Kiruna Geophysical Data



Data Summary 16/04-06 (April-June 2016)

Swedish Institute of Space Physics

Kiruna Geophysical Data

Data Summary 16/04-06
April – June 2016

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INTRODUCTION

"Kiruna Geophysical Data" is a collection of results of ground-based more or less continuous measurements of upper atmosphere variables carried out at the Swedish Institute of Space Physics. Our objective with this data summary is to present current geophysical data, related to polar upper atmospheric conditions, to those who require it for their research work.

Coordinates of the Swedish Institute of Space Physics are:

Geogr.		Geomagn. Dipole		Corr. Geomagn.	
Lat.	Long.	Lat.	Long.	Lat.	Long.
67.8°N	20.4°E	65.2°N	116.0°E	64.8°N	104.2°E

The following ground-based measurements of upper atmospheric parameters have been conducted at the Swedish Institute of Space Physics in the period for which data is presented in this report.

	Geomagnetism		Optical aurora		Ionospheric ionization
1.	Geomagnetic digital recording	1.	All-sky camera	1.	Riometer 30.0 MHz
				2.	Riometer 38.2 MHz

In addition the Swedish Institute of Space Physics operates the Ionospheric Observatory at Lycksele (64.7°N, 18.8°E) where it conducts riometer and ionosonde measurements. The Geological Survey of Sweden (SGU) also operates a magnetometer there in collaboration with IRF. That data is not reported in this publication.

Universal time is used in all tables.

Ionosonde data obtained at the Swedish Institute of Space Physics in Kiruna have been published together with ionosonde data from Lycksele and Uppsala in a monthly report "Ionospheric Data Sweden" between January 1990 and March 2000. Copies are available from the Swedish Institute of Space Physics.

Scaled ionosonde parameters from 1965 – 1998 are also available from
`http://www.wdc.rl.ac.uk/wdcc1/ionosondes/data_archive.html`

The most recent data from all instruments are accessible via internet at
`http://www.irf.se/Data`

For more information contact urban.brandstrom@irf.se

GEOMAGNETIC DATA

Magnetograms

The magnetograms reproduced here are plots of data recorded by a three component digital fluxgate magnetometer with a sampling frequency of 1 sample/second.

The scaling is indicated by the tick mark values on the plots. Note that for large disturbances the normal scaling has been reduced. The positive direction of the components are: X north, Y east and Z down, in geographic coordinates.

K-indices

The K-indices give a measure of the amount of disturbance of the geomagnetic field.

A reading of maximum deflection has been made during each 3-hour interval (starting from 00 to 03 UT) of two components X and Y. The Sq + L variation has been compensated for. A detailed description of the determination of K-indices has been given by J. Bartels: The technique of scaling indices K and Q geomagnetic activity. IGY Annals 4, London 1957.

The following scale has been used:

K-indices	Deflection in nT		
0	0	-	15
1	15	-	30
2	30	-	60
3	60	-	120
4	120	-	210
5	210	-	360
6	360	-	600
7	600	-	990
8	990	-	1500
9	1500	and more	

ALL-SKY CAMERA DATA

Digital all-sky camera images are typically recorded in jpeg format at a rate of one frame per minute. The filename of each image contains information about UTC and exposure time. Longer exposure times are used at regular intervals (typically eight minutes). Data might be recorded at higher frame rates during selected periods. More information and image data are available from: `http://www.irf.se/allsky`

Information about available records of all-sky camera data is presented as colour keograms. Keograms are time sequences of poleward to equatorward slices through the centre of all-sky images. The top of the image points poleward, the bottom equatorward. Time is on the horizontal axis (0:00-24:00 UTC). Each page contains keograms for seven days. White areas indicate missing data (e.g. daylight conditions).

IONOSPHERIC ABSORPTION DATA

Ionospheric absorption at 30.0 MHz and 38.2 MHz is recorded by two La Jolla riometers. The riometer records of cosmic noise power are reproduced in this report. The zero power level is at bottom of each panel.

The absorption (in decibels) can be computed from the formula

$$A(dB) = 10\log_{10}\frac{P_o}{P}$$

where P is the received cosmic noise power, P_o the cosmic noise power expected under ionospherically quiet conditions at the same sidereal time.

GEOMAGNETIC K-INDICES, KIRUNA

April 2016

Lower limit of K=8 is 990 nT

Time in UT

Day	00 - 03	03 - 06	06 - 09	09 - 12	12 - 15	15 - 18	18 - 21	21 - 24	Sum
1	(2)	0	1	1	2	1	2	1	(10)
2	2	1	1	1	3	6	6	6	26
3	6	3	3	2	2	3	5	7	31
4	4	3	1	3	3	1	1	3	19
5	1	1	1	2	2	2	5	3	17
6	3	2	(2)	3	3	3	3	3	(22)
7	4	2	2	2	1	3	6	8	28
8	7	4	1	1	1	1	1	1	17
9	1	1	2	2	2	1	1	1	11
10	2	1	2	2	2	1	0	4	14
11	1	1	1	1	3	4	3	3	17
12	3	3	2	3	5	3	5	6	30
13	7	5	4	4	5	5	7	6	43
14	5	3	2	4	5	6	6	6	37
15	5	3	2	2	2	2	1	4	21
16	1	0	2	3	3	4	5	5	23
17	6	4	3	2	4	3	6	5	33
18	2	1	1	2	2	1	1	0	10
19	1	1	1	1	2	1	0	0	7
20	1	1	2	2	1	1	0	1	9
21	1	1	2	2	1	2	2	1	12
22	2	2	2	2	3	4	5	6	26
23	2	2	2	2	3	2	4	7	24
24	3	2	3	2	3	5	3	1	22
25	1	1	1	2	3	2	1	0	11
26	1	1	1	2	3	2	4	5	19
27	1	2	1	2	4	4	3	3	20
28	2	1	2	2	2	1	0	1	11
29	2	2	1	1	1	1	1	1	10
30	1	1	2	2	4	2	4	5	21
Sum	80	55	53	62	80	77	91	103	

GEOMAGNETIC K-INDICES, KIRUNA

May 2016

Lower limit of K=8 is 990 nT

Time in UT

Day	00 - 03	03 - 06	06 - 09	09 - 12	12 - 15	15 - 18	18 - 21	21 - 24	Sum
1	(5)	2	2	2	5	4	6	6	(32)
2	5	6	2	3	5	5	7	6	39
3	5	5	3	3	2	3	3	4	28
4	2	2	2	1	3	2	2	2	16
5	1	1	1	3	3	3	2	4	18
6	4	2	2	3	4	5	6	6	32
7	7	2	2	3	2	4	2	4	26
8	8	7	7	5	6	6	6	7	52
9	8	6	3	4	5	4	7	6	43
10	5	4	3	3	4	4	3	4	30
11	5	2	2	2	3	3	4	5	26
12	4	1	2	2	2	2	2	3	18
13	2	1	2	3	3	2	5	2	20
14	4	3	2	3	3	2	6	5	28
15	5	3	2	2	6	4	4	3	29
16	4	4	2	2	5	4	4	4	29
17	4	2	3	3	4	4	4	5	29
18	4	3	2	3	3	2	1	2	20
19	1	1	2	3	3	2	4	0	16
20	4	3	2	2	3	1	0	4	19
21	4	2	4	3	4	4	3	1	25
22	3	3	3	4	3	2	2	0	20
23	1	1	2	2	2	2	1	1	12
24	2	1	(3)	3	3	1	0	1	(14)
25	1	2	2	2	3	1	0	0	11
26	1	1	(2)	1	2	2	1	2	(12)
27	4	4	2	2	4	3	5	5	29
28	5	2	3	3	3	4	4	5	29
29	4	3	2	2	2	3	4	5	25
30	6	3	2	3	3	3	3	3	26
31	3	2	2	2	3	3	4	5	24
Sum	121	84	75	82	106	94	105	110	

GEOMAGNETIC K-INDICES, KIRUNA

June 2016

Lower limit of K=7 is 600 nT

Time in UT

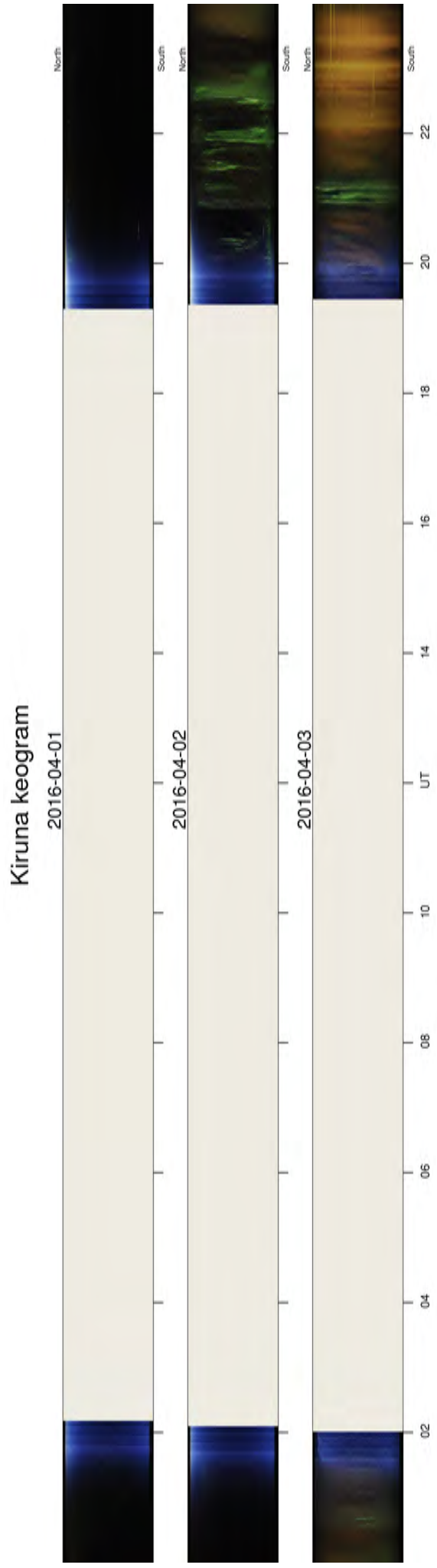
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3	2	0	2	2	1	2	0	3	12
4	2	0	2	2	1	2	2	1	12
5	2	2	2	3	6	5	7	5	32
6	6	5	4	5	4	4	5	3	36
7	4	1	2	2	3	3	5	4	24
8	5	4	1	2	3	2	1	2	20
9	2	2	1	1	2	1	2	1	12
10	1	1	1	2	3	3	3	3	17
11	5	2	2	2	4	4	3	6	28
12	2	2	2	3	4	3	4	3	23
13	4	4	2	2	3	1	3	2	21
14	4	2	2	2	3	3	7	6	29
15	6	4	3	4	3	3	2	1	26
16	2	2	2	2	3	2	2	2	17
17	1	3	2	3	4	3	4	2	22
18	3	3	2	3	4	2	2	2	21
19	3	2	2	2	2	2	1	1	15
20	1	1	2	2	1	1	1	2	11
21	1	1	1	2	2	2	1	1	11
22	2	1	1	3	2	4	4	4	21
23	2	3	2	2	2	4	4	6	25
24	7	6	3	2	3	3	3	5	32
25	4	3	2	2	3	3	2	6	25
26	4	1	2	2	3	3	4	7	26
27	6	3	2	2	2	1	1	4	21
28	3	2	2	2	2	3	3	2	19
29	2	1	1	1	2	2	3	1	13
30	1	1	1	2	2	2	4	3	16
Sum	92	65	57	67	81	77	84	93	

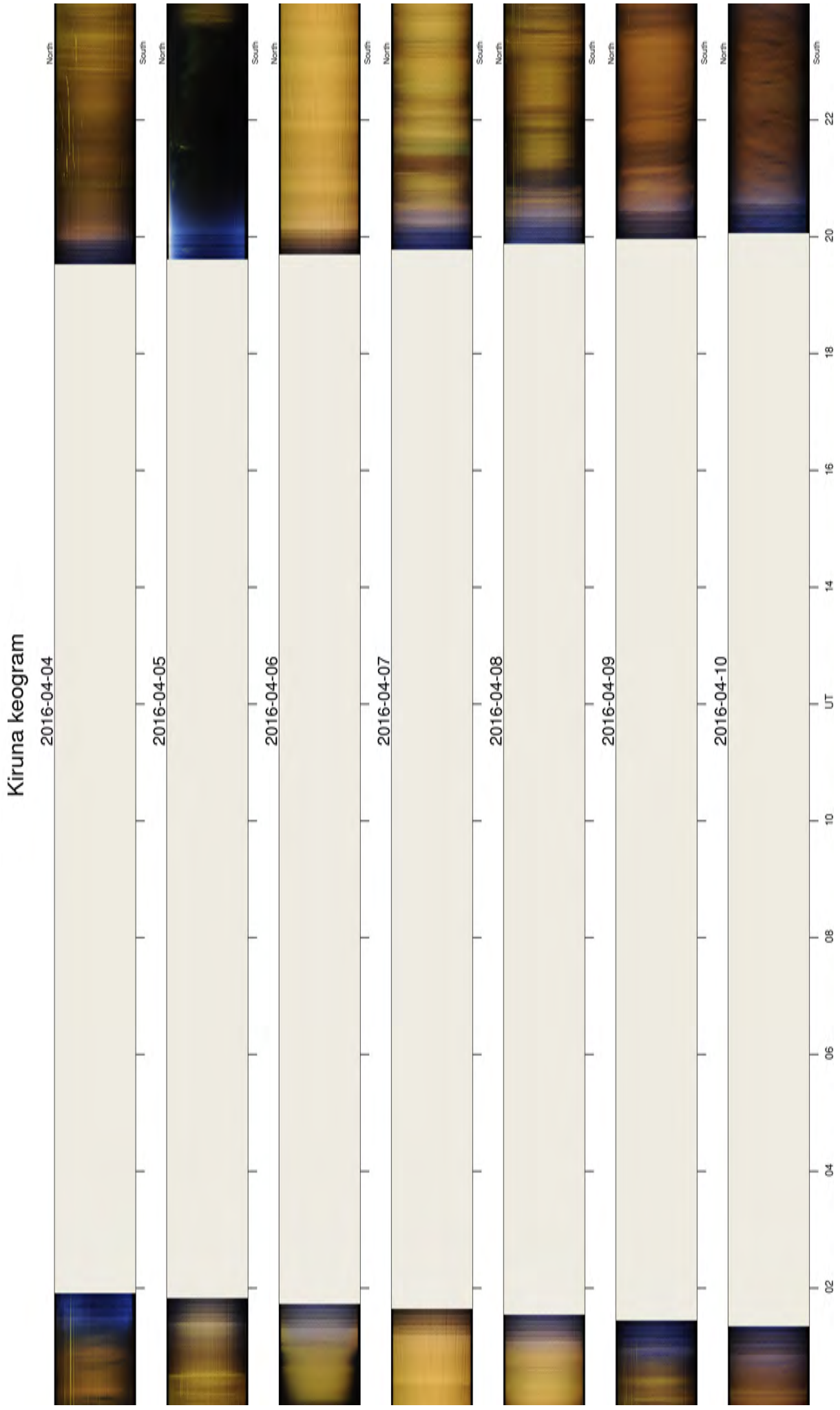
ALL-SKY CAMERA KEOGRAMS

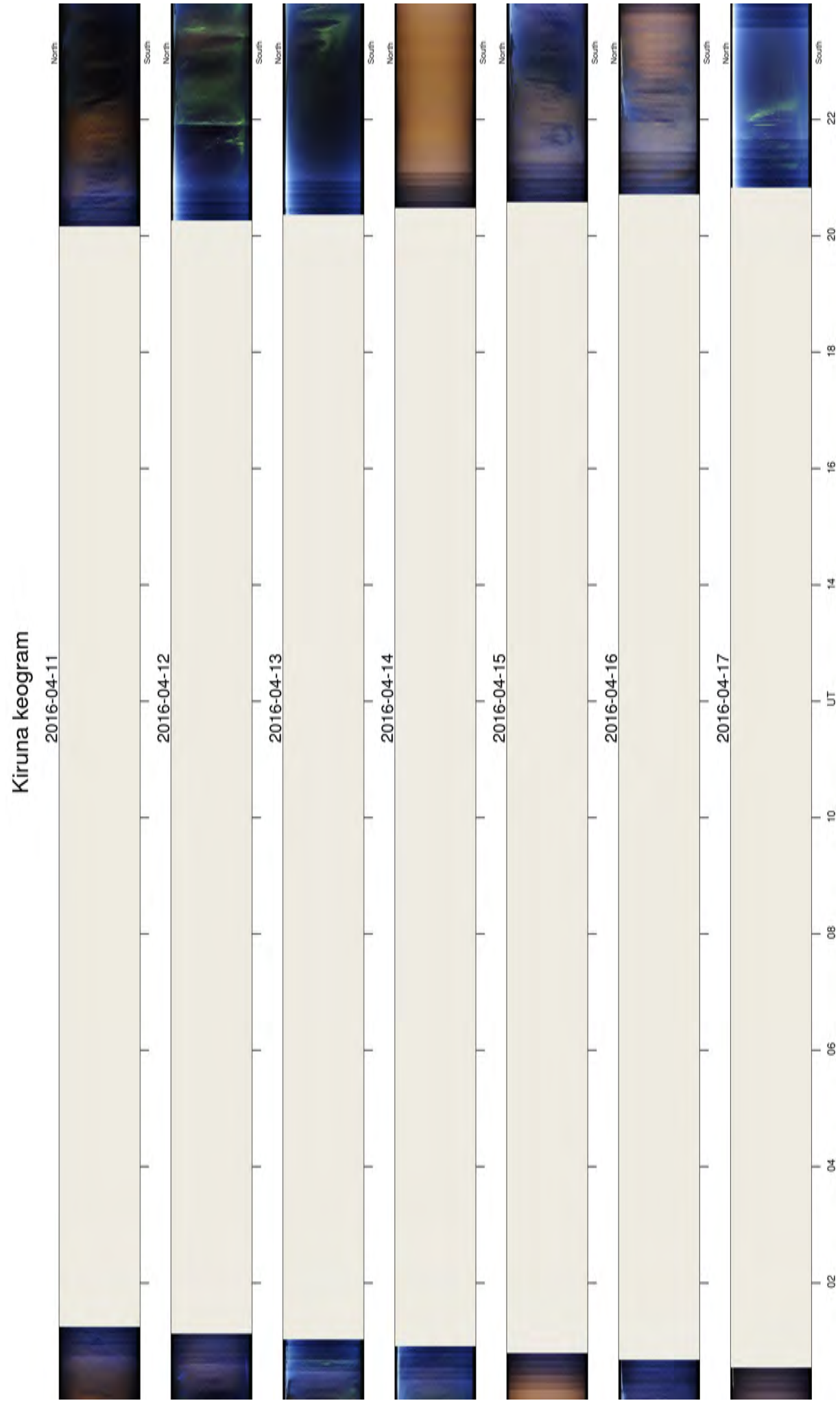
April - June 2016

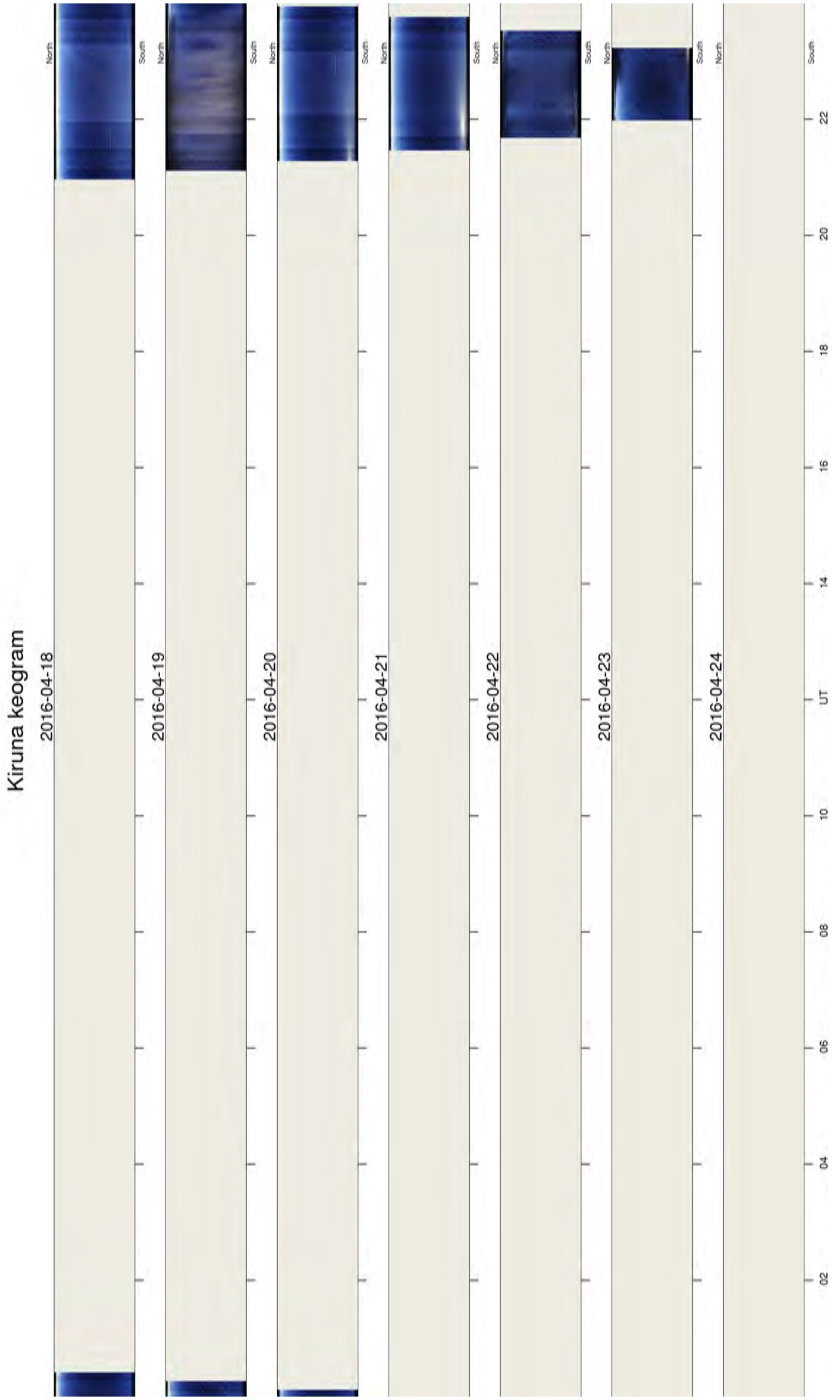
http://www.irf.se/allsky/kgd

All-sky camera closed for season from 24 April to 16 August 2016.


Kiruna keogram
2016-04-01
2016-04-02
2016-04-03
North
South
02
04
06
08
10
UT
14
16
18
20
22


Kiruna keogram
2016-04-04
2016-04-05
2016-04-06
2016-04-07
2016-04-08
2016-04-09
2016-04-10
North
South
02
04
06
08
10
12
14
16
18
20
22
UT


Kiruna keogram
2016-04-11
2016-04-12
2016-04-13
2016-04-14
2016-04-15
2016-04-16
2016-04-17
North
South
02
04
06
08
10
12
14
16
18
20
22
UT

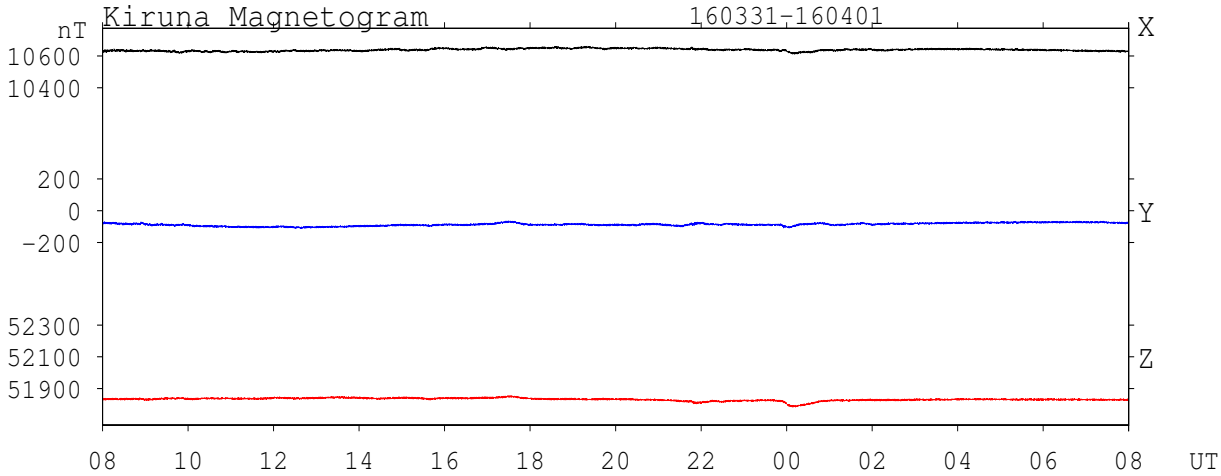

Kiruna keogram
2016-04-18
2016-04-19
2016-04-20
2016-04-21
2016-04-22
2016-04-23
2016-04-24
North
South
02
04
06
08
10
12
14
16
18
20
22
UT

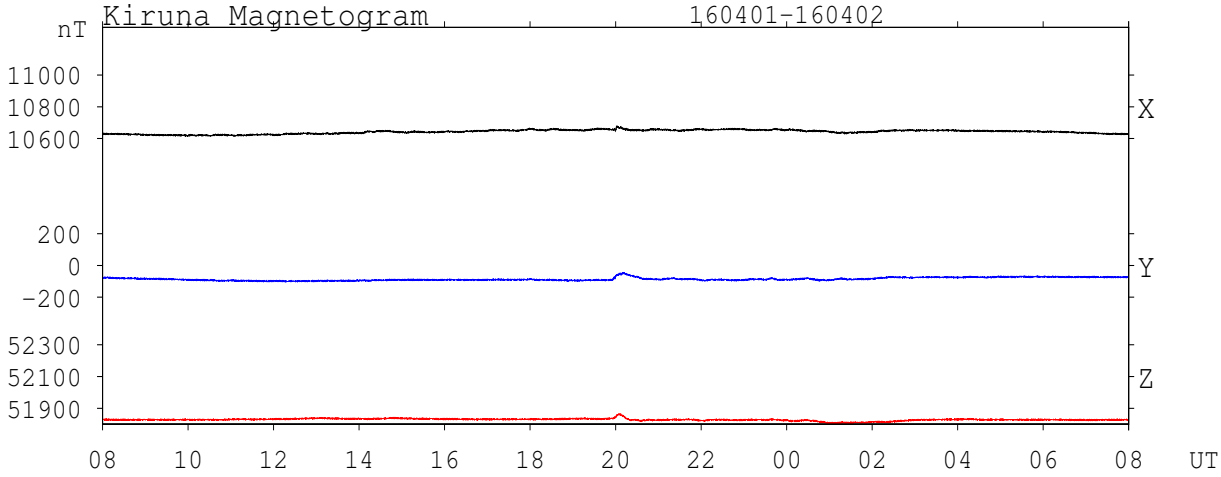
KIRUNA MAGNETOGRAM PLOTS

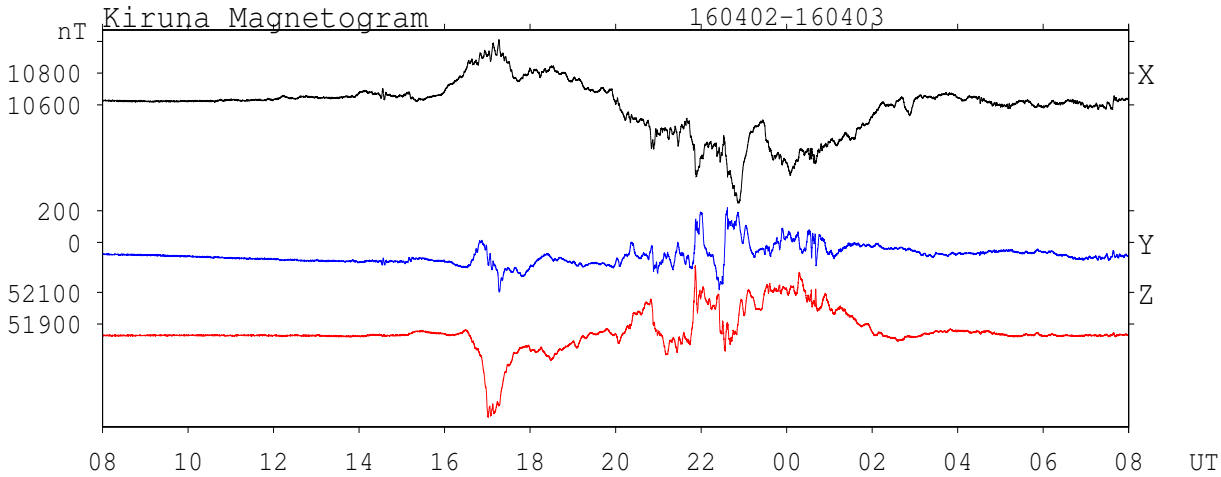
April - June 2016

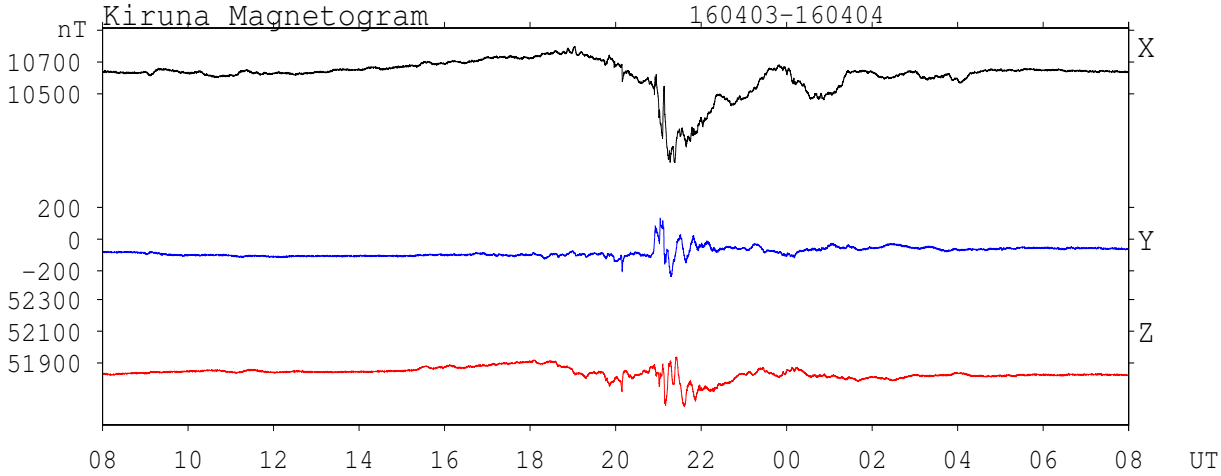
http://www.irf.se/mag

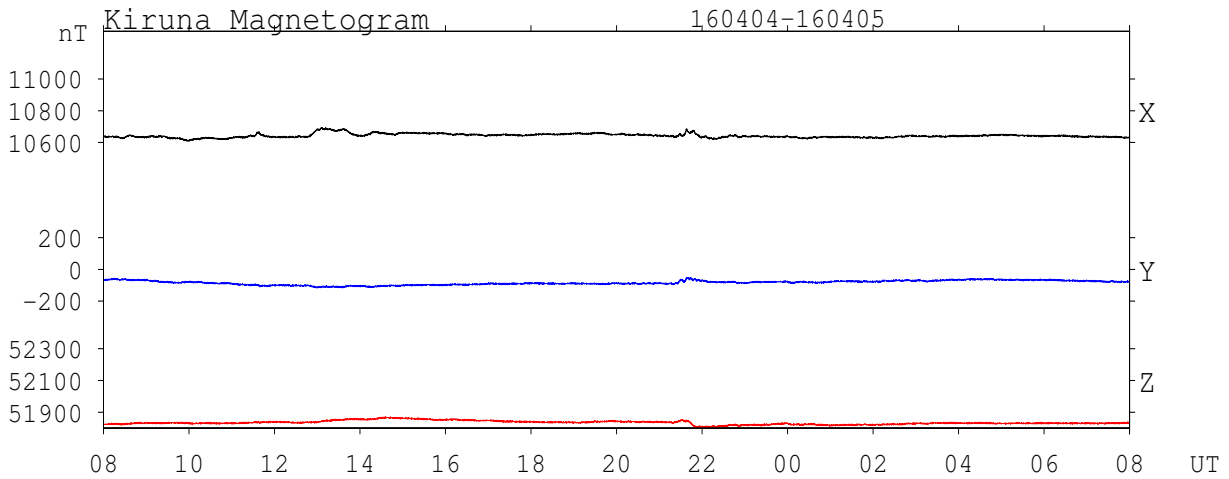
Note on scaling: Scaling for 160508 is 300 nT instead of 200 nT.

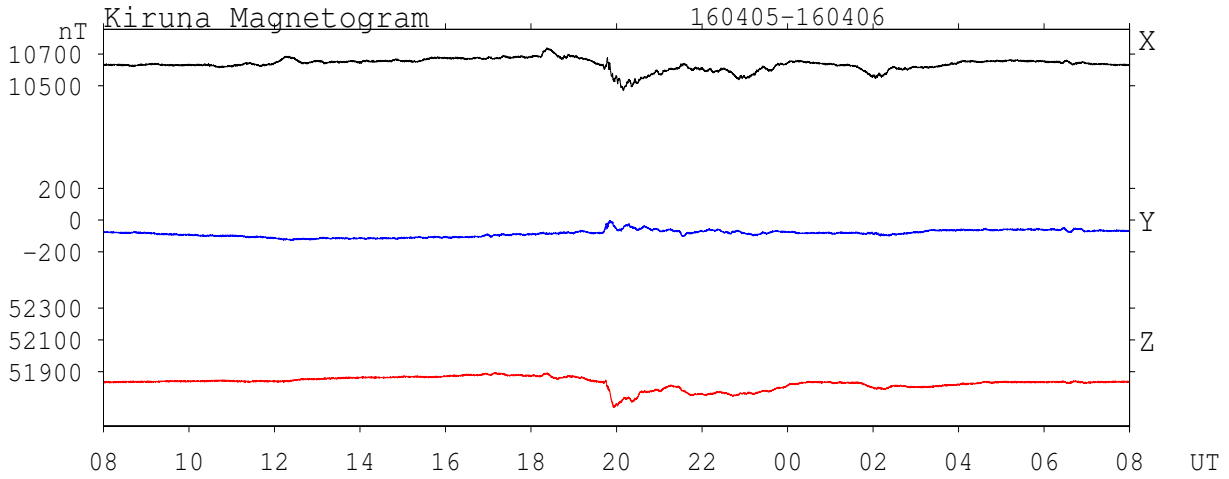

Kiruna Magnetogram
160331-160401
nT
10600
10400
200
0
-200
52300
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

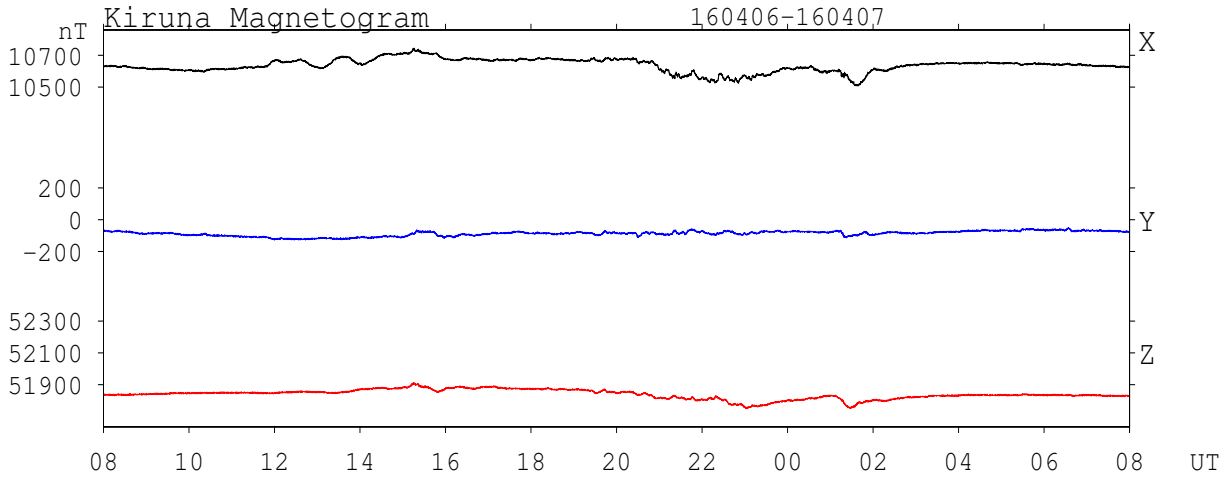

Kiruna Magnetogram
160401-160402
nT
11000
10800
10600
200
0
-200
52300
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

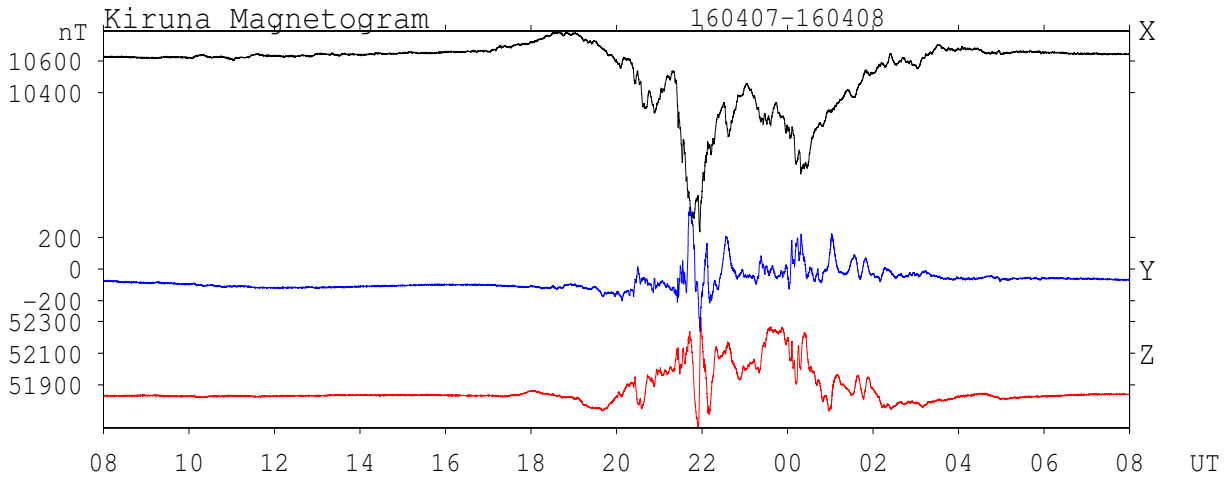

Kiruna Magnetogram
160402-160403
nT
10800
10600
200
0
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

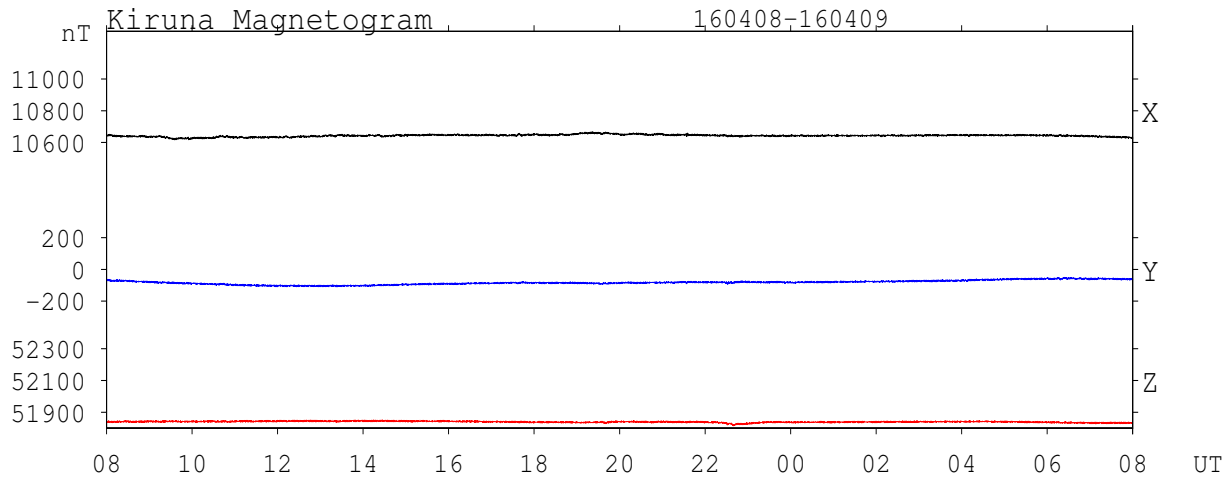

Kiruna Magnetogram
160403-160404
nT
10700
10500
200
0
-200
52300
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

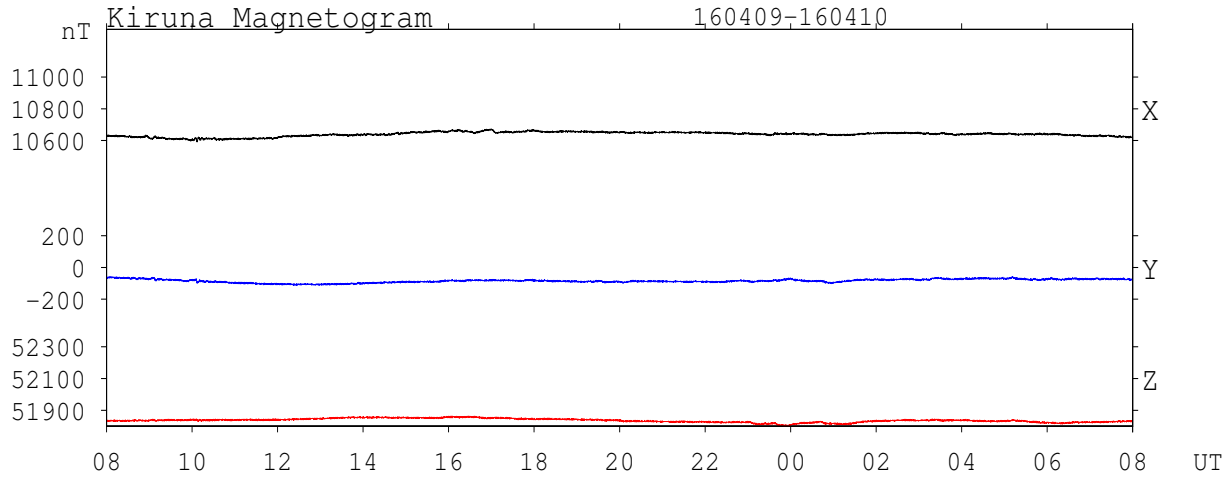

Kiruna Magnetogram
160404-160405
nT
11000
10800
10600
200
0
-200
52300
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

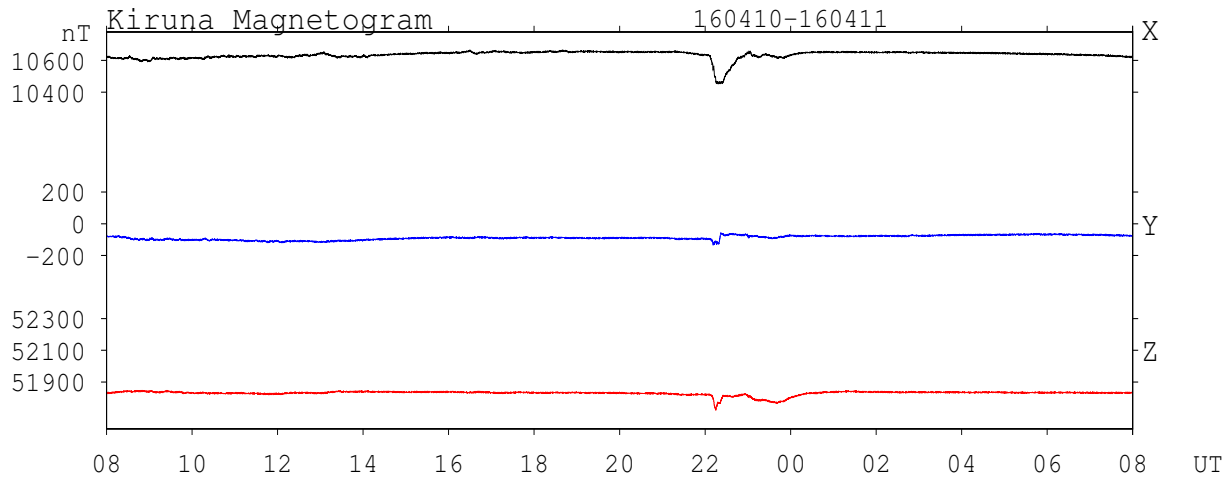

Kiruna Magnetogram
160405-160406
nT
10700
10500
200
0
-200
52300
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

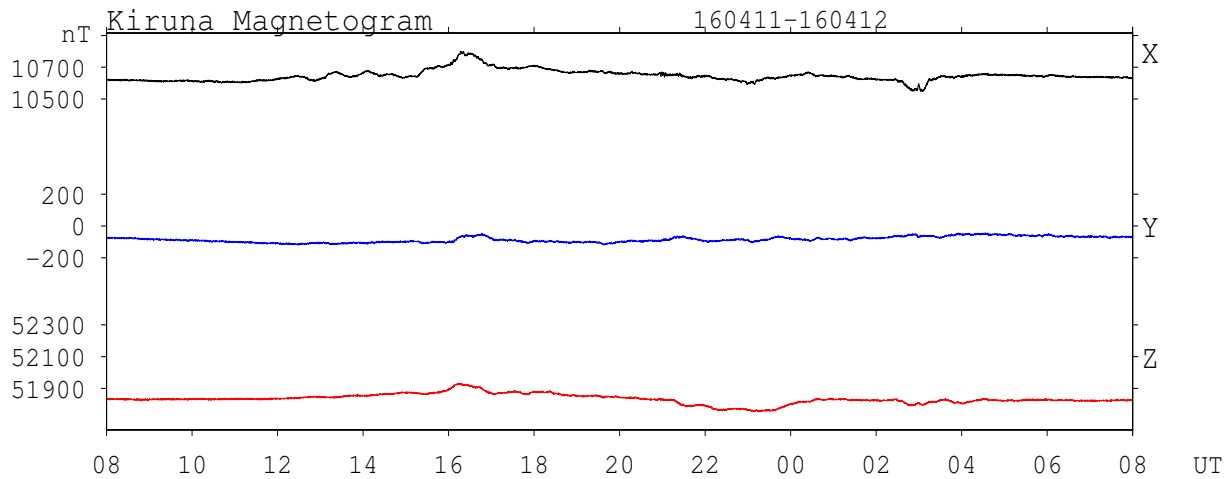

Kiruna Magnetogram
160406-160407
nT
10700
10500
200
0
-200
52300
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

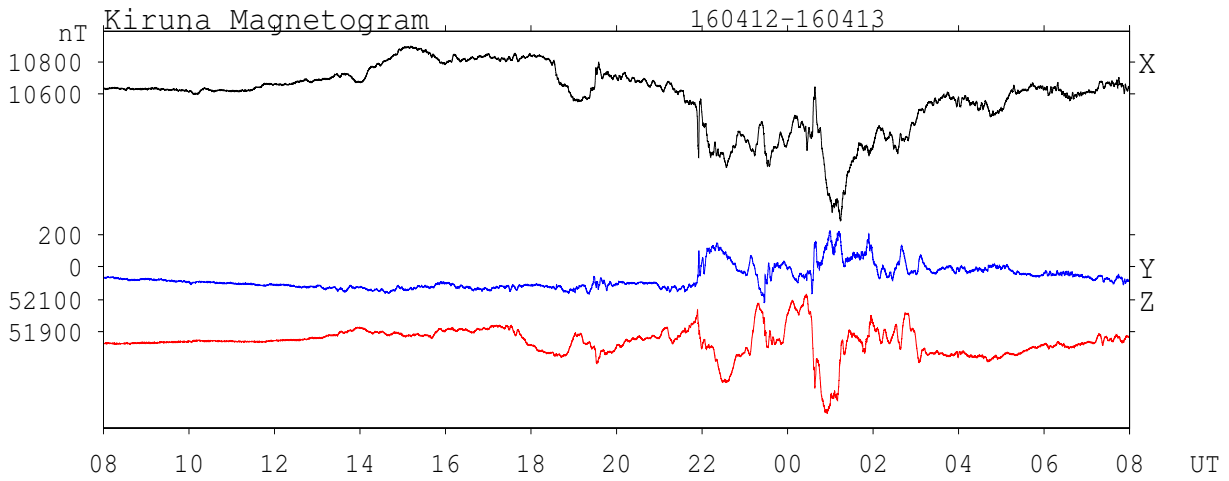

Kiruna Magnetogram
160407-160408
nT
10600
10400
200
0
-200
52300
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

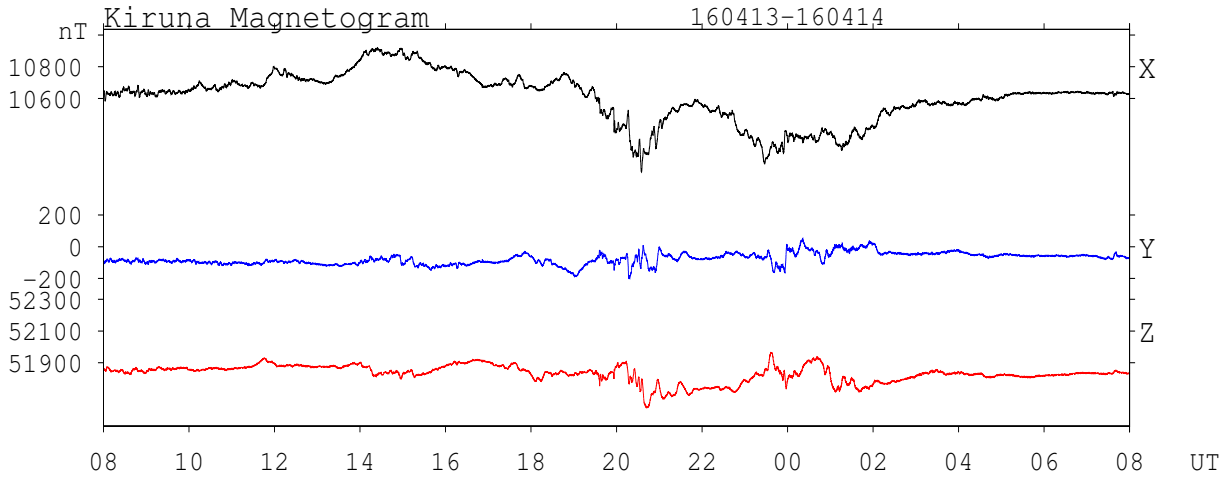

Kiruna Magnetogram
160408-160409
nT
11000
10800
10600
200
0
-200
52300
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

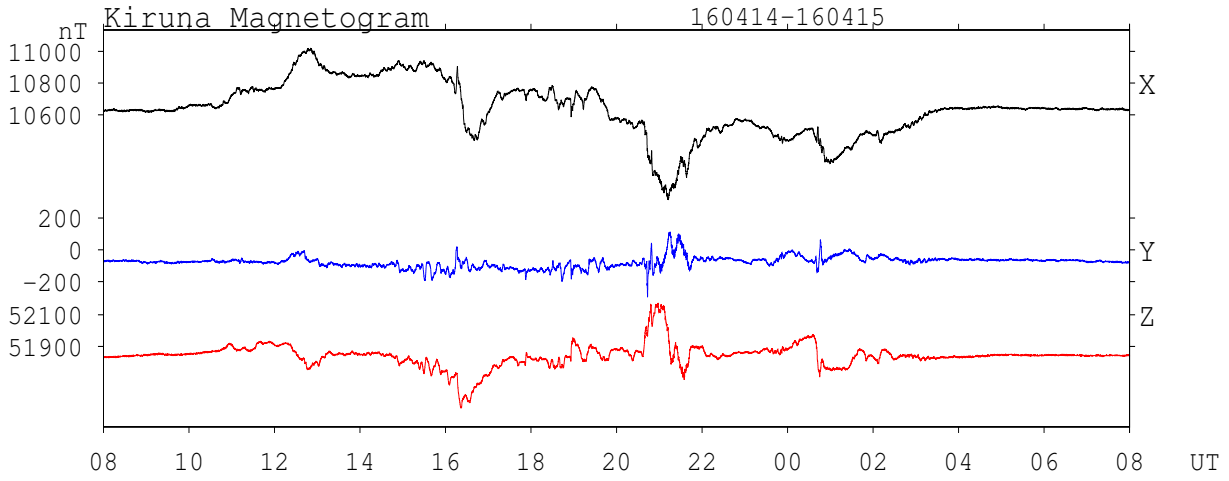

Kiruna Magnetogram
160409-160410
nT
11000
10800
10600
200
0
-200
52300
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

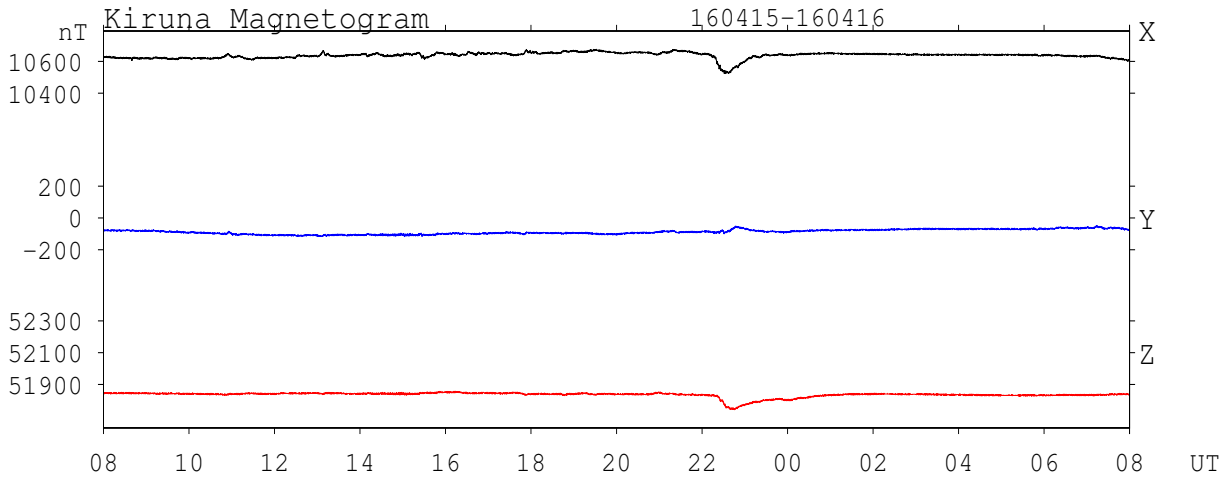

Kiruna Magnetogram
160410-160411
nT
10600
10400
200
0
-200
52300
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

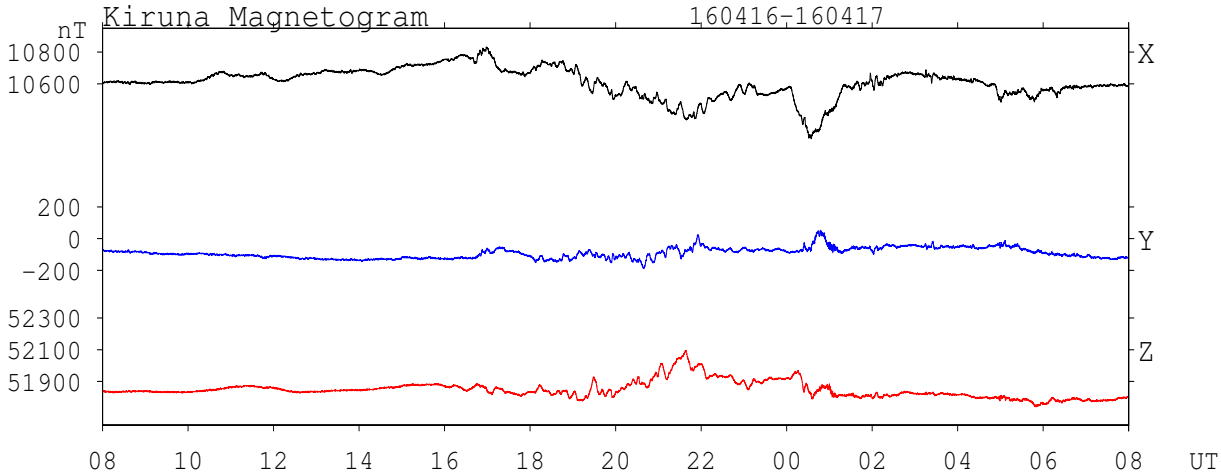

Kiruna Magnetogram
160411-160412
nT
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10500
200
0
-200
52300
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

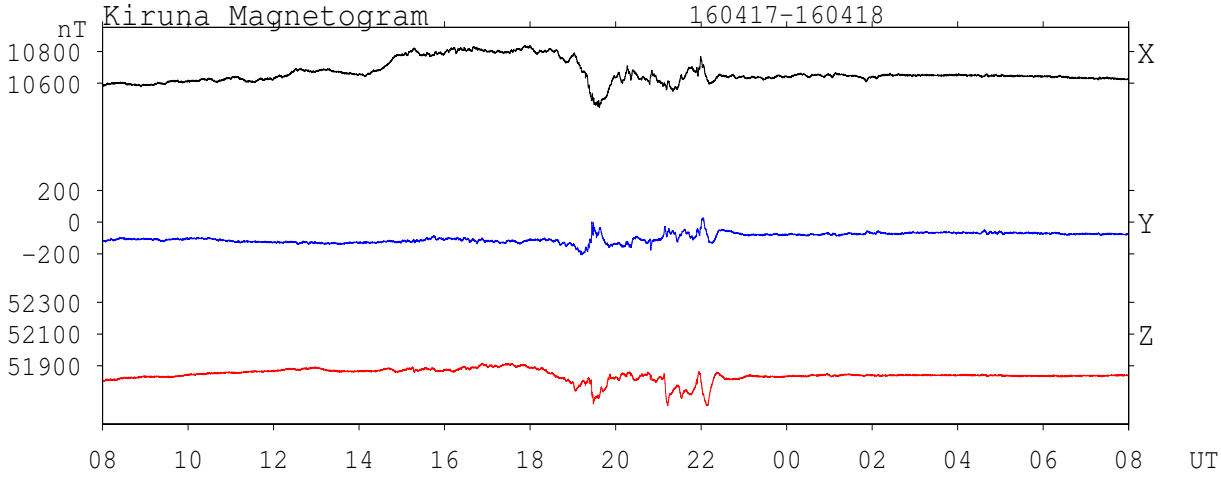

Kiruna Magnetogram
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10600
200
0
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

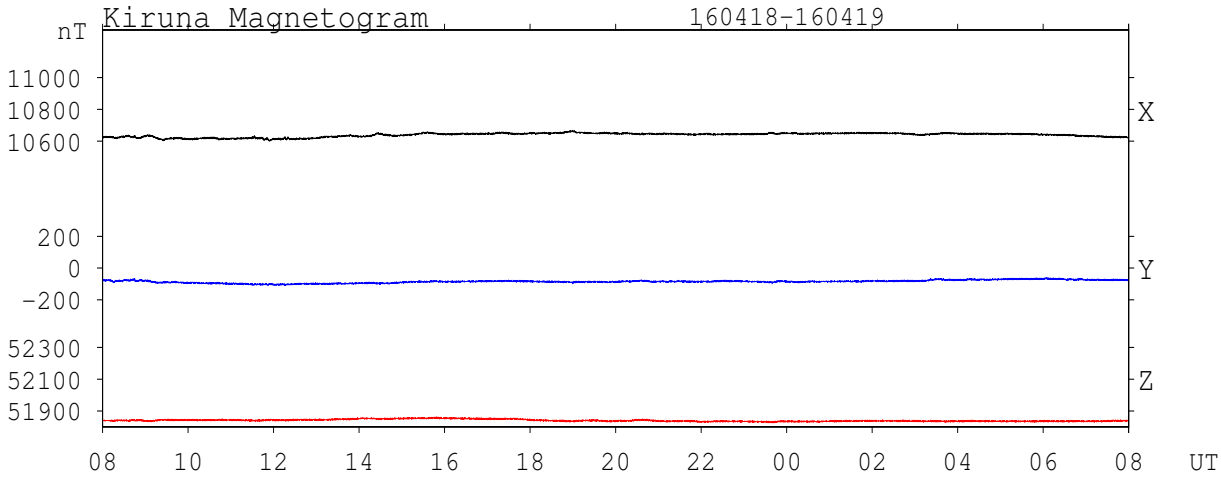

Kiruna Magnetogram
160413-160414
nT
10800
10600
200
0
-200
52300
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

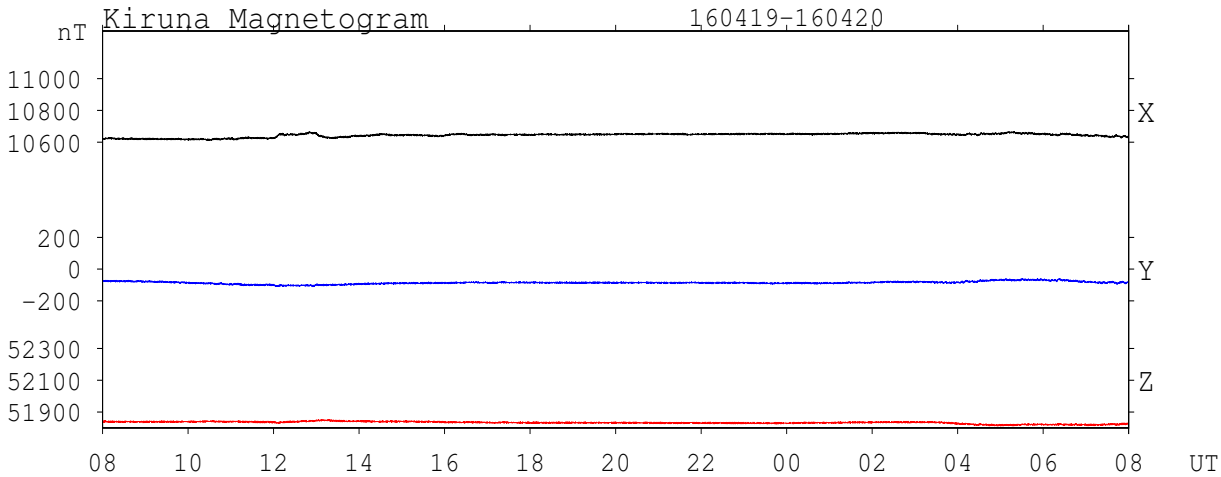

Kiruna Magnetogram
160414-160415
nT
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Y
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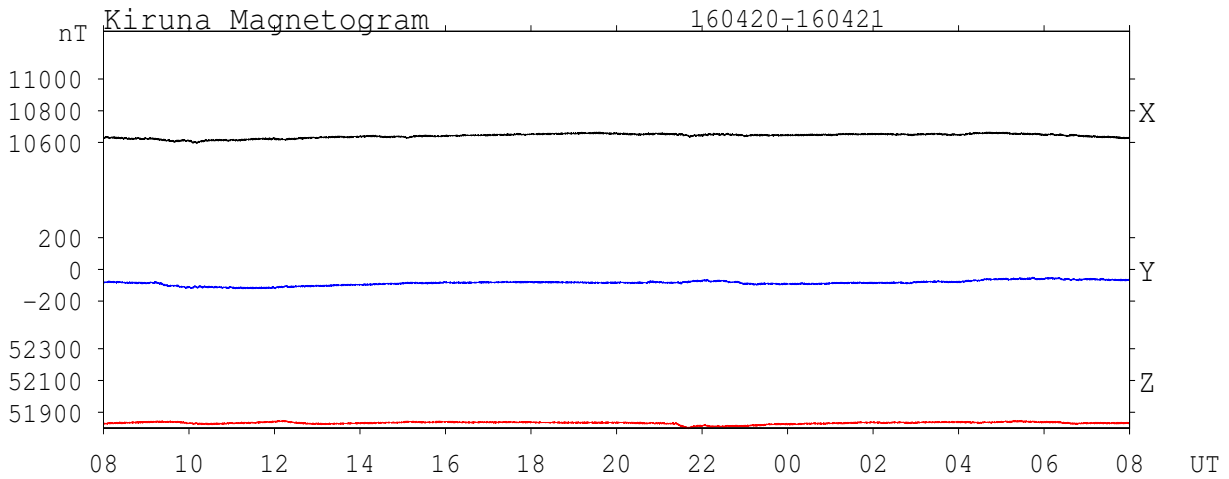

Kiruna Magnetogram
160415-160416
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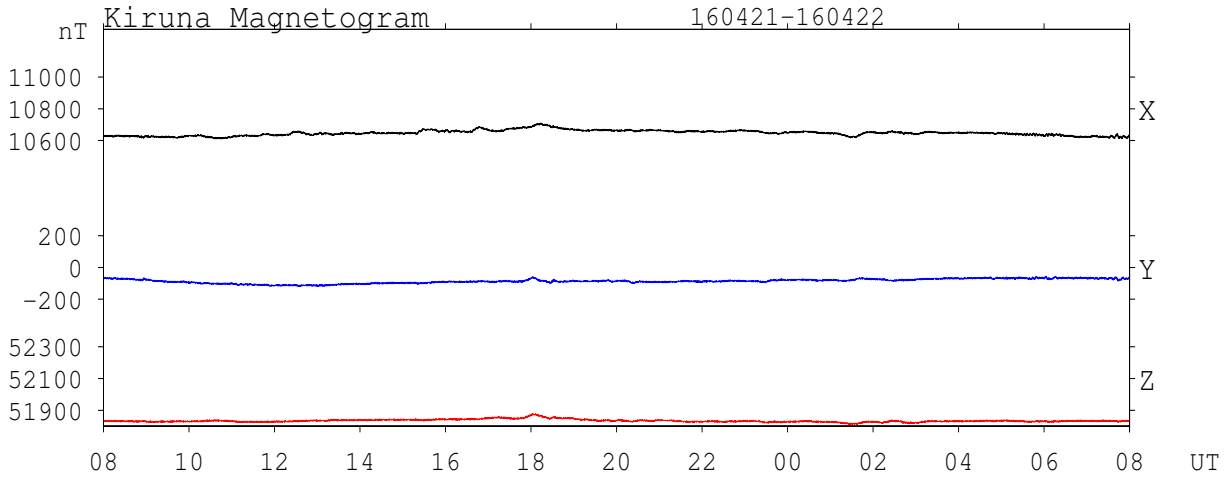

Kiruna Magnetogram
160416-160417
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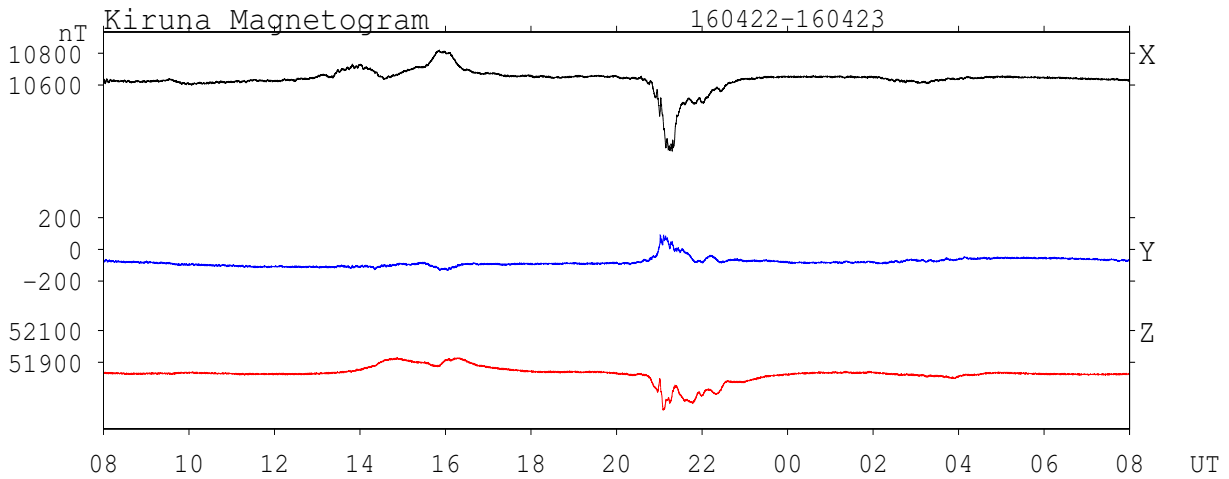

Kiruna Magnetogram
160417-160418
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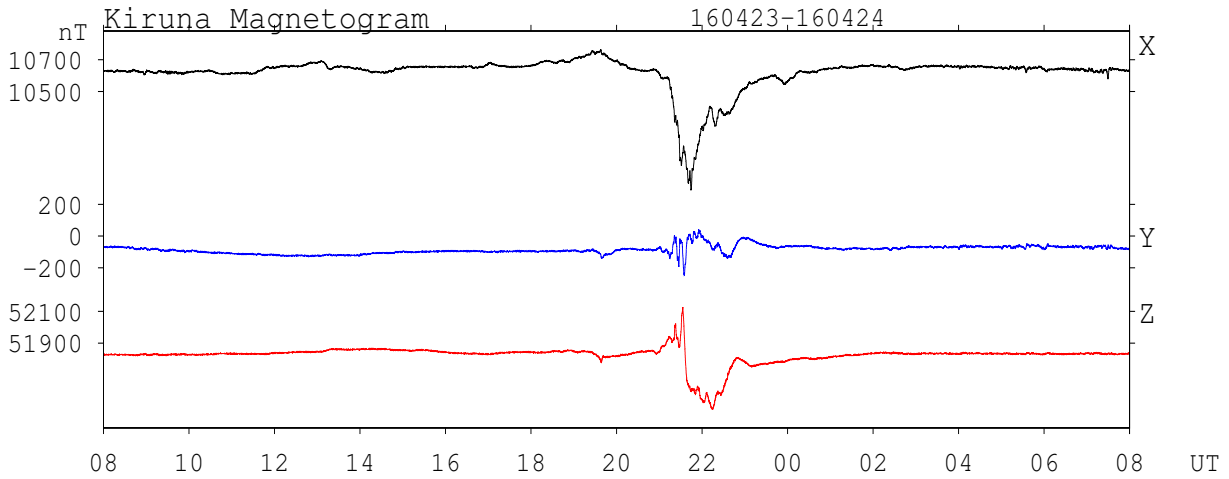

Kiruna Magnetogram
160418-160419
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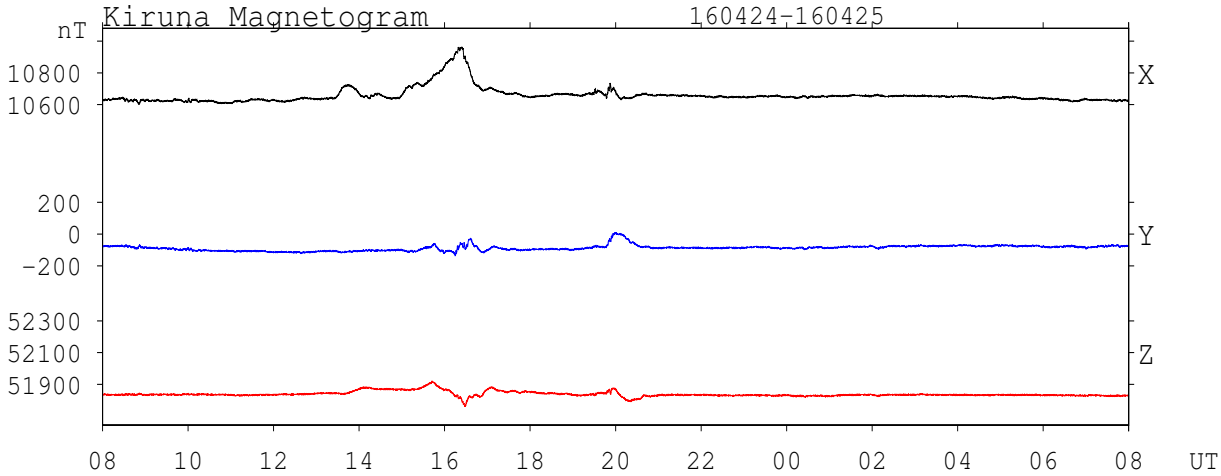

Kiruna Magnetogram
160419-160420
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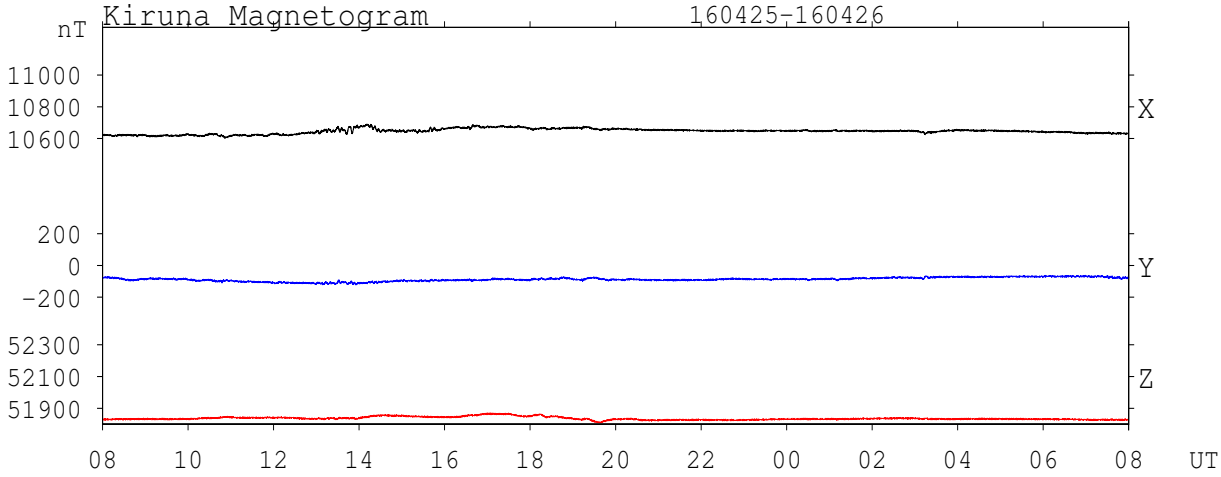

Kiruna Magnetogram
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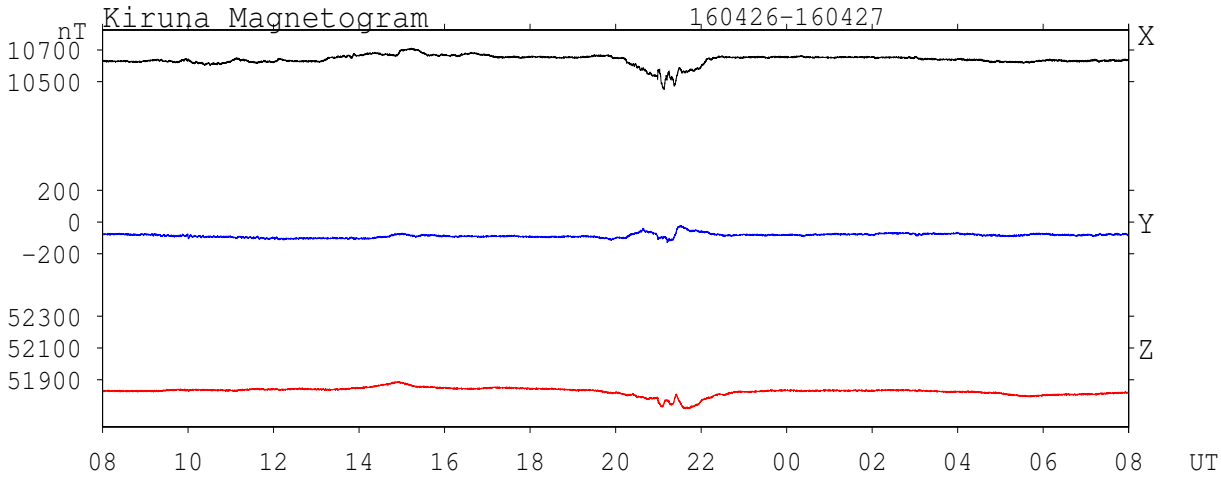

Kiruna Magnetogram
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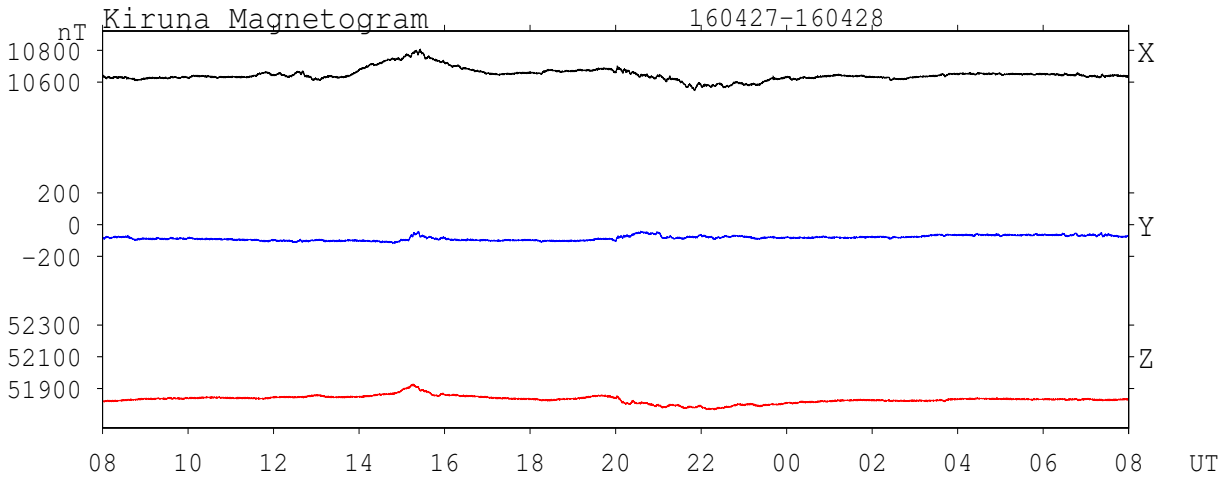

Kiruna Magnetogram
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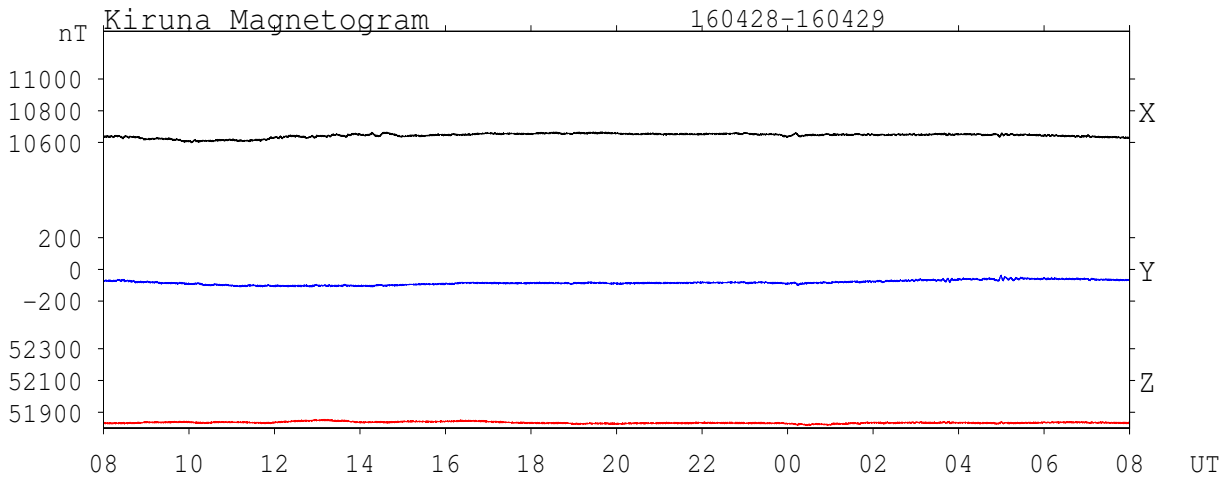

Kiruna Magnetogram
160423-160424
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Y
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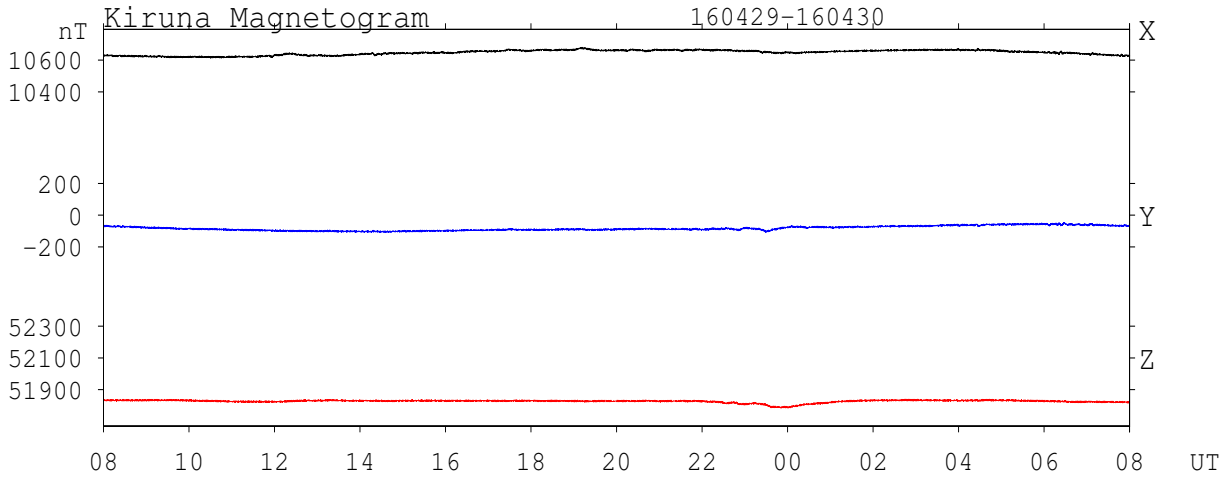

Kiruna Magnetogram
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Y
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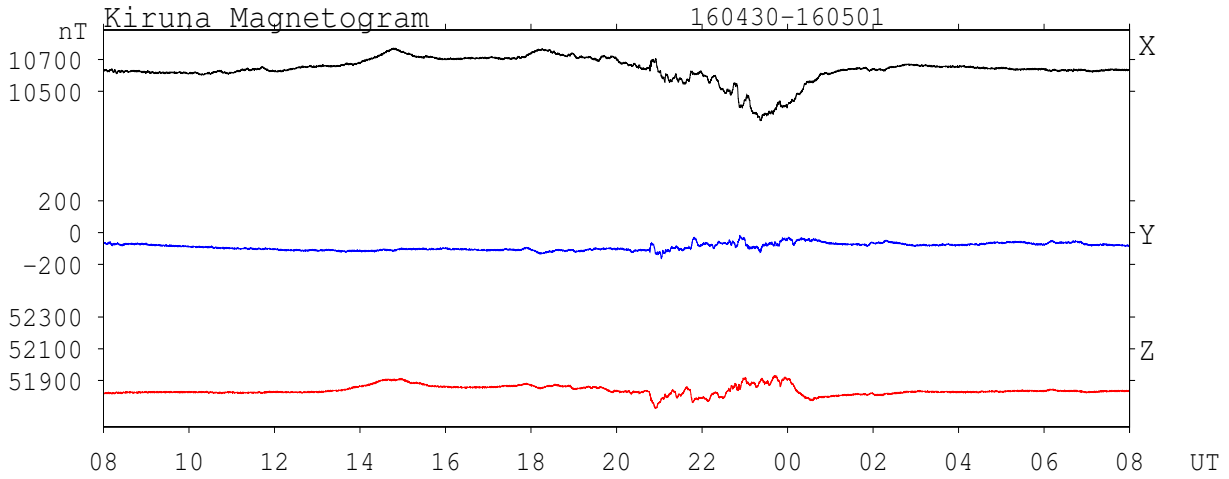

Kiruna Magnetogram
160425-160426
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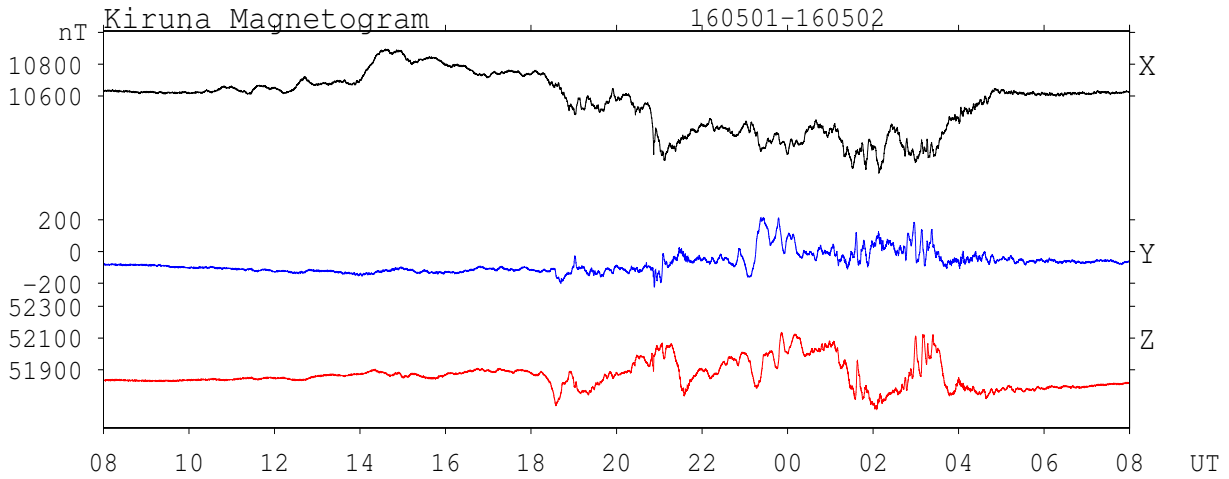

Kiruna Magnetogram
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52300
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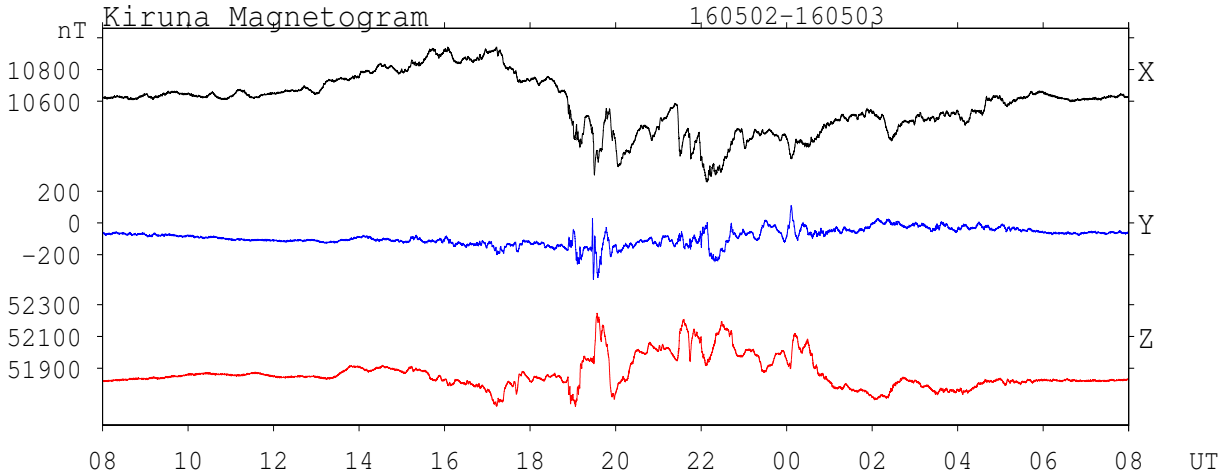

Kiruna Magnetogram
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Y
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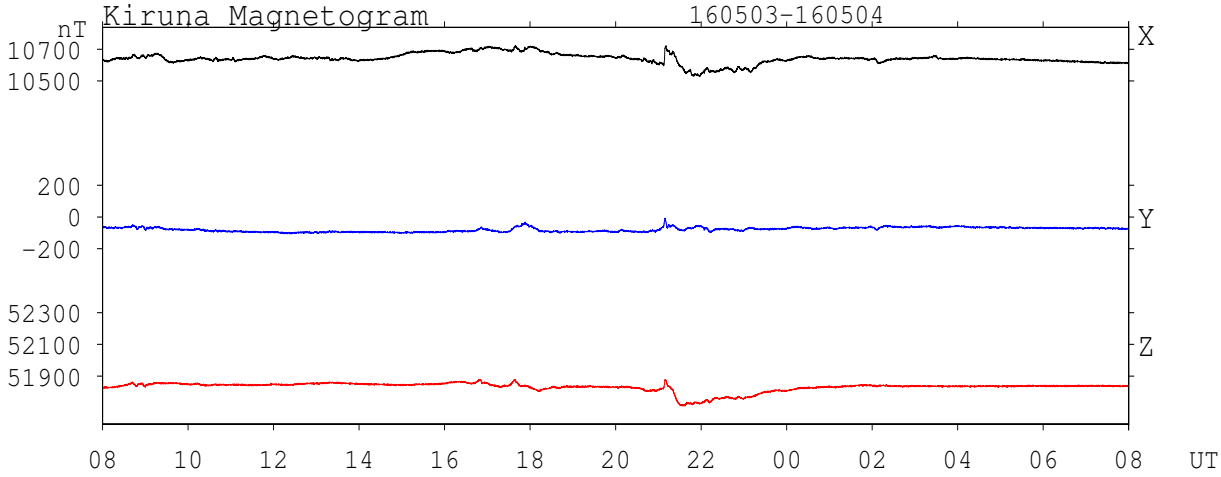

Kiruna Magnetogram
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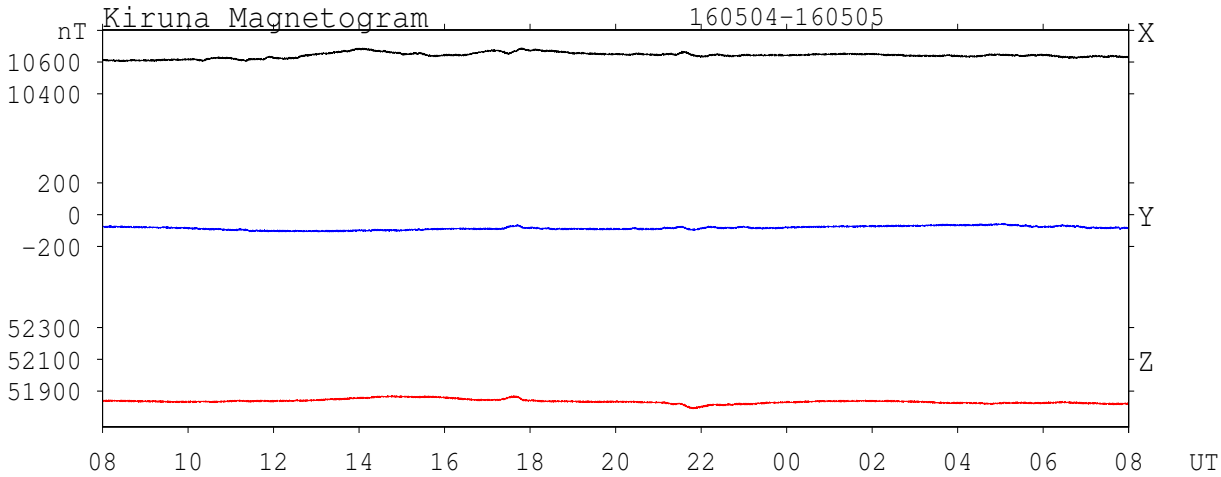

Kiruna Magnetogram
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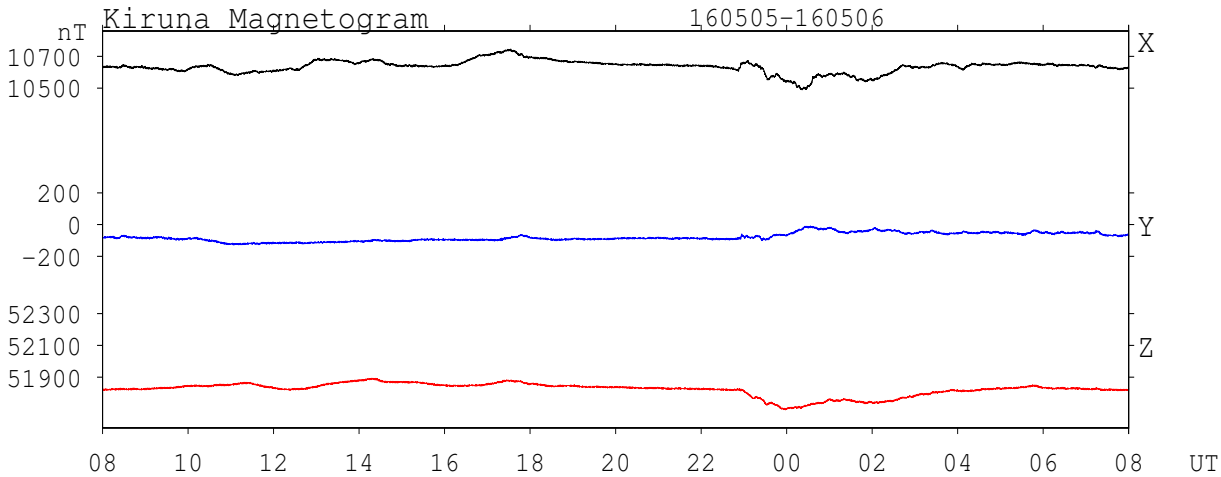

Kiruna Magnetogram
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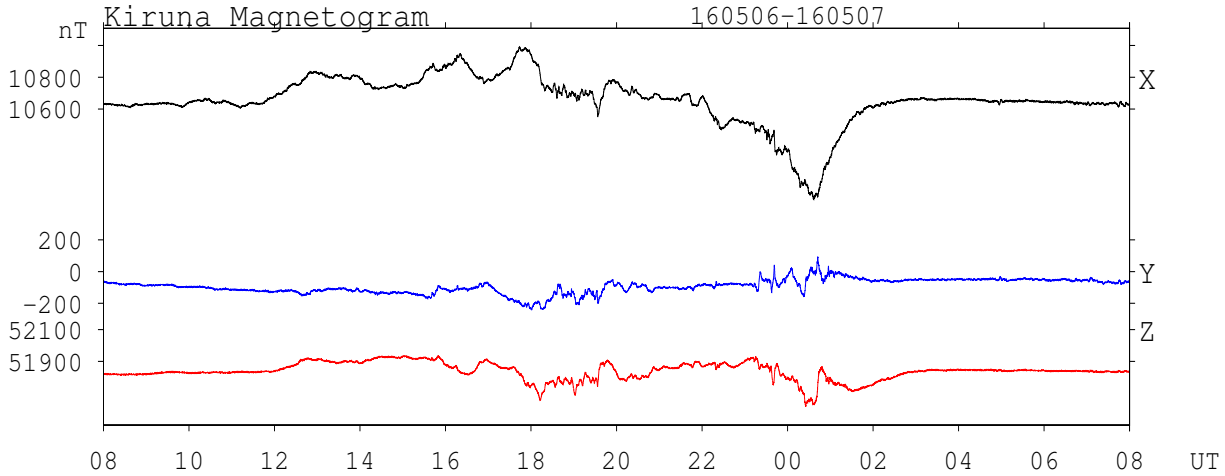

Kiruna Magnetogram
160501-160502
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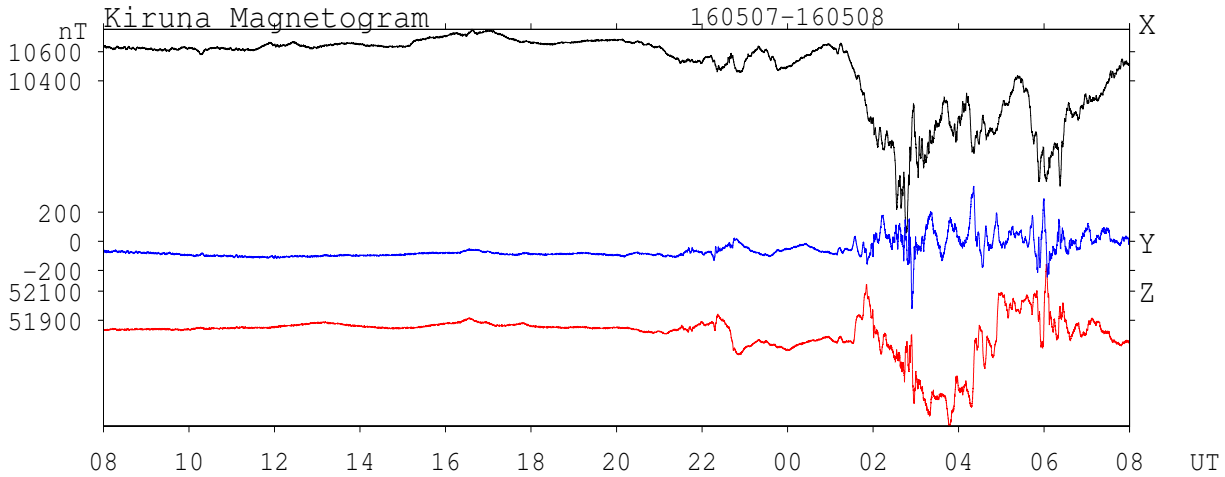

Kiruna Magnetogram
160502-160503
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-200
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Y
Z
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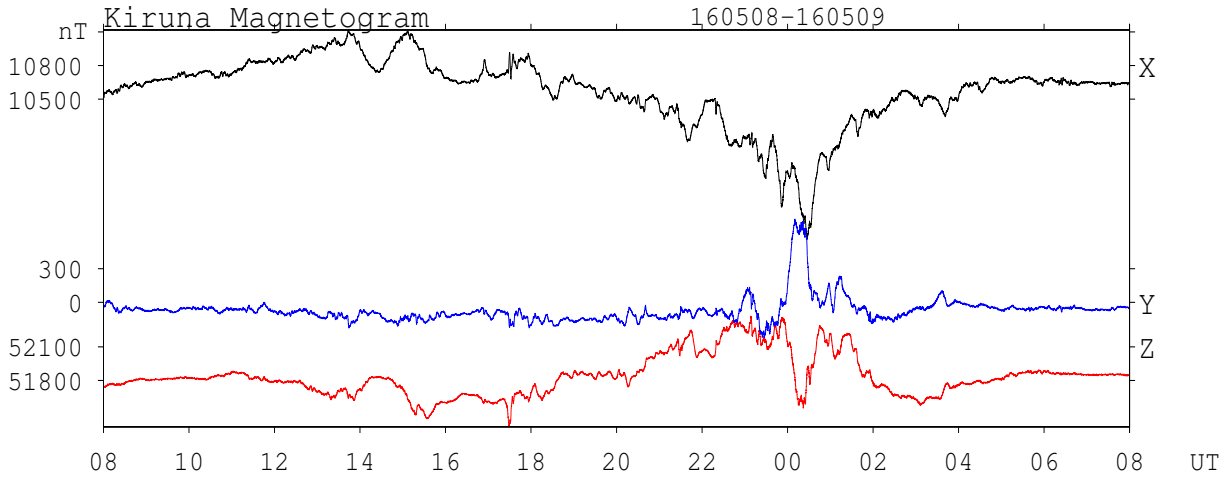

Kiruna Magnetogram
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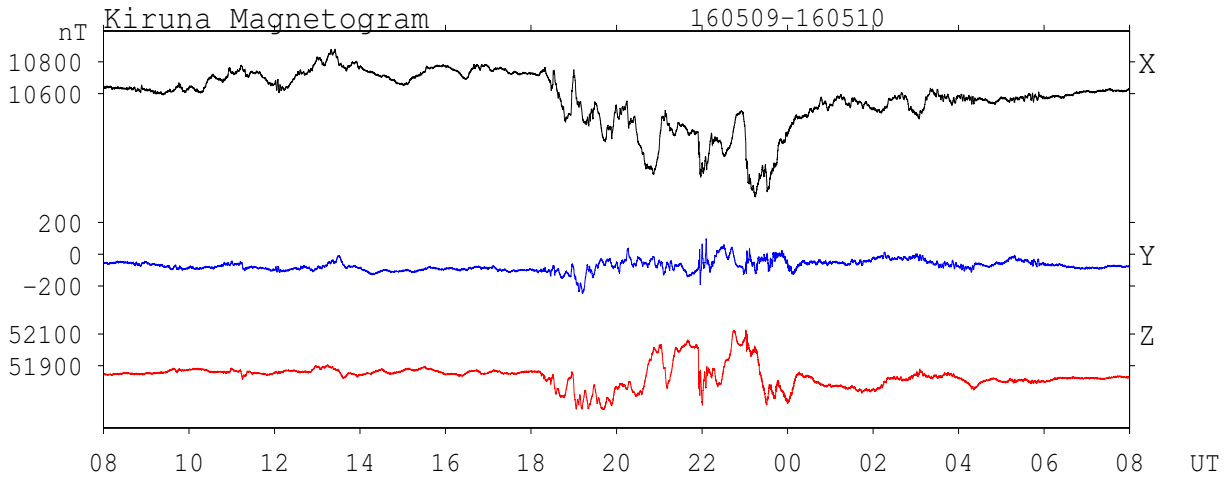

Kiruna Magnetogram
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X
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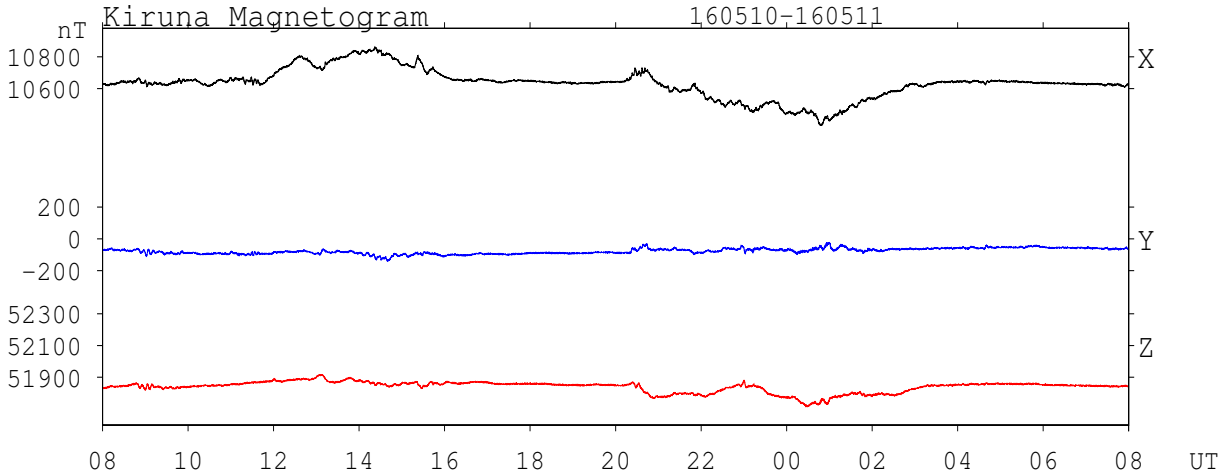

Kiruna Magnetogram
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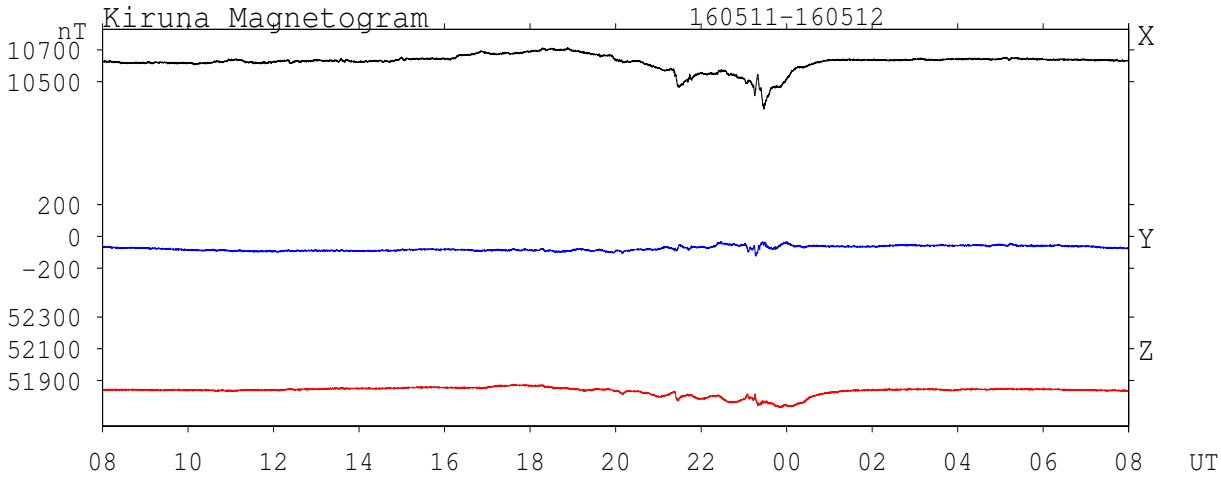

Kiruna Magnetogram
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Y
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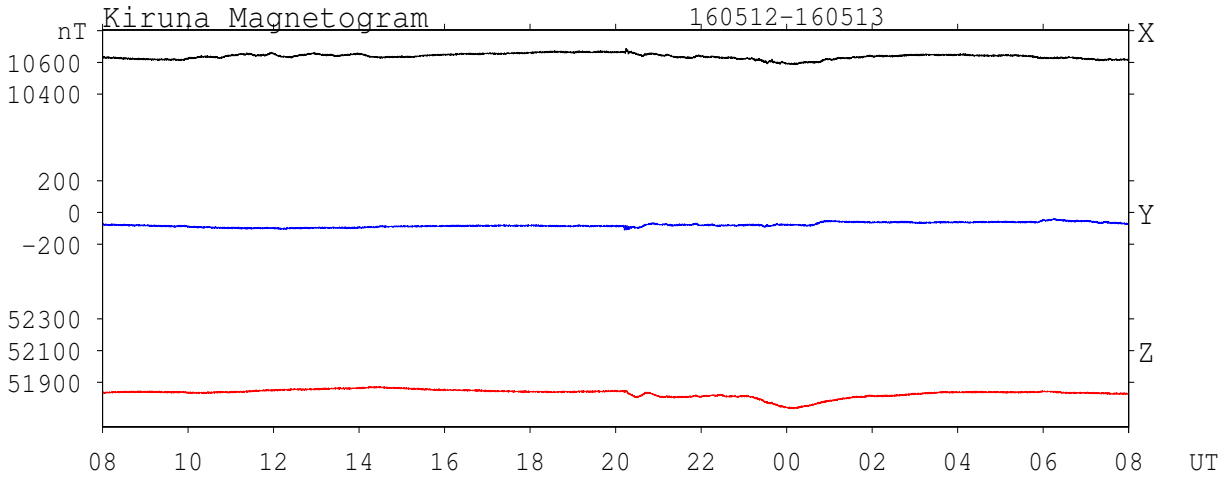

Kiruna Magnetogram
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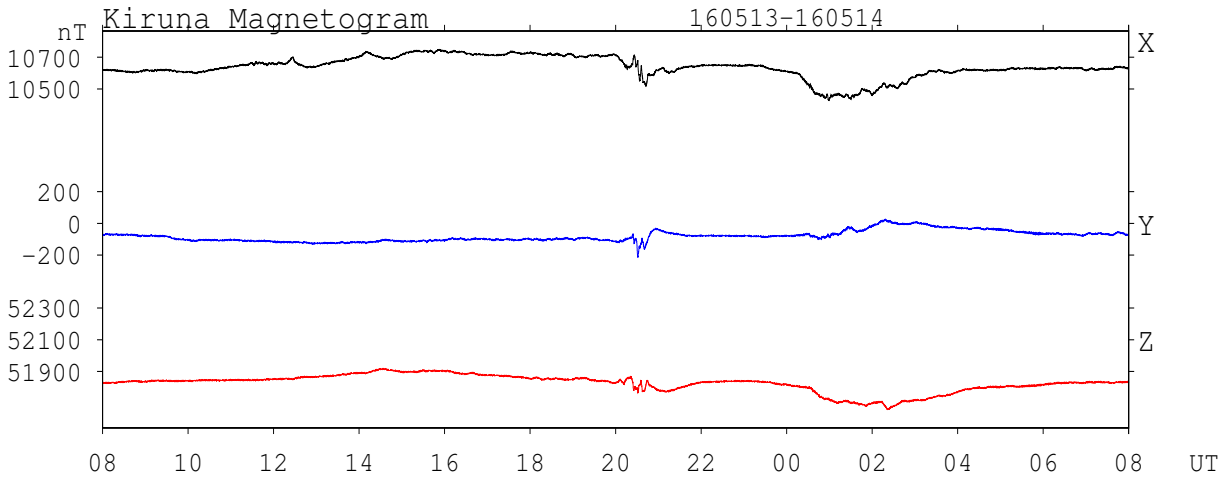

Kiruna Magnetogram
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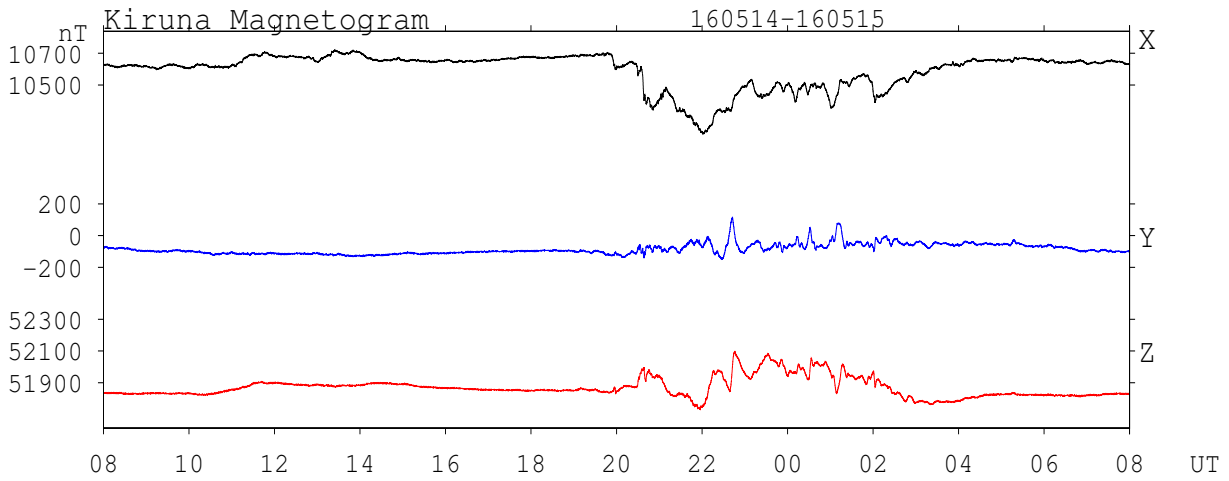

Kiruna Magnetogram
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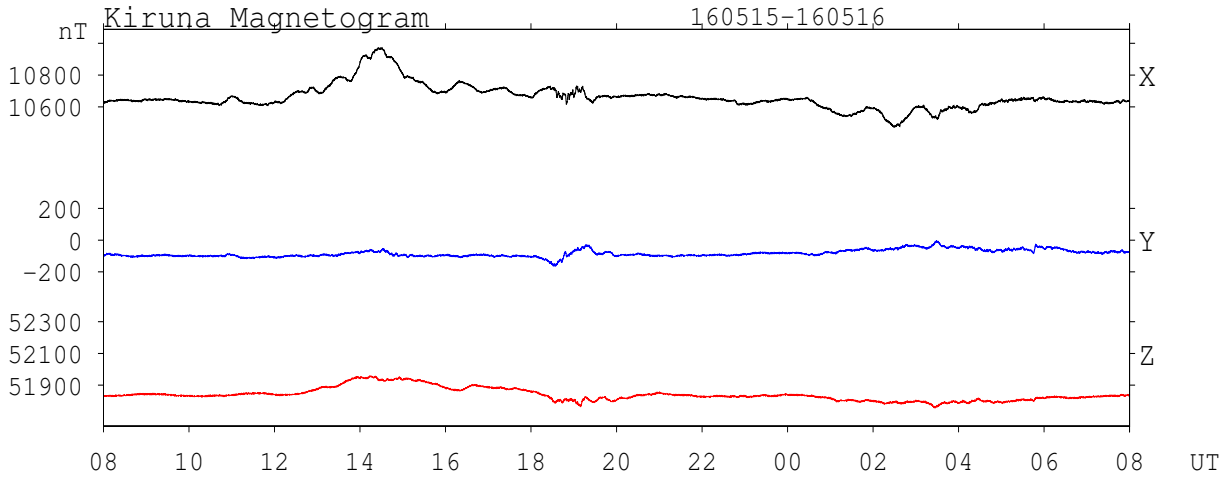

Kiruna Magnetogram
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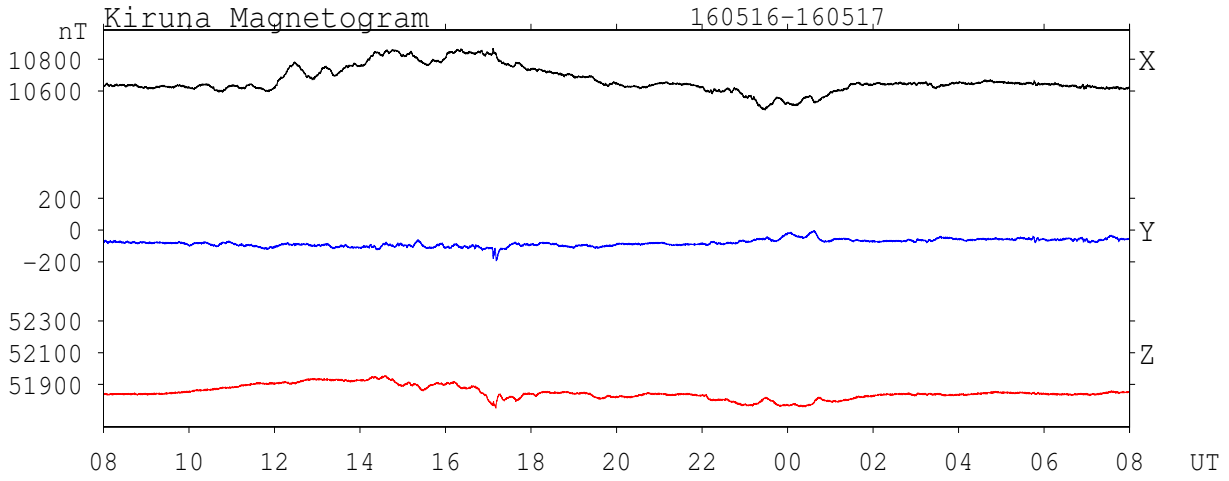

Kiruna Magnetogram
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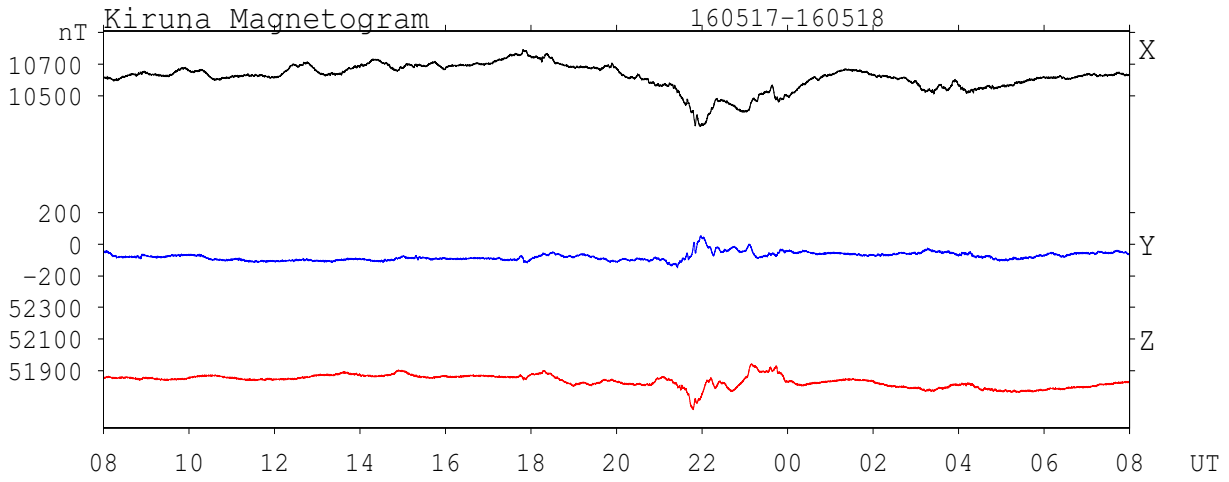

Kiruna Magnetogram
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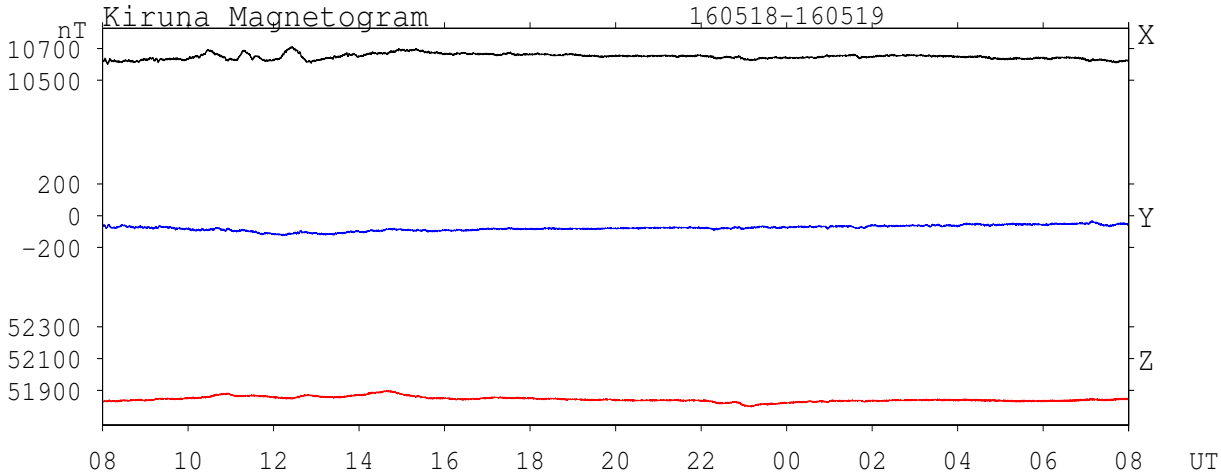

Kiruna Magnetogram
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08 10 12 14 16 18 20 22 00 02 04 06 08 UT

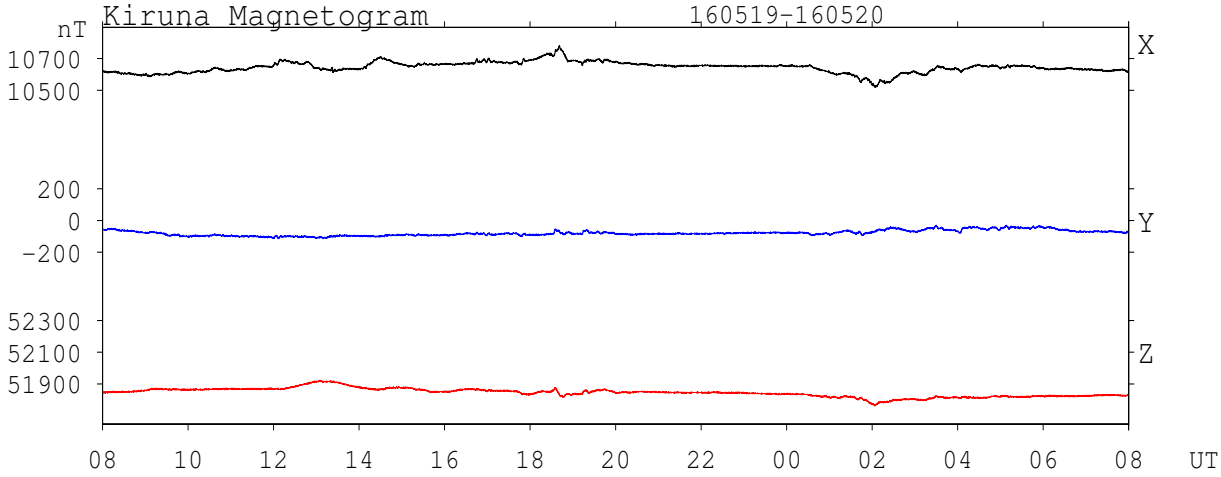

Kiruna Magnetogram
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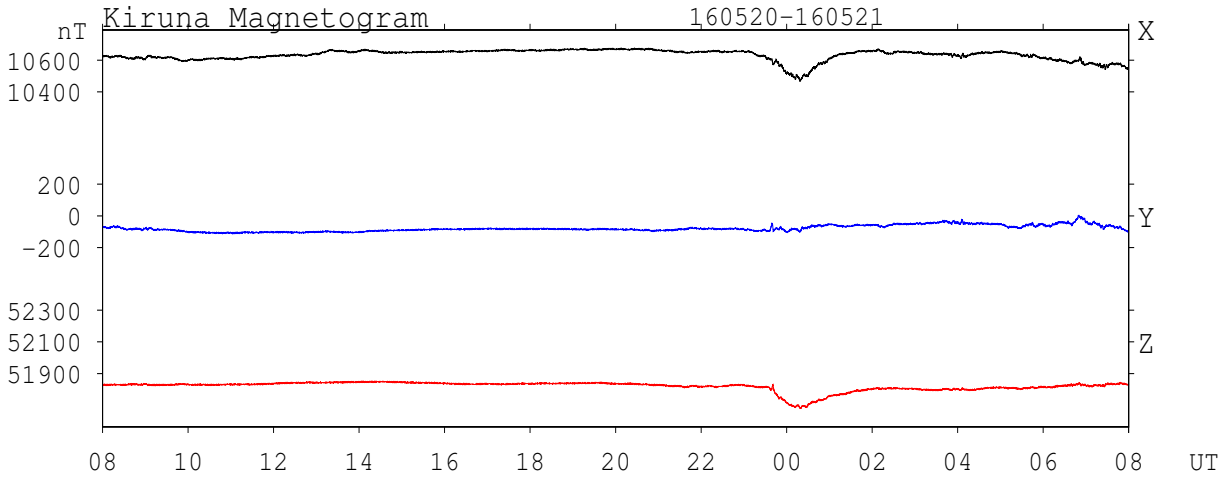

Kiruna Magnetogram
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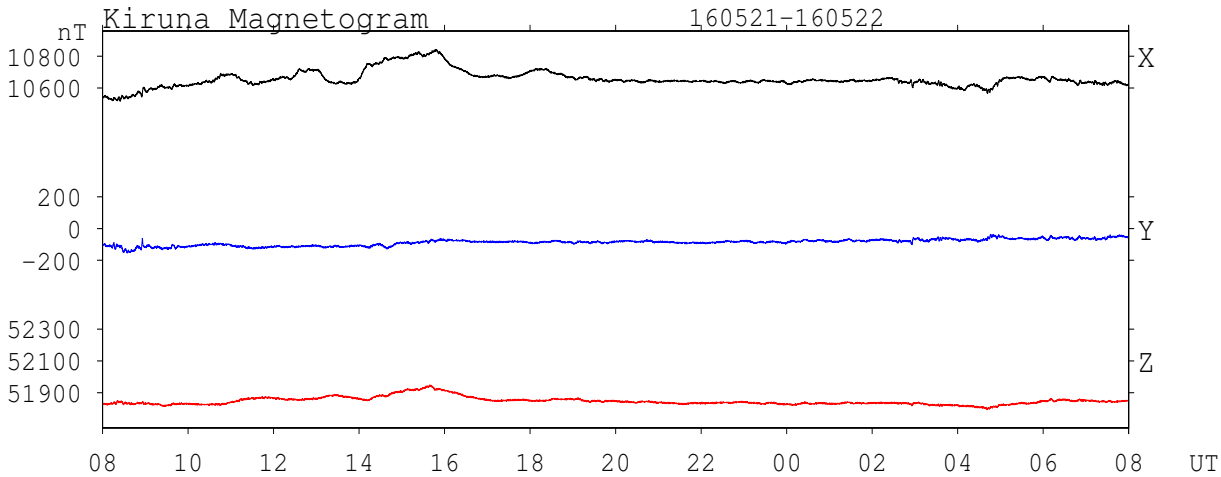

Kiruna Magnetogram
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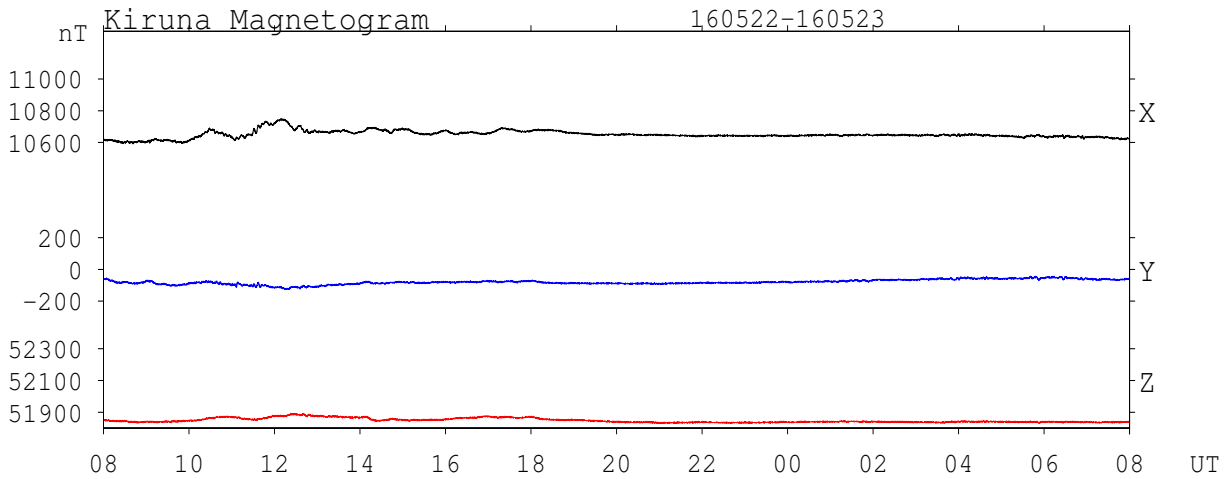

Kiruna Magnetogram
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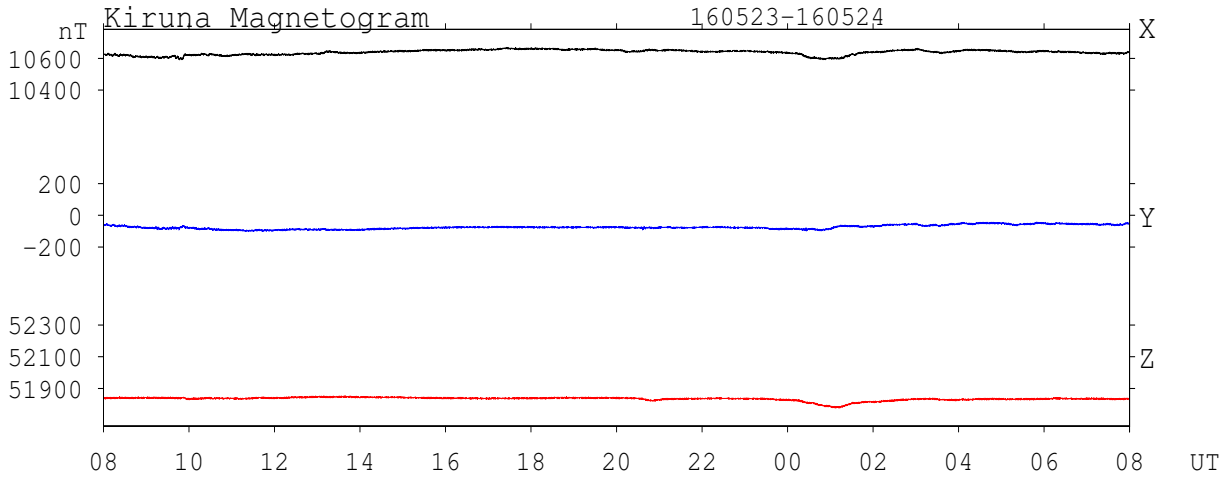

Kiruna Magnetogram
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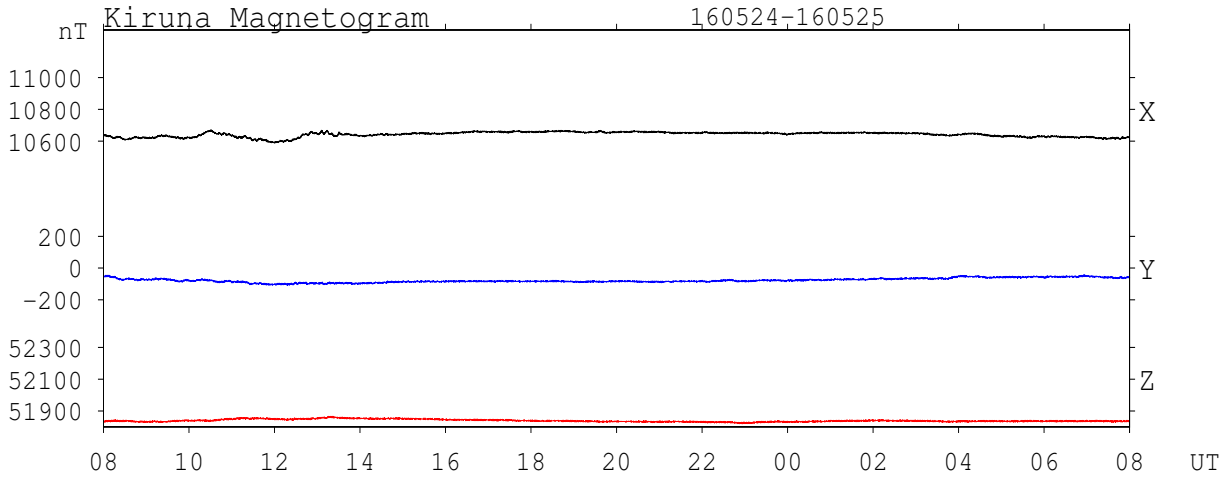

Kiruna Magnetogram
160519-160520
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Y
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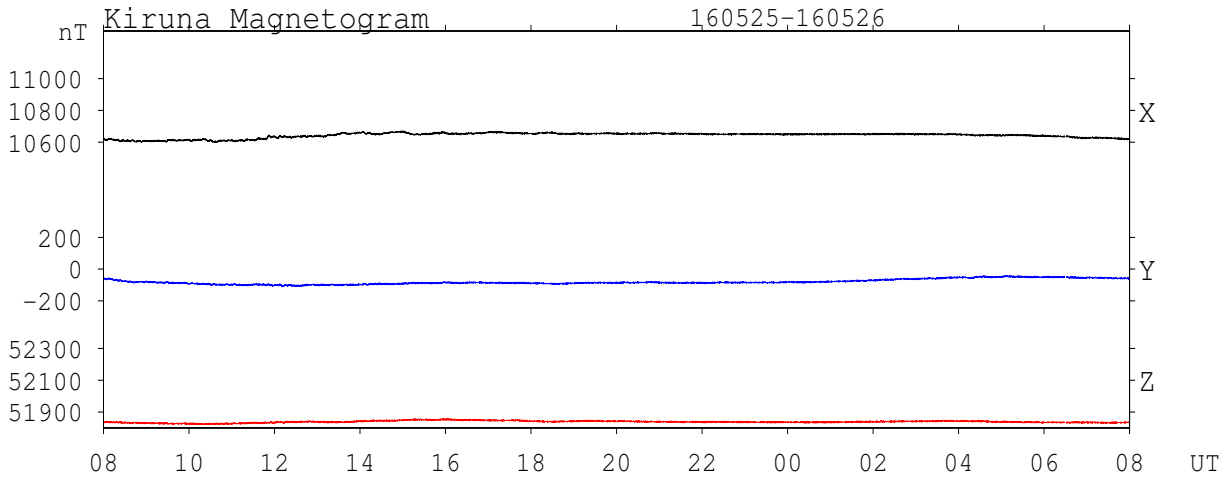

Kiruna Magnetogram
160520-160521
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X
Y
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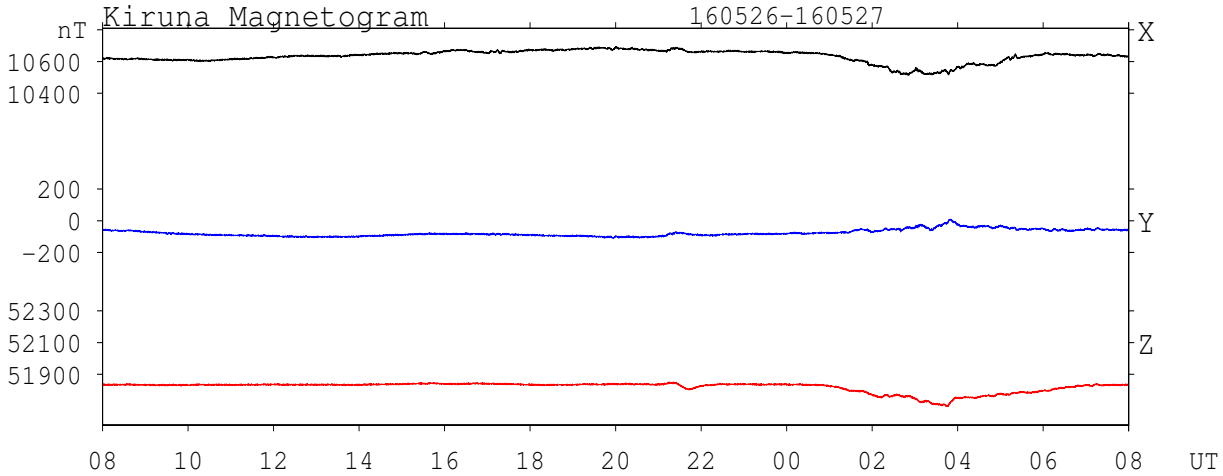

Kiruna Magnetogram
160521-160522
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X
Y
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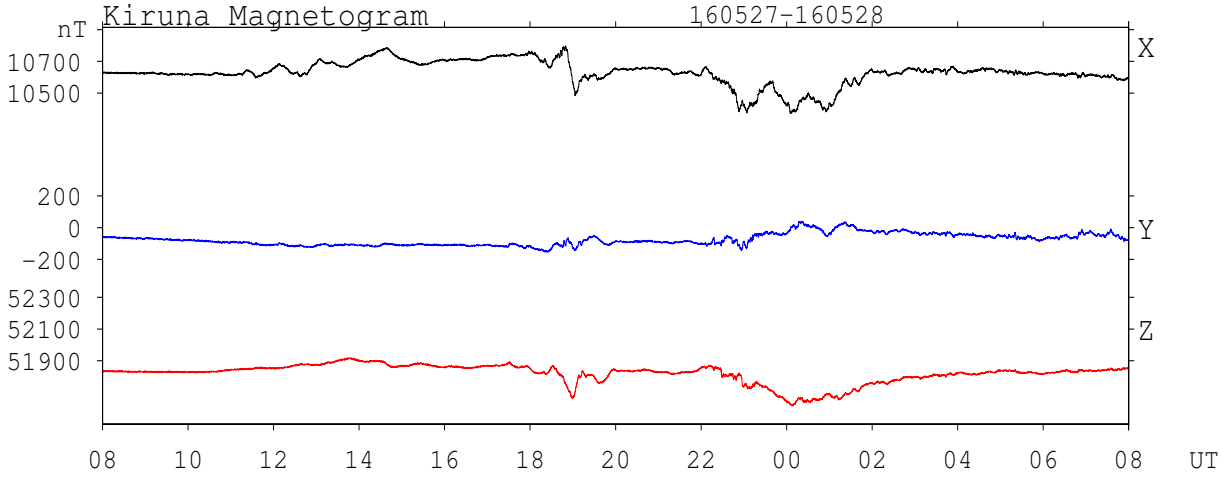

Kiruna Magnetogram
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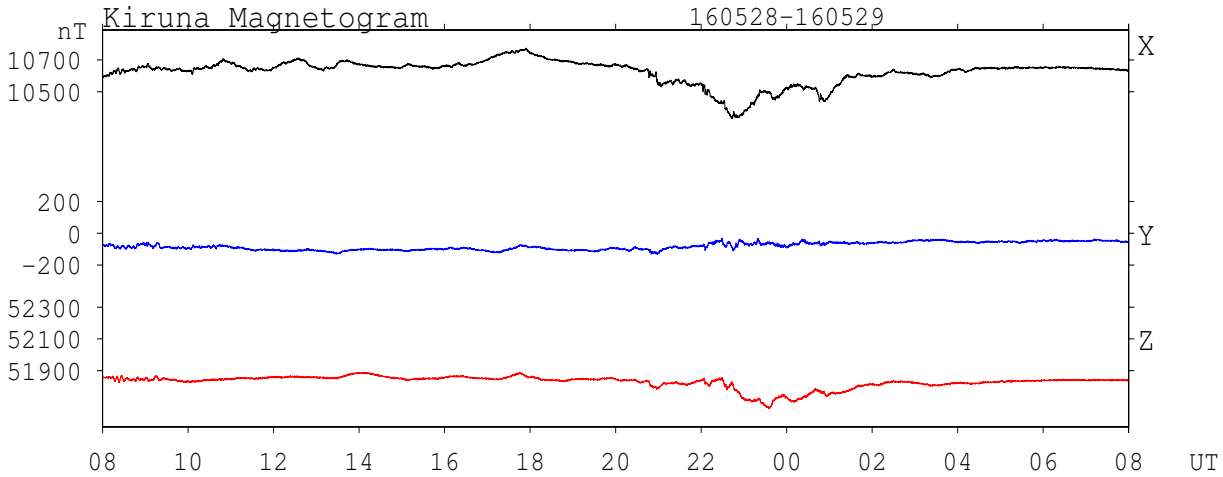

Kiruna Magnetogram
160523-160524
nT
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Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

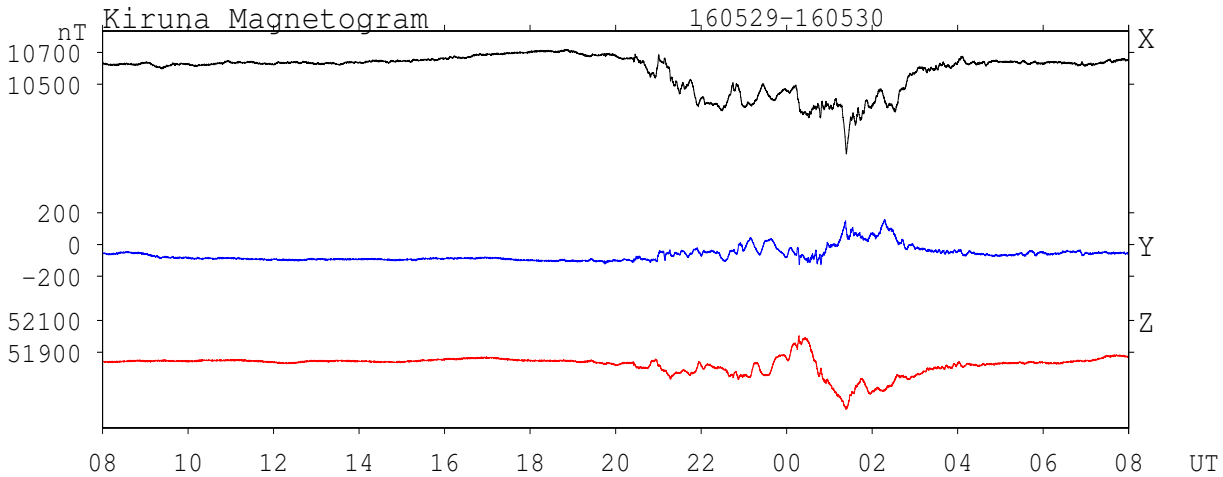

Kiruna Magnetogram
160524-160525
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0
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51900
X
Y
Z
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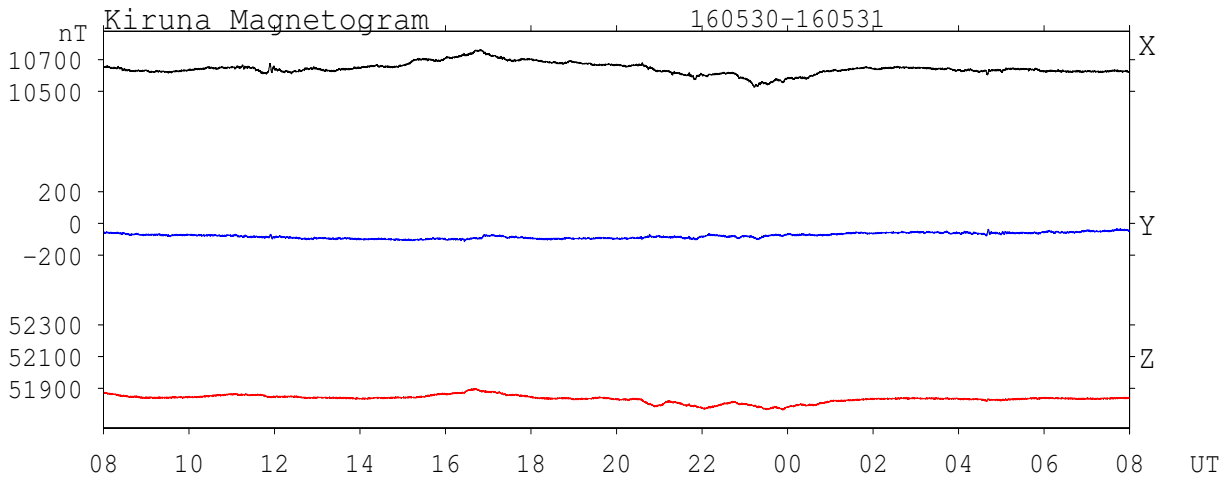

Kiruna Magnetogram
160525-160526
nT
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200
0
-200
52300
52100
51900
X
Y
Z
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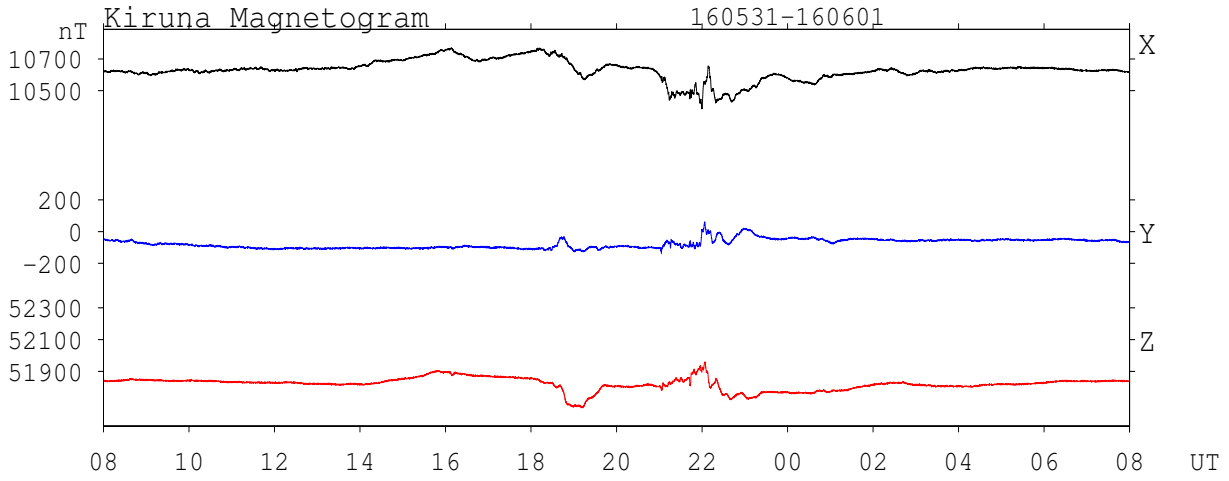

Kiruna Magnetogram
160526-160527
nT
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200
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-200
52300
52100
51900
X
Y
Z
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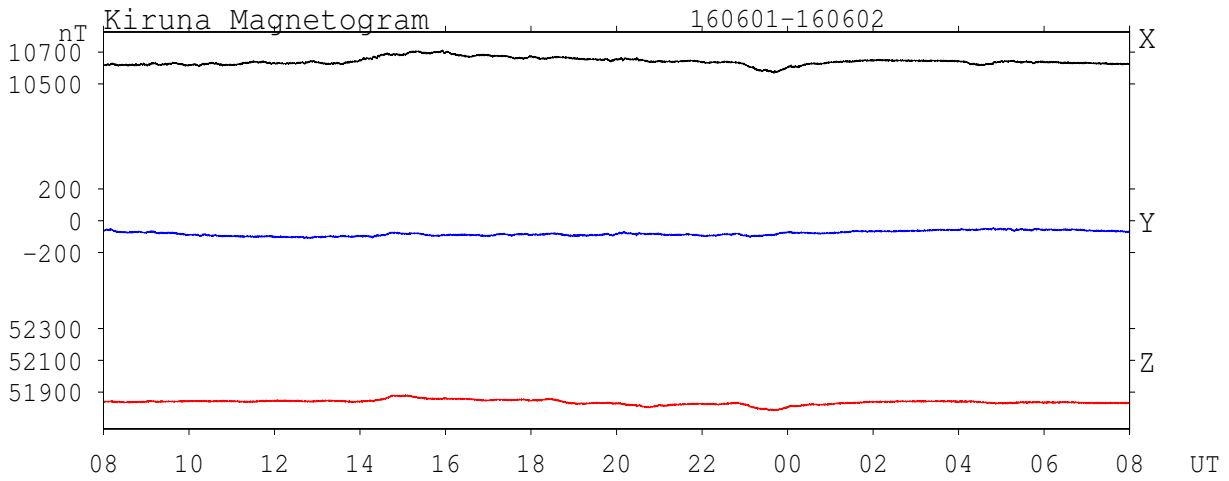

Kiruna Magnetogram
160527-160528
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-200
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X
Y
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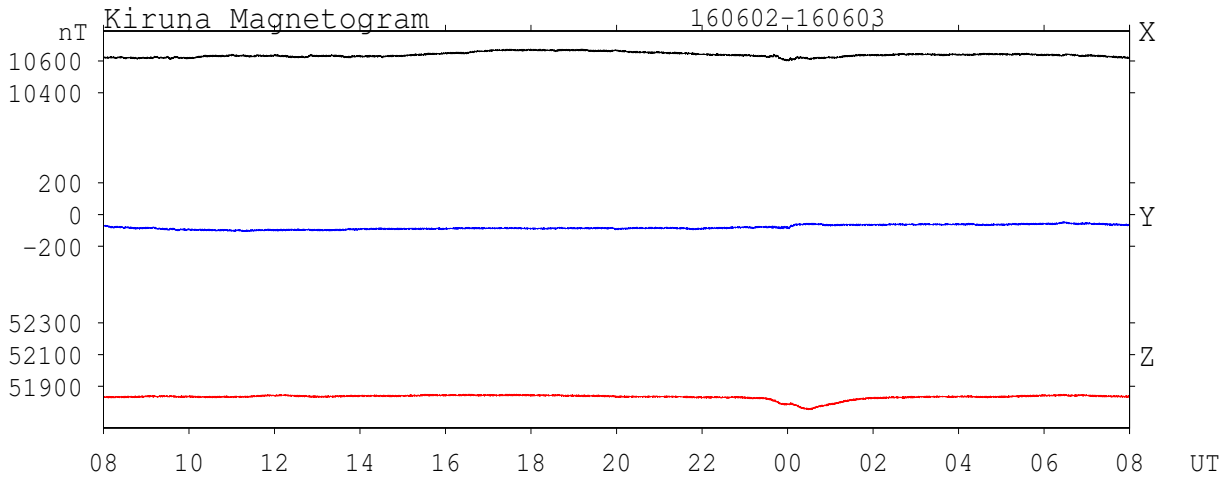

Kiruna Magnetogram
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-200
52300
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X
Y
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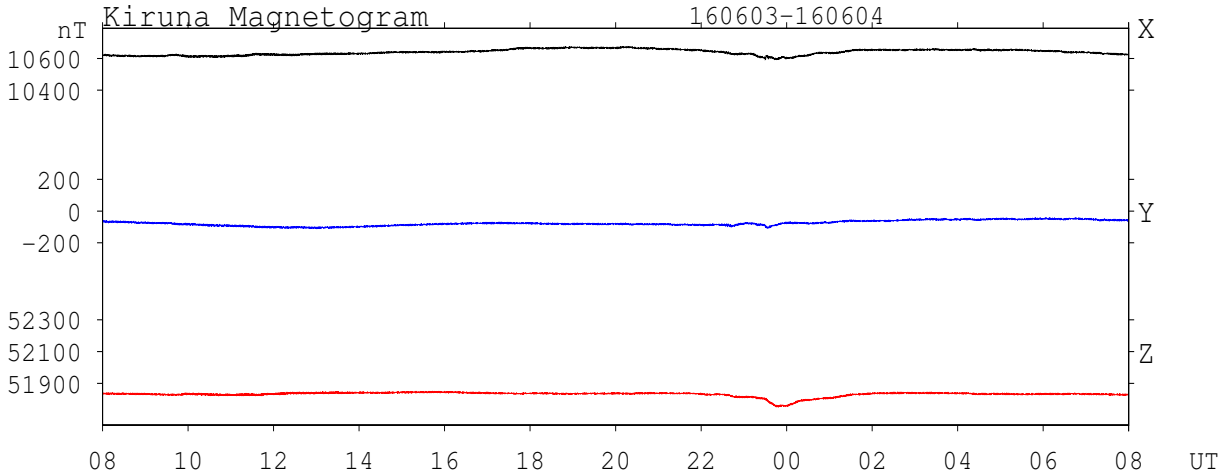

Kiruna Magnetogram
160529-160530
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-200
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X
Y
Z
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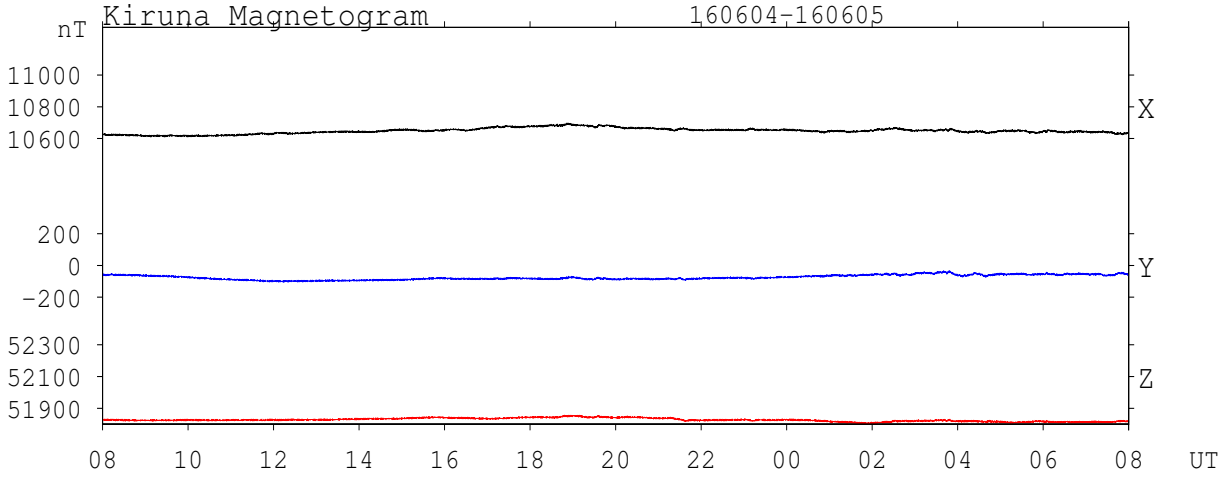

Kiruna Magnetogram
160530-160531
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-200
52300
52100
51900
X
Y
Z
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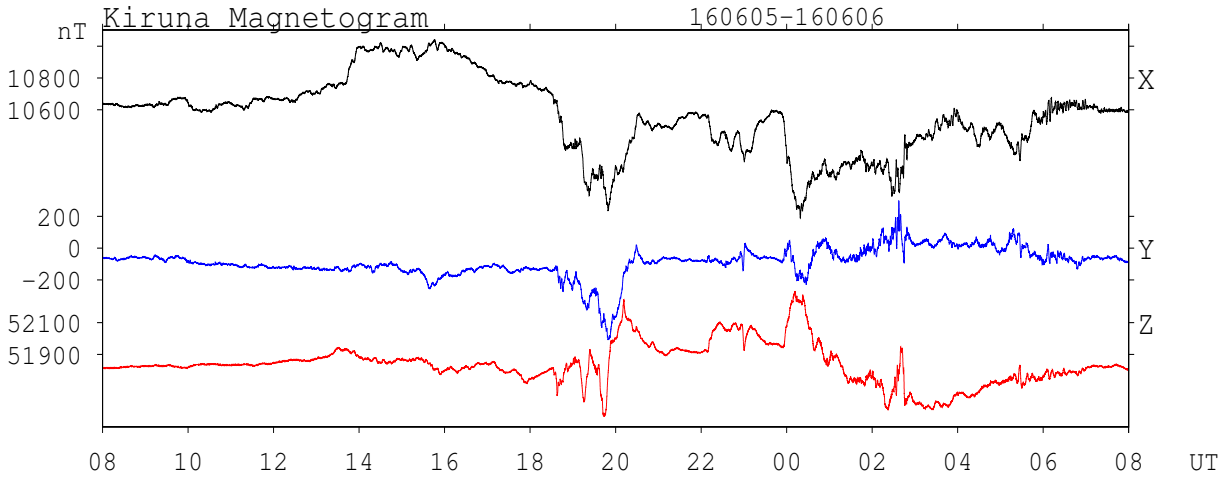

Kiruna Magnetogram
160531-160601
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-200
52300
52100
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X
Y
Z
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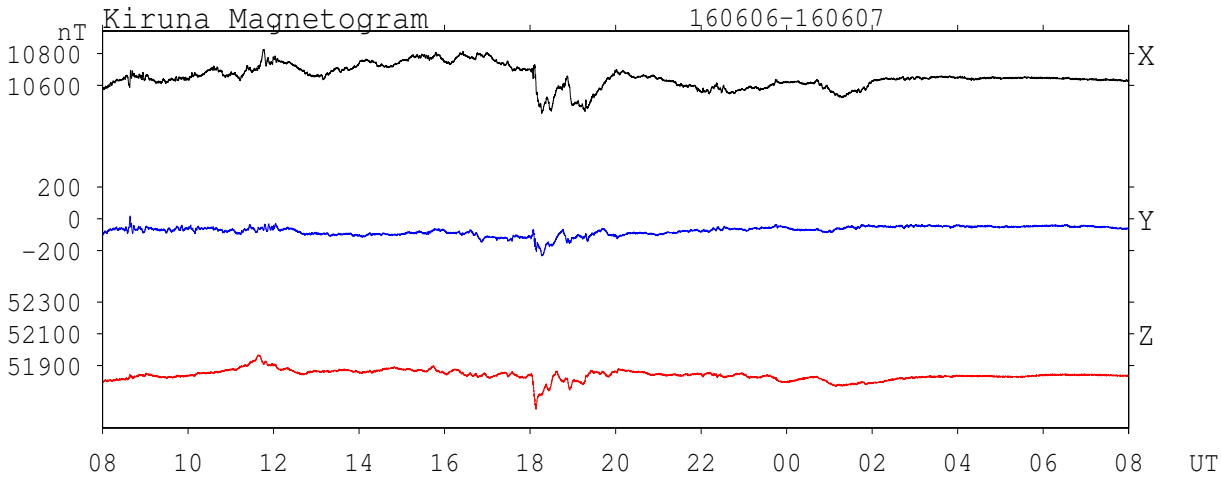

Kiruna Magnetogram
160601-160602
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-200
52300
52100
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X
Y
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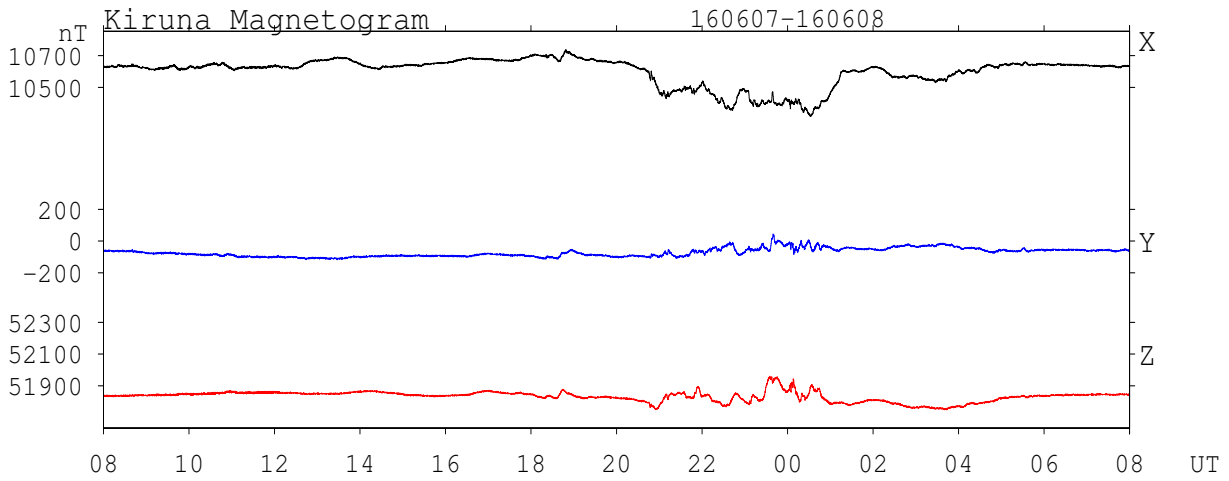

Kiruna Magnetogram
160602-160603
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200
0
-200
52300
52100
51900
X
Y
Z
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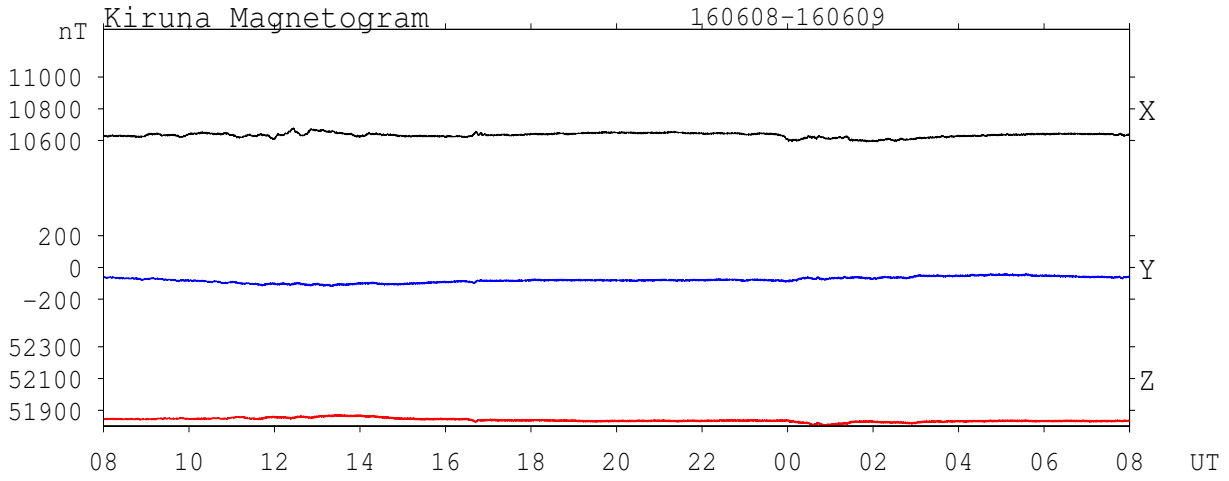

Kiruna Magnetogram
160603-160604
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10400
200
0
-200
52300
52100
51900
X
Y
Z
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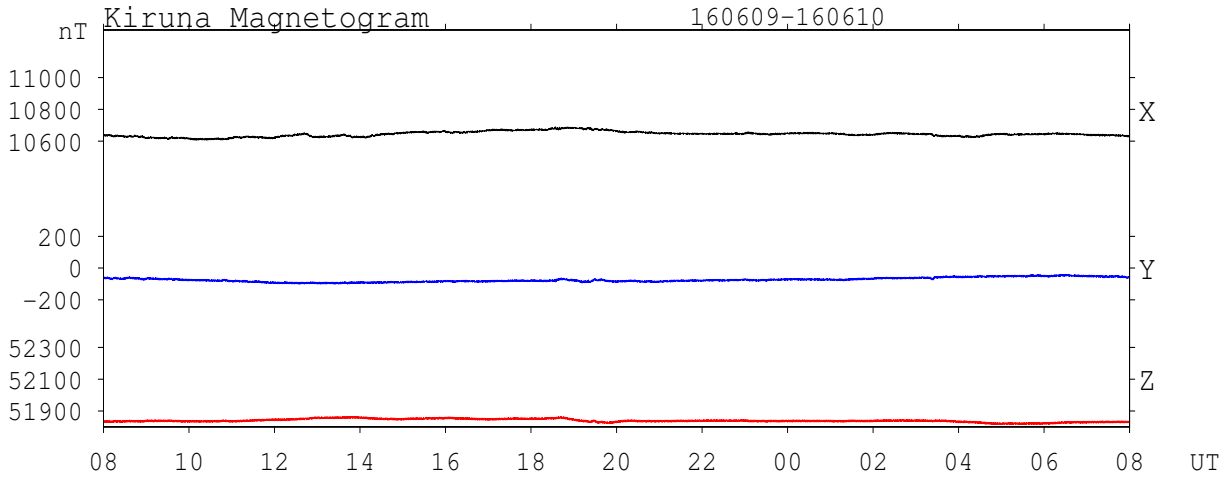

Kiruna Magnetogram
160604-160605
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200
0
-200
52300
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X
Y
Z
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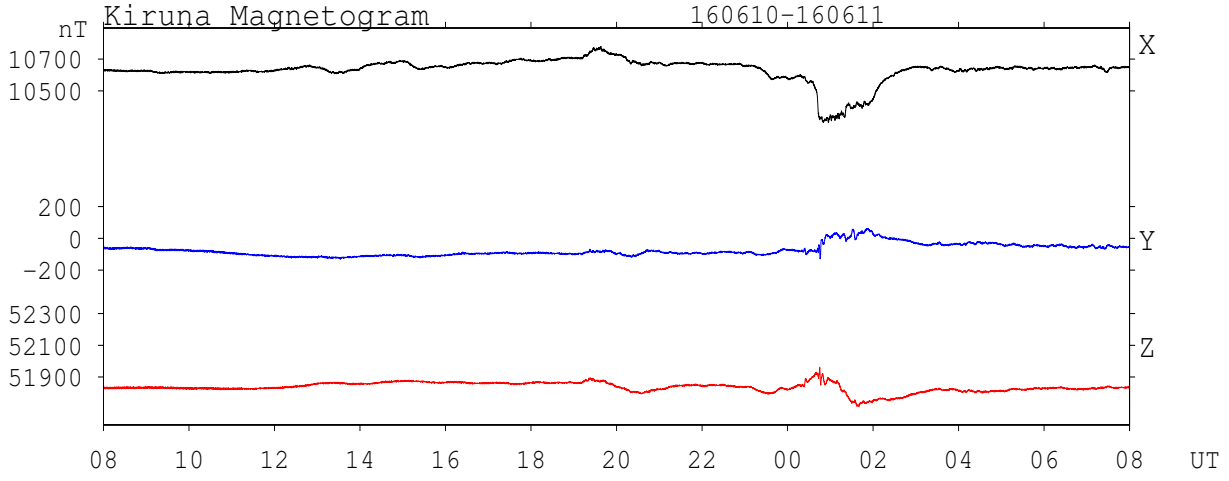

Kiruna Magnetogram
160605-160606
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10600
200
0
-200
52100
51900
X
Y
Z
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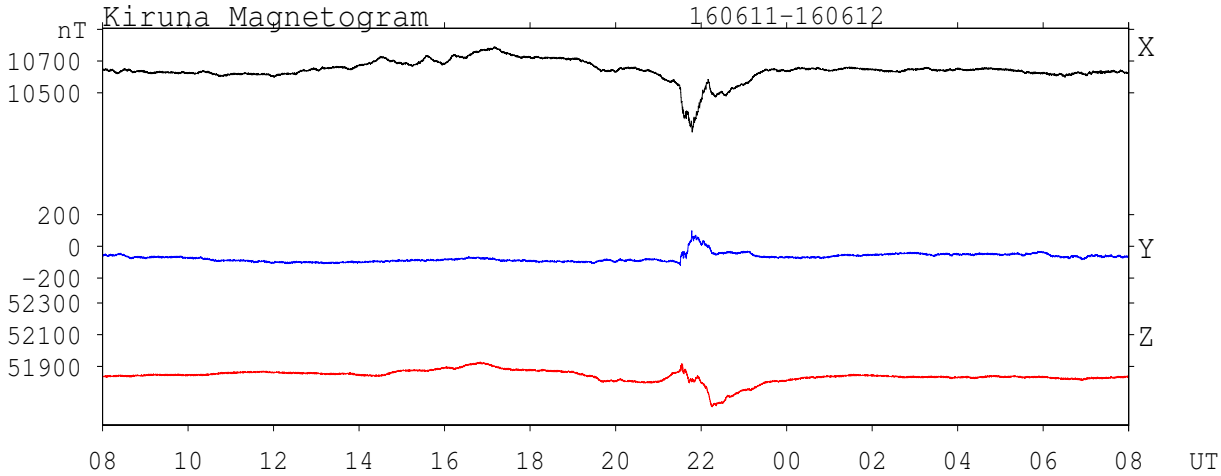

Kiruna Magnetogram
160606-160607
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200
0
-200
52300
52100
51900
X
Y
Z
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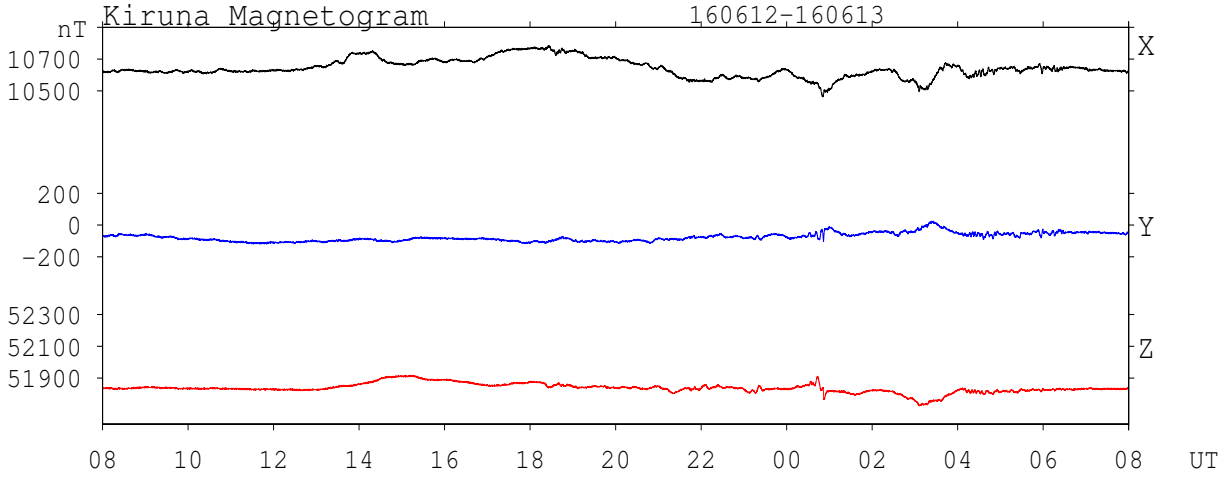

Kiruna Magnetogram
160607-160608
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10500
200
0
-200
52300
52100
51900
X
Y
Z
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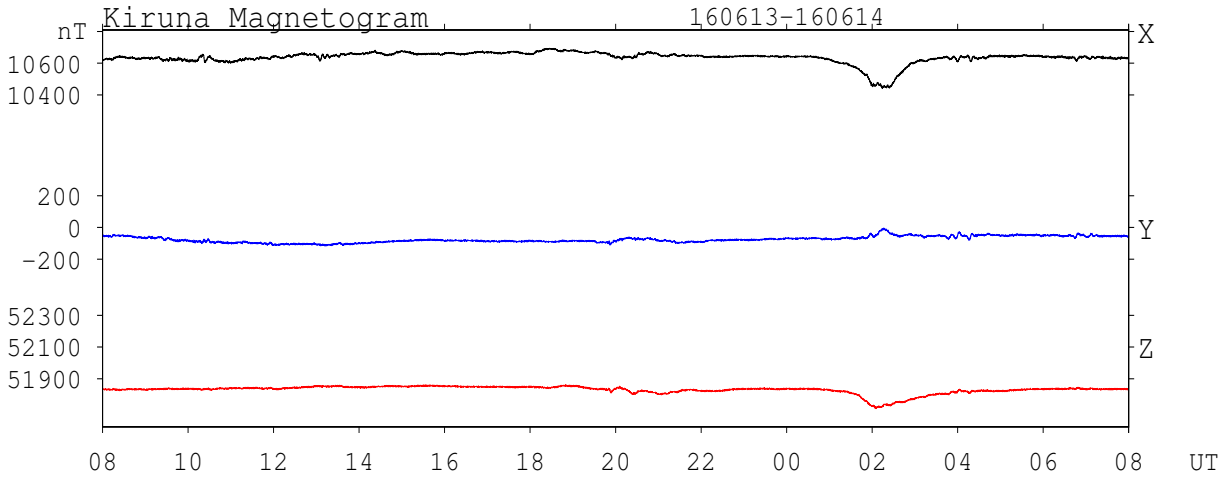

Kiruna Magnetogram
160608-160609
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10800
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200
0
-200
52300
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

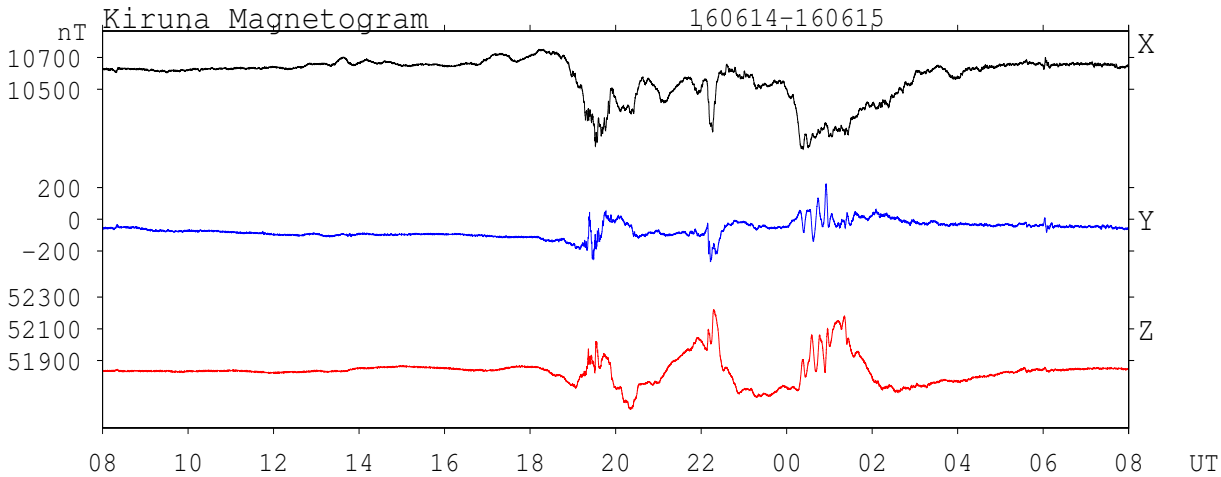

Kiruna Magnetogram
160609-160610
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X
Y
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08 10 12 14 16 18 20 22 00 02 04 06 08 UT

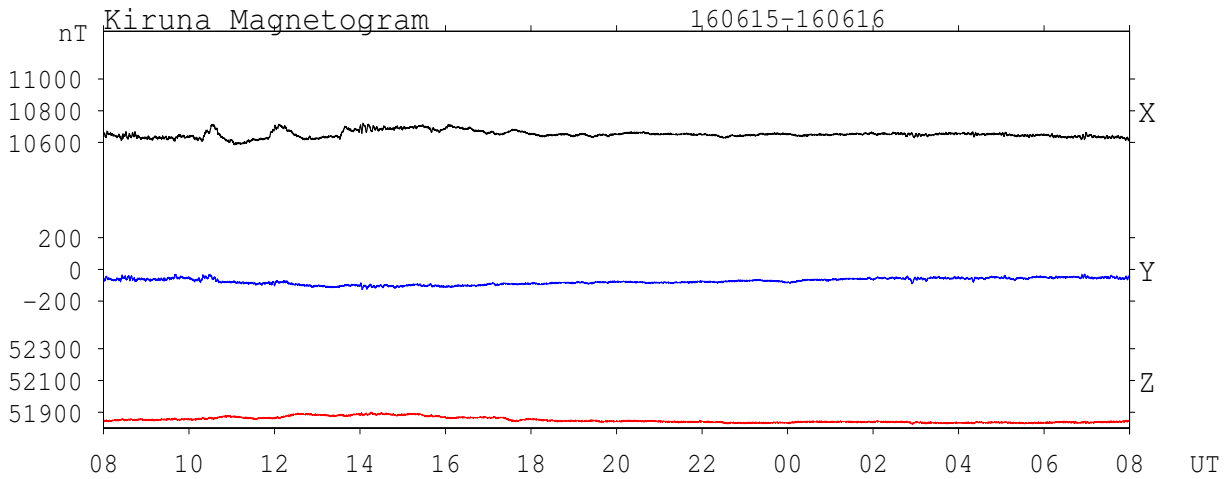

Kiruna Magnetogram
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-200
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X
Y
Z
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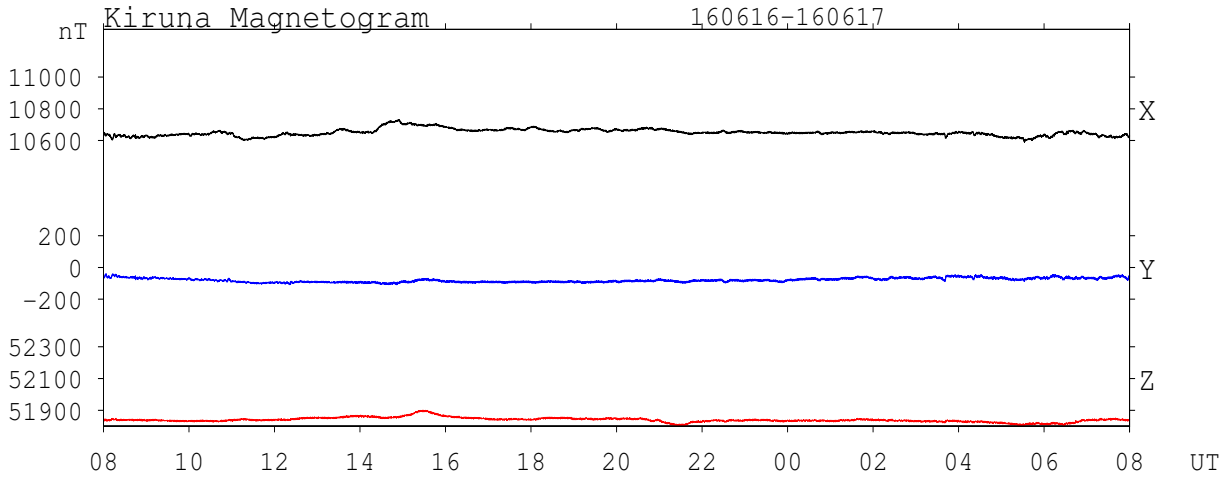

Kiruna Magnetogram
160611-160612
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200
0
-200
52300
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

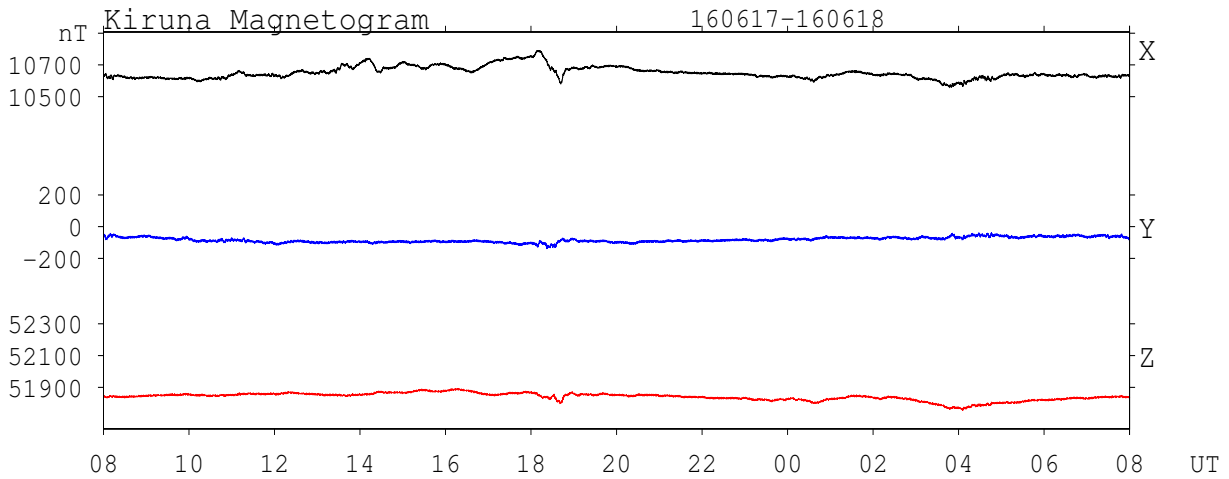

Kiruna Magnetogram
160612-160613
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-200
52300
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X
Y
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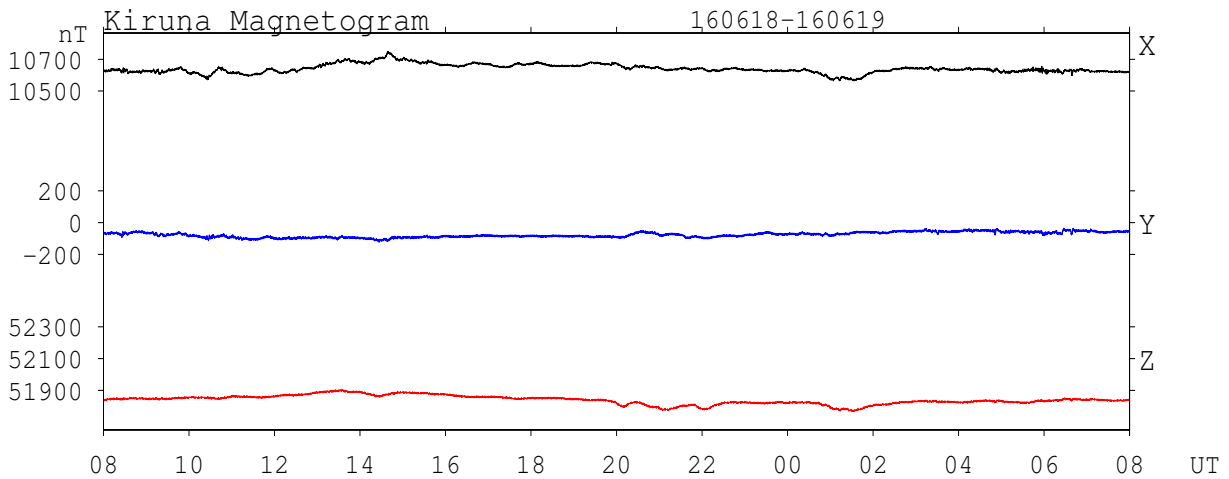

Kiruna Magnetogram
160613-160614
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-200
52300
52100
51900
X
Y
Z
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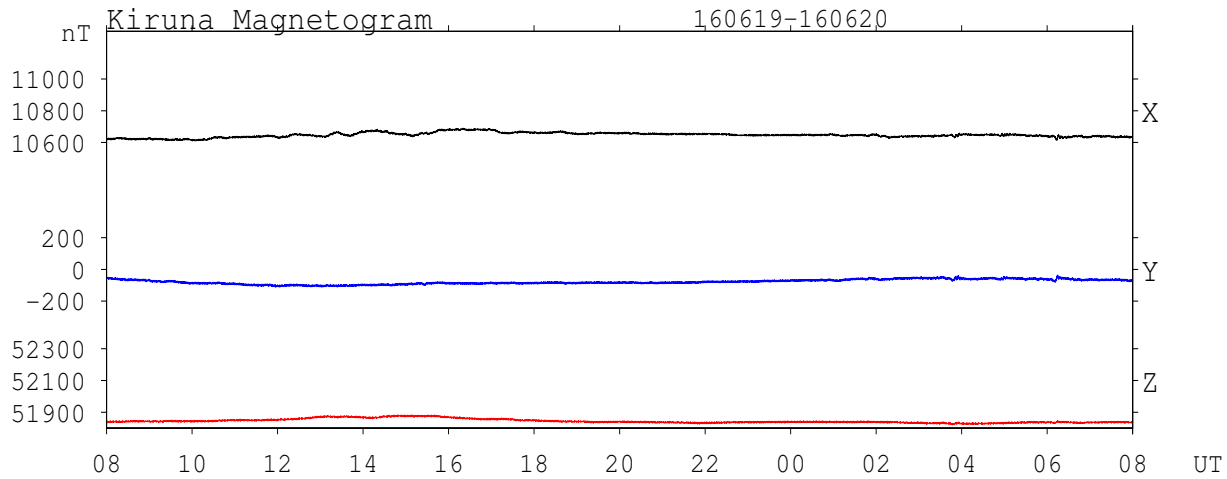

Kiruna Magnetogram
160614-160615
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200
0
-200
52300
52100
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X
Y
Z
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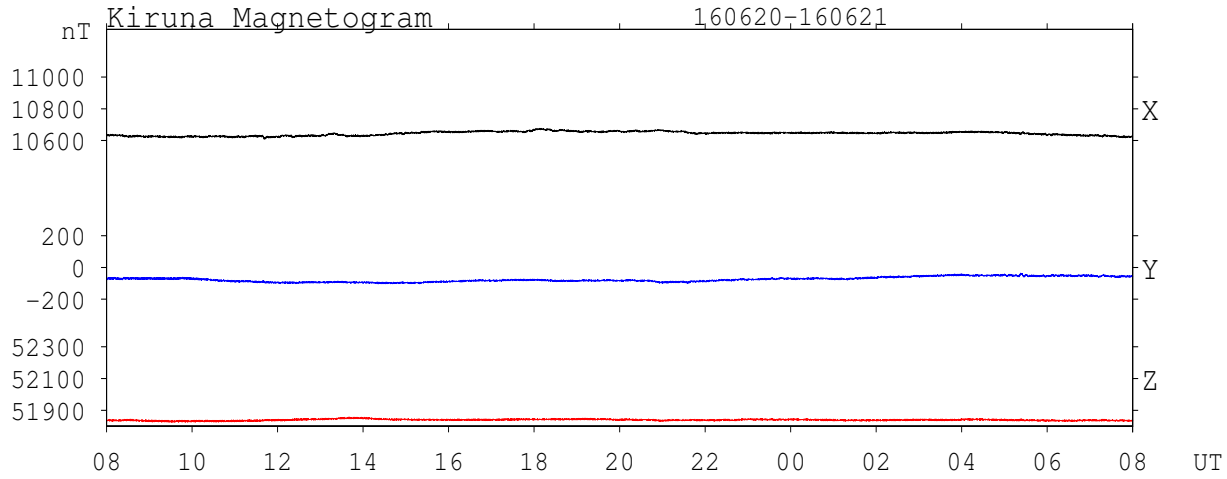

Kiruna Magnetogram
160615-160616
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Y
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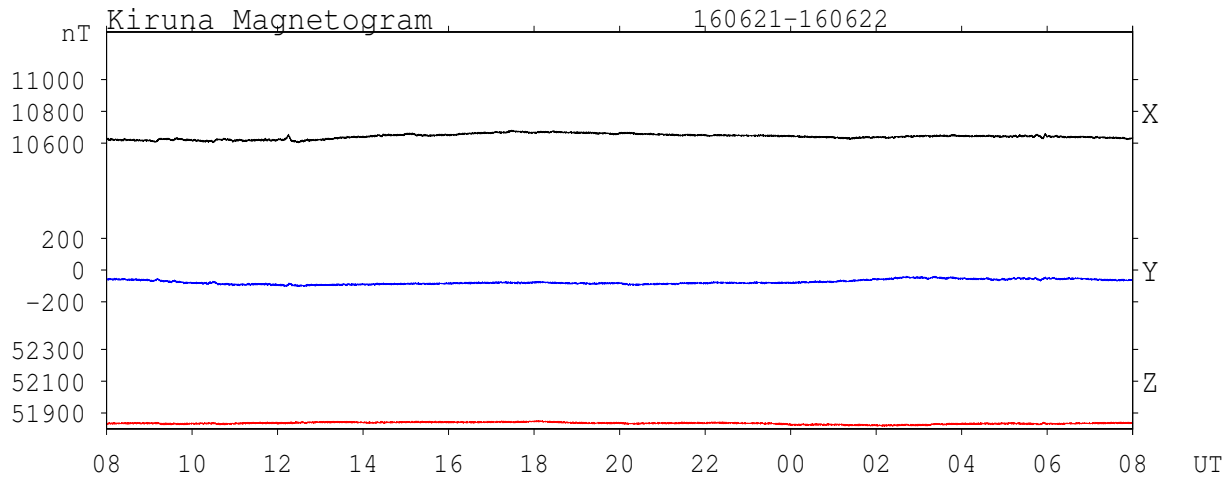

Kiruna Magnetogram
160616-160617
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Y
Z
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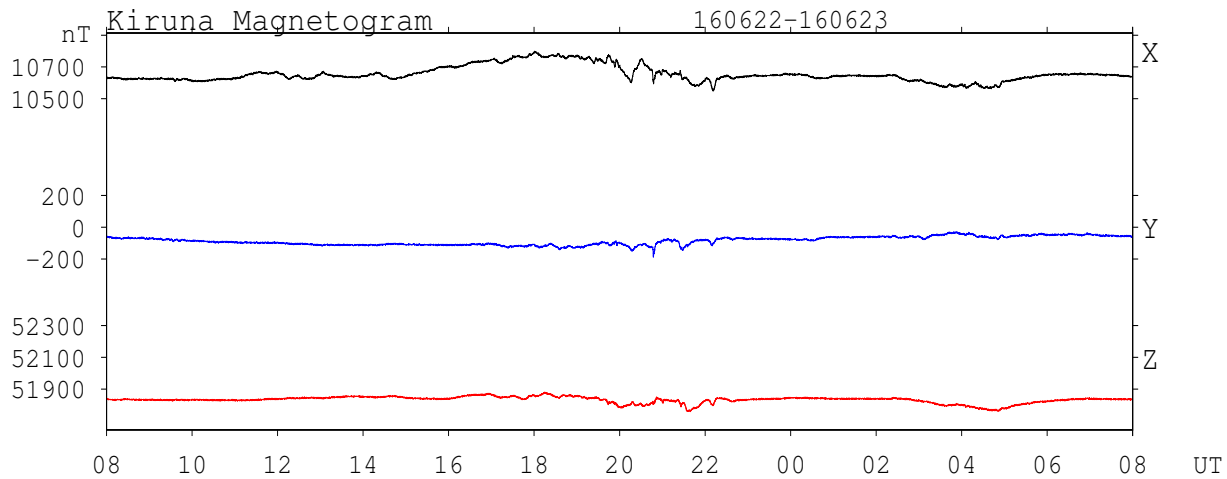

Kiruna Magnetogram
160617-160618
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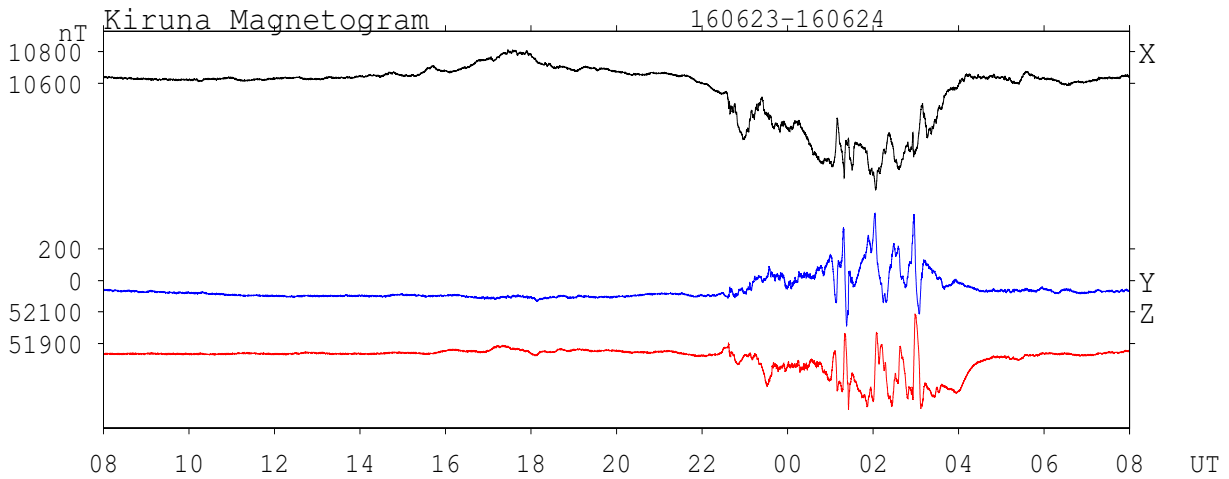

Kiruna Magnetogram
160618-160619
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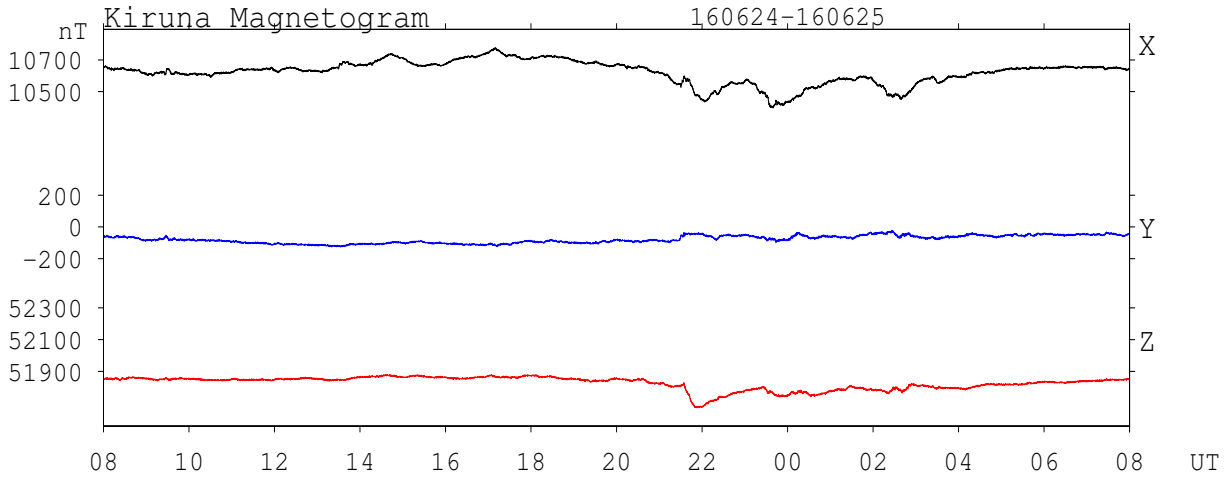

Kiruna Magnetogram
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X
Y
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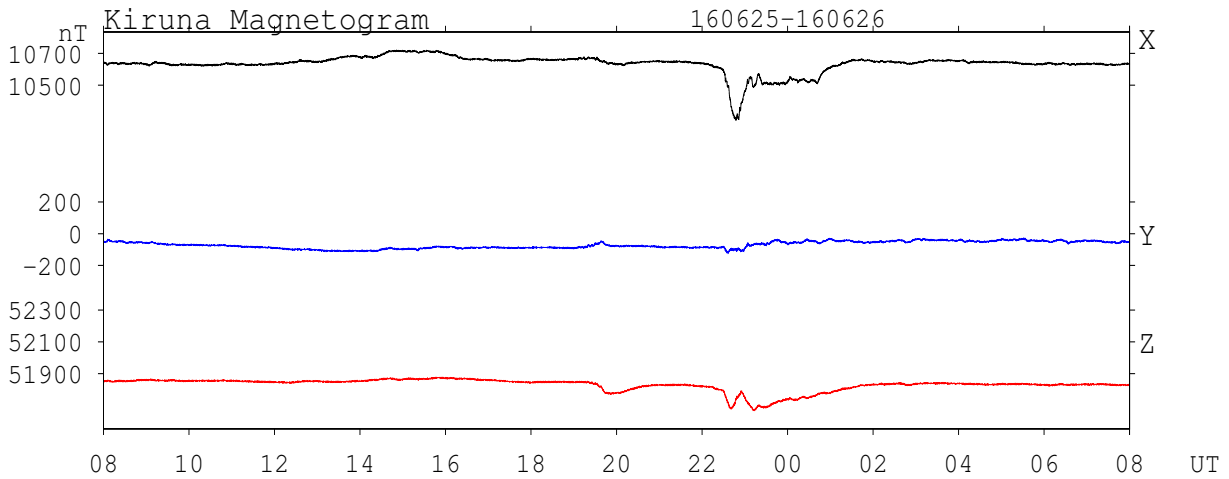

Kiruna Magnetogram
160620-160621
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Z
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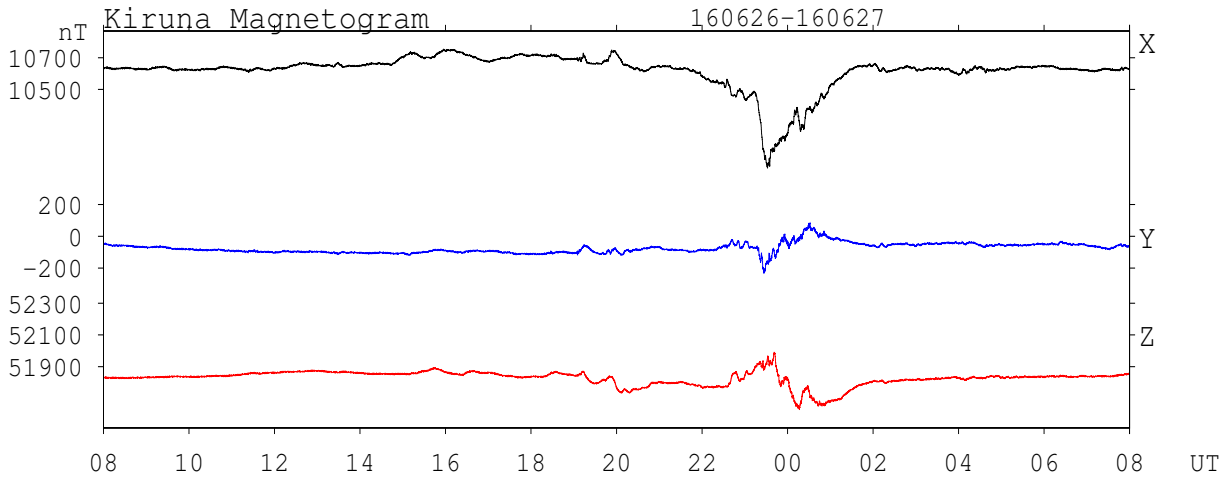

Kiruna Magnetogram
160621-160622
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Y
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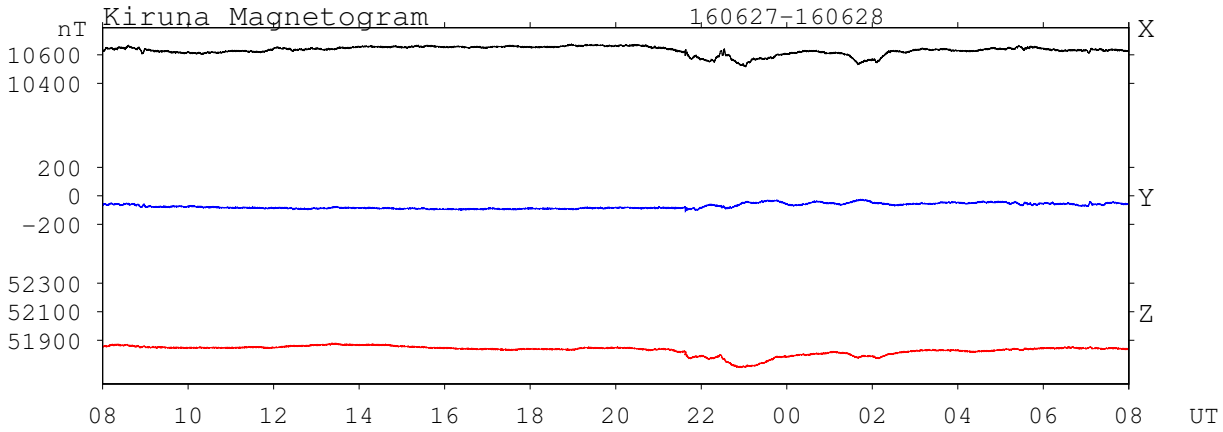

Kiruna Magnetogram
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X
Y
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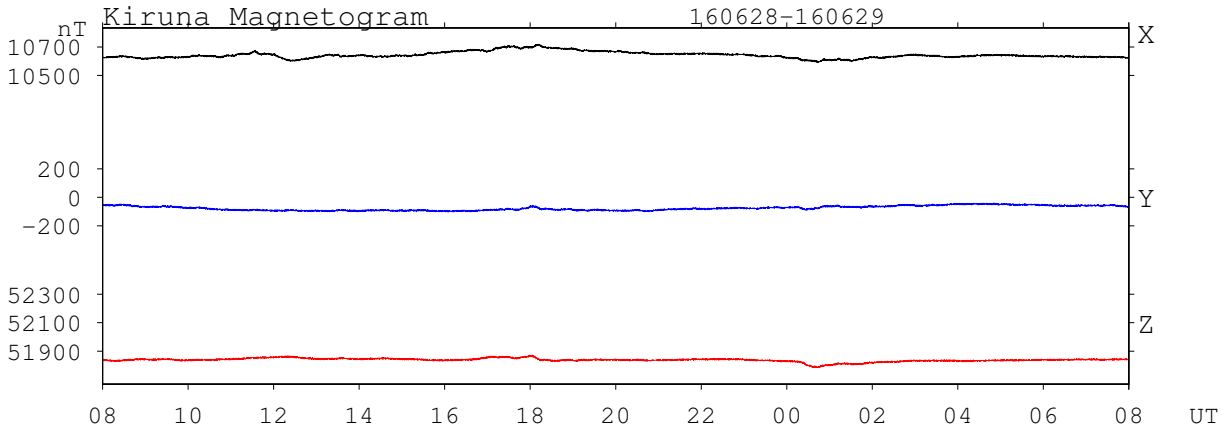

Kiruna Magnetogram
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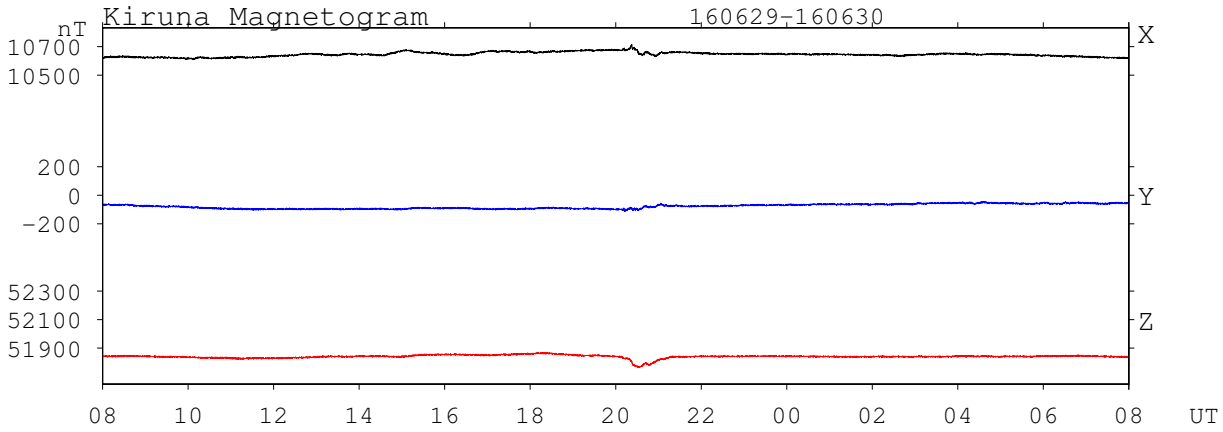

Kiruna Magnetogram
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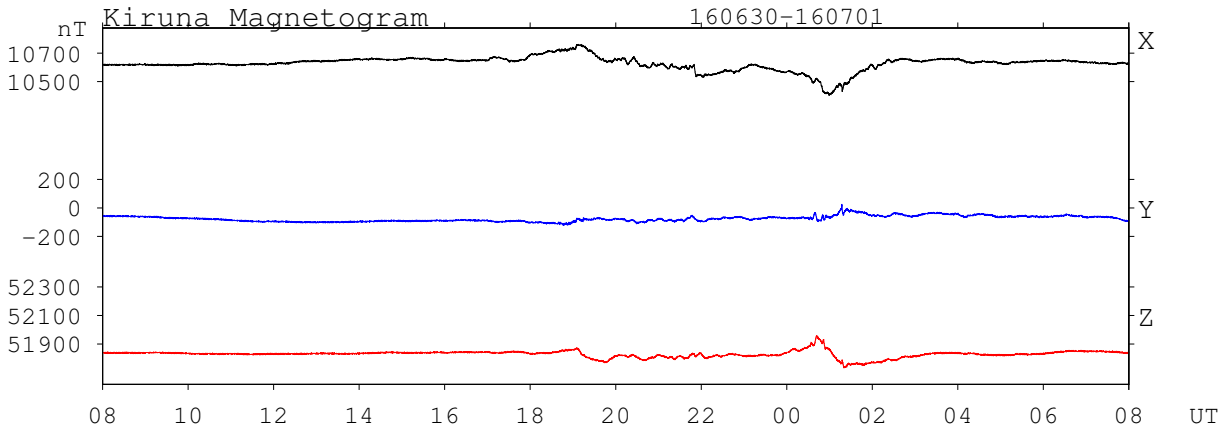

Kiruna Magnetogram
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-200
52300
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51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT


Kiruna Magnetogram
160626-160627
nT
10700
10500
200
0
-200
52300
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT


Kiruna Magnetogram
160627-160628
nT
10600
10400
200
0
-200
52300
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT


Kiruna Magnetogram
160628-160629
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Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

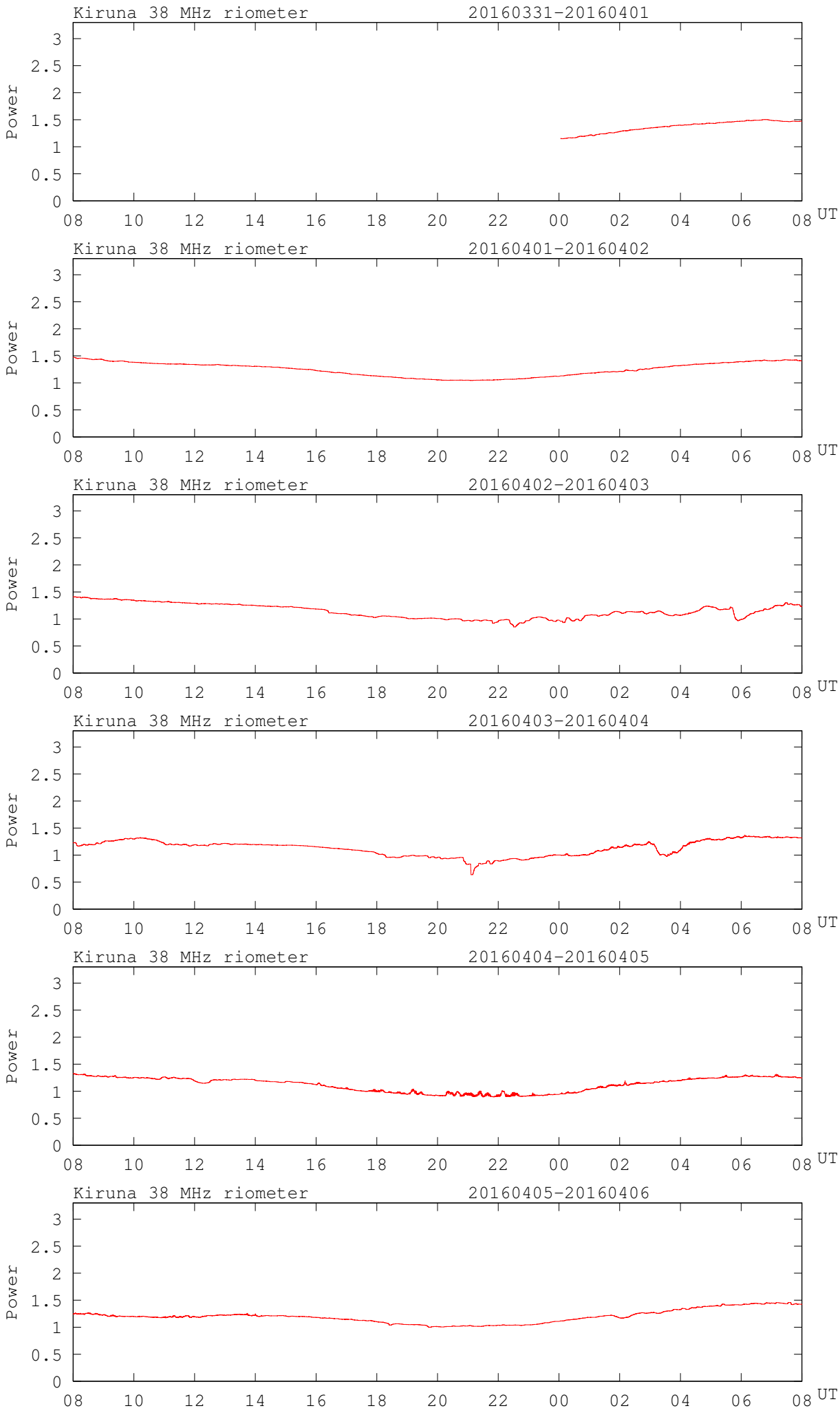

Kiruna Magnetogram
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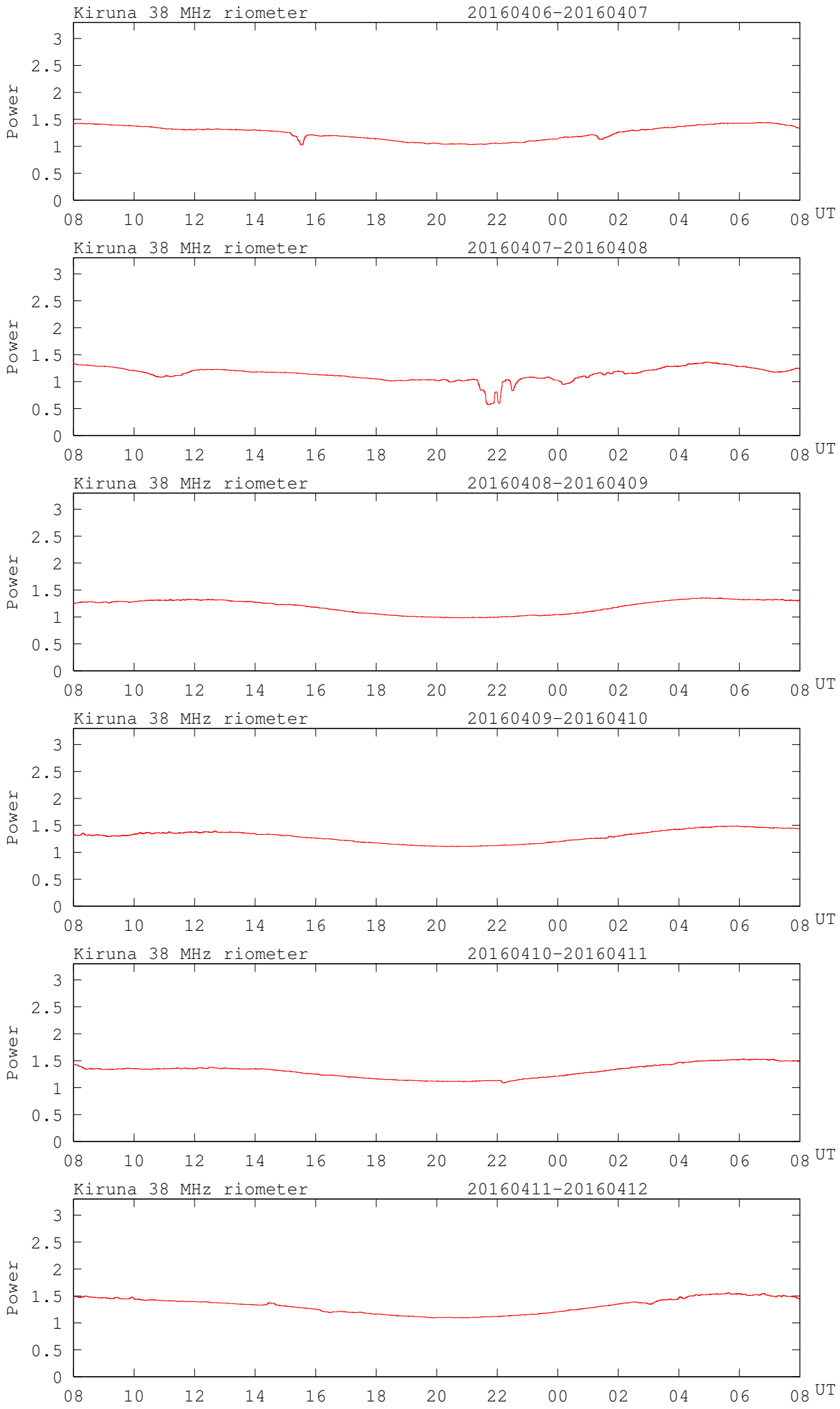

Kiruna Magnetogram
160630-160701
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Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

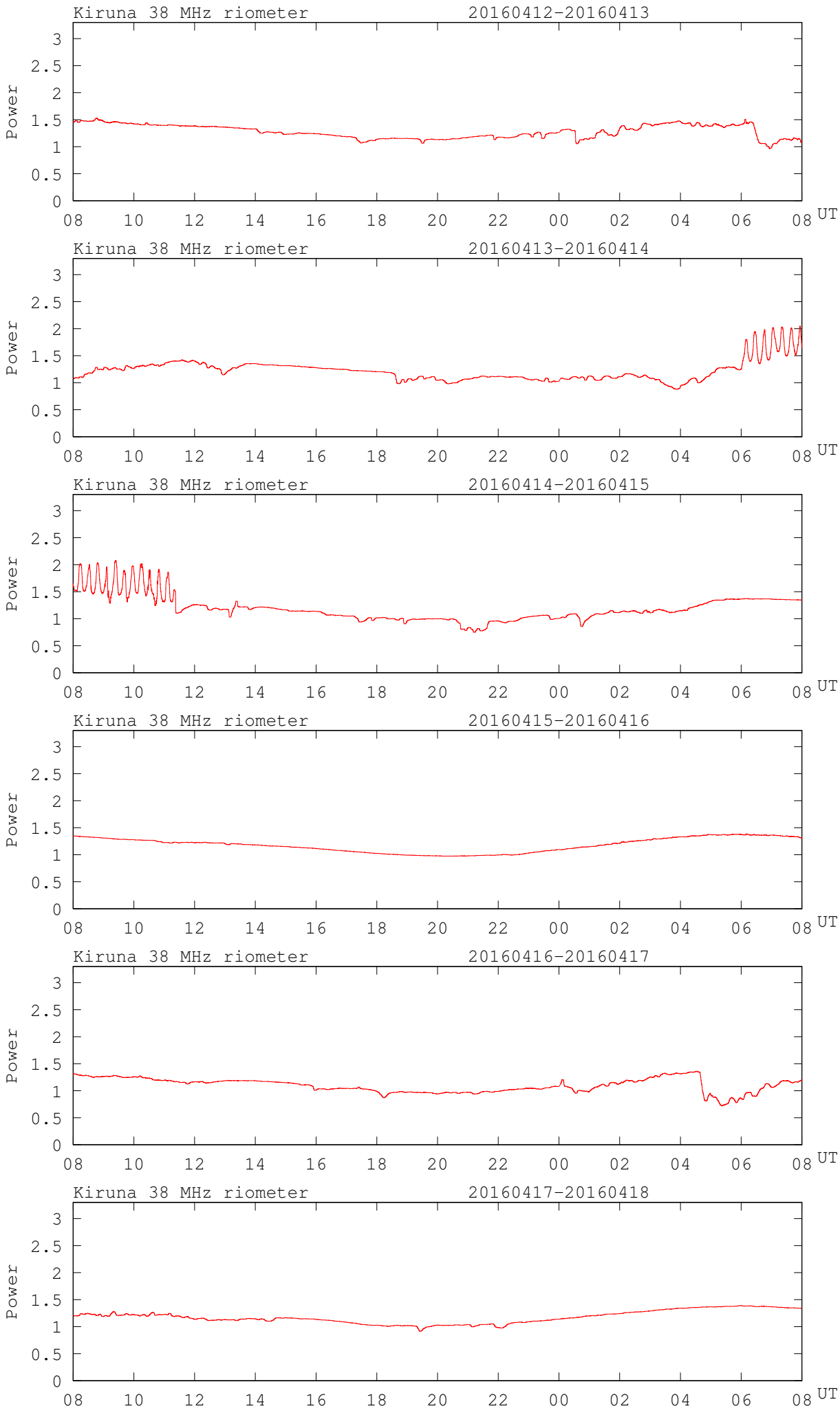
KIRUNA VERTICAL RIOMETER

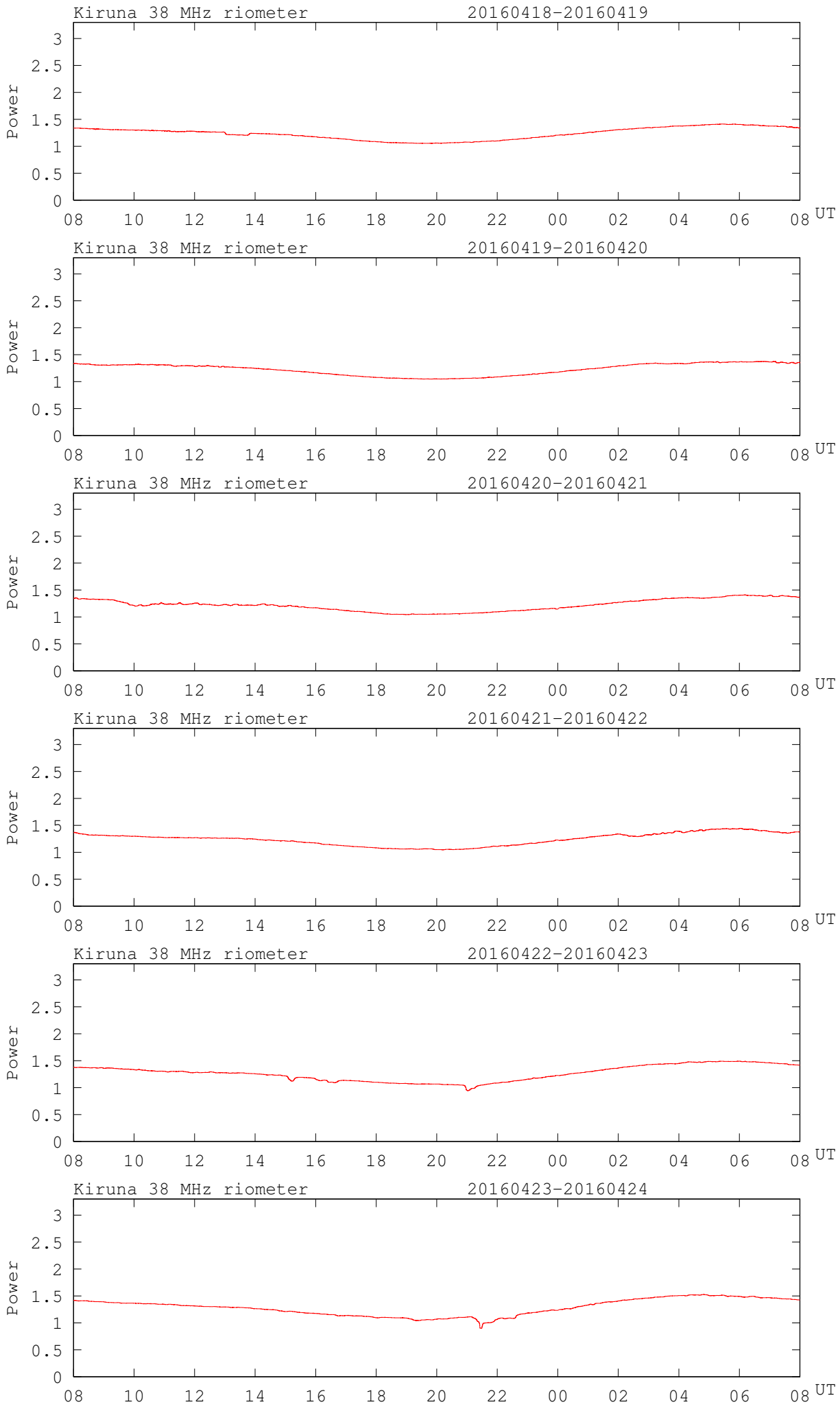
April - June 2016

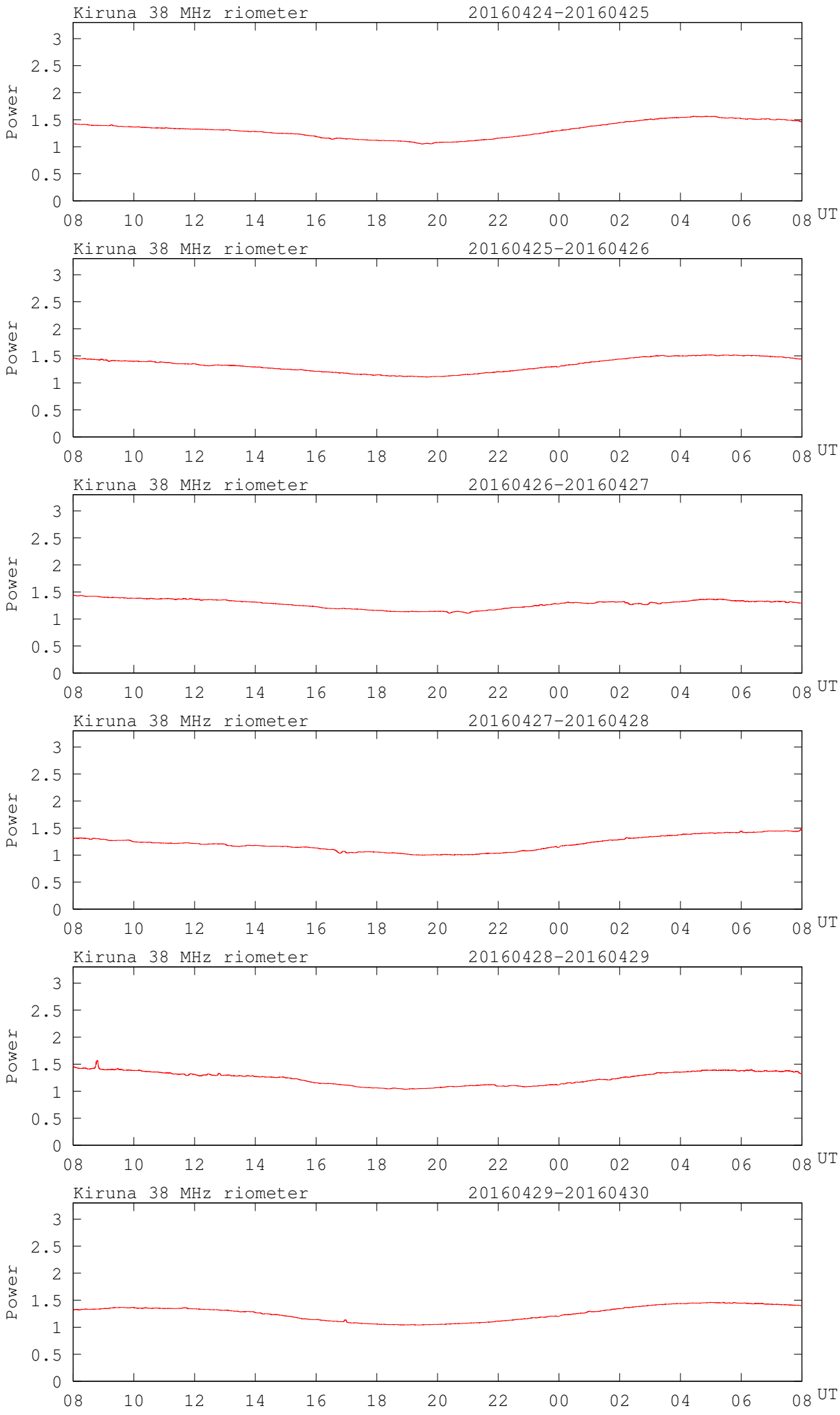
http://www.irf.se/~rio

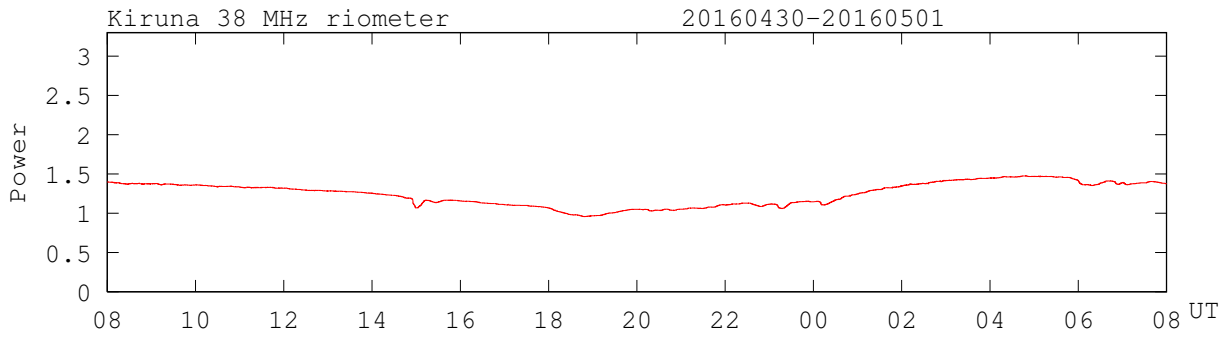

Kiruna 38 MHz riometer 20160331-20160401
Kiruna 38 MHz riometer 20160401-20160402
Kiruna 38 MHz riometer 20160402-20160403
Kiruna 38 MHz riometer 20160403-20160404
Kiruna 38 MHz riometer 20160404-20160405
Kiruna 38 MHz riometer 20160405-20160406
Power
0 0.5 1 1.5 2 2.5 3
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

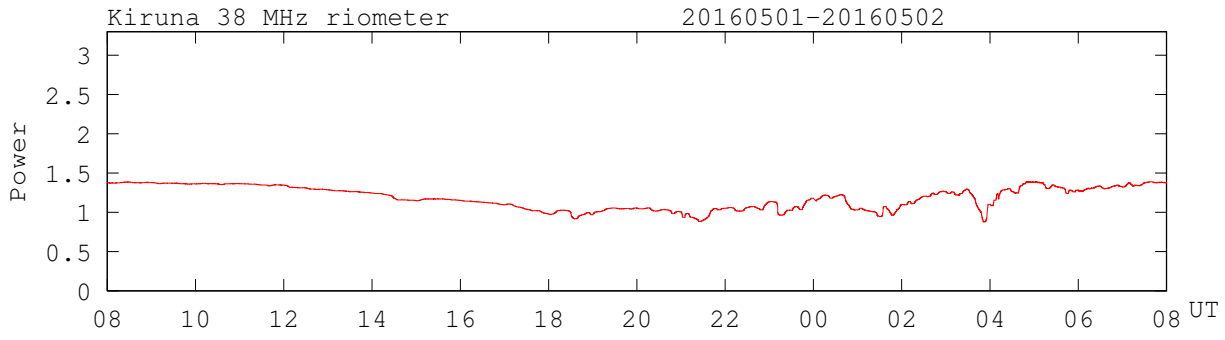

Kiruna 38 MHz riometer 20160406-20160407
Kiruna 38 MHz riometer 20160407-20160408
Kiruna 38 MHz riometer 20160408-20160409
Kiruna 38 MHz riometer 20160409-20160410
Kiruna 38 MHz riometer 20160410-20160411
Kiruna 38 MHz riometer 20160411-20160412
Power
0
0.5
1
1.5
2
2.5
3
08
10
12
14
16
18
20
22
00
02
04
06
08
UT

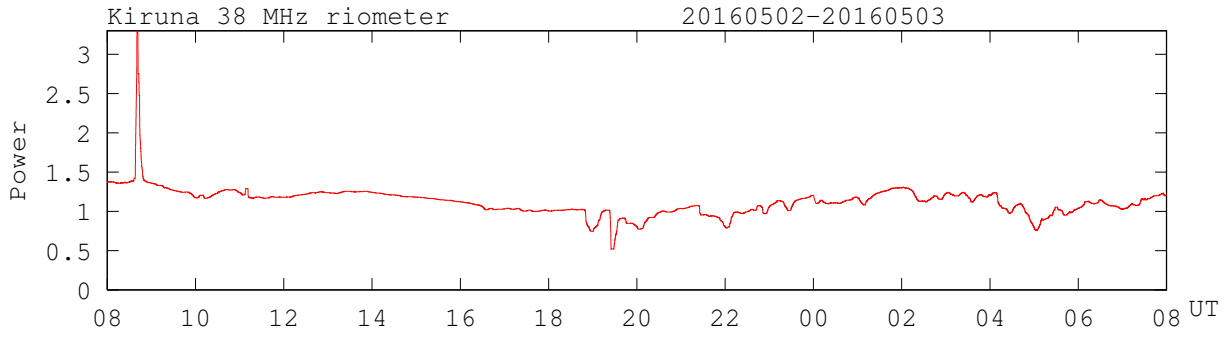

Kiruna 38 MHz riometer 20160412-20160413
Kiruna 38 MHz riometer 20160413-20160414
Kiruna 38 MHz riometer 20160414-20160415
Kiruna 38 MHz riometer 20160415-20160416
Kiruna 38 MHz riometer 20160416-20160417
Kiruna 38 MHz riometer 20160417-20160418
Power
0
0.5
1
1.5
2
2.5
3
08
10
12
14
16
18
20
22
00
02
04
06
08
UT

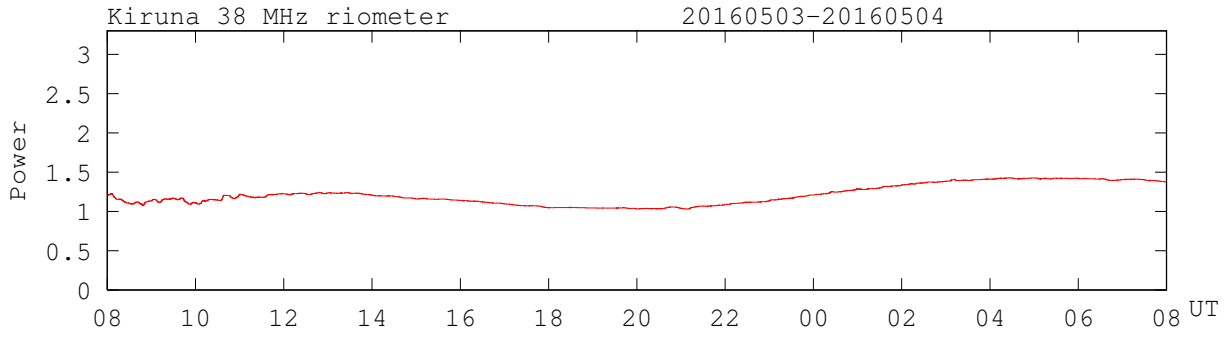

Kiruna 38 MHz riometer 20160418-20160419
Kiruna 38 MHz riometer 20160419-20160420
Kiruna 38 MHz riometer 20160420-20160421
Kiruna 38 MHz riometer 20160421-20160422
Kiruna 38 MHz riometer 20160422-20160423
Kiruna 38 MHz riometer 20160423-20160424
Power
0
0.5
1
1.5
2
2.5
3
08 10 12 14 16 18 20 22 00 02 04 06 08
UT

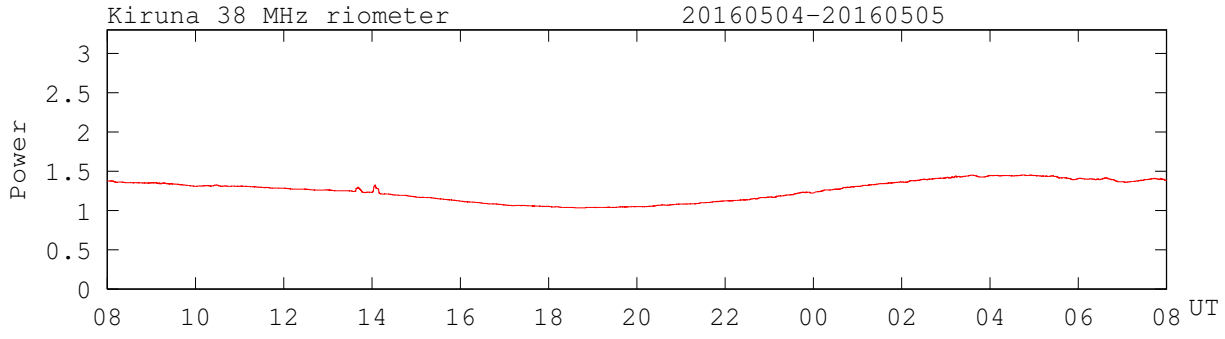

Kiruna 38 MHz riometer 20160424-20160425
Kiruna 38 MHz riometer 20160425-20160426
Kiruna 38 MHz riometer 20160426-20160427
Kiruna 38 MHz riometer 20160427-20160428
Kiruna 38 MHz riometer 20160428-20160429
Kiruna 38 MHz riometer 20160429-20160430
Power
0
0.5
1
1.5
2
2.5
3
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

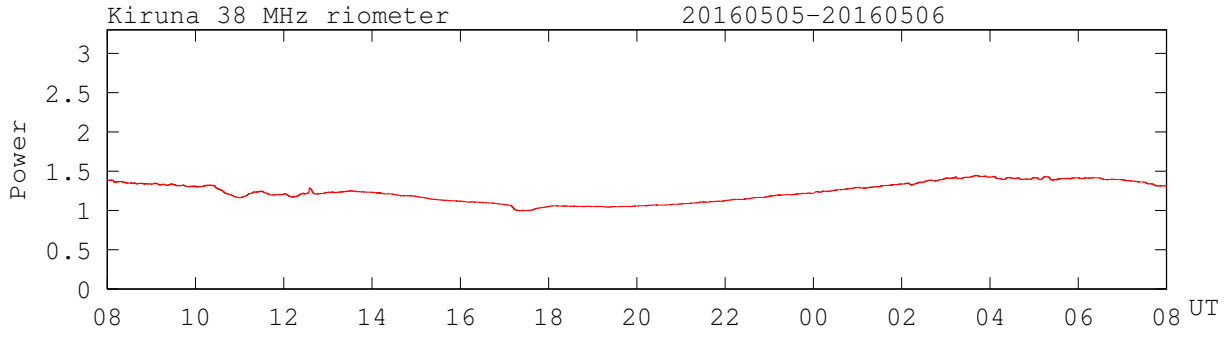

Kiruna 38 MHz riometer
20160430-20160501
Power
UT
08 10 12 14 16 18 20 22 00 02 04 06 08
0 0.5 1 1.5 2 2.5 3

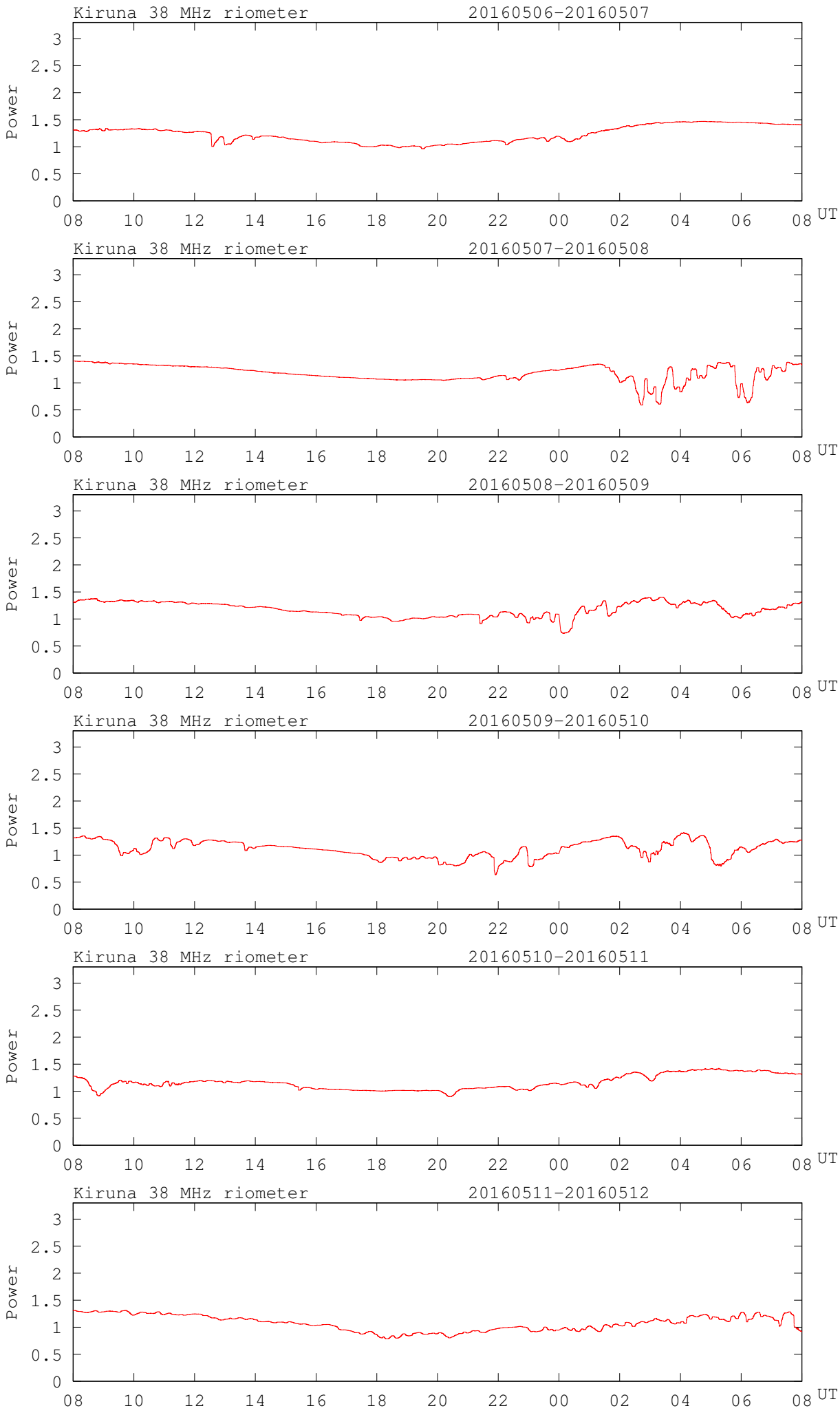

Kiruna 38 MHz riometer
20160501-20160502
Power
UT
08 10 12 14 16 18 20 22 00 02 04 06 08
0 0.5 1 1.5 2 2.5 3

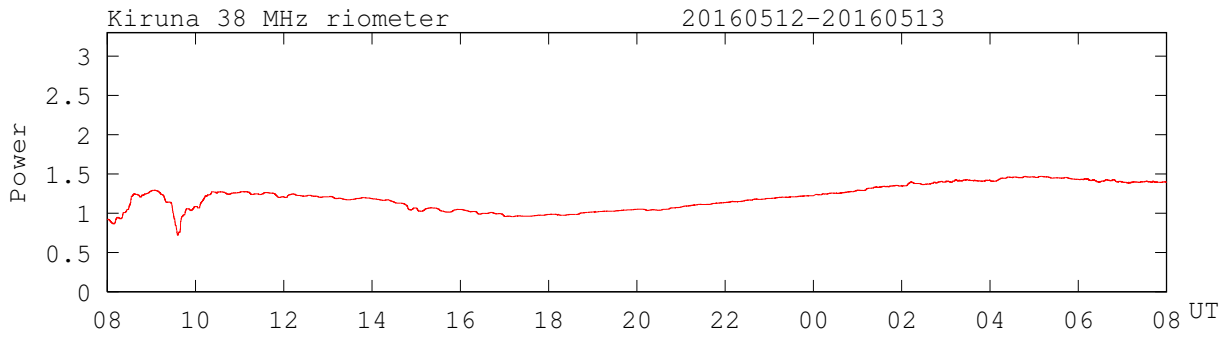

Kiruna 38 MHz riometer
20160502-20160503
Power
UT
08 10 12 14 16 18 20 22 00 02 04 06 08
0 0.5 1 1.5 2 2.5 3

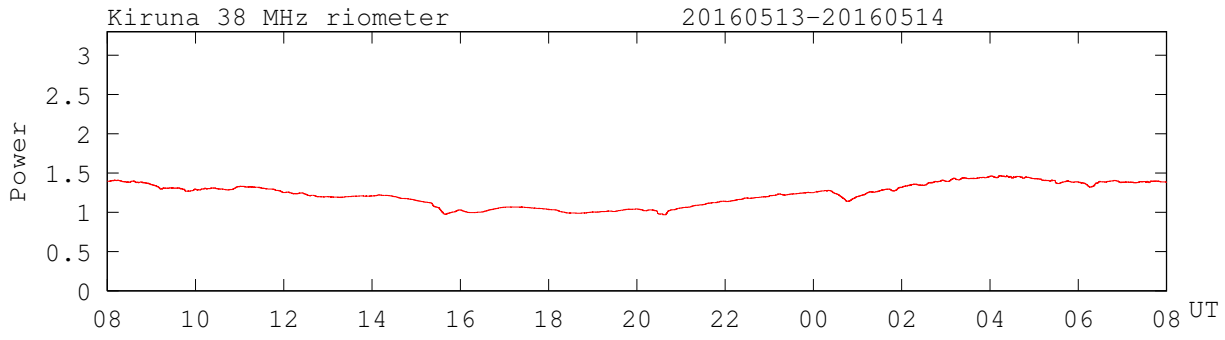

Kiruna 38 MHz riometer
20160503-20160504
Power
UT
08 10 12 14 16 18 20 22 00 02 04 06 08
0 0.5 1 1.5 2 2.5 3

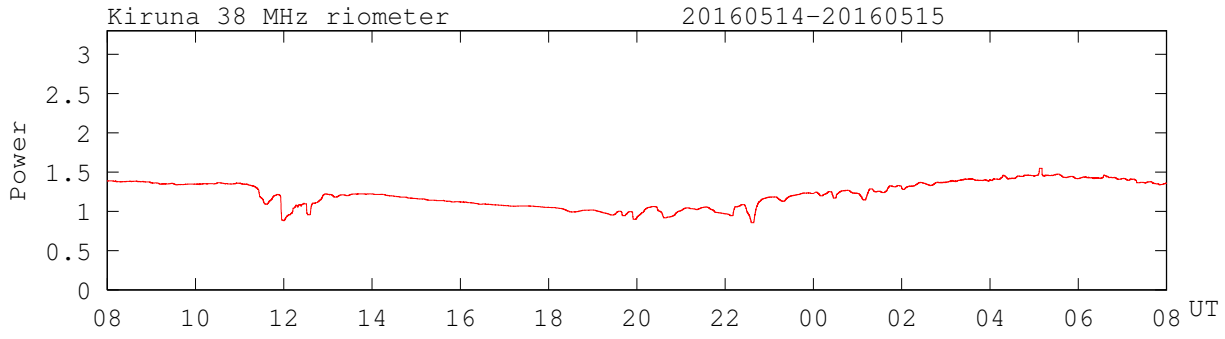

Kiruna 38 MHz riometer
20160504-20160505
Power
UT
08 10 12 14 16 18 20 22 00 02 04 06 08
0 0.5 1 1.5 2 2.5 3

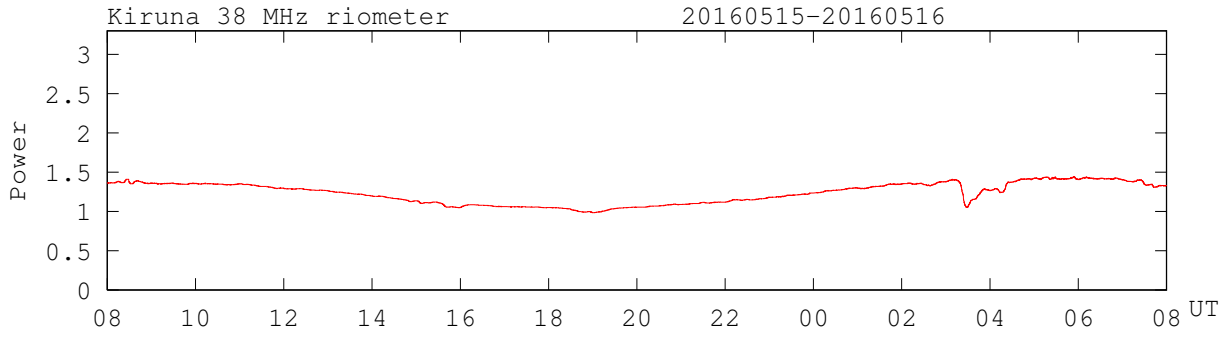

Kiruna 38 MHz riometer
20160505-20160506
Power
UT
08 10 12 14 16 18 20 22 00 02 04 06 08
0 0.5 1 1.5 2 2.5 3

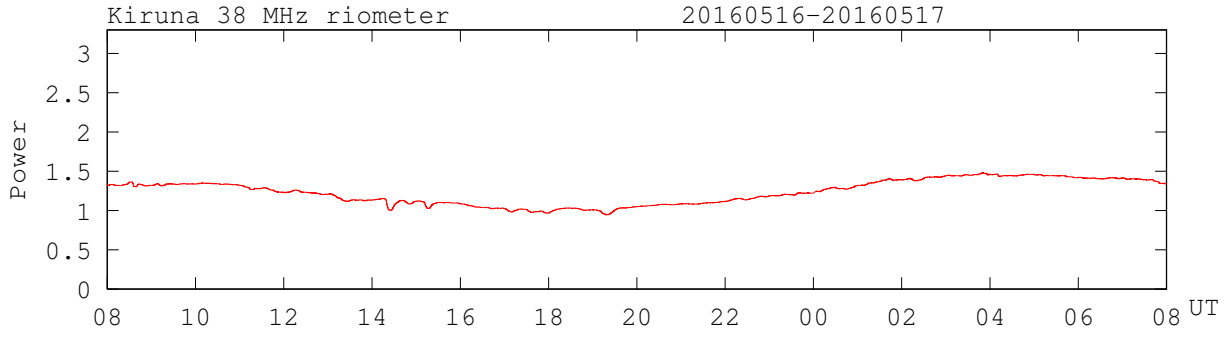

Kiruna 38 MHz riometer 20160506-20160507
Kiruna 38 MHz riometer 20160507-20160508
Kiruna 38 MHz riometer 20160508-20160509
Kiruna 38 MHz riometer 20160509-20160510
Kiruna 38 MHz riometer 20160510-20160511
Kiruna 38 MHz riometer 20160511-20160512
Power
0
0.5
1
1.5
2
2.5
3
08 10 12 14 16 18 20 22 00 02 04 06 08
UT

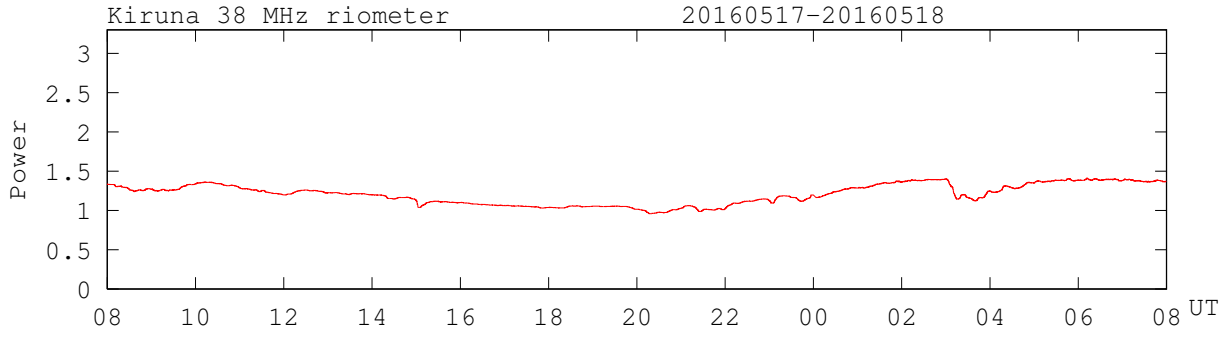

Kiruna 38 MHz riometer
20160512-20160513
Power
UT
08 10 12 14 16 18 20 22 00 02 04 06 08
0 0.5 1 1.5 2 2.5 3

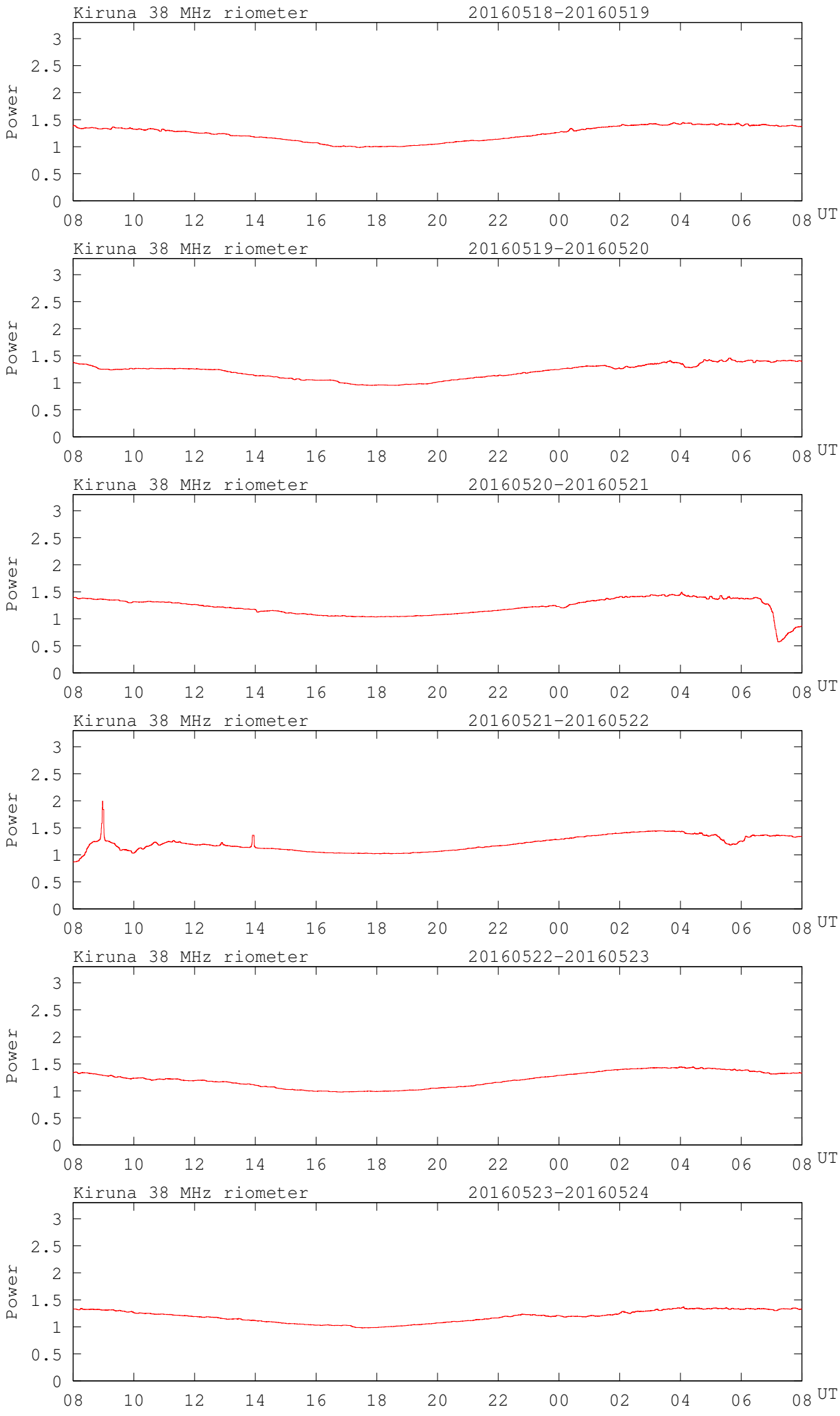

Kiruna 38 MHz riometer
20160513-20160514
Power
UT
08 10 12 14 16 18 20 22 00 02 04 06 08
0 0.5 1 1.5 2 2.5 3

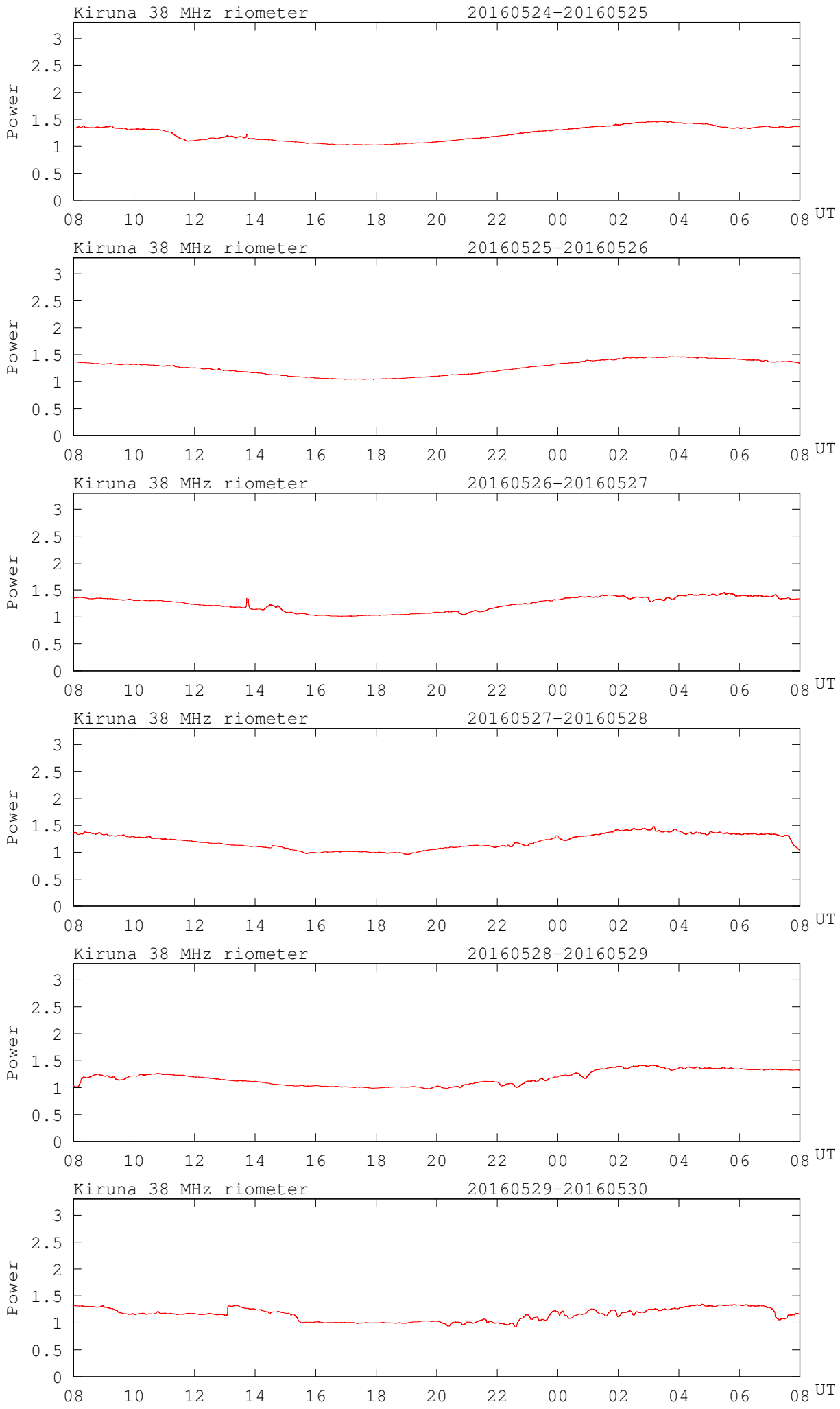

Kiruna 38 MHz riometer
20160514-20160515
Power
UT
08 10 12 14 16 18 20 22 00 02 04 06 08
0 0.5 1 1.5 2 2.5 3

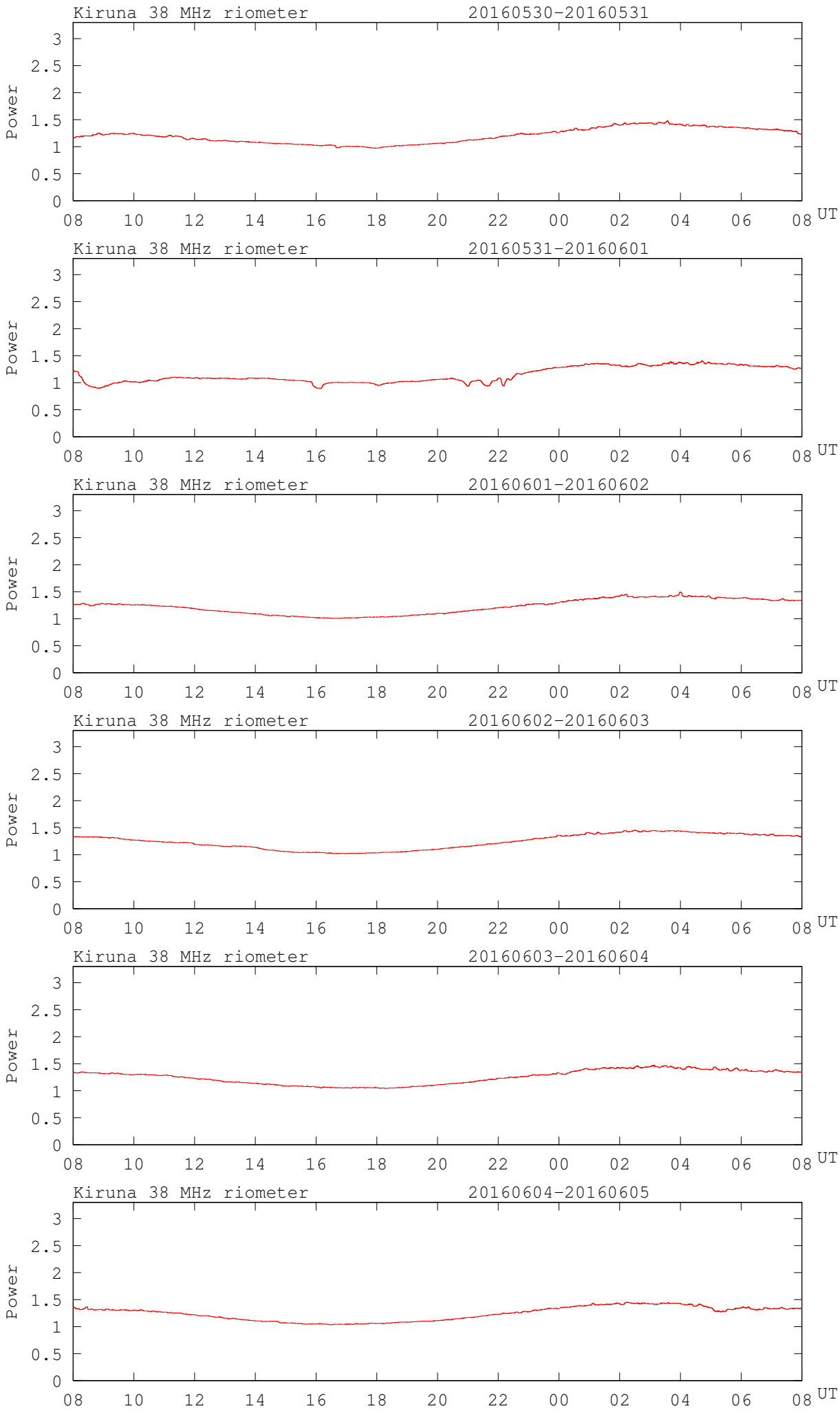

Kiruna 38 MHz riometer
20160515-20160516
Power
UT
08 10 12 14 16 18 20 22 00 02 04 06 08
0 0.5 1 1.5 2 2.5 3

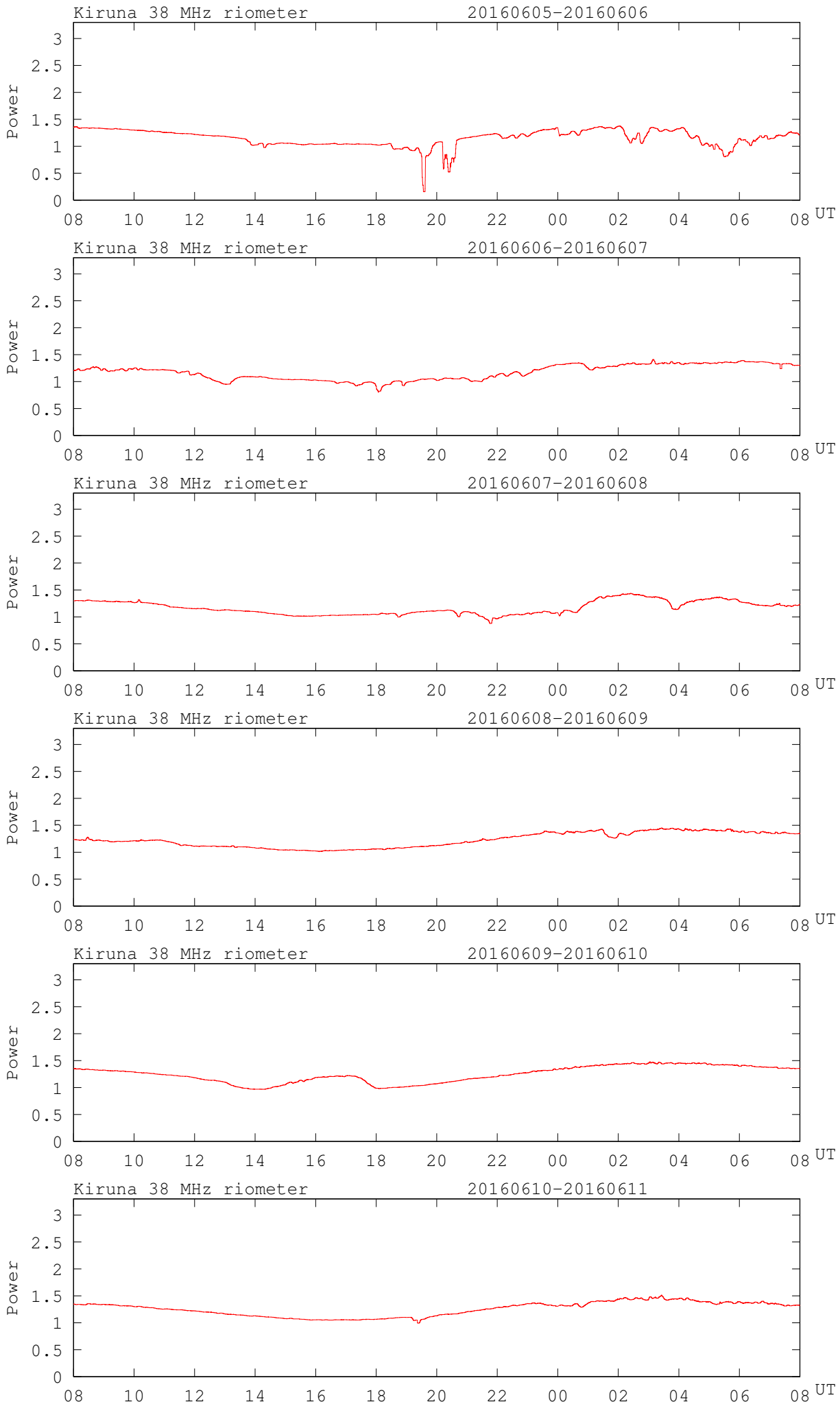

Kiruna 38 MHz riometer
20160516-20160517
Power
UT
08 10 12 14 16 18 20 22 00 02 04 06 08
0 0.5 1 1.5 2 2.5 3

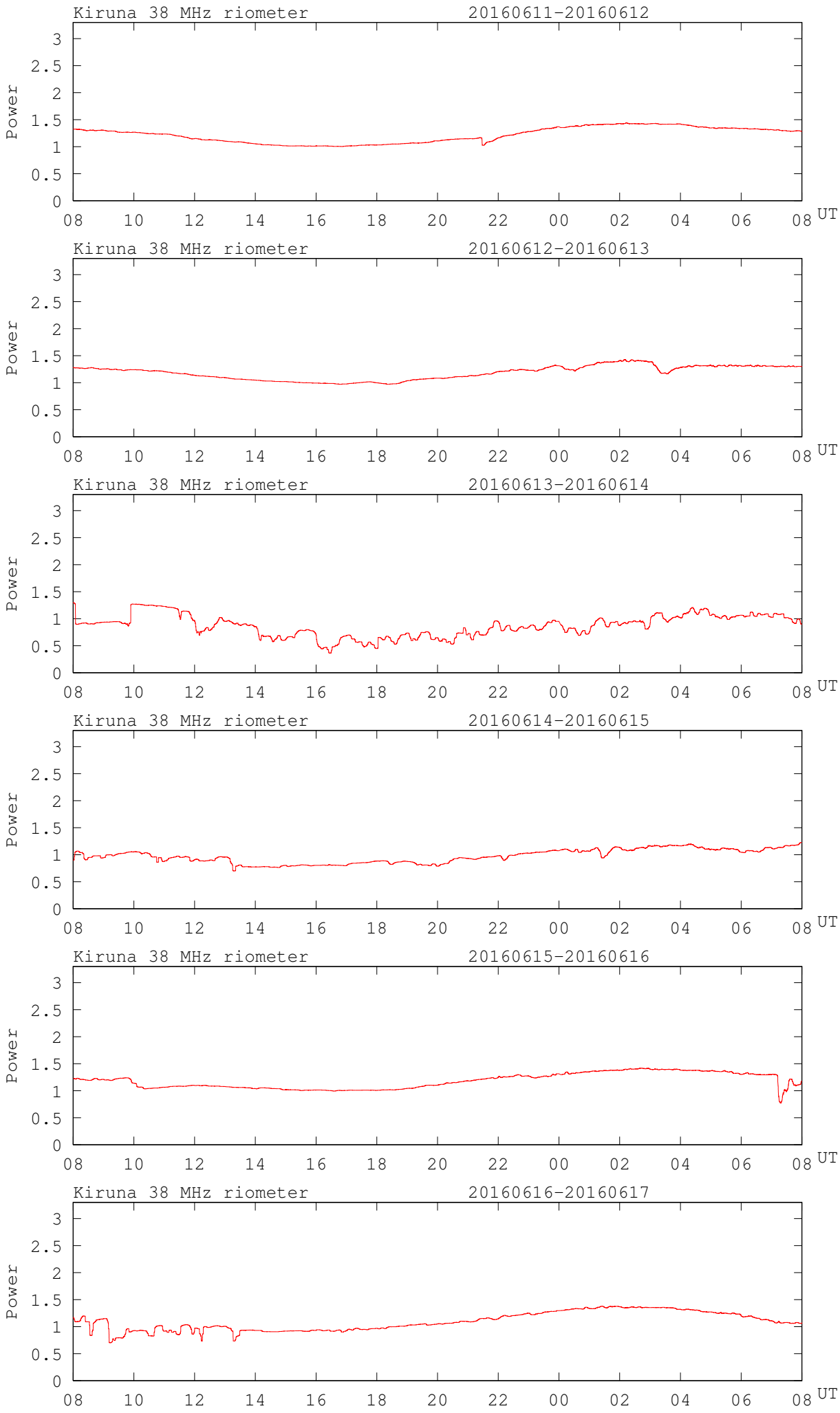

Kiruna 38 MHz riometer
20160517-20160518
Power
UT
08 10 12 14 16 18 20 22 00 02 04 06 08
0 0.5 1 1.5 2 2.5 3

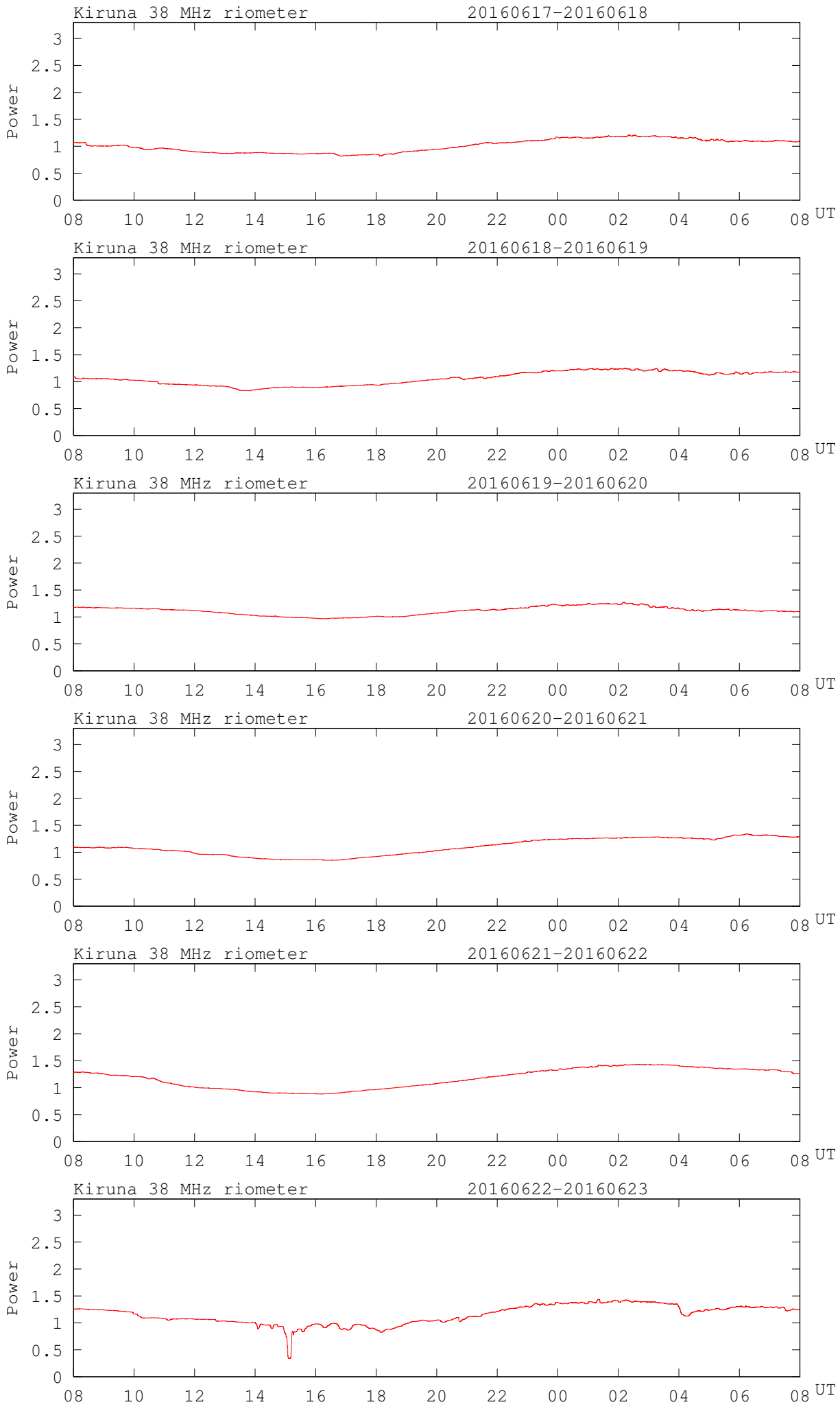

Kiruna 38 MHz riometer 20160518-20160519
Kiruna 38 MHz riometer 20160519-20160520
Kiruna 38 MHz riometer 20160520-20160521
Kiruna 38 MHz riometer 20160521-20160522
Kiruna 38 MHz riometer 20160522-20160523
Kiruna 38 MHz riometer 20160523-20160524
Power
0
0.5
1
1.5
2
2.5
3
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

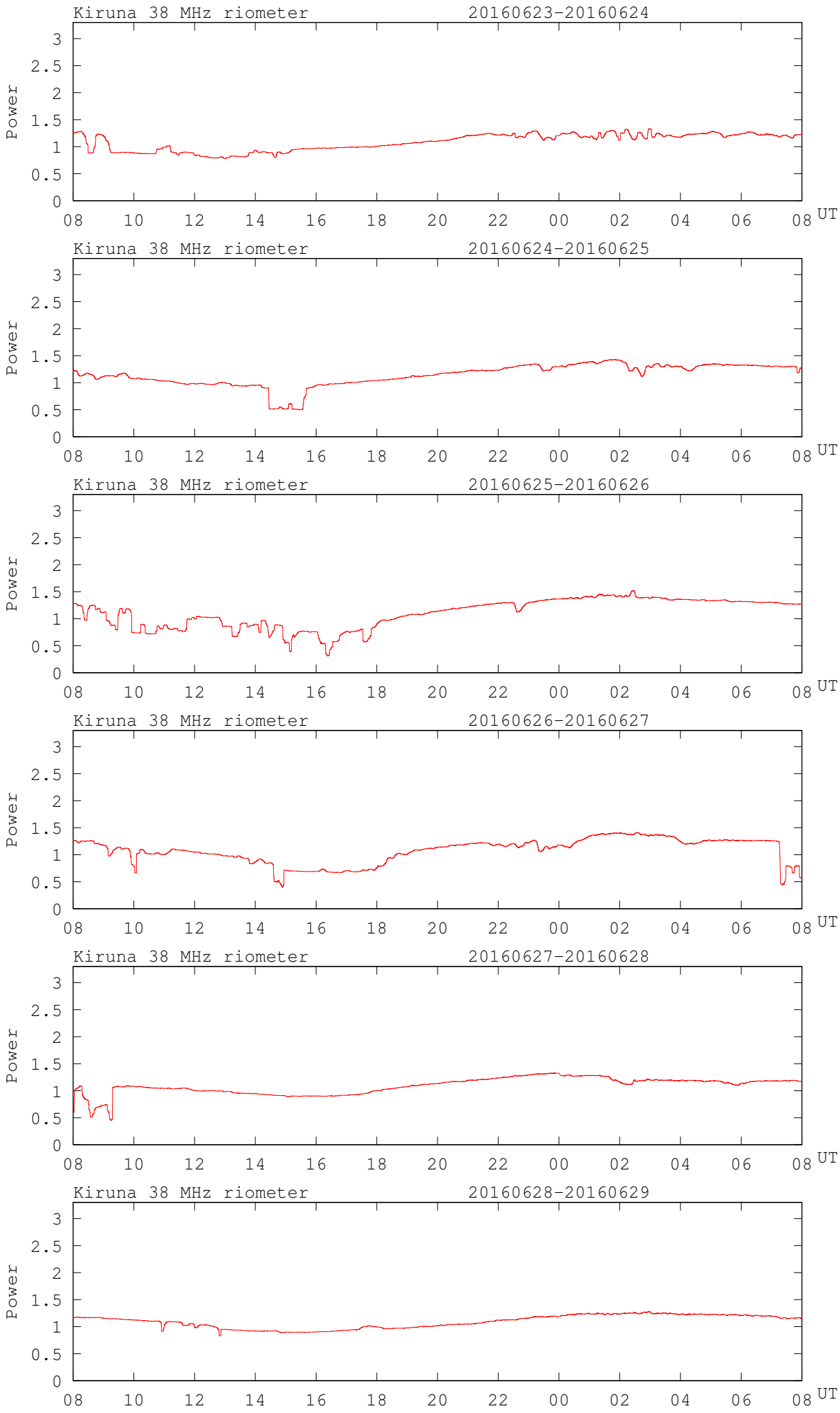

Kiruna 38 MHz riometer 20160524-20160525
Kiruna 38 MHz riometer 20160525-20160526
Kiruna 38 MHz riometer 20160526-20160527
Kiruna 38 MHz riometer 20160527-20160528
Kiruna 38 MHz riometer 20160528-20160529
Kiruna 38 MHz riometer 20160529-20160530
Power
0
0.5
1
1.5
2
2.5
3
08 10 12 14 16 18 20 22 00 02 04 06 08
UT

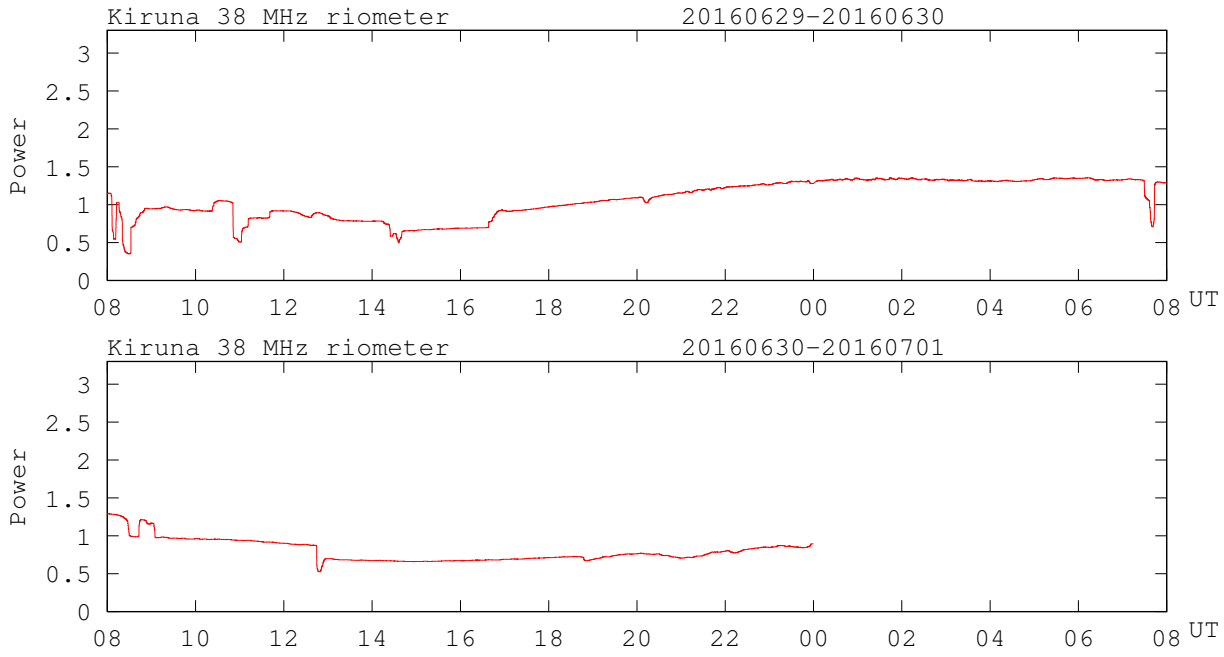

Kiruna 38 MHz riometer 20160530-20160531
Kiruna 38 MHz riometer 20160531-20160601
Kiruna 38 MHz riometer 20160601-20160602
Kiruna 38 MHz riometer 20160602-20160603
Kiruna 38 MHz riometer 20160603-20160604
Kiruna 38 MHz riometer 20160604-20160605
Power
0
0.5
1
1.5
2
2.5
3
08 10 12 14 16 18 20 22 00 02 04 06 08 UT


Kiruna 38 MHz riometer 20160605-20160606
Kiruna 38 MHz riometer 20160606-20160607
Kiruna 38 MHz riometer 20160607-20160608
Kiruna 38 MHz riometer 20160608-20160609
Kiruna 38 MHz riometer 20160609-20160610
Kiruna 38 MHz riometer 20160610-20160611
Power
0 0.5 1 1.5 2 2.5 3
08 10 12 14 16 18 20 22 00 02 04 06 08
UT


Kiruna 38 MHz riometer 20160611-20160612
Kiruna 38 MHz riometer 20160612-20160613
Kiruna 38 MHz riometer 20160613-20160614
Kiruna 38 MHz riometer 20160614-20160615
Kiruna 38 MHz riometer 20160615-20160616
Kiruna 38 MHz riometer 20160616-20160617
Power
0
0.5
1
1.5
2
2.5
3
08 10 12 14 16 18 20 22 00 02 04 06 08
UT


Kiruna 38 MHz riometer 20160617-20160618
Kiruna 38 MHz riometer 20160618-20160619
Kiruna 38 MHz riometer 20160619-20160620
Kiruna 38 MHz riometer 20160620-20160621
Kiruna 38 MHz riometer 20160621-20160622
Kiruna 38 MHz riometer 20160622-20160623
Power
0
0.5
1
1.5
2
2.5
3
08 10 12 14 16 18 20 22 00 02 04 06 08
UT


Kiruna 38 MHz riometer 20160623-20160624
Kiruna 38 MHz riometer 20160624-20160625
Kiruna 38 MHz riometer 20160625-20160626
Kiruna 38 MHz riometer 20160626-20160627
Kiruna 38 MHz riometer 20160627-20160628
Kiruna 38 MHz riometer 20160628-20160629
Power
0
0.5
1
1.5
2
2.5
3
08 10 12 14 16 18 20 22 00 02 04 06 08 UT


Kiruna 38 MHz riometer
20160629-20160630
Power
3
2.5
2
1.5
1
0.5
0
08
10
12
14
16
18
20
22
00
02
04
06
08
UT

Kiruna 38 MHz riometer
20160630-20160701
Power
3
2.5
2
1.5
1
0.5
0
08
10
12
14
16
18
20
22
00
02
04
06
08
UT



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