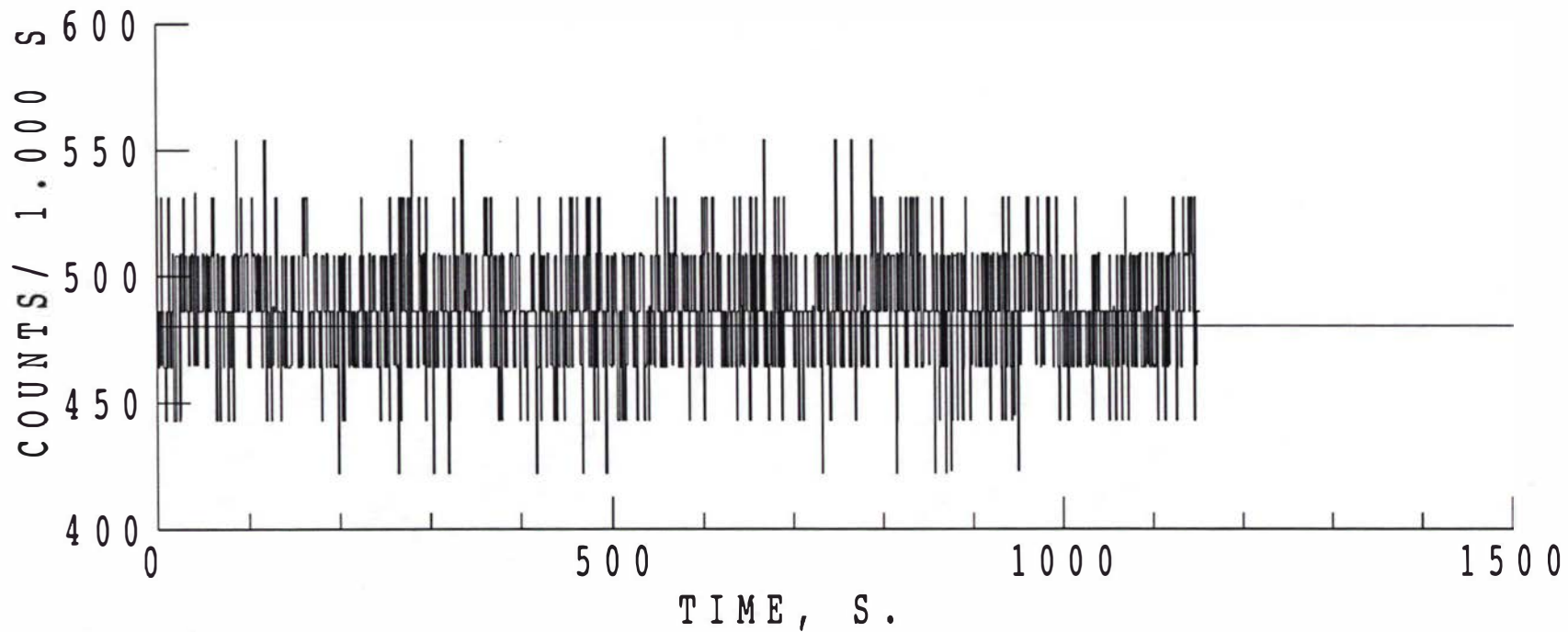
22 / 9 / 98 7380.456 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

W= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

W= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SAHI@fender.msfc.nasa.gov Thu Sep 24 12:53:26 1998
Return-Path: <SAHI@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA19926; Thu, 24 Sep 1998 12:51:26 -0700
From: SAHI@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA11399; Thu, 24 Sep 1998 12:51:23 -0700
Date: Thu, 24 Sep 1998 14:51:25 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980924145125.20201d6d@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7110
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7110
EVENT OF 1998 SEP 22 DAY OF YEAR=265
EVENT CROSSING TIME AT BATSE : 20532. S. OR 05:42:12.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 259.000 5.000
BATSE PEAK COUNTING RATE: 3500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 22/ 9/ 98 IS:
RA= 161.222 DEC= 1.784 DIST= 6.275 AU
BATSE-ULYSSES DISTANCE = 938720897. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 82.41 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 413.48 SECS.
CROSSING TIME AT ULYSSES IS 20945. S. OR 05:49:05 +/- 595.15 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 22/ 9/ 98 IS:
RA= 143.224 DEC= 15.841 DIST= 2.293 AU
MARS-BATSE DISTANCE = 343051616. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 66.86 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 449.67 SECS.
CROSSING TIME AT MARS IS 20982. S. OR 05:49:41 +/- 189.51 SECONDS

BATSE BURST TRIGGER

NO.: 7110

TIME: TJD=1078 SECONDS=20532

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=47.5 AZIMUTH=353.8 ERROR=5.6 DEGREES

COMMENTS:

GRB. COMPLEX WITH LOTS OF STRUCTURE, DUR. APPROX. 110 S. NOT VISIBLE ABOVE
300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7110	980922	11078	20532	3500	259	+05	110

BATSE BURST# 7110

ULYSSES RT

24 / 9 / 98

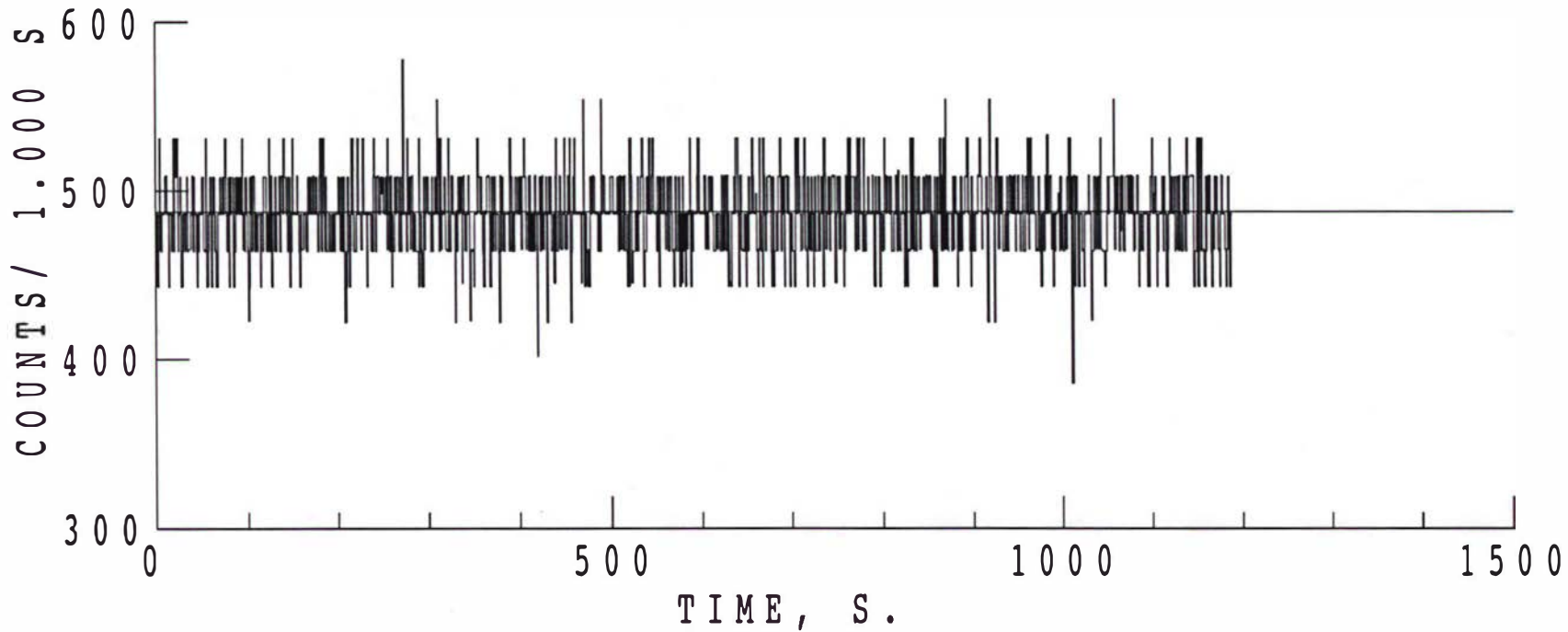
22 / 9 / 98 20340.092 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

W= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

W= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SAHI@fender.msfc.nasa.gov Thu Sep 24 13:10:15 1998
Return-Path: <SAHI@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id NAA00664; Thu, 24 Sep 1998 13:10:14 -0700
From: SAHI@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA11439; Thu, 24 Sep 1998 12:52:47 -0700
Date: Thu, 24 Sep 1998 14:52:49 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980924145249.20201d6d@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7111
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7111
EVENT OF 1998 SEP 22 DAY OF YEAR=265
EVENT CROSSING TIME AT BATSE : 84448. S. OR 23:27:28.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 58.000 42.000
BATSE PEAK COUNTING RATE: 5000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 22/ 9/ 98 IS:
RA= 161.316 DEC= 1.707 DIST= 6.270 AU
BATSE-ULYSSES DISTANCE = 938011900. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 81.31 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 472.94 SECS.
CROSSING TIME AT ULYSSES IS 84921. S. OR 23:35:20 +/- 594.16 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 22/ 9/ 98 IS:
RA= 143.224 DEC= 15.841 DIST= 2.293 AU
MARS-BATSE DISTANCE = 343051616. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=104.02 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -277.12 SECS.
CROSSING TIME AT MARS IS 84171. S. OR 23:22:50 +/- 188.55 SECONDS

BATSE BURST TRIGGER

NO.: 7111

TIME: TJD=1078 SECONDS=84448

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=18.2 AZIMUTH=333.2 ERROR=4.1 DEGREES

COMMENTS:

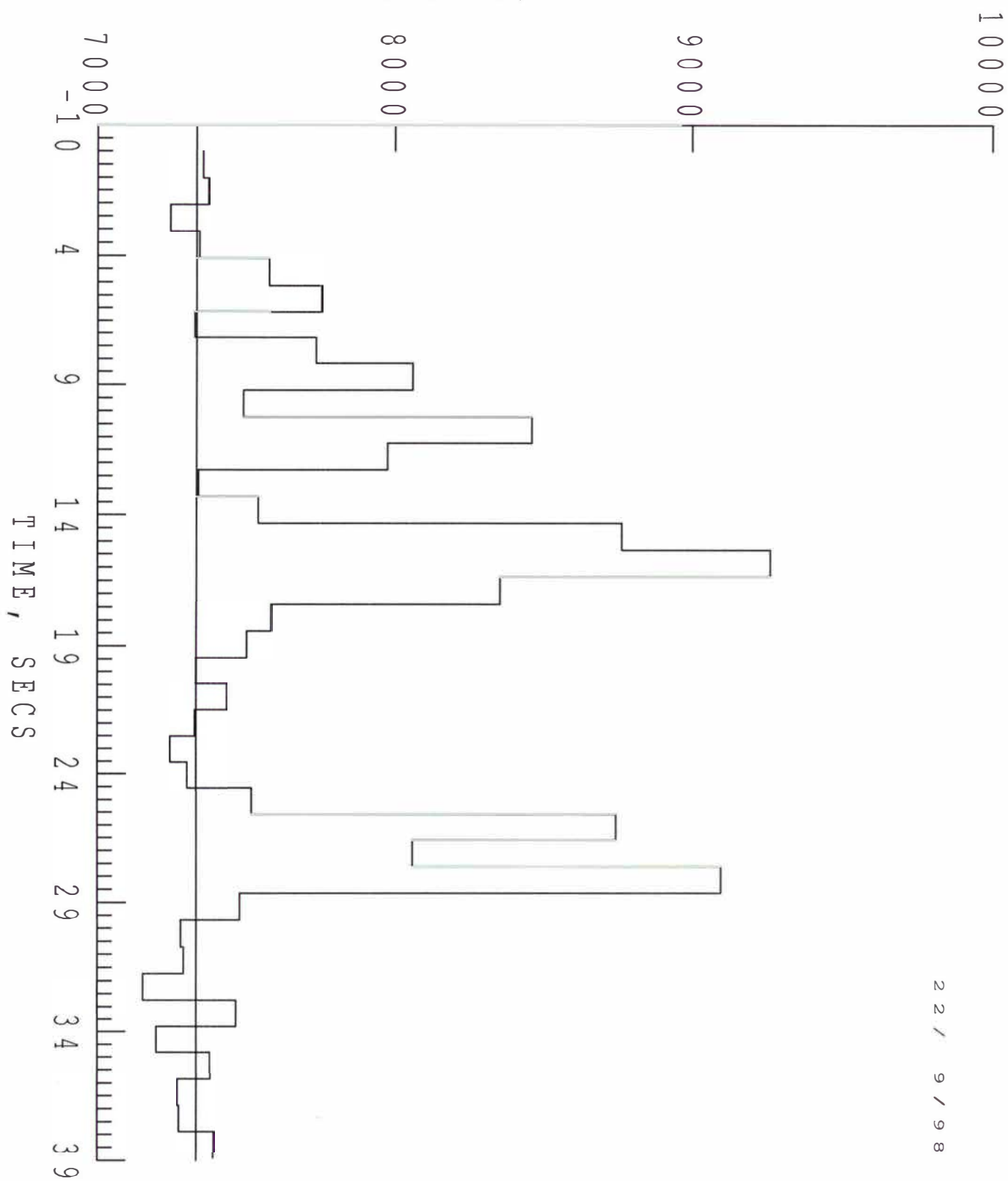
GRB. COMPLEX WITH LOTS OF STRUCTURE, DUR. APPROX. 250 S, STARTS AT APPROX.
T-50 S. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7111	980922	11078	84448	5000	058	+42	250

BACODINE 7111 22/09/98 84437.729

25- 100 keV

COUNTS/1.024 S



BATSE BURST# 7111

ULYSSES RT

24 / 9 / 98

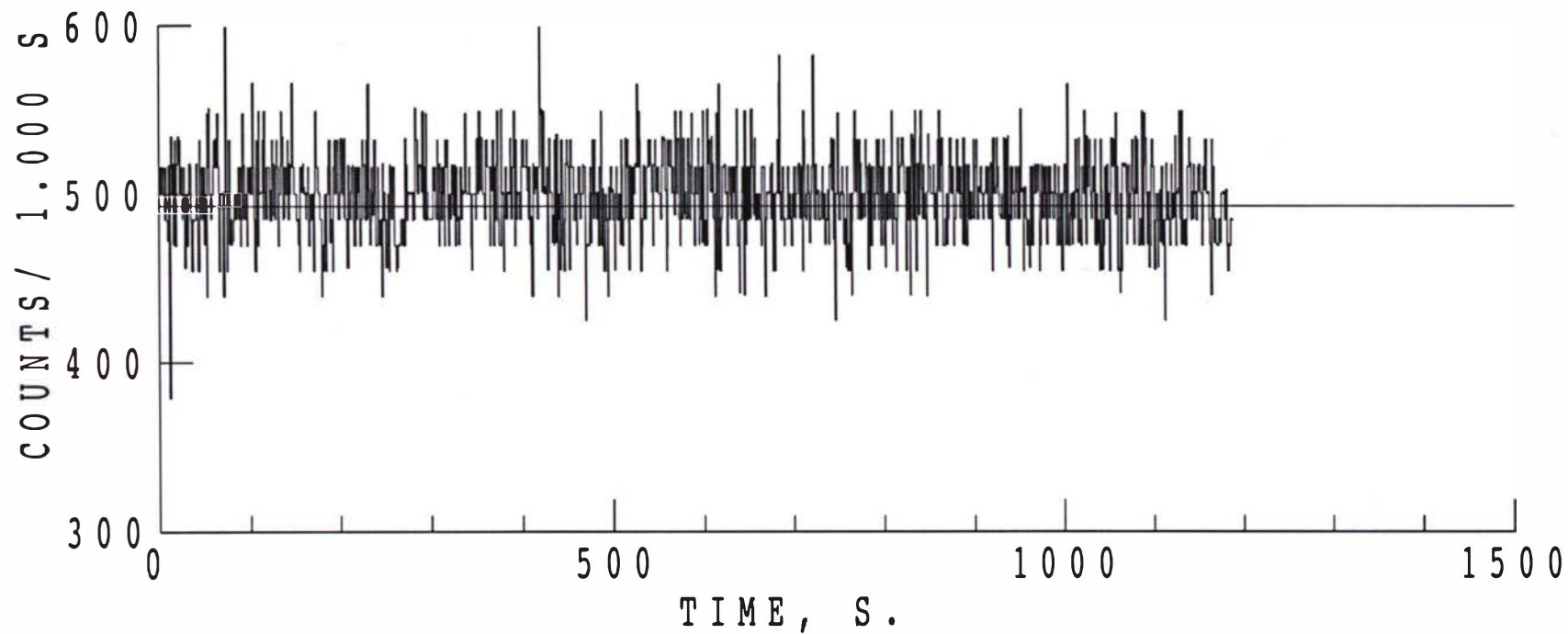
22 / 9 / 98 84312.016 s

0.250 S INTERVALS REGROUPED BY 4

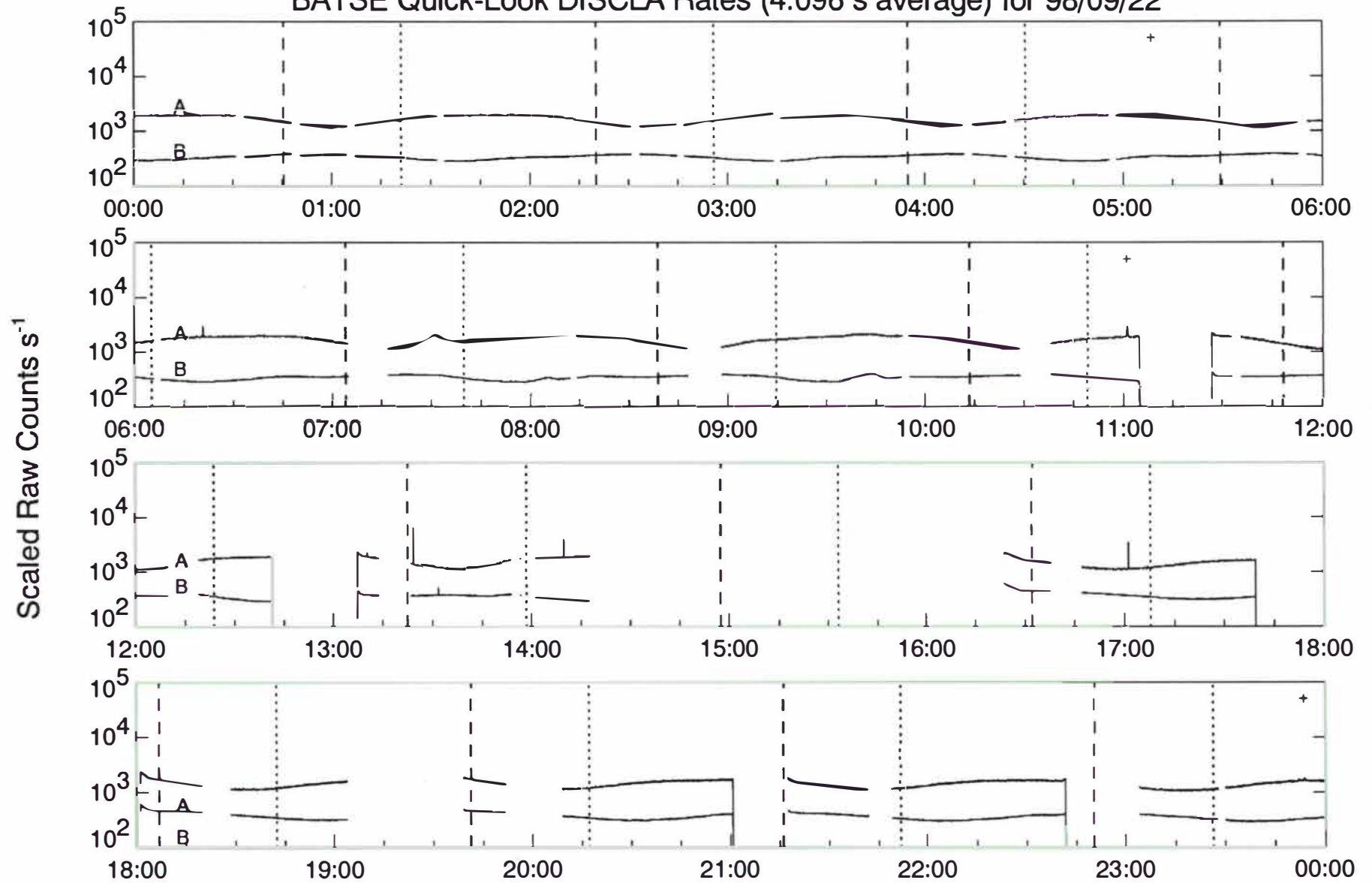
0 - 0 keV

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/09/22

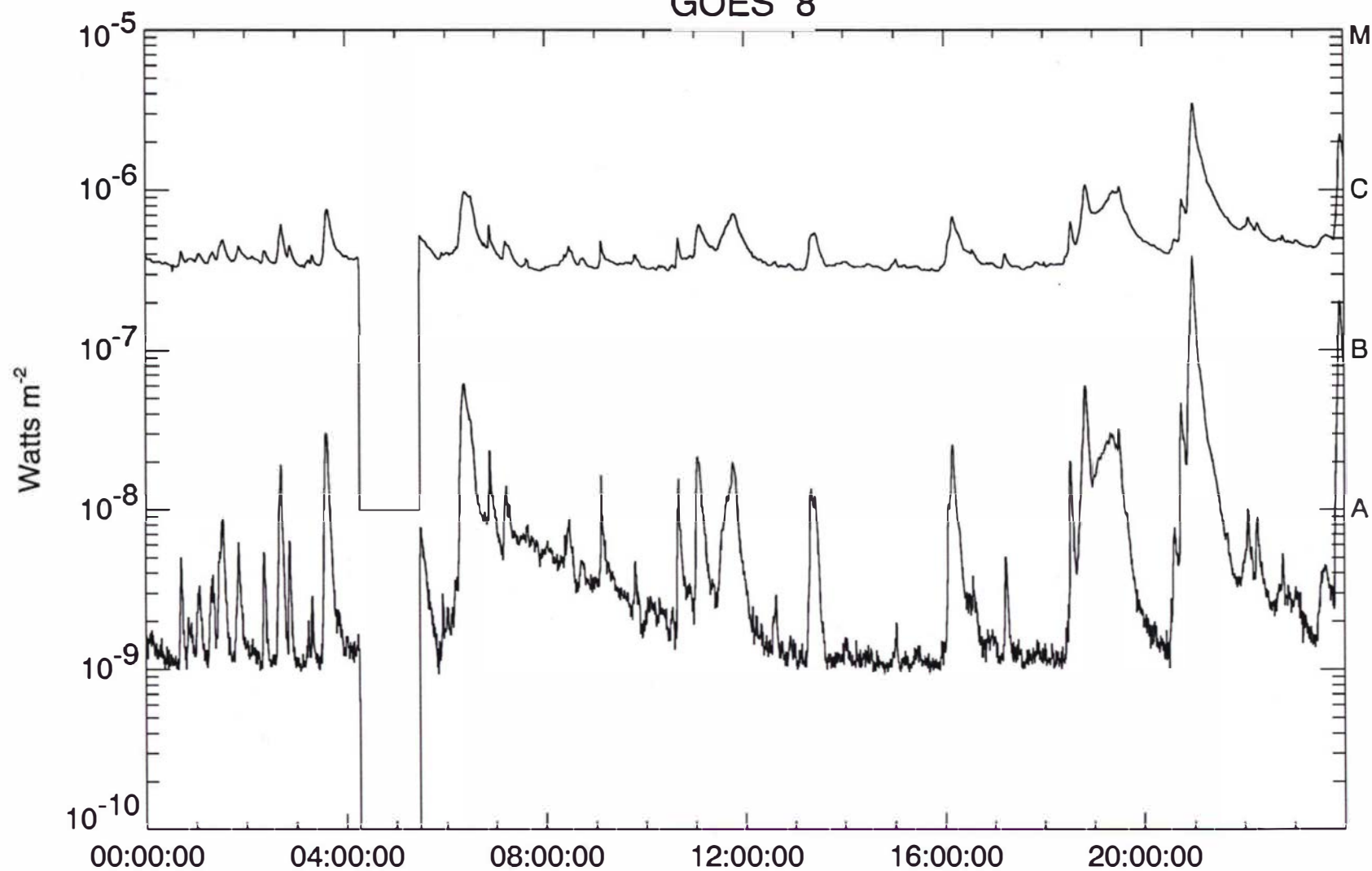


Current Time: 98/09/26, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



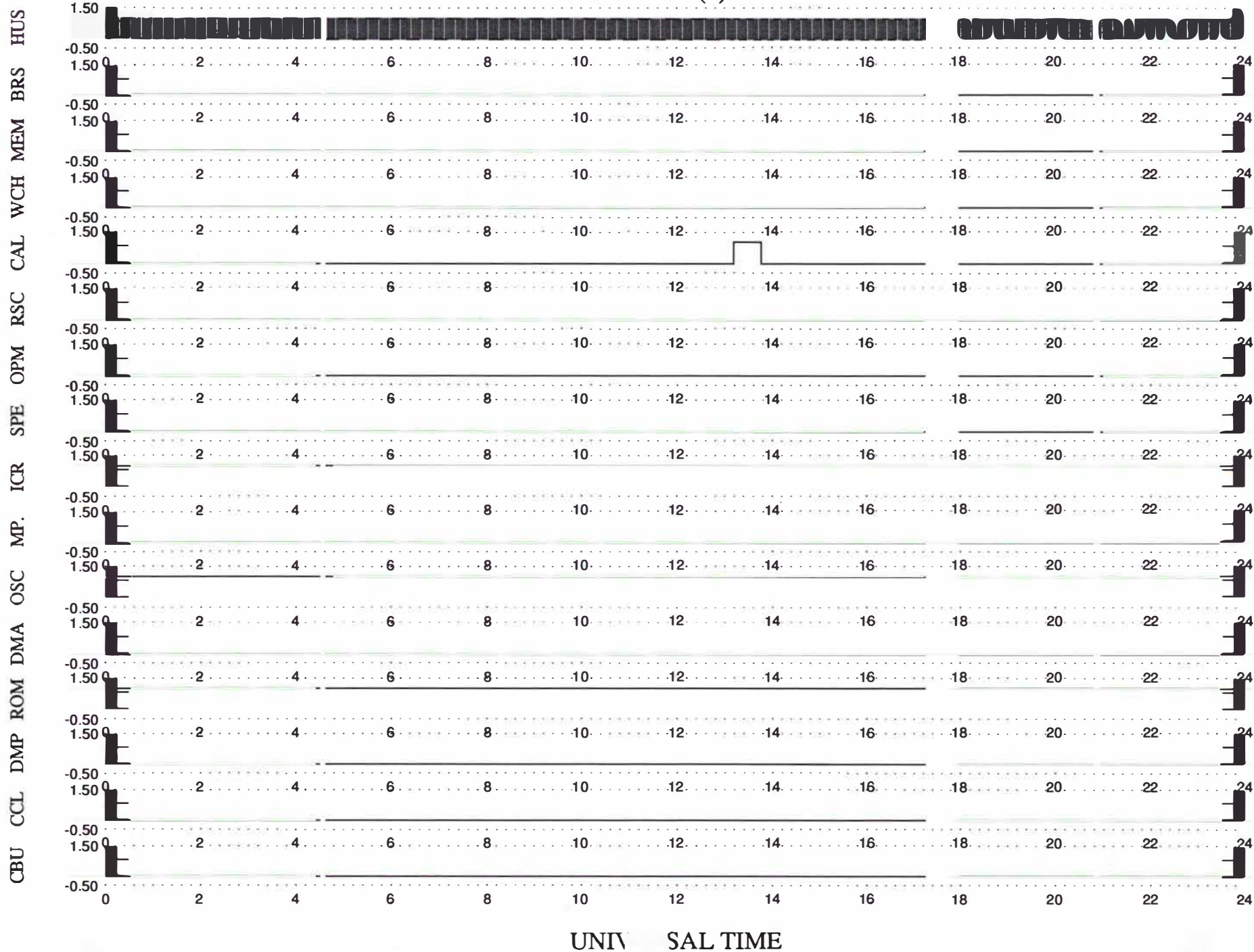
Data Start: 98/09/22, 0000:00

Plot created: 98/09/26, 1007

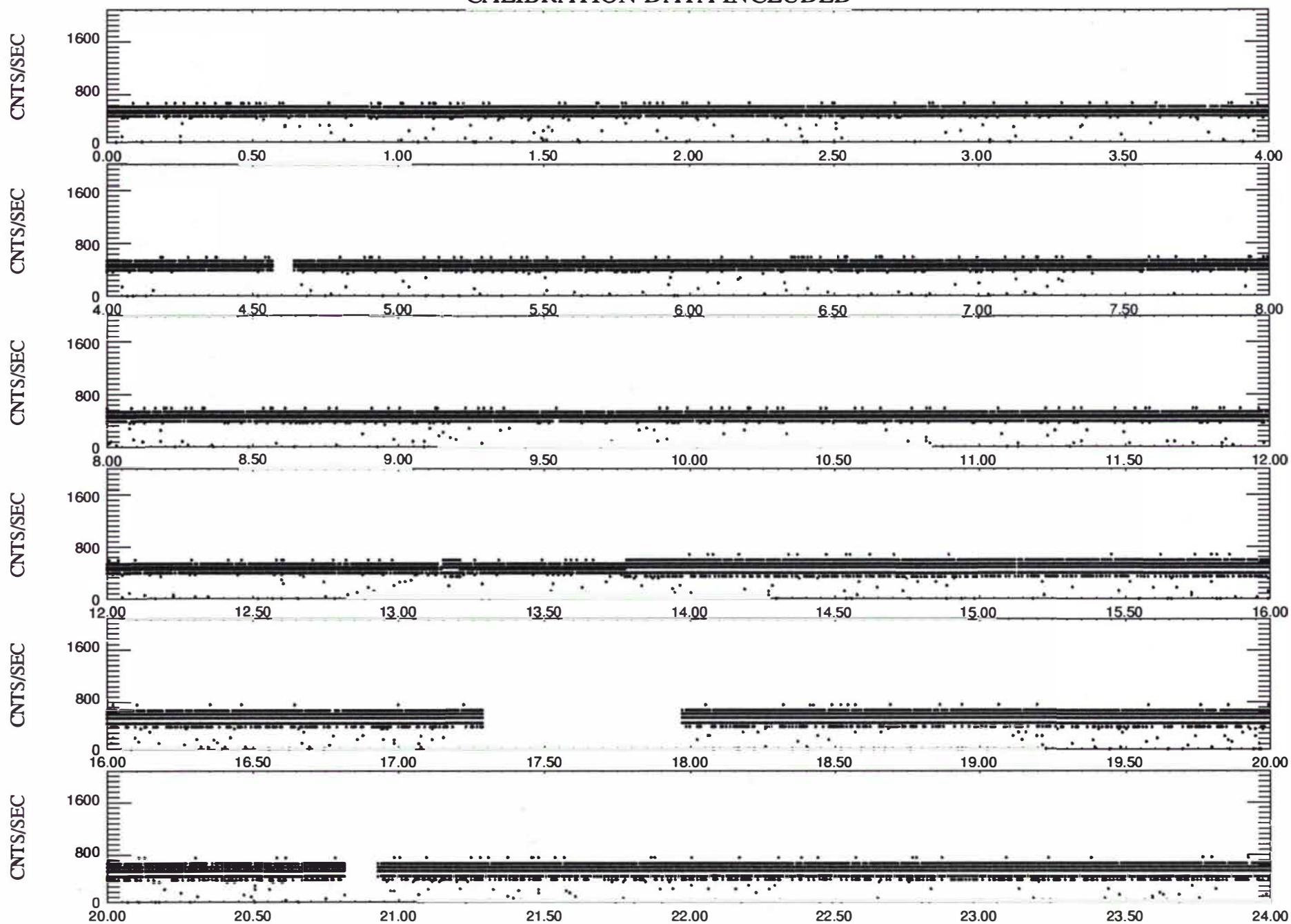
Channel 1 (1.0 - 8.0 Angstroms)
Channel 2 (0.5 - 4.0 Angstroms)

Background not subtracted
Background not subtracted
Sample average = 10

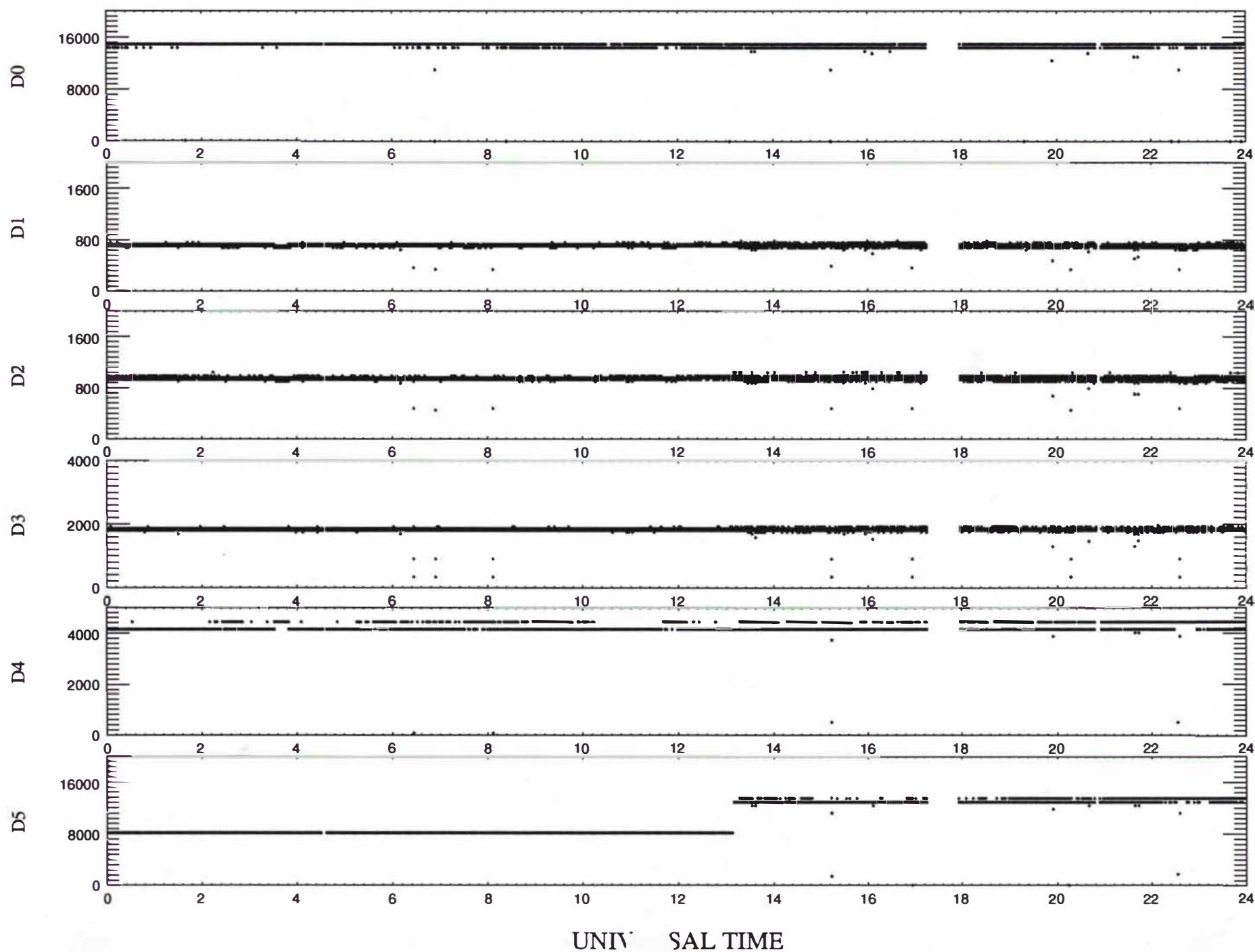
NO BURST (2)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



From GIBLIN@fender.msfc.nasa.gov Wed Sep 30 07:18:58 1998

From: GIBLIN@fender.msfc.nasa.gov

Date: Tue, 29 Sep 1998 17:53:19 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7112

TIME: TJD=1079 SECONDS=26375

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=132.3 AZIMUTH= 5.1 ERROR= 4.3 DEGREES

COMMENTS:

GOES M7.1 OPTICAL 3B, TRIGGER AT ORBITAL SUNRISE. DURATION GREATER
THAN 400 SECONDS.

From SAHI@fender.msfc.nasa.gov Fri Sep 25 06:36:47 1998
Return-Path: <SAHI@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id GAA07221; Fri, 25 Sep 1998 06:36:47 -0700
From: SAHI@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id GAA25840; Fri, 25 Sep 1998 06:36:45 -0700
Date: Fri, 25 Sep 1998 8:32:19 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980925083219.20202d02@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7113
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7113
EVENT OF 1998 SEP 23 DAY OF YEAR=266
EVENT CROSSING TIME AT BATSE : 72647. S. OR 20:10:47.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 77.000 -81.000
BATSE PEAK COUNTING RATE: 188000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 23/ 9/ 98 IS:
RA= 161.426 DEC= 1.618 DIST= 6.264 AU
BATSE-ULYSSES DISTANCE = 937153599. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 89.27 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 39.72 SECS.
CROSSING TIME AT ULYSSES IS 72687. S. OR 20:11:26 +/- 593.28 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 23/ 9/ 98 IS:
RA= 143.839 DEC= 15.648 DIST= 2.288 AU
MARS-BATSE DISTANCE = 342275520. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 78.04 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 236.52 SECS.
CROSSING TIME AT MARS IS 72884. S. OR 20:14:43 +/- 197.51 SECONDS

BATSE BURST TRIGGER

NO.: 07113

TIME: TJD=1079 SECONDS=72647

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: 331.3 SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=124.4 AZIMUTH=242.2 ERROR=1.1 DEGREES

COMMENTS:

COMPLEX PULSE STRUCTURE WITH RAPID VARIABILITY. STRONG EMISSION ABOVE
300 KEV ALSO WITH COMPLEX PULSE STRUCTURE. TOTAL DURATION OF APPROXIMATELY
150 SECONDS, INCLUDING A SOFT WEAK EMISSION TAIL EXTENDING FROM 40 SECONDS TO
APPROXIMATELY 150 SECONDS. PEAK COUNT RATE WELL ABOVE 100K CTS/SEC. IN THE
25 - 2000 KEV RANGE.

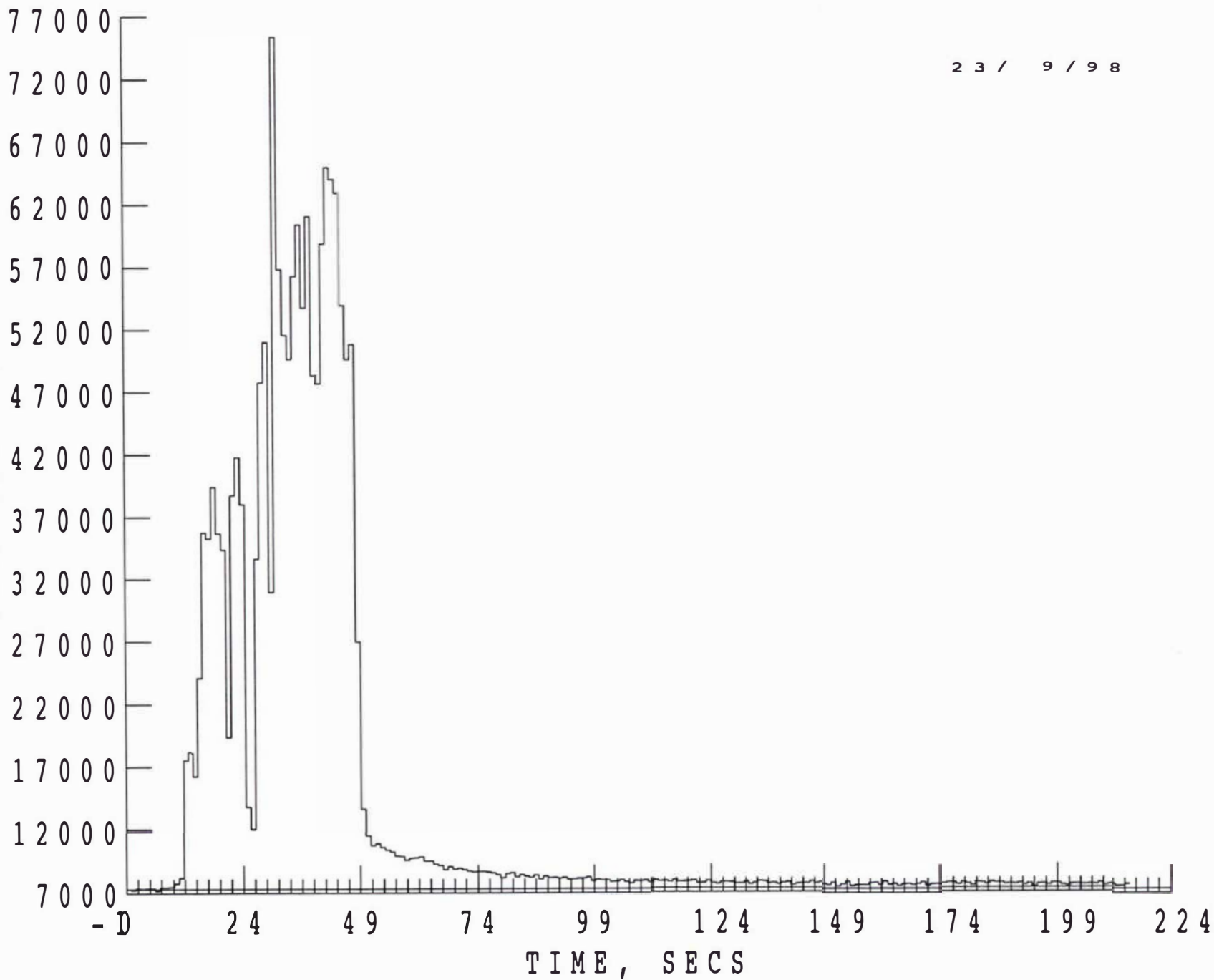
BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7113	980923	11079	72647	188000	077	-81	150

BACODINE 7113 23/09/98 72636.129

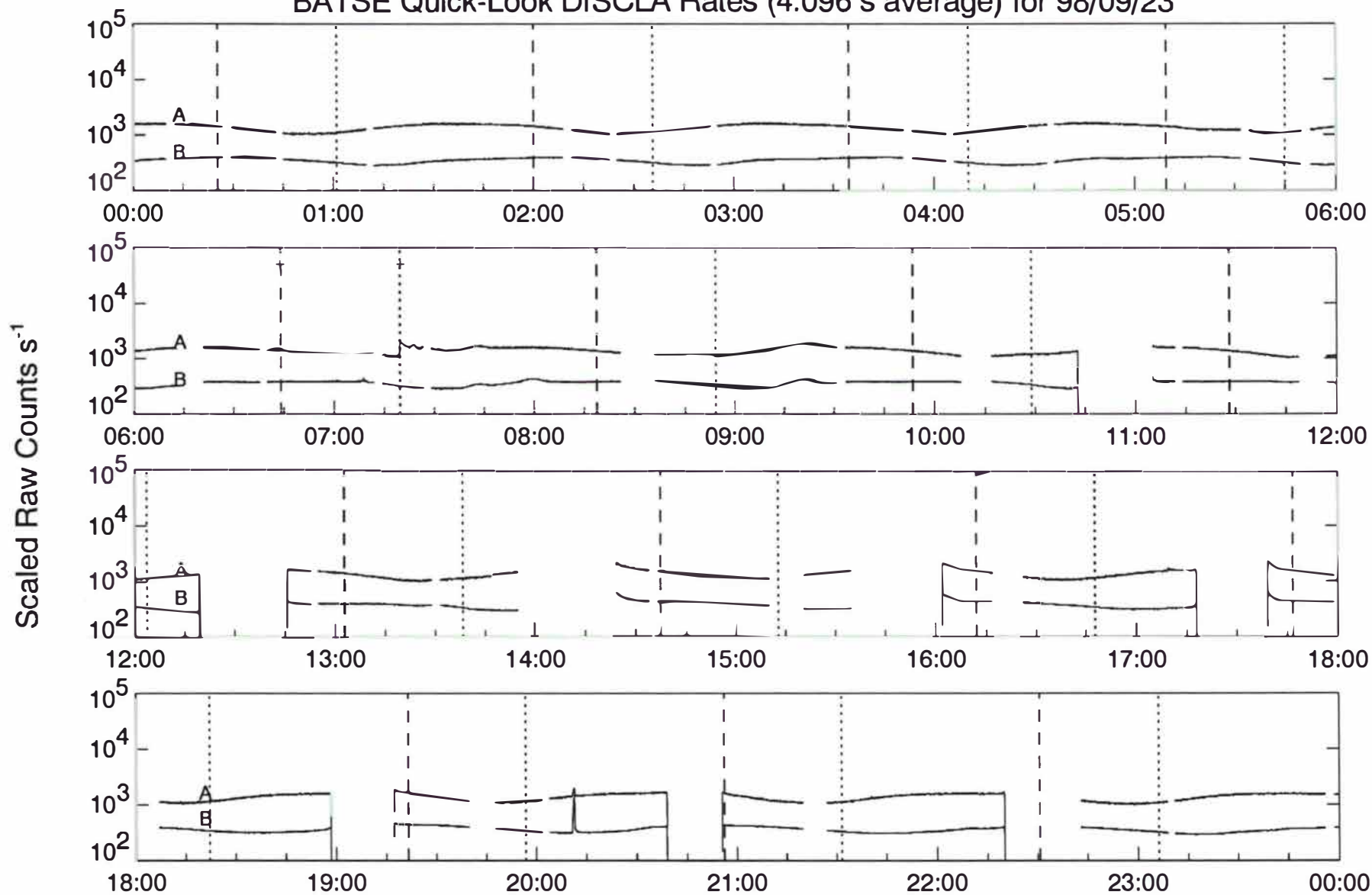
25- 100 keV

COUNTS/1.024 S

23 / 9 / 98



BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/09/23

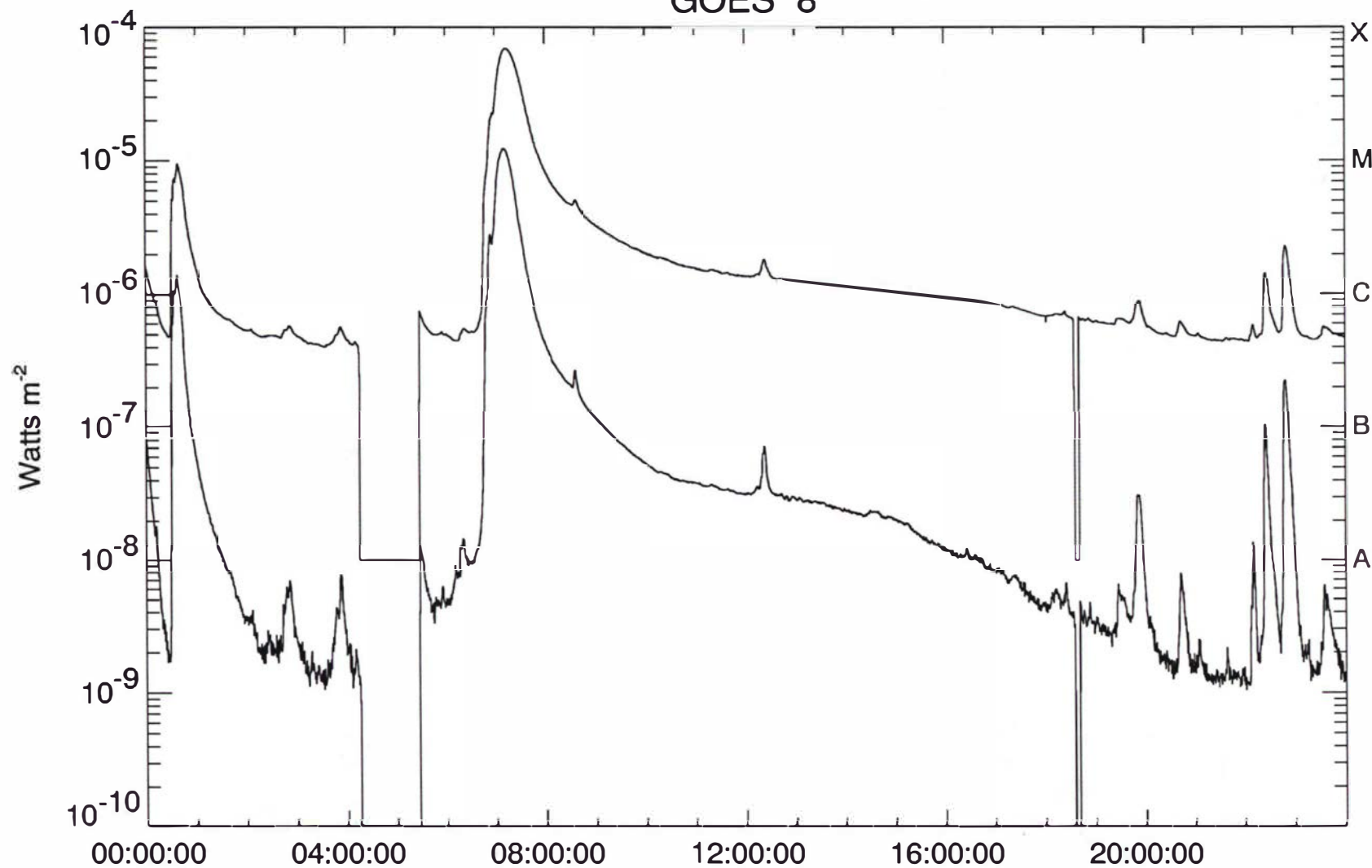


Current Time: 98/09/27, 1009 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 98/09/23, 0000:00

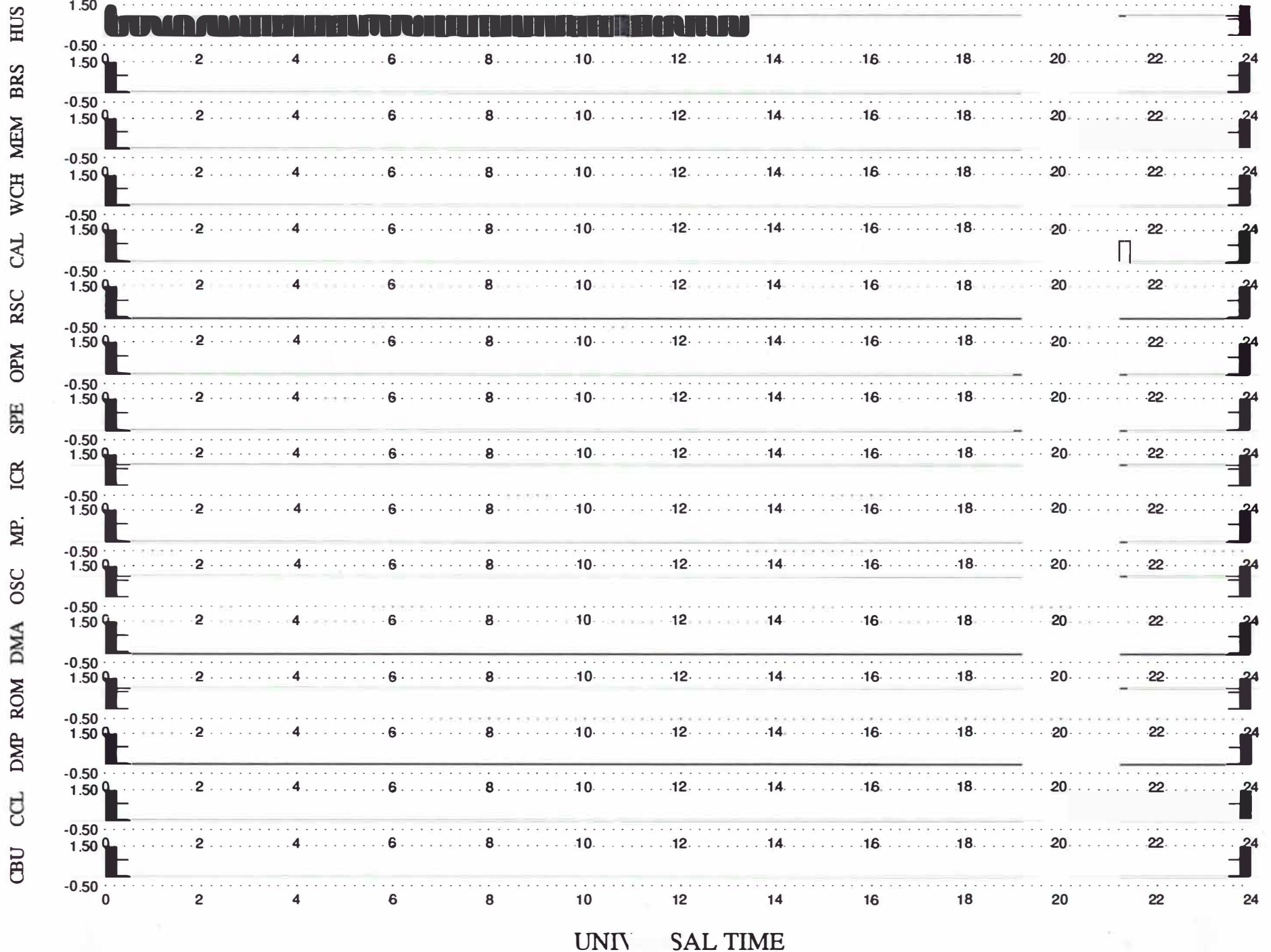
Plot created: 98/09/27, 1007

Channel

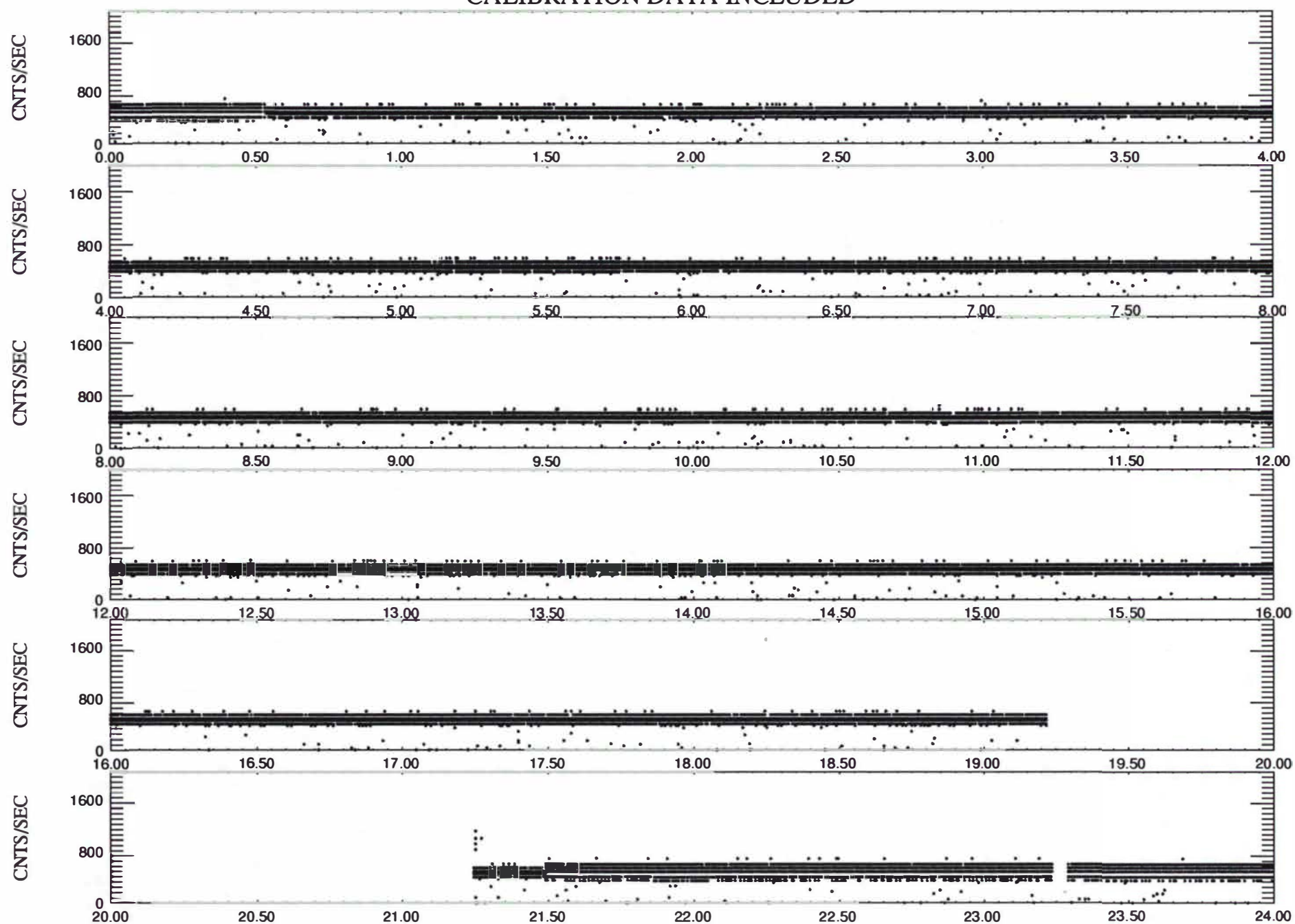
1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

Background not subtracted
Background not subtracted
Sample average = 10

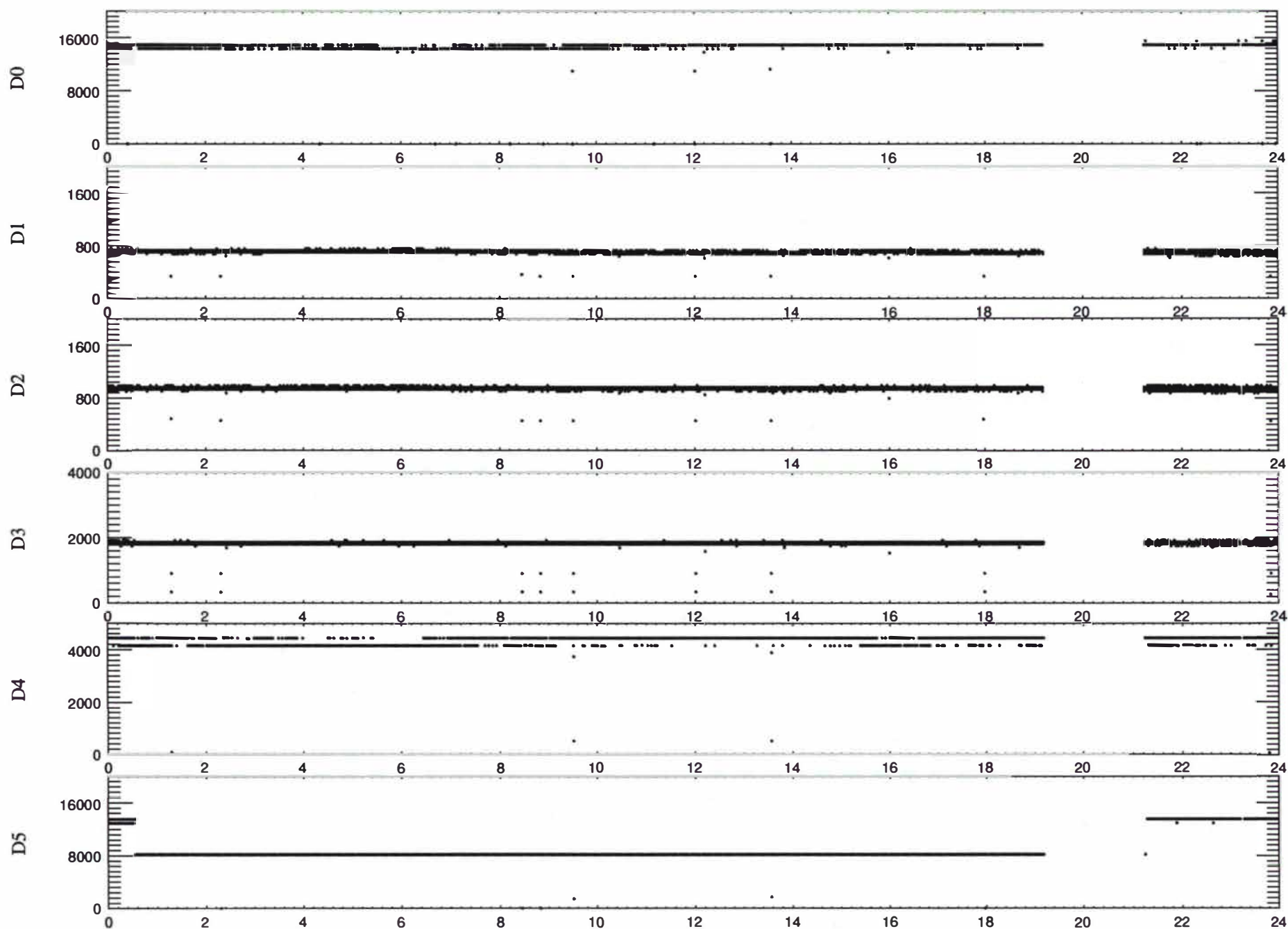
BURST NUMBER 3



CALIBRATION DATA INCLUDED



UNIV SAL TIME



UNIV SAL TIME

From gcncirc@lhea-www.gsfc.nasa.gov Wed Sep 30 12:42 PDT 1998
From: GCN Circulars <gcncirc@lhea-www.gsfc.nasa.gov>
Subject: GRB 980923 BATSE Observations
To: khurley@sunspot.ssl.berkeley.edu
Date: Wed, 30 Sep 1998 15:42:33 -0400 (EDT)
Affiliation: NASA-GSFC LHEA
Project: GCN (GRB Coordinates Network), Circular Service
Phone: 301-286-3106 (S.Barthelmy's office, -1684 fax)
MIME-Version: 1.0
Content-Transfer-Encoding: 7bit

TITLE: GCN GRB OBSERVATION REPORT
NUMBER: 154
SUBJECT: GRB 980923 BATSE Observations
DATE: 98/09/30 19:42:09 GMT
FROM: Timothy Giblin at MSFC <timothy.giblin@msfc.nasa.gov>

T. Giblin & P. Woods (University of Alabama in Huntsville and NASA Marshall Space Flight Center) report on behalf of the BATSE GRB team:

On September 23.8408 (UT) BATSE detected an extraordinary GRB (GRB 980923 - BATSE Trigger 7113). The event consists of an episode of rapid variability lasting from the trigger time to approximately 38 seconds, followed by a smooth emission tail out to ~100 seconds. The rapid variability is comprised of a series of HE (high-energy) pulses in rapid succession whose peak intensities, on average, increase with time, unlike the temporal decay of intensity typically found in most bursts. The emission tail lacks HE emission and is approximately 3% of the burst peak intensity (in the 25-2000 keV range).

peak flux (integrated over 0.064 seconds) in the 50-300 keV range of 54.0 ± 0.8 photons $s^{-1} cm^{-2}$ places it in the top 0.5% of the BATSE peak flux distribution. The fluence above 25 keV is $4.84 \pm 0.02 \times 10^{-4}$, ranking 3rd among all BATSE GRBs. Only GRB 940703 (trigger 3057) and GRB 940217 (trigger 2831) have a higher fluence (> 25 keV) than GRB 980923. The location and basic information for this burst as well as the latest 20 BATSE GRBs can be retrieved at

http://www.batse.msfc.nasa.gov/data/grb/catalog/basic_latest.html

A lightcurve is available at

<http://www.batse.msfc.nasa.gov/~kippen/batserbr/>

This message is citeable.

 BATSEARCH PROGRAM

BATSE BURST # 7116
 EVENT OF 1998 SEP 24 DAY OF YEAR=267
 EVENT CROSSING TIME AT BATSE : 54262. S. OR 15:04:22.0
 COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION: 66.000 -26.000
 BATSE PEAK COUNTING RATE: 4800 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON 24/ 9/ 98 IS:
 RA= 161.526 DEC= 1.537 DIST= 6.259 AU
 BATSE-ULYSSES DISTANCE = 936348585. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 84.36 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= 306.94 SECS.
 CROSSING TIME AT ULYSSES IS 54569. S. OR 15:09:28 +/- 594.29 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
 POSITION OF MARS ON 24/ 9/ 98 IS:
 RA= 144.453 DEC= 15.454 DIST= 2.283 AU
 MARS-BATSE DISTANCE = 341490048. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 93.24 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= -64.47 SECS.
 CROSSING TIME AT MARS IS 54198. S. OR 15:03:17 +/- 196.47 SECONDS

BATSE BURST TRIGGER

.: 7116

TIME: TJD=1080 SECONDS=54262

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=73.8 AZIMUTH=264.3 ERROR=1.5 DEGREES

COMMENTS:

GRB. SINGLE PULSE. DURATION ABOUT 6 S. NOT VISISBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7116	980924	11080	54262	4800	066	-26	6

JANA TAB2 19980924 54778

ULYSSES RT

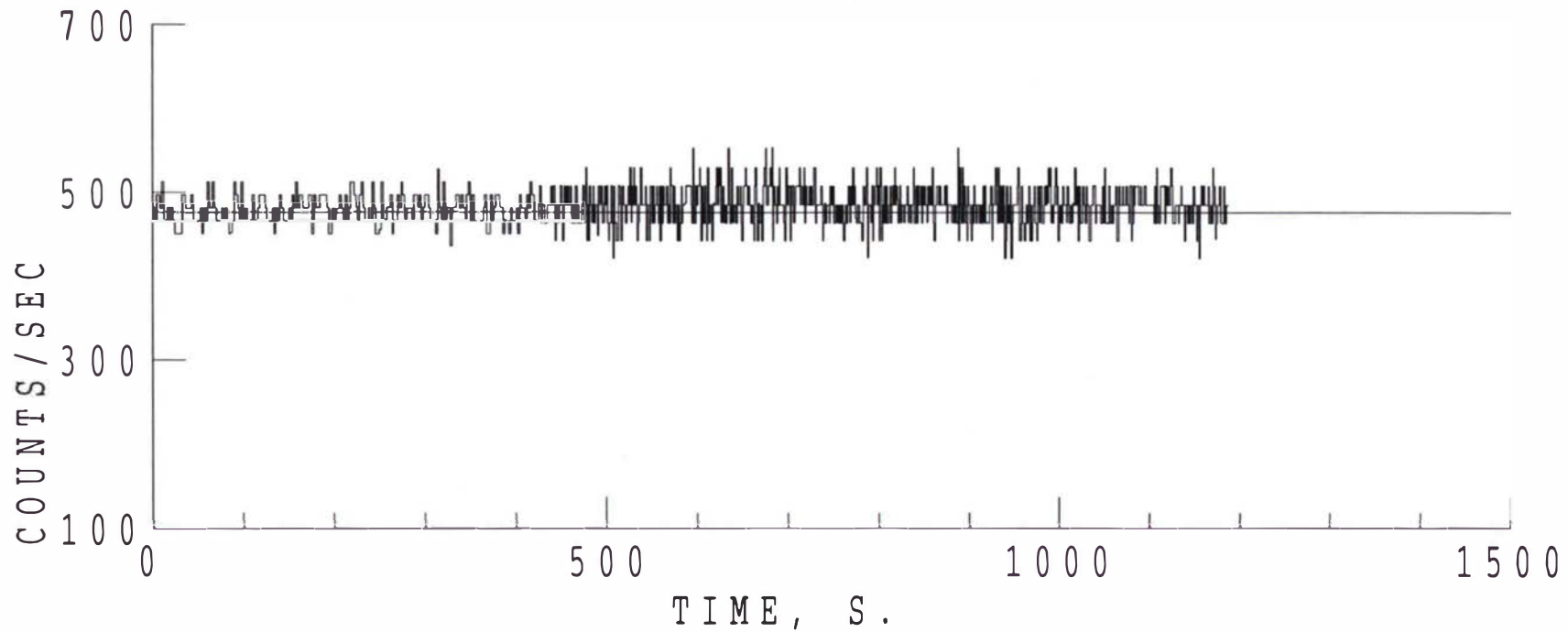
05 / 08 / 05

24 / 09 / 98 54180.754 s

INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE BURST# 7116

ULYSSES RT

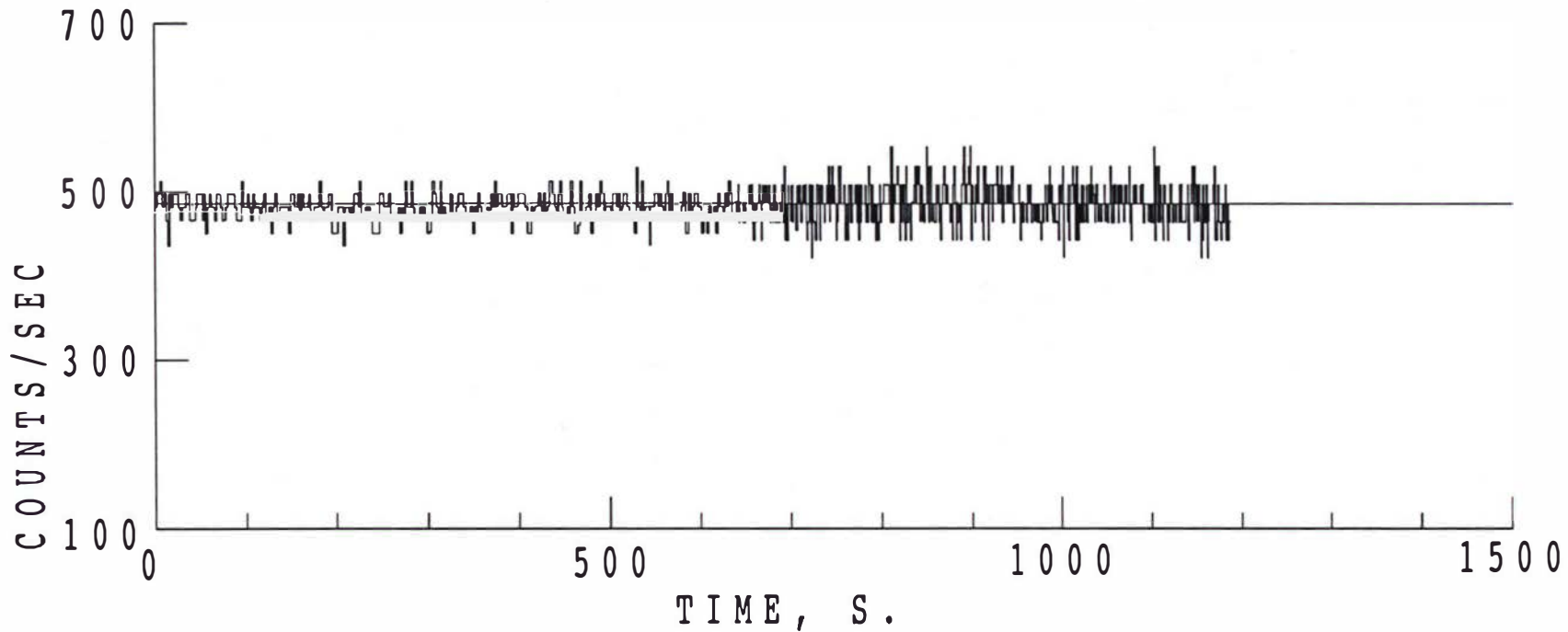
29 / 9 / 98

24 / 9 / 98 53964.754 s

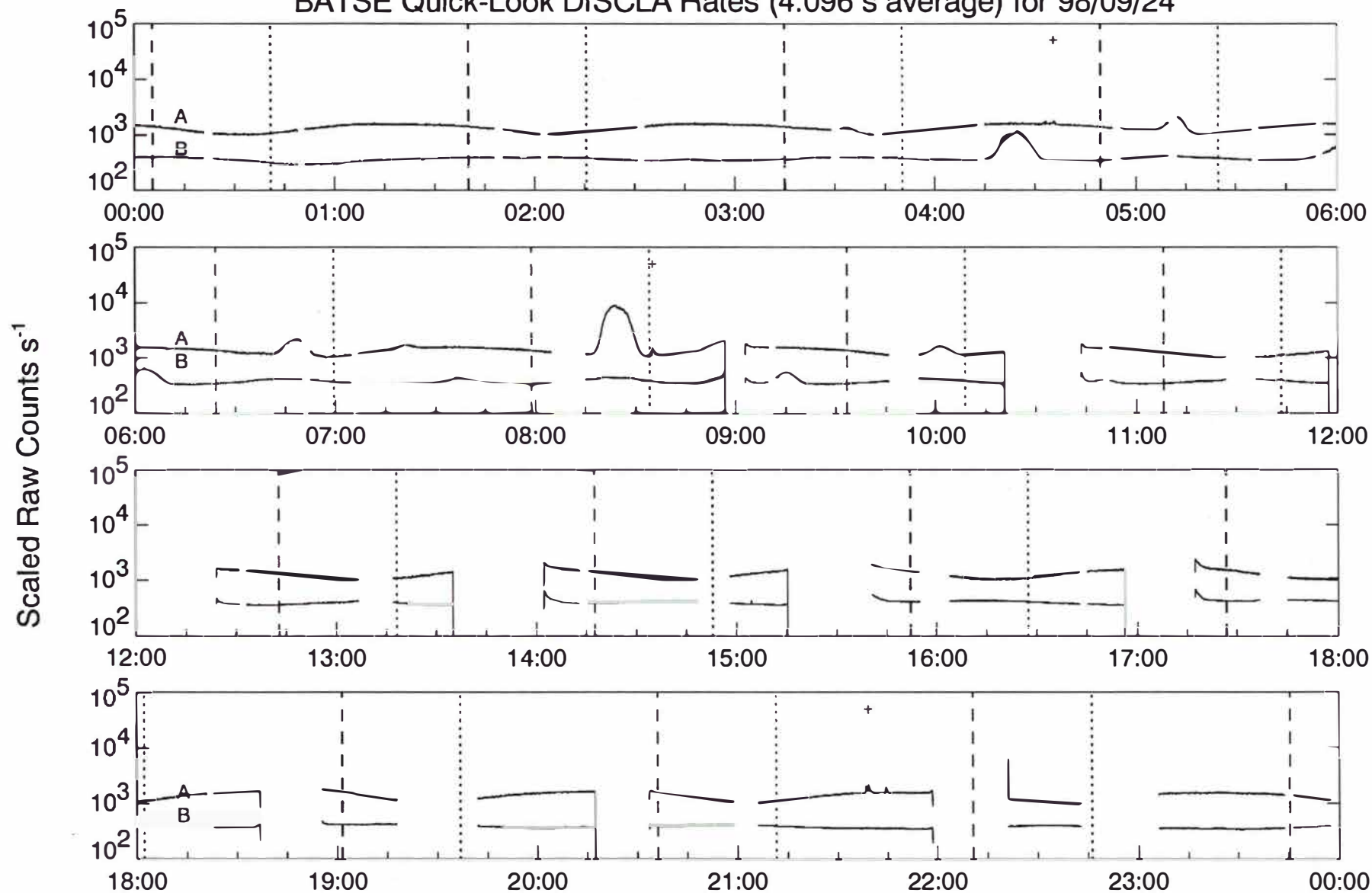
INTERVALS REGROUPED BY 2

0 - 0 keV

W= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/09/24

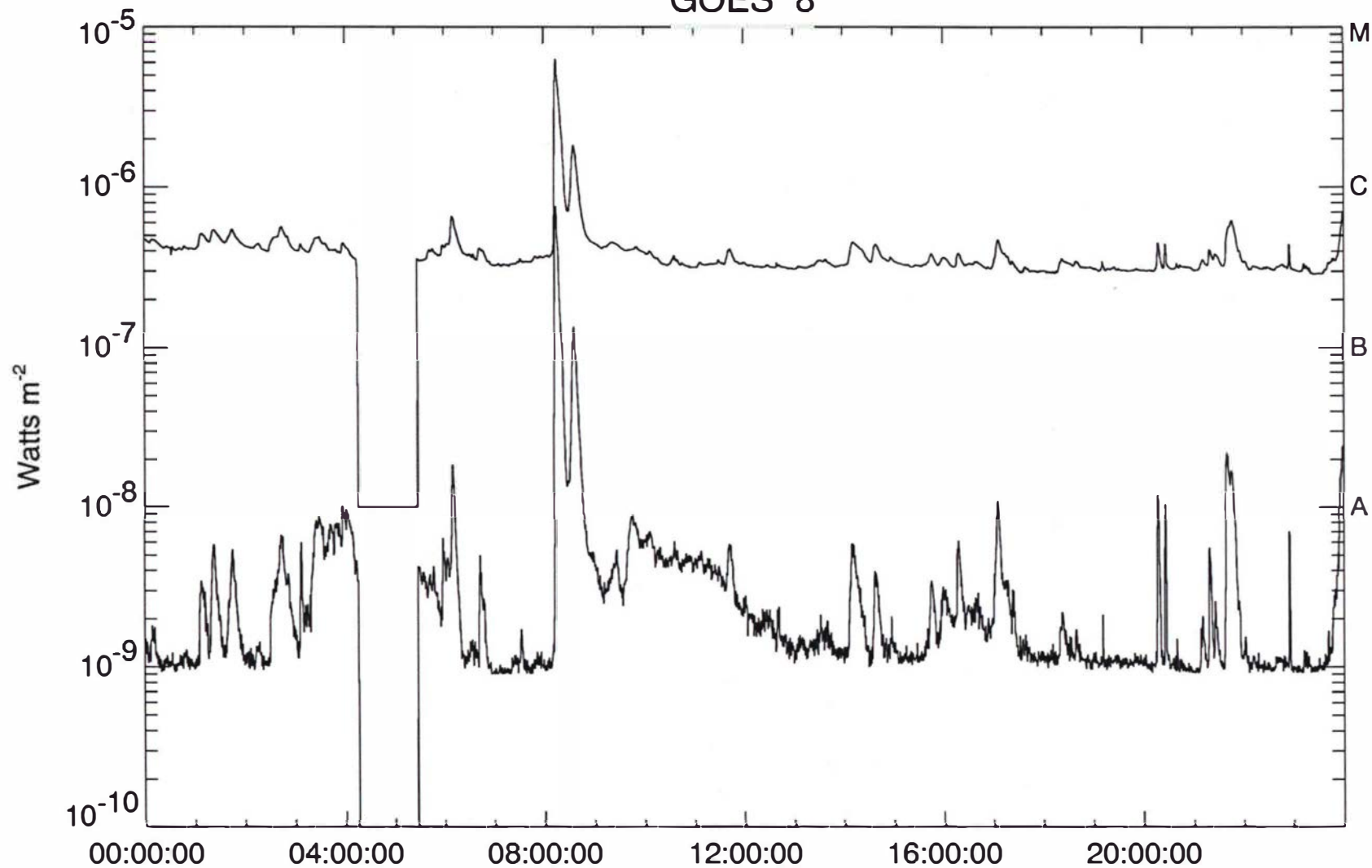


Current Time: 98/09/28, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 98/09/24, 0000:00

Plot created: 98/09/28, 1007

Channel

1 (1.0 - 8.0 Angstroms)

Background not subtracted

2 (0.5 - 4.0 Angstroms)

Background not subtracted

Sample average = 10

From khurley@sunspot Wed Sep 30 18:54 PDT 1998
Date: Wed, 30 Sep 1998 18:58:11 -0700
From: khurley@sunspot (Kevin Hurley)
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, woods@eagles.msfc.nasa.gov,
kraken@rosserv.gsfc.nasa.gov
Subject: GRB980924, 980925, 980926, 980927

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed the following bursts, all suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1800 s earlier.

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
SEP 24 1998 01:58:30	weak, 32 ms long	3300
SEP 24 1998 13:54:35	weak, 32 ms long	3300
SEP 25 1998 10:17:22	weak, 32 ms long	3300
SEP 26 1998 10:55:57	weak, 32 ms long	3300
SEP 26 1998 14:50:47	weak, 32 ms long	3300
SEP 26 1998 19:50:28	weak, 32 ms long	3300
SEP 27 1998 13:02:25	weak, 32 ms long	3300
SEP 27 1998 17:58:51	moderate, 32 ms long	3300

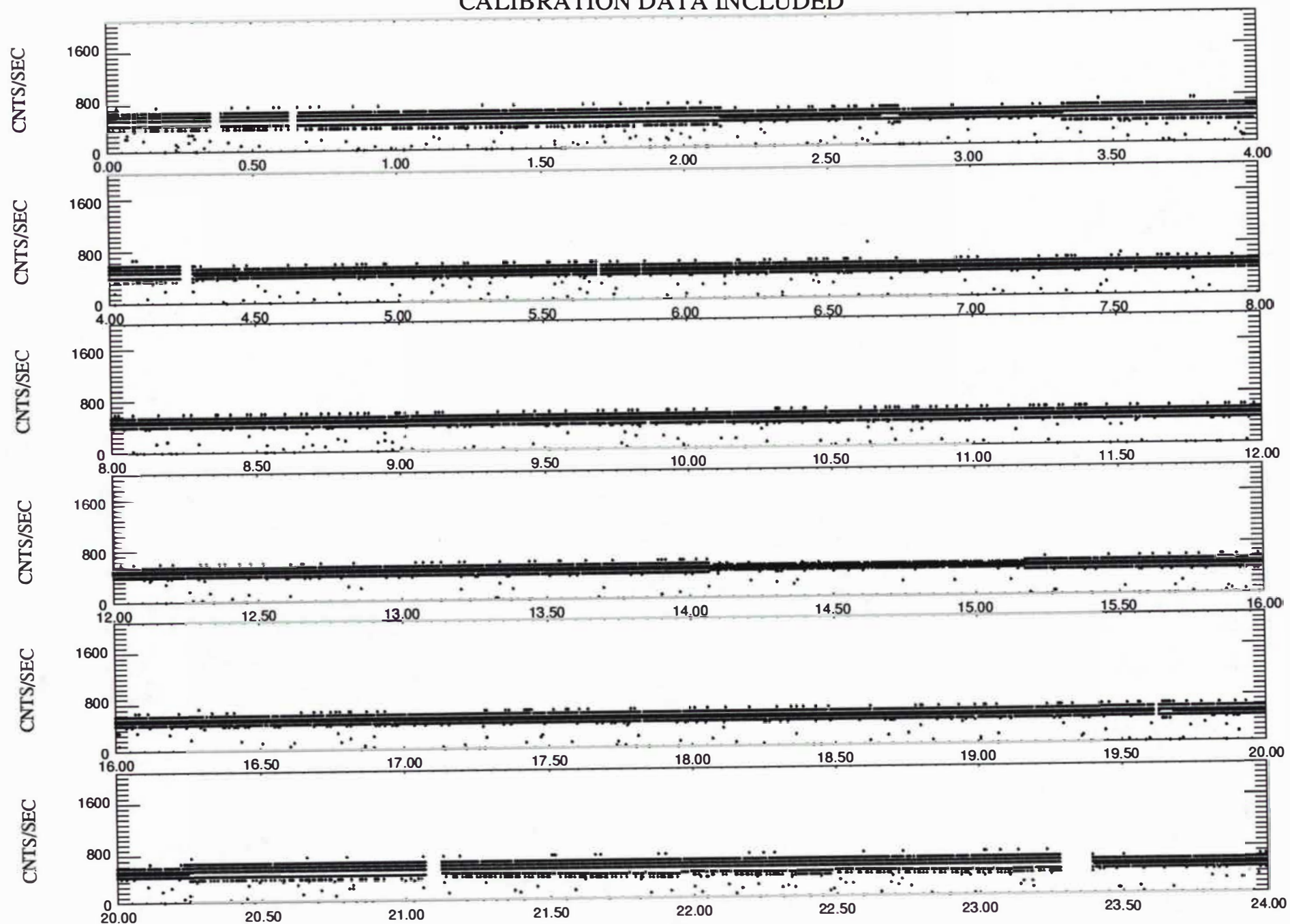
Were these events detected by anyone else?

CC: ulyssesbursts alias list
(barthelmy, butterworth, cline, frontera, kouveliotou, kurczyski, marar, tee

CBU	CCL	DMP	ROM	DMA	OSC	MP.	ICR	SPE	OPM	RSC	CAL	WCH	MEM	BRS	HUS
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

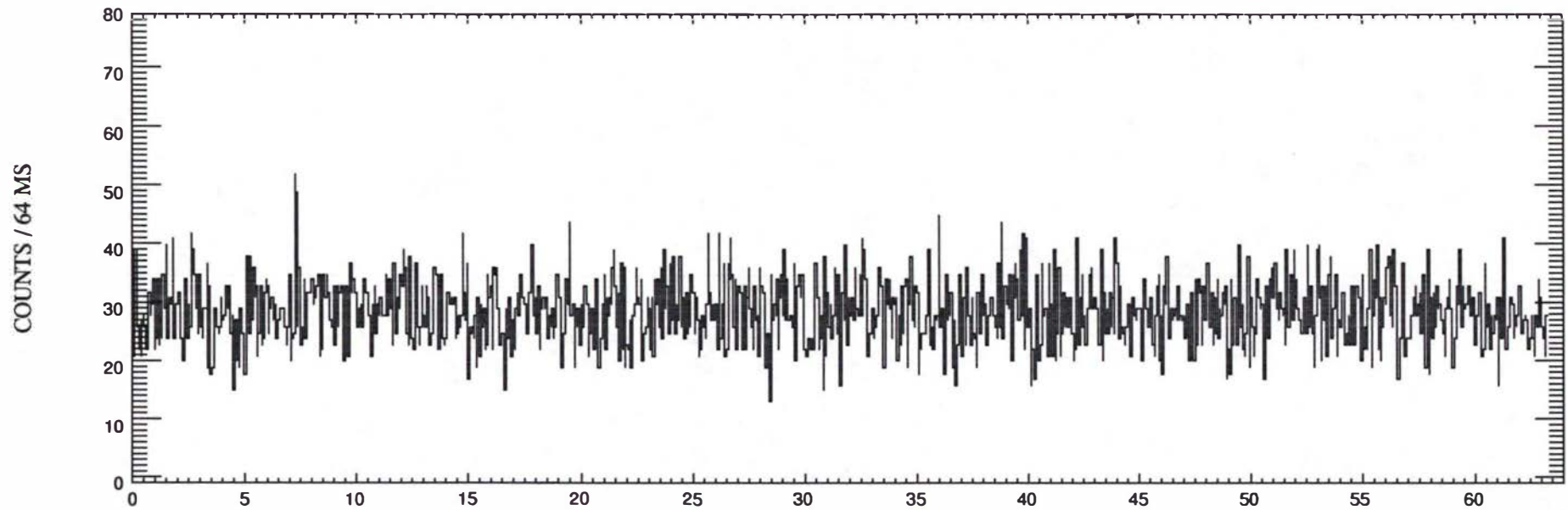


CALIBRATION DATA INCLUDED

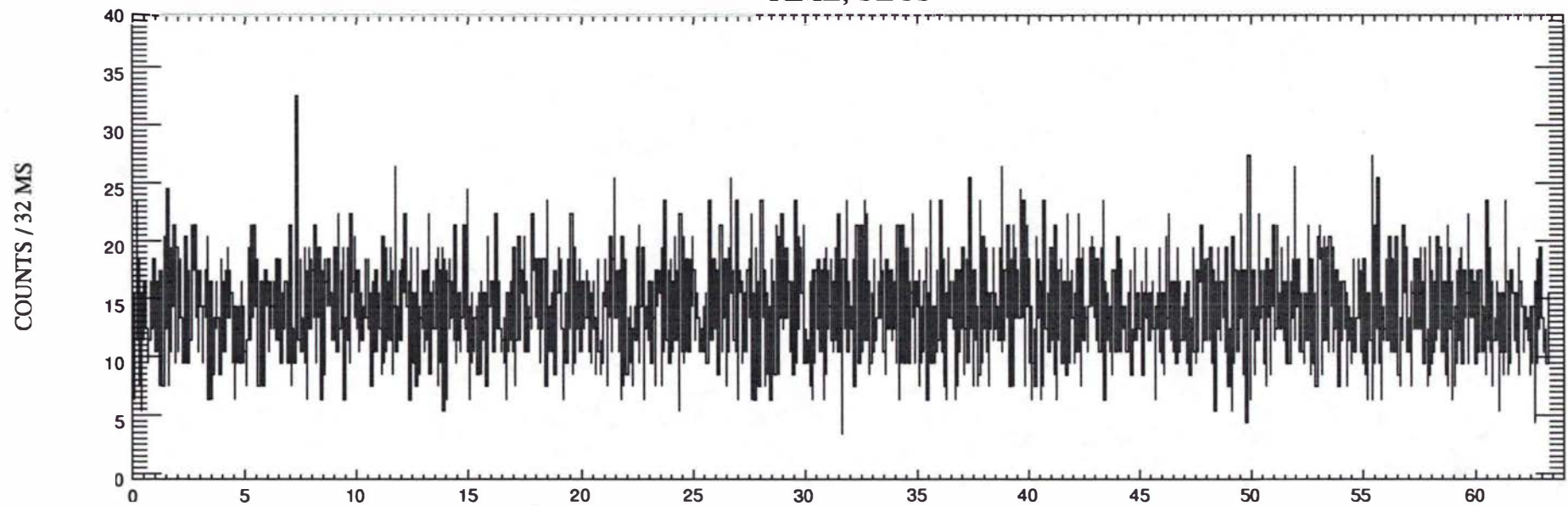


UNIV SAL TIME

Burst Counter 4 at UT= 1.975140321520 h= 7110.505 s 01:58:30.505

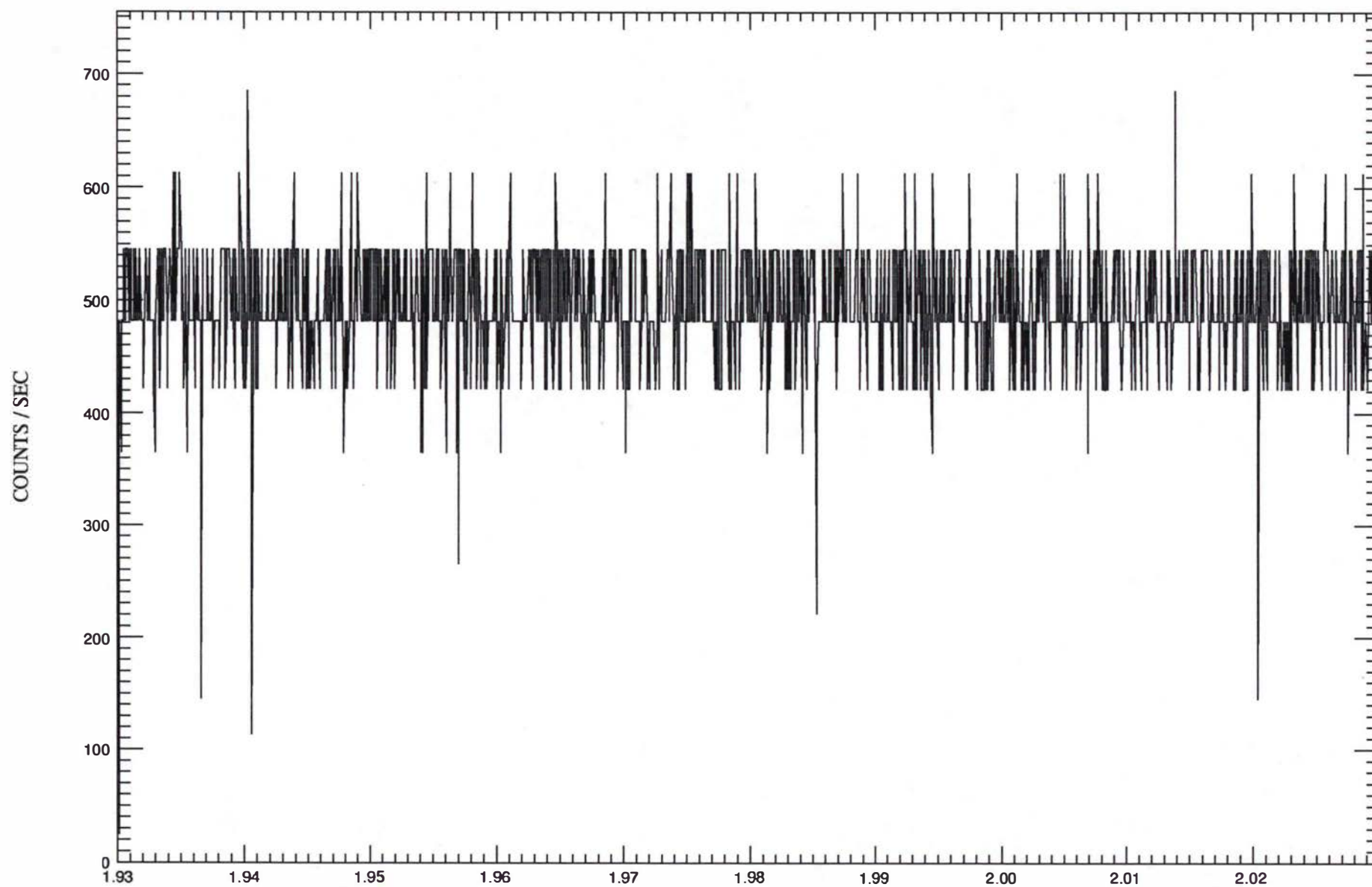


TIME, SECS

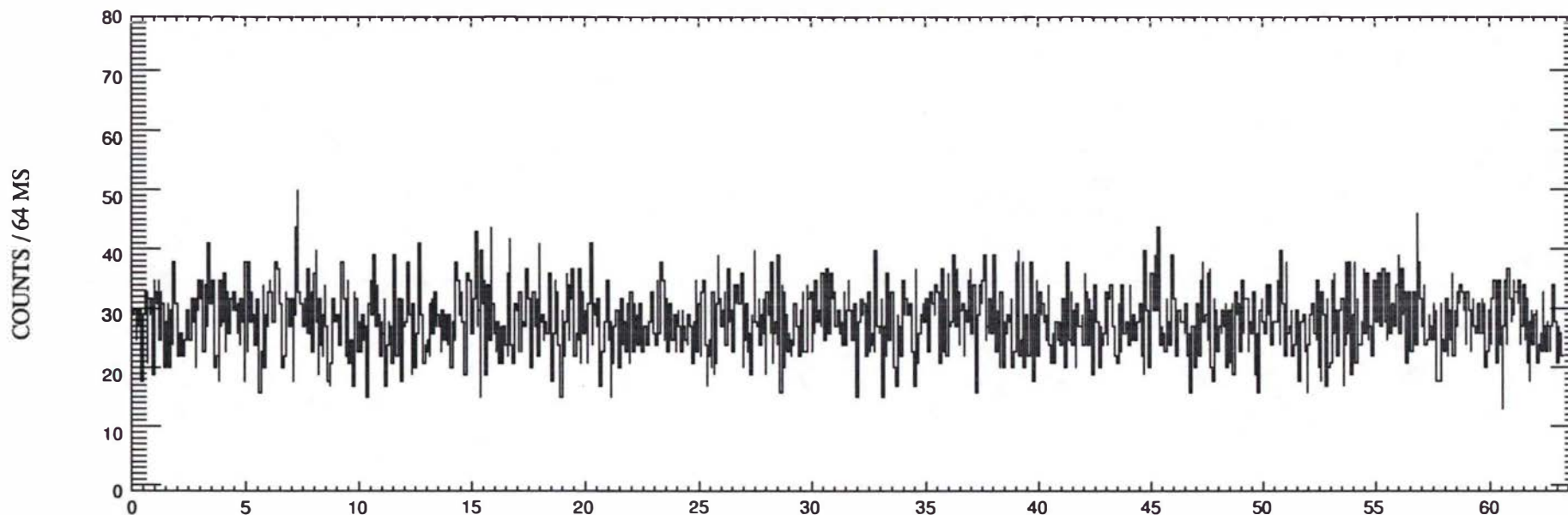


TIME, SECS

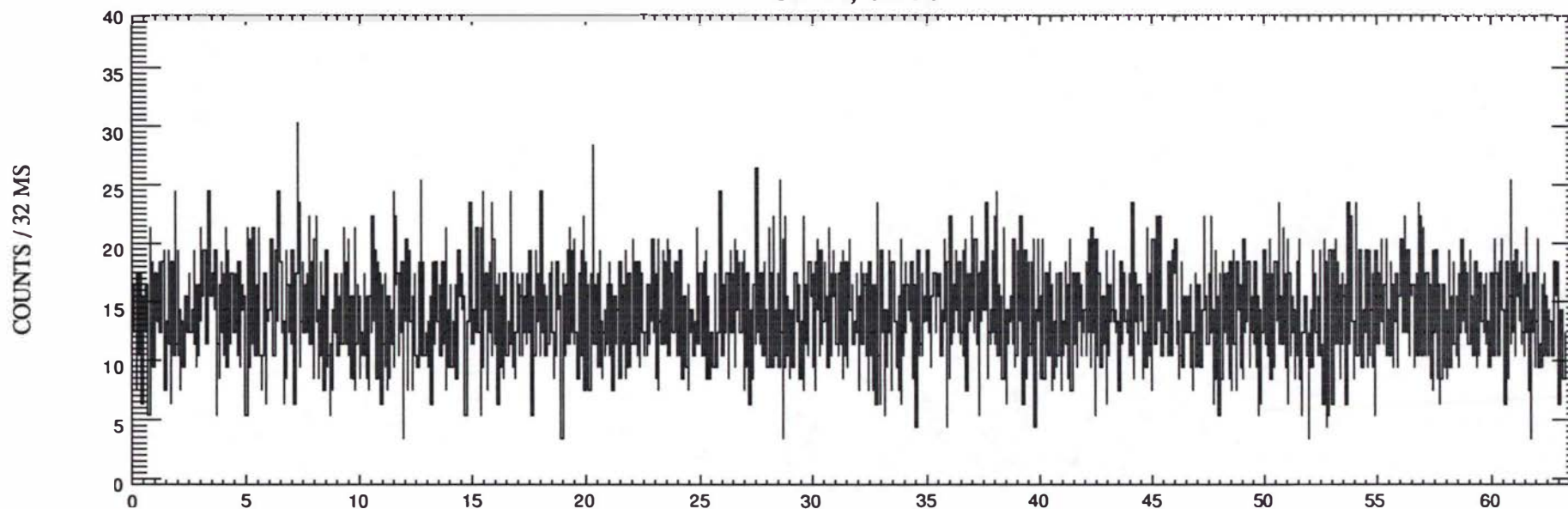
CALIBRATION DATA INCLUDED



Burst Counter 5 at UT=13.909743932088 h=50075.078 s 13:54:35.078

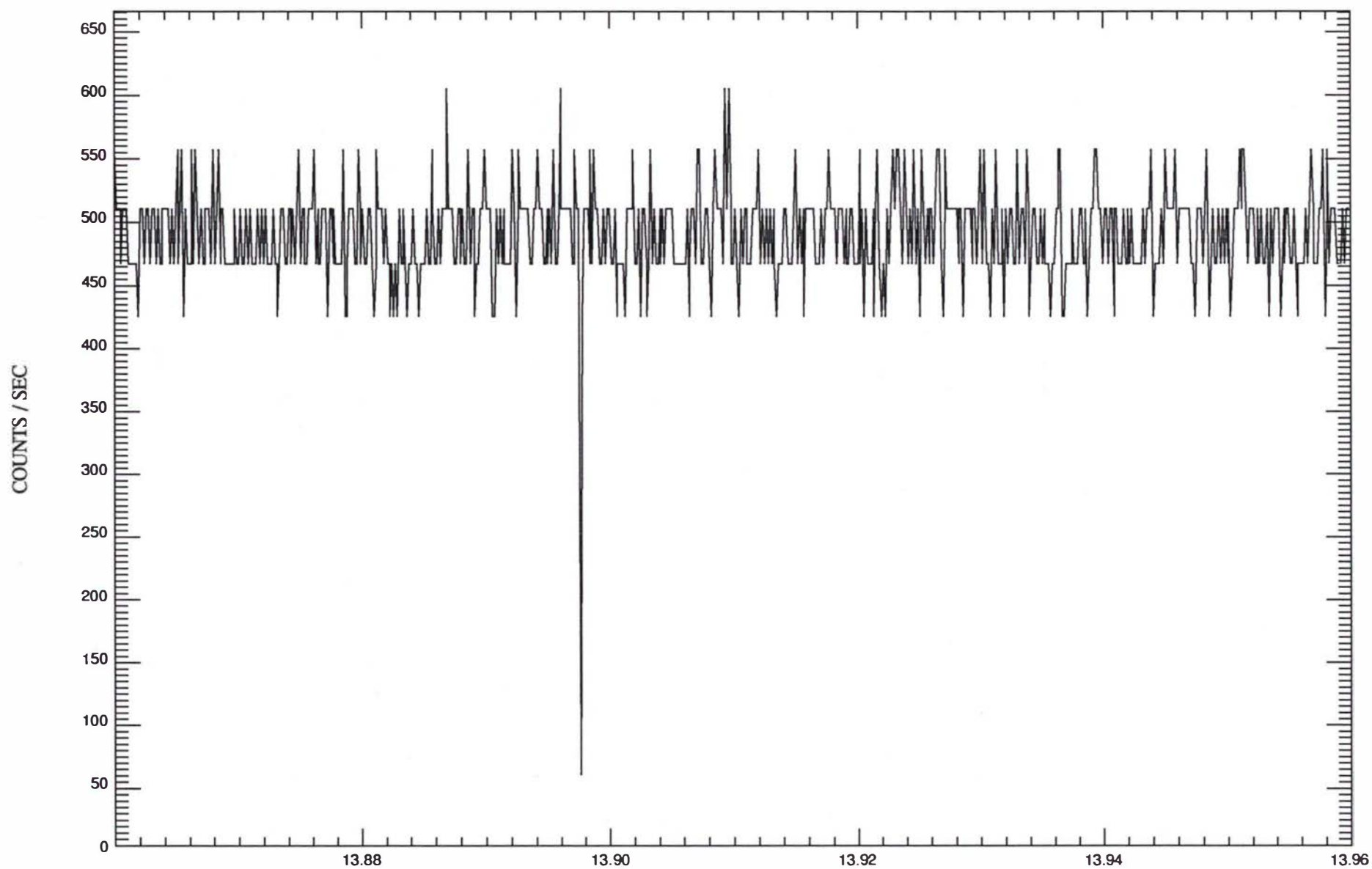


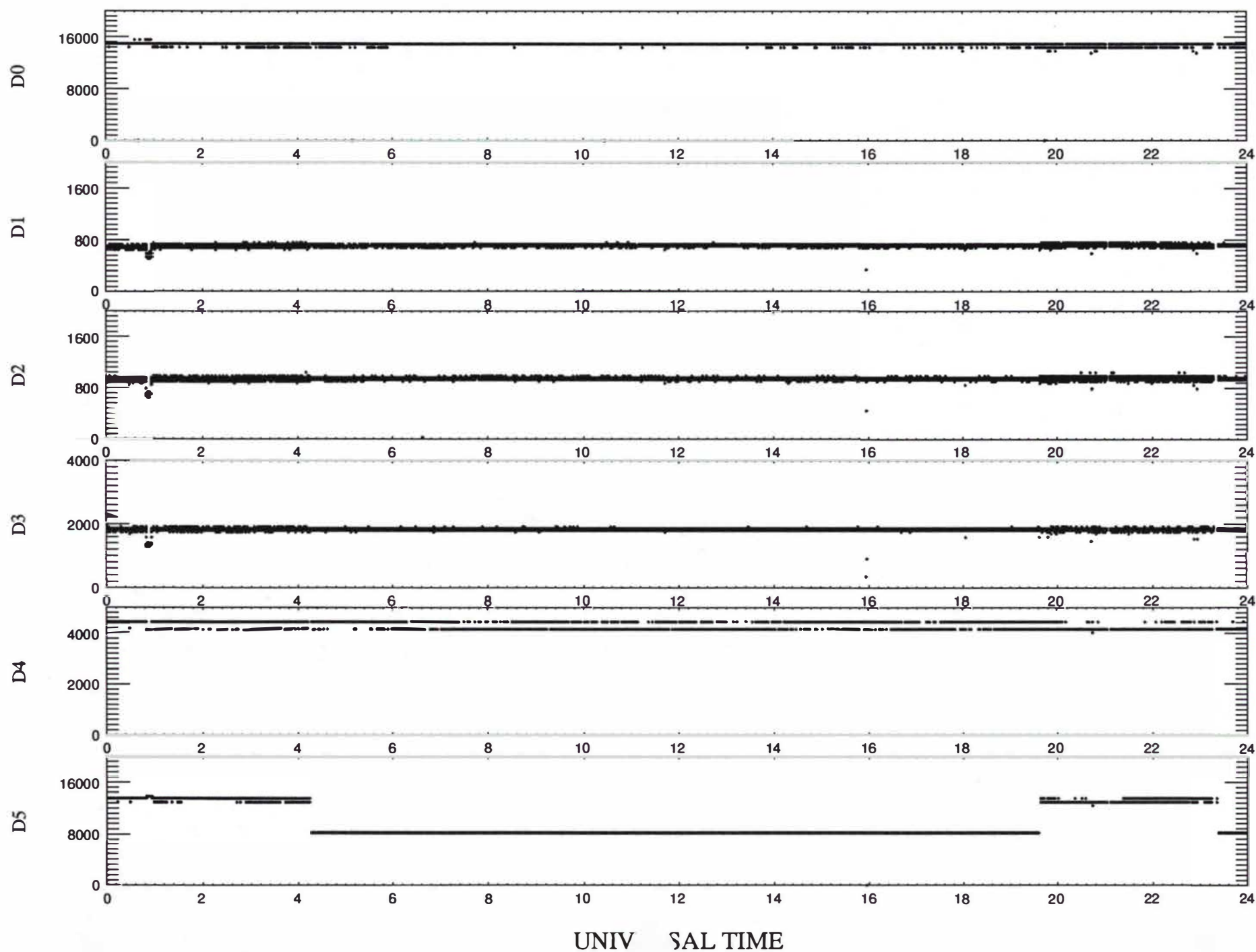
TIME, SECS



TIME, SECS

CALIBRATION DATA INCLUDED





From khurley@sunspot Wed Sep 30 18:54 PDT 1998
Date: Wed, 30 Sep 1998 18:58:11 -0700
From: khurley@sunspot (Kevin Hurley)
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, woods@eagles.msfc.nasa.gov,
kraken@rosserv.gsfc.nasa.gov
Subject: GRB980924, 980925, 980926, 980927

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed the following bursts, all suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1800 s earlier.

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SEP 26 1998 10:55:57	weak, 32 ms long	3300
SEP 26 1998 14:50:47	weak, 32 ms long	3300
SEP 26 1998 19:50:28	weak, 32 ms long	3300
SEP 27 1998 13:02:25	weak, 32 ms long	3300
SEP 27 1998 17:58:51	moderate, 32 ms long	3300

Were these events detected by anyone else?

CC: ulyssesbursts alias list
(barthelmy, butterworth, cline, frontera, kouveliotou, kurczyski, marar, tee

KONUS1 19980925 17571

ULYSSES RT

02 / 10 / 01

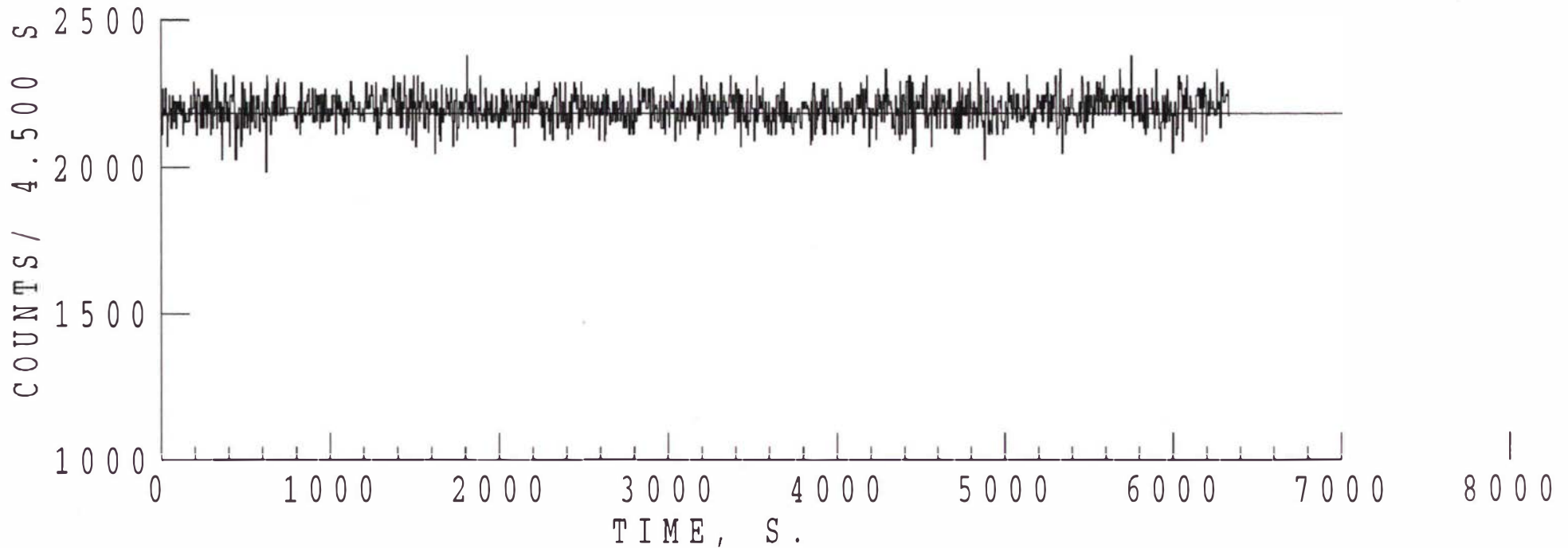
25 / 09 / 98 14400.243 s

0.500 S INTERVALS REGROUPED BY 9

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

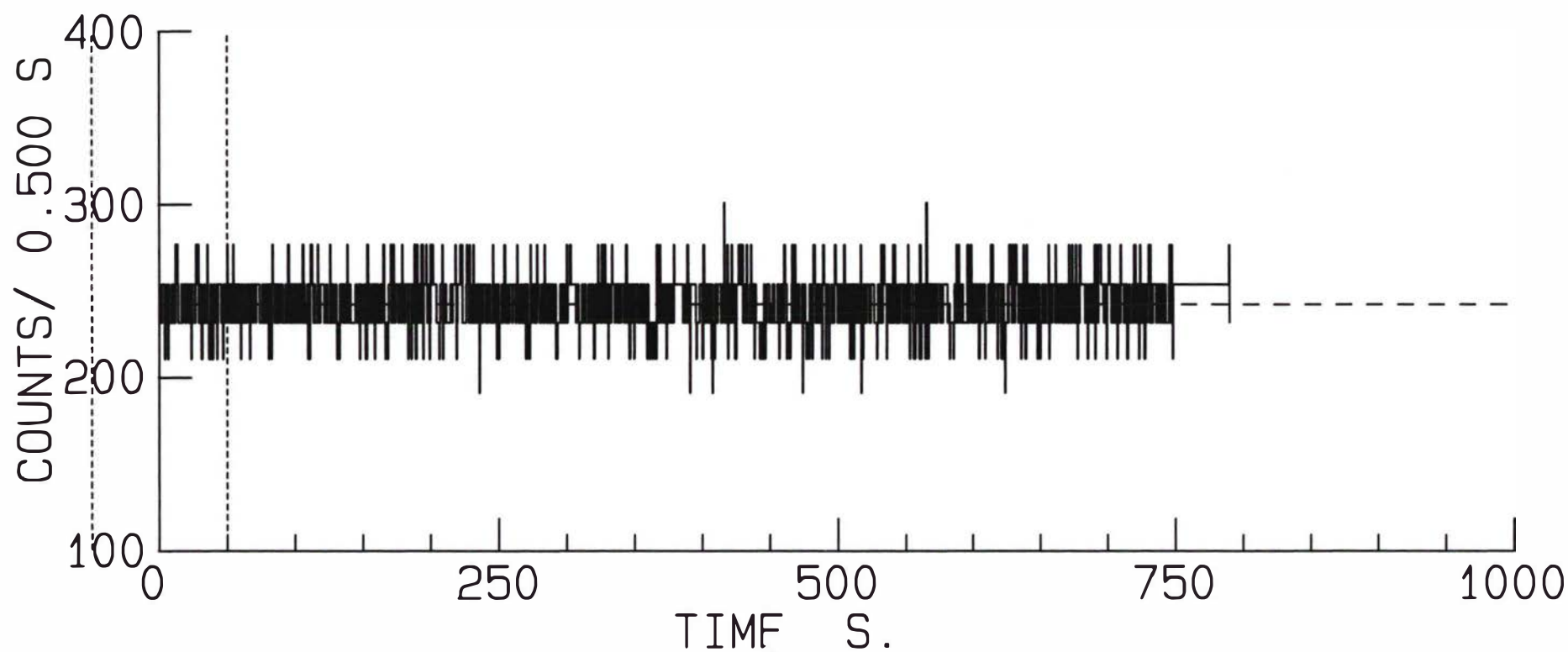
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



Konus
.65 s long

ULYSSES RT
25/ 9/98 14400.243 s
22- 149 keV

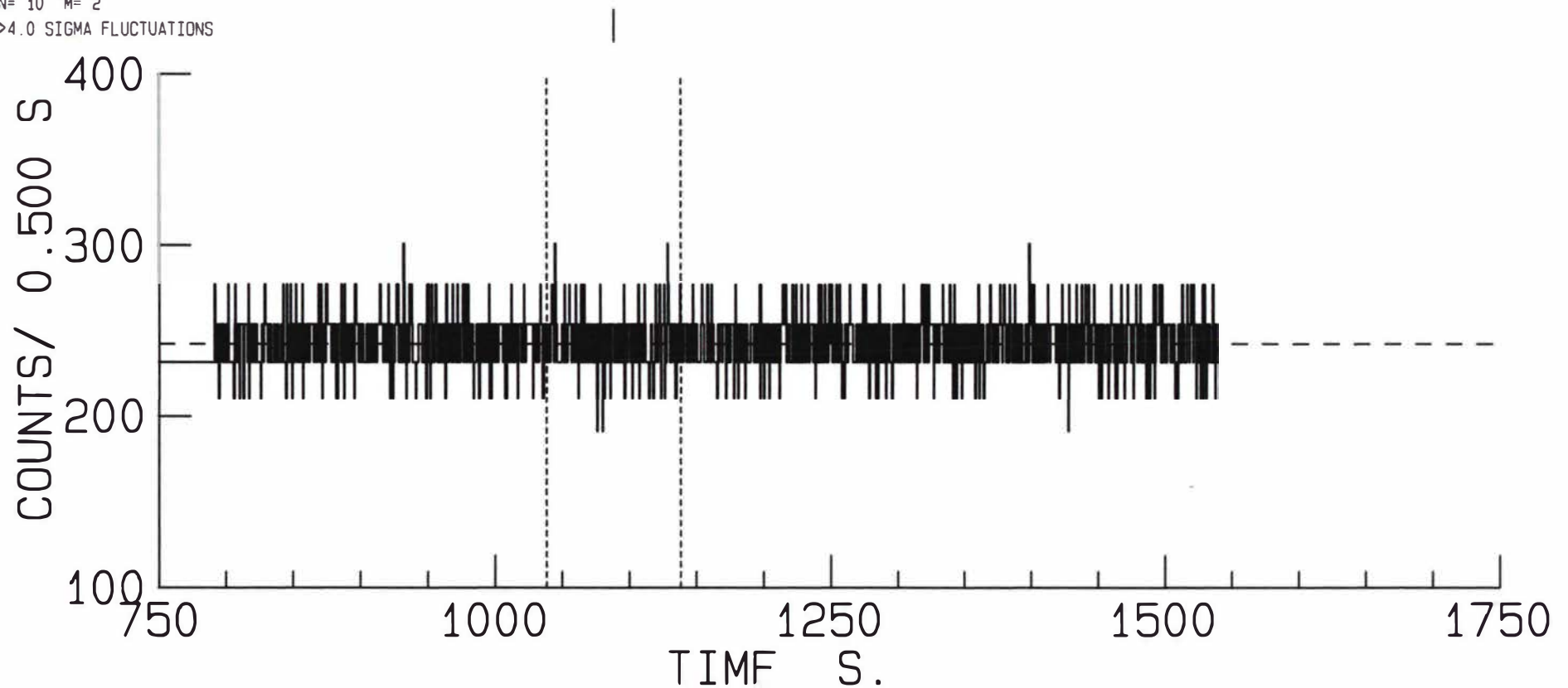
17 / 11 / 8



ULYSSES RT
25/ 9/98 14400.243 s
22- 149 keV

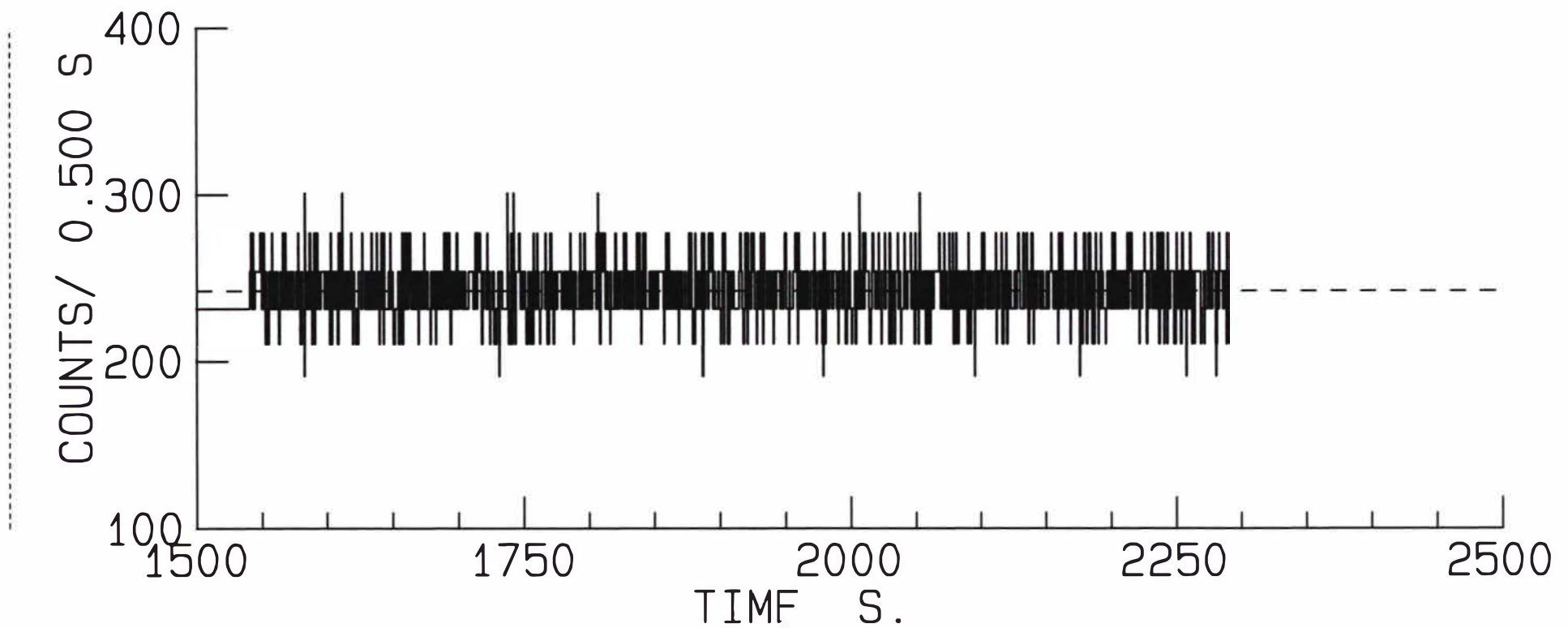
17 / 11 / 8

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



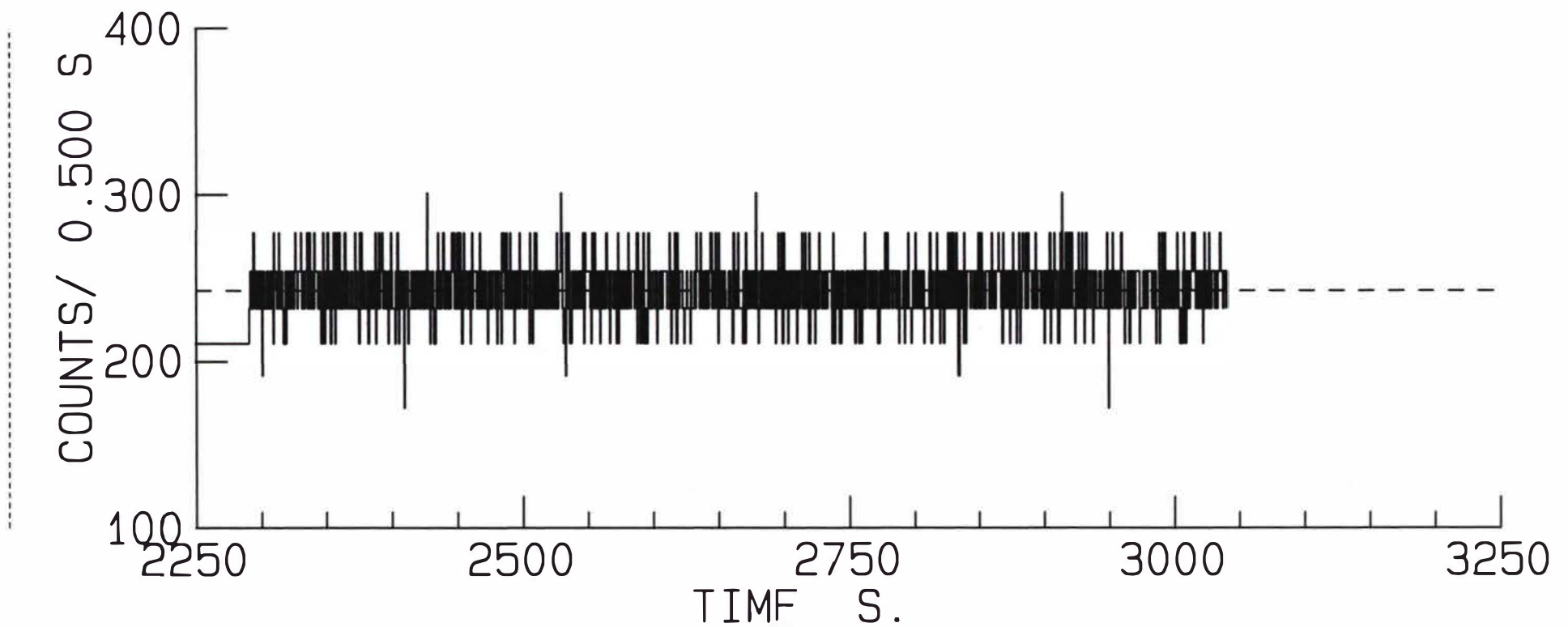
ULYSSES RT
25/ 9/98 14400.243 s
22- 149 keV

17 / 11 / 8



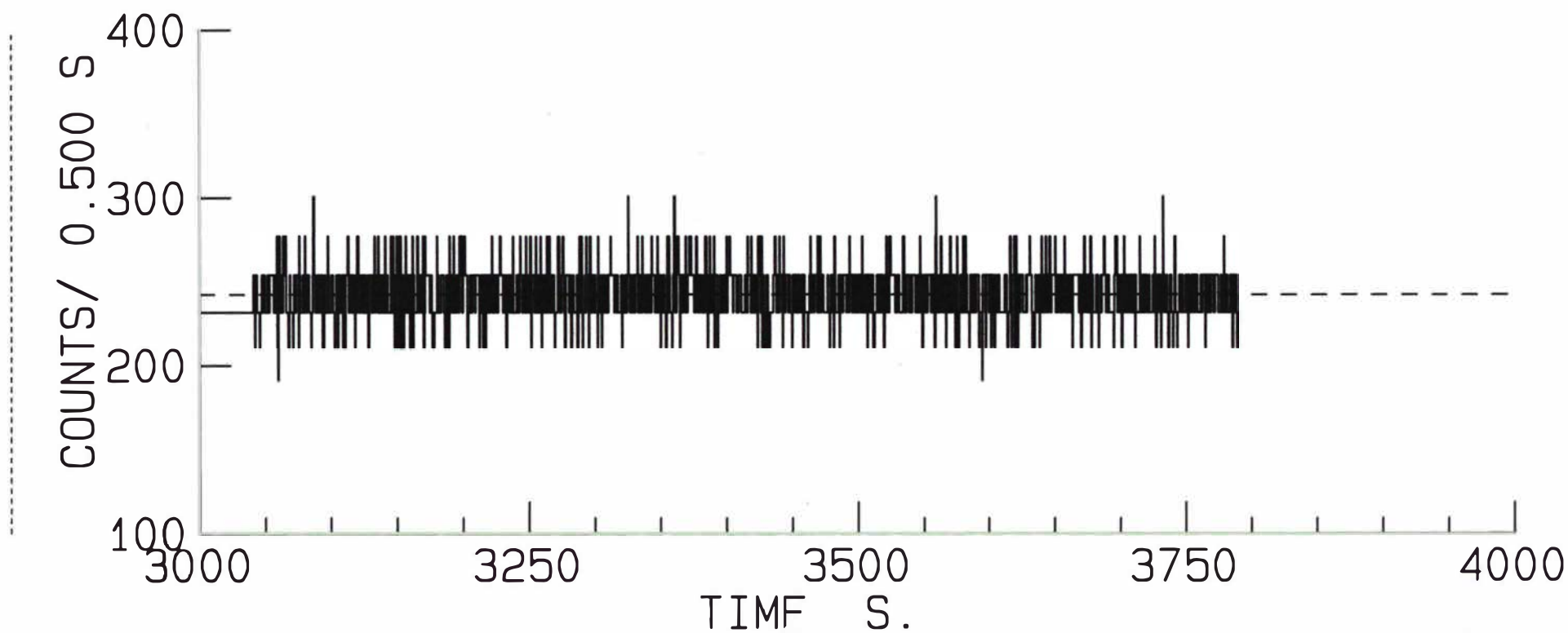
ULYSSES RT
25/ 9/98 14400.243 s
22- 149 keV

17 / 11 / 8



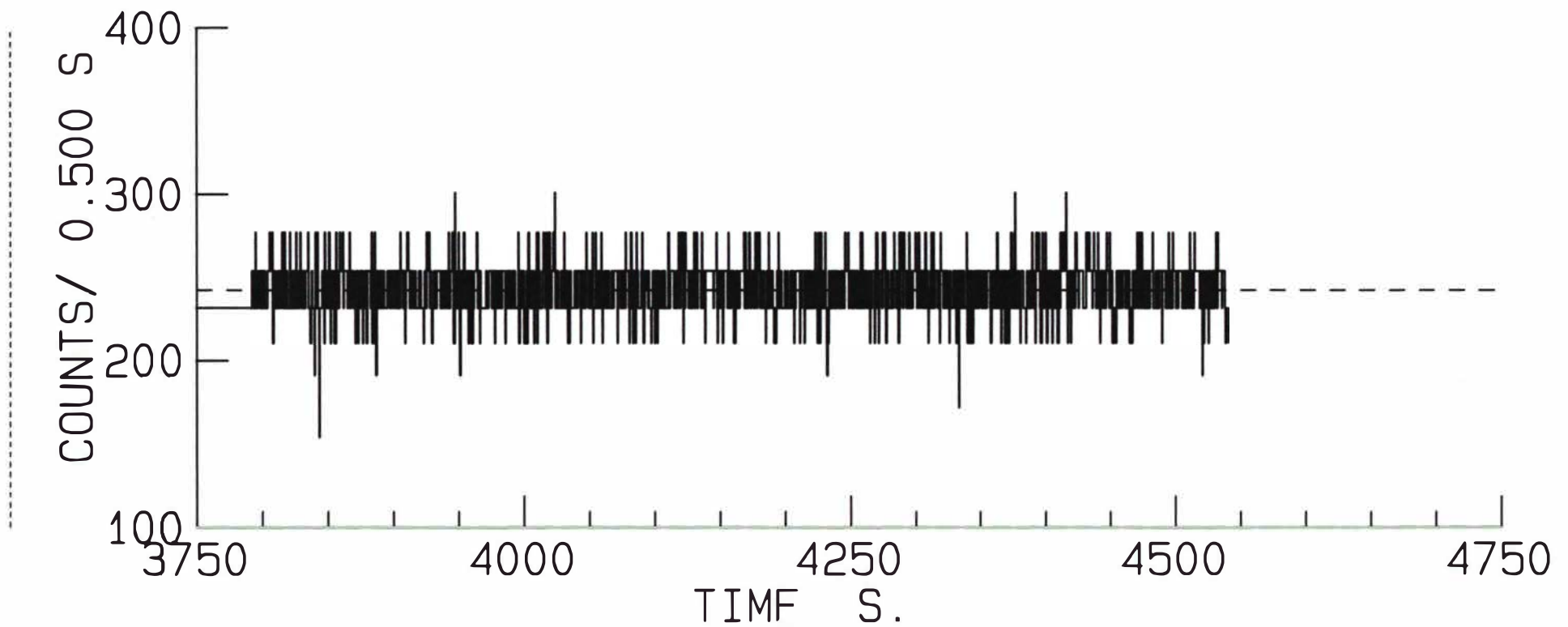
ULYSSES RT
25/ 9/98 14400.243 s
22- 149 keV

17 / 11 / 8



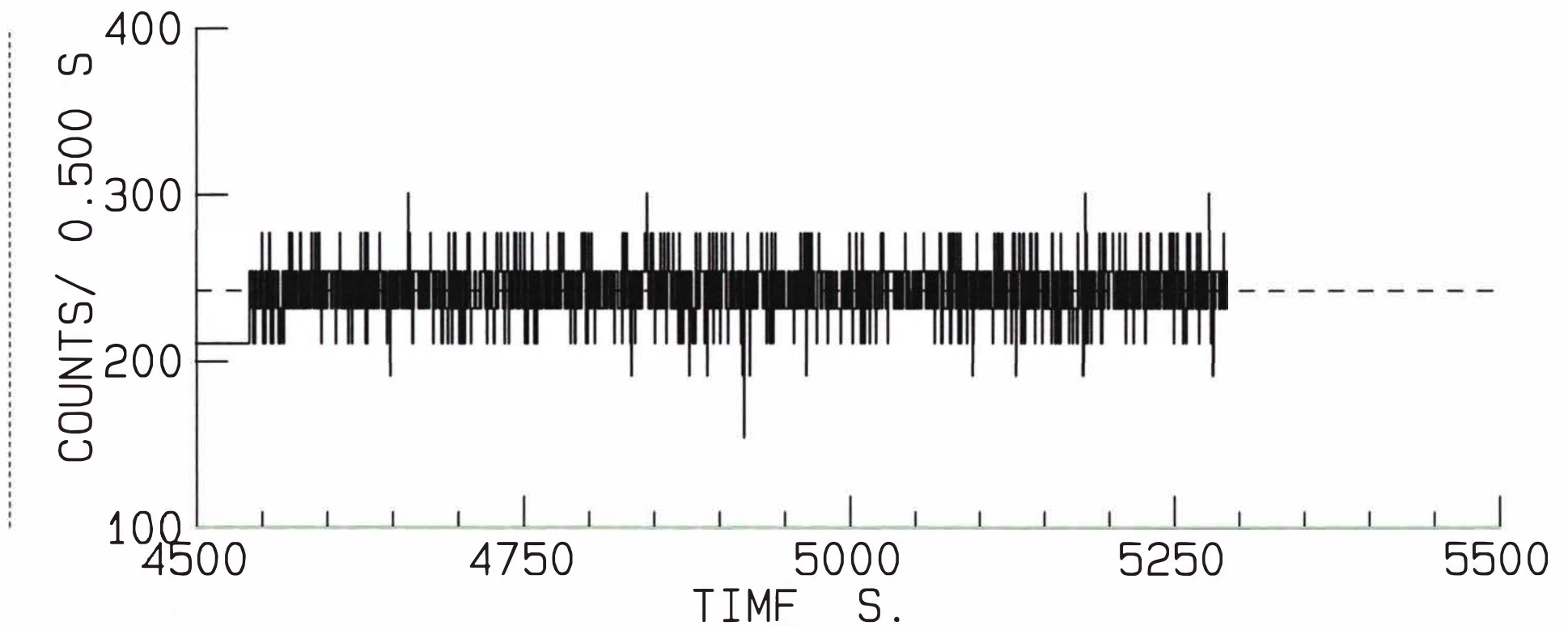
ULYSSES RT
25/ 9/98 14400.243 s
22- 149 keV

17 / 11 / 8



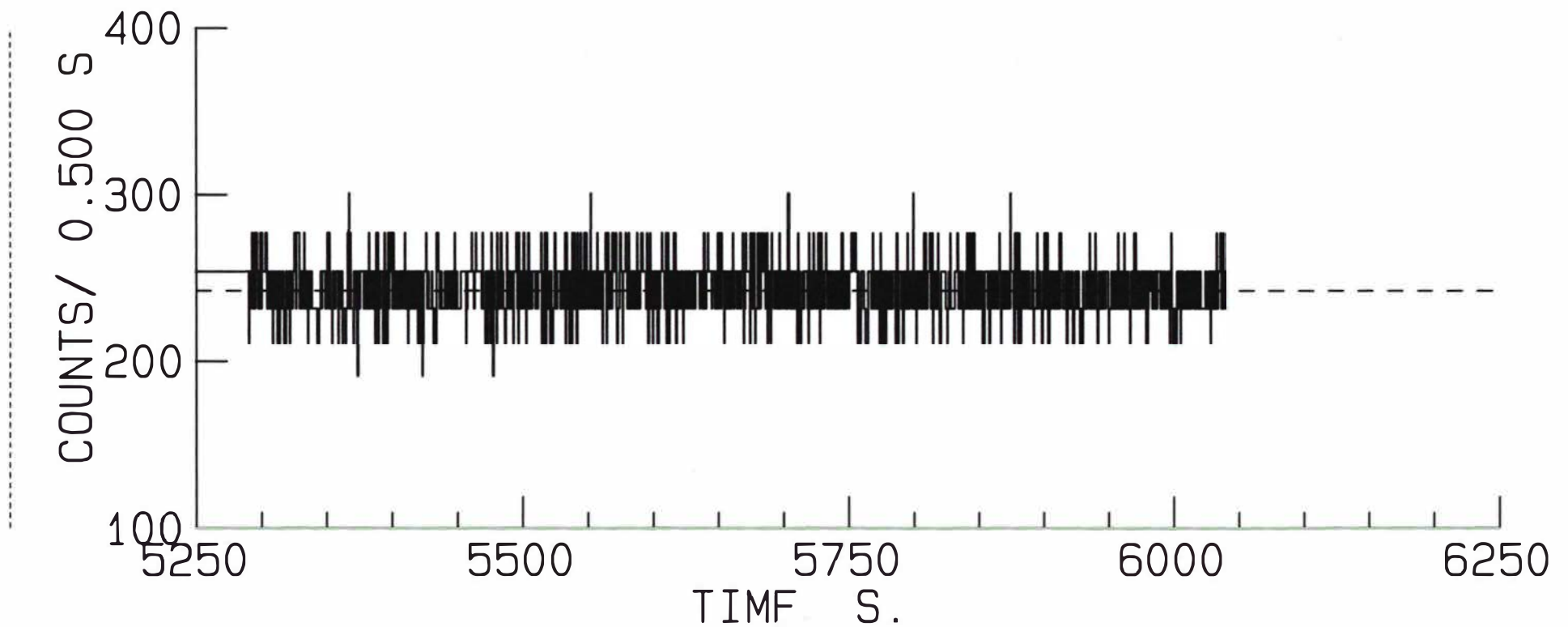
ULYSSES RT
25/ 9/98 14400.243 s
22- 149 keV

17 / 11 / 8



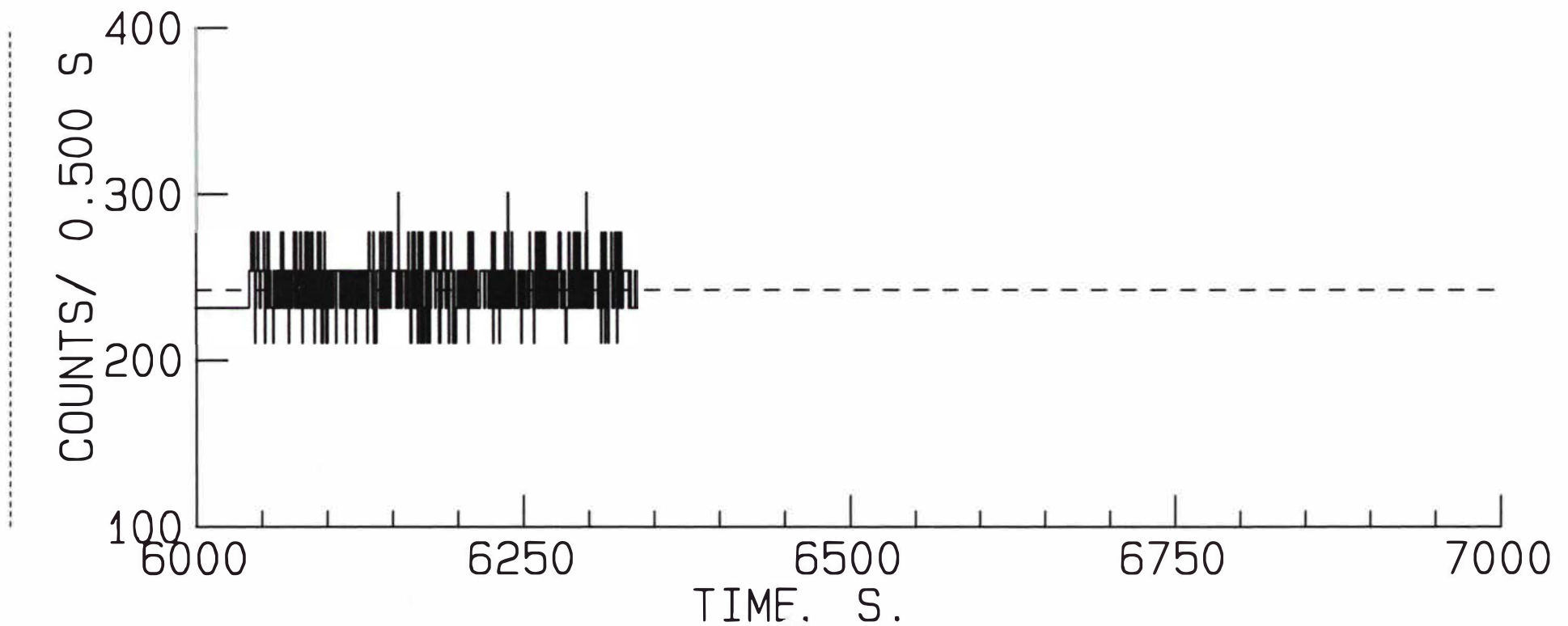
ULYSSES RT
25/ 9/98 14400.243 s
22- 149 keV

17 / 11 / 8



ULYSSES RT
25/ 9/98 14400.243 s
22- 149 keV

17 / 11 / 8



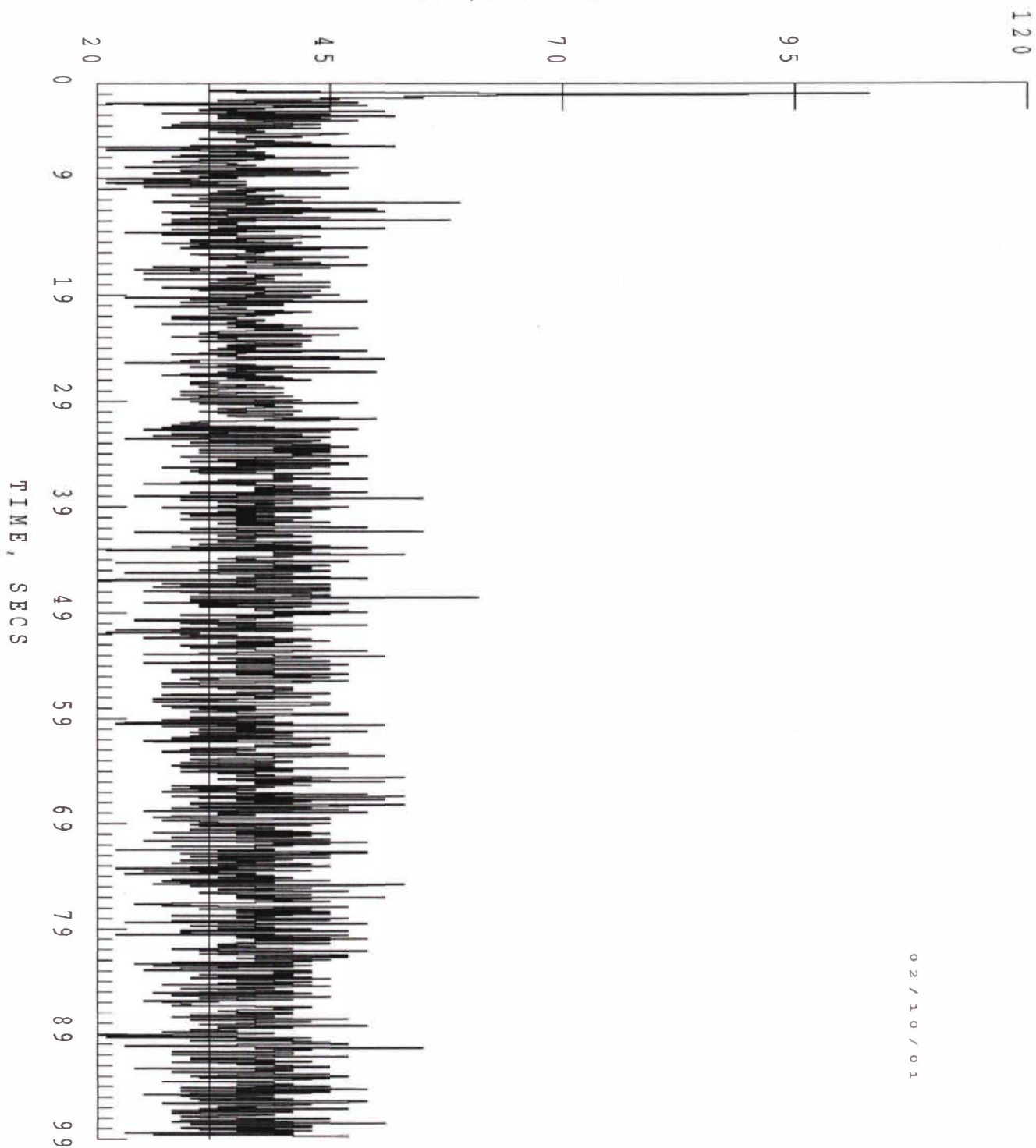
KONUS1

25/09/98

17571.284

50 - 200 keV

COUNTS/0.064 S



From HENZE@fender.msfc.nasa.gov Tue Sep 29 09:03:47 1998

Date: Tue, 29 Sep 1998 11:00:09 -0500 (CDT)

From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>

To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7118

TIME: TJD=1081 SECONDS=14168

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT.

From HENZE@fender.msfc.nasa.gov Tue Sep 29 10:07:38 1998
Date: Tue, 29 Sep 1998 11:59:44 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7119

TIME: TJD=1081 SECONDS=16704

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
PARTICLE EVENT.

From HENZE@fender.msfc.nasa.gov Tue Sep 29 10:21:11 1998
Date: Tue, 29 Sep 1998 12:13:40 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7120

TIME: TJD=1081 SECONDS=24997

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
PARTICLE EVENT.

From HENZE@fender.msfc.nasa.gov Tue Sep 29 10:28:56 1998
Date: Tue, 29 Sep 1998 12:15:30 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@compTEL.sr.unh.edu, grobad@ests2.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7121

TIME: TJD=1081 SECONDS=31873

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
PARTICLE EVENT.

From HENZE@fender.msfc.nasa.gov Tue Sep 29 11:21:38 1998

Date: Tue, 29 Sep 1998 13:07:51 -0500 (CDT)

From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>

To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lhevax.gsfc.nasa.gov, barthelmy@lhevax.gsfc.nasa.gov,
bacodine@lhevaww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhevax.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

Sep 25

NO.: 7122

TIME: TJD=1081 SECONDS=43426 12:03:46

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 96.0 AZIMUTH=128.7 ERROR= 5.9 DEGREES

COMMENTS:

SGR 1900+14. SINGLE PULSE WITH POSSIBLE SUBSTRUCTURE, DUR. APPROX. 0.4 S.
MARGINALLY VISIBLE ABOVE 100 KEV.

BATSE BURST# 7122

ULYSSES RT

30 / 9 / 98

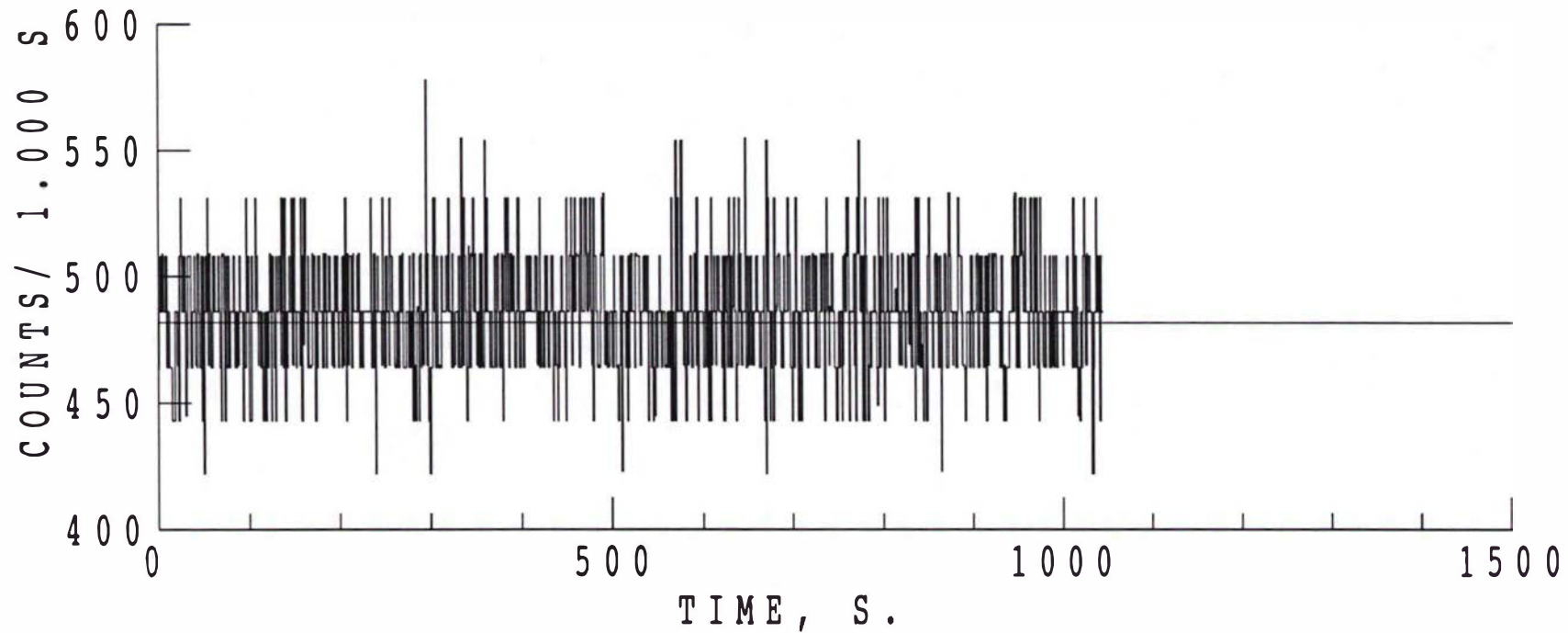
25 / 9 / 98 44676.023 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



Date: May 8 2007

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

- ☒ Jim Schmidling's stat file correction applied?
- ☒ Final ephemeris used?
- ☒ Final, CDROM data used?
- ☐ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution? **No**

2. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

2. For Odyssey events

- ☐ Was CHECKMO run to eliminate data gaps?
- ☐ Did the Odyssey ephemeris correspond to the event time? (When there is data in the database, the ephemeris is for the start of record, usually ~1320 s prior to the request time; when there is no data in the database, the ephemeris is for the request time in the e-mail, so the request time in mosearch should be equal to the GRB time. Note that the time in the return e-mail will be ~1320 s prior to the time requested, in the line "no HEND data...")
- ☐ Was Mars-blocking used?
- ☐ For cruise phase data (April – October 2001), was the updated data used? (Old data has timing errors)
- ☐ GRS database searched for triggered data? Database data between August 2005 and January 2006 should be re-extracted, due to timing errors. (E-mailed data should be OK).
- ☐ GRS and HEND data cross-correlated to check timing?

2. For 3 or More Spacecraft events

- ☐ $\Sigma 3\Delta t$'s calculated, and/or BMAPSUM executed? **No**

3. For INTEGRAL events

- ☐ INTEGRAL SPI-ACS website checked for bursts that weren't transmitted automatically?
- ☐ 125 ms added to INTEGRAL SPI-ACS time for bursts prior to April 2 2004 11:00 UT?
- ☐ Updated ephemeris used for bursts prior to September 30, 2003?

-
- ☒ ACCESS and MBL4 databases updated?

**IPN means w. GRBM circle, but consers. w. contours
"other" circle added**

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

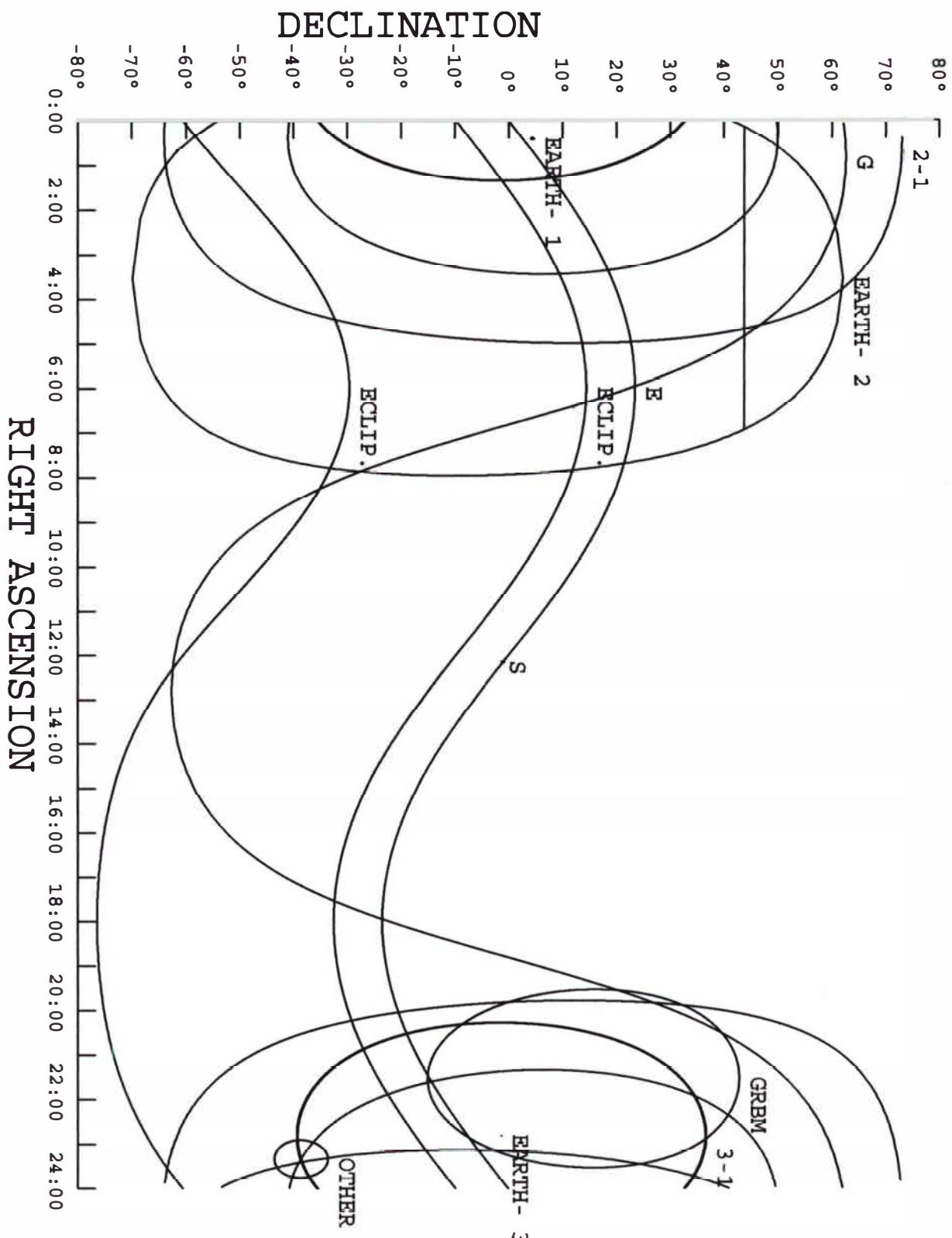
1 KONUS1

2 SAX

3 ULYSSES

EVENT OF SEP 25, 1998 20:04

24 / 7 / 9



N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

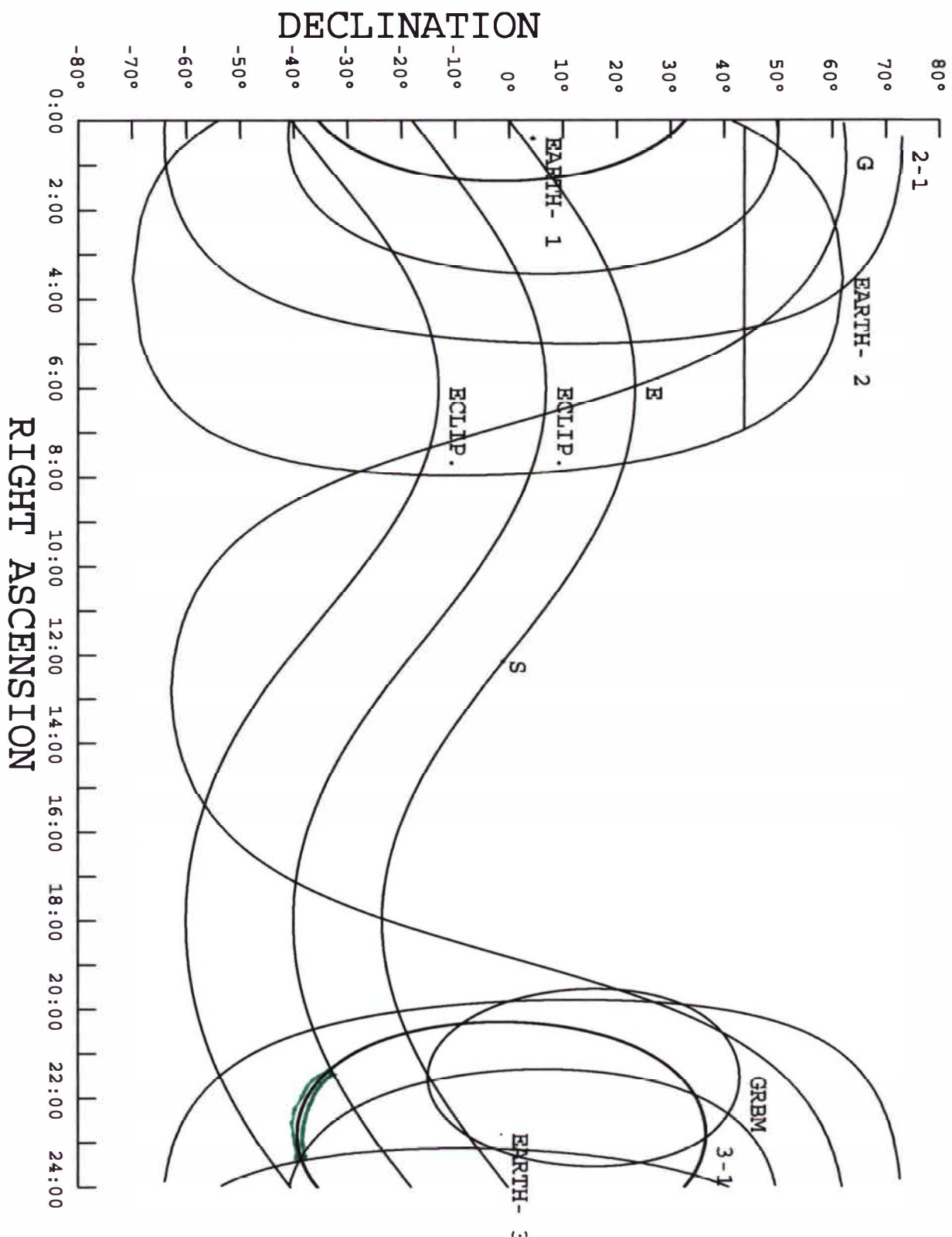
1 KONUS1

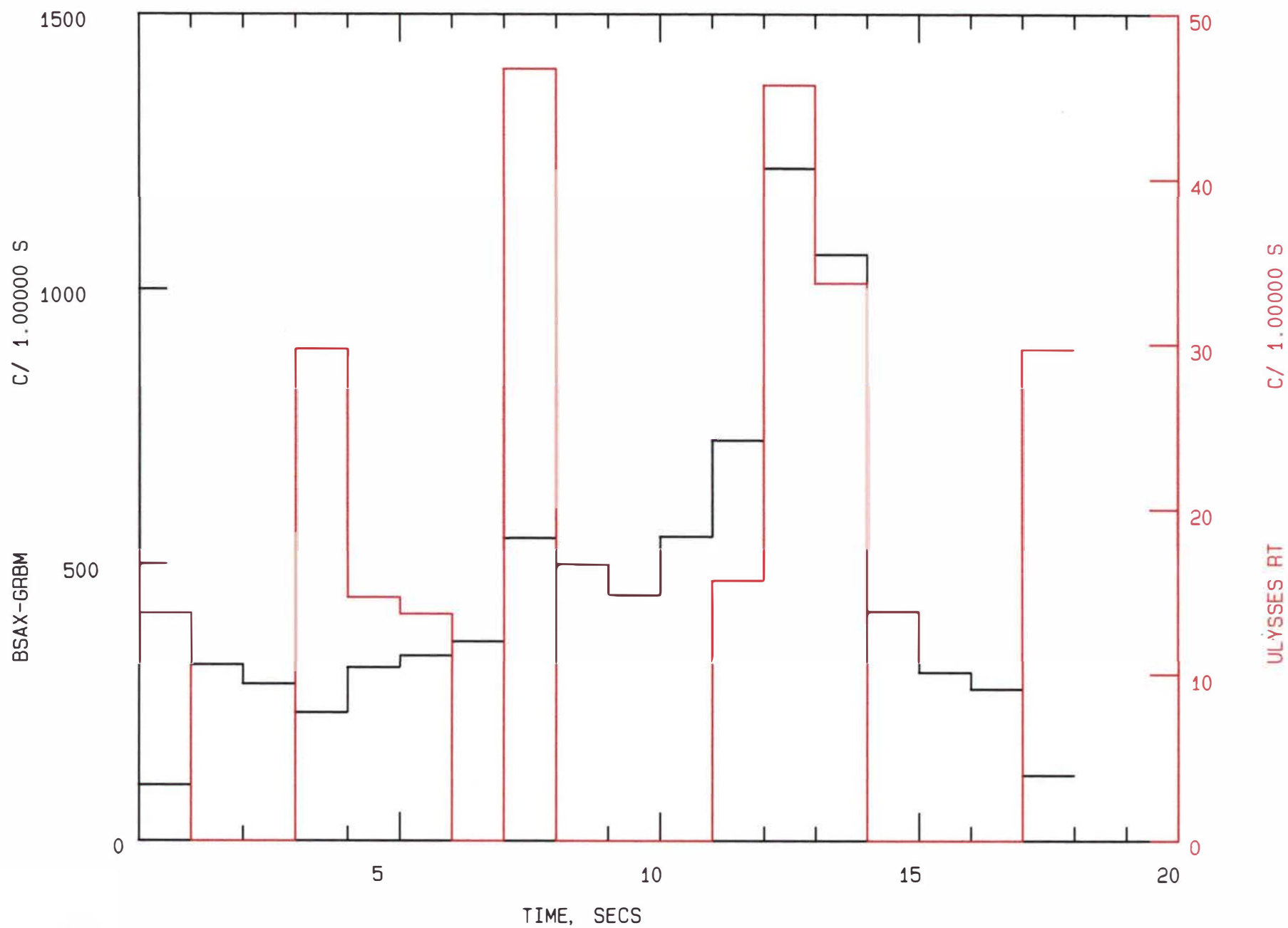
2 SAX

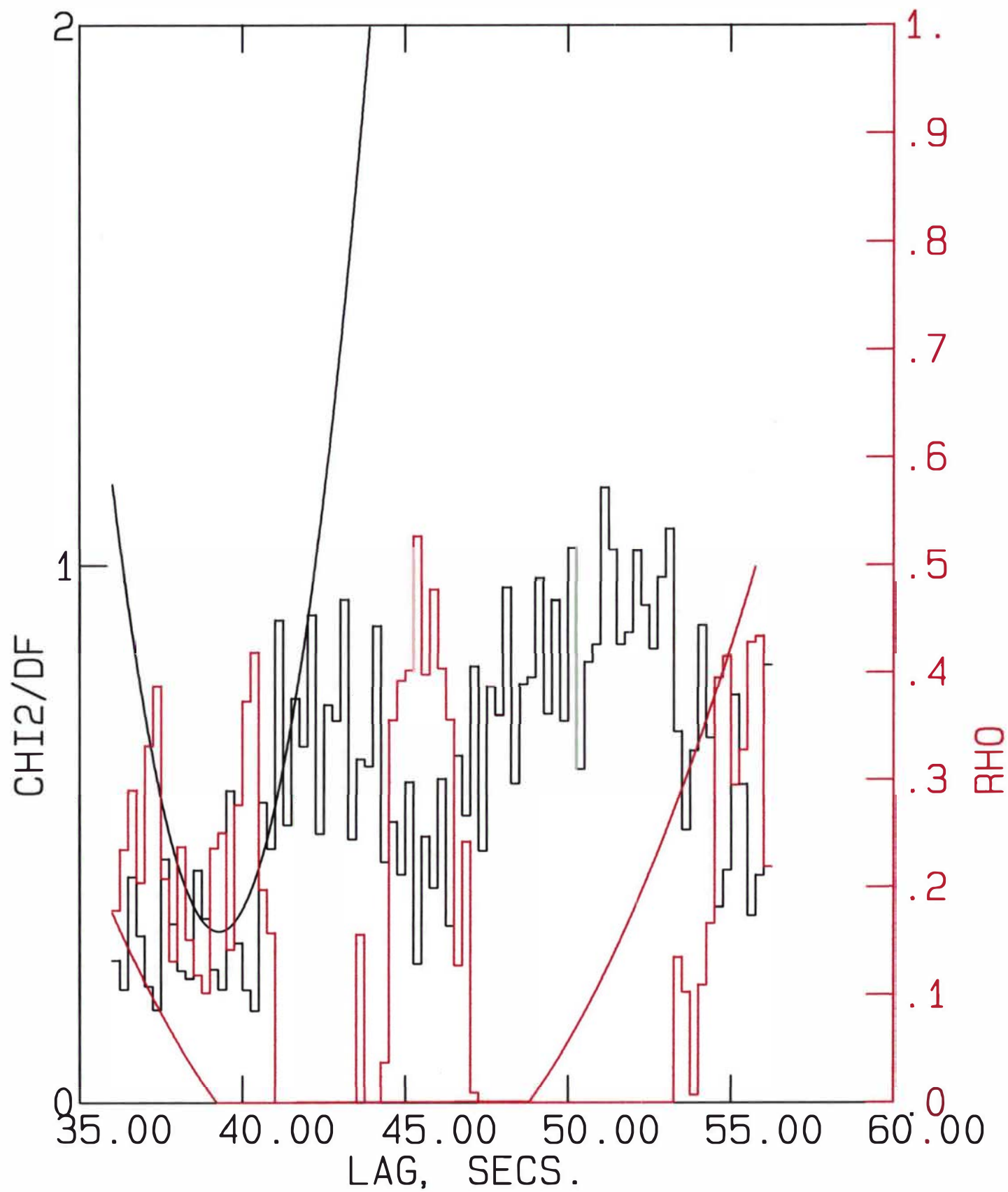
3 ULYSSES

EVENT OF SEP 25, 1998 20:04

8 / 5 / 7







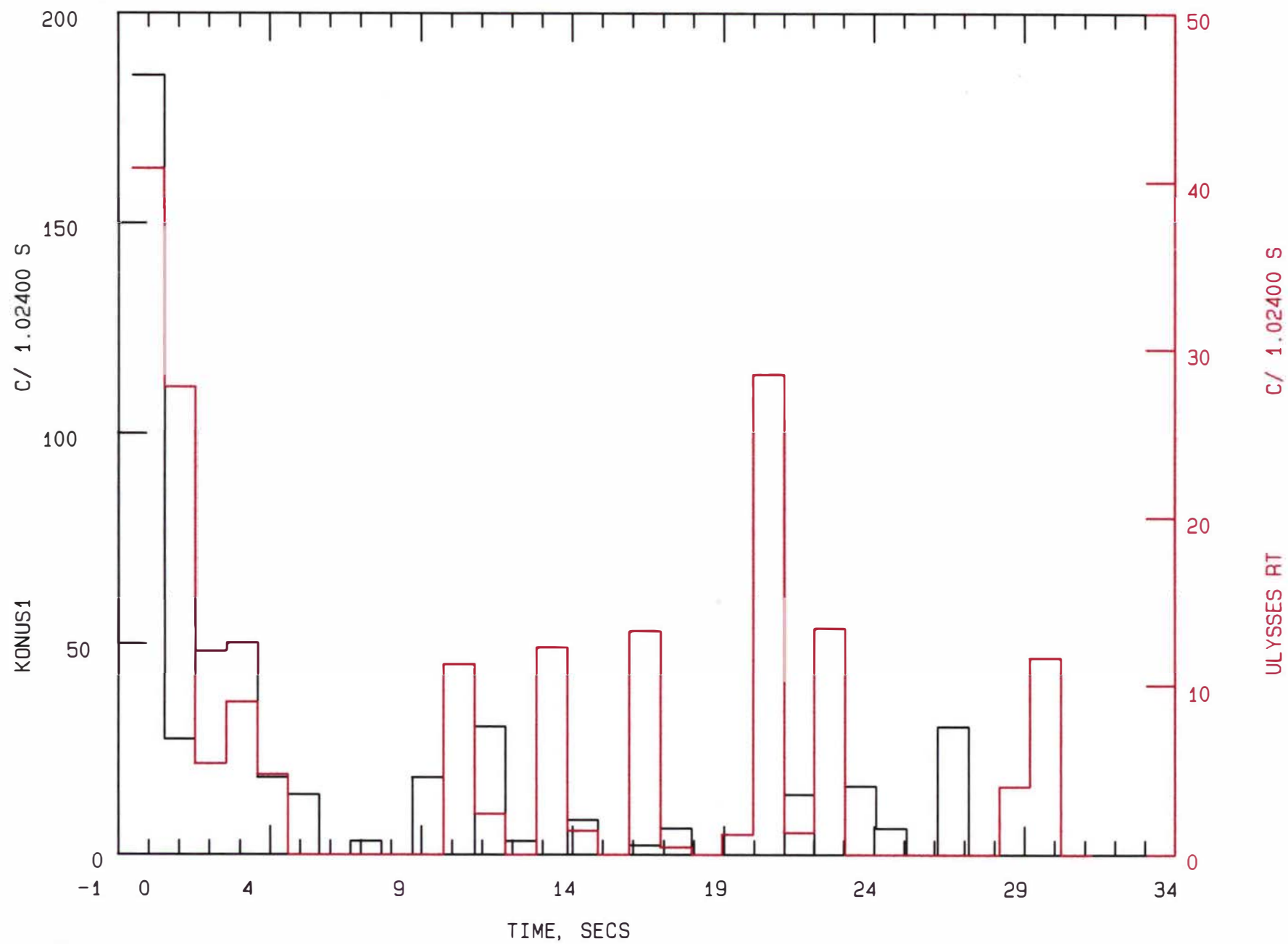
KONUS1

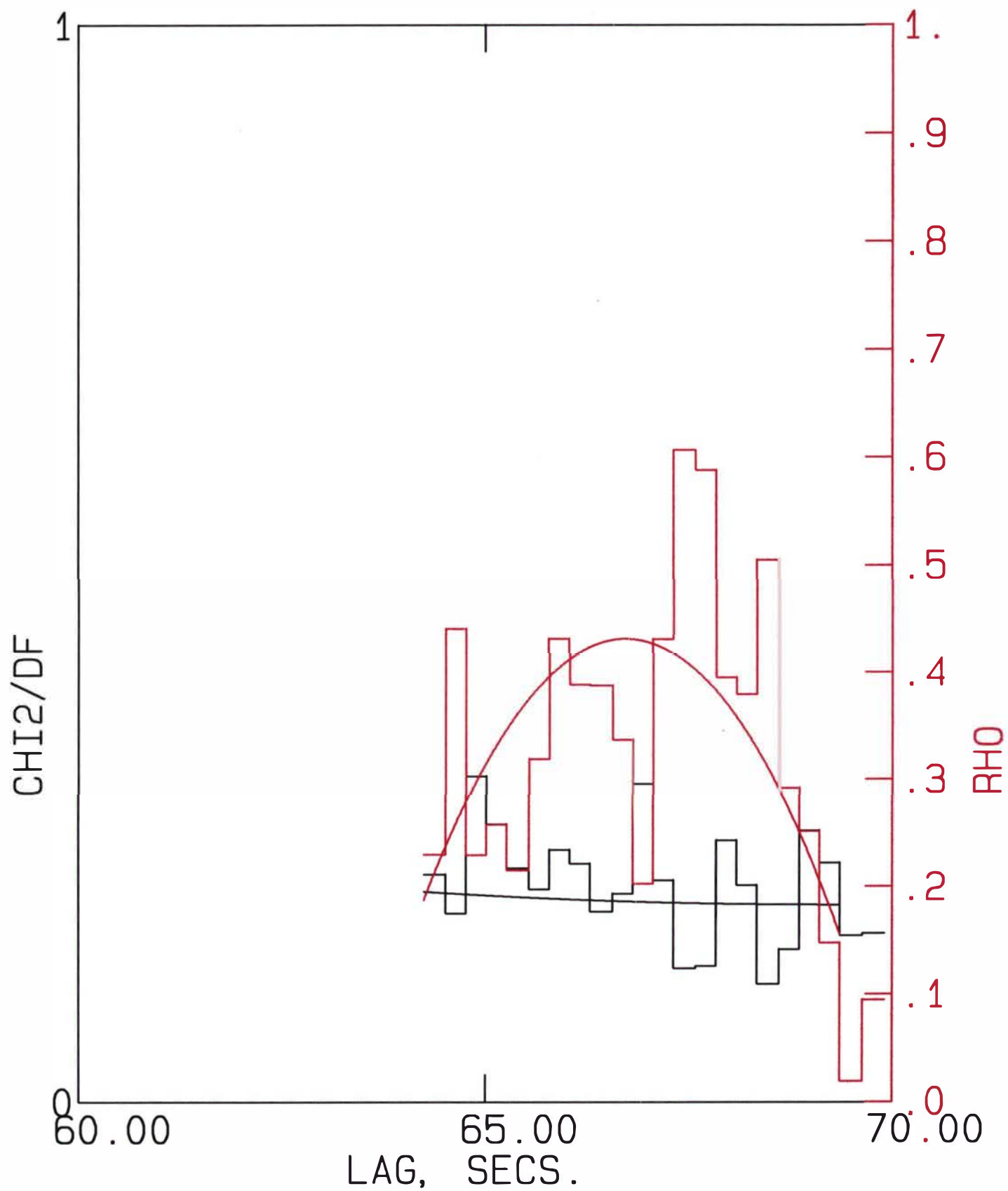
-ULYSSES RT CORRELATION

25/09/98

72299.405

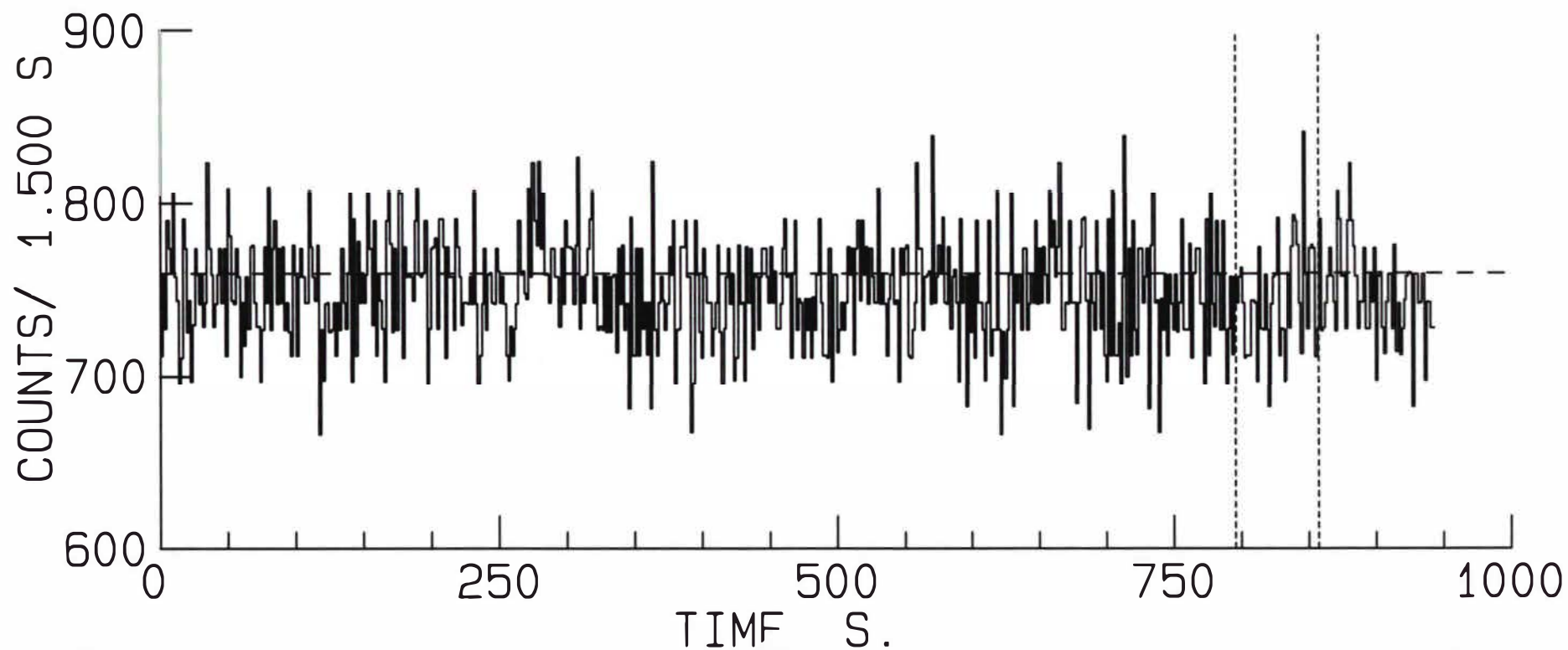
8/ 5/ 7





ULYSSES RT
25/ 9/98 74440.086 s
0.250 S INTERVALS REGROUPED BY 6
22- 149 keV

8 / 5 / 7



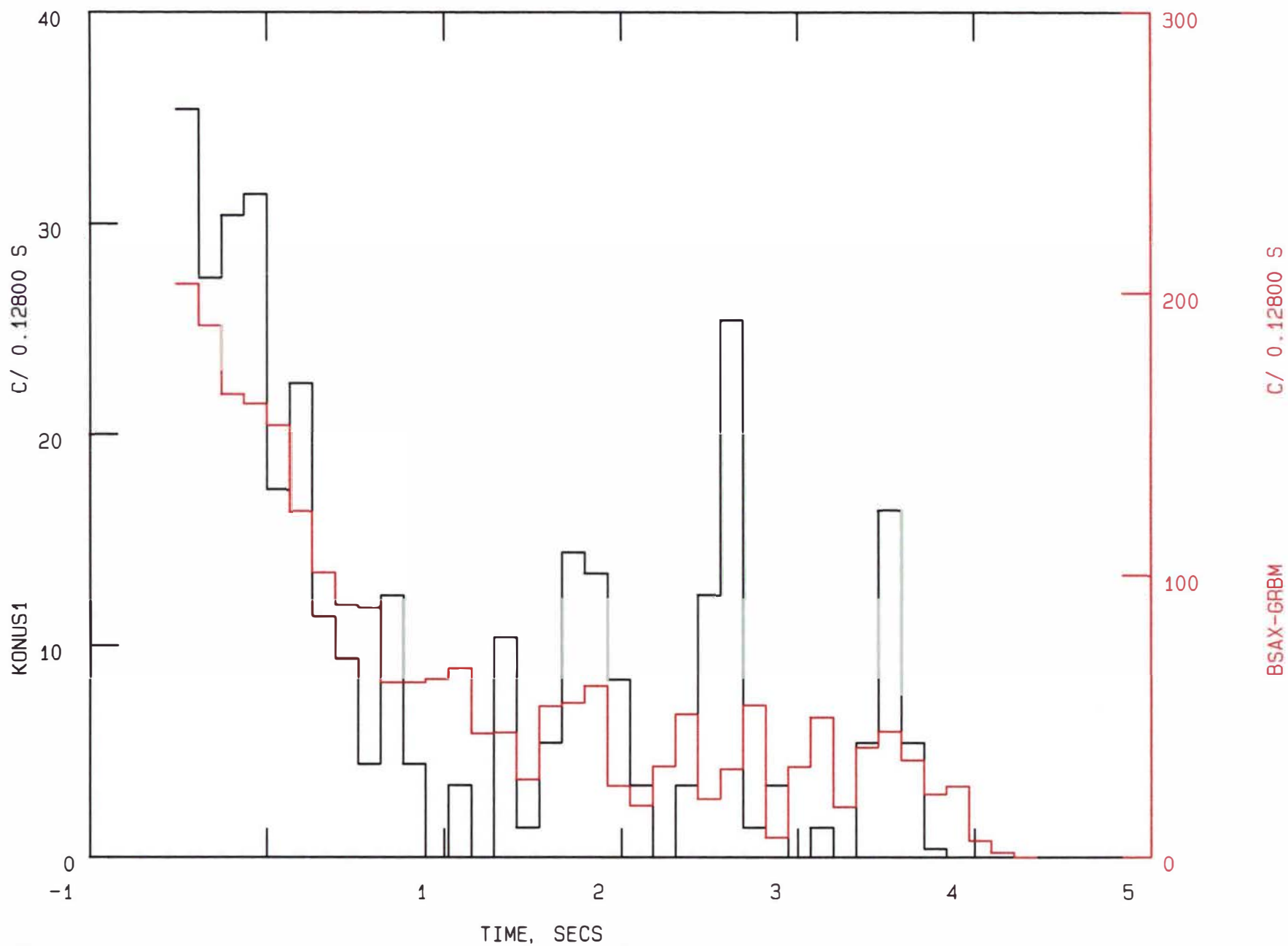
KONUS1

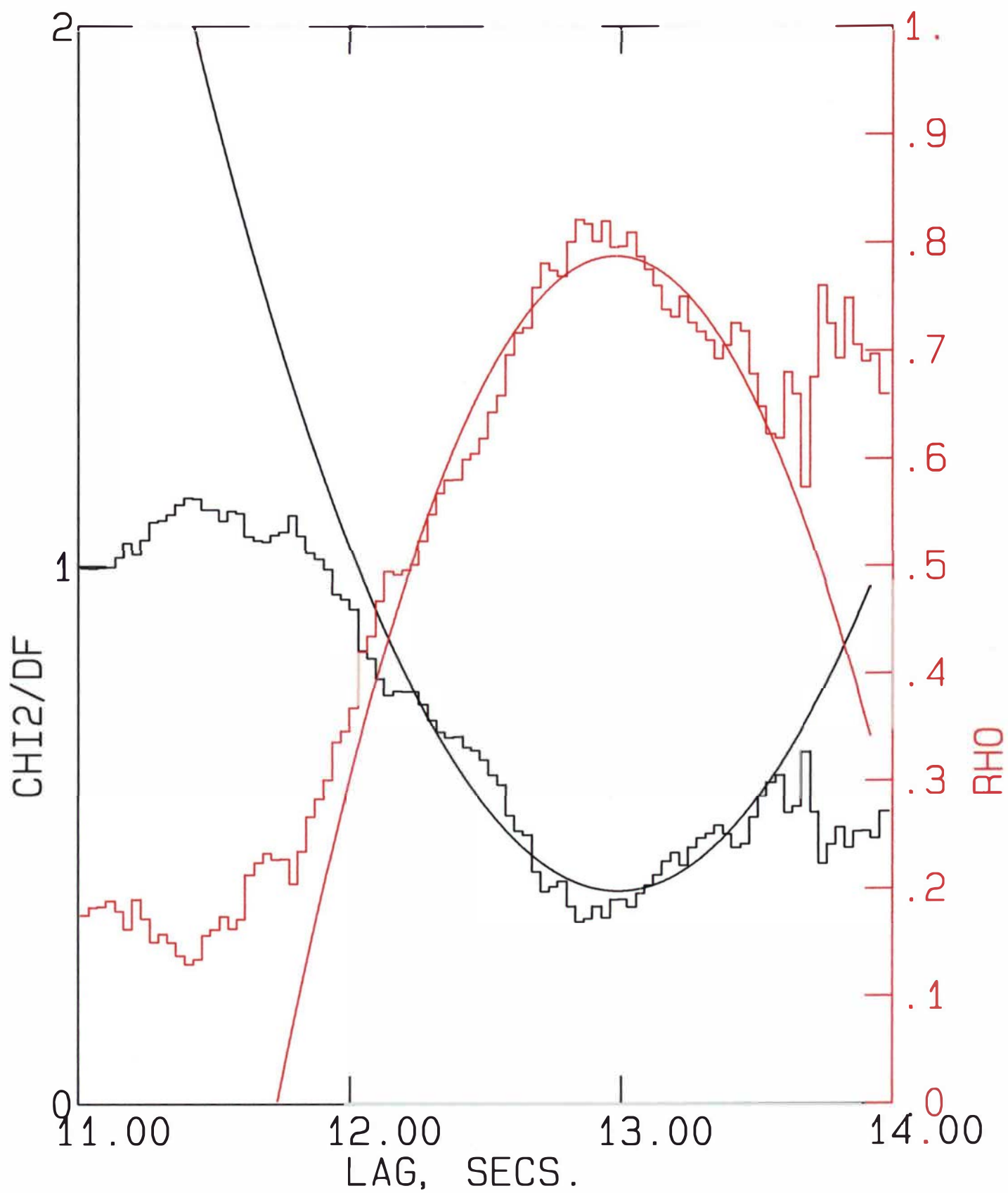
-BSAX-GRBM CORRELATION

25/09/98

72299.405

8/ 5/ 7



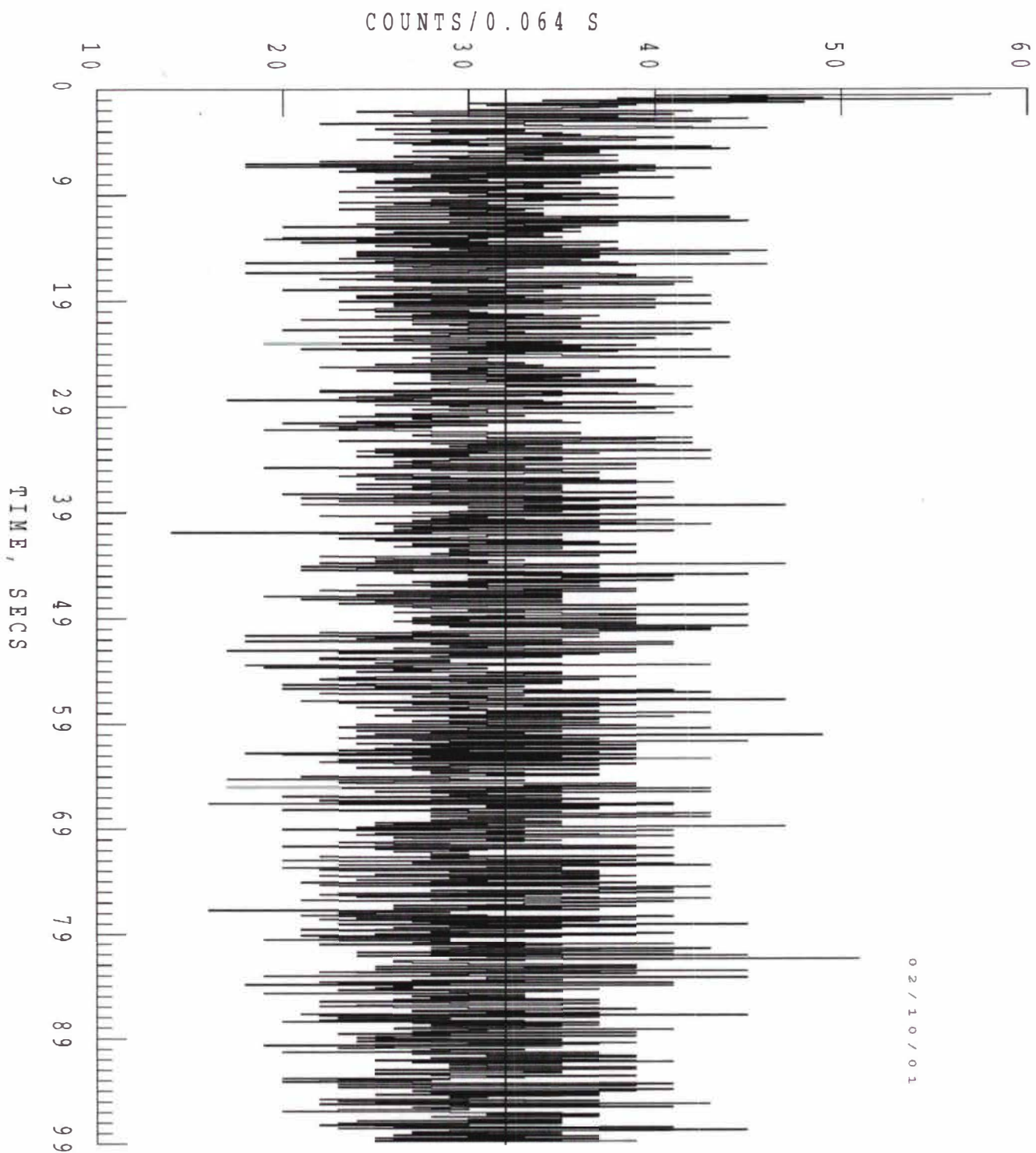


KONUS1

25/09/98

72299.405

50 - 200 keV

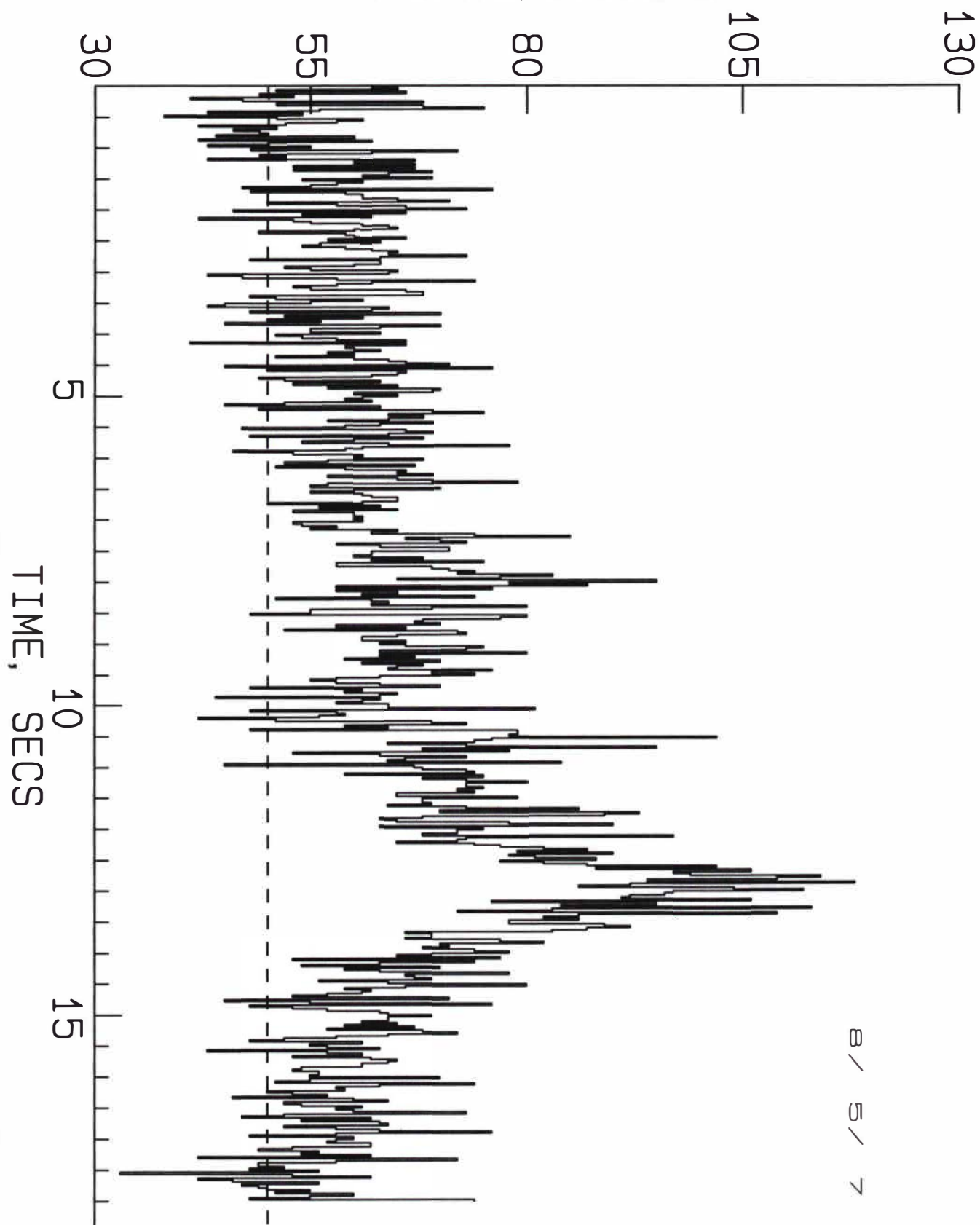


SAX GRBM

25/09/98 72283.946

40- 700 keV

COUNTS/0.031 S



25/09/98

40- 700 keV

COUNTS/1.000 S

4000

3000

2000

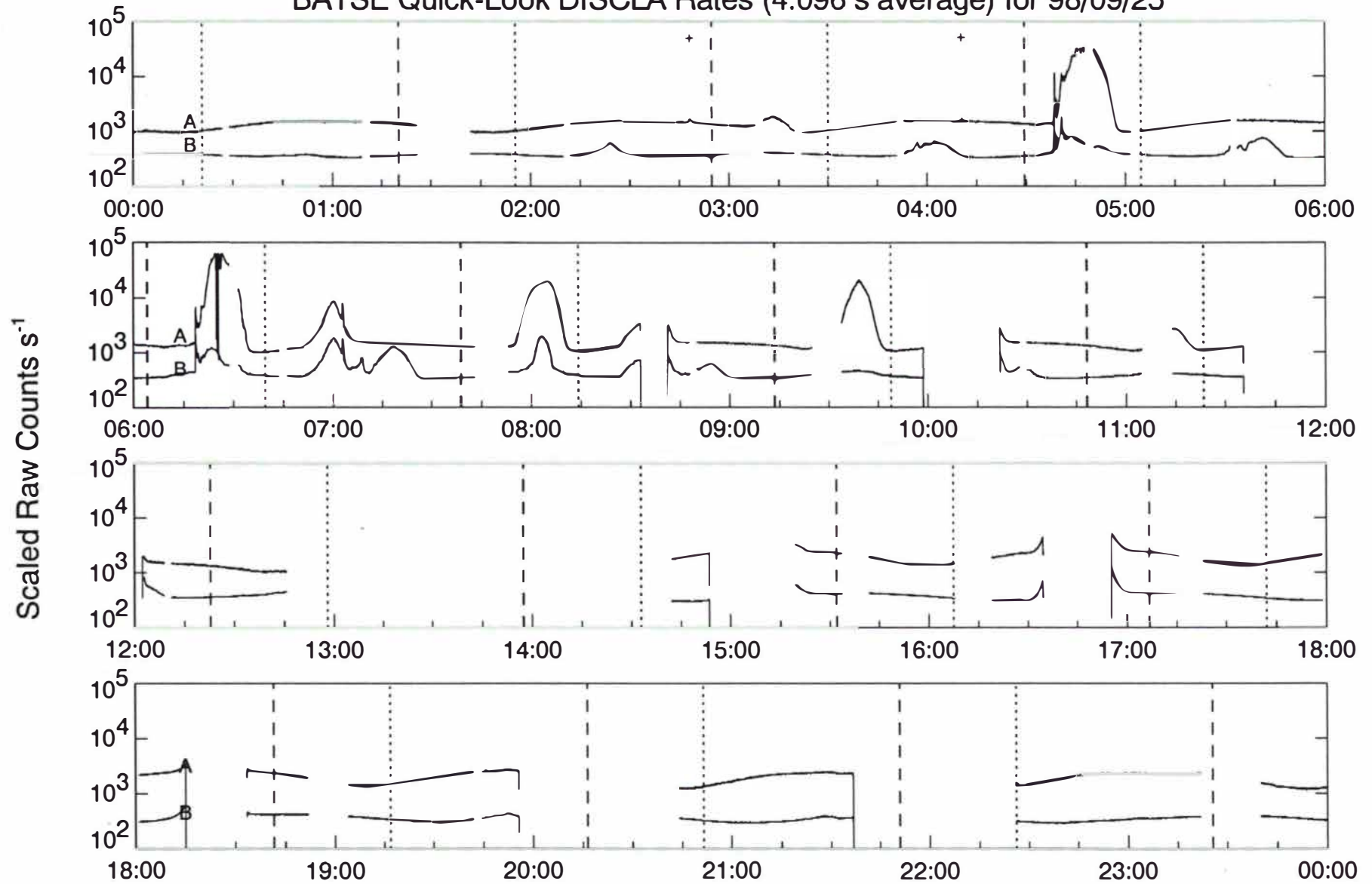
1000

100 200 300 400 500 600 700 800 900 *** ** *

TIME, SECS

8 / 5 / 7

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/09/25

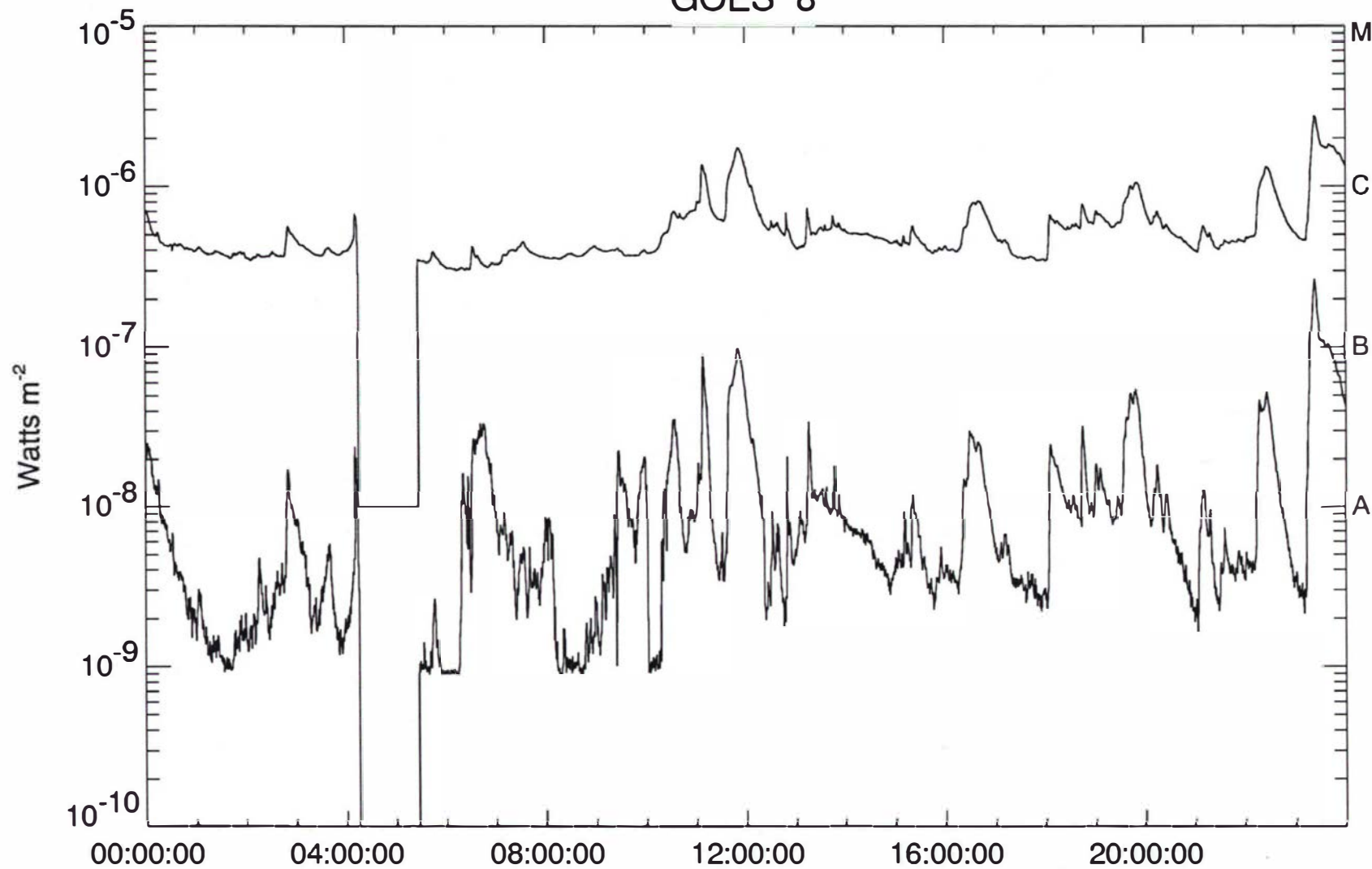


Current Time: 98/09/29, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 98/09/25, 0000:00

Plot created: 98/09/29, 1007

Channel

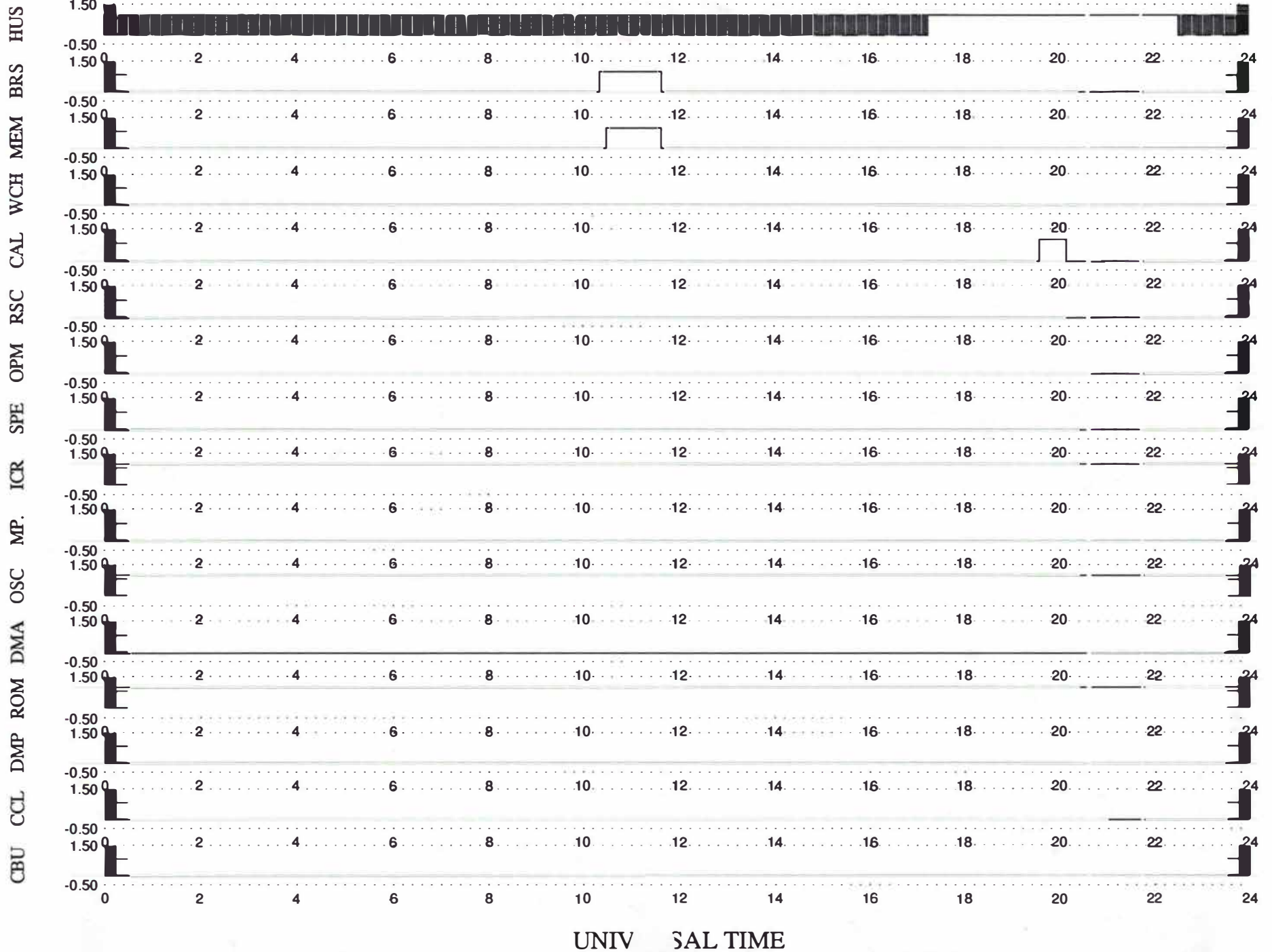
1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

Background not subtracted

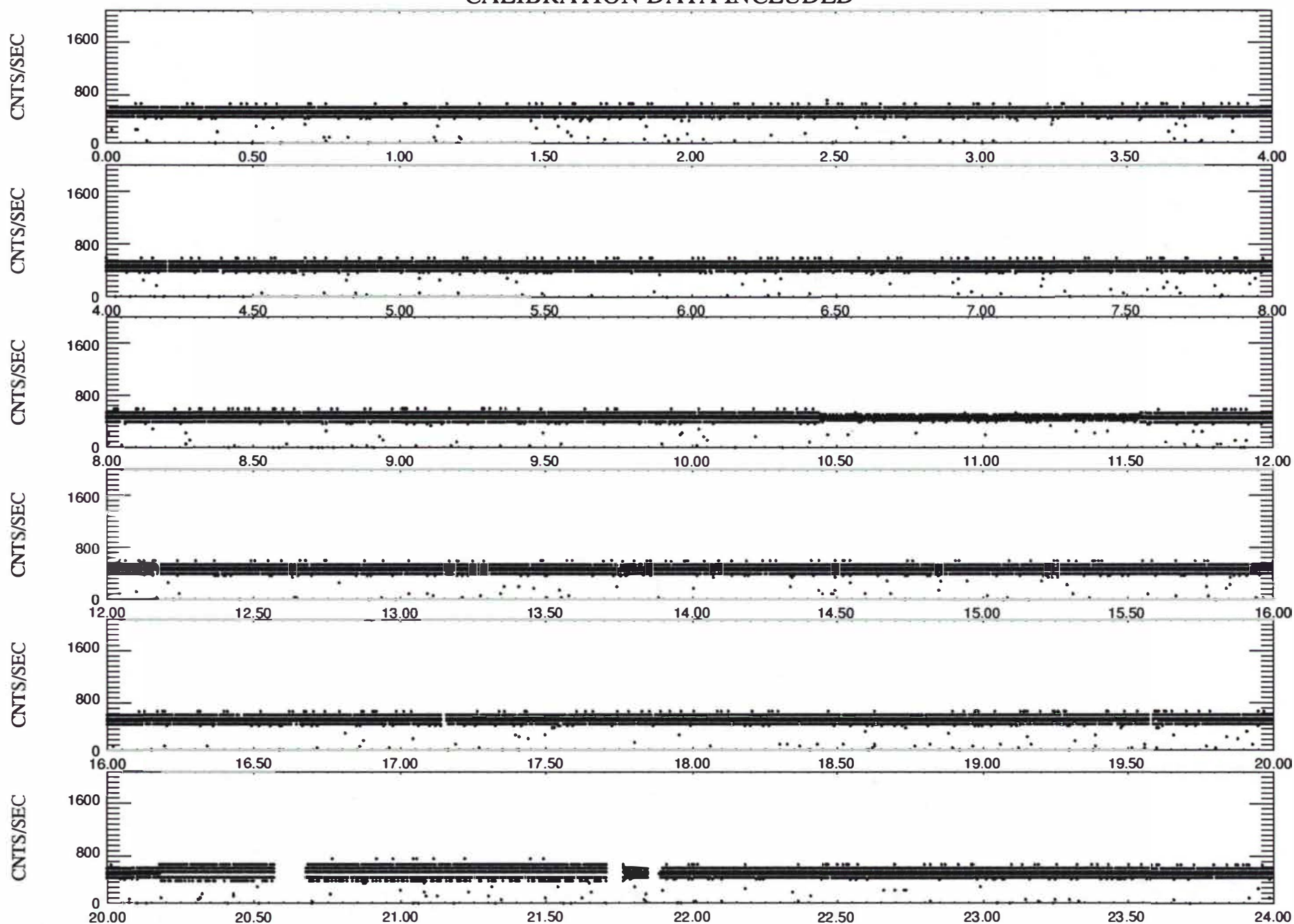
Background not subtracted

Sample average = 10

BURST NUMBER 6

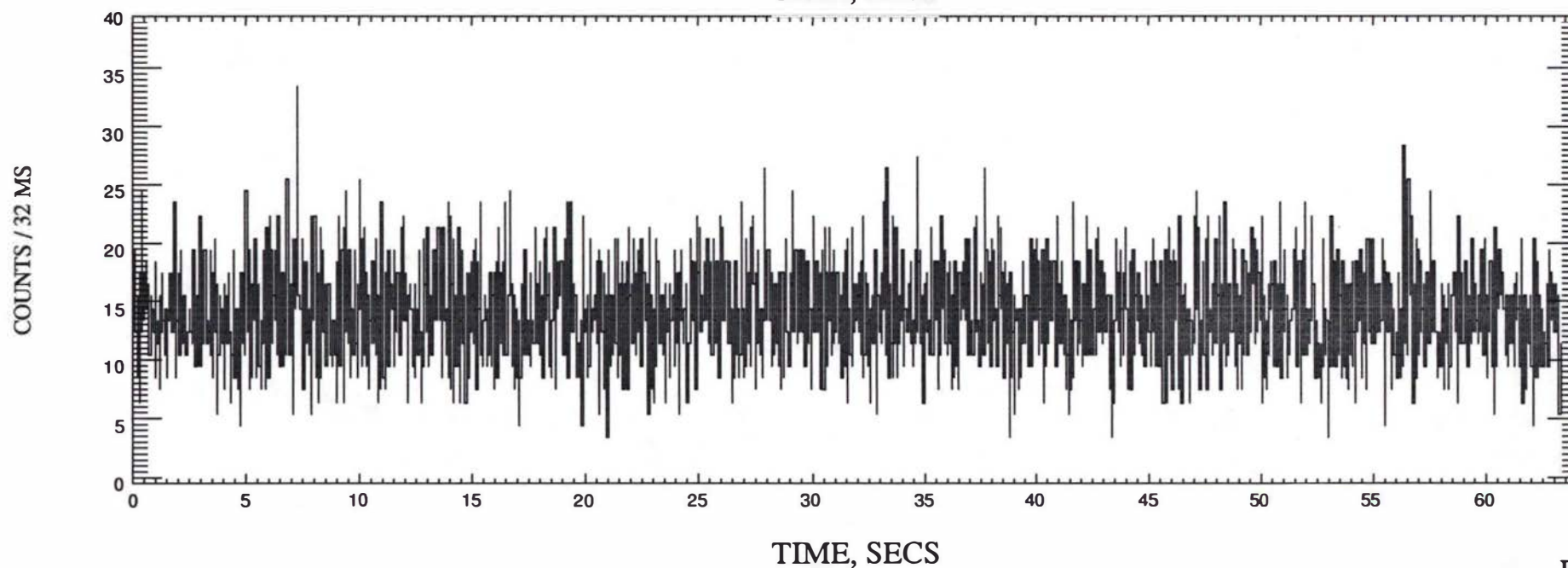
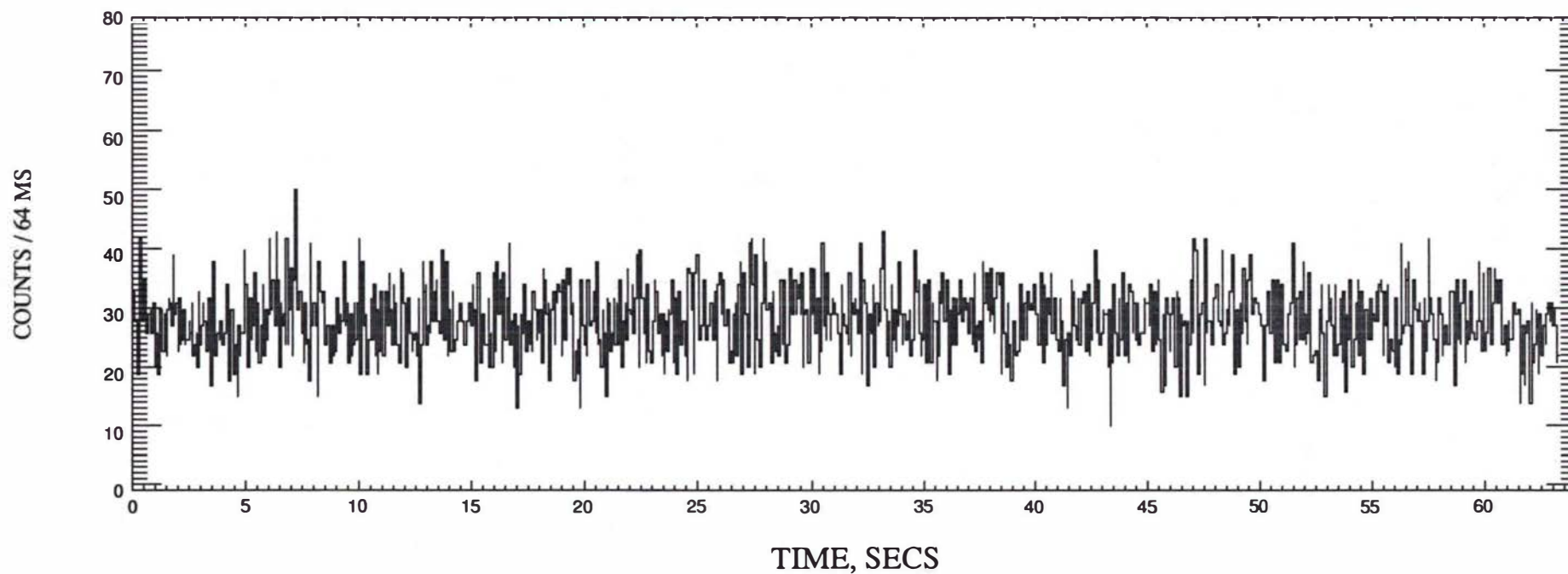


CALIBRATION DATA INCLUDED

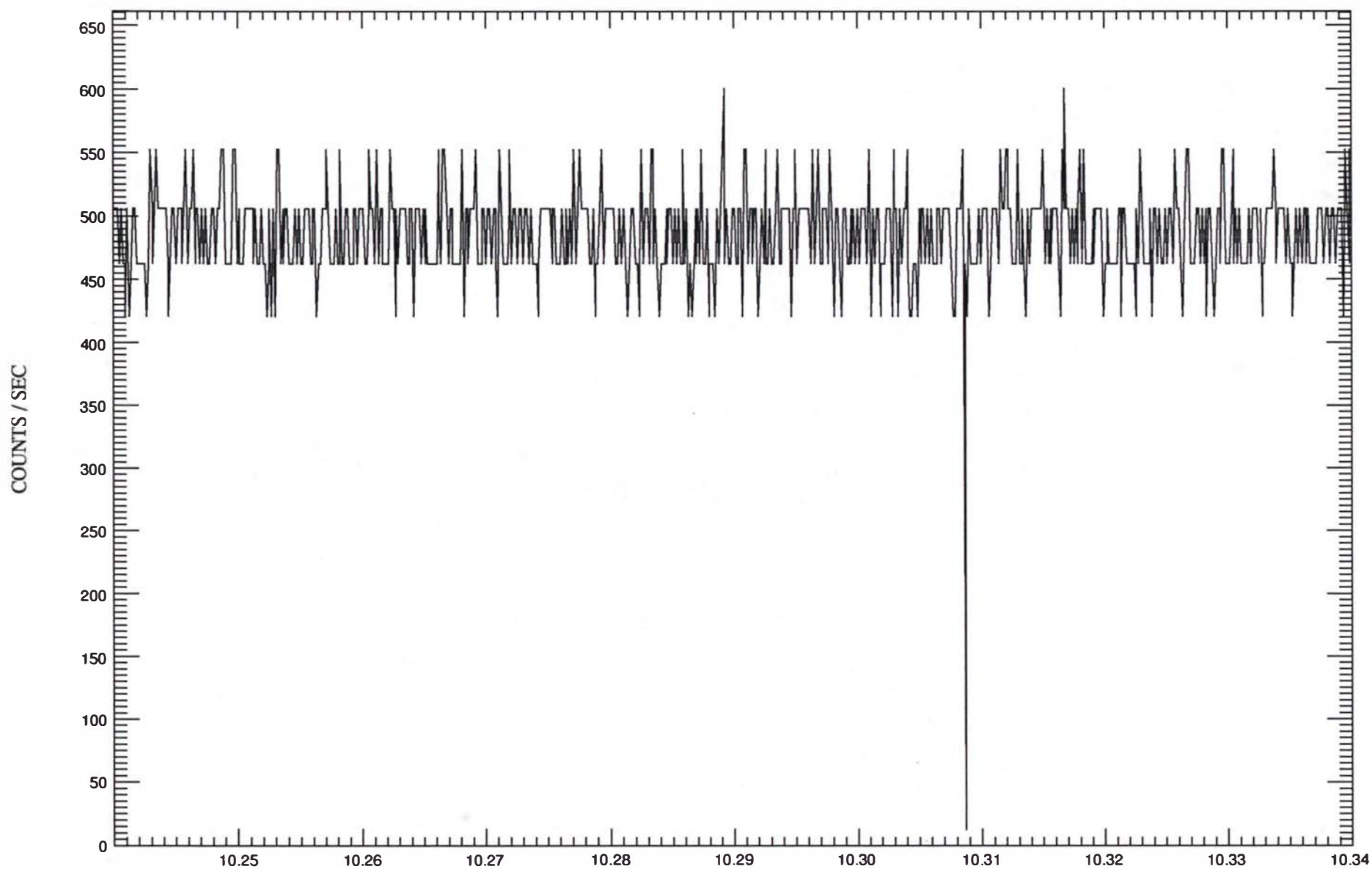


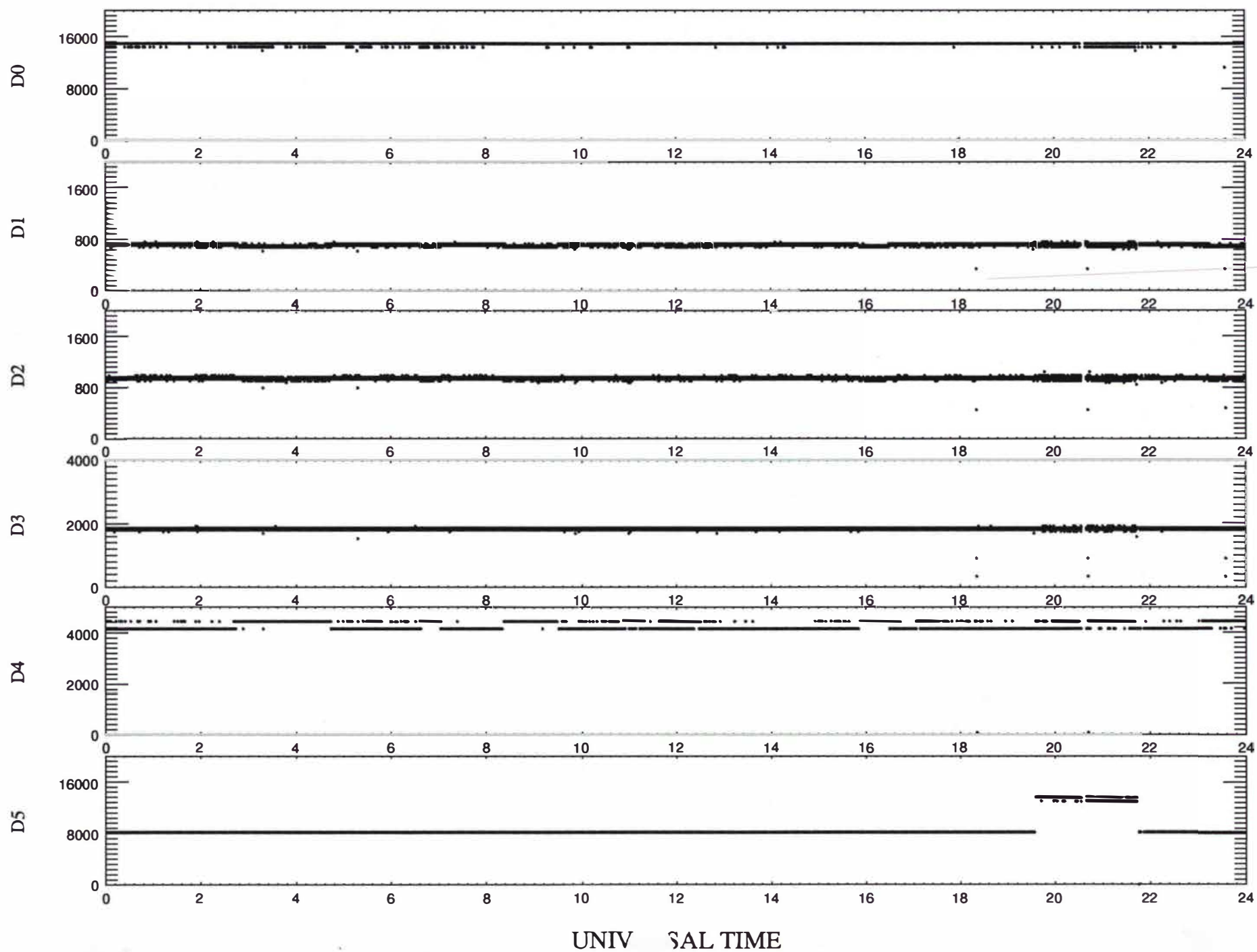
UNIV SAL TIME

Burst Counter 6 at UT=10.289426328871 h=37041.935 s 10:17:21.935



CALIBRATION DATA INCLUDED





From khurley@sunspot Wed Sep 30 18:54 PDT 1998
Date: Wed, 30 Sep 1998 18:58:11 -0700
From: khurley@sunspot (Kevin Hurley)
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, woods@eagles.msfc.nasa.gov,
kraken@rosserv.gsfc.nasa.gov
Subject: GRB980924, 980925, 980926, 980927

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed the following bursts, all suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1800 s earlier.

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
SEP 24 1998 01:58:30	weak, 32 ms long	3300
SEP 24 1998 13:54:35	weak, 32 ms long	3300
SEP 25 1998 10:17:22	weak, 32 ms long	3300
SEP 26 1998 10:55:57	weak, 32 ms long	3300
SEP 26 1998 14:50:47	weak, 32 ms long	3300
SEP 26 1998 19:50:28	weak, 32 ms long	3300
SEP 27 1998 13:02:25	weak, 32 ms long	3300
SEP 27 1998 17:58:51	moderate, 32 ms long	3300

Were these events detected by anyone else?

cc: ulyssesbursts alias list
(barthelmy, butterworth, cline, frontera, kouveliotou, kurczyski, marar, tee

Date: Dec 12 2012

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

- ☒ Jim Schmidling's stat file correction applied?
- ☒ Final ephemeris used?
- ☐ Final, CDROM data used?
- ☐ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution?

2. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

2. For Odyssey events

- ☐ Was CHECKMO run to eliminate data gaps?
- ☐ Did the Odyssey ephemeris correspond to the event time? (When there is data in the database, the ephemeris is for the start of record, usually ~1320 s prior to the request time; when there is no data in the database, the ephemeris is for the request time in the e-mail, so the request time in mosearch should be equal to the GRB time. Note that the time in the return e-mail will be ~1320 s prior to the time requested, in the line "no HEND data...")
- ☐ Was Mars-blocking used?
- ☐ For cruise phase data (April – October 2001), was the updated data used? (Old data has timing errors)
- ☐ GRS database searched for triggered data? Database data between August 2005 and January 2006 should be re-extracted, due to timing errors. (E-mailed data should be OK).
- ☐ GRS and HEND data cross-correlated to check timing?

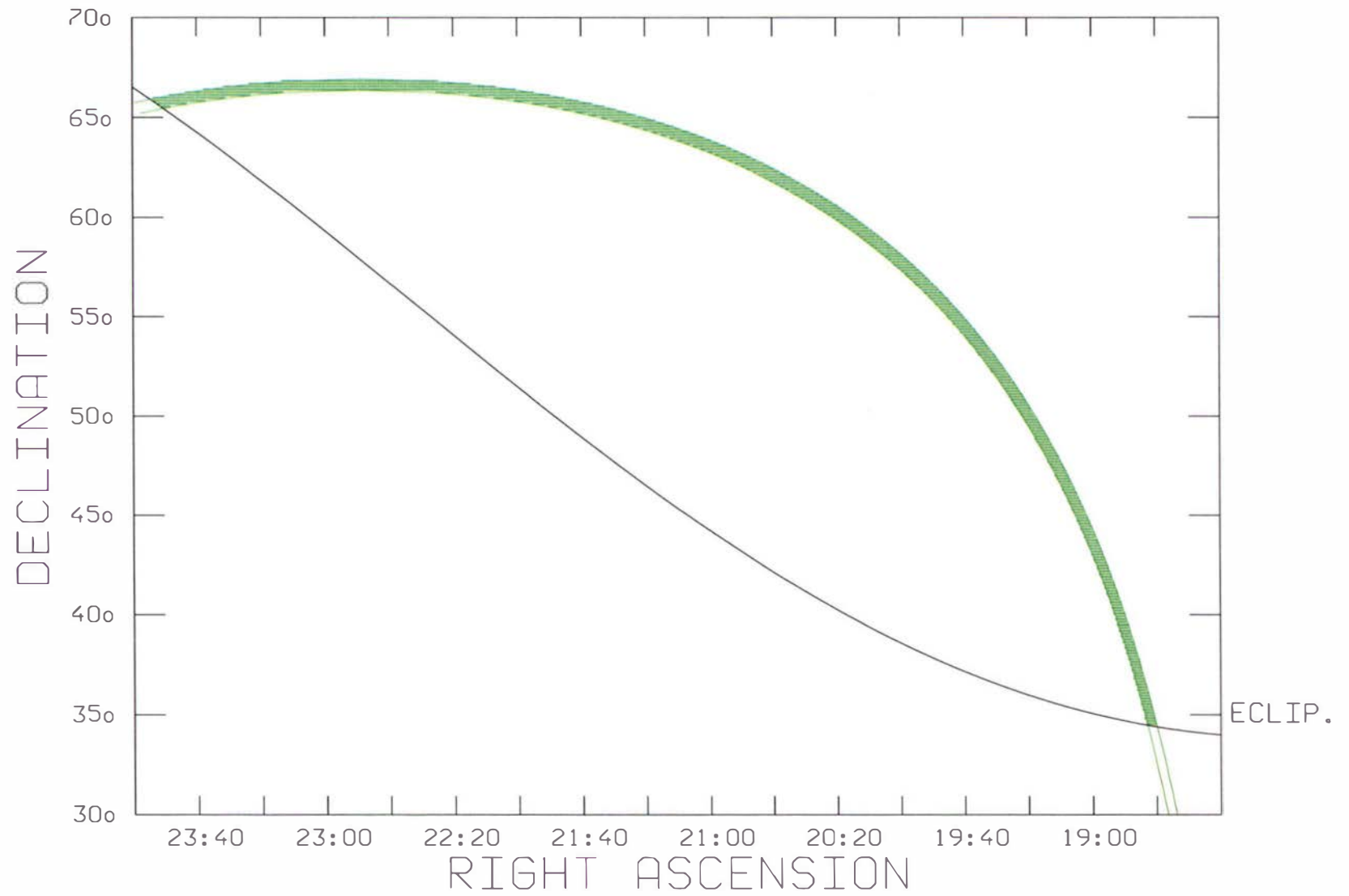
2. For 3 or More Spacecraft events

- ☐ $\Sigma 3\Delta t$'s calculated, and/or BMAPSUM executed?

3. For INTEGRAL events

- ☐ INTEGRAL SPI-ACS website checked for bursts that weren't transmitted automatically?
- ☐ 125 ms added to INTEGRAL SPI-ACS time for bursts prior to April 2 2004 11:00 UT?
- ☐ Updated ephemeris used for bursts prior to September 30, 2003?

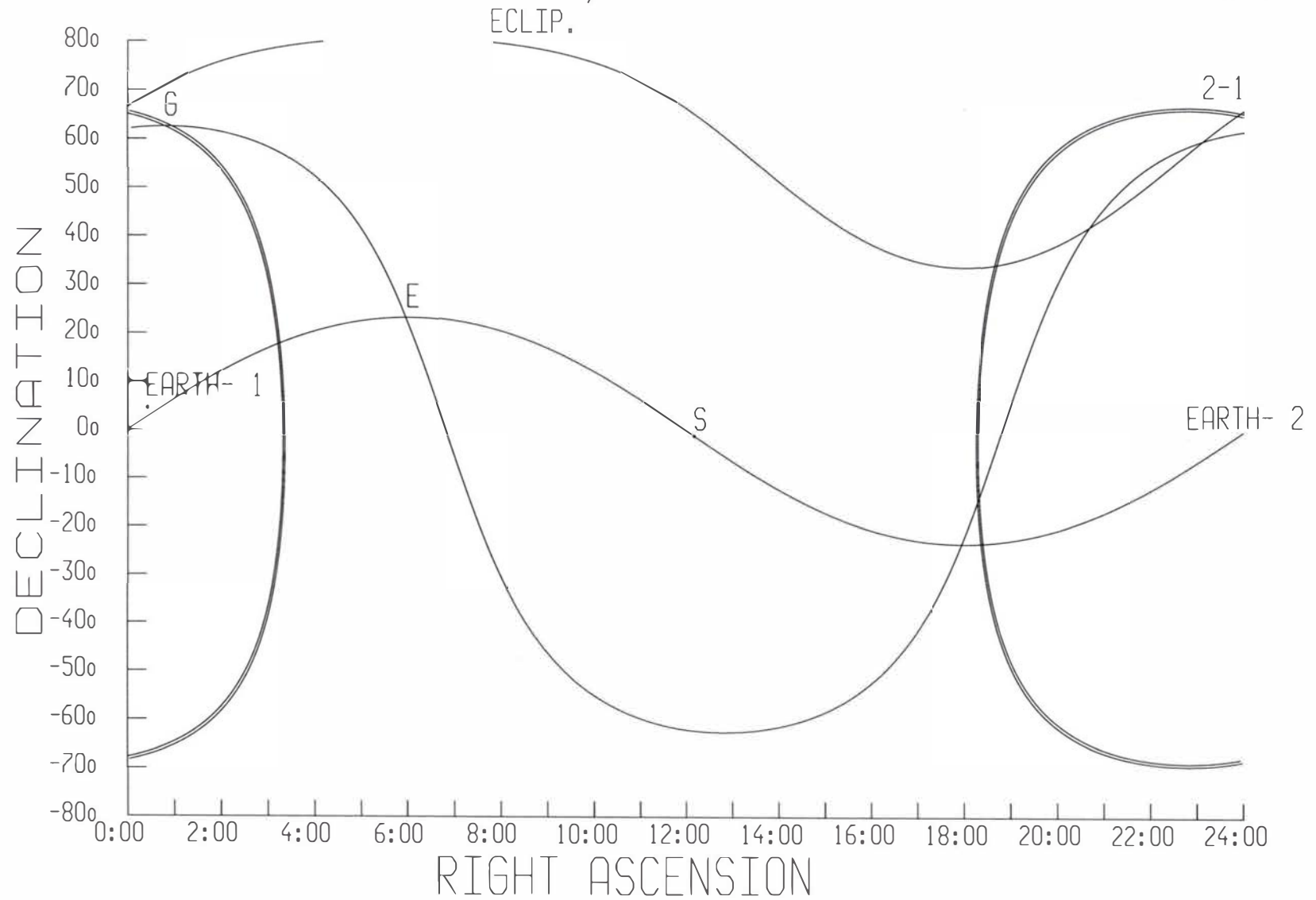
-
- ☒ ACCESS and MBL4 databases updated with identical times?



EVENT OF SEP 26, 1998 3:23

12/12/2012

N-M = CORRELATION BETWEEN SATELLITES N AND M
EARTH-N = EARTH AS SEEN FROM SATELLITE N
S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
1 KONUS 2 ULYSSES



KONUS RI 19980926 13544

ULYSSES RT

12 / 12 / 12

26/09/98 13428.099 s

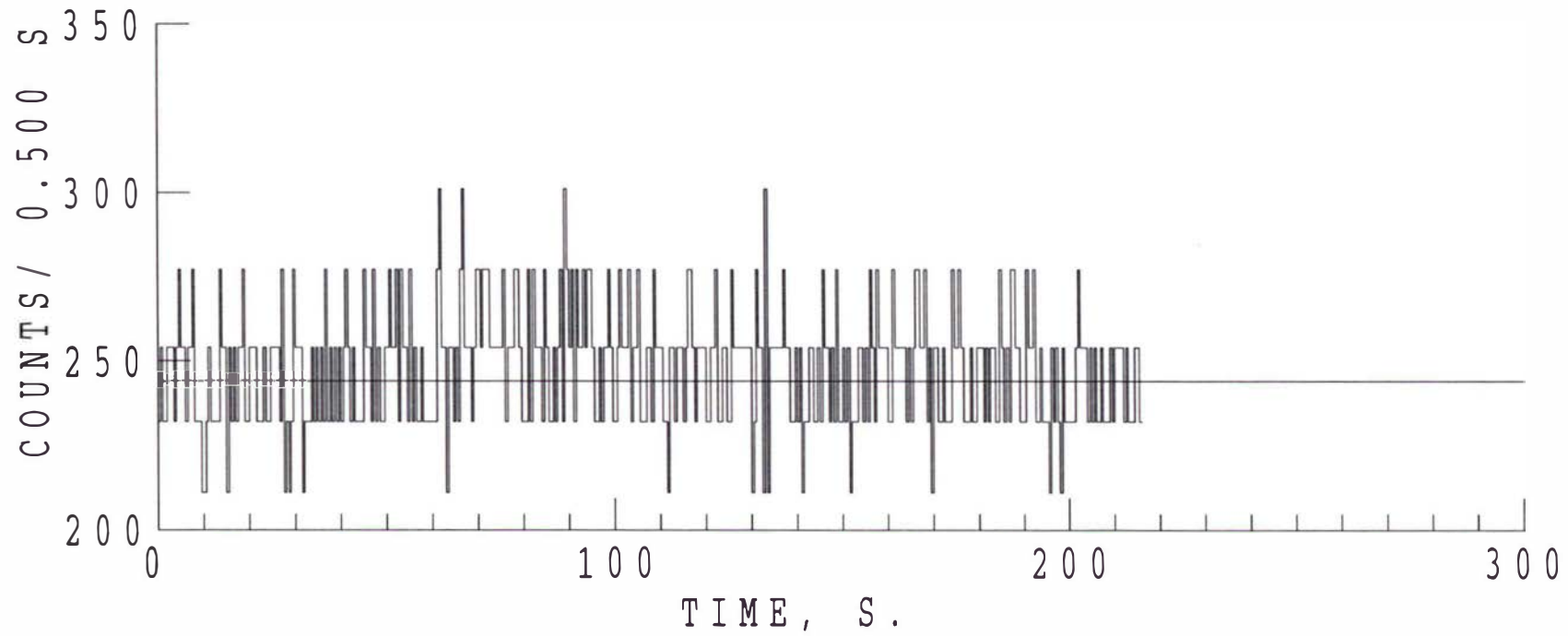
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



KONUS

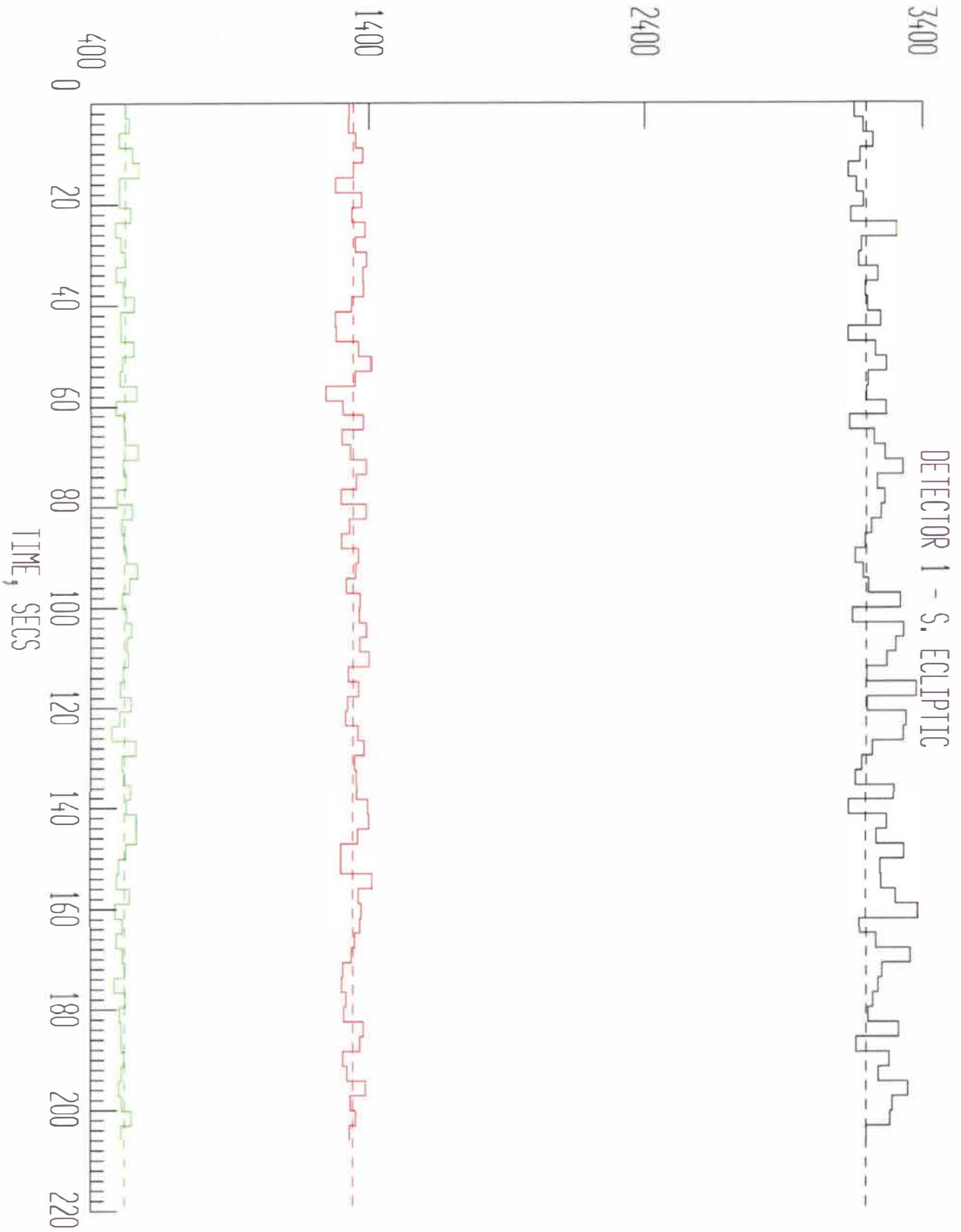
26/09/98 12208.740

10- 50 keV

50- 200 keV

200- 750 keV

COUNTS/2.944 S



KONUS

26/09/98

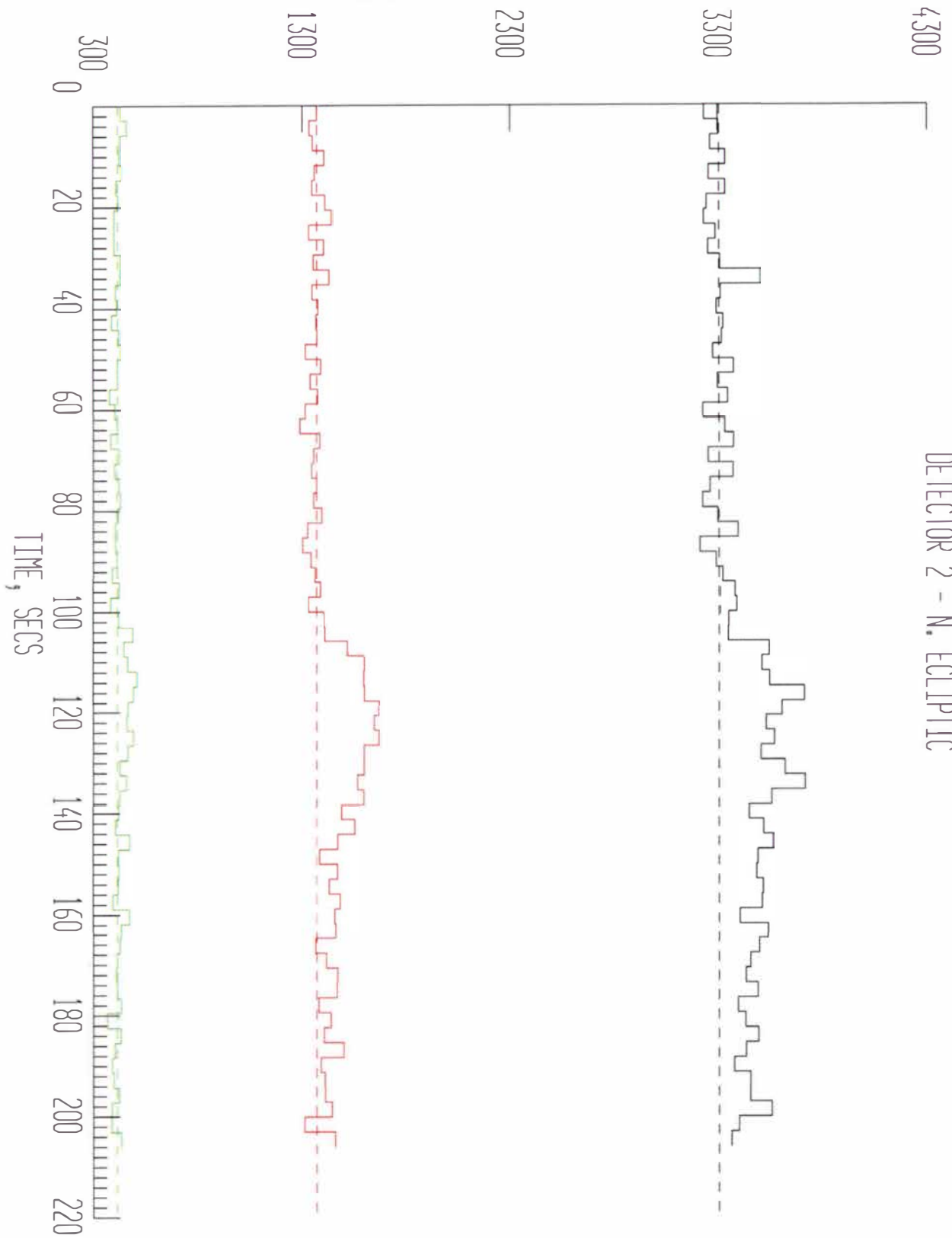
12208.740

10- 50 keV

50- 200 keV

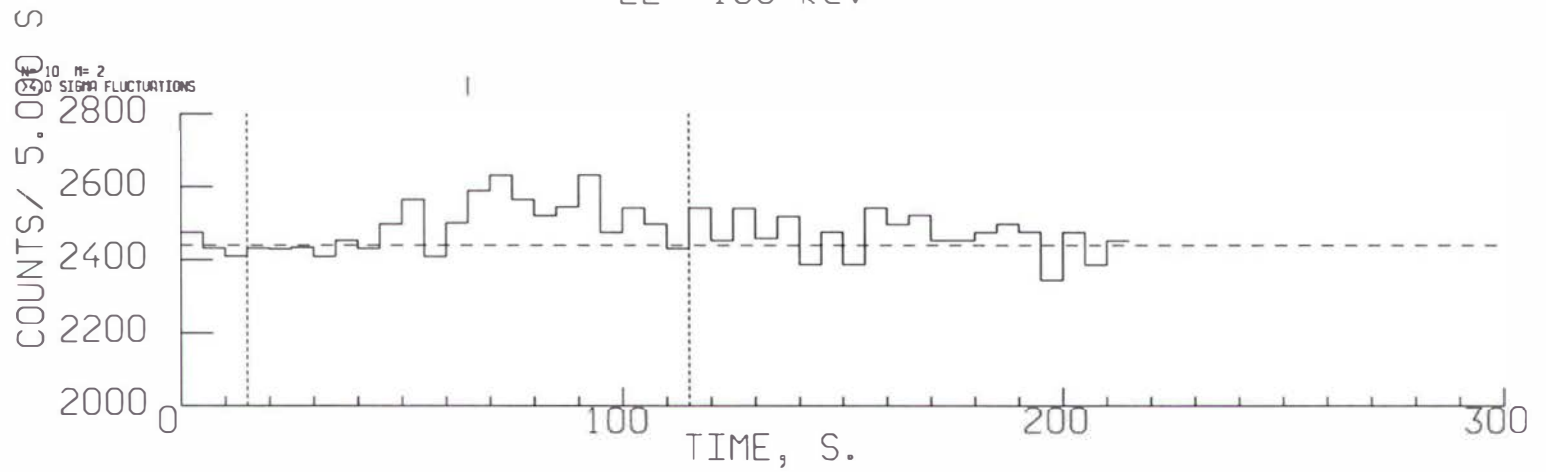
200- 750 keV

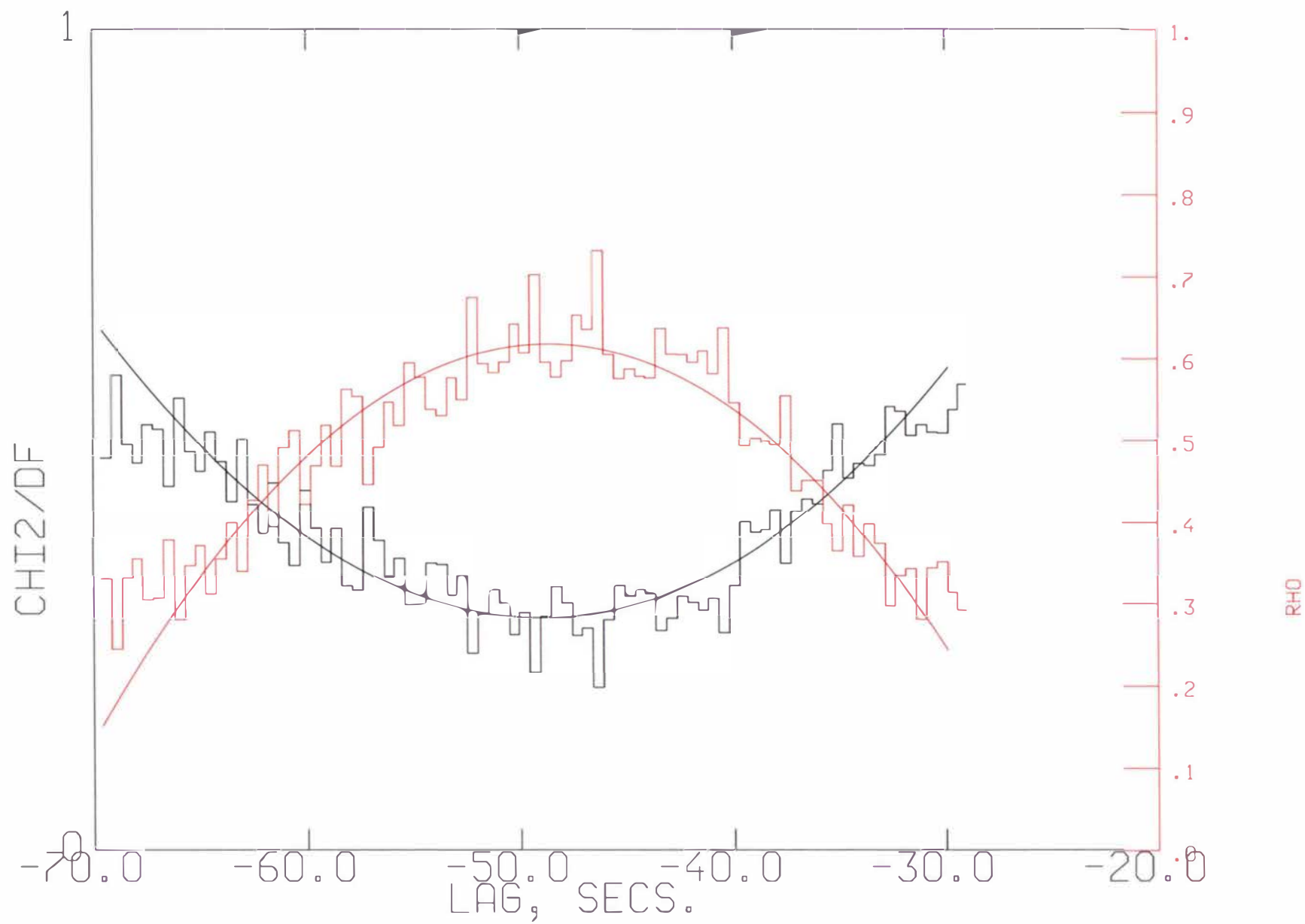
COUNTS/2.944 S



ULYSSES RT
26/ 9/98 13428.099 s
0.500 S INTERVALS REGROUPED BY 10
22- 150 keV

12/12/12





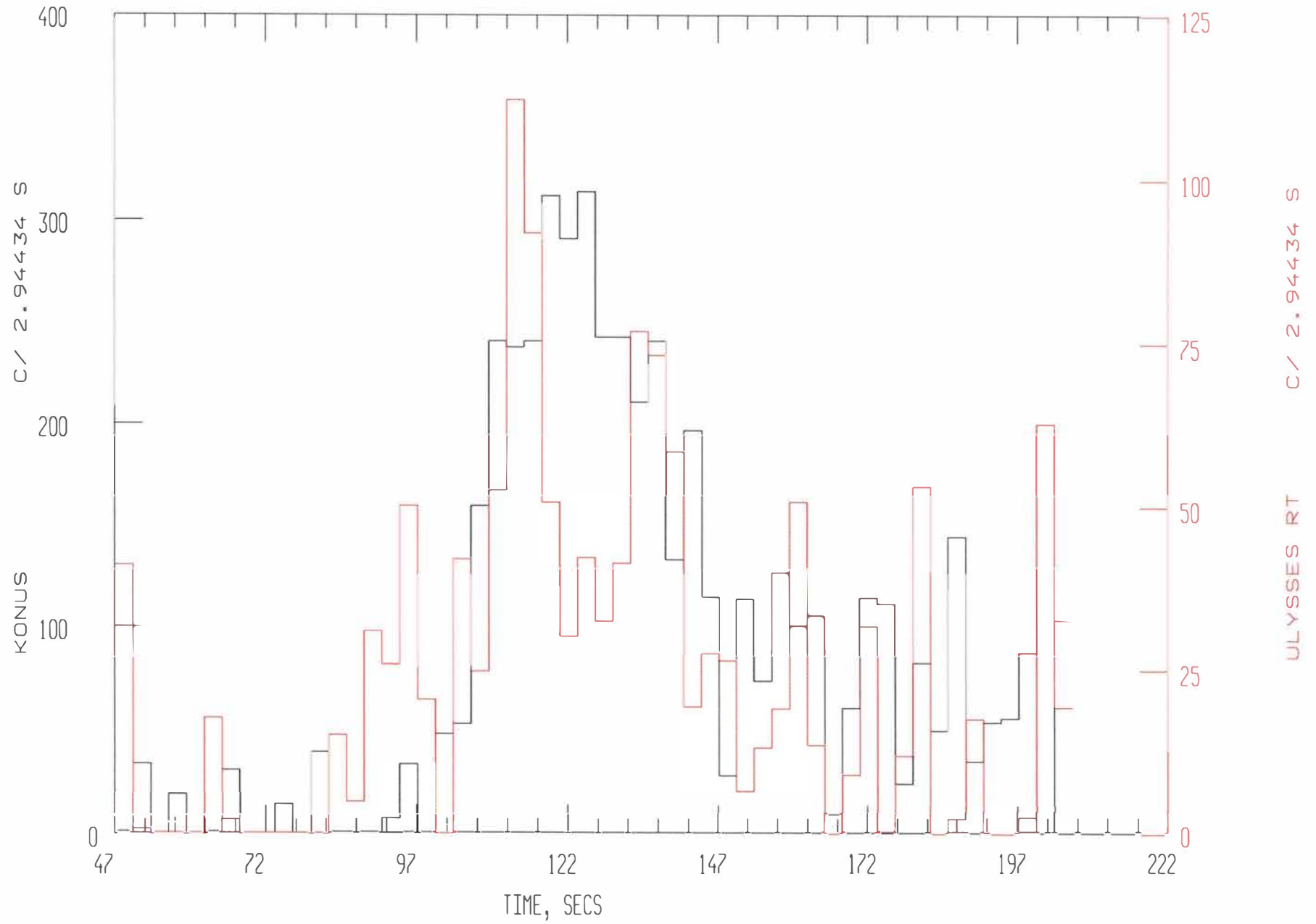
KONUS

-ULYSSES RT CORRELATION

26/09/98

12208.740

12/12/12



KONUS

ULYSSES RT

10/02/00

26/09/98 9144.051 s

0.500 S INTERVALS REGROUPED BY 9

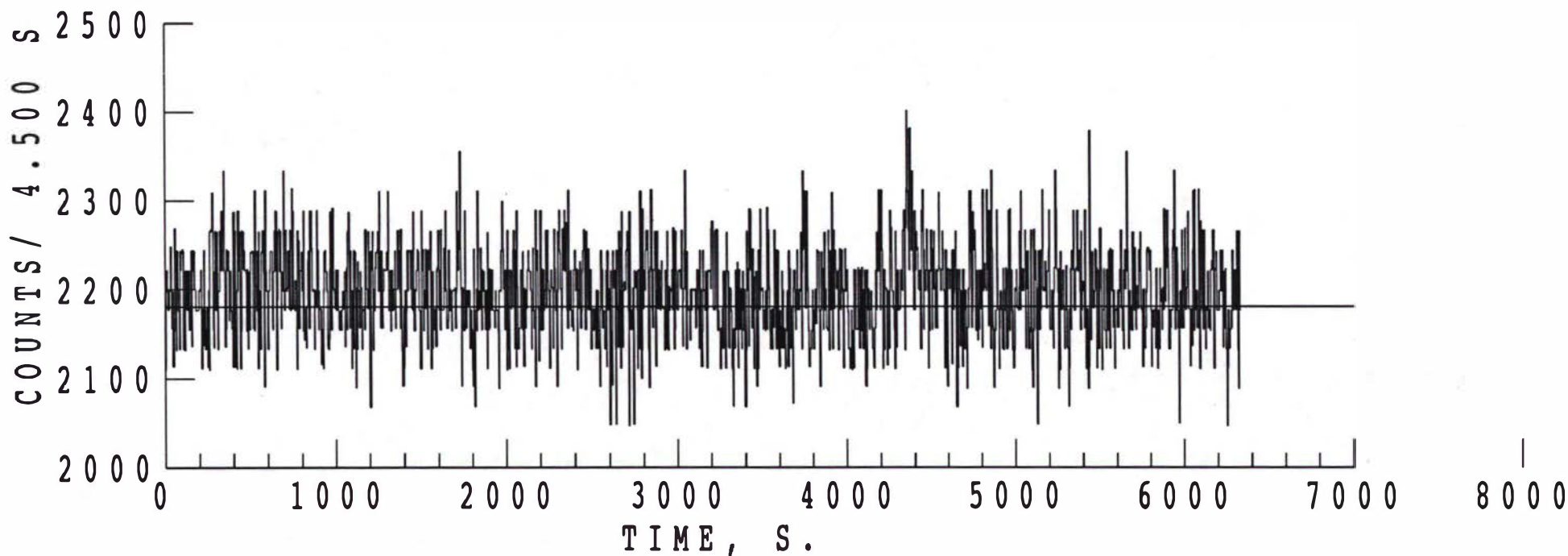
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Tue Sep 29 11:44:00 1998
Date: Tue, 29 Sep 1998 13:29:18 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>

To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7123

26th

TIME: TJD=1082 SECONDS=24471

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

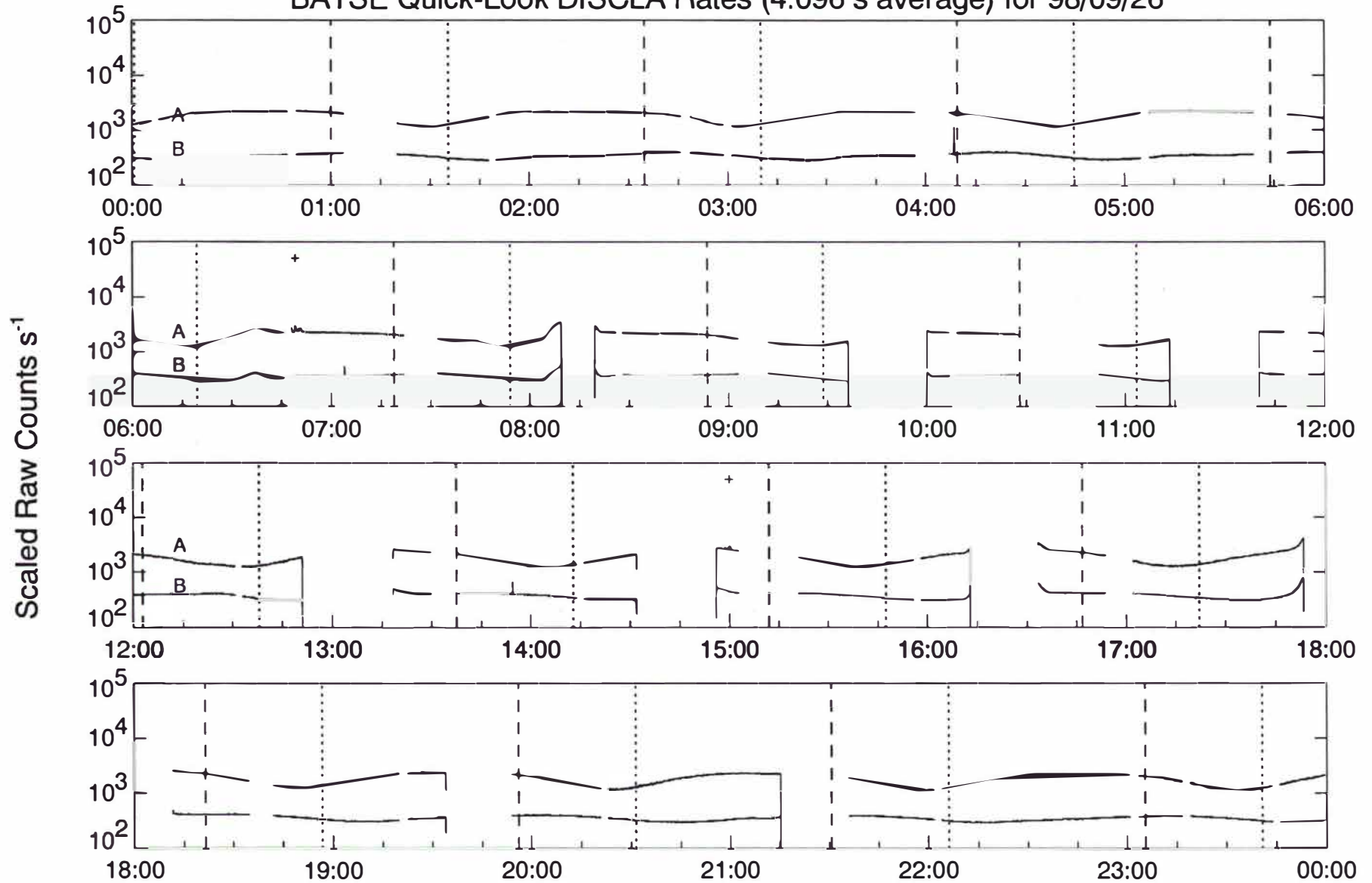
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 67.8 AZIMUTH=344.1 ERROR= 1.2 DEGREES

COMMENTS:

GOES C1.6, OPTICAL SF SOLAR FLARE. MULTYPEAKED, TOTAL DUR. APPROX. 220 S.
NOT VISIBLE ABOVE 100 KEV.

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/09/26

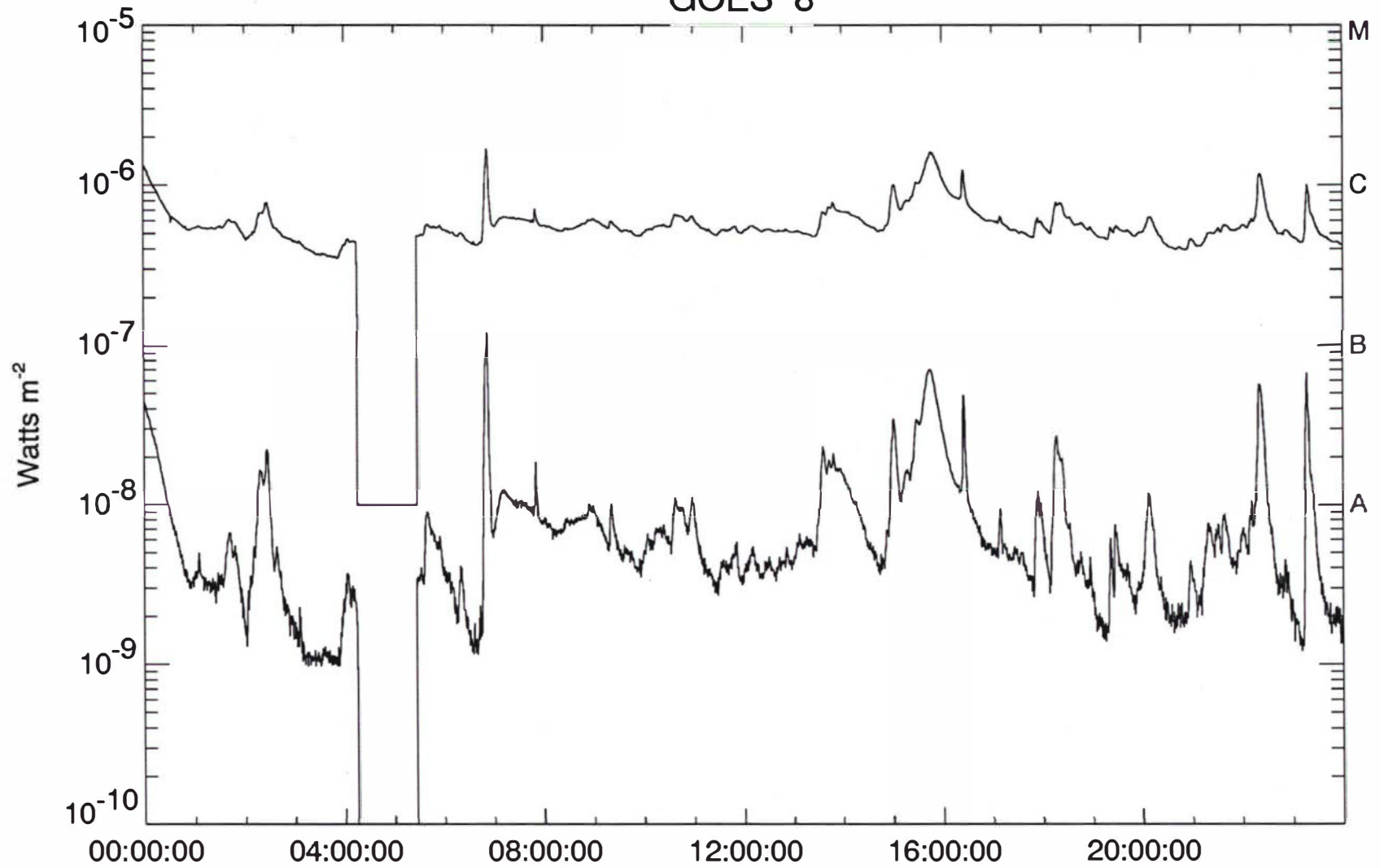


Current Time: 98/09/30, 1013 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 98/09/26, 0000:00

Plot created: 98/09/30, 1012

Channel

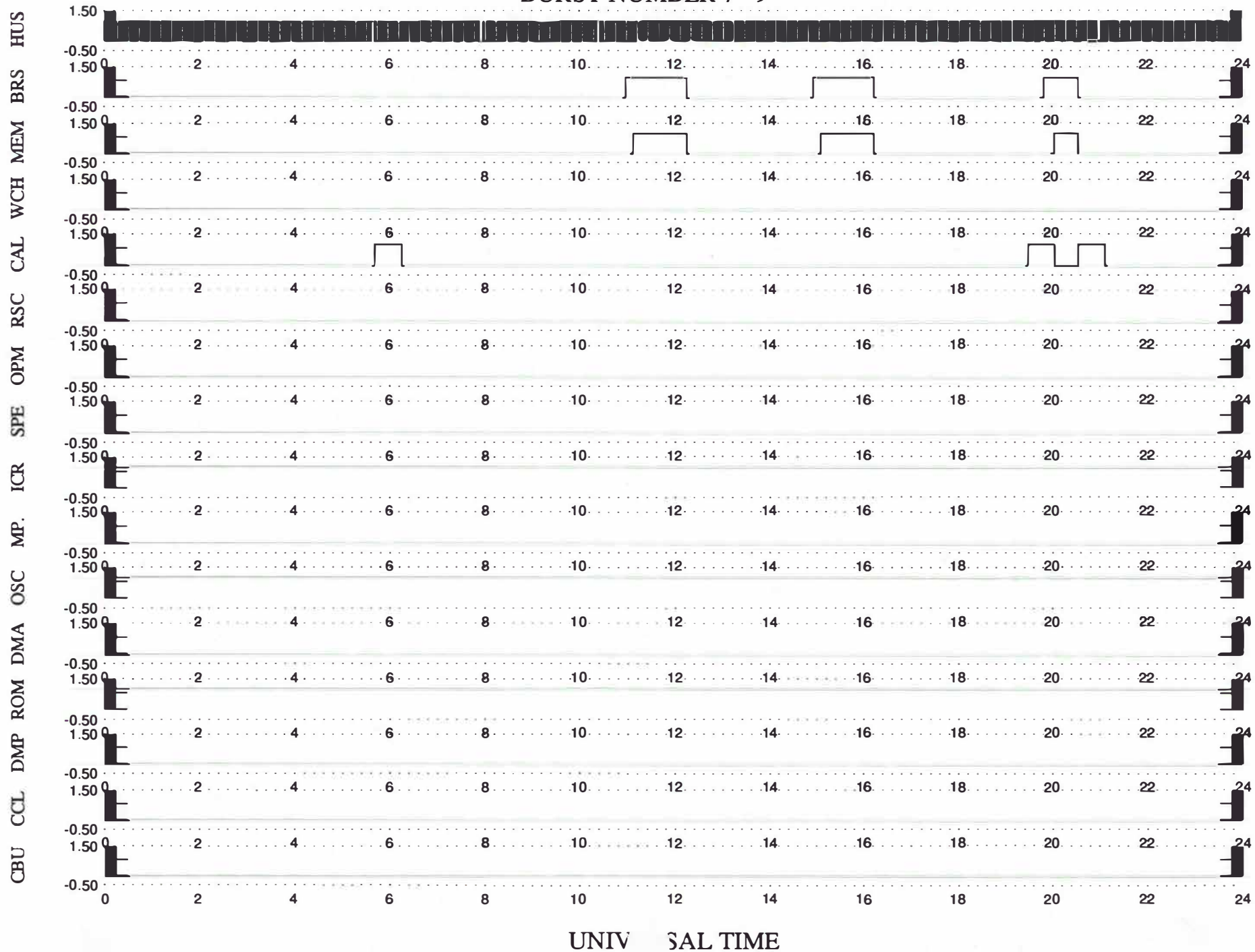
1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

Background not subtracted

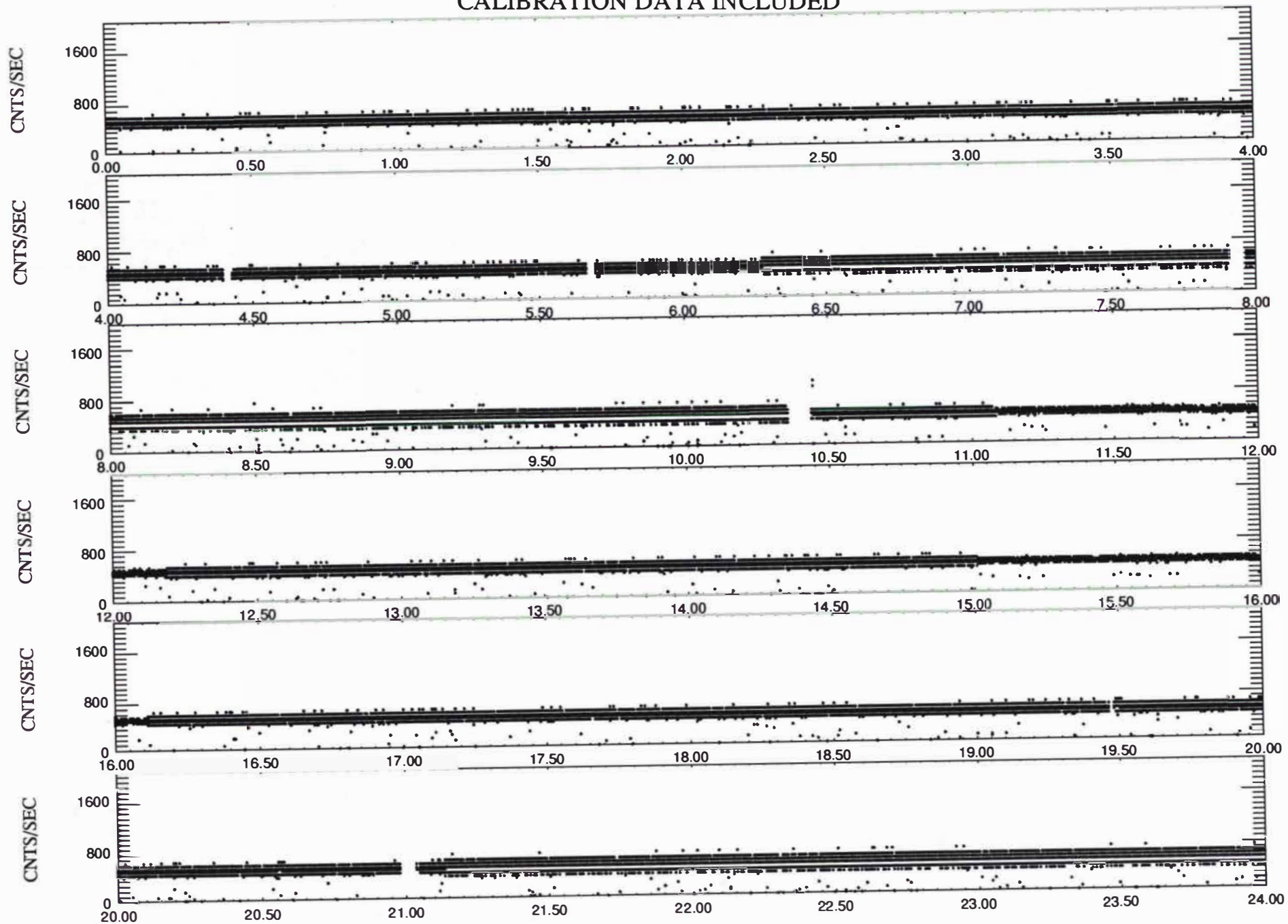
Background not subtracted

Sample average = 10

BURST NUMBER 7 - 9

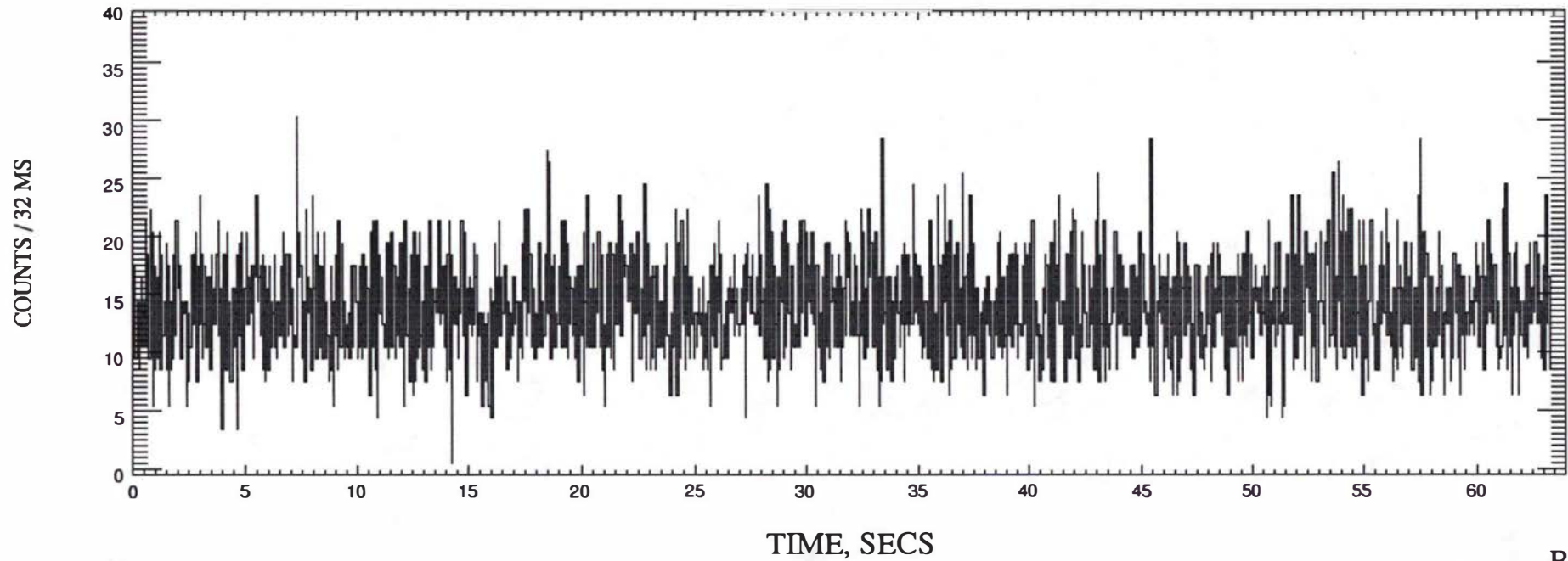
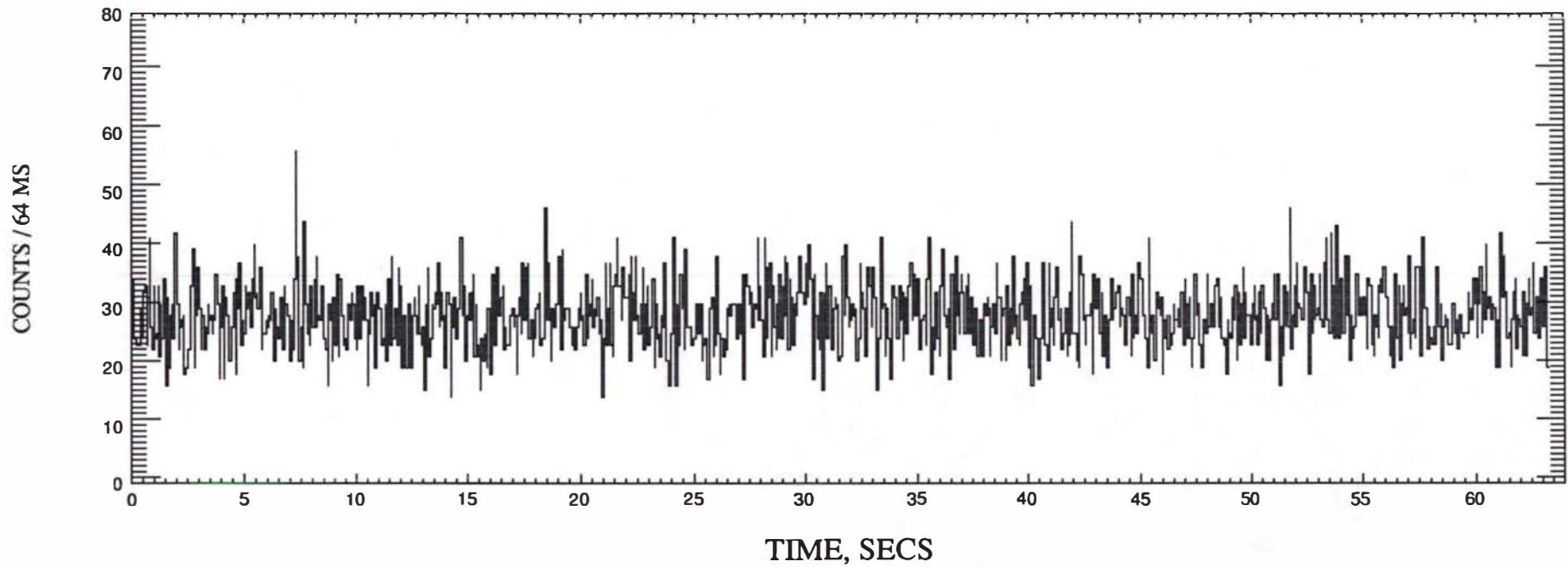


CALIBRATION DATA INCLUDED

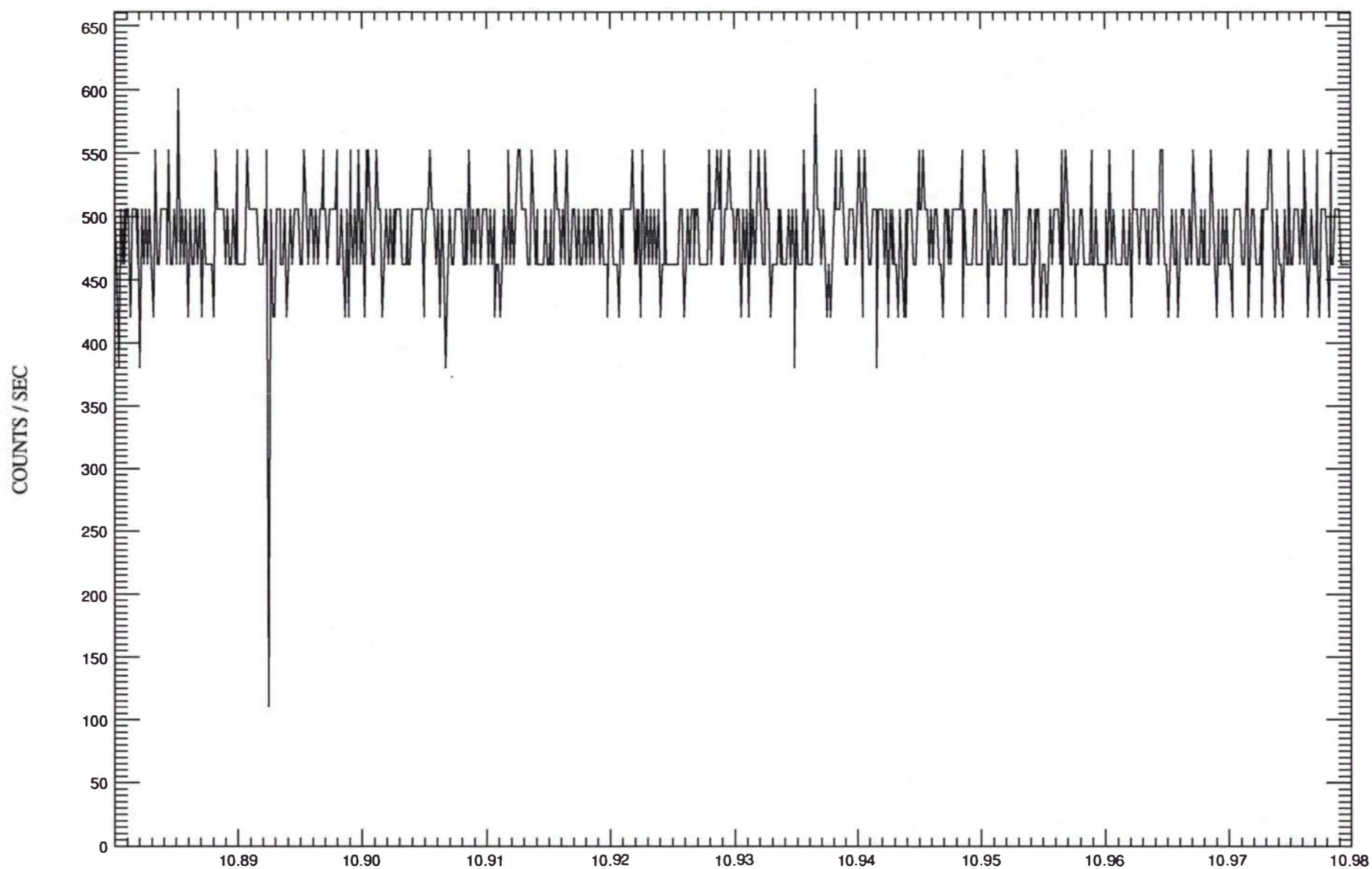


UNIV SAL TIME

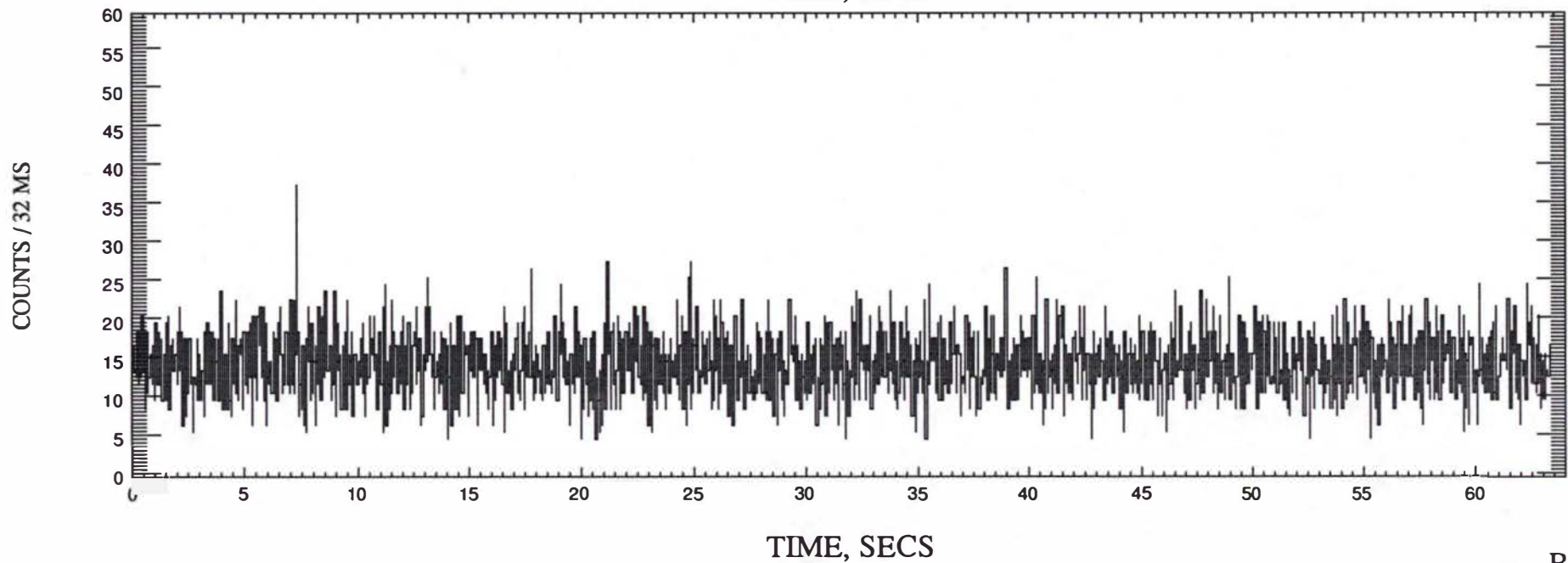
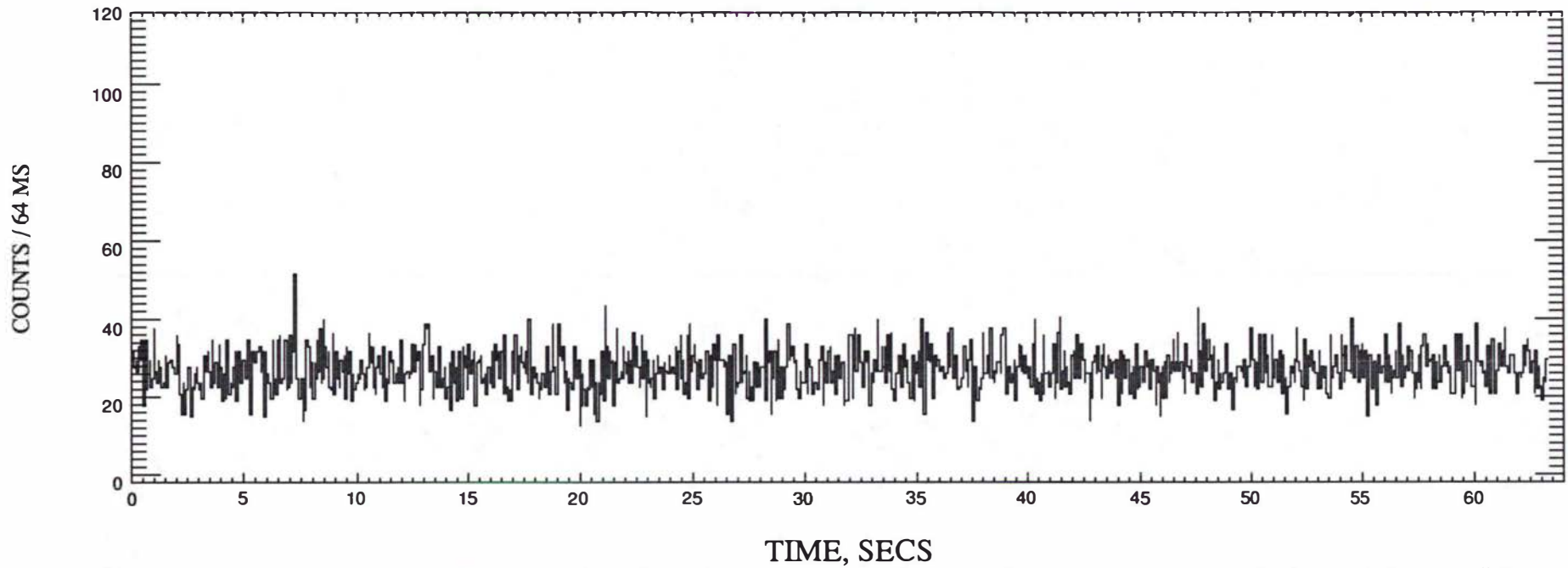
Burst Counter 7 at UT=10.932667880588 h=39357.604 s 10:55:57.604



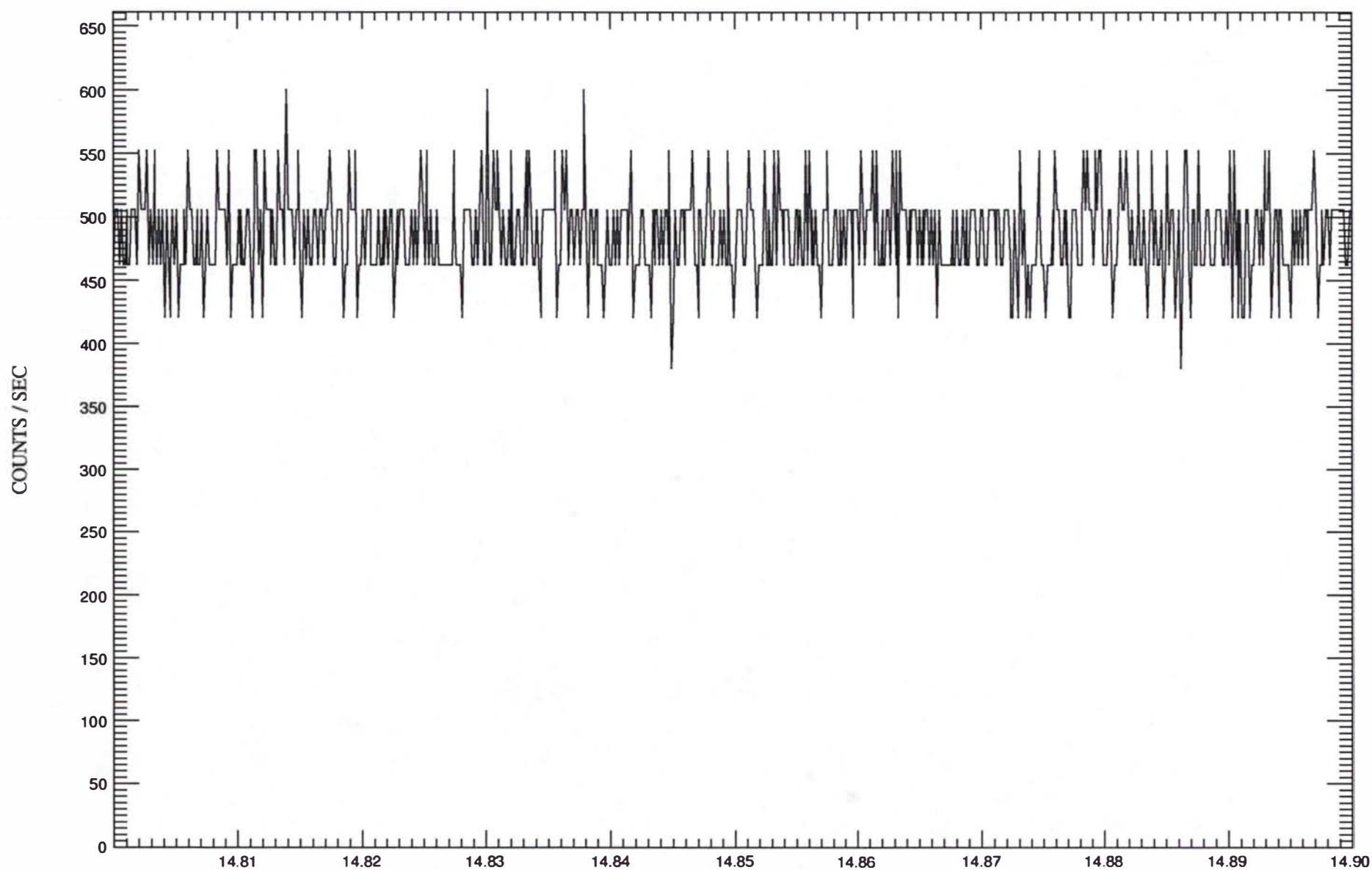
CALIBRATION DATA INCLUDED



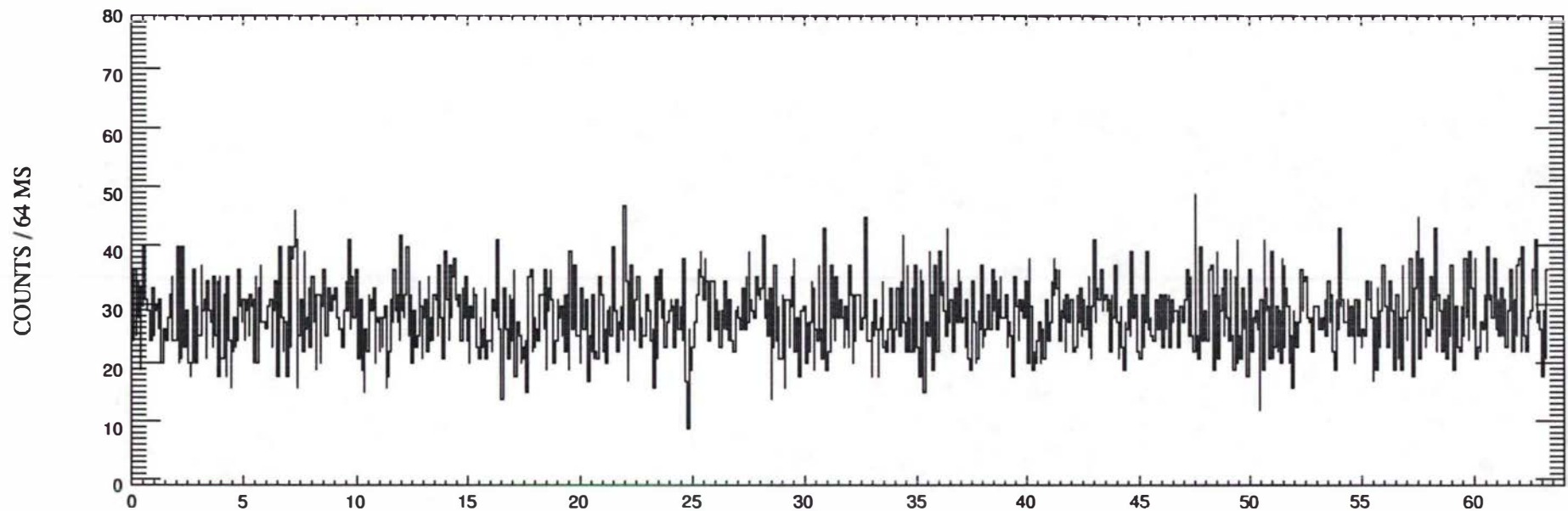
Burst Counter 8 at UT=14.846422453986 h=53447.121 s 14:50:47.121



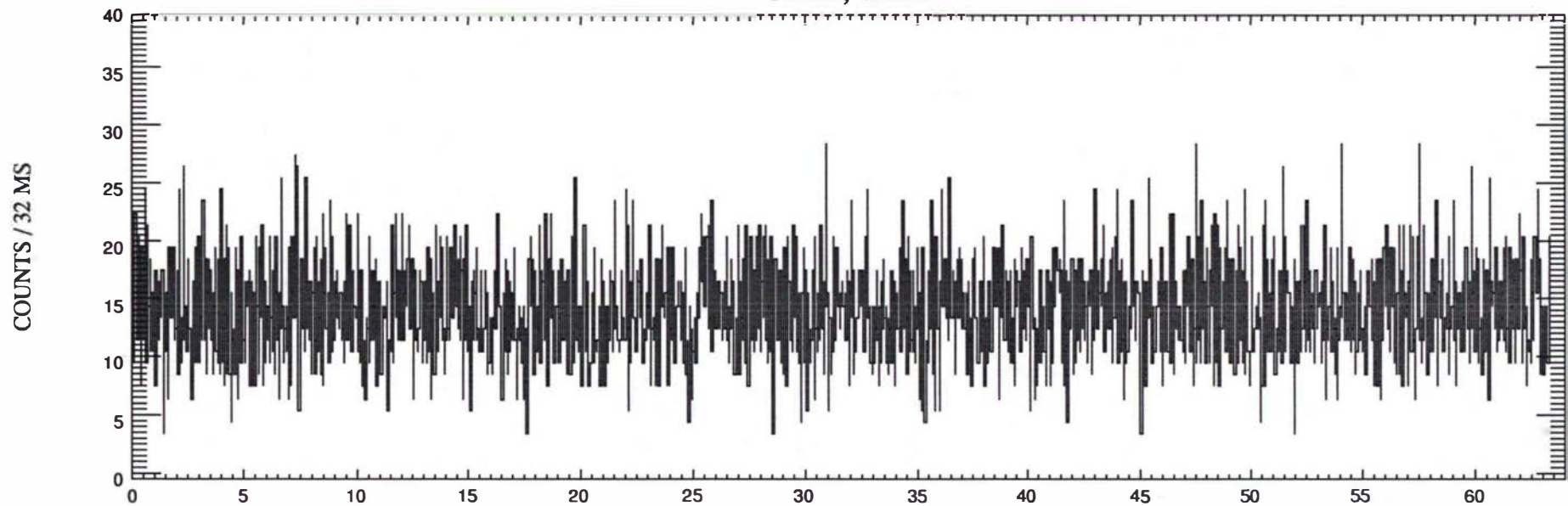
CALIBRATION DATA INCLUDED



Burst Counter 9 at UT=19.841268857320 h=71428.568 s 19:50:28.568

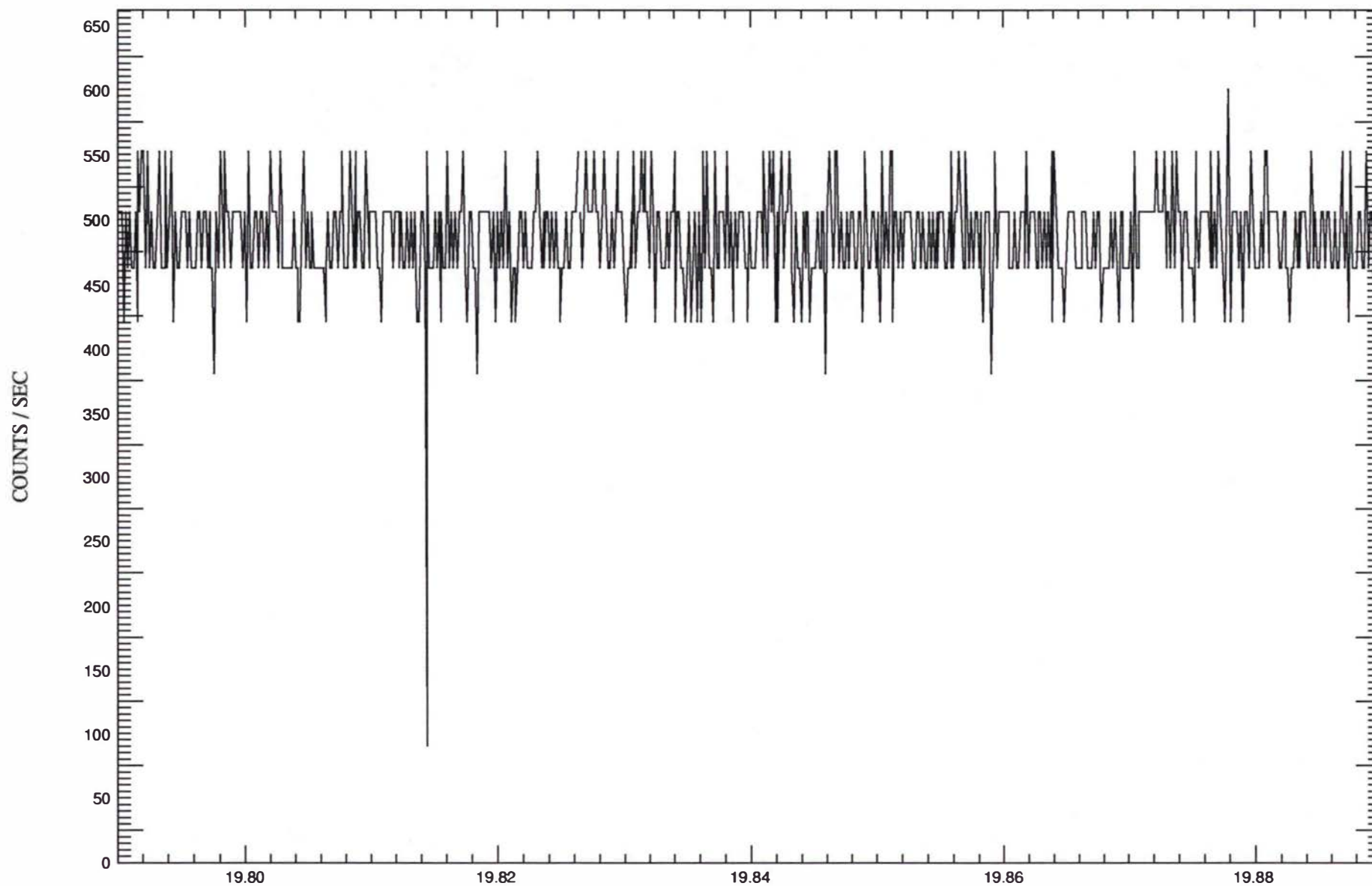


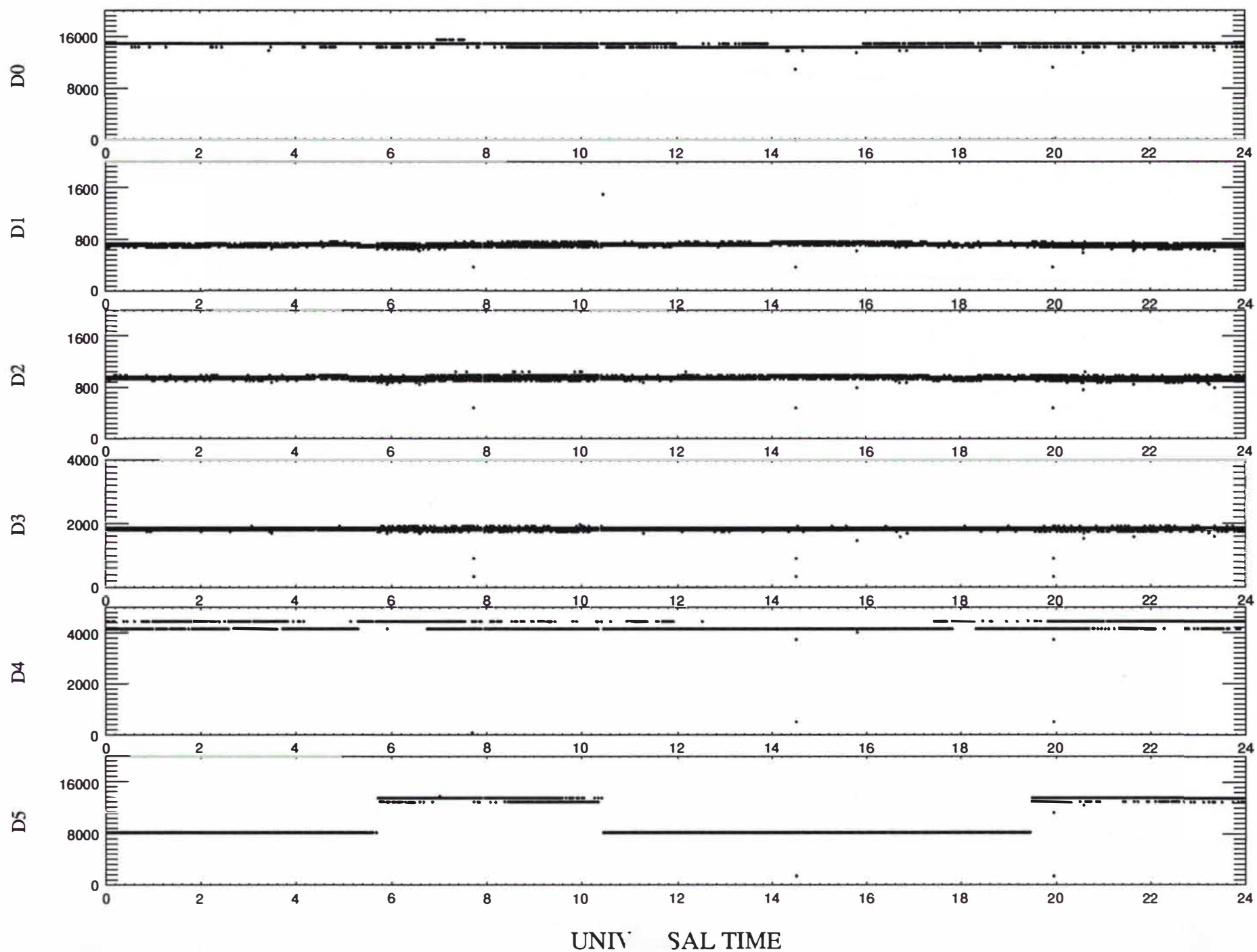
TIME, SECS



TIME, SECS

CALIBRATION DATA INCLUDED





From khurley@sunspot Wed Sep 30 18:54 PDT 1998
Date: Wed, 30 Sep 1998 18:58:11 -0700
From: khurley@sunspot (Kevin Hurley)
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, woods@eagles.msfc.nasa.gov,
kraken@rosserv.gsfc.nasa.gov
Subject: GRB980924, 980925, 980926, 980927

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed the following bursts, all suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1800 s earlier.

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
SEP 24 1998 01:58:30	weak, 32 ms long	3300
SEP 24 1998 13:54:35	weak, 32 ms long	3300
SEP 25 1998 10:17:22	weak, 32 ms long	3300
SEP 26 1998 10:55:57	weak, 32 ms long	3300
SEP 26 1998 14:50:47	weak, 32 ms long	3300
SEP 26 1998 19:50:28	weak, 32 ms long	3300
SEP 27 1998 13:02:25	weak, 32 ms long	3300
SEP 27 1998 17:58:51	moderate, 32 ms long	3300

Were these events detected by anyone else?

CC: ulyssesbursts alias list
(barthelmy, butterworth, cline, frontera, kouveliotou, kurczyski, marar, tee

JANA TAB.1 19980927 07794

ULYSSES RT

05/08/05

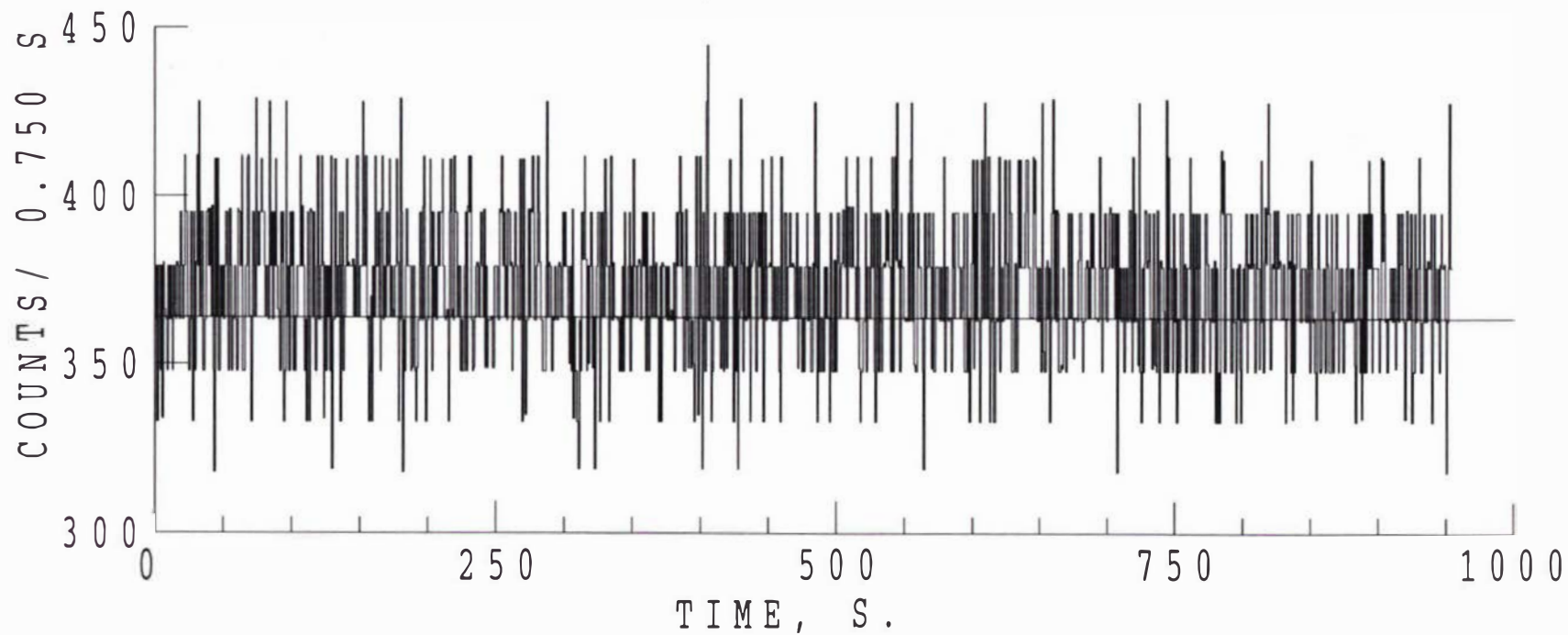
27/09/98 7361.185 s

0.250 S INTERVALS REGROUPED BY 3

0 - 0 keV

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



From SAHI@fender.msfc.nasa.gov Wed Sep 30 07:43:04 1998

From: SAHI@fender.msfc.nasa.gov

Date: Wed, 30 Sep 1998 9:42:36 -0500 (CDT)

To: burst@compTEL.sr.unh.edu, grobad@estsA2.estec.esa.nl,
cline@lhevX.gsfc.nasa.gov, barthelmy@lhevX.gsfc.nasa.gov,
bacodine@lheaWWW.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhevX.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7124

TIME: TJD=1083 SECONDS=7674 02:07:54

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=73.8 AZIMUTH=239.6 ERROR=1.4 DEGREES

COMMENTS:

SGR.1900+14. STRONG SINGLE SPIKE, DUR. APPROX. 0.3 S. VISIBLE ABOVE 100 KEV.

Trigger

27th

BATSE BURST# 7124

ULYSSES RT

30 / 9 / 98

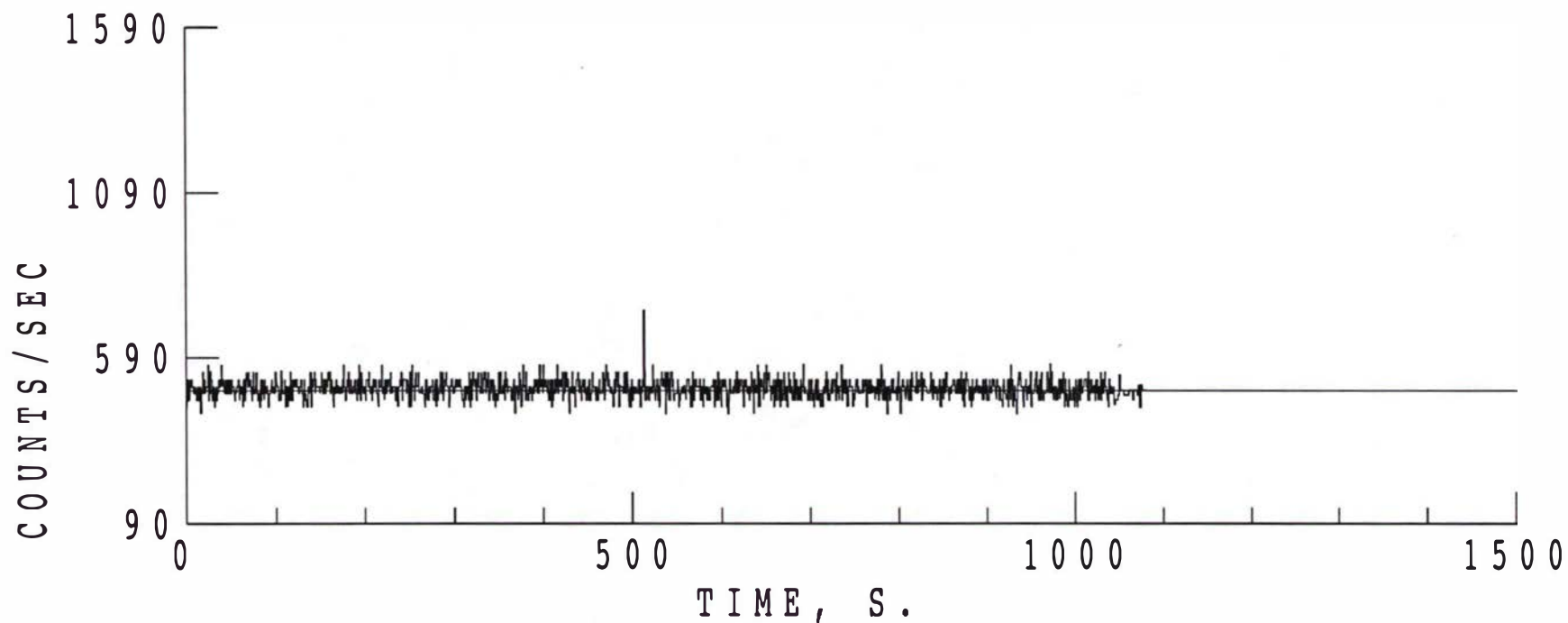
27 / 9 / 98 8892.201 s

INTERVALS REGROUPED BY 3

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SAHI@fender.msfc.nasa.gov Wed Sep 30 07:49:11 1998

From: SAHI@fender.msfc.nasa.gov

Date: Wed, 30 Sep 1998 9:48:51 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7125

27th

TIME: TJD=1083 SECONDS=18983

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=53.5 AZIMUTH=325.3 ERROR=6.5 DEGREES

COMMENTS:

GOES B7.8, NO OPTICAL ID. SINGLE PULSE, DUR. APPROX. 10 S. NOT VISIBLE ABOVE
100 KEV.

From SAHI@fender.msfc.nasa.gov Wed Sep 30 08:02:03 1998

From: SAHI@fender.msfc.nasa.gov

Date: Wed, 30 Sep 1998 10:01:40 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7126

27th

TIME: TJD=1083 SECONDS=29284

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=66.3 AZIMUTH=343.3 ERROR=0.05 DEGREES

COMMENTS:

GOES C2.6, OPTICAL SF. SINGLE PULSE WITH SUBSTRUCTURE, DUR. APPROX. 110 S,
MAX. AT APPROX. T+52 S. VISIBLE ABOVE 100 KEV.

From SAHI@fender.msfc.nasa.gov Wed Sep 30 08:04:38 1998

From: SAHI@fender.msfc.nasa.gov

Date: Wed, 30 Sep 1998 10:04:20 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7127

27th

TIME: TJD=1083 SECONDS=59095

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=65.5 AZIMUTH=343.2 ERROR=0.5 DEGREES

COMMENTS:

GOES C5.2, OPTICAL 1F, DUR. APPROX. 120 S. TWO PEAKS, ONE AT T, STRONGER PEAK
AT T+102 S. WEAKLY VISIBLE ABOVE 100 KEV.

From SAHI@fender.msfc.nasa.gov Wed Sep 30 08:09:19 1998

From: SAHI@fender.msfc.nasa.gov

Date: Wed, 30 Sep 1998 10:09:04 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7128

27th

TIME: TJD=1083 SECONDS=84758

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

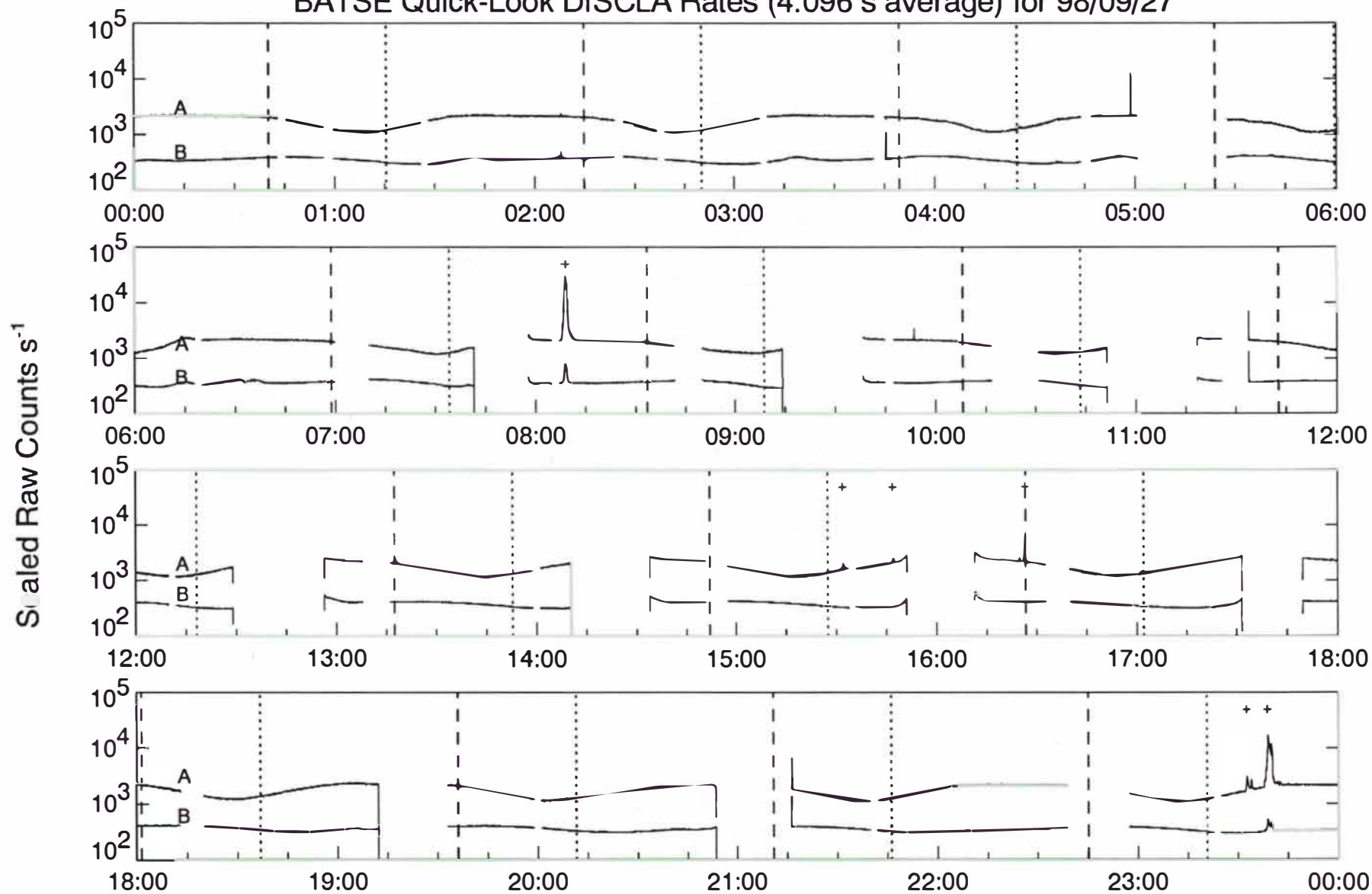
INTENSITY: COUNTS/CM2

LOCATION: ZENITH=66.0 AZIMUTH=343.3 ERROR=0.09 DEGREES

COMMENTS:

TRIGGERED ON GOES B8.9, NO OPTICAL ID. ALSO, GOES C6.0, OPTICAL 1N, FLARE AT
APPROX. T+310 S, DUR. APPROX. 170 S. TOTAL DUR. IS APPROX. 490 S. C6.0 FLARE IS
VISIBLE ABOVE 100 KEV.

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/09/27

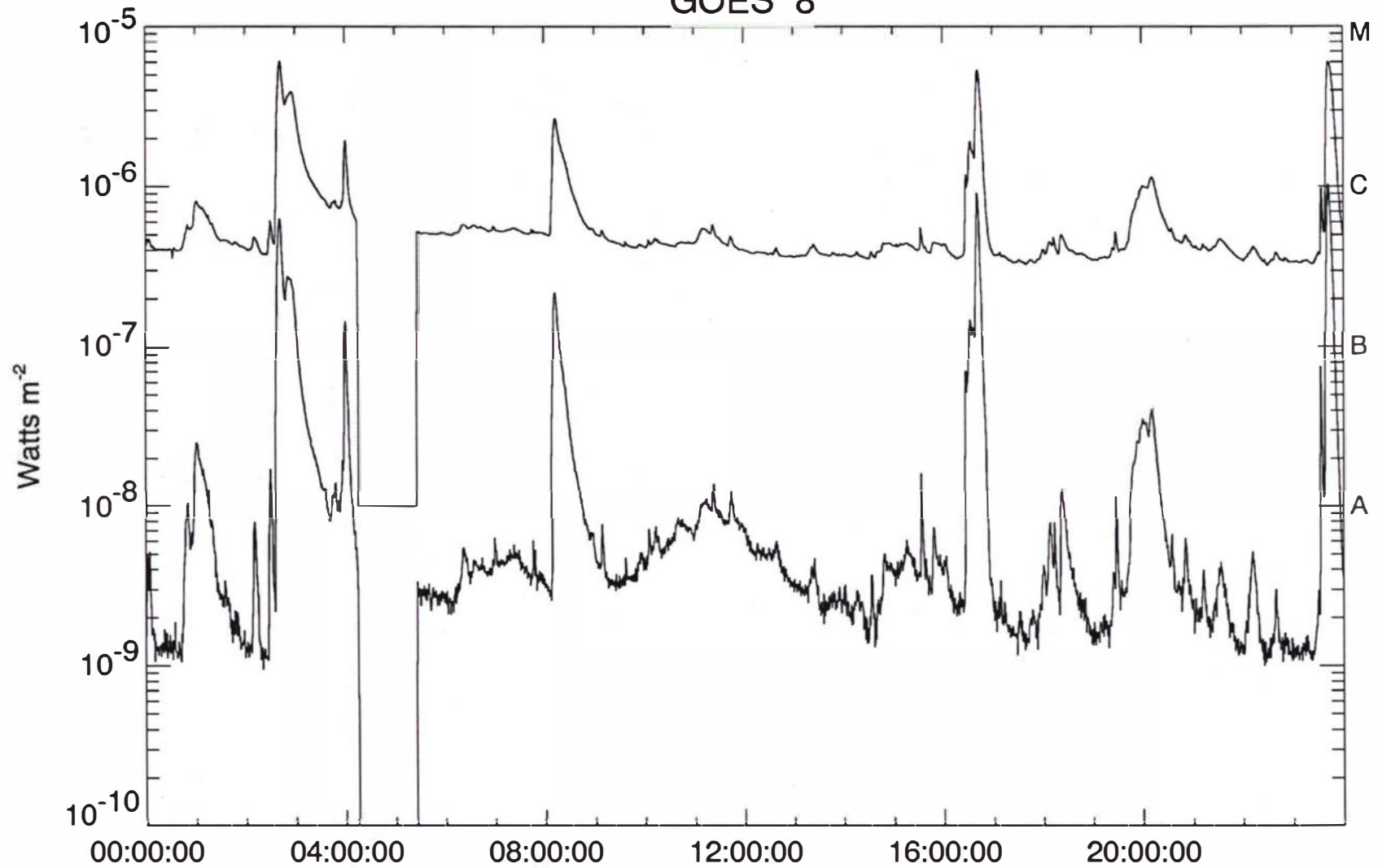


Current Time: 98/10/01, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 98/09/27, 0000:00

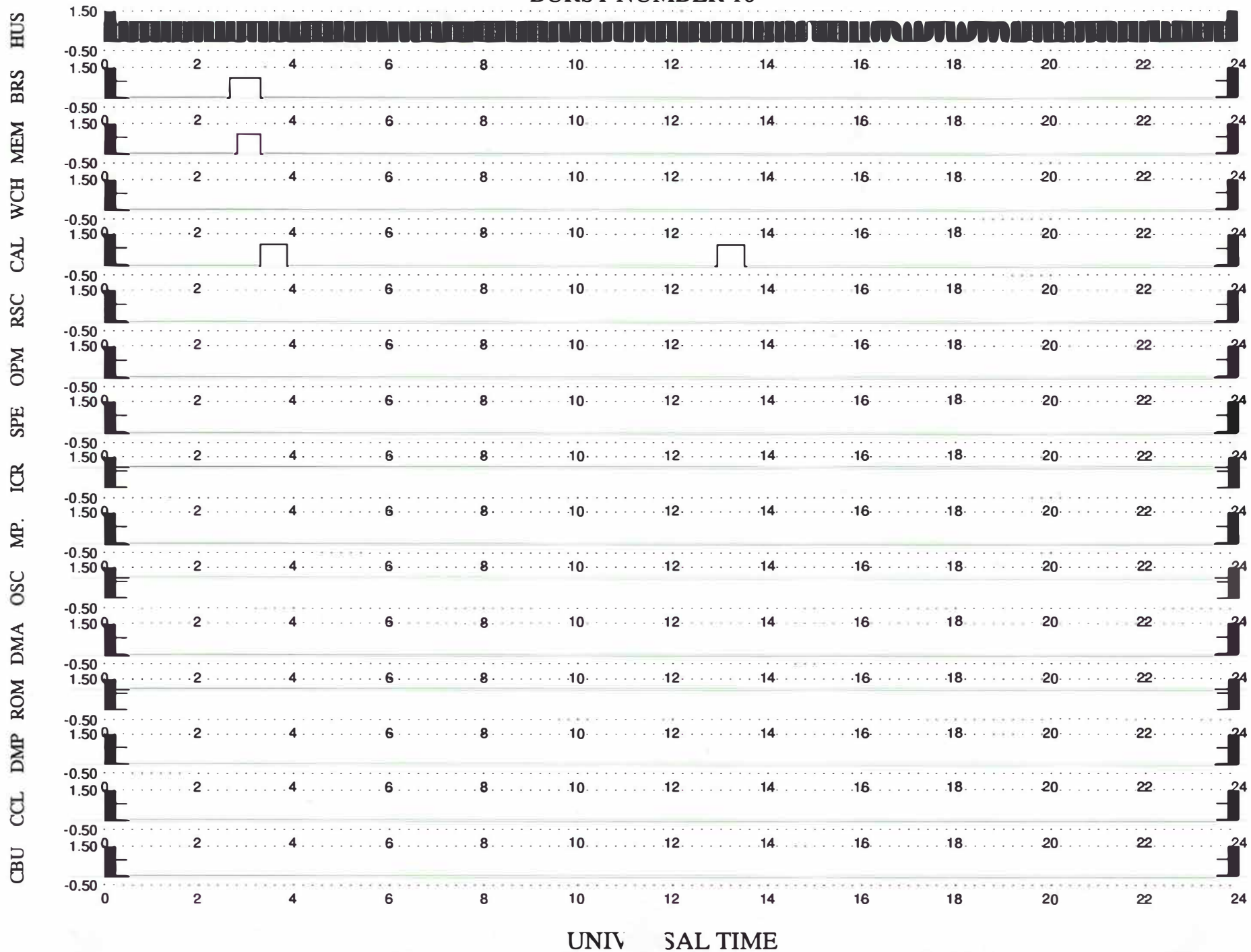
Plot created: 98/10/01, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

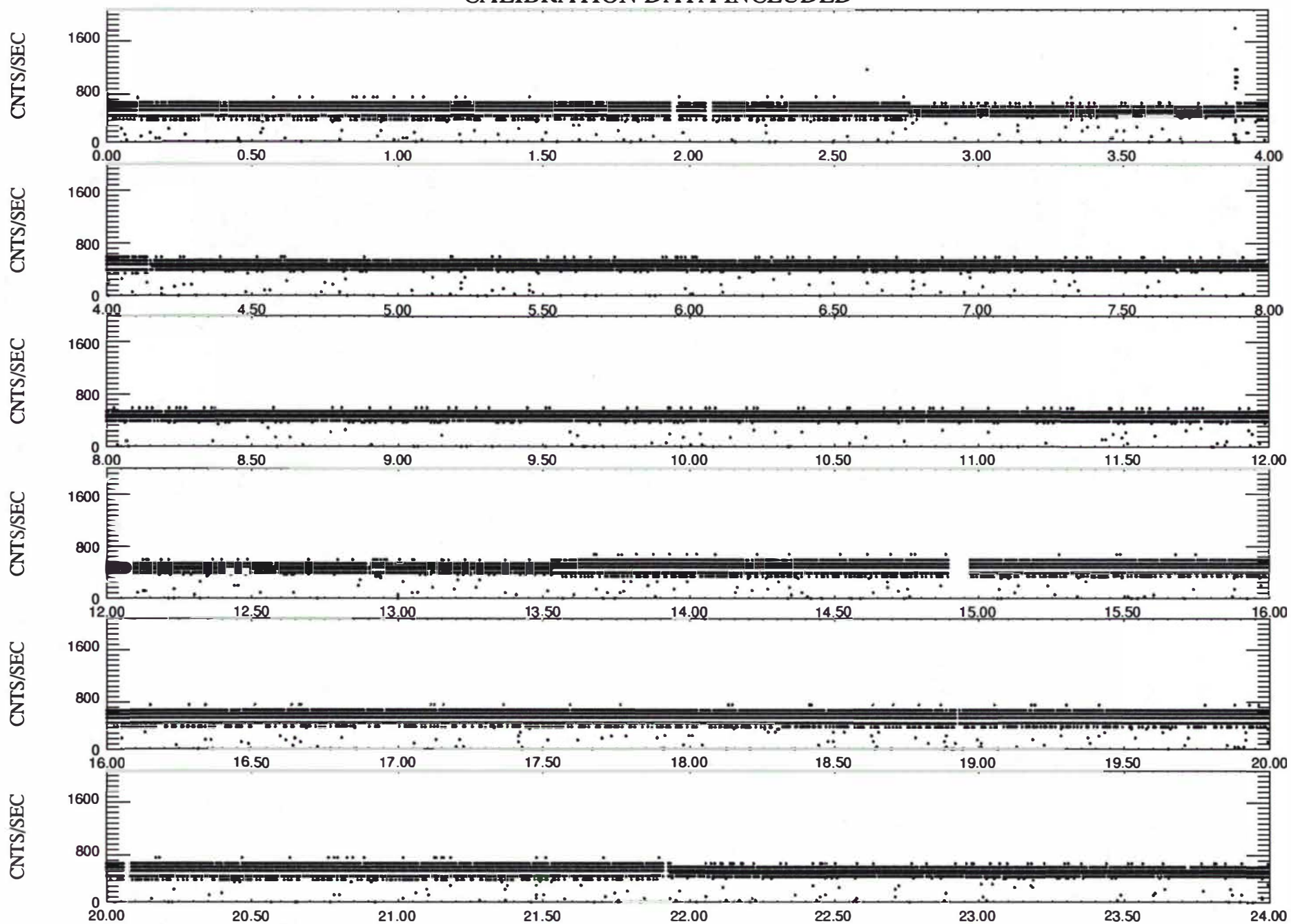
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BURST NUMBER 10

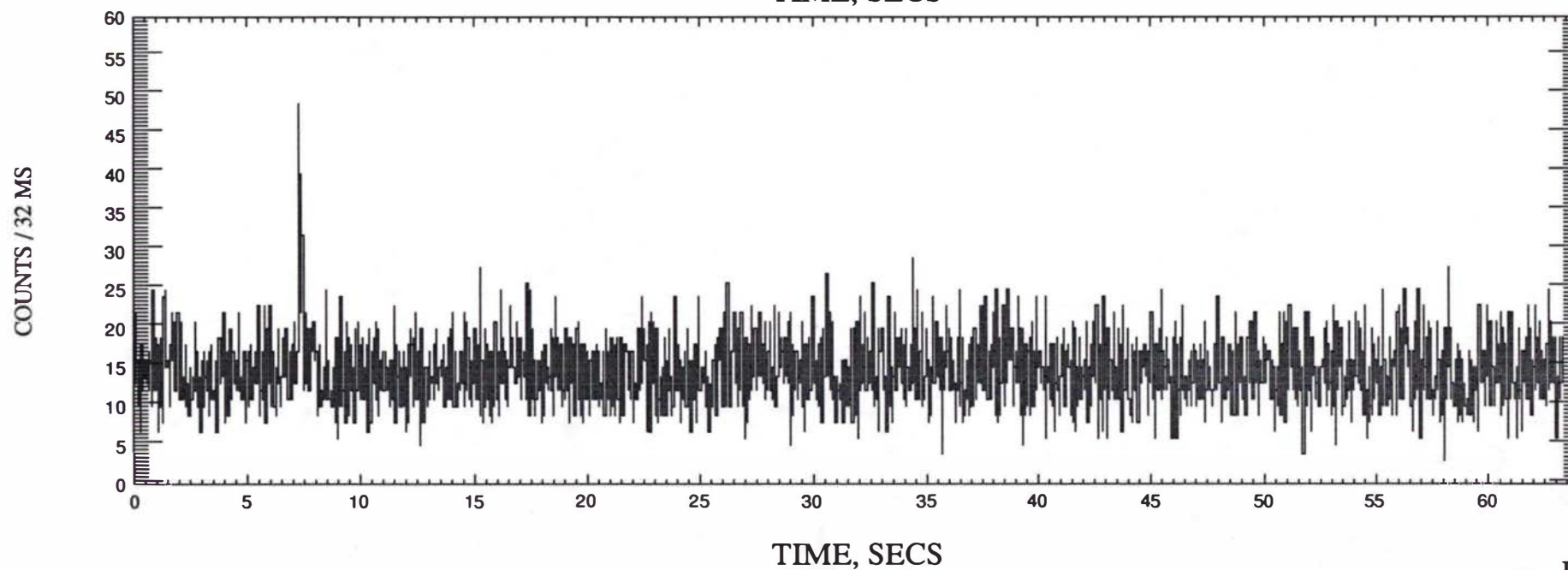
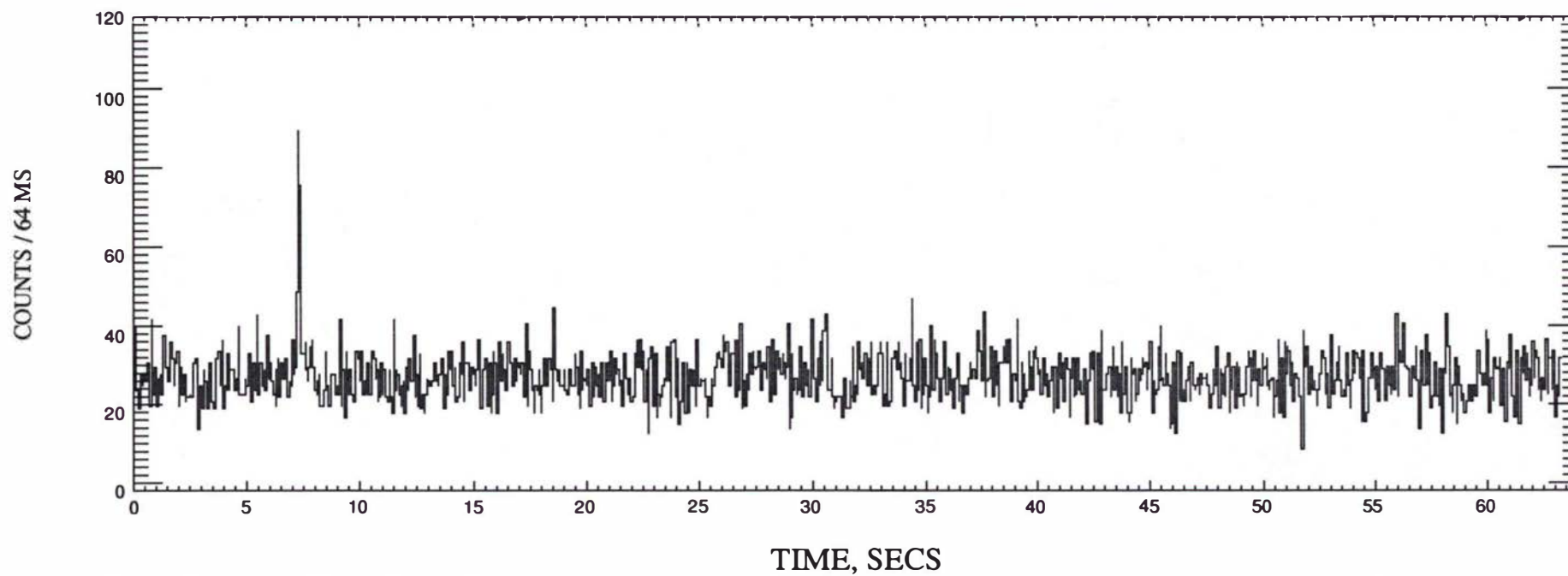


CALIBRATION DATA INCLUDED

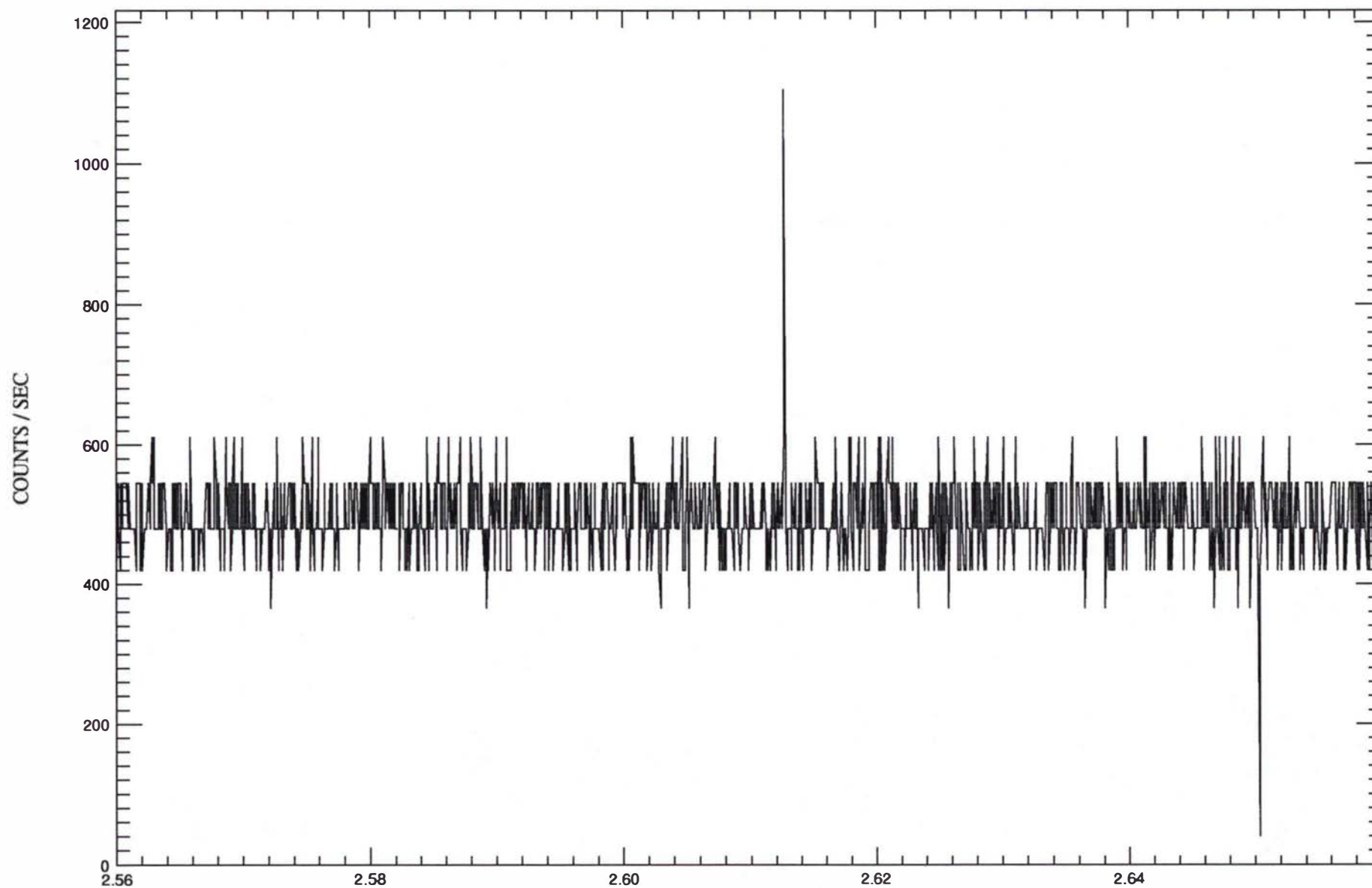


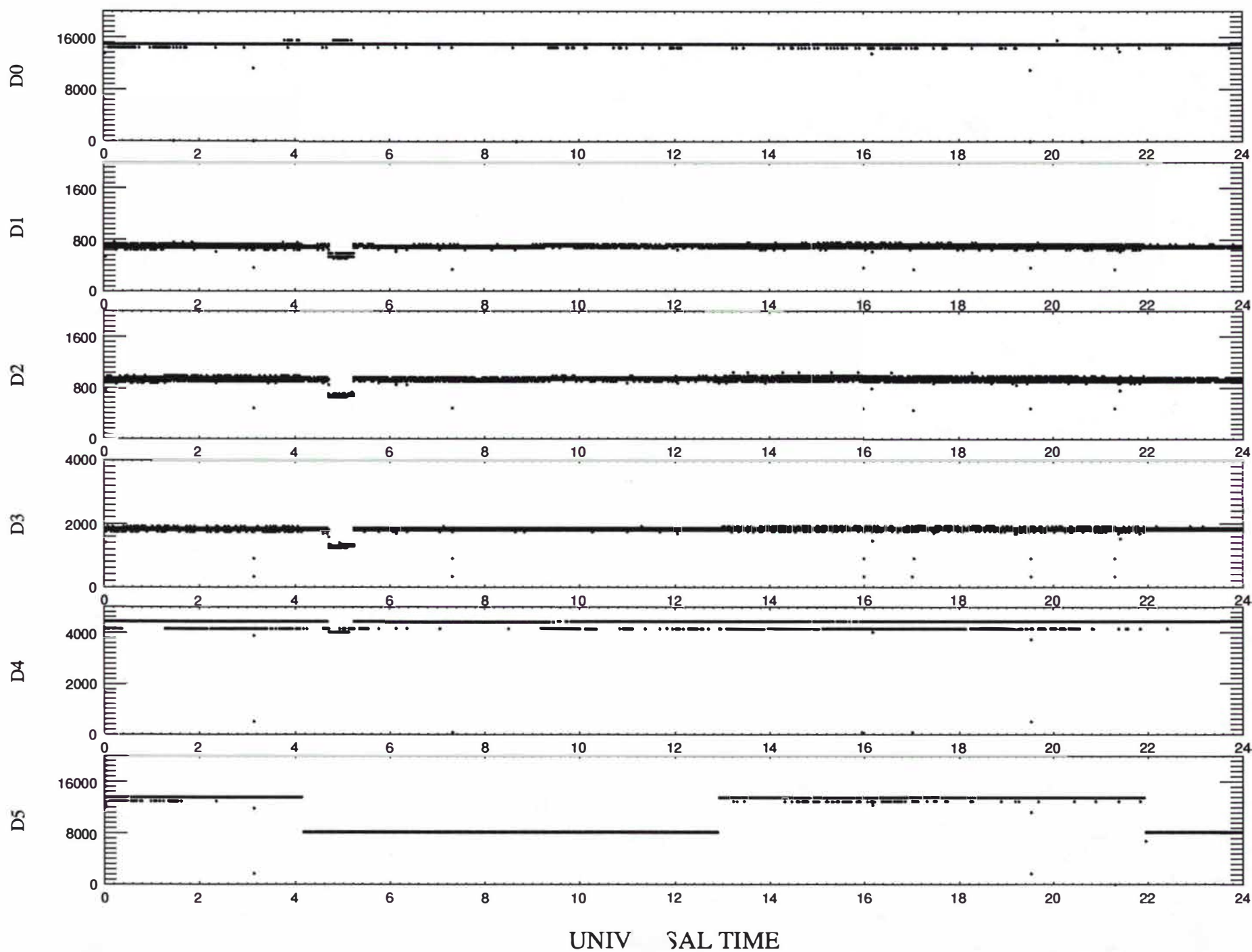
UNIV SAL TIME

Burst Counter 10 at UT= 2.612713635763 h= 9405.769 s 02:36:45.769



CALIBRATION DATA INCLUDED





From HENZE@fender.msfc.nasa.gov Wed Sep 30 10:02:02 1998
Date: Wed, 30 Sep 1998 12:00:00 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7129

284

TIME: TJD=1084 SECONDS=20781 0546:21

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 64.7 AZIMUTH=341.6 ERROR= 1.2 DEGREES

COMMENTS:

GOES C3.3, OPTICAL SF FLARE. COMPLEX, MULTYPEAKED, DUR. APPROX. 240 S,
MAX AT APPROX T+137 S. VISIBLE ABOVE 100 KEV. PRECURSOR AT APPROX. T-120 S.

From HENZE@fender.msfc.nasa.gov Wed Sep 30 10:13:08 1998

Date: Wed, 30 Sep 1998 12:12:44 -0500 (CDT)

From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>

To: burst@compTEL.sr.unh.edu, grobad@estsA2.estec.esa.nl,
cline@lhevX.gsfc.nasa.gov, barthelmy@lhevX.gsfc.nasa.gov,
bacodine@lhevwww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhevX.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

NO.: 7131 BATSE BURST TRIGGER 28th No other info on this one
 anywhere

TIME: TJD=1084 SECONDS=43157

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 65.8 AZIMUTH=342.6 ERROR= 0.2 DEGREES

COMMENTS:

MULTIPEAKED, DUR. APPROX. 200 S, STARTS AT APPROX. T-40 S, MAX AT APPROX.
T+68 S. NOT VISIBLE ABOVE 300 KEV. POSTCURSOR AT APPROX. T+215 S.

From HENZE@fender.msfc.nasa.gov Wed Sep 30 10:58:37 1998
Return-Path: <HENZE@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id KAA01194; Wed, 30 Sep 1998 10:58:37 -0700
From: HENZE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id KAA25156; Wed, 30 Sep 1998 10:58:34 -0700
Date: Wed, 30 Sep 1998 12:58:36 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980930125836.20a00d75@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7130
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7130
EVENT OF 1998 SEP 28 DAY OF YEAR=271
EVENT CROSSING TIME AT BATSE : 40359. S. OR 11:12:39.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 256.000 50.000
BATSE PEAK COUNTING RATE: 3000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 28/ 9/ 98 IS:
RA= 162.007 DEC= 1.138 DIST= 6.231 AU
BATSE-ULYSSES DISTANCE = 932112152. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 88.31 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 91.83 SECS.
CROSSING TIME AT ULYSSES IS 40451. S. OR 11:14:10 +/- 590.96 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 28/ 9/ 98 IS:
RA= 146.889 DEC= 14.666 DIST= 2.261 AU
MARS-BATSE DISTANCE = 338255712. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 89.45 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 10.87 SECS.
CROSSING TIME AT MARS IS 40370. S. OR 11:12:49 +/- 196.05 SECONDS

BATSE BURST TRIGGER

NO.: 7130

TIME: TJD=1084 SECONDS=40359

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=106.8 AZIMUTH=276.6 ERROR= 6.0 DEGREES

COMMENTS:

MULTIPEAKED, STARTS AT APPROX. T-18 S, DUR. APPROX. 55 S, MAX AT APPROX. T+20 S.
NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7130	980928	11084	40359	3000	256	+50	55

BATSE BURST# 7130

ULYSSES RT

30 / 9 / 98

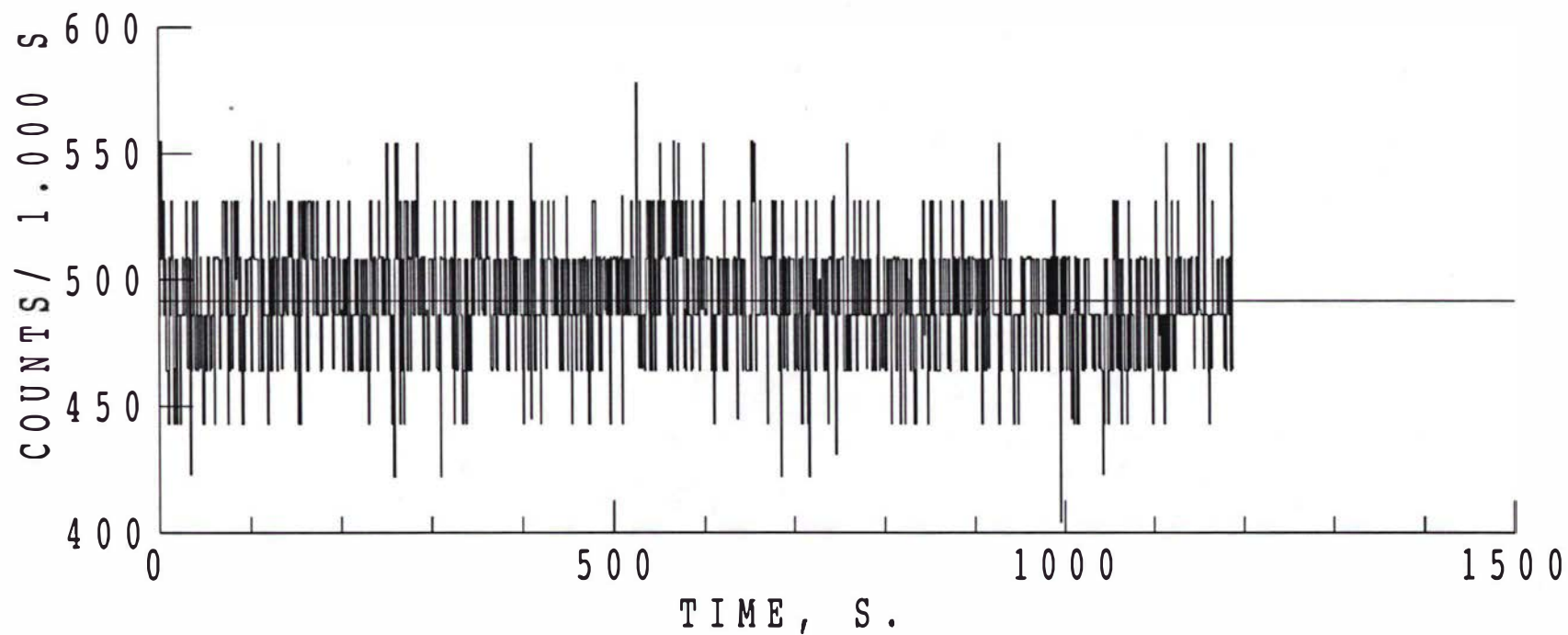
28 / 9 / 98 39852.172 s

0.500 S INTERVALS REGROUPED BY 2

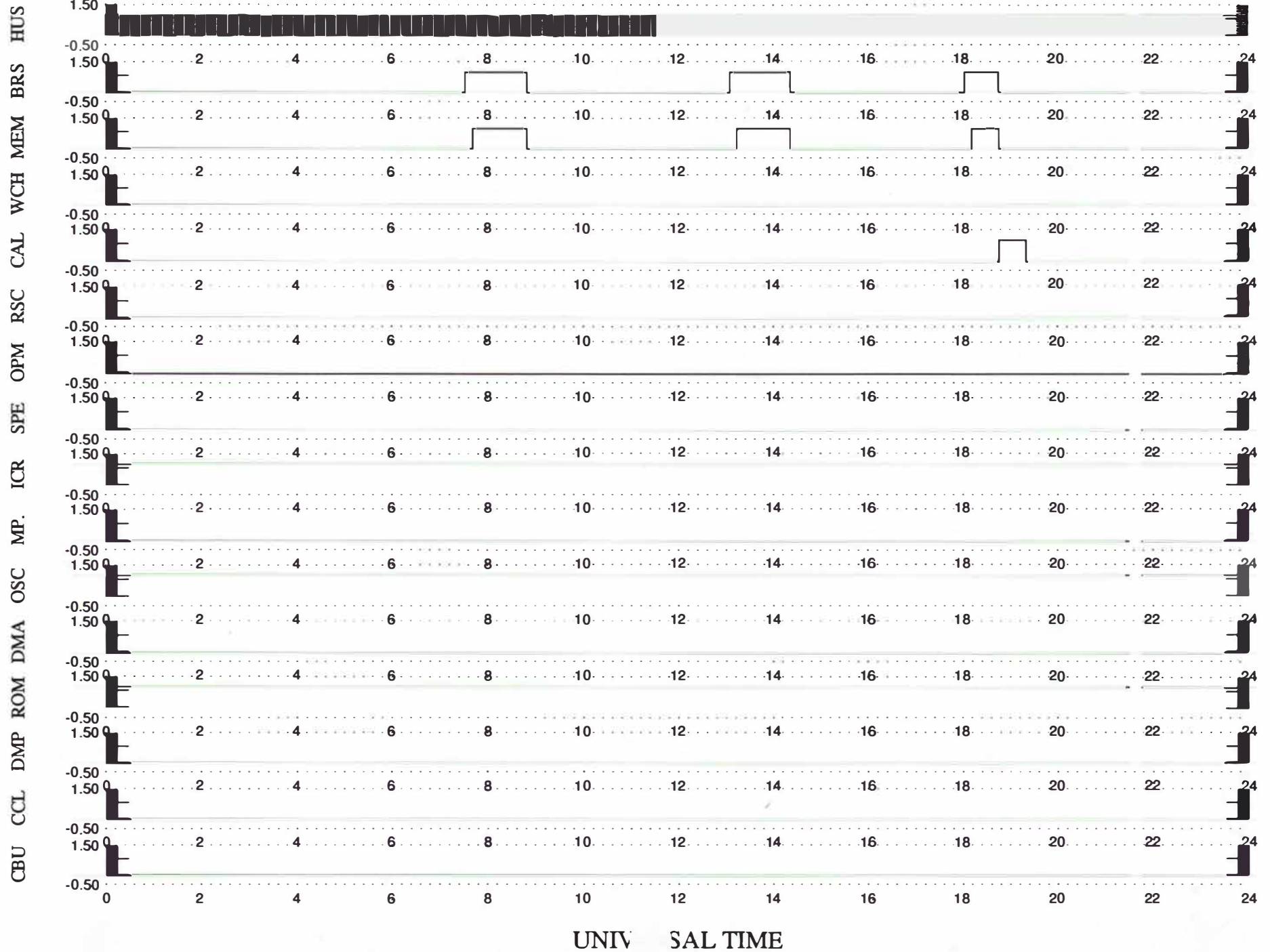
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

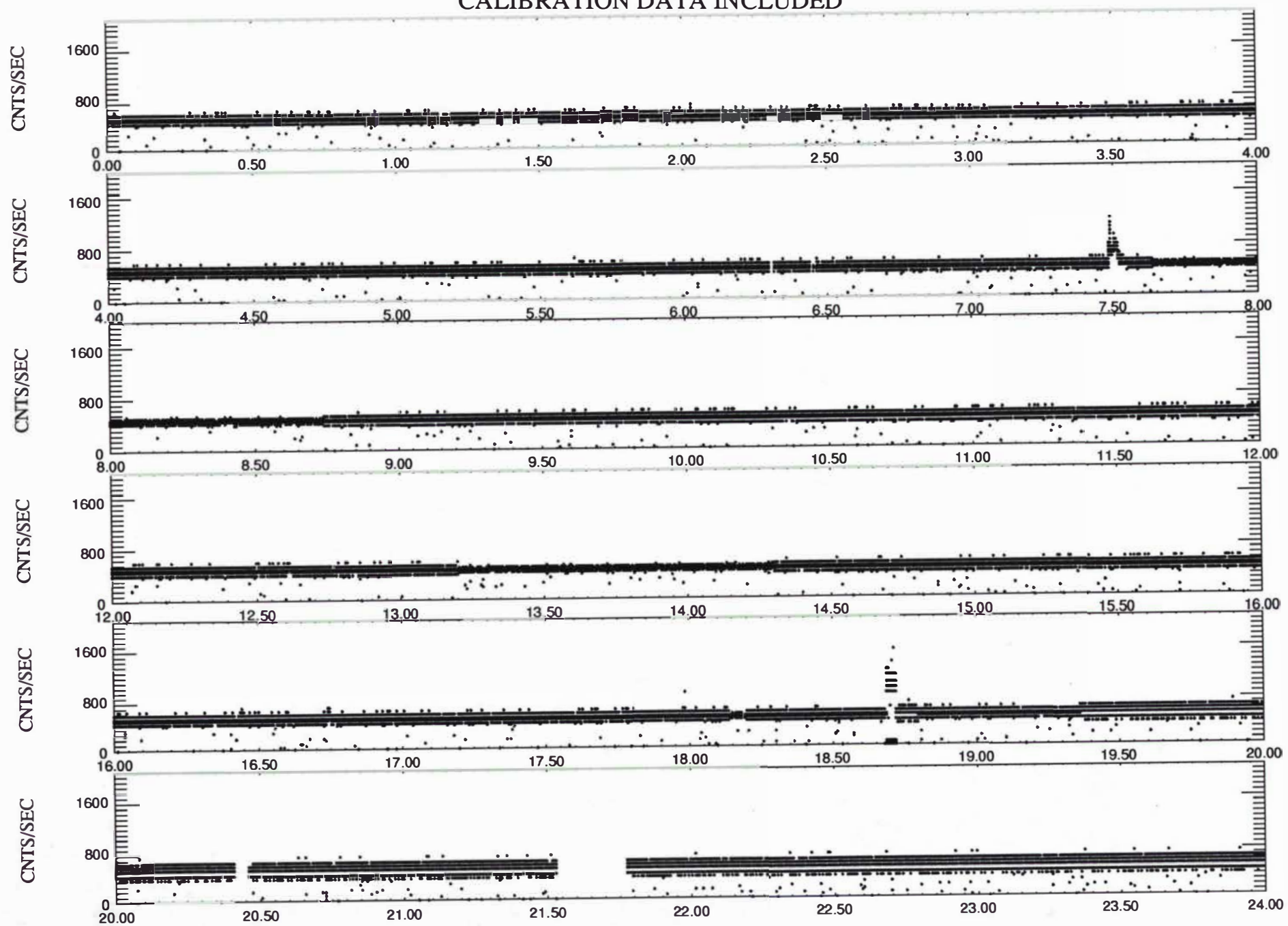
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BURST NUMBER 11 - 13

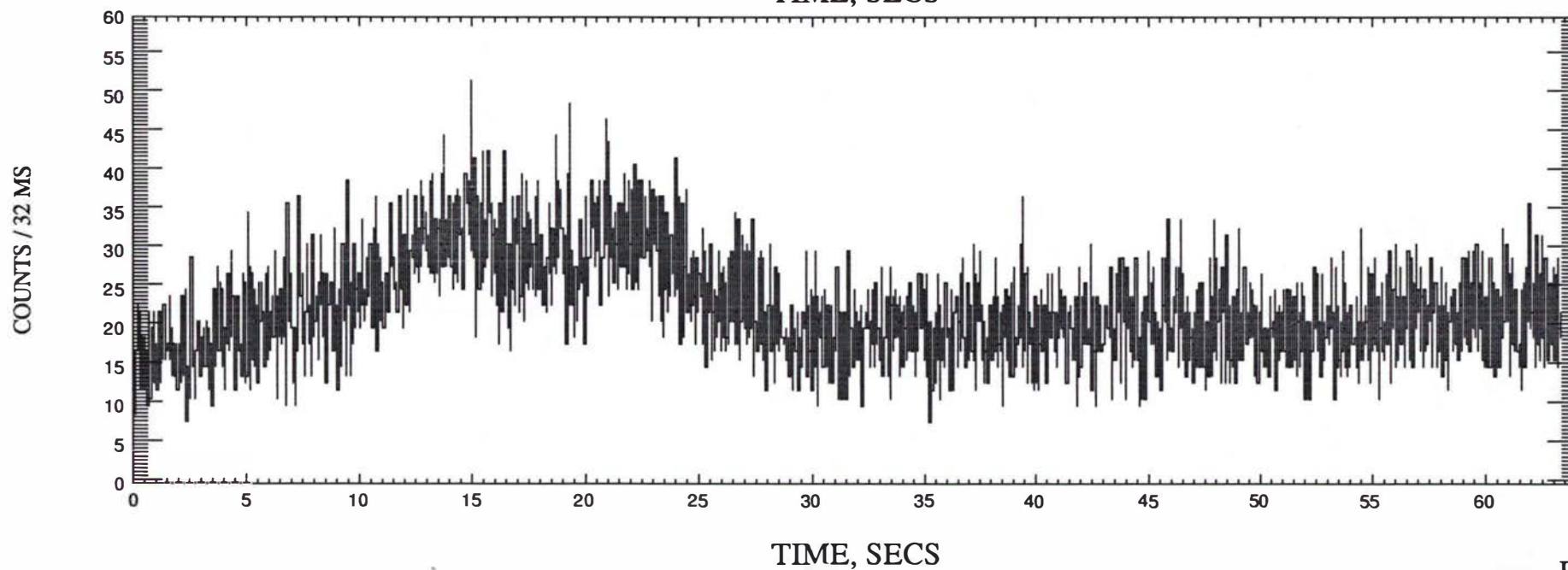
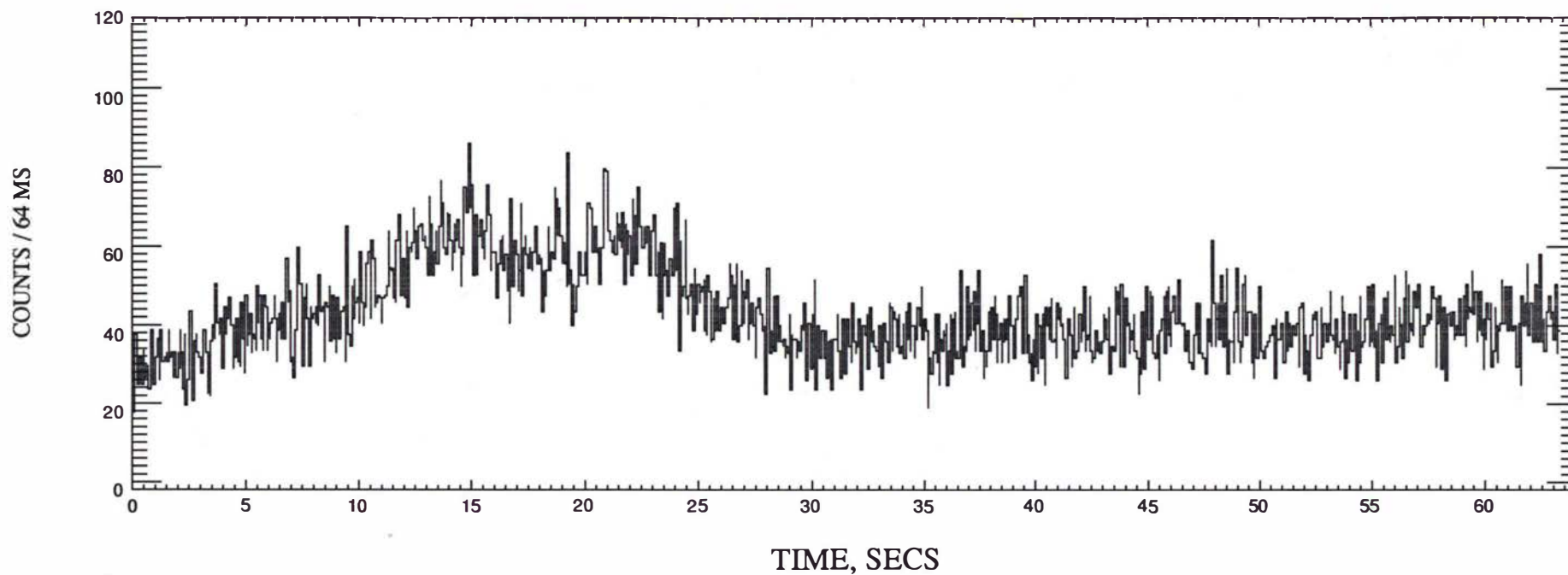


CALIBRATION DATA INCLUDED

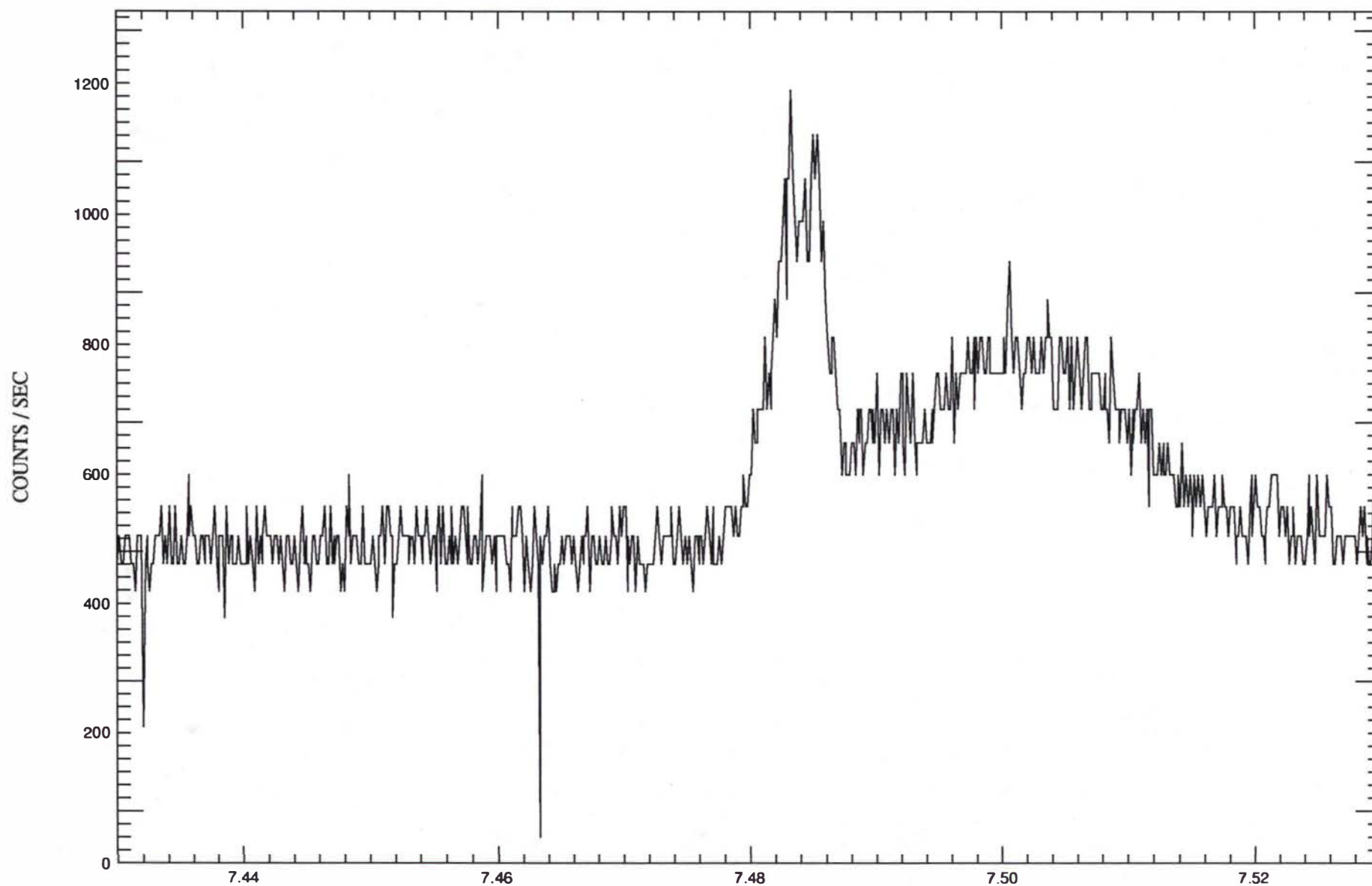


UNIV SAL TIME

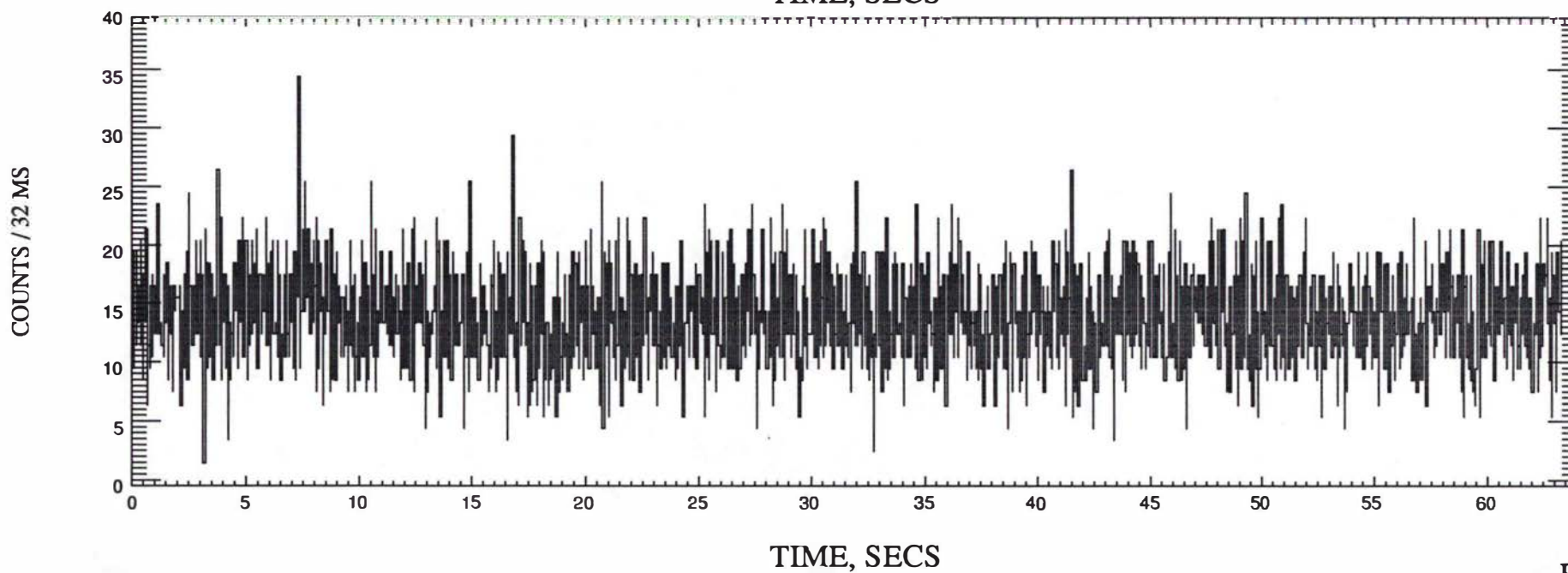
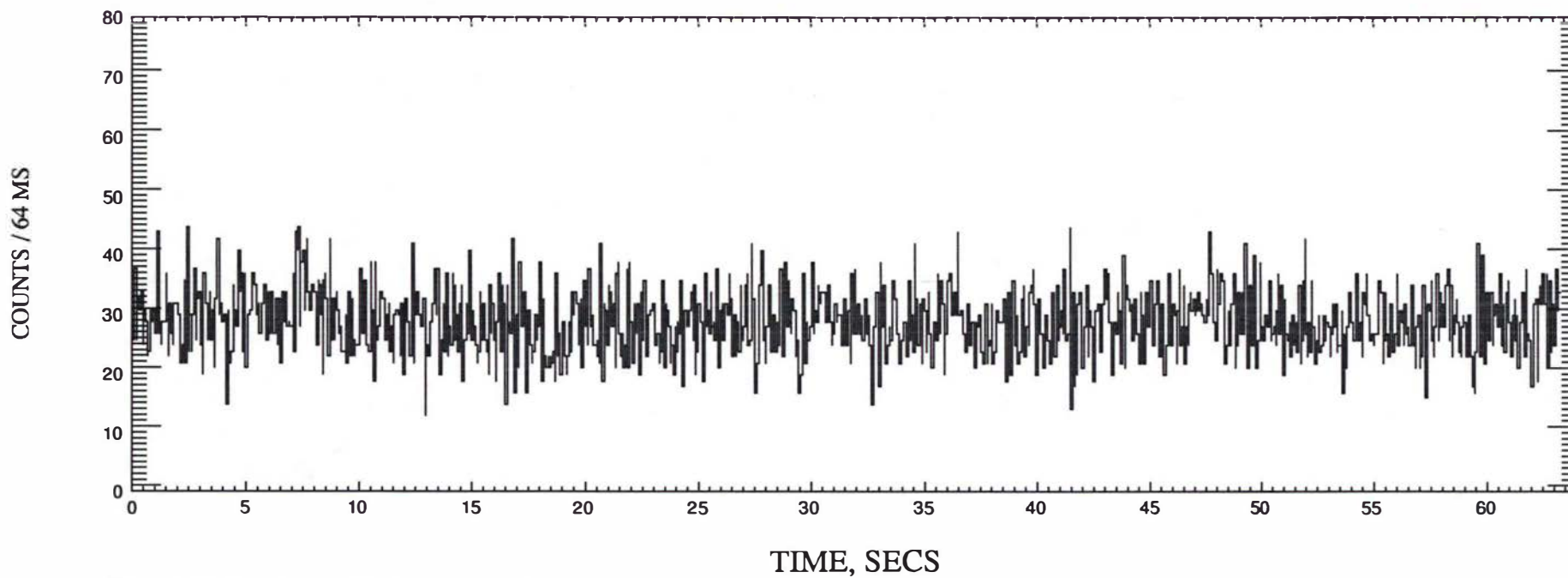
Burst Counter 11 at UT= 7.481289668613 h=26932.643 s 07:28:52.643



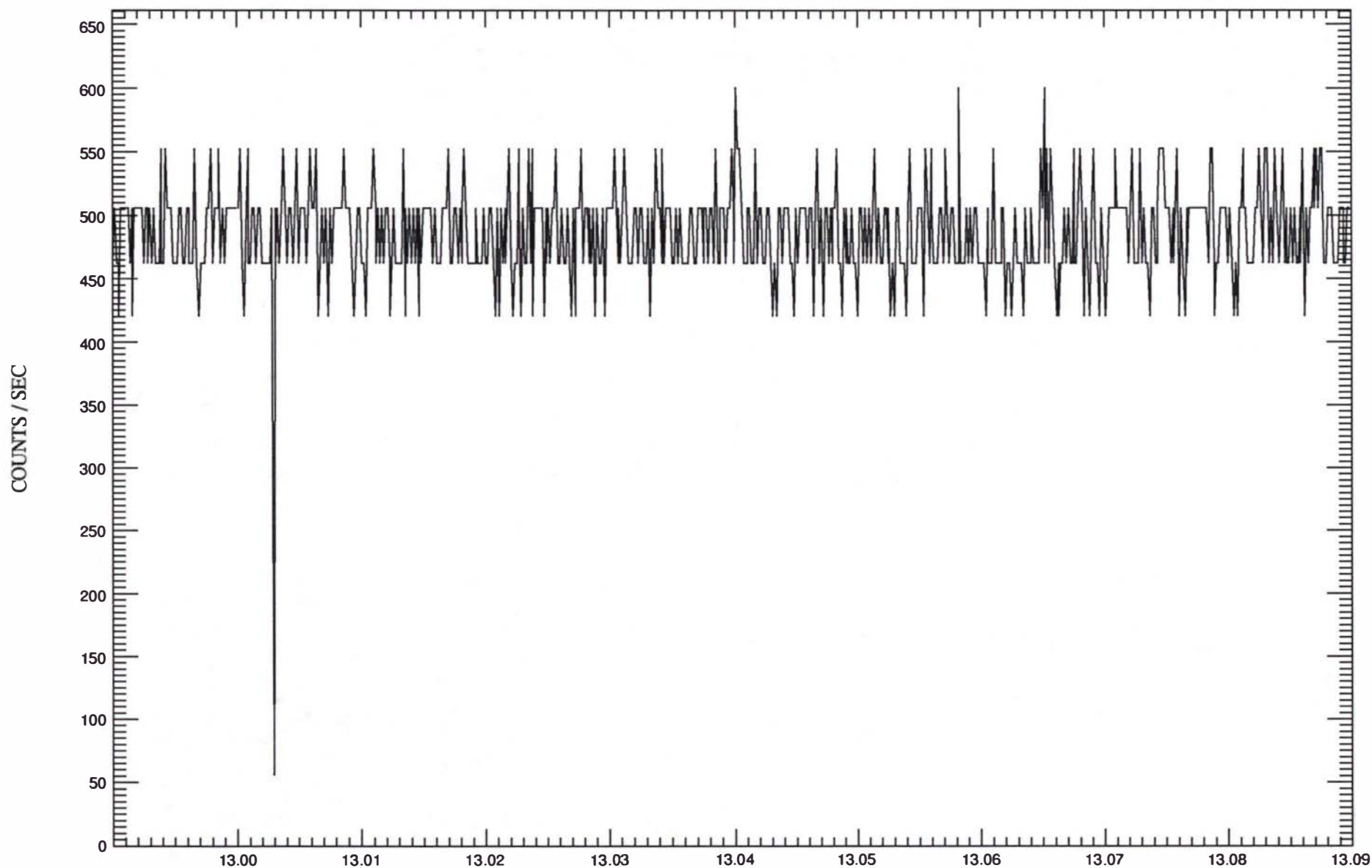
CALIBRATION DATA INCLUDED



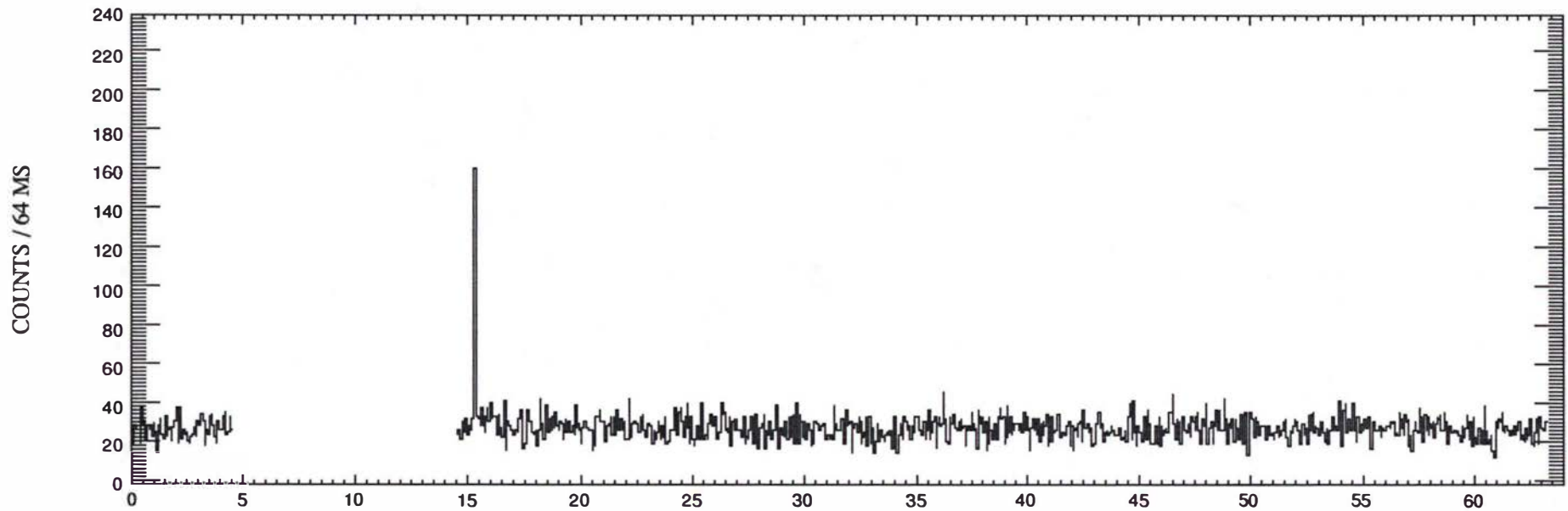
Burst Counter 12 at UT=13.040342648824 h=46945.234 s 13:02:25.234



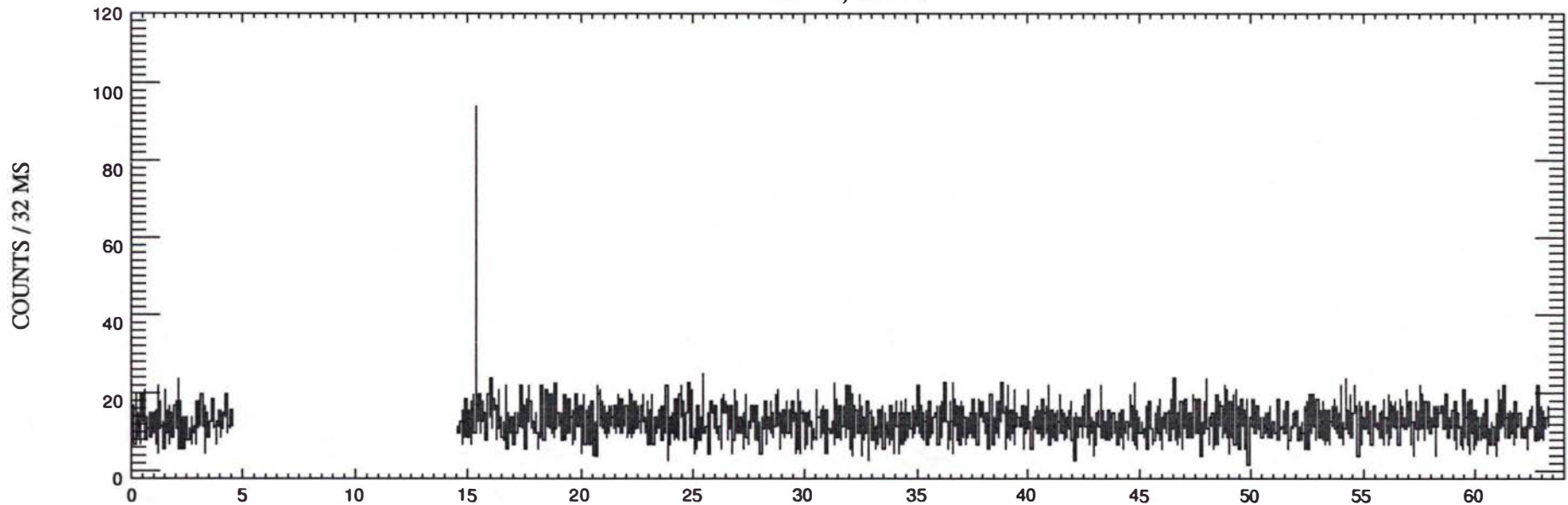
CALIBRATION DATA INCLUDED



Burst Counter 13 at UT=17.980839356316 h=64731.022 s 17:58:51.022

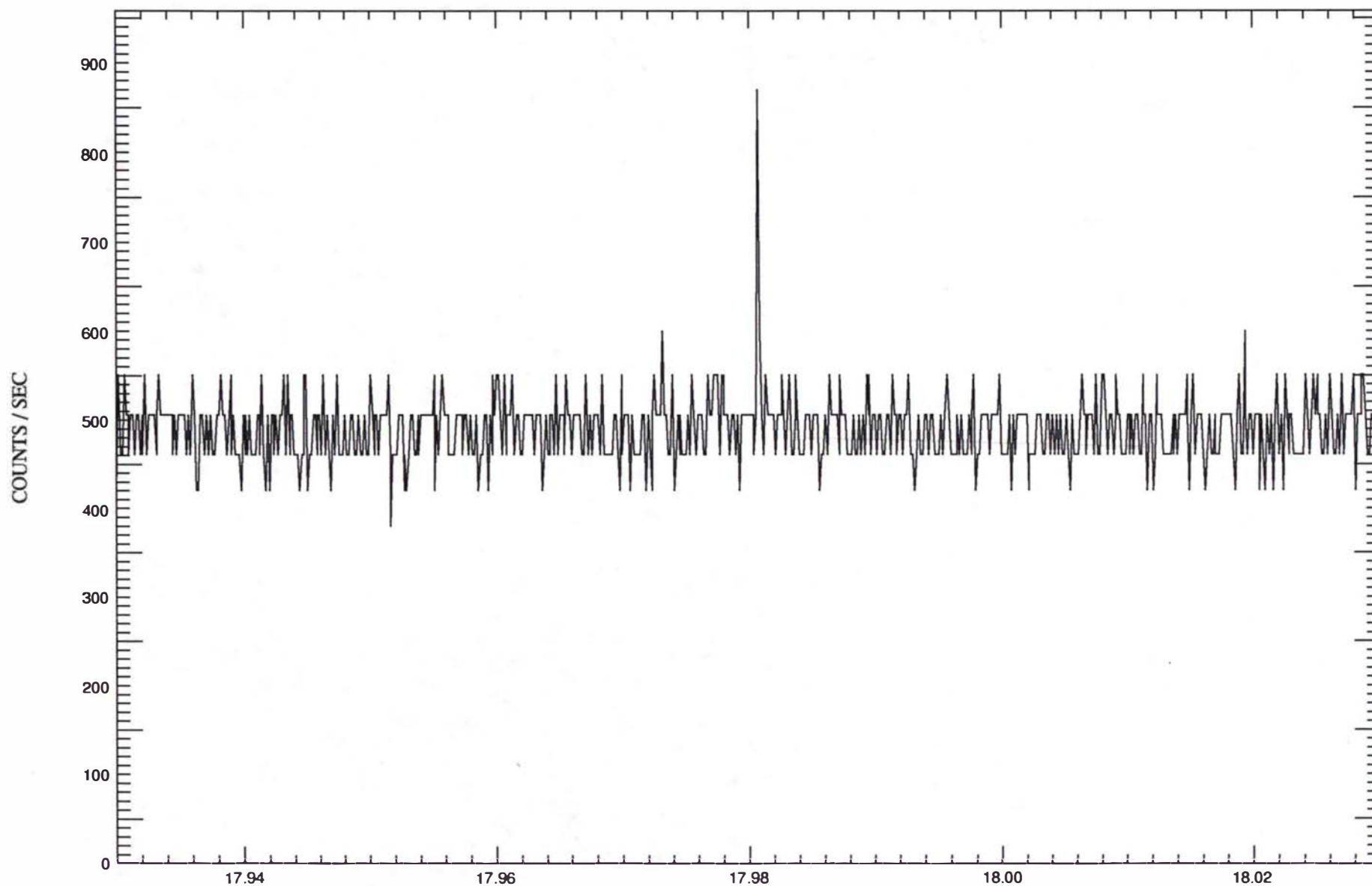


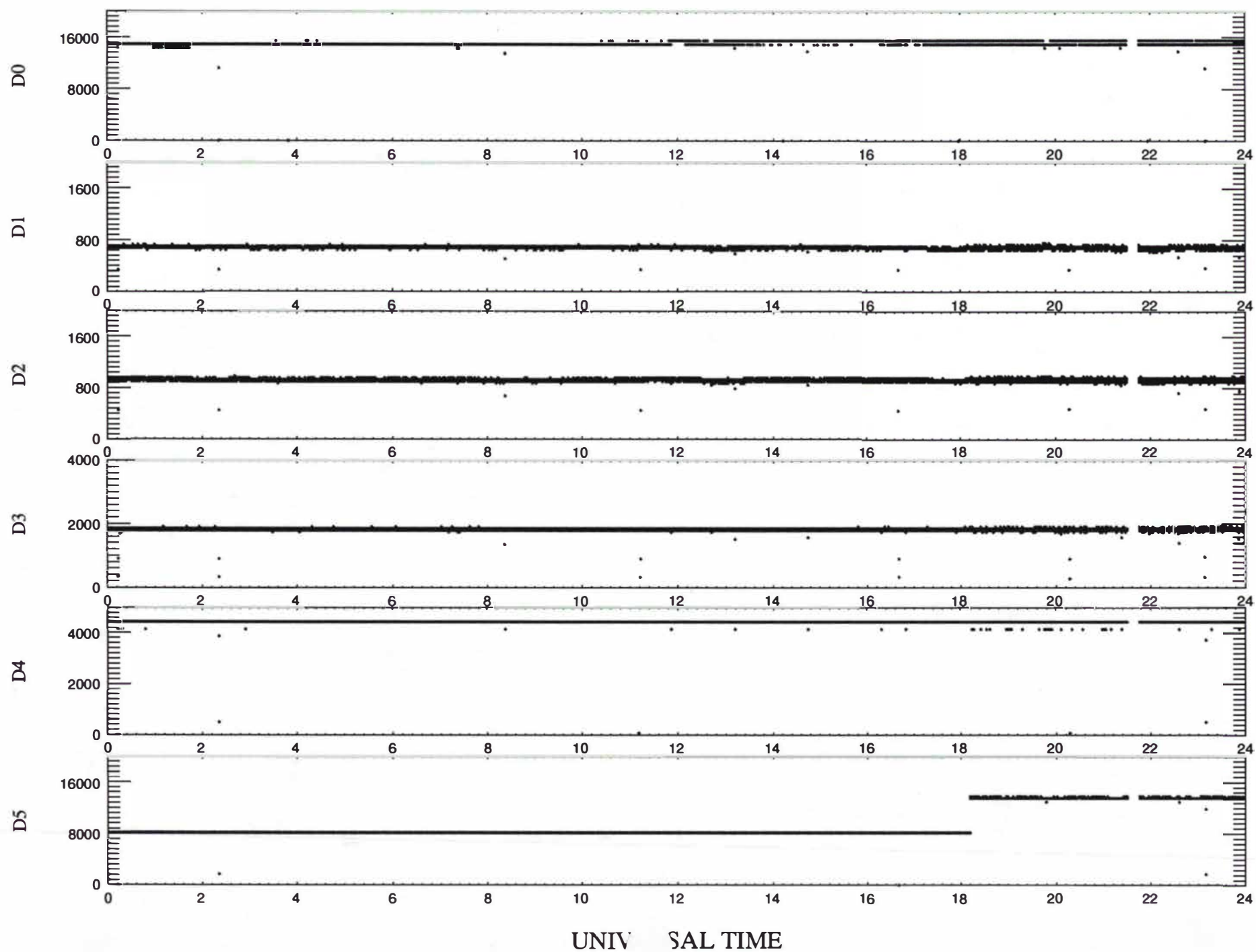
TIME, SECS



TIME, SECS

CALIBRATION DATA INCLUDED





From khurley@sunspot Mon Oct 5 17:59 PDT 1998
Date: Mon, 5 Oct 1998 18:03:17 -0700
From: khurley@sunspot (Kevin Hurley)
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, woods@eagles.msfc.nasa.gov,
kraken@rosserv.gsfc.nasa.gov
Subject: GRB980929

ULYSSES GAMMA-RAY BURST NOT REPORTED BY BATSE:

Ulysses observed the following burst, suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1800 s earlier.

September 29 1998 10:28 Ulysses time; weak, 32 ms long

The spacecraft was about 3300 light-seconds from Earth.
Was this event detected by anyone else?

CC: ulyssesbursts alias list
(barthelmy, butterworth, cline, frontera, henze, kouveliotou, kurczyski, mar

From MEEGAN@fender.msfc.nasa.gov Wed Sep 30 11:05:10 1998

From: MEEGAN@fender.msfc.nasa.gov

Date: Wed, 30 Sep 1998 13:04:42 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7132

TIME: TJD=1085 SECONDS=24872

TYPE: PARTICL

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
SAA ENTRY.

From MEEGAN@fender.msfc.nasa.gov Wed Sep 30 11:25:21 1998
Return-Path: <MEEGAN@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA01794; Wed, 30 Sep 1998 11:25:20 -0700
From: MEEGAN@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA25661; Wed, 30 Sep 1998 11:25:17 -0700
Date: Wed, 30 Sep 1998 13:25:16 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980930132516.20a01181@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7133
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7133
EVENT OF 1998 SEP 29 DAY OF YEAR=272
EVENT CROSSING TIME AT BATSE : 78697. S. OR 21:51:37.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 166.000 -23.000
BATSE PEAK COUNTING RATE: 18000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 29/ 9/ 98 IS:
RA= 162.185 DEC= 0.988 DIST= 6.219 AU
BATSE-ULYSSES DISTANCE = 930390628. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=155.73 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2829.07 SECS.
CROSSING TIME AT ULYSSES IS 75868. S. OR 21:04:27 +/- 228.54 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 29/ 9/ 98 IS:
RA= 147.494 DEC= 14.466 DIST= 2.256 AU
MARS-BATSE DISTANCE = 337424288. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=138.38 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -841.46 SECS.
CROSSING TIME AT MARS IS 77856. S. OR 21:37:35 +/- 117.00 SECONDS

BATSE BURST TRIGGER

NO.: 07113

TIME: TJD=1079 SECONDS=72647

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: 331.3 SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=124.4 AZIMUTH=242.2 ERROR=1.1 DEGREES

COMMENTS:

COMPLEX PULSE STRUCTURE WITH RAPID VARIABILITY. STRONG EMISSION ABOVE 300 KEV ALSO WITH COMPLEX PULSE STRUCTURE. TOTAL DURATION OF APPROXIMATELY 150 SECONDS, INCLUDING A SOFT WEAK EMISSION TAIL EXTENDING FROM 40 SECONDS TO APPROXIMATELY 150 SECONDS. PEAK COUNT RATE WELL ABOVE 100K CTS/SEC. IN THE 25 - 2000 KEV RANGE.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7133	980929	11085	78697	18000	166	-23	1

From MEEGAN@fender.msfc.nasa.gov Wed Sep 30 11:08:17 1998

From: MEEGAN@fender.msfc.nasa.gov

Date: Wed, 30 Sep 1998 13:08:03 -0500 (CDT)

To: burst@compTEL.sr.unh.edu, grobad@estsA2.estec.esa.nl,
cline@lhevX.gsfc.nasa.gov, barthelmy@lhevX.gsfc.nasa.gov,
bacodine@lhevwww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhevX.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7133

29th

TIME: TJD=1085 SECONDS=78697

TYPE: BURST

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 55.6 AZIMUTH= 19.6 ERROR= 2.0 DEGREES

COMMENTS:

DOUBLE PEAKED, ABOUT 1 SECOND LONG. VISIBLE ABOVE 300 KEV.

BATSE BURST# 7133

ULYSSES RT

30 / 9 / 98

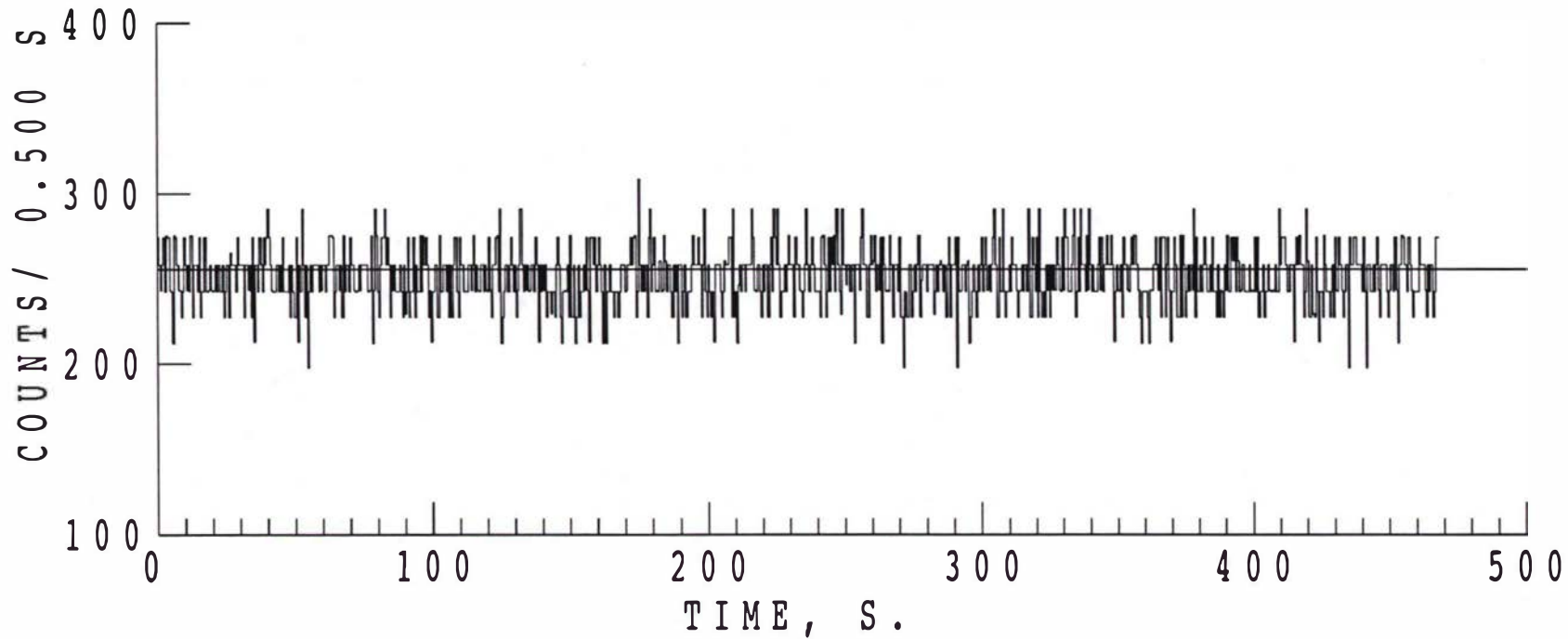
29 / 9 / 98 75636.148 s

0.250 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS

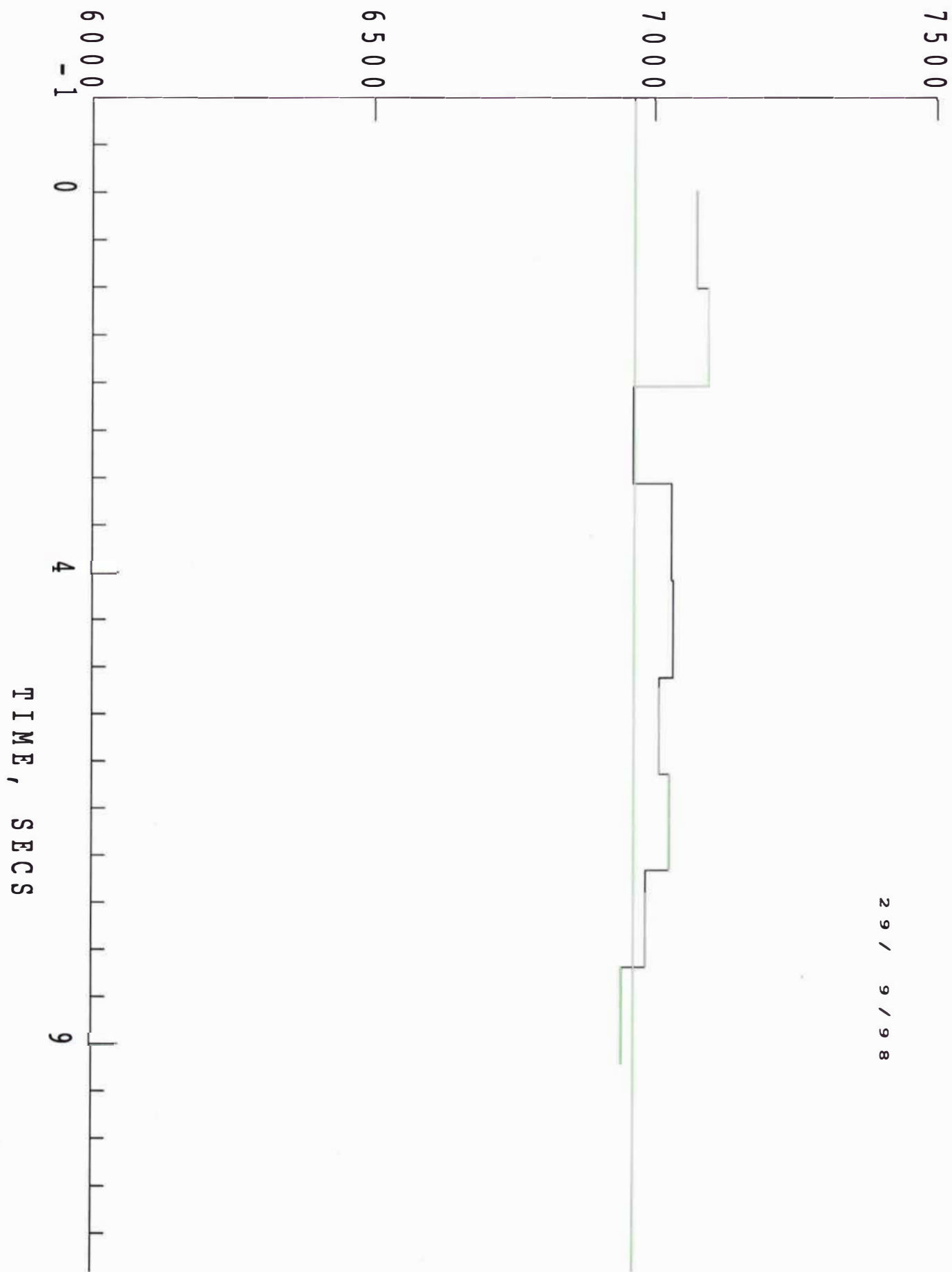


600

BACODINE 7133 29/09/98 78685.921

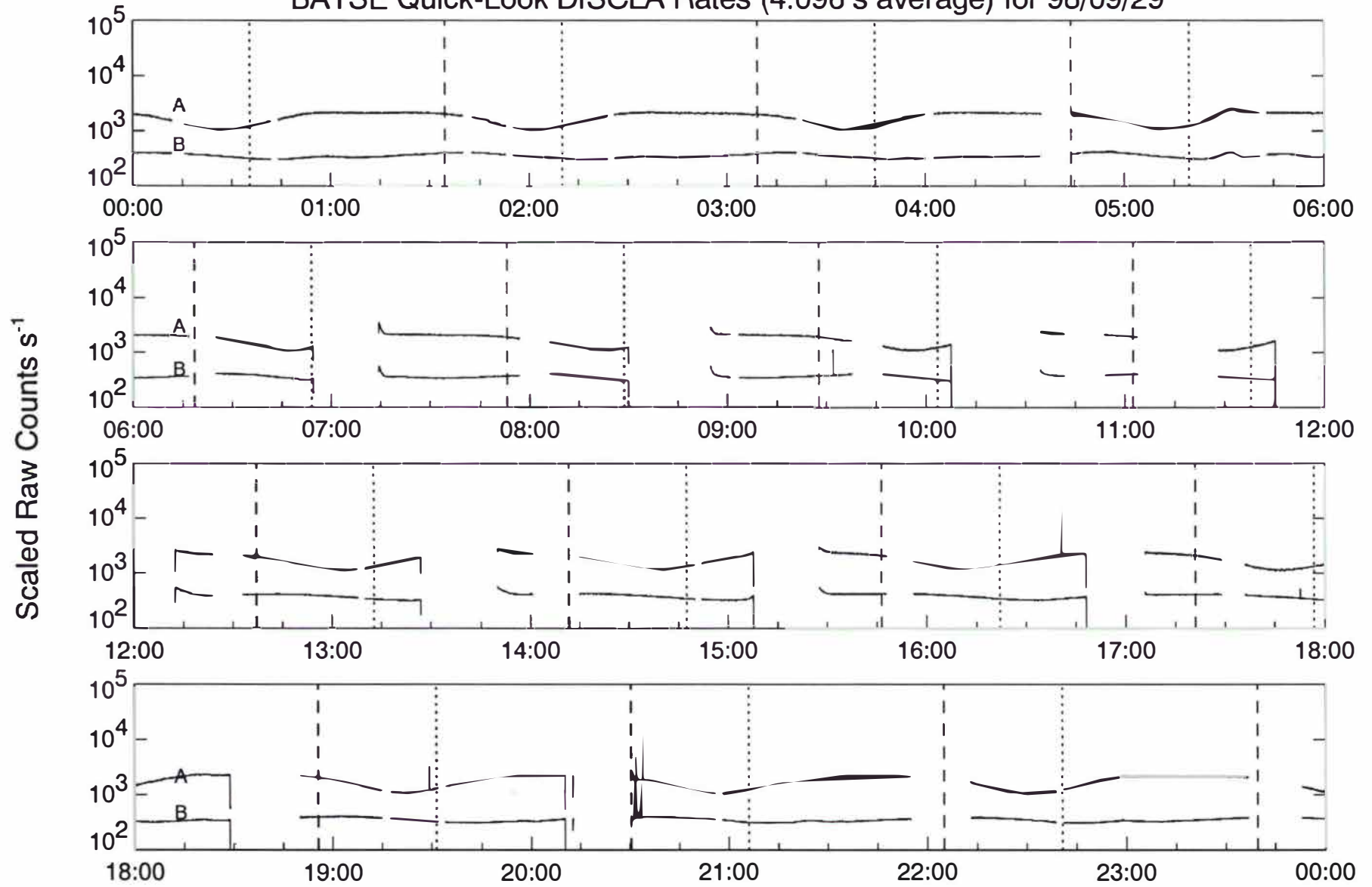
25- 100 keV

COUNTS/1.024 S



29 / 9 / 98

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/09/29

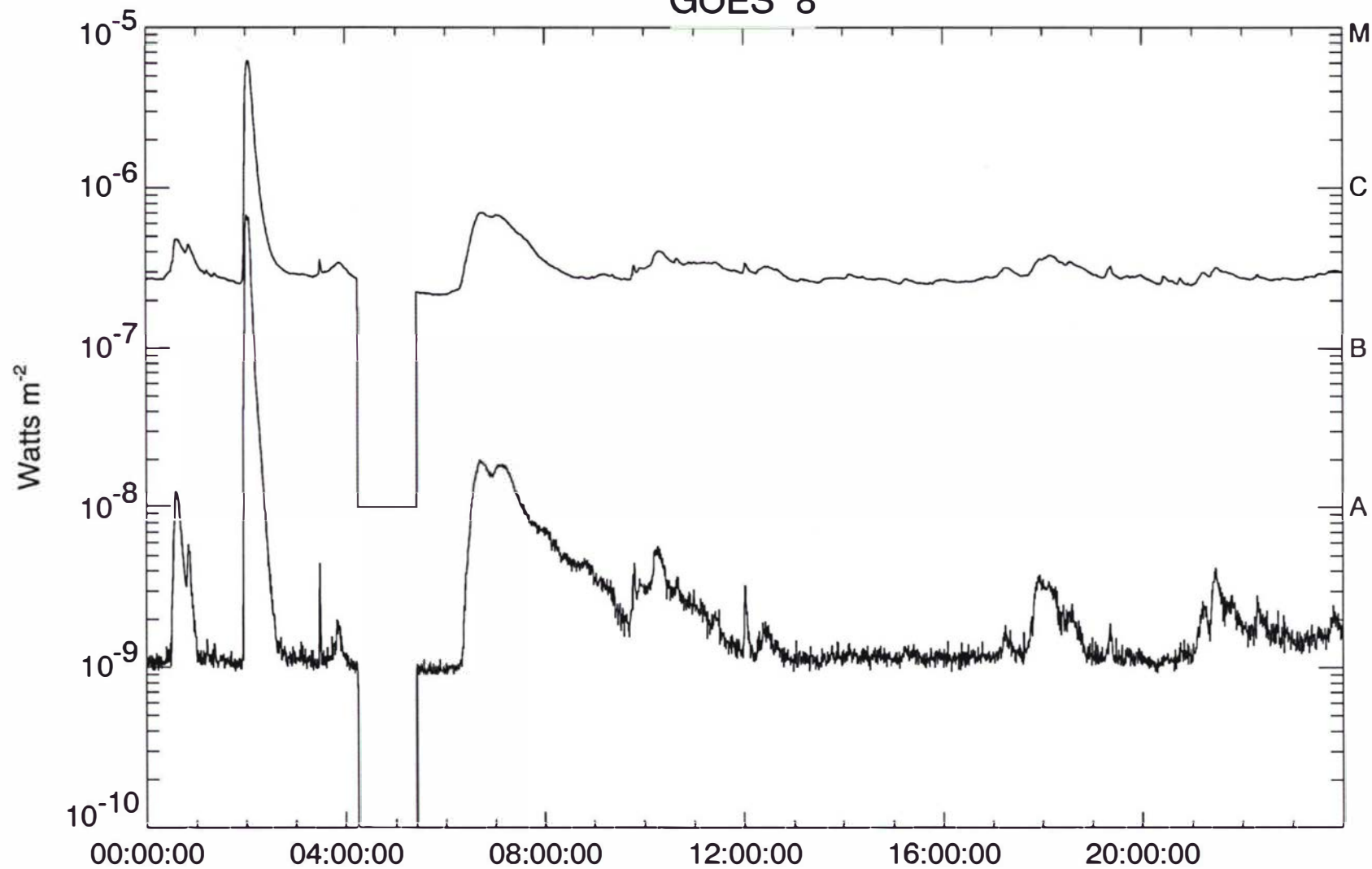


Current Time: 98/10/03, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 98/09/29, 0000:00

Plot created: 98/10/03, 1007

Channel

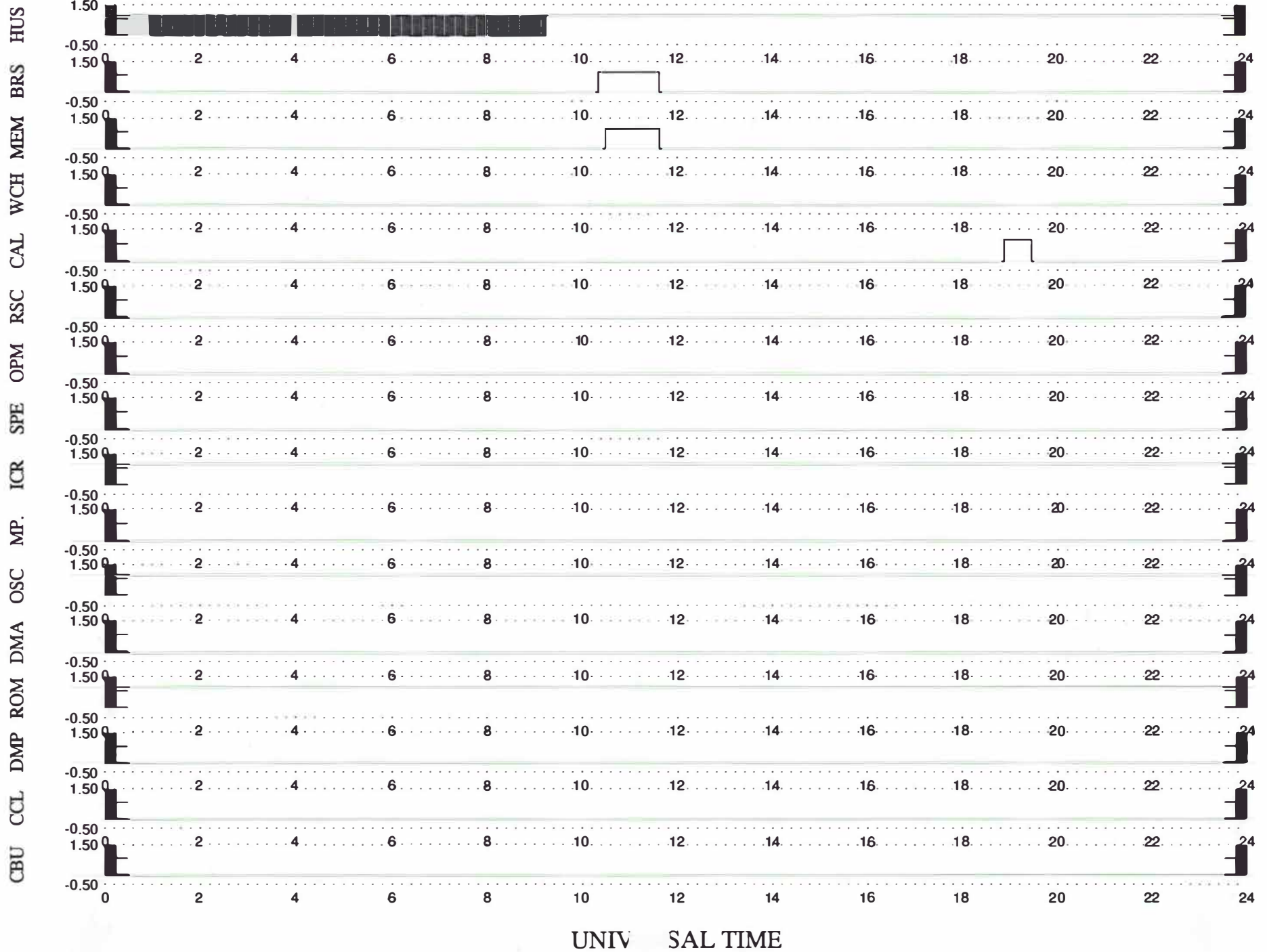
1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

Background not subtracted

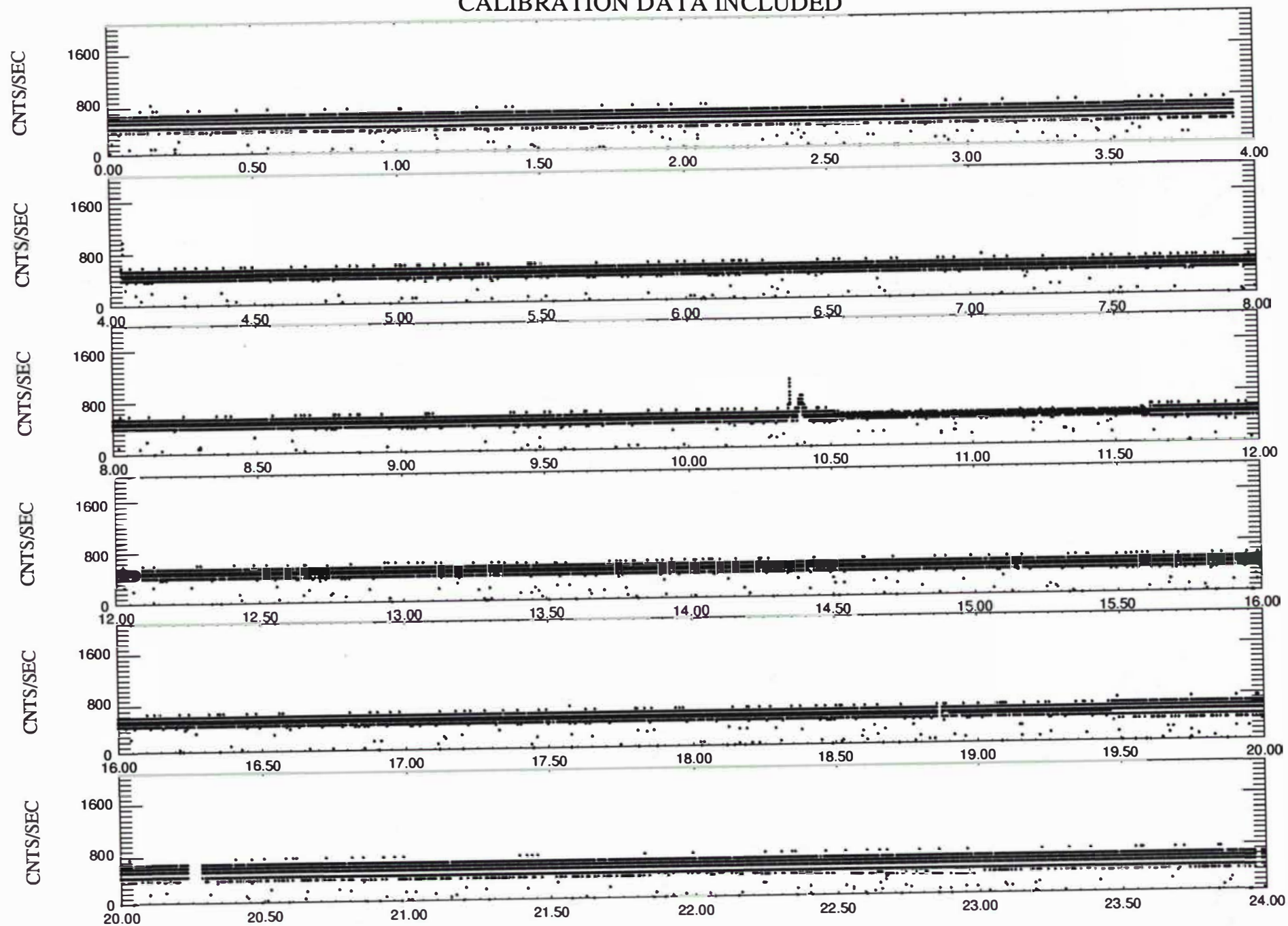
Background not subtracted

Sample average = 10

BURST NUMBER 14

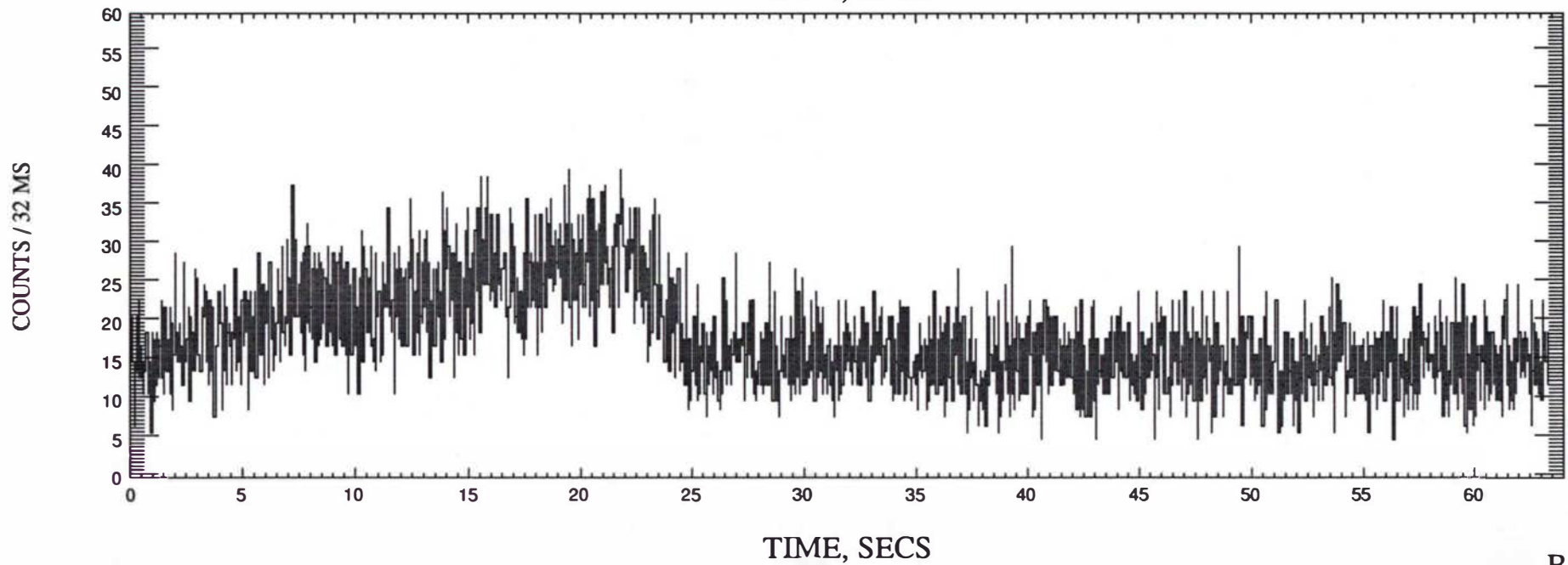
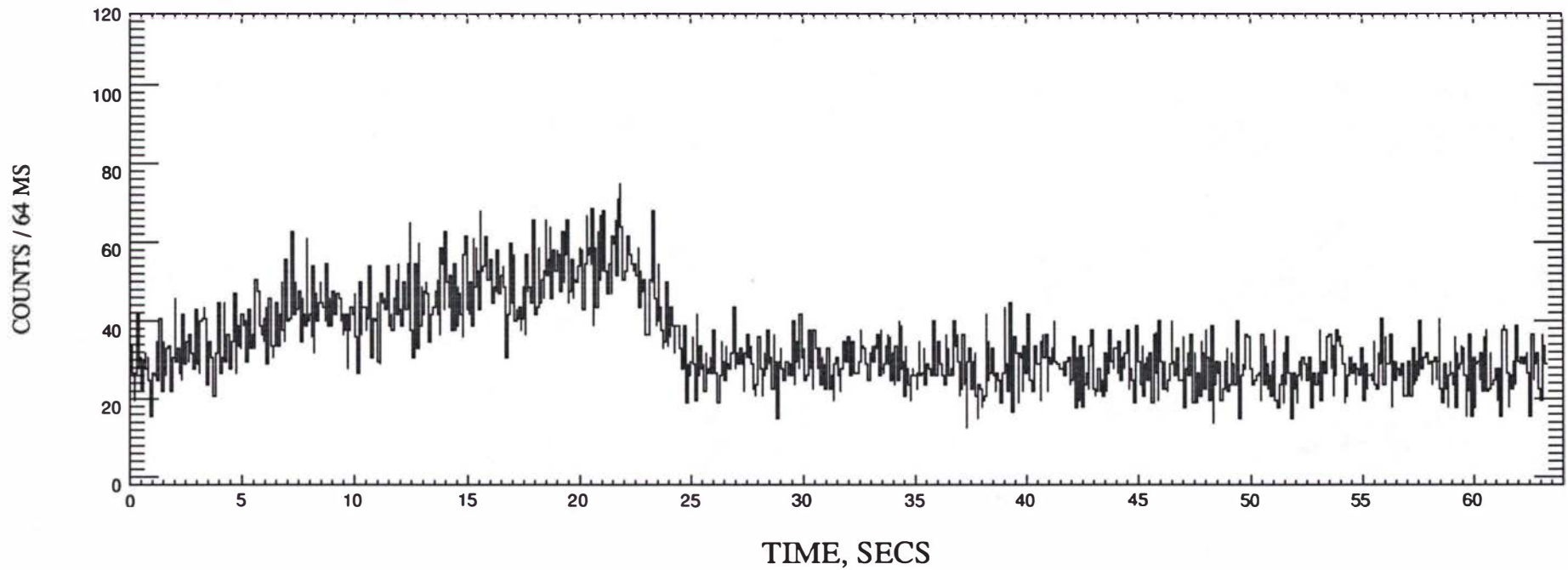


CALIBRATION DATA INCLUDED

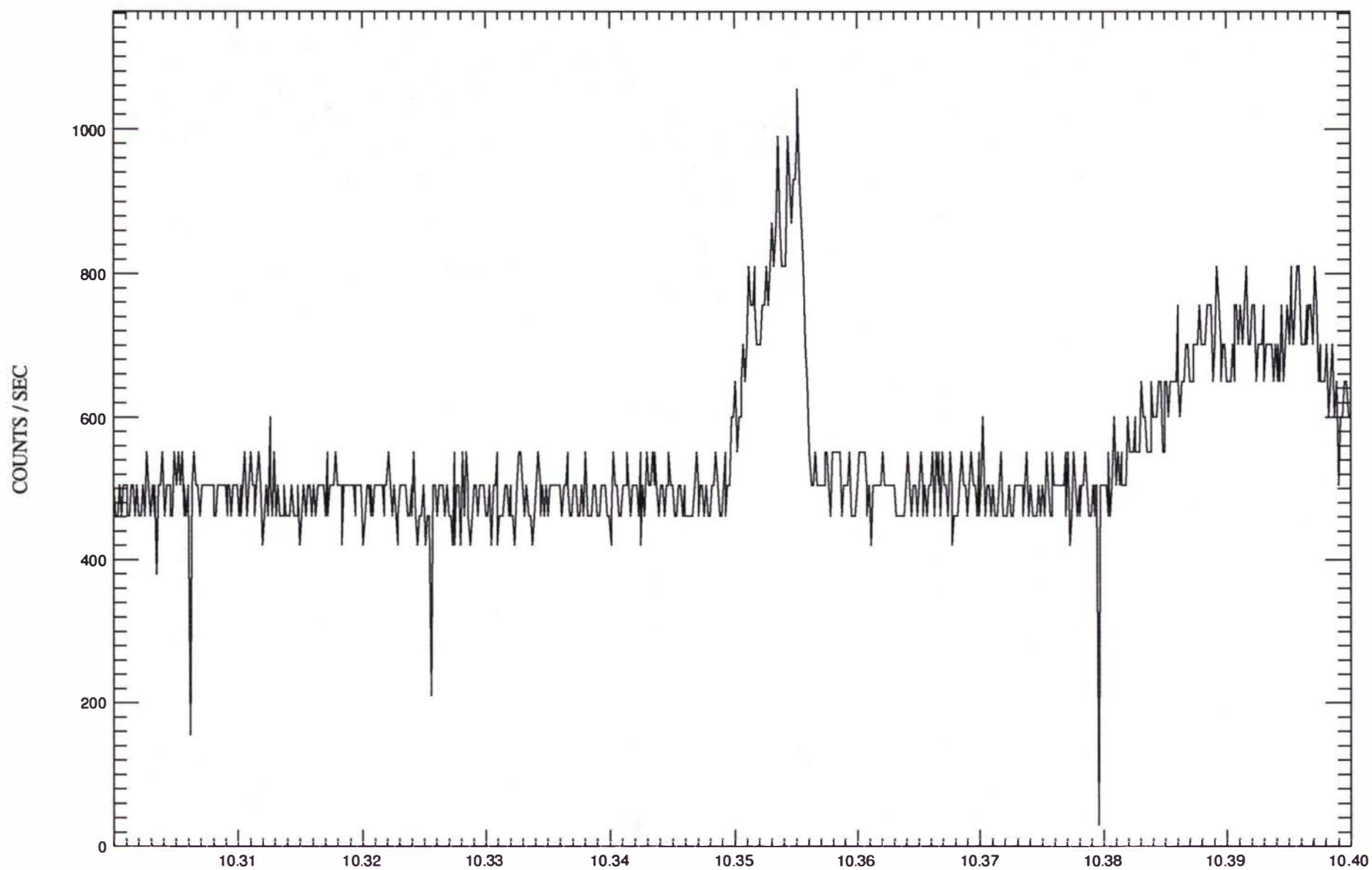


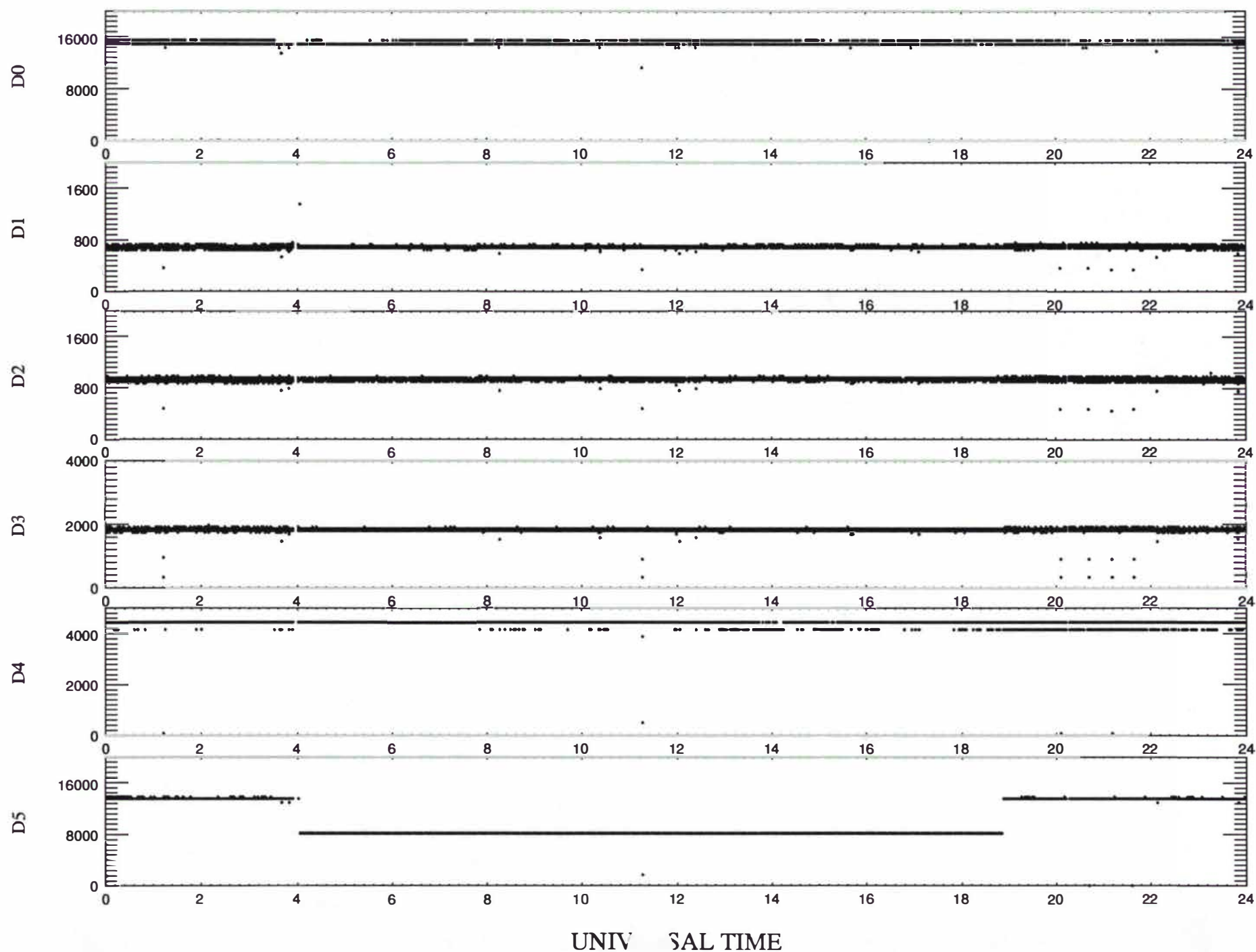
UNIV SAL TIME

Burst Counter 14 at UT=10.351352005005 h=37264.867 s 10:21:04.867



CALIBRATION DATA INCLUDED





JANA TAB1 19980930 82338

ULYSSES RT

05/08/05

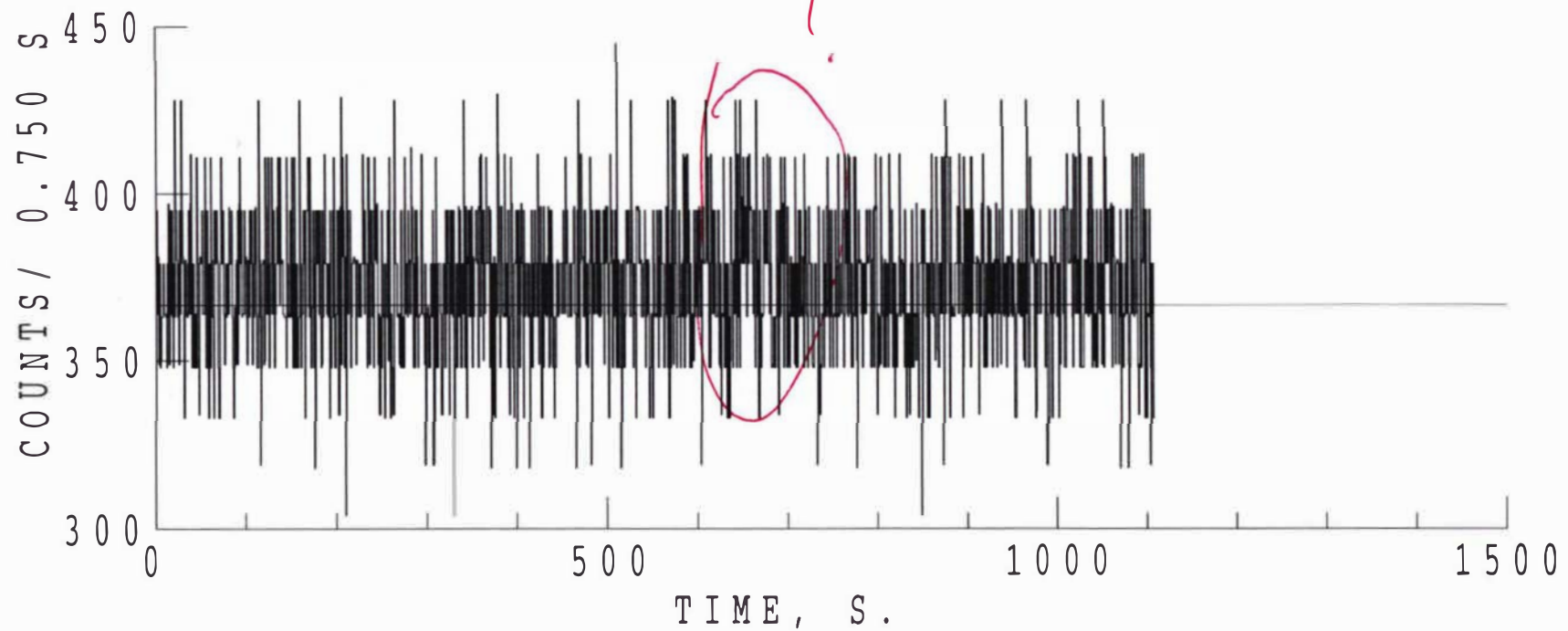
30/09/98 81792.109 s

0.250 S INTERVALS REGROUPED BY 3

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From khurley@sunspot Tue Oct 6 08:50 PDT 1998
Date: Tue, 6 Oct 1998 08:53:39 -0700
From: khurley@sunspot (Kevin Hurley)
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, woods@eagles.msfc.nasa.gov,
kraken@rosserv.gsfc.nasa.gov
Subject: GRB980930, 981001

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

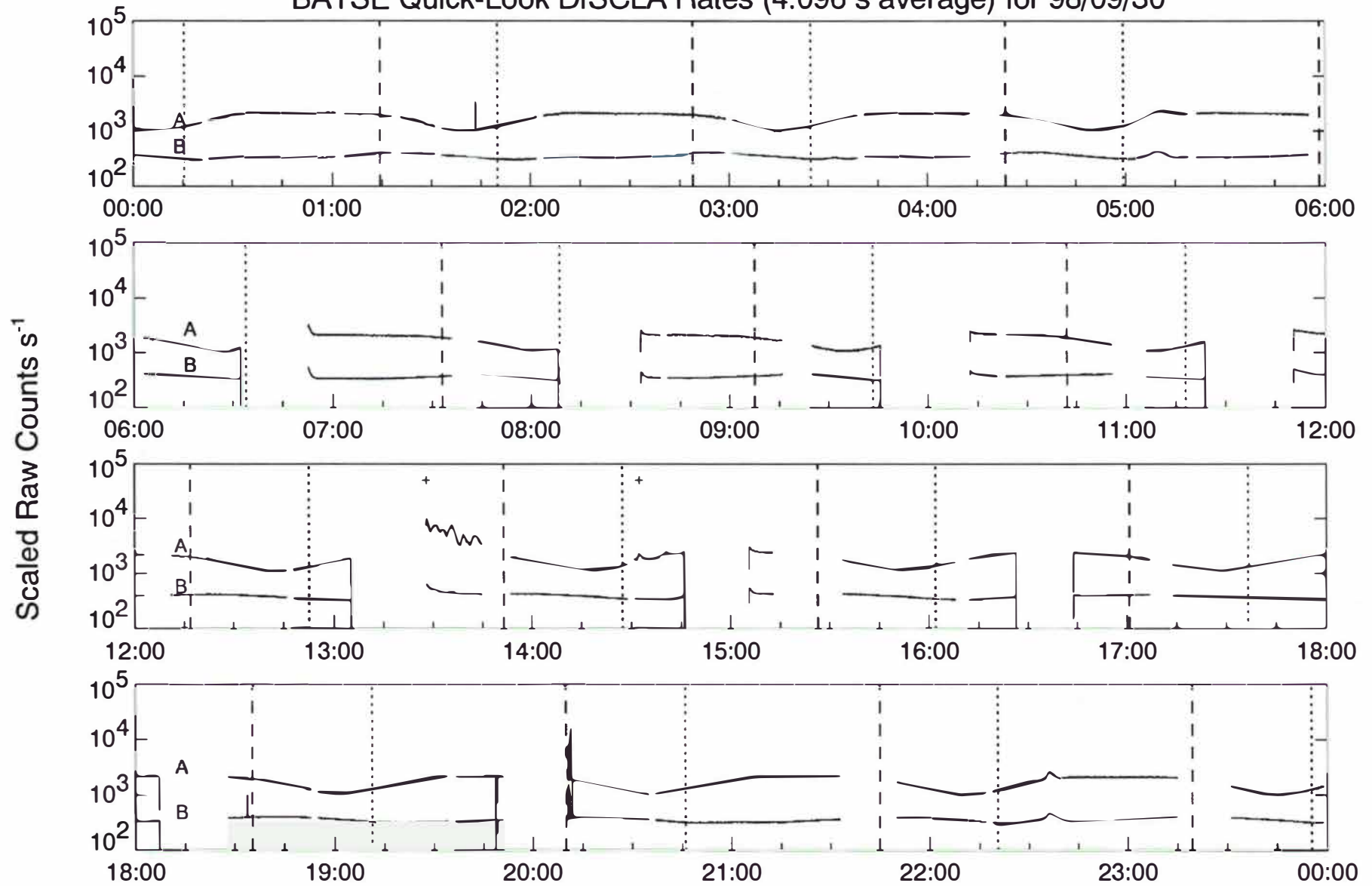
Ulysses observed the following bursts, all suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1800 s earlier.

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
SEP 30 1998 00:30	moderate, 32 ms long	3300
SEP 30 1998 11:01	weak, 32 ms long	3300
SEP 30 1998 20:22	weak, 32 ms long	3300
OCT 01 1998 10:366	weak, 32 ms long	3300

Were these events detected by anyone else?

CC: ulyssesbursts alias list
(barthelmy, butterworth, cline, frontera, kouveliotou, kurczyski, marar, tee

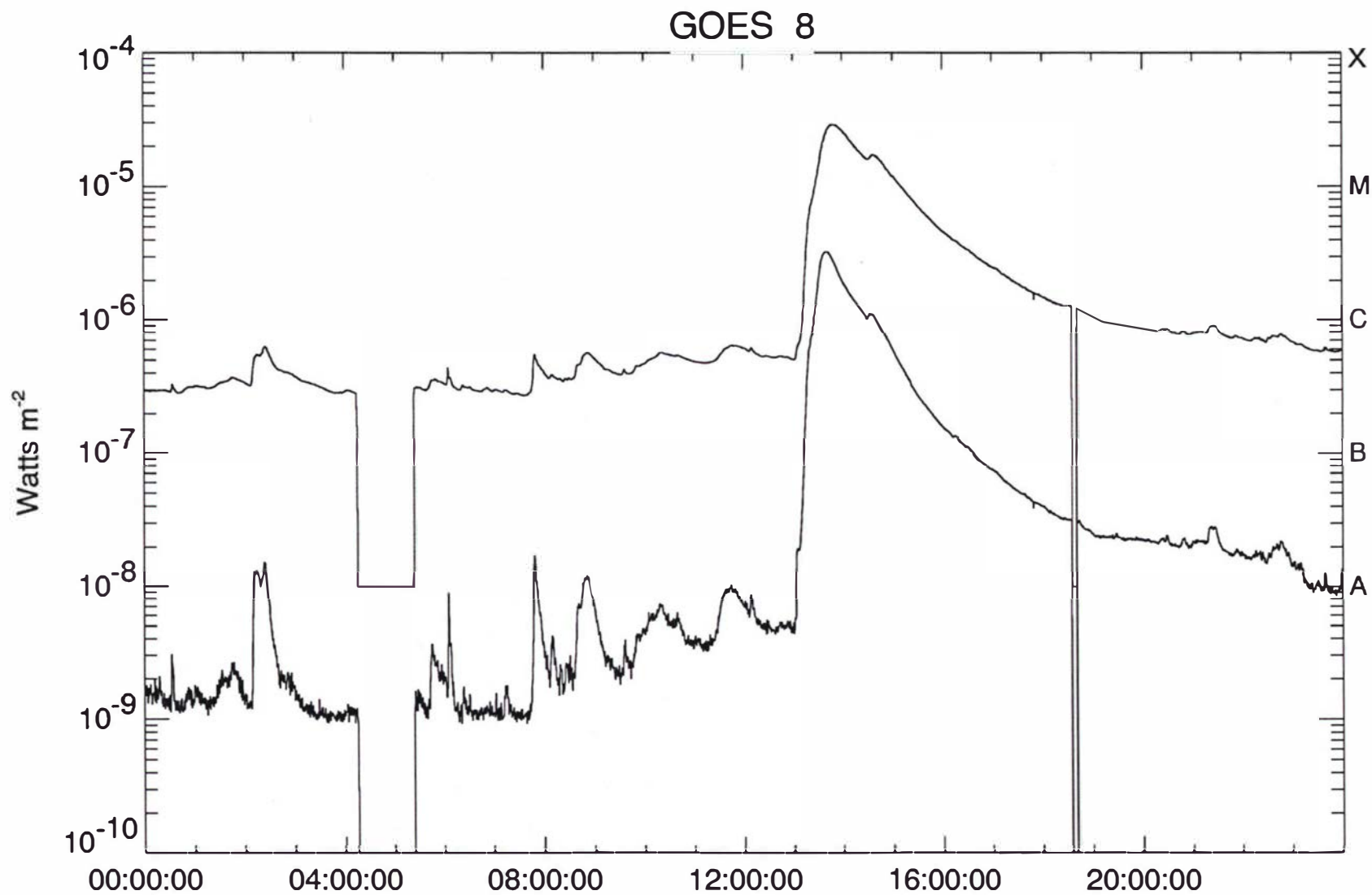
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/09/30



Current Time: 98/10/04, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare



Data Start: 98/09/30, 0000:00

Plot created: 98/10/04, 1007

Channel 1 (1.0 - 8.0 Angstroms)

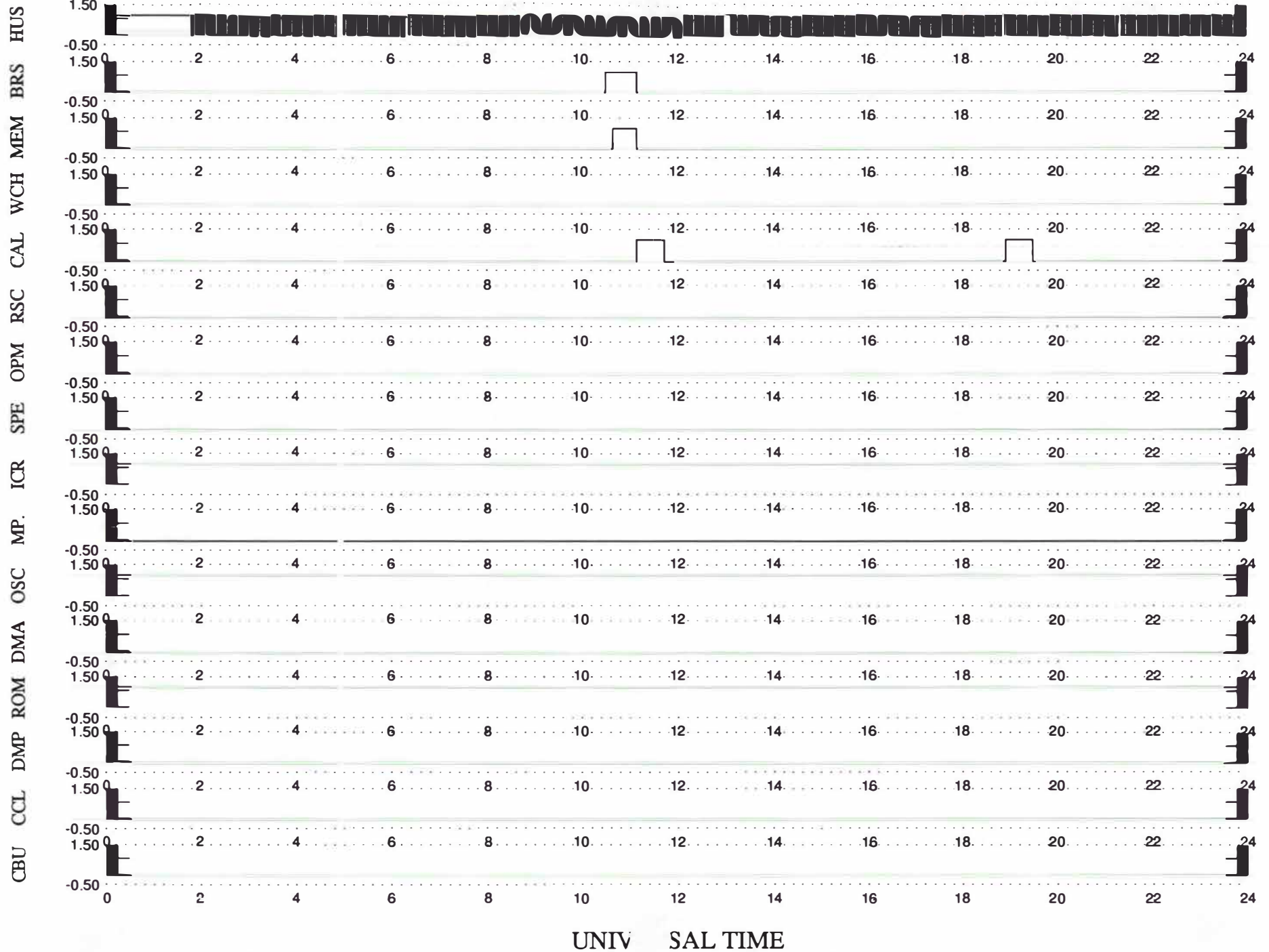
Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms)

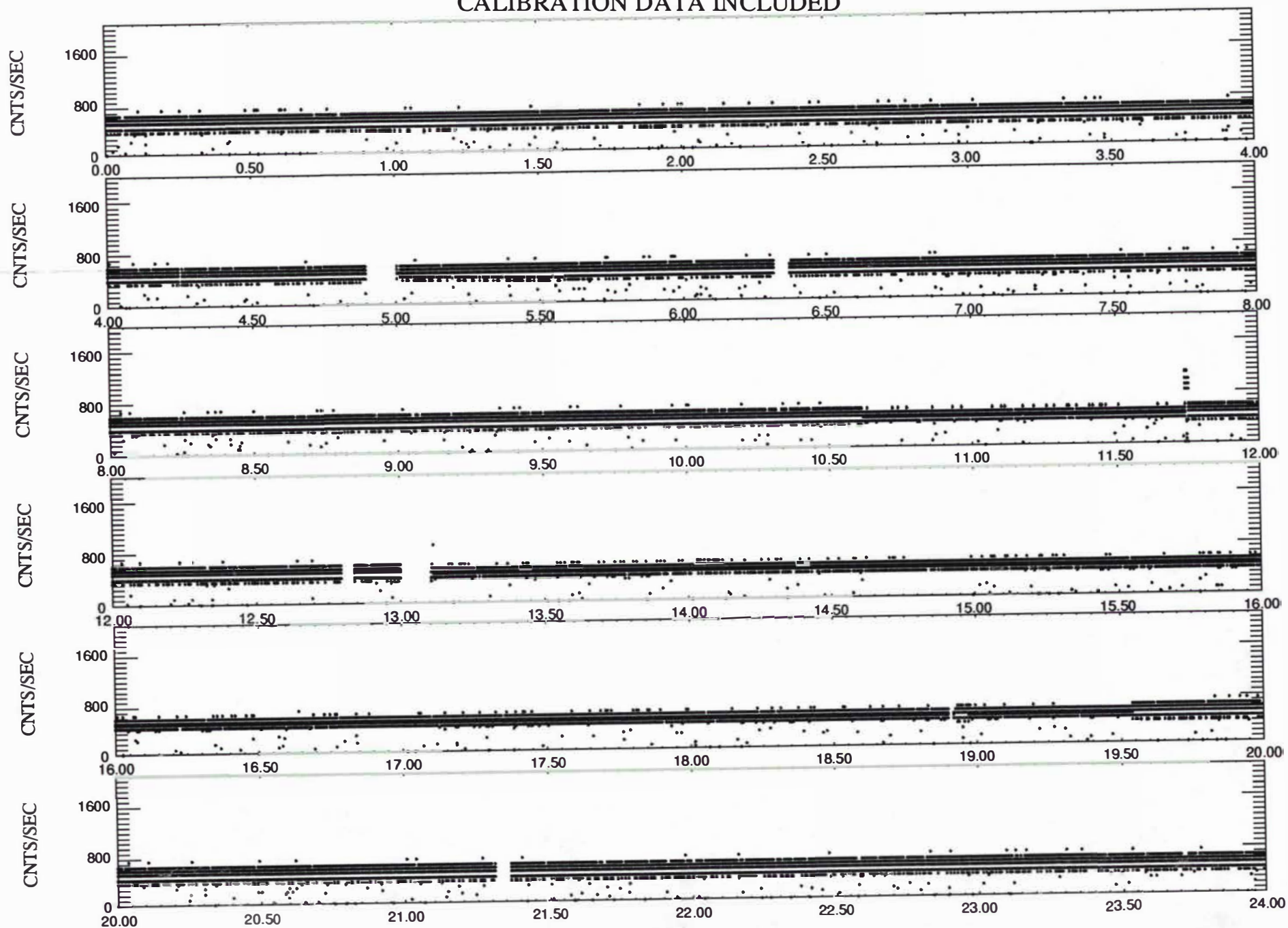
Background not subtracted

Sample average = 10

BURST NUMBER 15

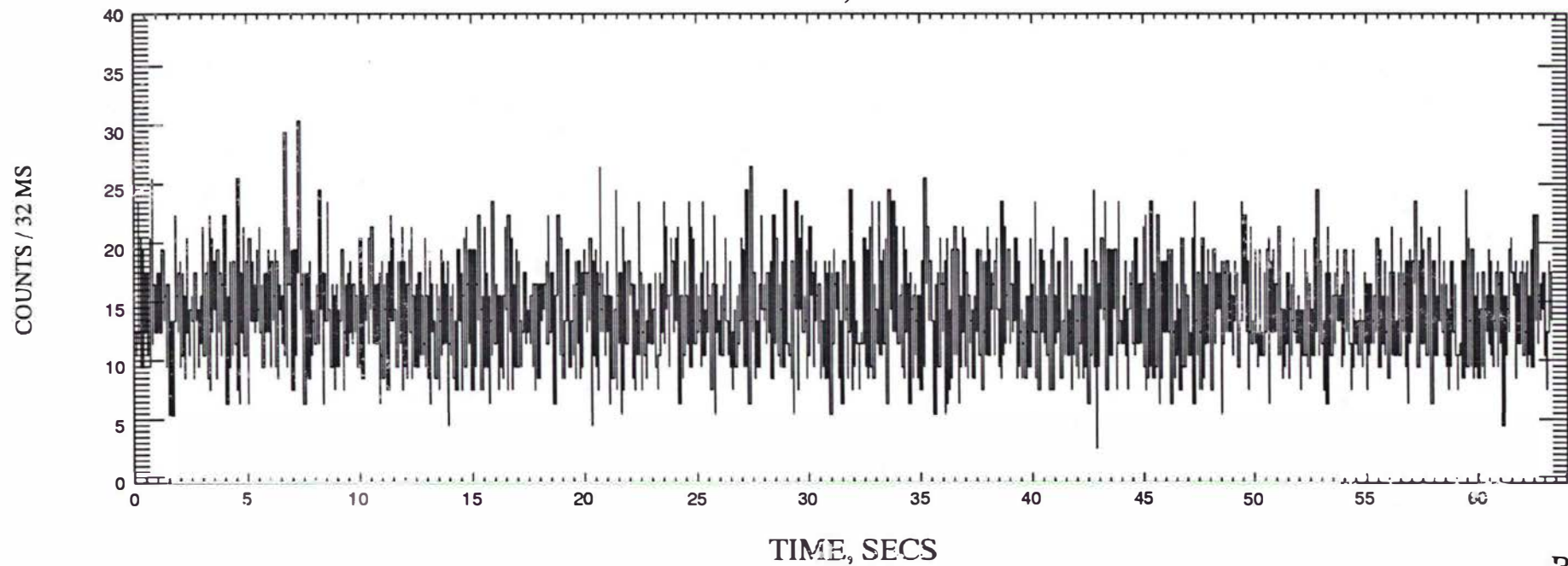
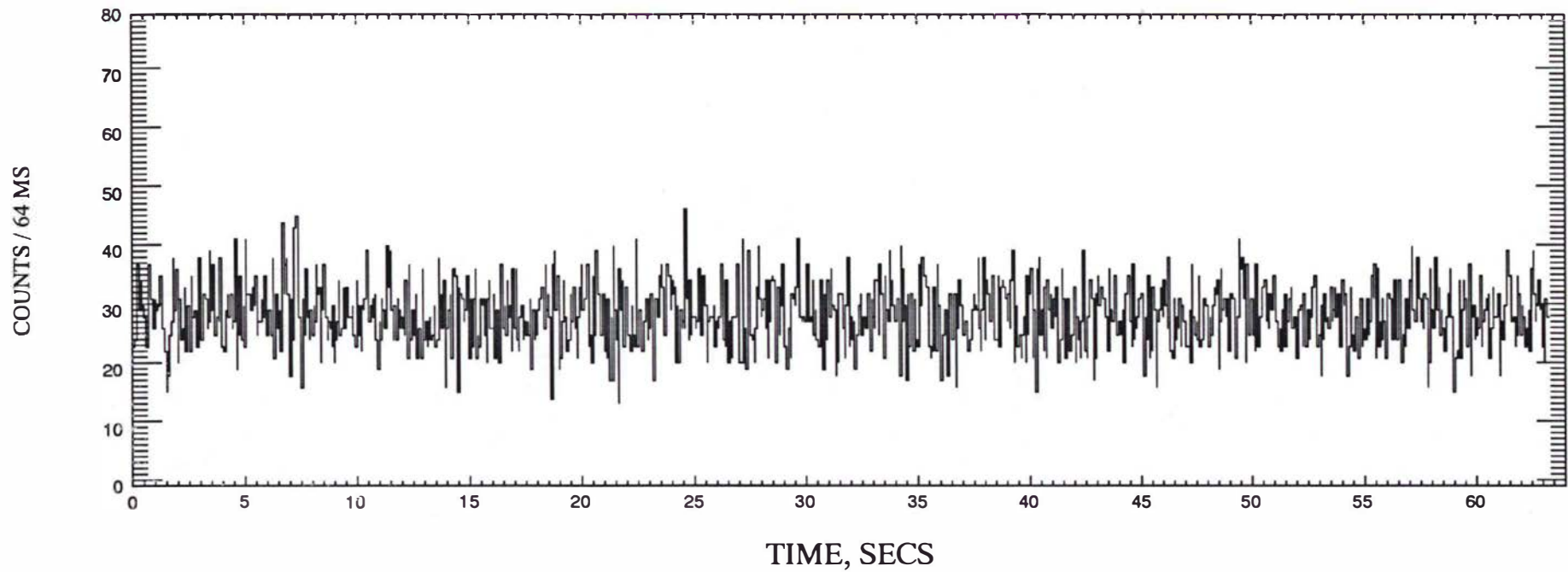


CALIBRATION DATA INCLUDED



UNIV SAL TIME

Burst Counter 15 at UT=10.467438269721 h=37682.778 s 10:28:02.778



CALIBRATION DATA INCLUDED

