Kiruna Geophysical Data



Data Summary 16/07-09 (July-September 2016)

Swedish Institute of Space Physics

Kiruna Geophysical Data

Data Summary 16/07-09
July – September 2016

Urban Brändström
editor

Swedish Institute of Space Physics
P.O Box 812
SE-981 28 Kiruna
Sweden

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TABLE OF CONTENTS

Introduction 1
Geomagnetic data 2
Magnetograms 2
K-indices 2
All-sky camera data 3
Ionospheric absorption data 3

Tables for July - September 2016
Geomagnetic K-indices 5

Reproductions for July - September 2016
All-sky camera keograms 9
Magnetogram plots 19
Riometer recordings 45

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

July 2016

Lower limit of K=6 is 360 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	3	1	0	1	(16)
2	1	2	2	2	3	2	2	4	18
3	4	2	2	2	3	2	3	5	23
4	3	2	2	2	2	1	3	3	18
5	1	1	2	2	2	1	1	1	11
6	1	1	1	2	3	2	1	4	15
7	4	3	3	3	4	5	5	5	32
8	5	4	3	3	5	4	6	3	33
9	6	5	3	3	5	4	4	3	33
10	4	3	2	3	3	2	3	5	25
11	5	3	2	3	3	3	5	5	29
12	5	6	3	4	3	3	4	6	34
13	6	3	2	2	3	2	1	4	23
14	3	3	3	3	3	3	3	5	26
15	6	5	3	3	3	3	3	5	31
16	6	2	2	2	3	2	2	2	21
17	2	3	2	2	3	2	2	2	18
18	1	1	2	1	1	2	1	3	12
19	2	1	1	2	2	1	0	3	12
20	6	6	4	3	3	3	2	1	28
21	1	1	2	2	2	3	1	3	15
22	2	2	2	2	4	4	3	3	22
23	3	3	3	2	2	1	2	3	19
24	3	2	1	1	2	5	5	5	24
25	6	4	3	4	5	3	4	4	33
26	3	2	2	2	3	2	4	3	21
27	1	1	1	2	1	1	1	4	12
28	3	3	3	(2)	3	5	6	4	(29)
29	4	4	3	3	3	4	5	4	30
30	5	2	2	2	2	2	2	3	20
31	3	1	1	2	3	1	1	1	13
Sum	110	83	69	73	90	79	85	107	

GEOMAGNETIC K-INDICES, KIRUNA

August 2016

Lower limit of K=7 is 600 nT

Time in UT

Day	00 - 03	03 - 06	06 - 09	09 - 12	12 - 15	15 - 18	18 - 21	21 - 24	Sum
1	(2)	1	1	2	2	1	1	2	(12)
2	1	1	2	2	3	3	2	7	21
3	7	5	5	4	5	6	3	5	40
4	6	4	3	4	5	5	5	3	35
5	3	4	4	4	4	3	4	7	33
6	6	2	3	4	3	4	3	6	31
7	7	2	2	2	4	4	2	6	29
8	7	3	2	2	4	5	3	2	28
9	2	4	2	3	4	5	2	5	27
10	5	3	3	4	3	4	6	5	33
11	3	1	2	2	3	4	5	5	25
12	6	6	3	3	3	3	2	3	29
13	2	1	1	2	3	2	4	2	17
14	2	1	1	2	3	1	1	0	11
15	2	0	2	1	2	1	0	3	11
16	1	0	1	1	2	2	2	5	14
17	5	3	2	2	2	0	3	4	21
18	3	4	2	2	3	2	1	2	19
19	1	1	2	2	3	2	2	3	16
20	3	2	2	1	2	1	1	1	13
21	0	1	2	2	3	3	2	5	18
22	3	1	2	1	2	2	3	3	17
23	3	2	2	3	5	4	6	6	31
24	6	5	3	5	4	3	4	5	35
25	3	2	3	3	3	4	3	5	26
26	6	2	1	1	2	2	3	4	21
27	1	2	2	2	3	1	1	1	13
28	1	1	1	2	1	1	1	0	8
29	1	1	2	2	3	2	4	5	20
30	6	3	2	3	5	5	5	6	35
31	3	1	2	2	2	1	4	6	21
Sum	107	69	67	75	96	86	88	122	

GEOMAGNETIC K-INDICES, KIRUNA

September 2016

Lower limit of K=8 is 990 nT

Time in UT

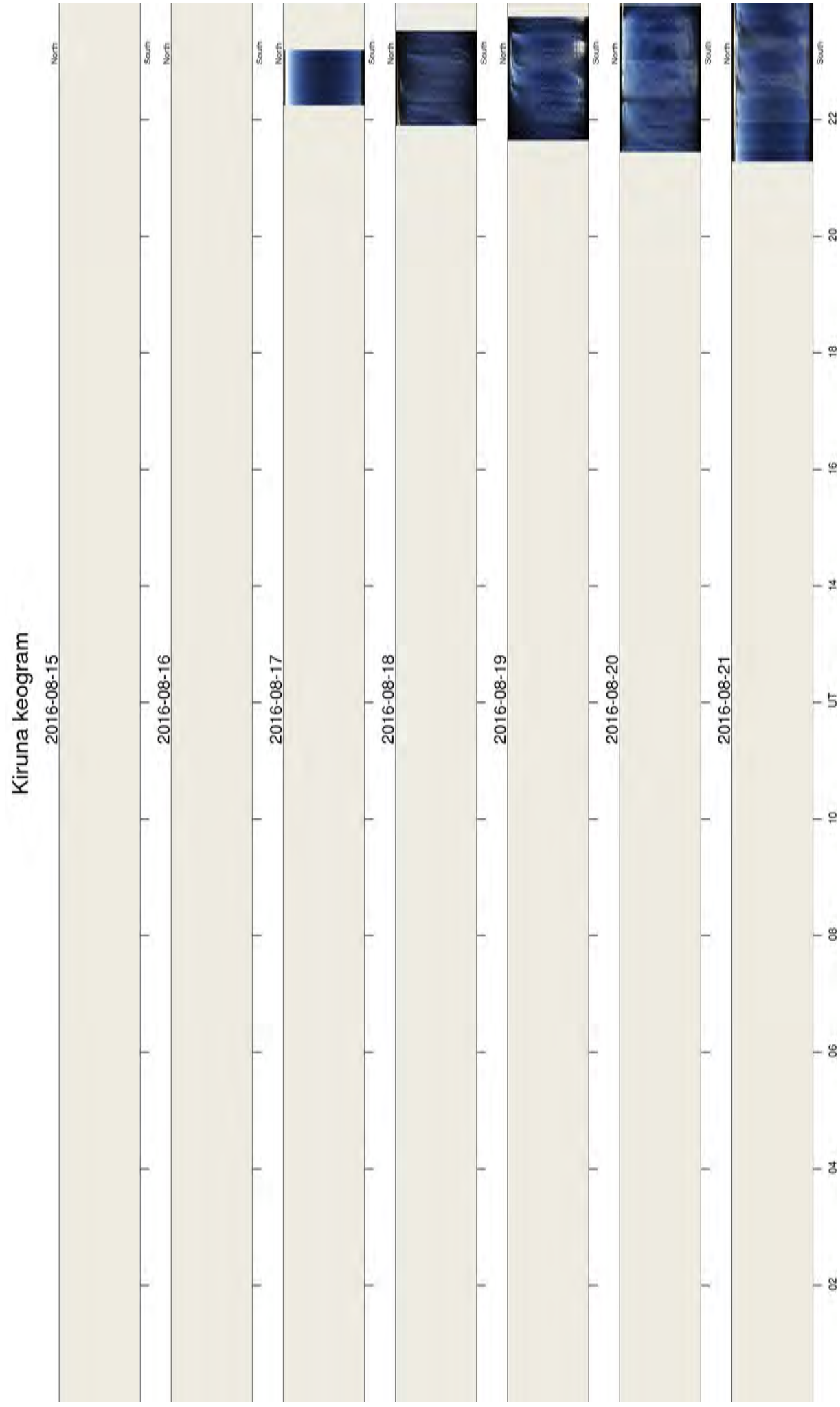
Day	00 - 03	03 - 06	06 - 09	09 - 12	12 - 15	15 - 18	18 - 21	21 - 24	Sum
1	(6)	5	4	4	5	3	7	6	(40)
2	8	6	3	4	5	5	5	7	43
3	6	7	4	4	5	5	7	6	44
4	7	4	5	4	5	5	6	5	41
5	5	4	4	3	3	4	7	5	35
6	3	4	3	(2)	(0)	(3)	6	6	(27)
7	5	3	3	2	3	4	3	4	27
8	5	3	3	3	4	4	5	4	31
9	2	1	1	1	2	2	1	3	13
10	2	1	1	2	2	1	1	5	15
11	2	1	1	1	3	3	3	3	17
12	4	1	2	2	2	1	1	4	17
13	3	2	2	2	1	1	1	4	16
14	3	2	2	2	3	3	6	5	26
15	5	4	1	2	1	1	1	2	17
16	0	0	1	1	2	2	1	1	8
17	2	0	1	2	1	0	1	2	9
18	1	1	1	2	4	4	3	3	19
19	1	1	2	3	4	4	2	3	20
20	7	5	4	4	2	3	5	5	35
21	6	2	2	2	2	1	2	3	20
22	3	1	2	1	1	1	1	0	10
23	0	1	2	1	1	1	1	0	7
24	0	1	1	1	2	0	4	5	14
25	6	5	2	3	2	3	7	7	35
26	6	4	2	3	5	5	6	7	38
27	6	5	3	4	5	6	5	6	40
28	7	6	4	4	5	6	8	7	47
29	7	6	5	5	5	5	5	5	43
30	6	4	3	3	3	5	6	5	35
Sum	124	90	74	77	88	91	117	128	

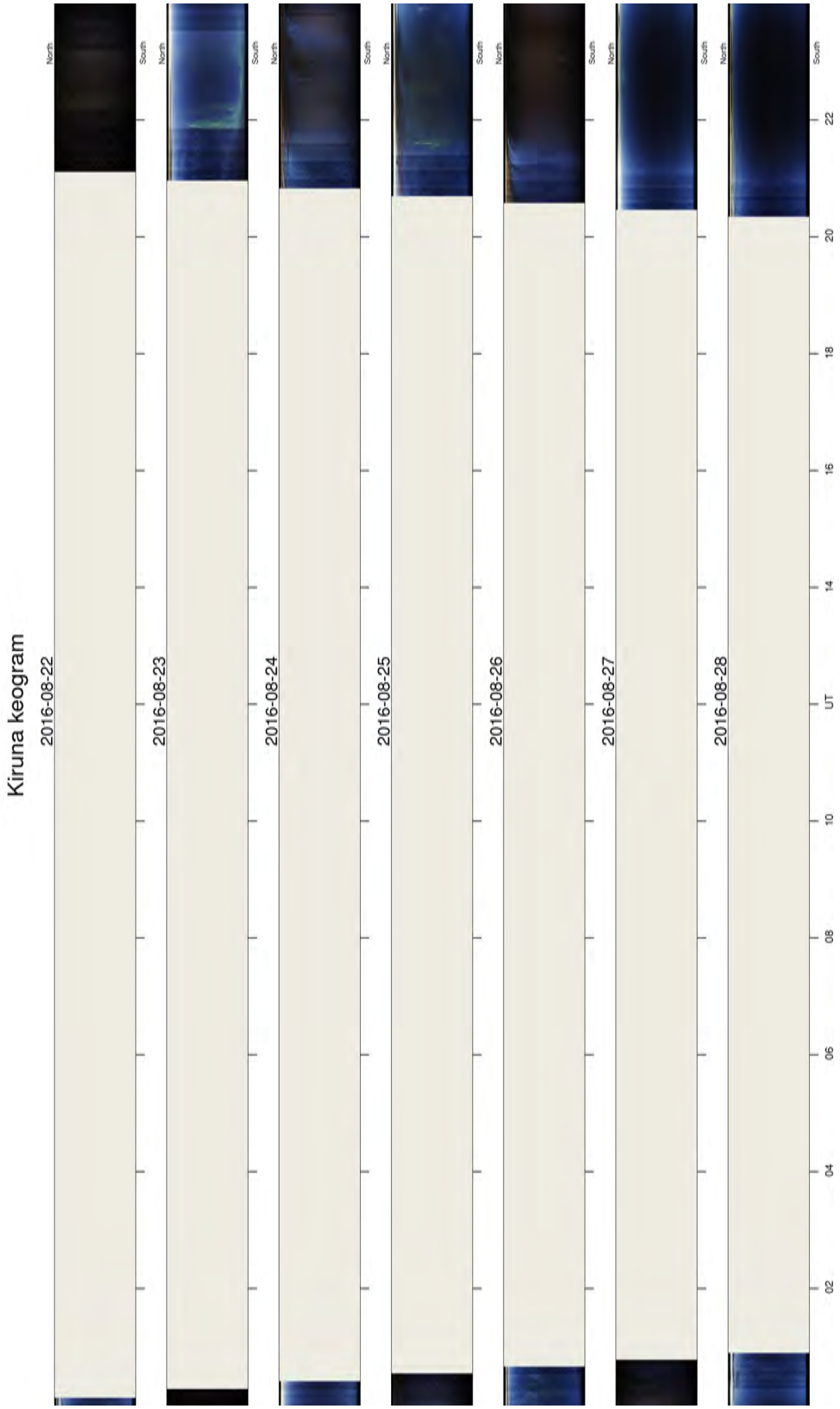
ALL-SKY CAMERA KEOGRAMS

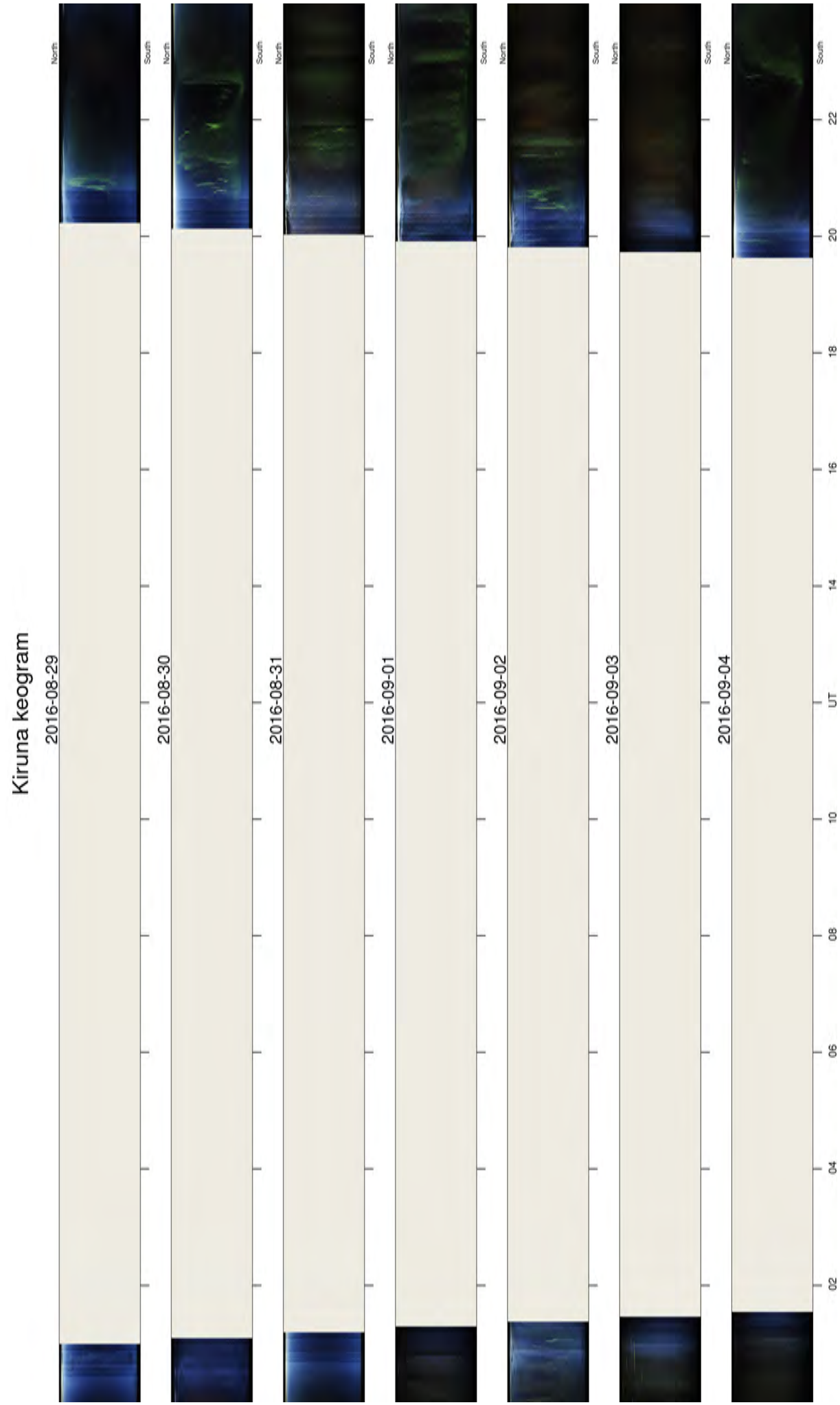
July - September 2016

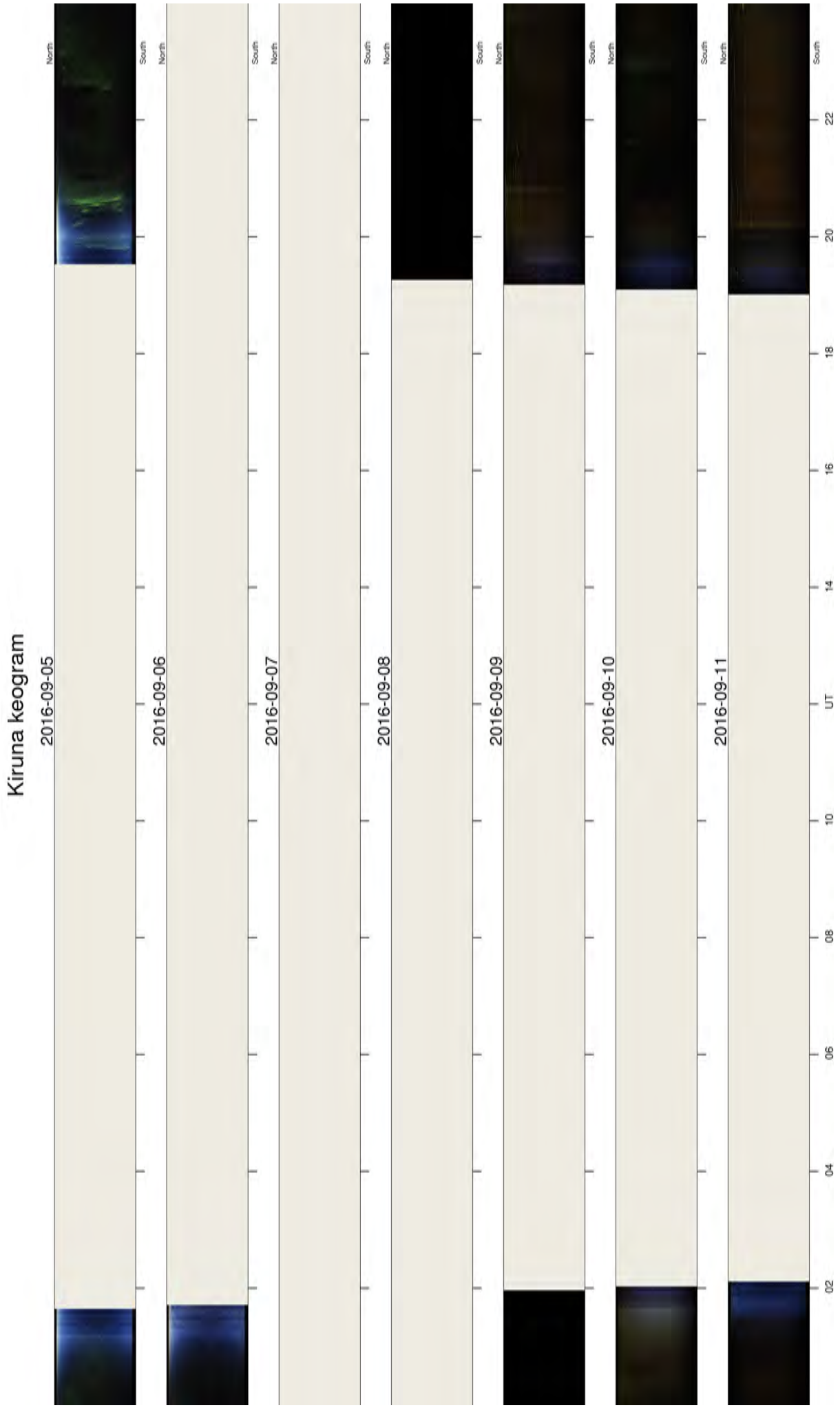
http://www.irf.se/allsky/kgd

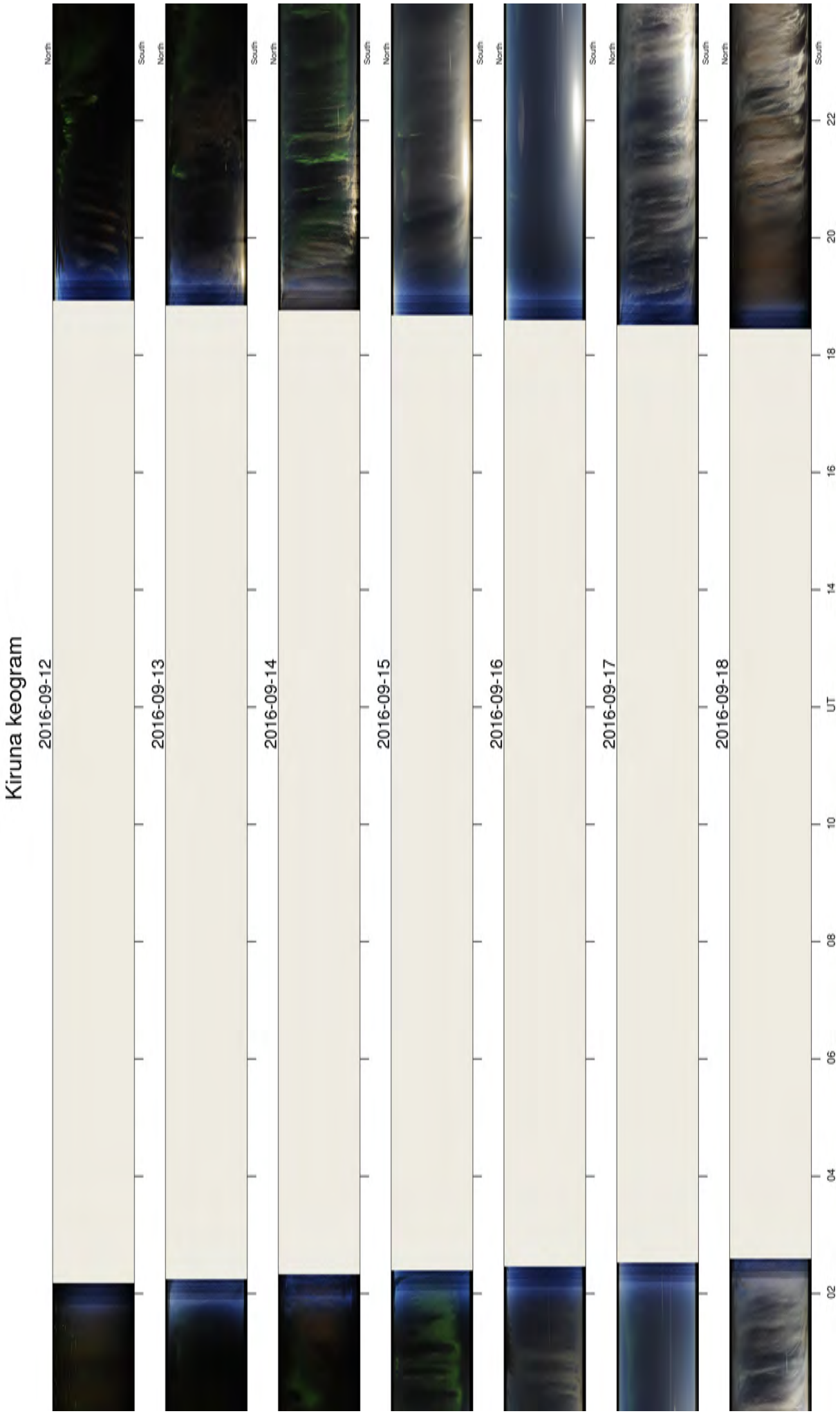
All-sky camera closed for season from 24 April to 16 August 2016.
Camera fault 6–8 september.

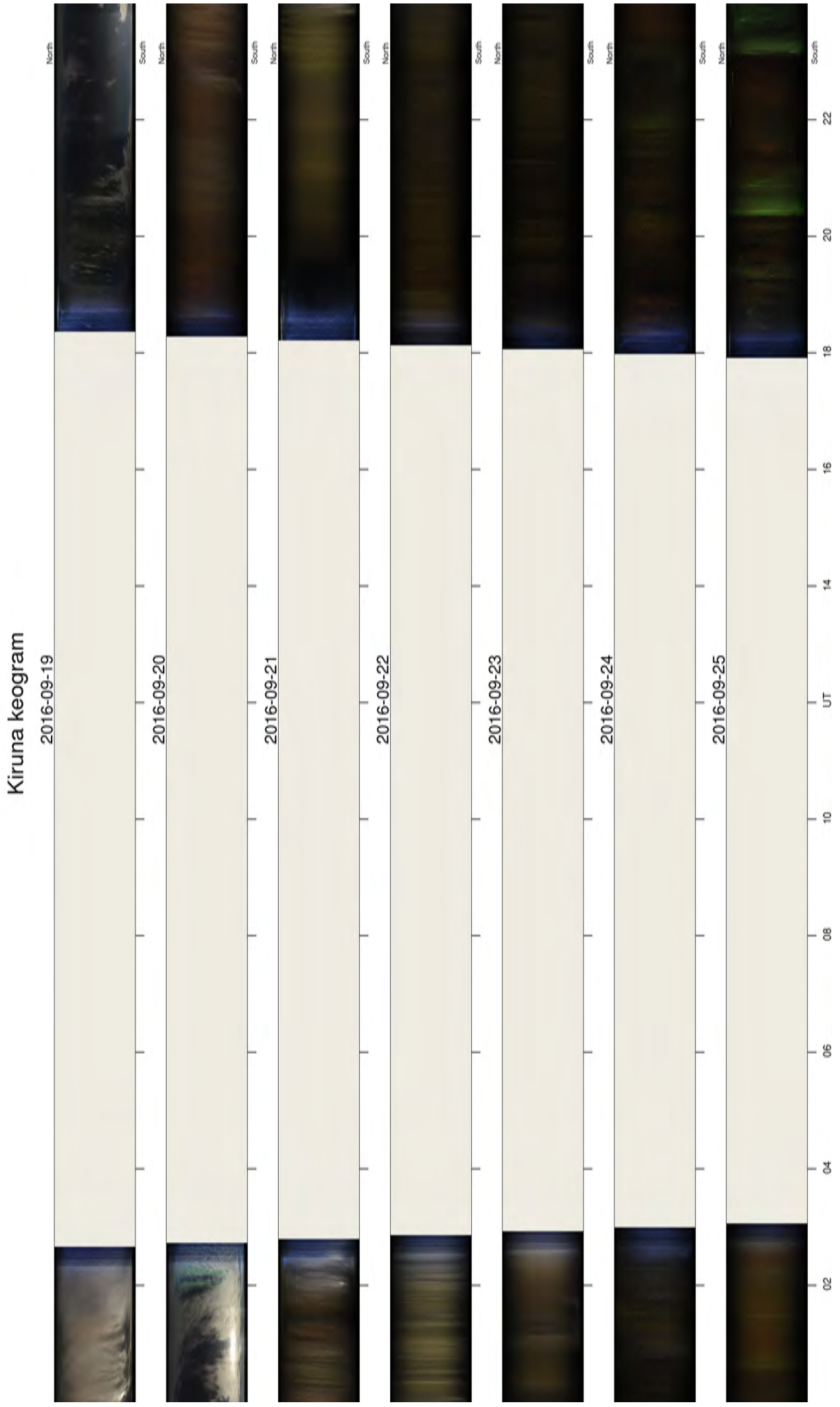

Kiruna keogram
2016-08-15
2016-08-16
2016-08-17
2016-08-18
2016-08-19
2016-08-20
2016-08-21
North
South
02
04
06
08
10
UT
14
16
18
20
22

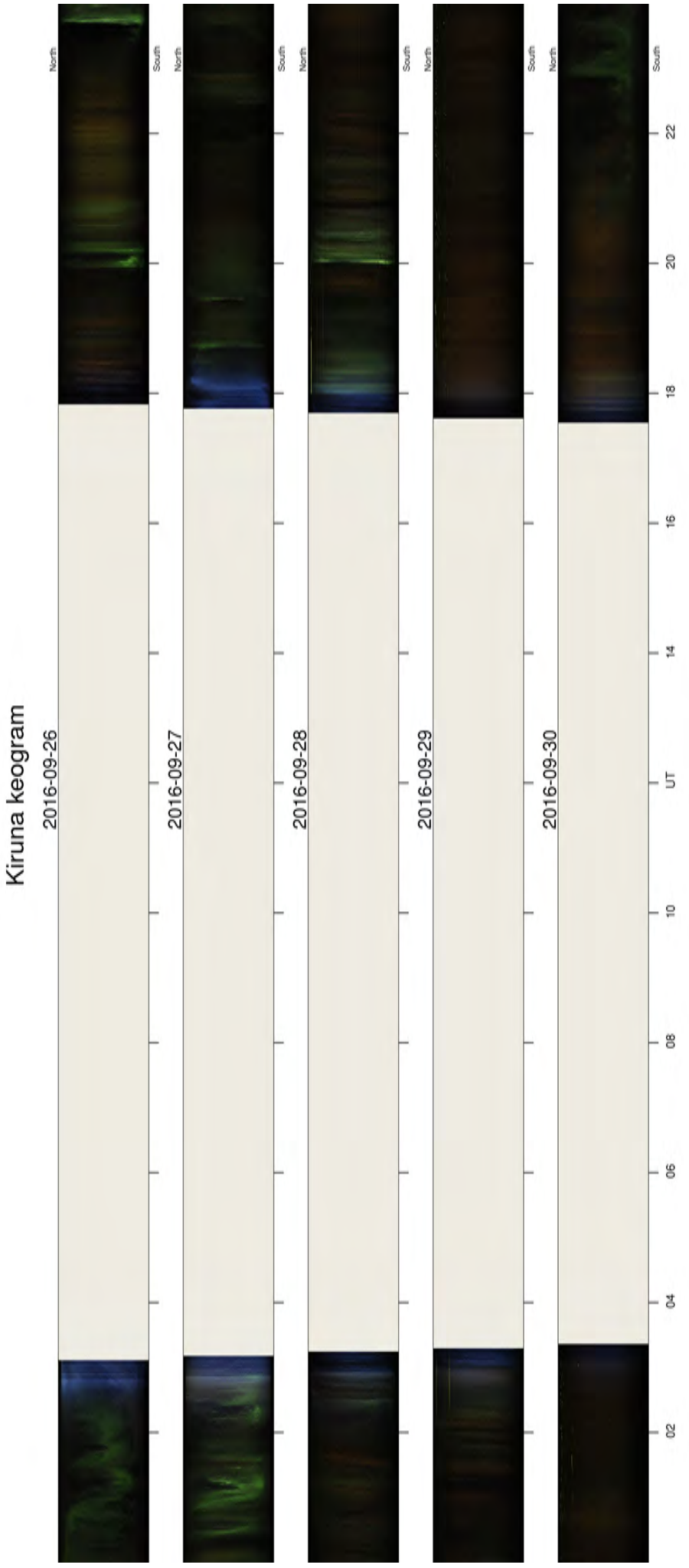

Kiruna keogram
2016-08-22
2016-08-23
2016-08-24
2016-08-25
2016-08-26
2016-08-27
2016-08-28
North
South
02
04
06
08
10
12
14
16
18
20
22
UT


Kiruna keogram
2016-08-29
2016-08-30
2016-08-31
2016-09-01
2016-09-02
2016-09-03
2016-09-04
North
South
02
04
06
08
10
12
14
16
18
20
22
UT


Kiruna keogram
2016-09-05
2016-09-06
2016-09-07
2016-09-08
2016-09-09
2016-09-10
2016-09-11
North
South
02
04
06
08
10
12
14
16
18
20
22
UT


Kiruna keogram
2016-09-12
2016-09-13
2016-09-14
2016-09-15
2016-09-16
2016-09-17
2016-09-18
North
South
02
04
06
08
10
12
14
16
18
20
22
UT


Kiruna keogram
2016-09-19
2016-09-20
2016-09-21
2016-09-22
2016-09-23
2016-09-24
2016-09-25
North
South
02
04
06
08
10
12
14
16
18
20
22
UT

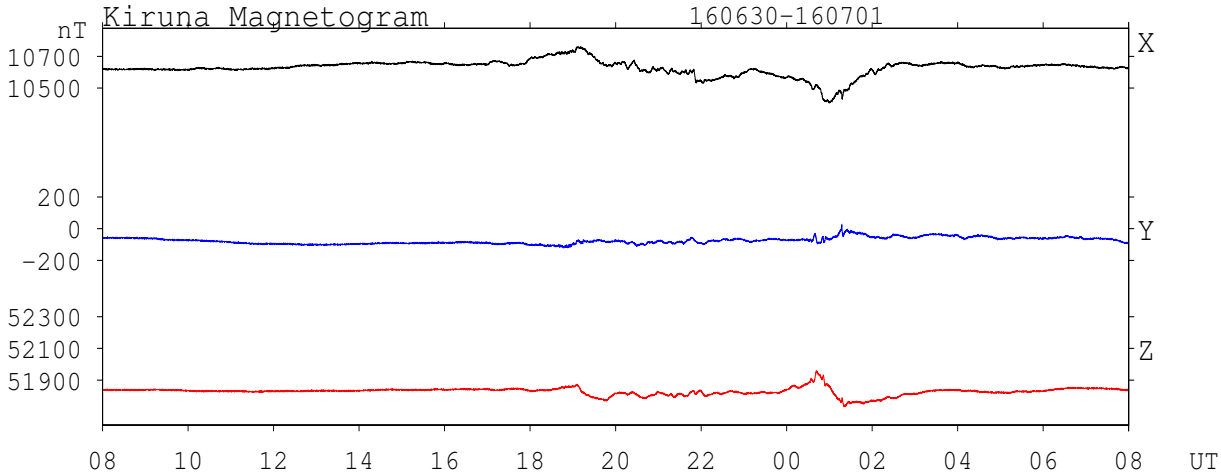

Kiruna keogram
2016-09-26
2016-09-27
2016-09-28
2016-09-29
2016-09-30
North
South
02
04
06
08
10
12
14
16
18
20
22
UT

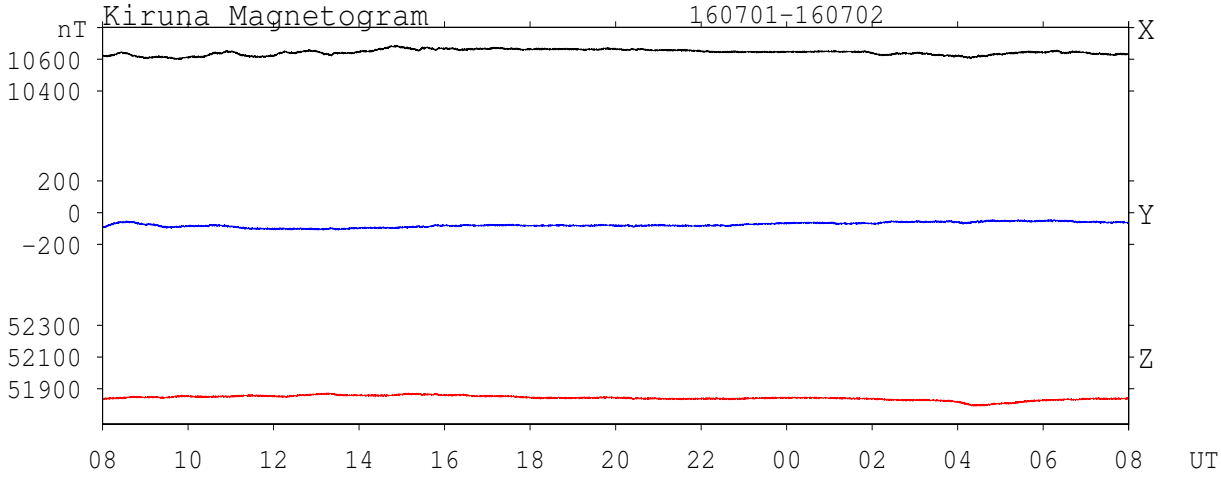
KIRUNA MAGNETOGRAM PLOTS

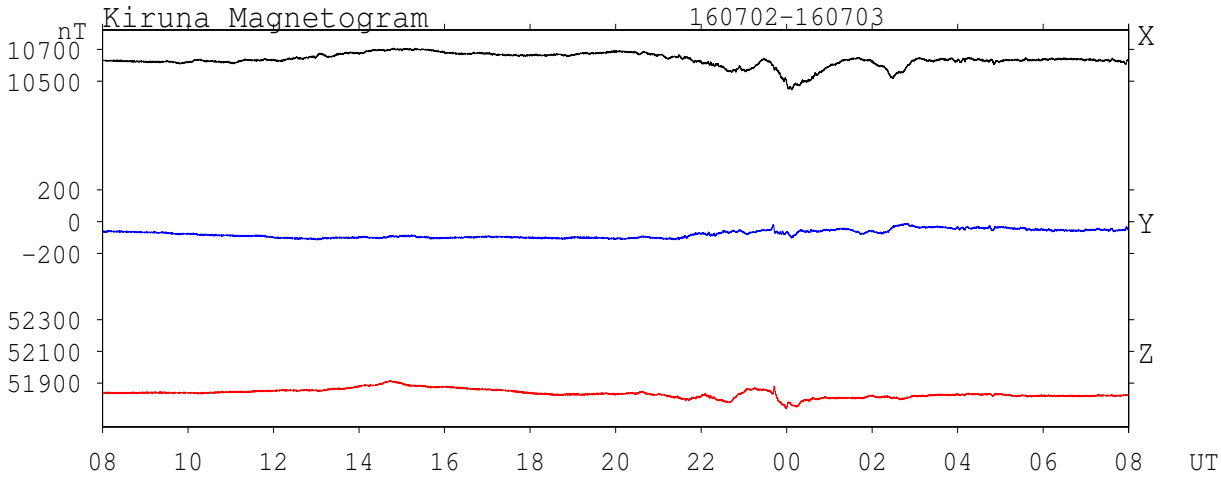
July - September 2016

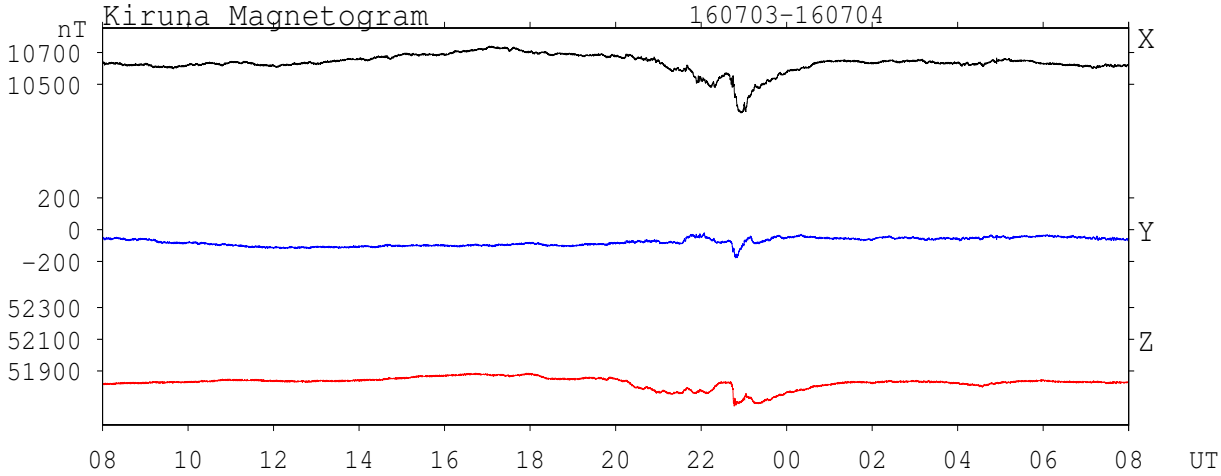
http://www.irf.se/mag

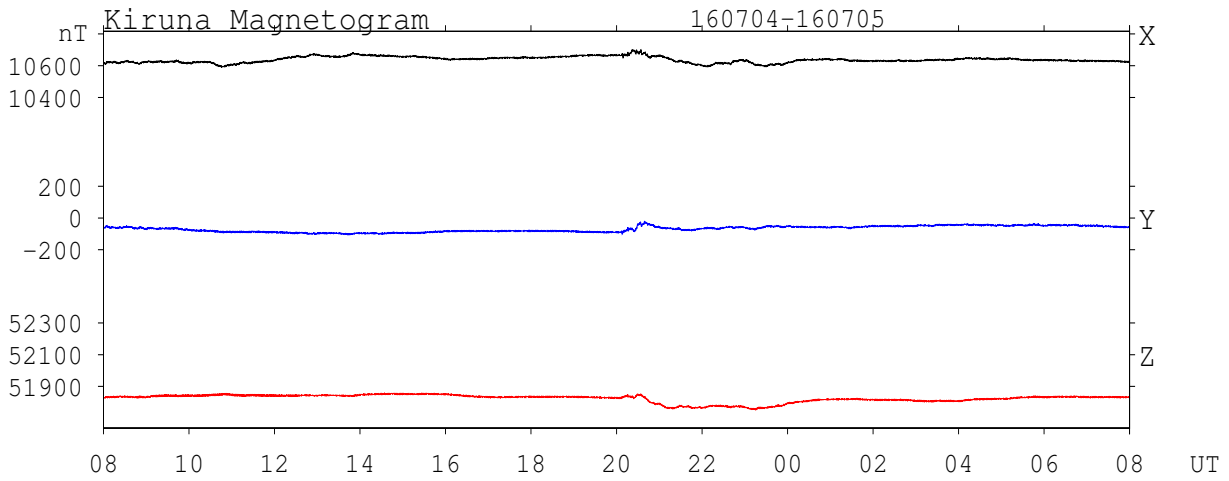
Note on scaling: Scaling for 160901 is 300 nT instead of 200 nT.

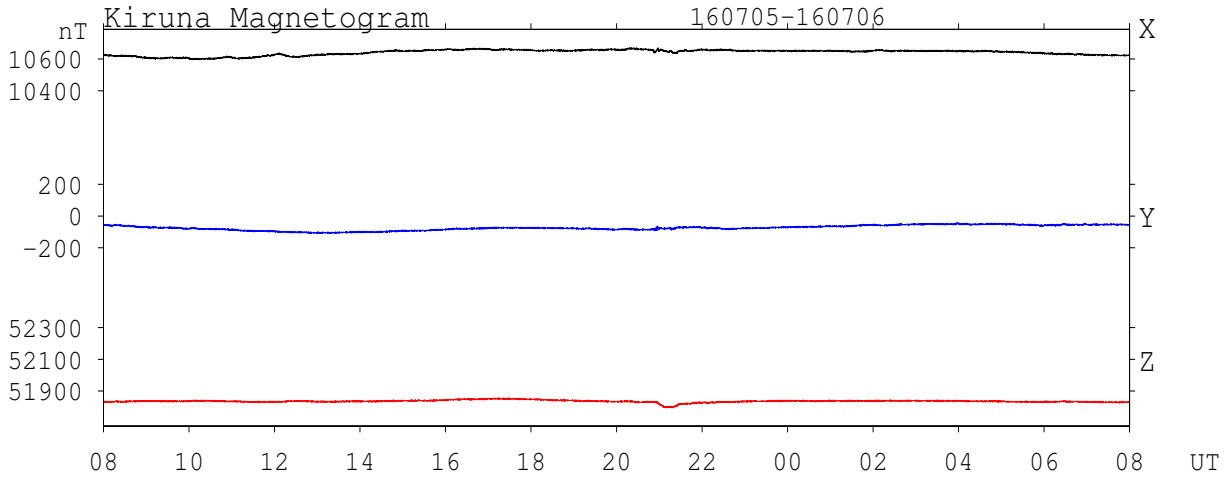

Kiruna Magnetogram
160630-160701
nT
10700
10500
200
0
-200
52300
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

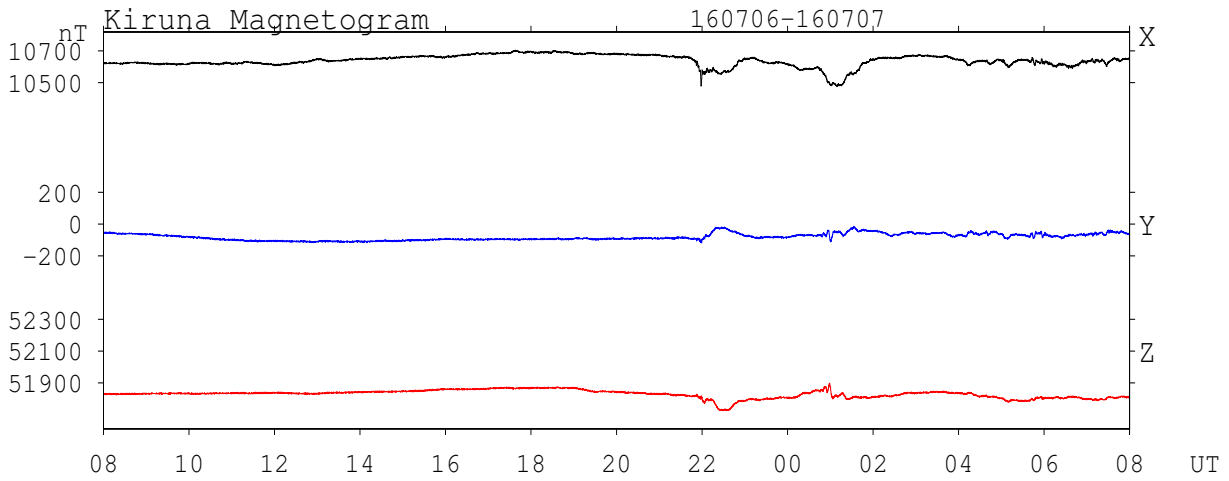

Kiruna Magnetogram
160701-160702
nT
10600
10400
200
0
-200
52300
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

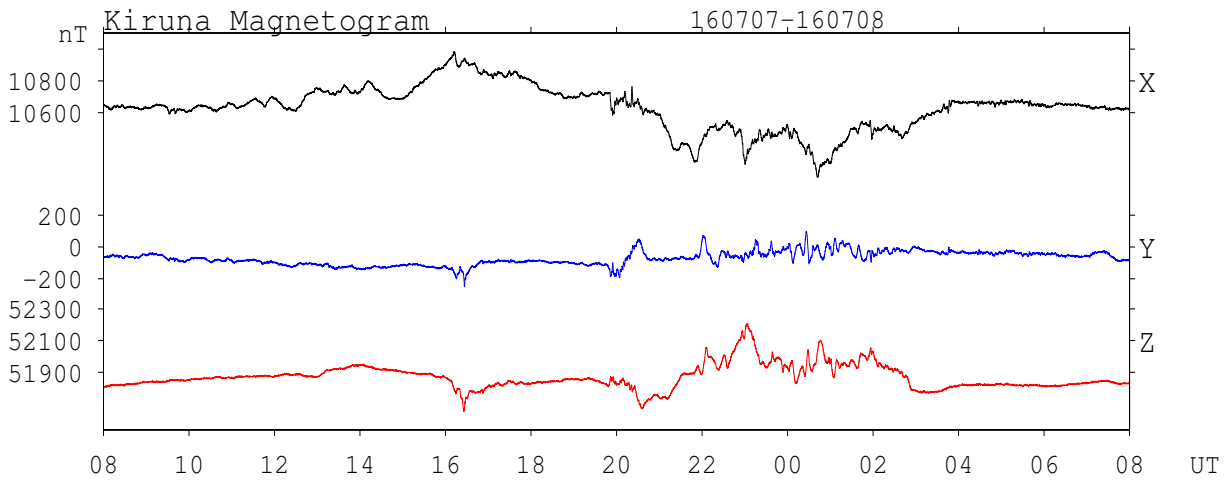

Kiruna Magnetogram
160702-160703
nT
10700
10500
200
0
-200
52300
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

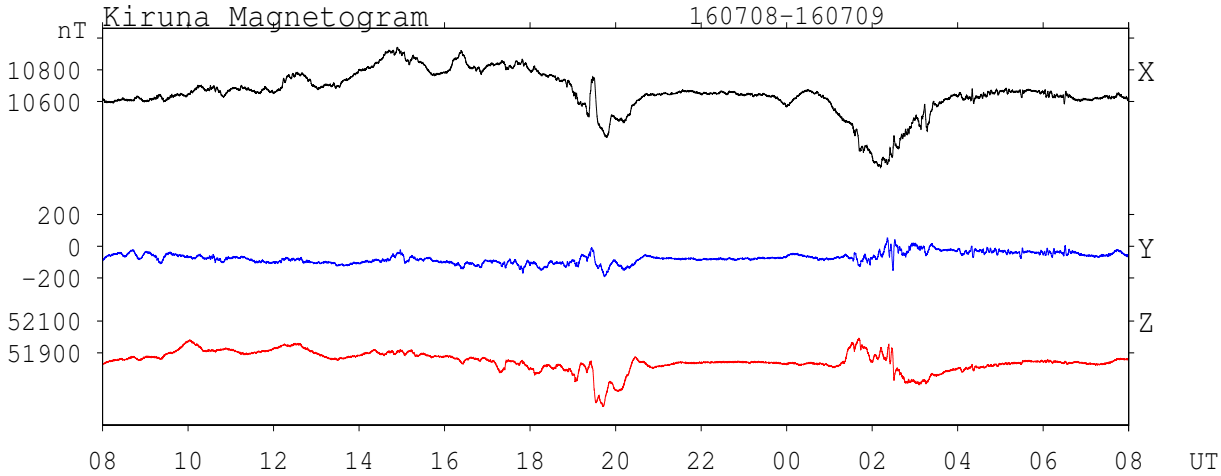

Kiruna Magnetogram
160703-160704
nT
10700
10500
200
0
-200
52300
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

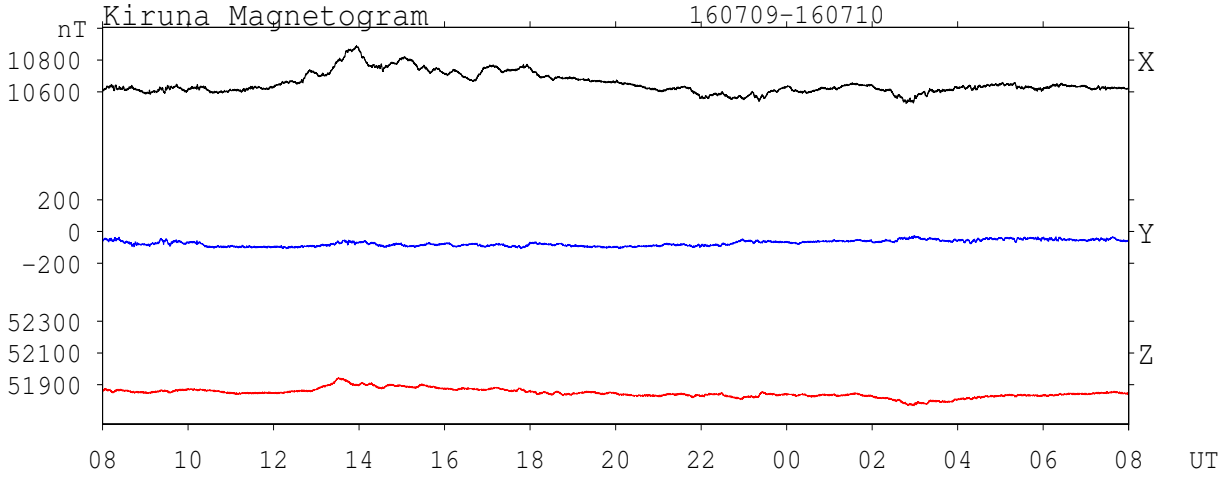

Kiruna Magnetogram
160704-160705
nT
10600
10400
200
0
-200
52300
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

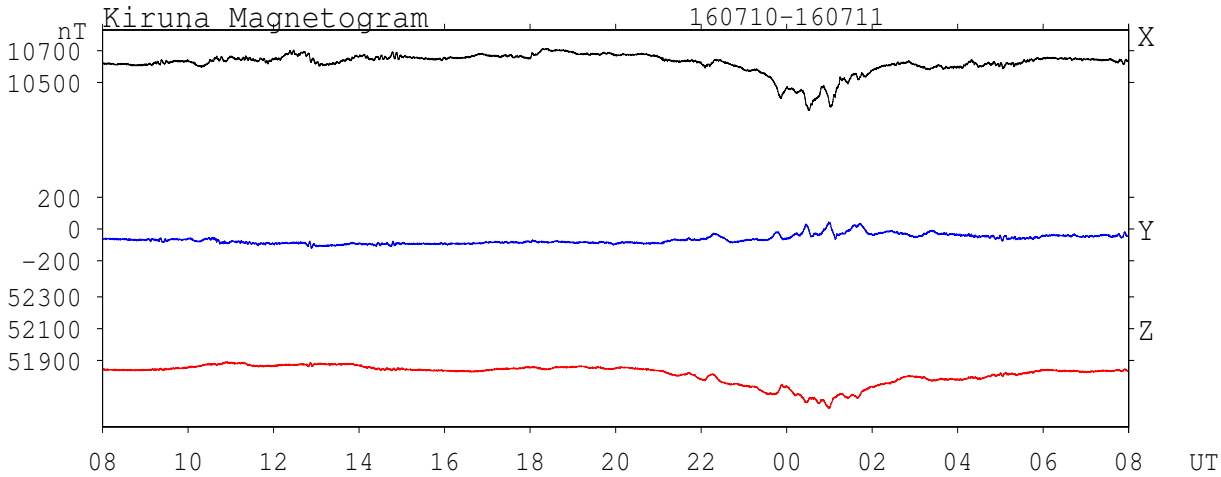

Kiruna Magnetogram
160705-160706
nT
10600
10400
200
0
-200
52300
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

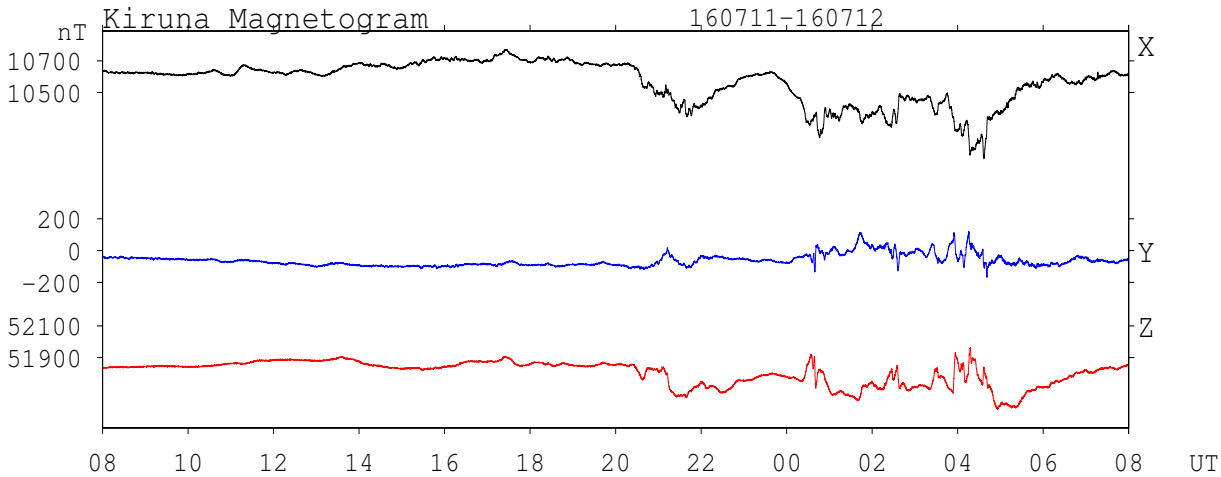

Kiruna Magnetogram
160706-160707
nT
10700
10500
200
0
-200
52300
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

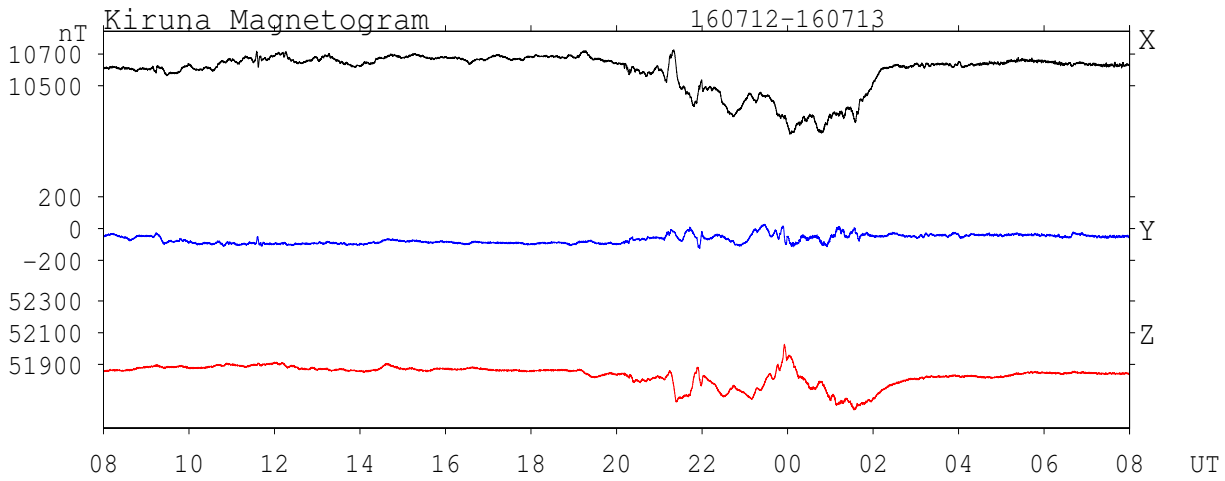

Kiruna Magnetogram
160707-160708
nT
10800
10600
200
0
-200
52300
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

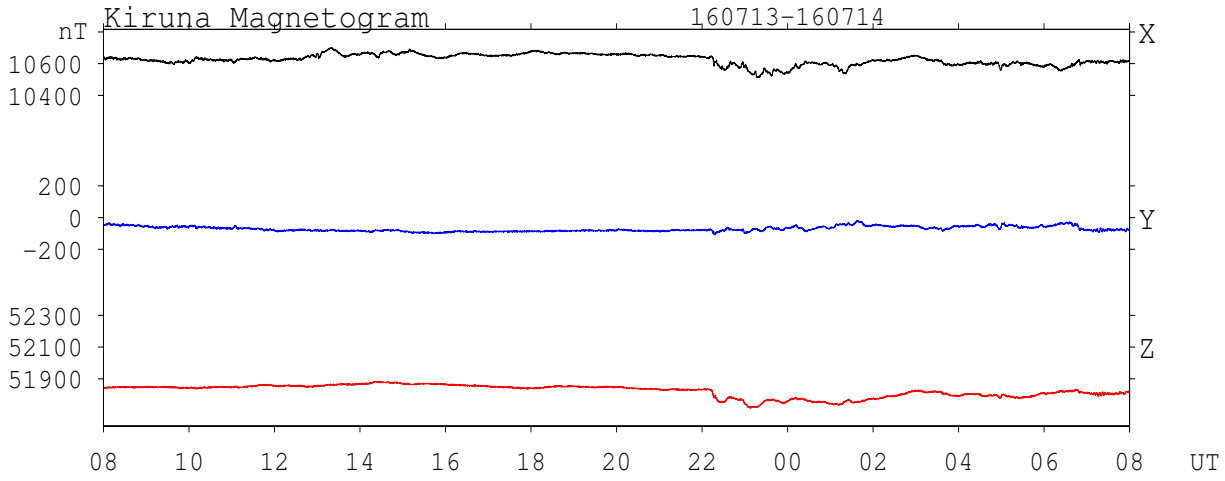

Kiruna Magnetogram
160708-160709
nT
10800
10600
200
0
-200
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

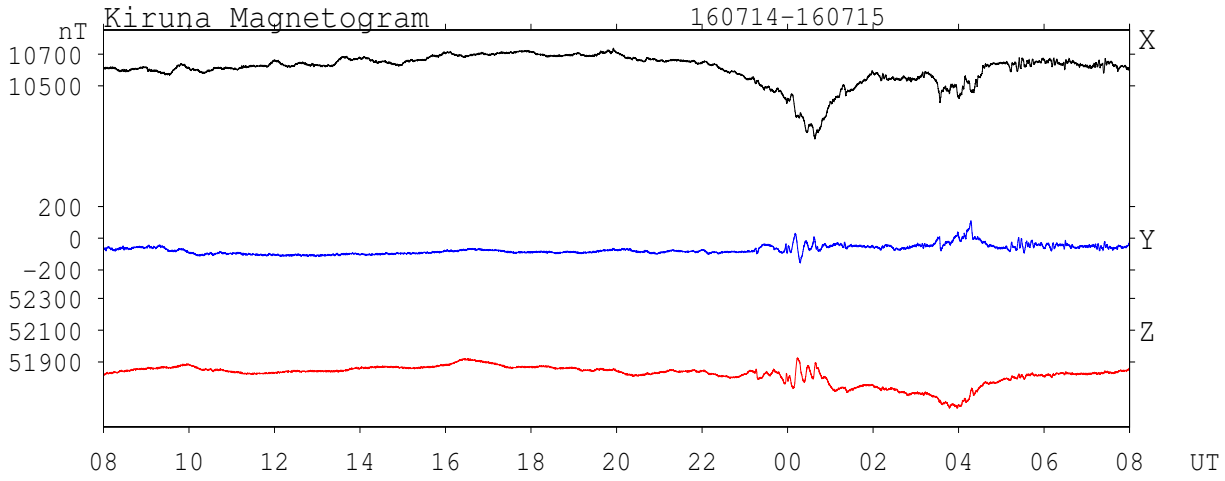

Kiruna Magnetogram
160709-160710
nT
10800
10600
200
0
-200
52300
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

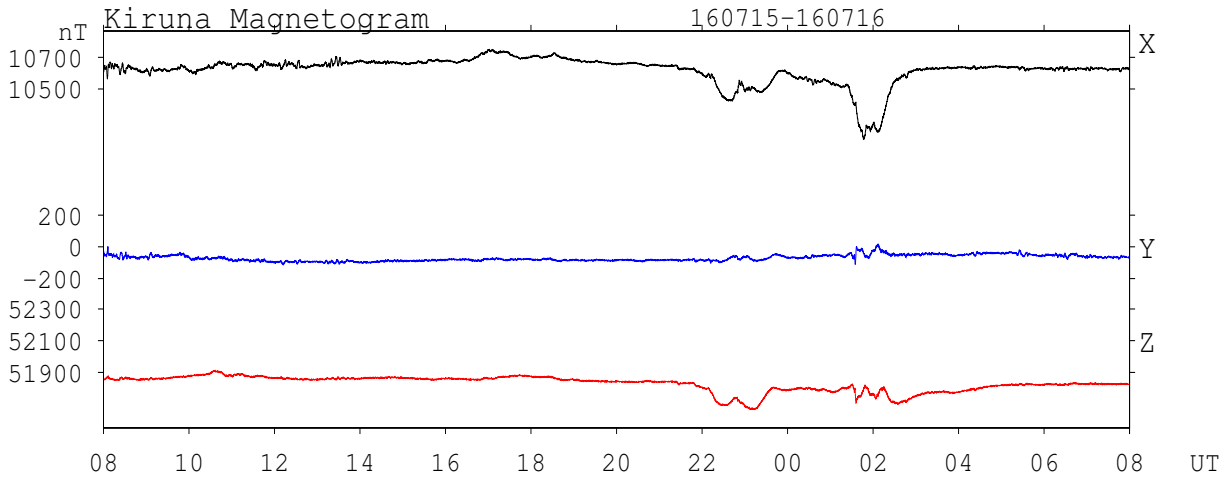

Kiruna Magnetogram
160710-160711
nT
10700
10500
200
0
-200
52300
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

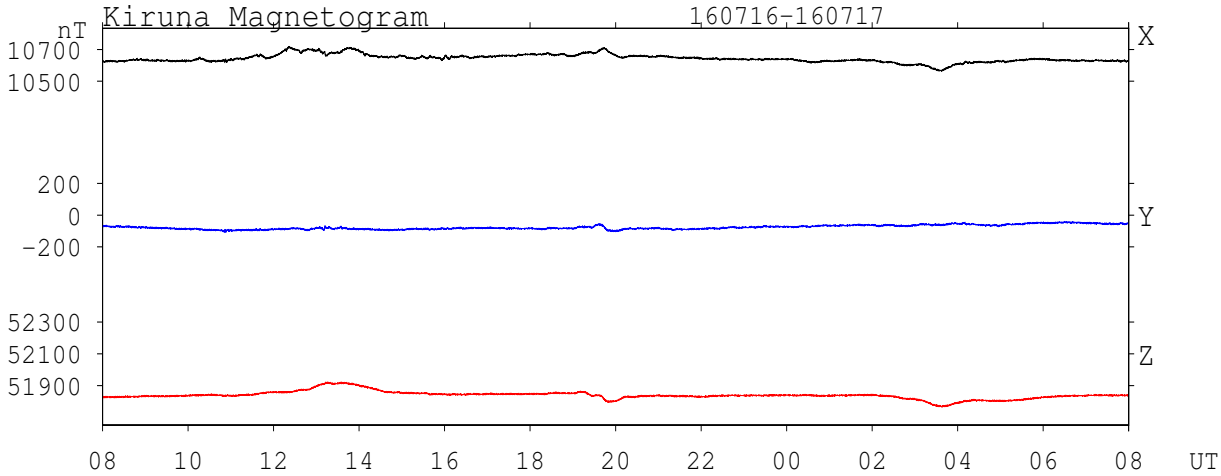

Kiruna Magnetogram
160711-160712
nT
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-200
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Y
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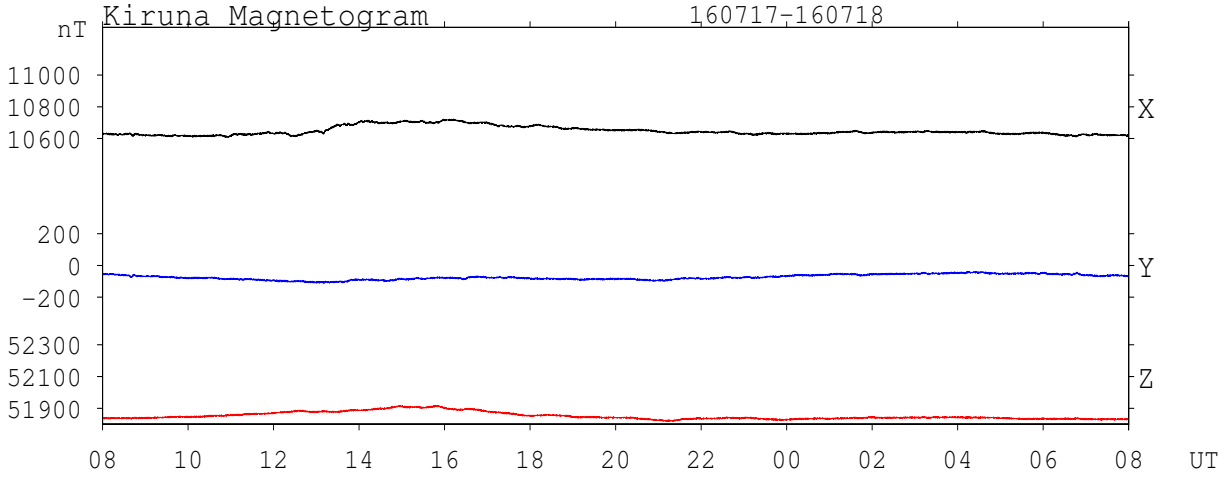

Kiruna Magnetogram
160712-160713
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-200
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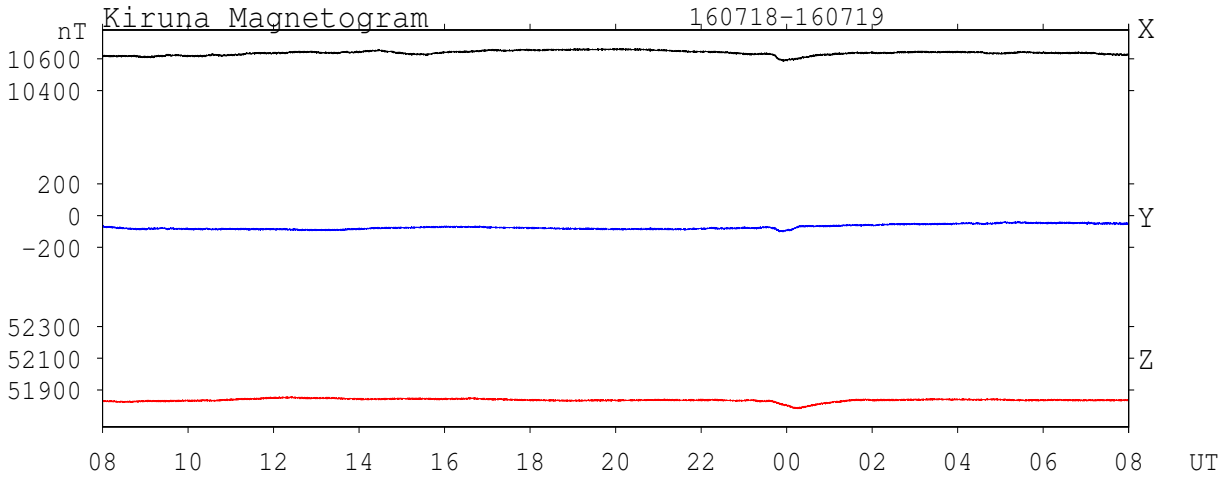

Kiruna Magnetogram
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-200
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51900
X
Y
Z
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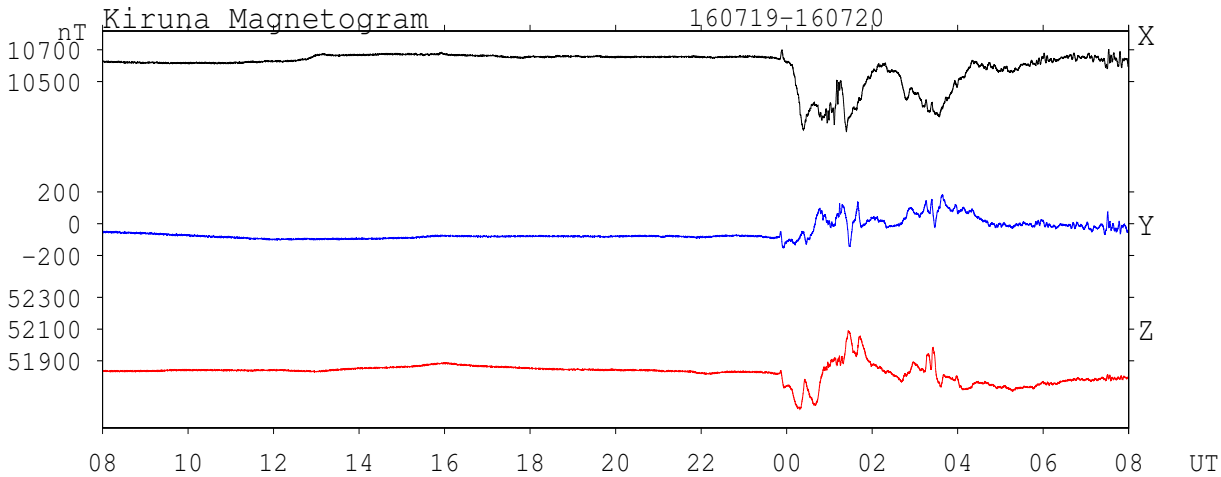

Kiruna Magnetogram
160714-160715
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-200
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Y
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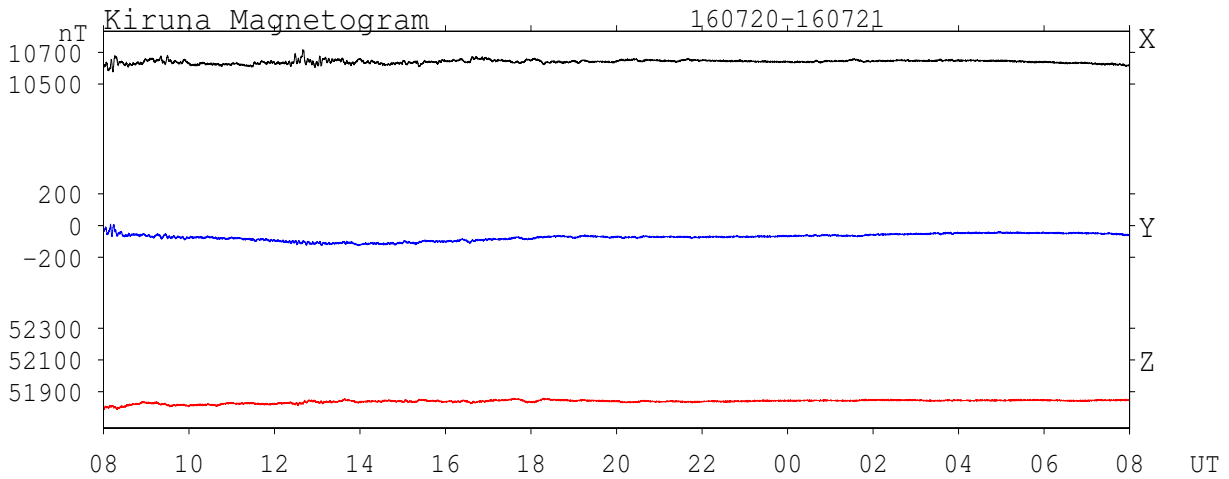

Kiruna Magnetogram
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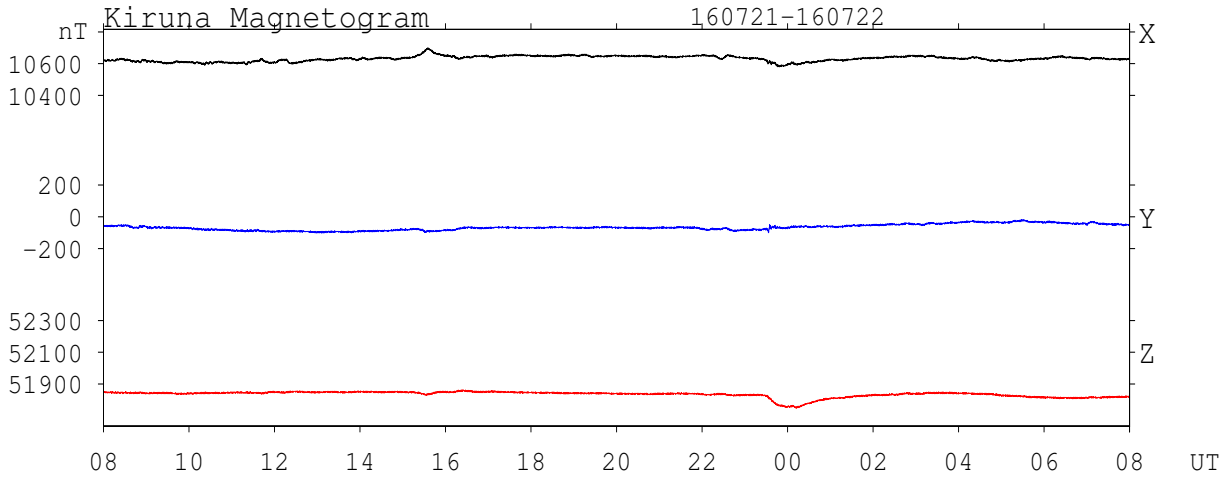

Kiruna Magnetogram
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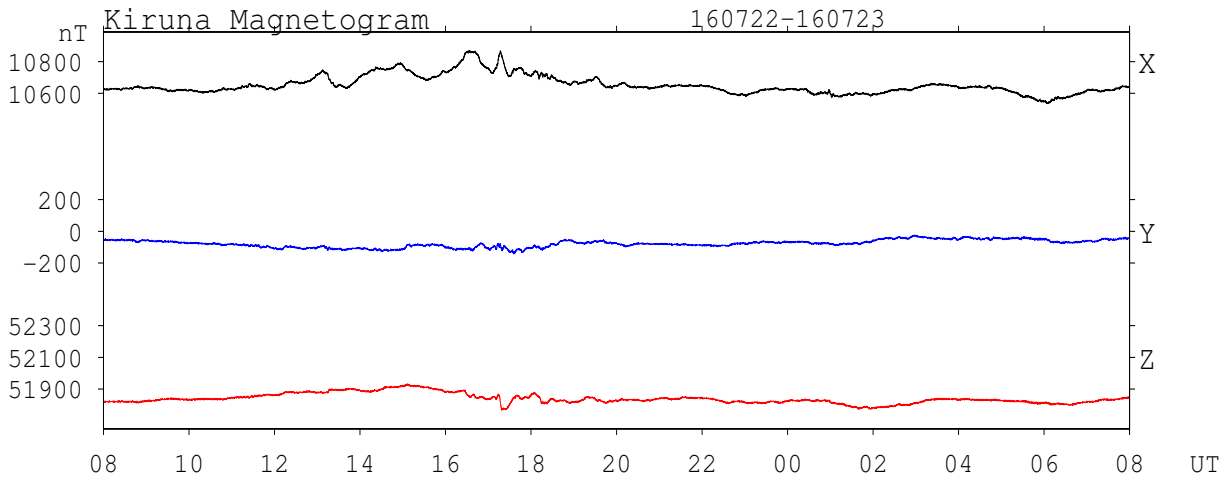

Kiruna Magnetogram
160717-160718
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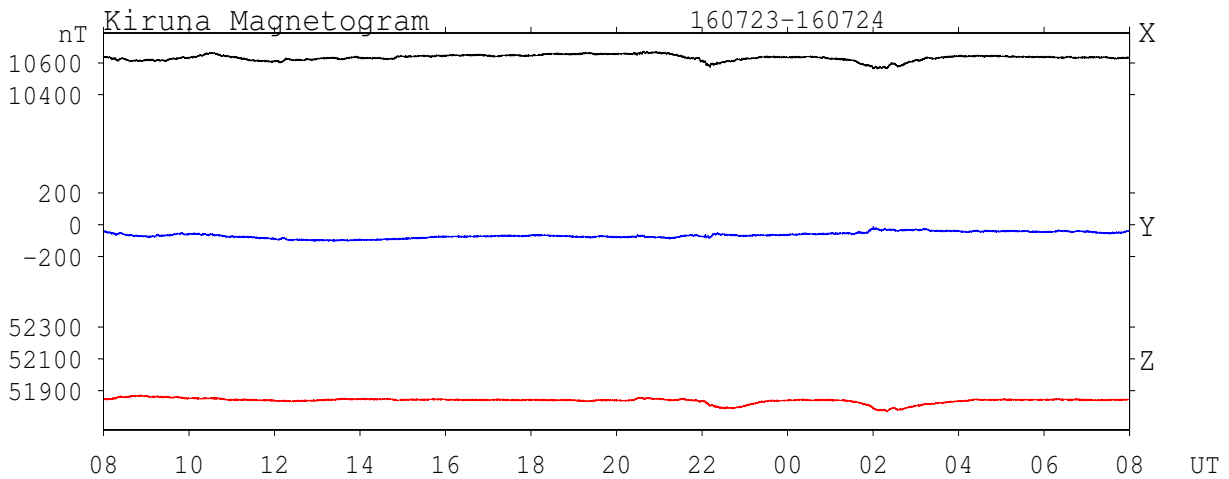

Kiruna Magnetogram
160718-160719
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-200
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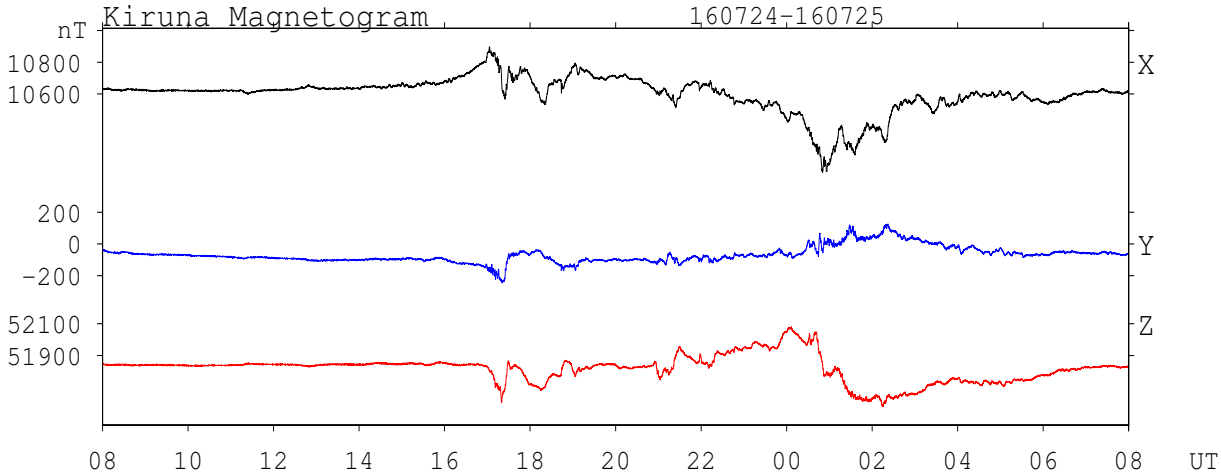

Kiruna Magnetogram
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Y
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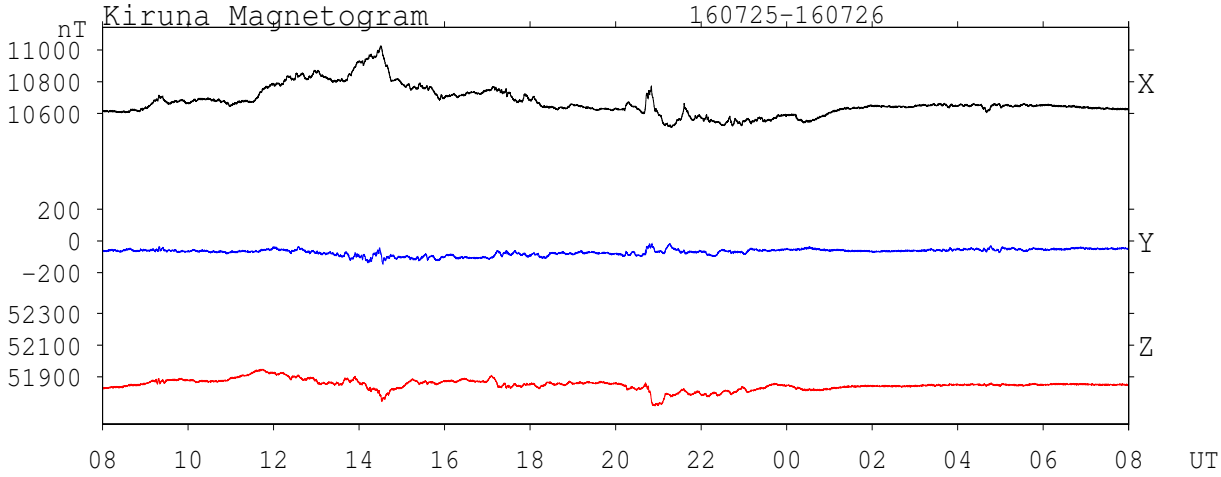

Kiruna Magnetogram
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-200
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52100
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X
Y
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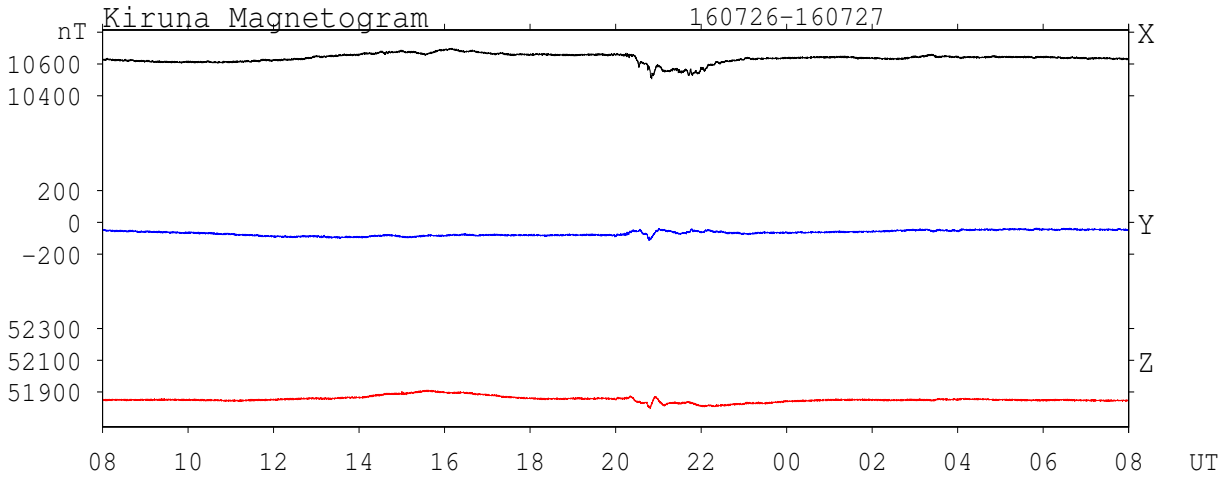

Kiruna Magnetogram
160721-160722
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-200
52300
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Y
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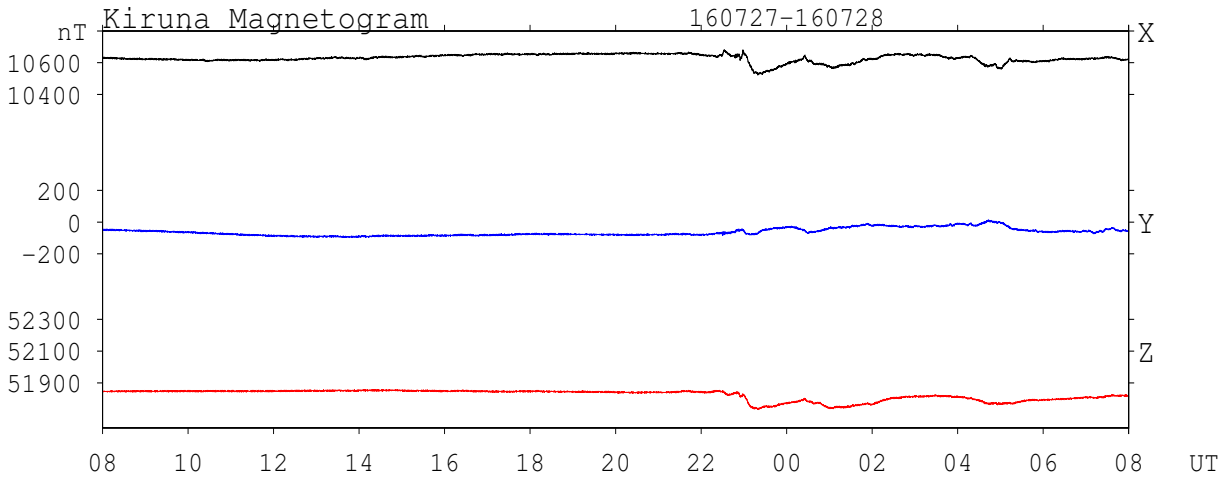

Kiruna Magnetogram
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-200
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X
Y
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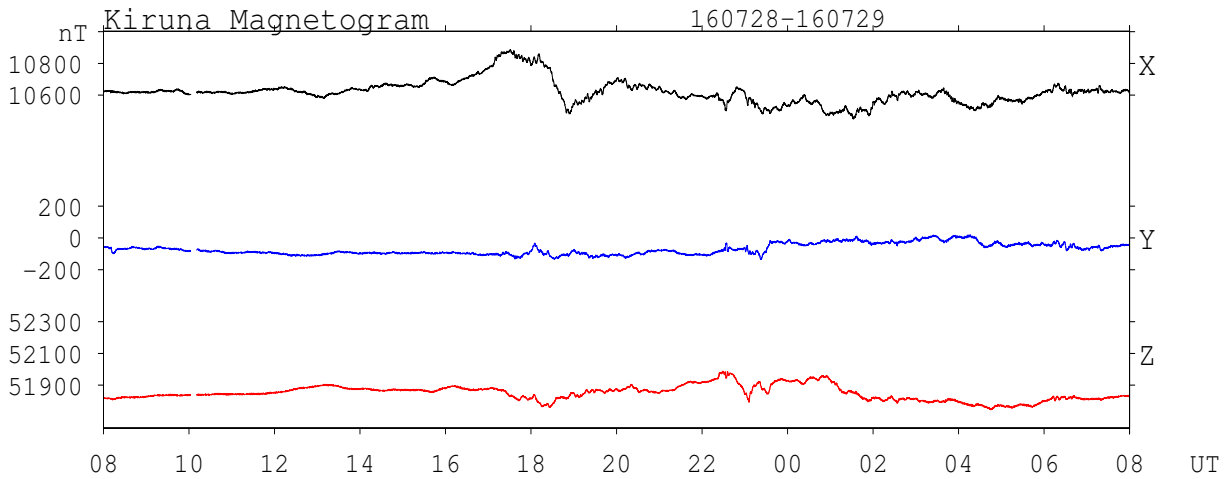

Kiruna Magnetogram
160723-160724
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-200
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X
Y
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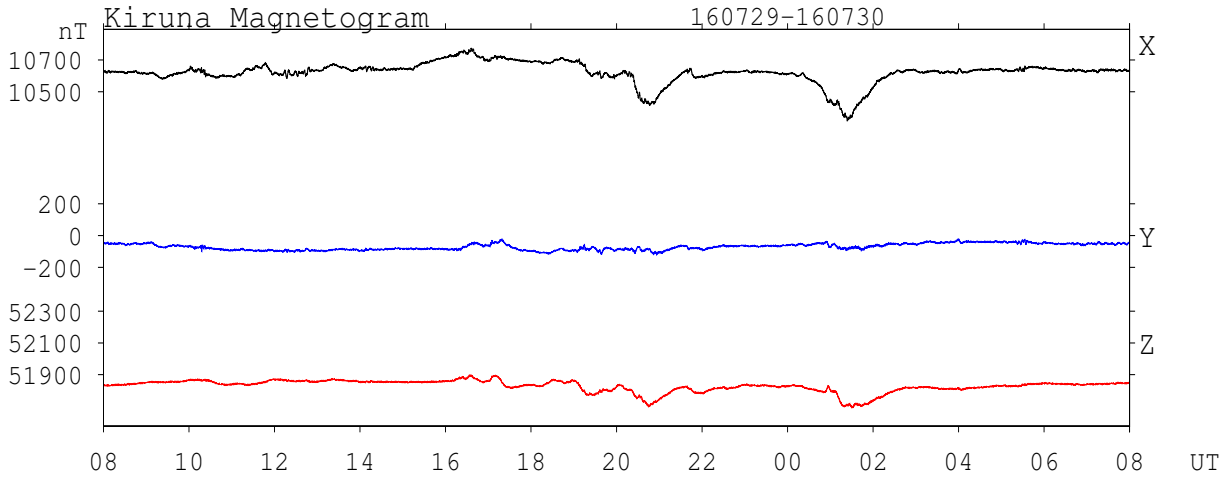

Kiruna Magnetogram
160724-160725
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X
Y
Z
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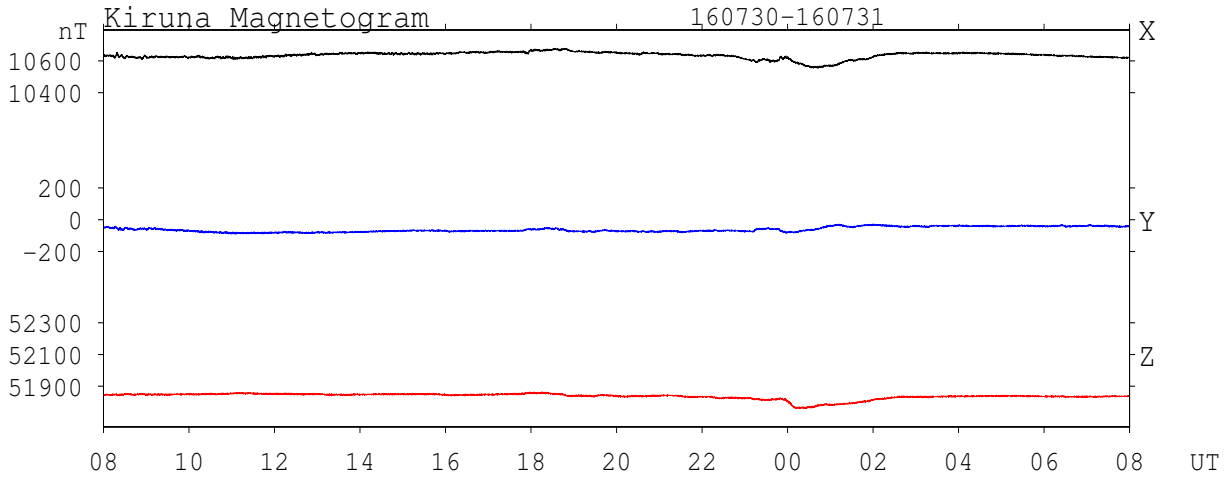

Kiruna Magnetogram
160725-160726
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200
0
-200
52300
52100
51900
X
Y
Z
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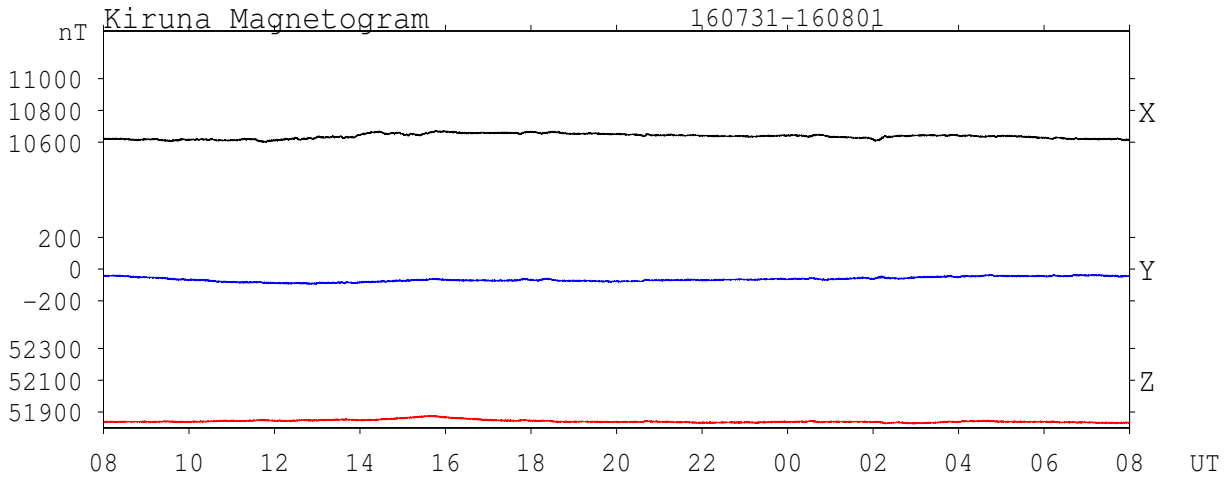

Kiruna Magnetogram
160726-160727
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-200
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X
Y
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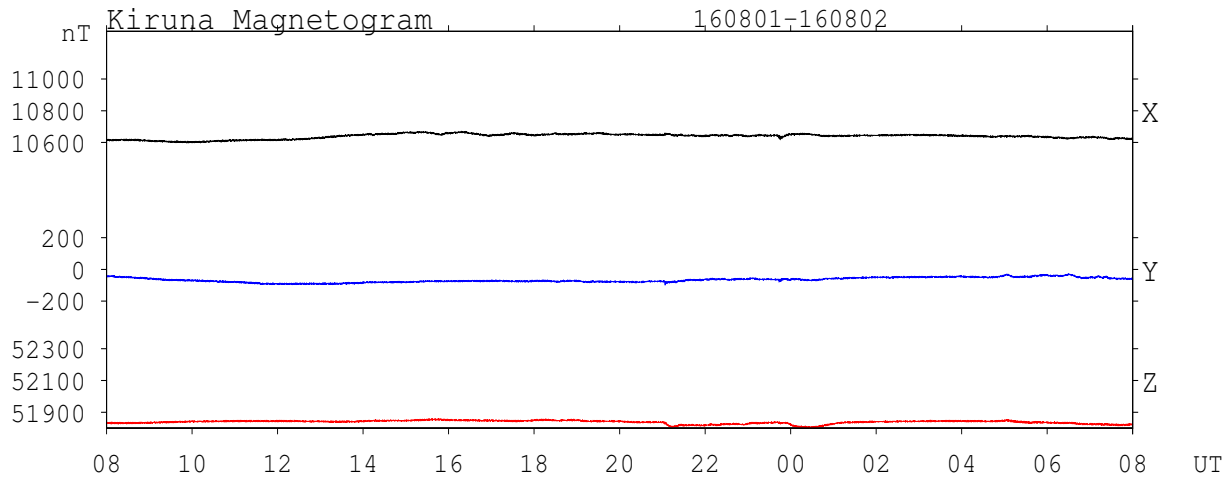

Kiruna Magnetogram
160727-160728
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-200
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X
Y
Z
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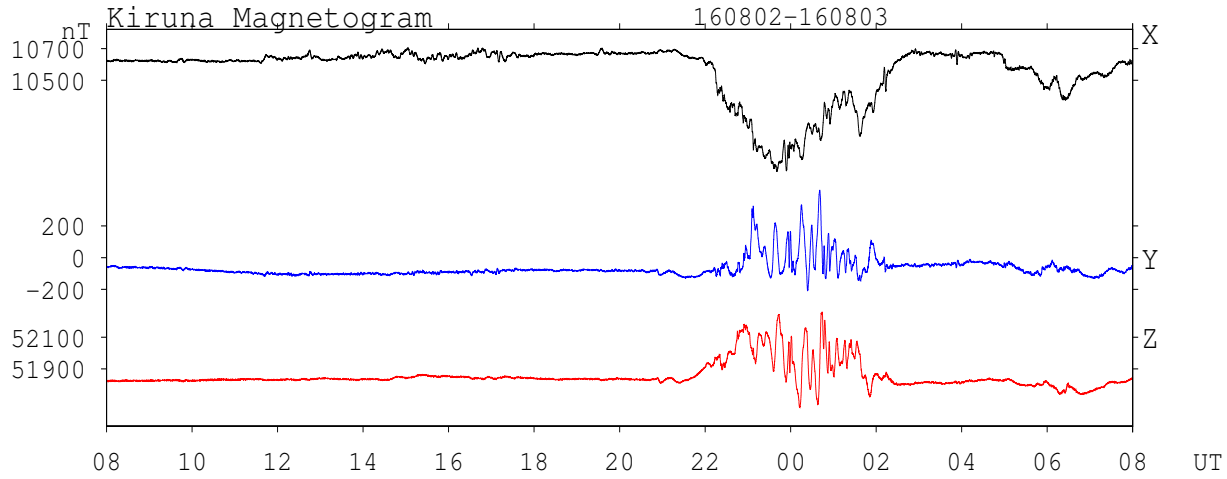

Kiruna Magnetogram
160728-160729
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-200
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Y
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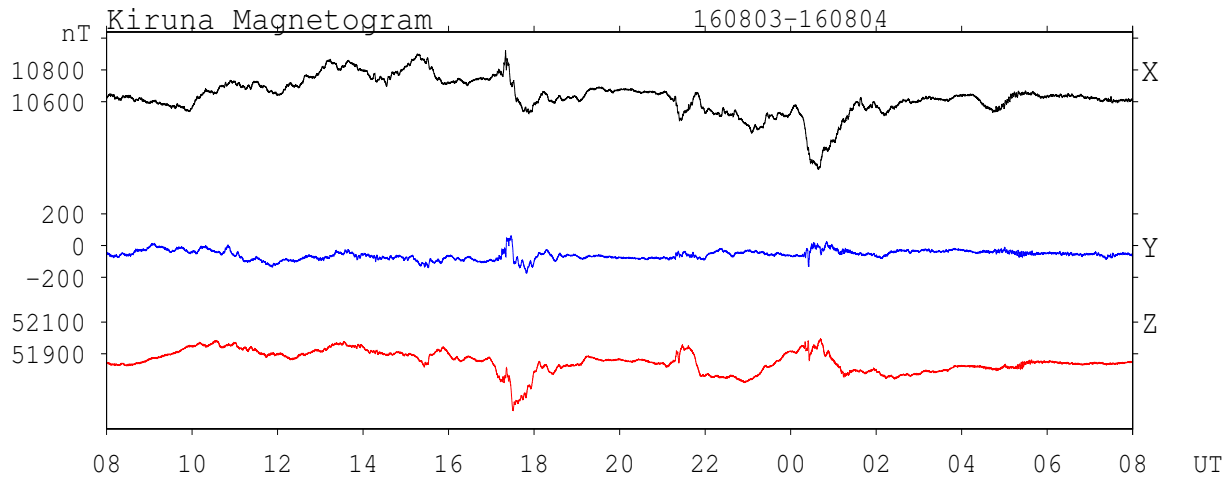

Kiruna Magnetogram
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200
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-200
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Y
Z
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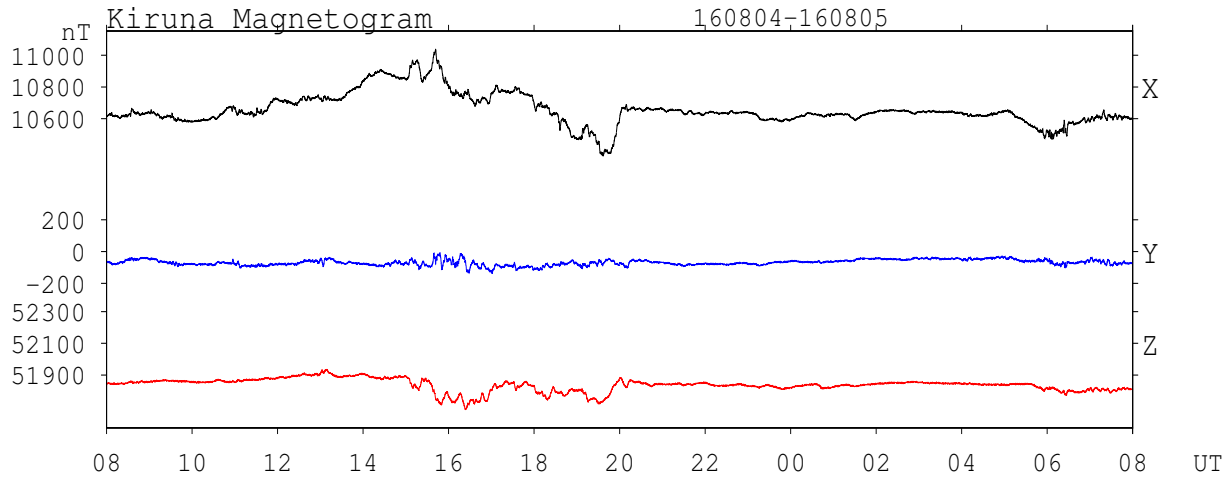

Kiruna Magnetogram
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Y
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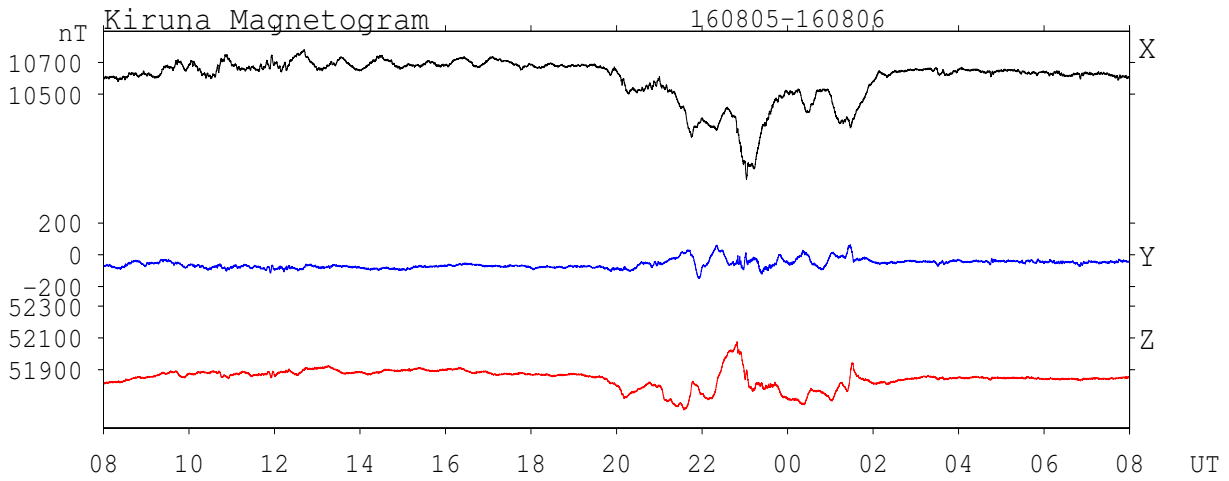

Kiruna Magnetogram
160731-160801
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Y
Z
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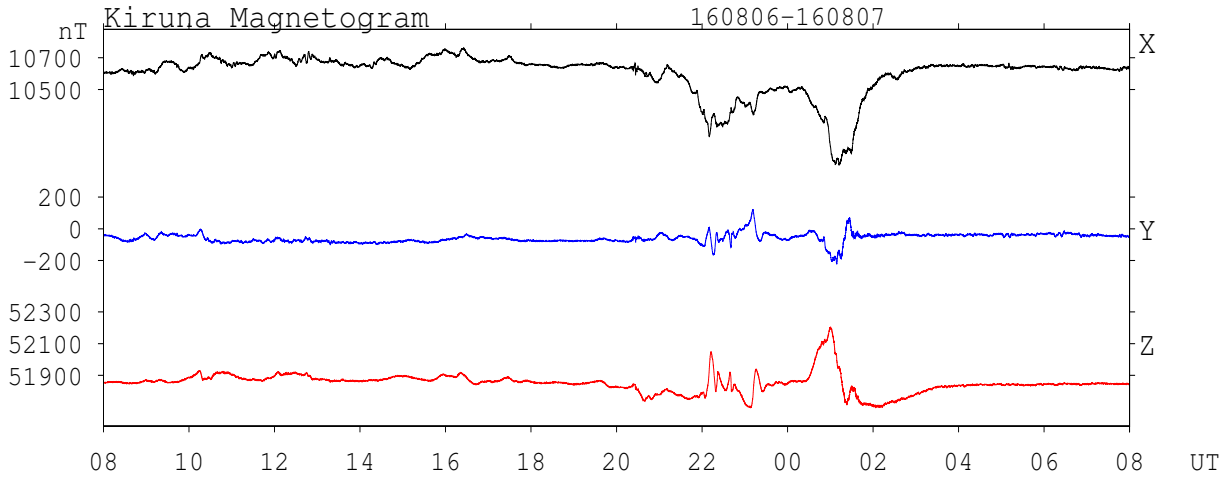

Kiruna Magnetogram
160801-160802
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200
0
-200
52300
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Y
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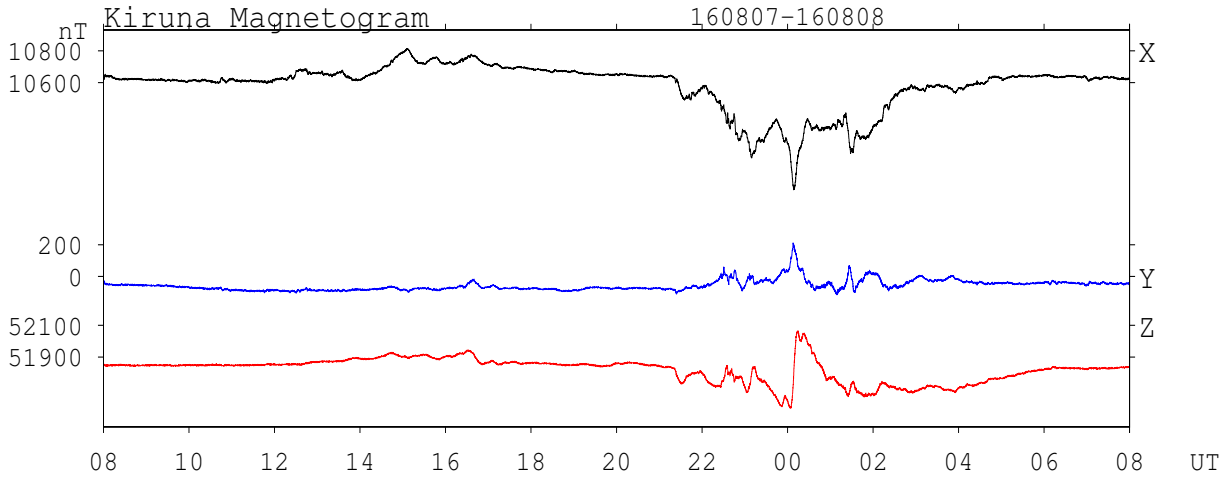

Kiruna Magnetogram
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-200
52100
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X
Y
Z
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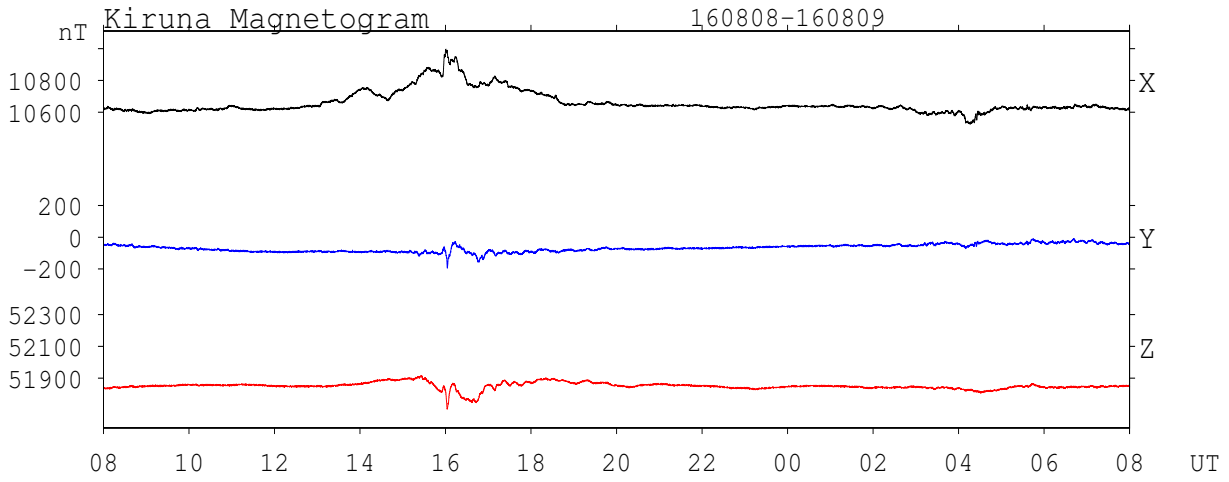

Kiruna Magnetogram
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200
0
-200
52100
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X
Y
Z
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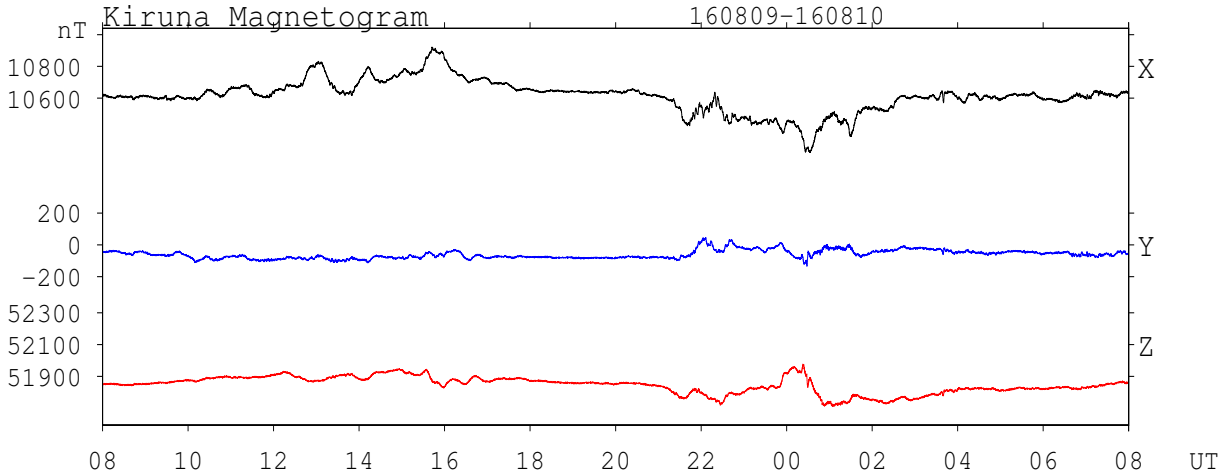

Kiruna Magnetogram
160804-160805
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52300
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X
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Z
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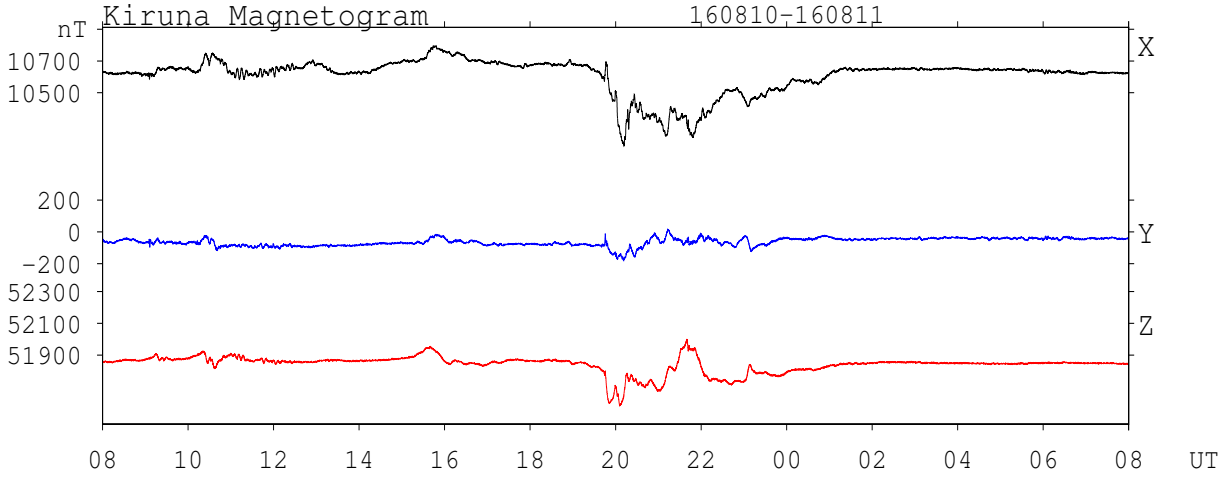

Kiruna Magnetogram
160805-160806
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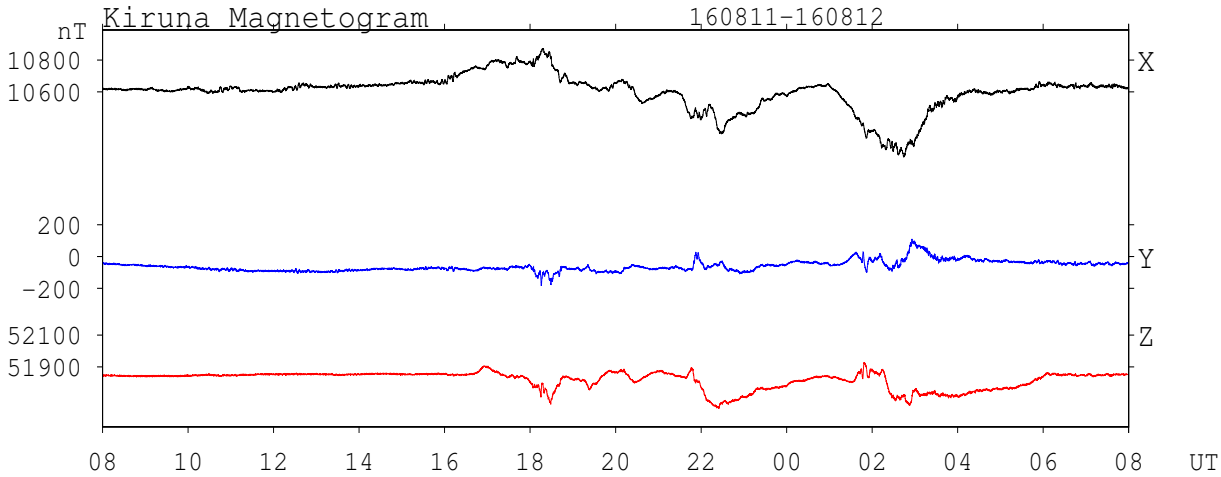

Kiruna Magnetogram
160806-160807
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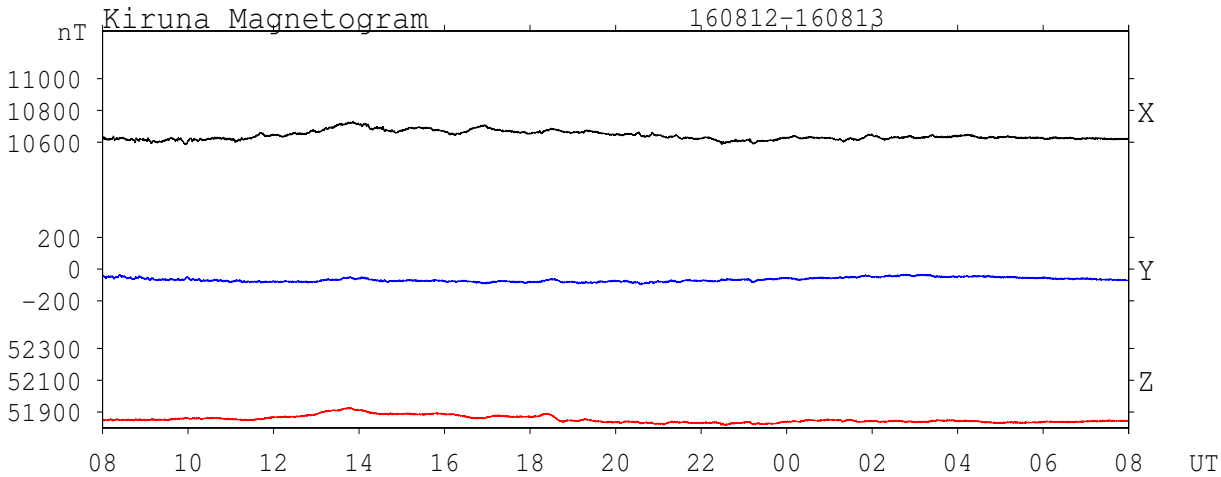

Kiruna Magnetogram
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X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

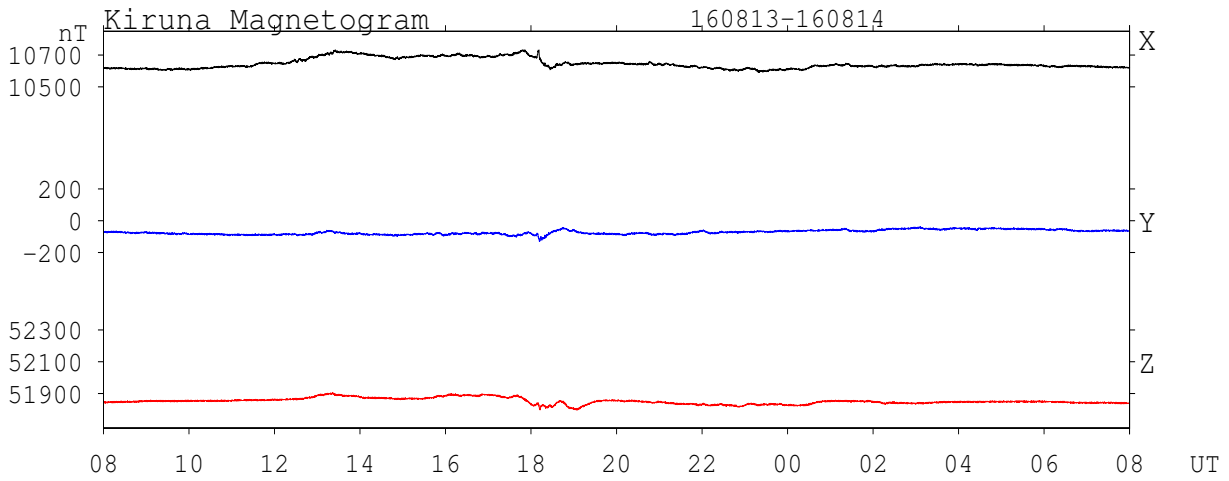

Kiruna Magnetogram
160808-160809
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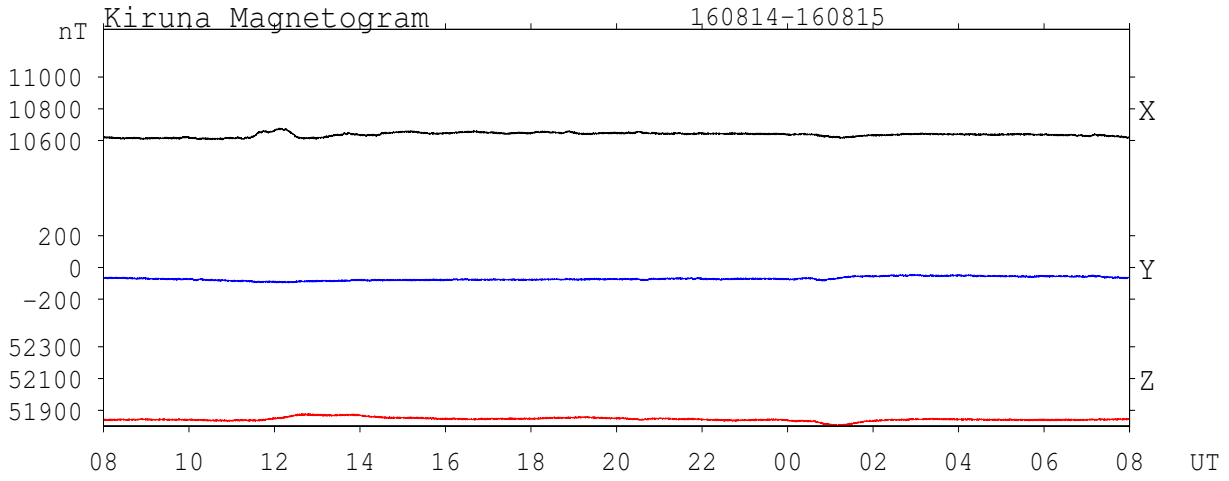

Kiruna Magnetogram
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X
Y
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08 10 12 14 16 18 20 22 00 02 04 06 08 UT

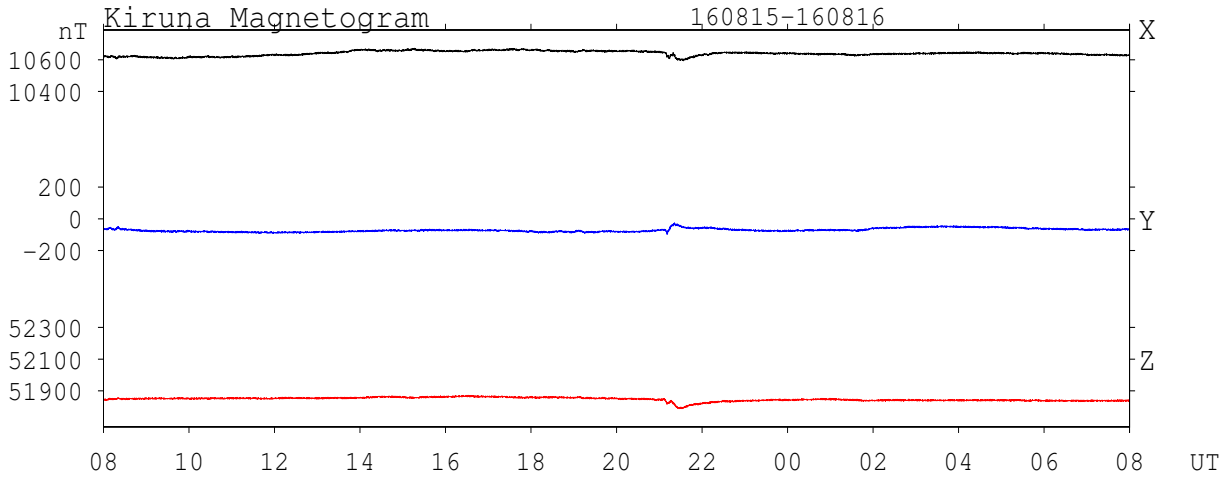

Kiruna Magnetogram
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Y
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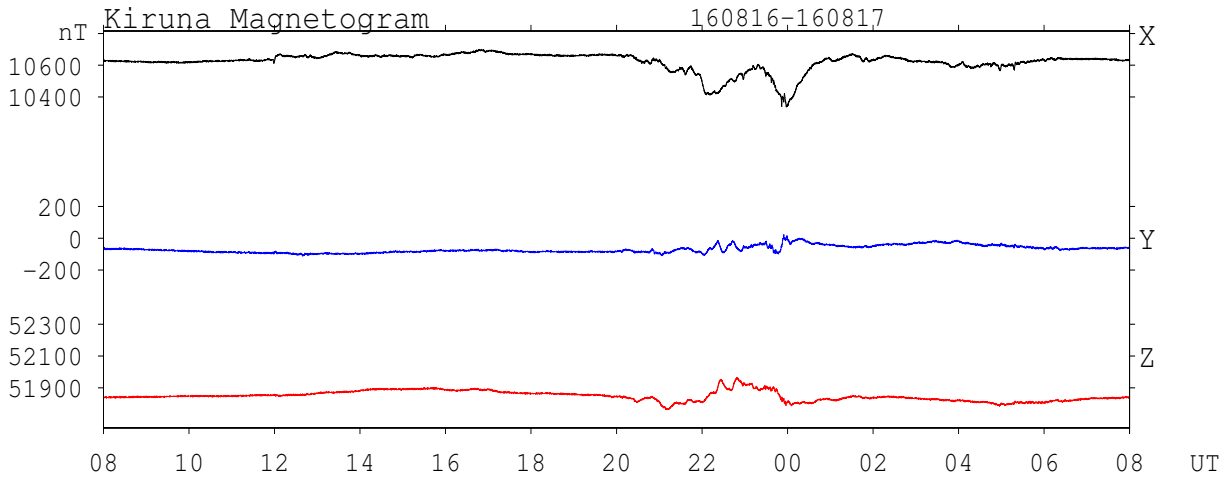

Kiruna Magnetogram
160811-160812
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-200
52100
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Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

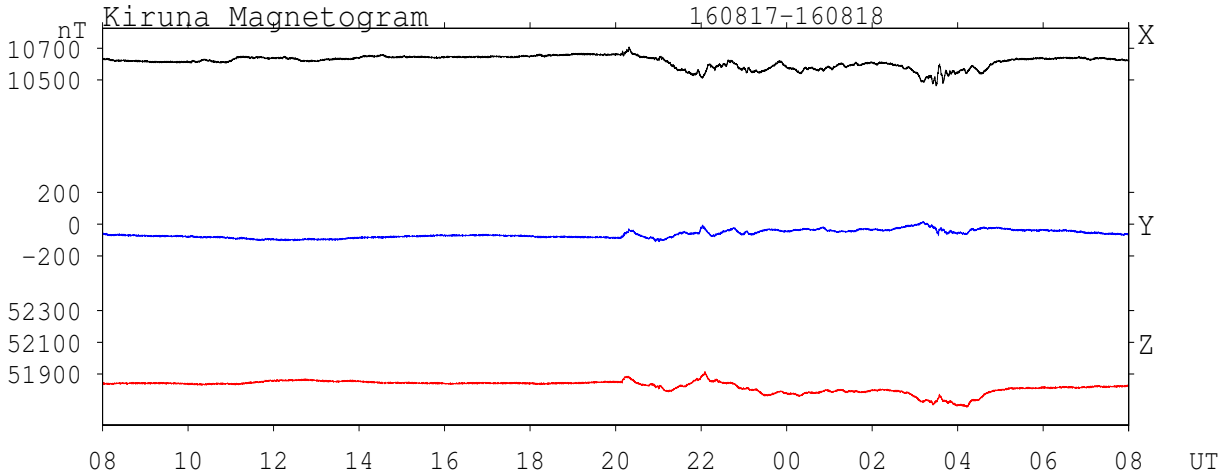

Kiruna Magnetogram
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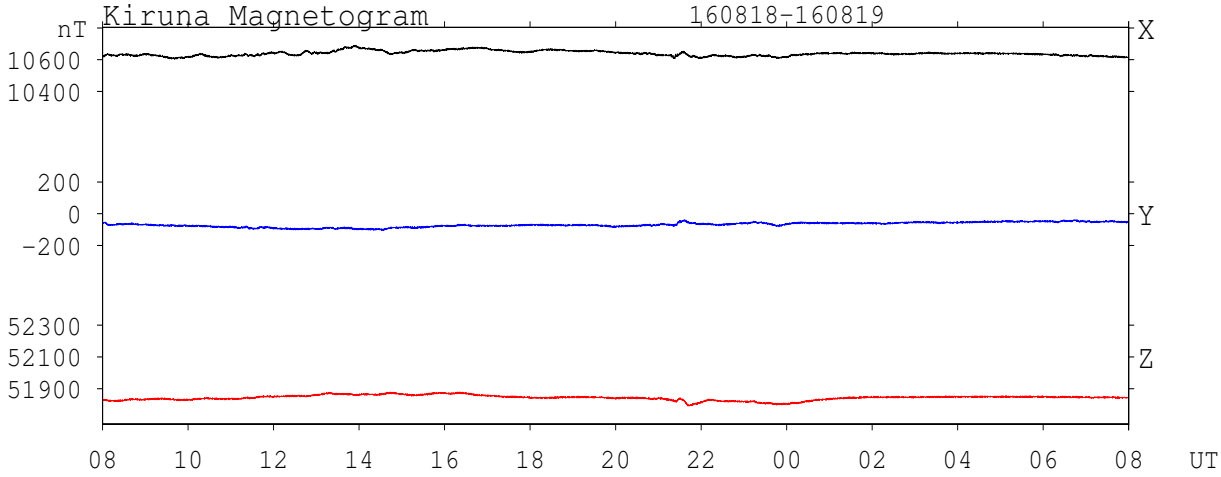

Kiruna Magnetogram
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Z
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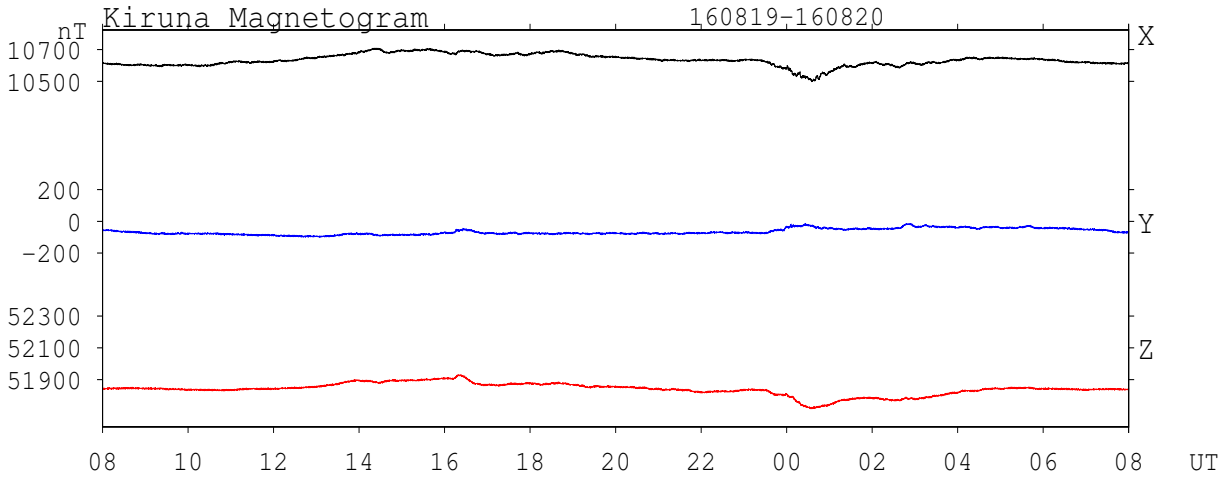

Kiruna Magnetogram
160814-160815
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08 10 12 14 16 18 20 22 00 02 04 06 08 UT

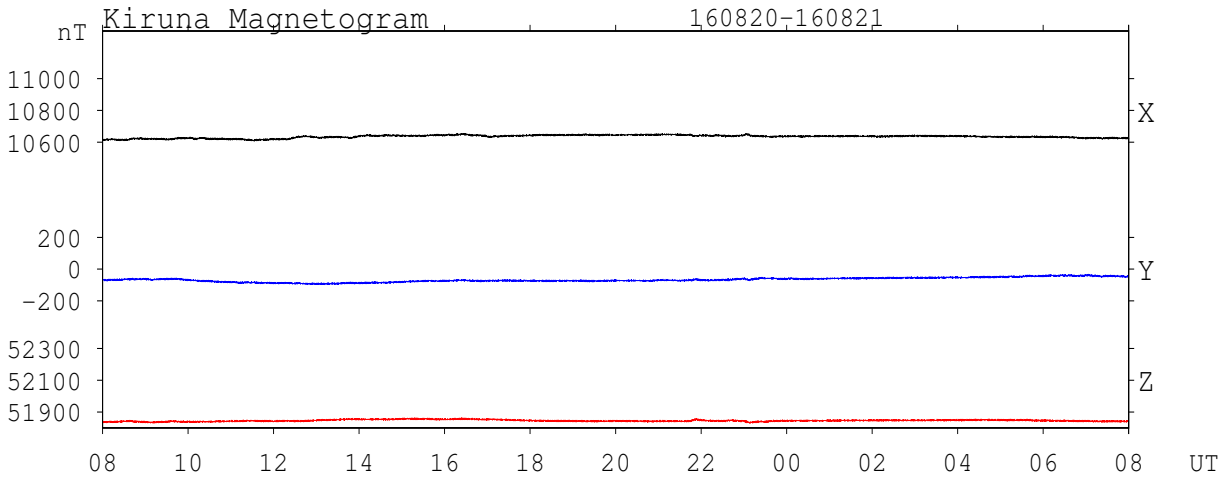

Kiruna Magnetogram
160815-160816
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Y
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08 10 12 14 16 18 20 22 00 02 04 06 08 UT

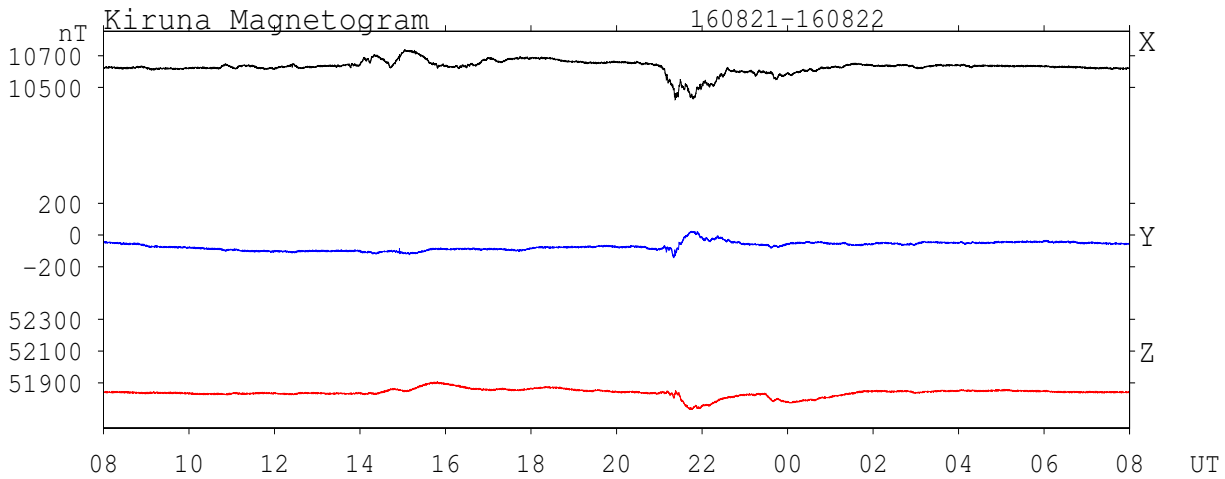

Kiruna Magnetogram
160816-160817
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Y
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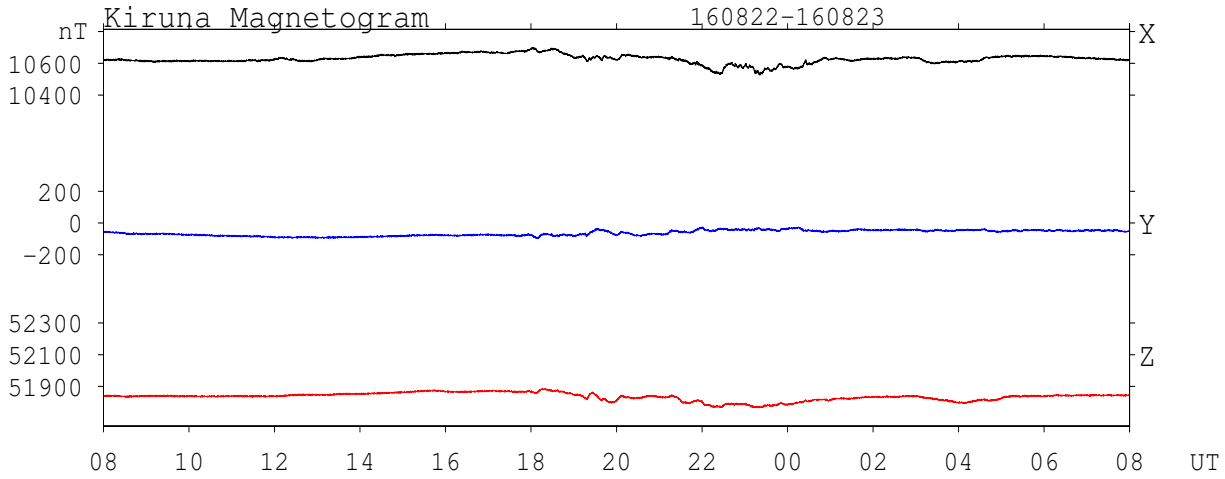

Kiruna Magnetogram
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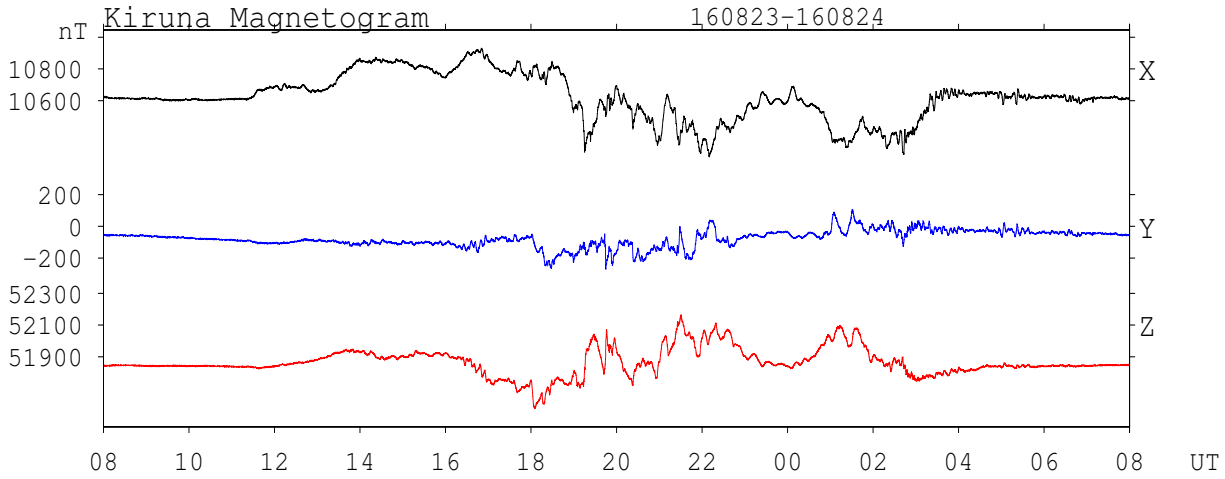

Kiruna Magnetogram
160818-160819
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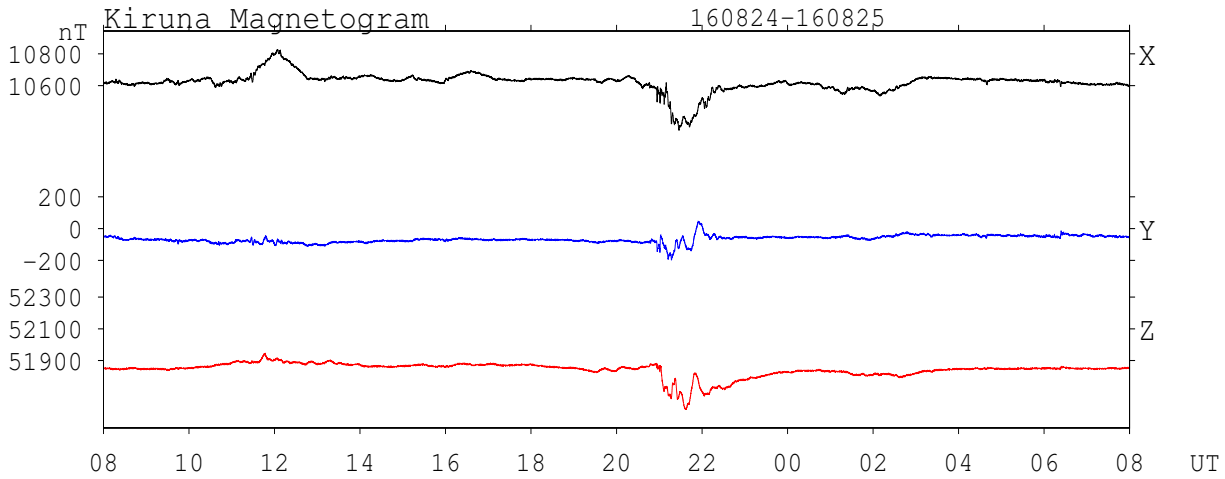

Kiruna Magnetogram
160819-160820
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-200
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Y
Z
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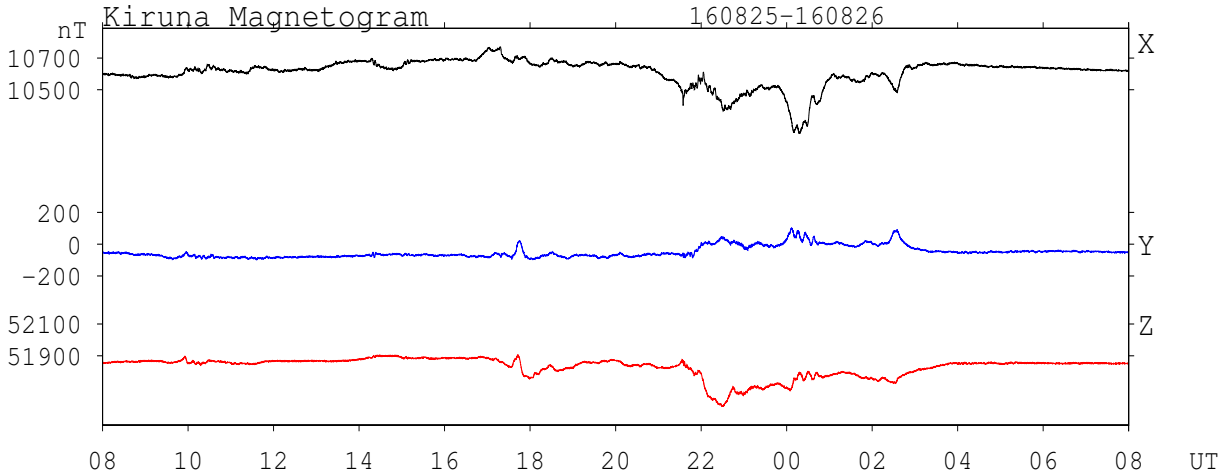

Kiruna Magnetogram
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Y
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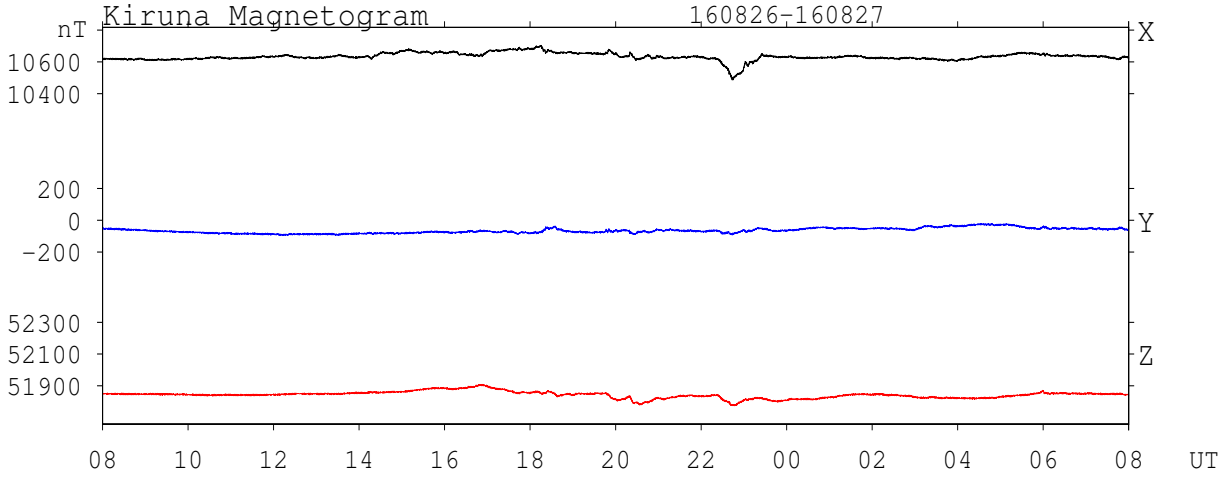

Kiruna Magnetogram
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-200
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Y
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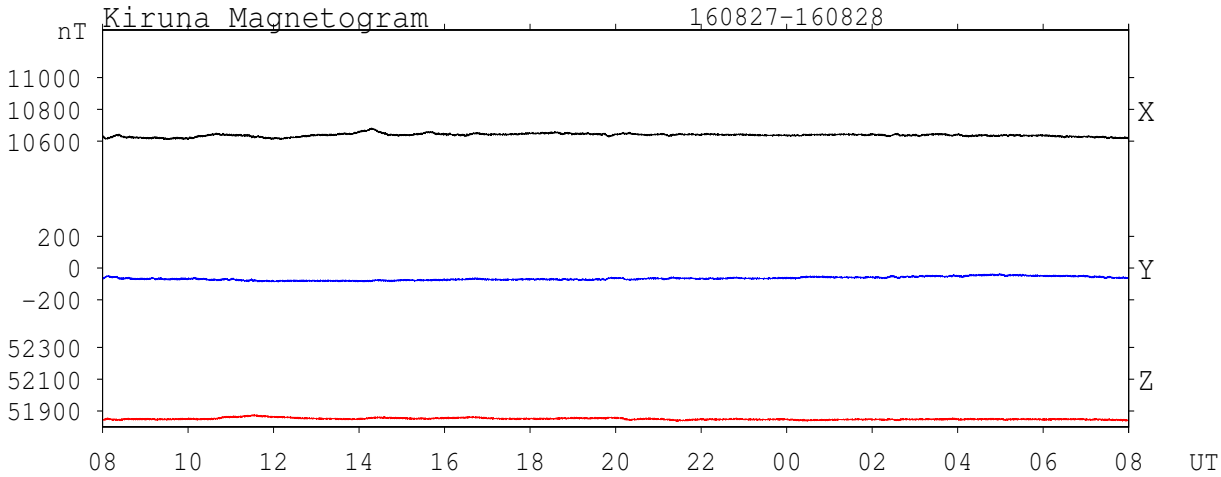

Kiruna Magnetogram
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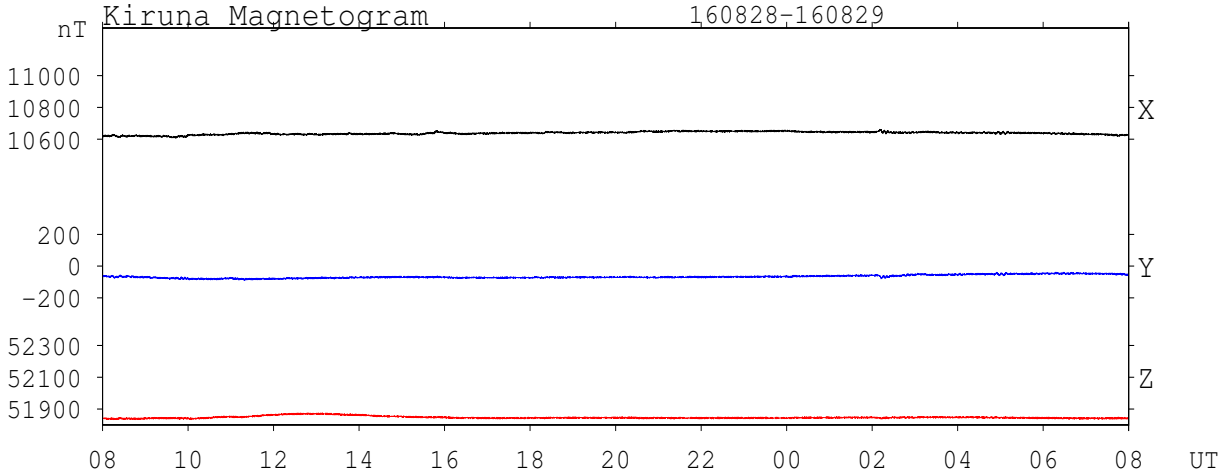

Kiruna Magnetogram
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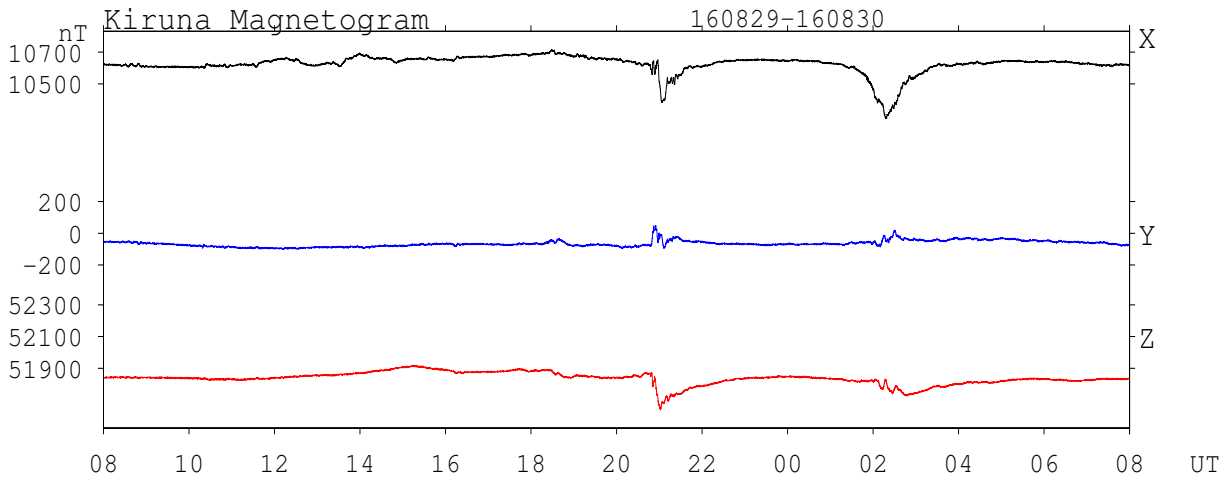

Kiruna Magnetogram
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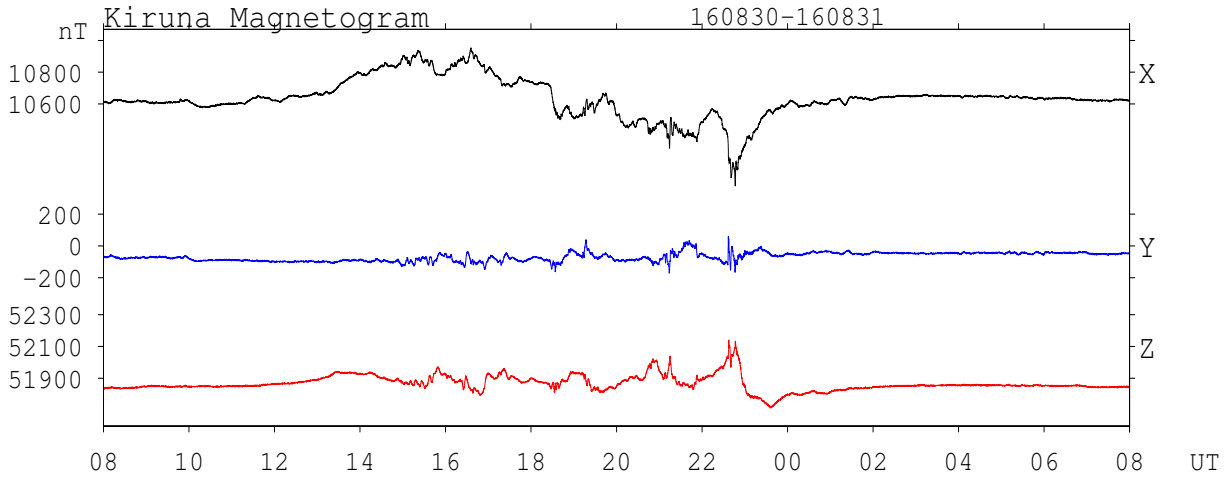

Kiruna Magnetogram
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Y
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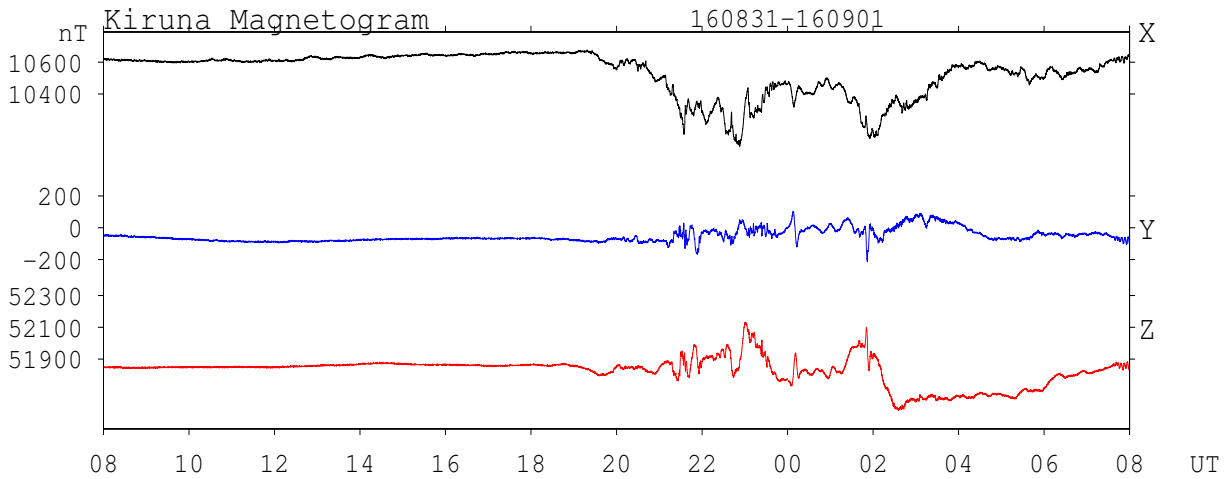

Kiruna Magnetogram
160826-160827
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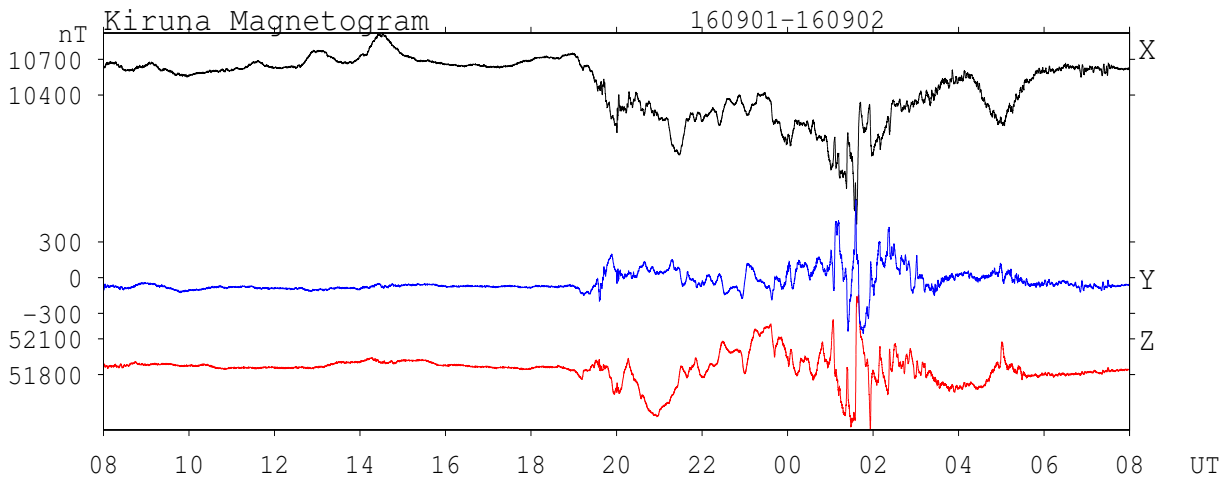

Kiruna Magnetogram
160827-160828
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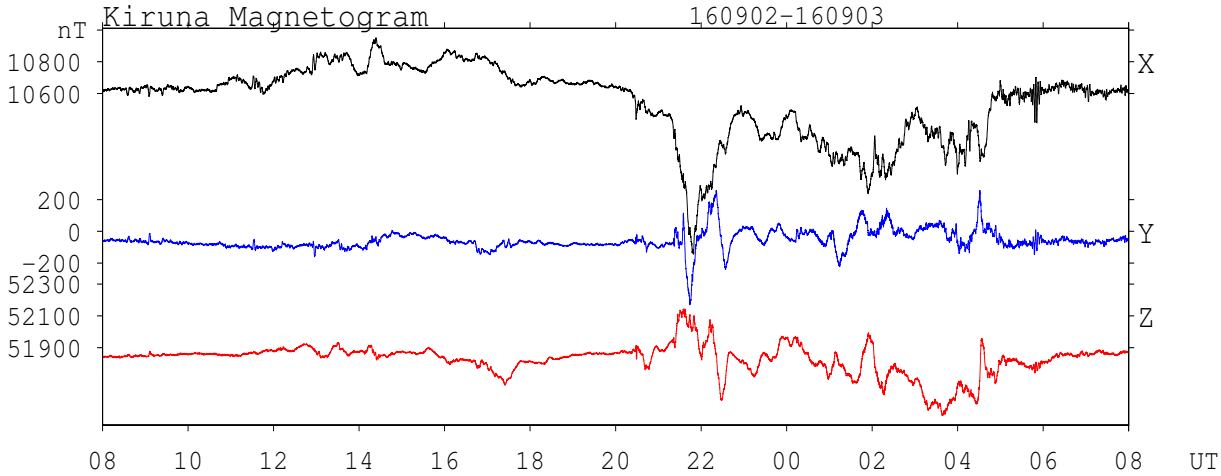

Kiruna Magnetogram
160828-160829
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-200
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Y
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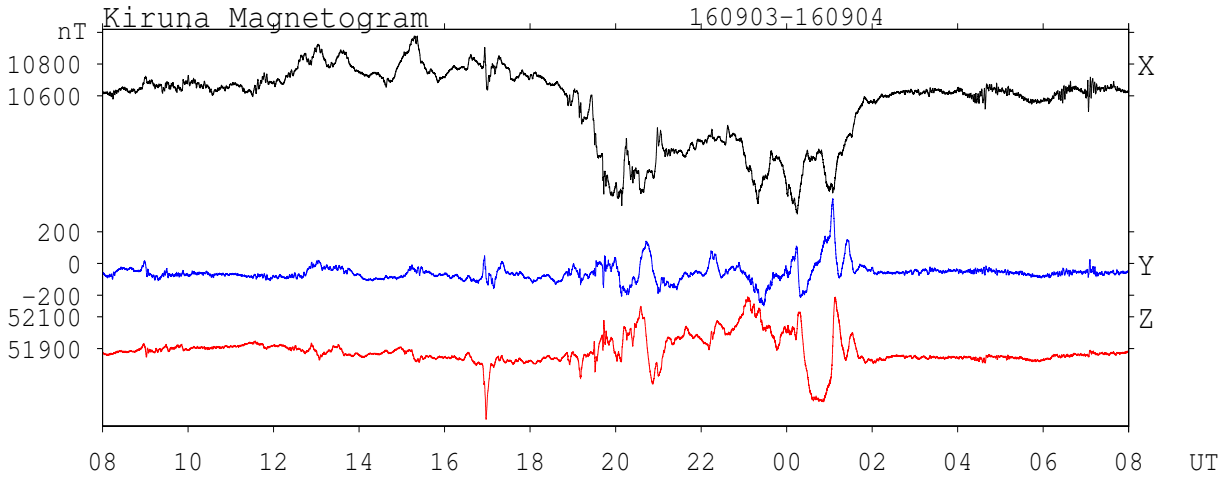

Kiruna Magnetogram
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-200
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Y
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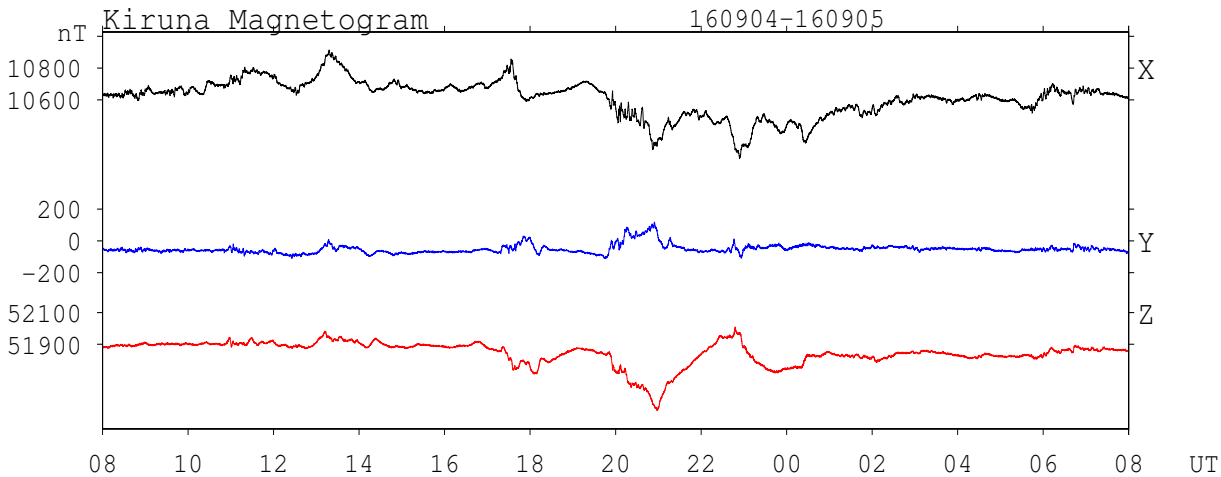

Kiruna Magnetogram
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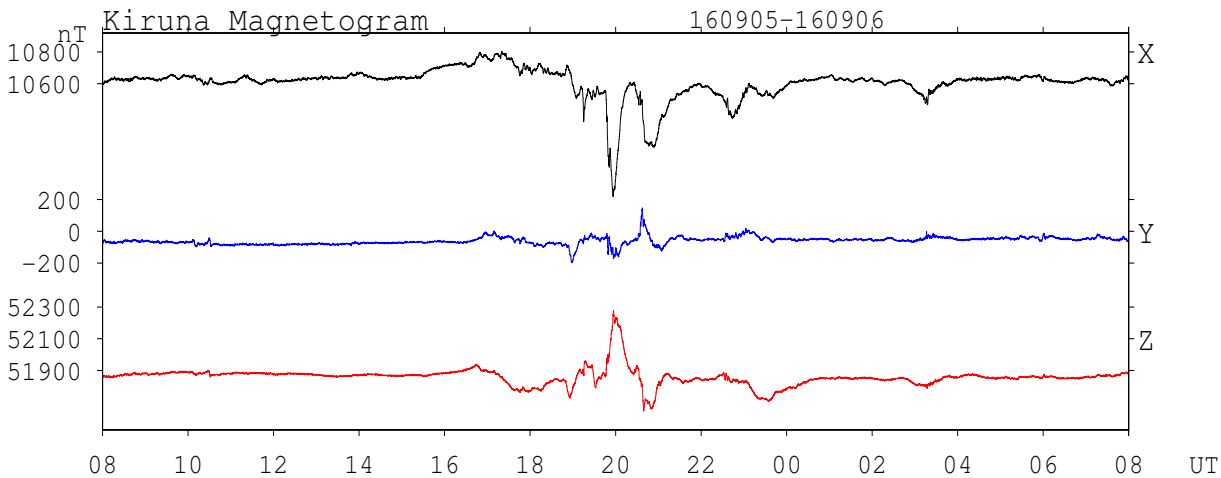

Kiruna Magnetogram
160831-160901
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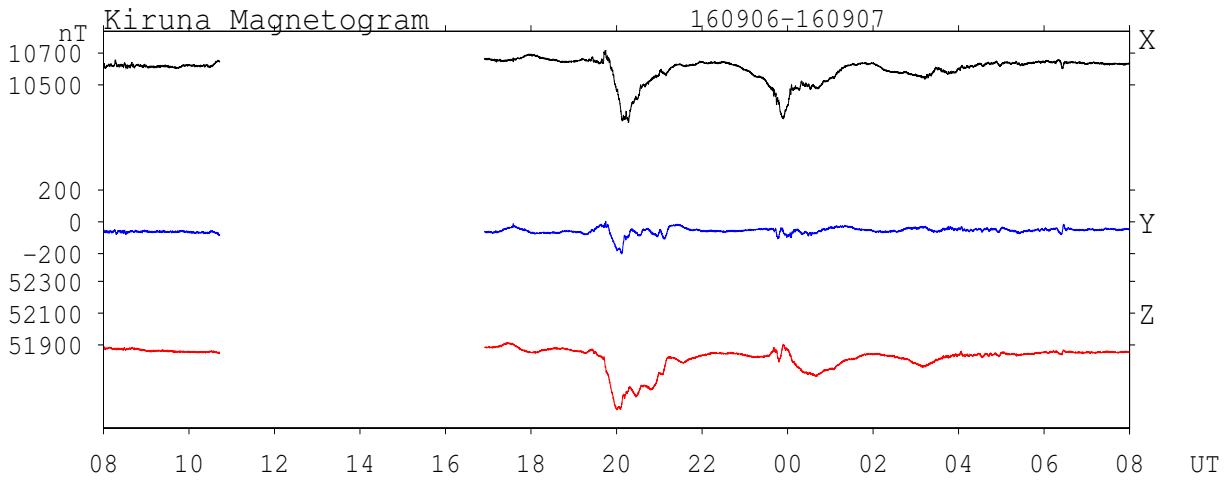

Kiruna Magnetogram
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X
Y
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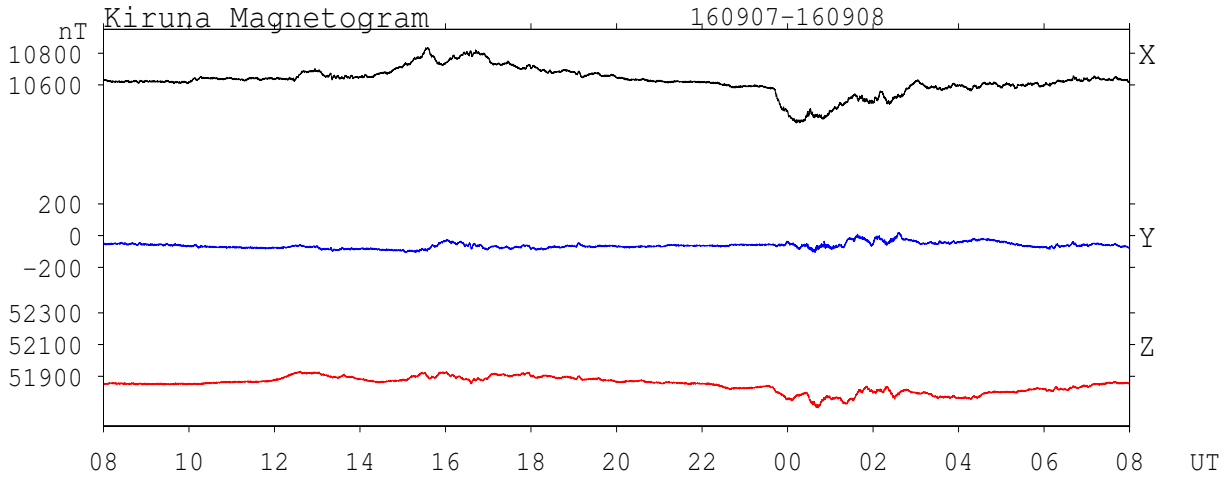

Kiruna Magnetogram
160902-160903
nT
10800
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200
0
-200
52300
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Y
Z
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16
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20
22
00
02
04
06
08
UT

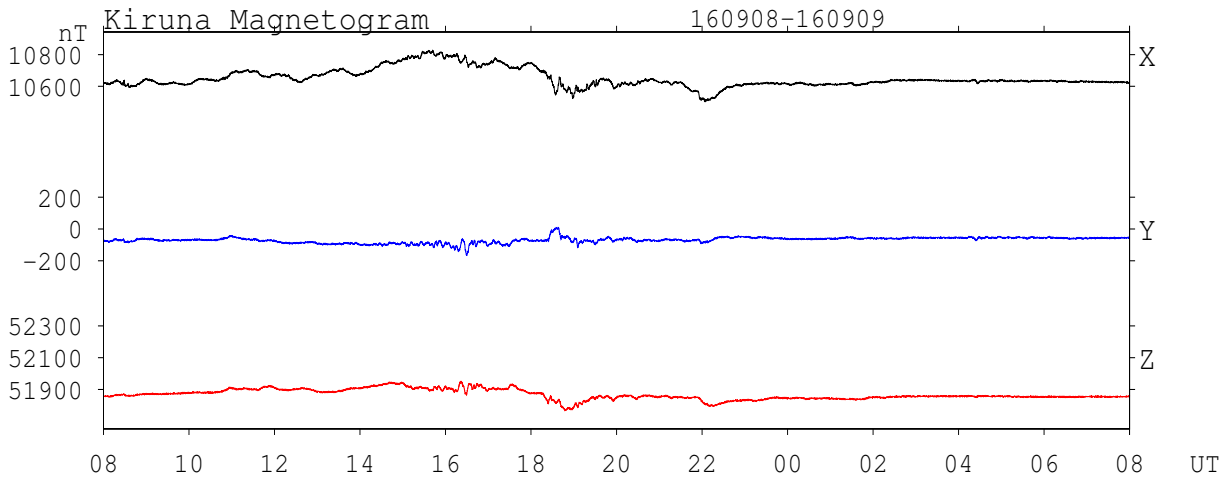

Kiruna Magnetogram
160903-160904
nT
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Y
Z
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20
22
00
02
04
06
08
UT

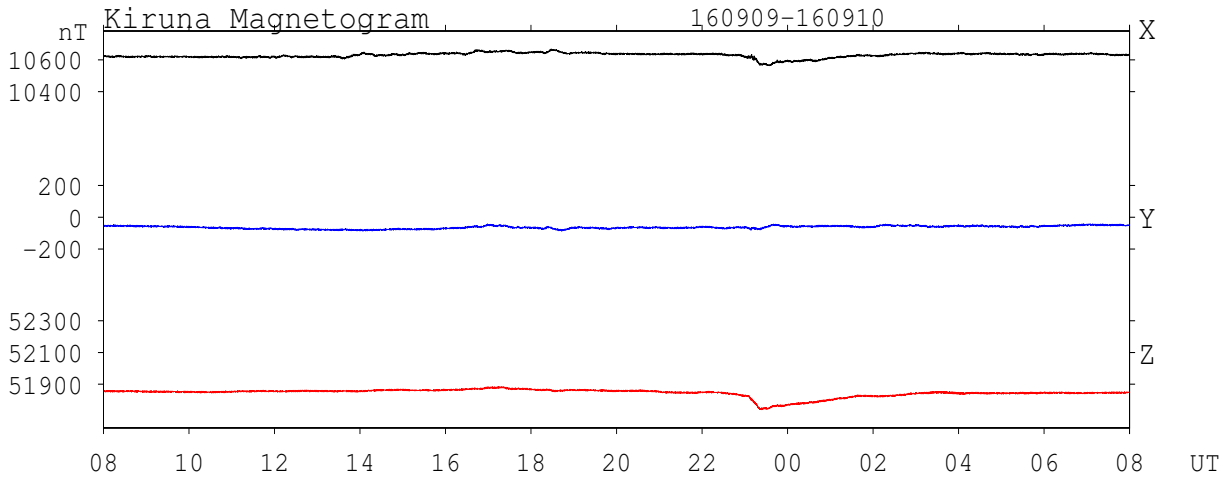

Kiruna Magnetogram
160904-160905
nT
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Z
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12
14
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18
20
22
00
02
04
06
08
UT

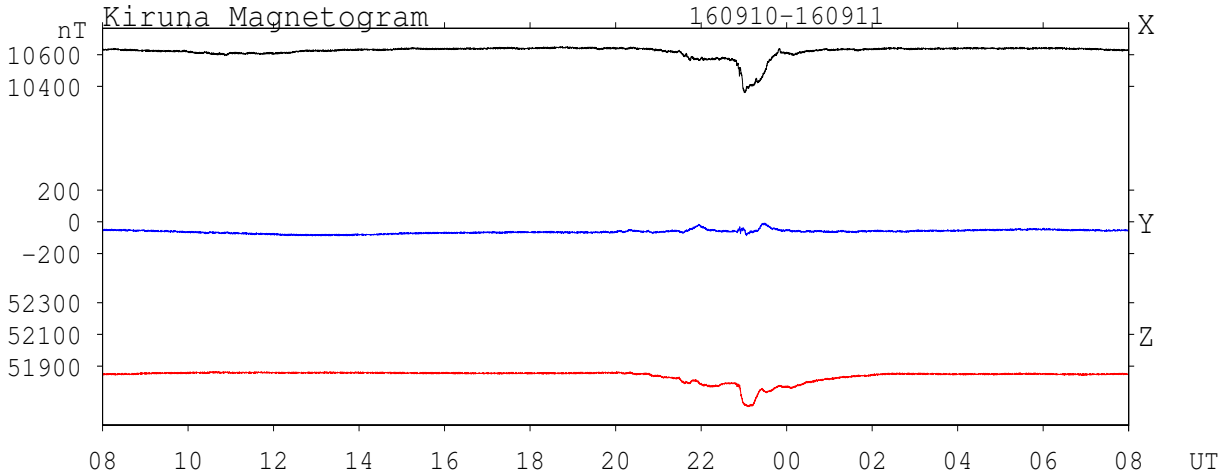

Kiruna Magnetogram
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22
00
02
04
06
08
UT

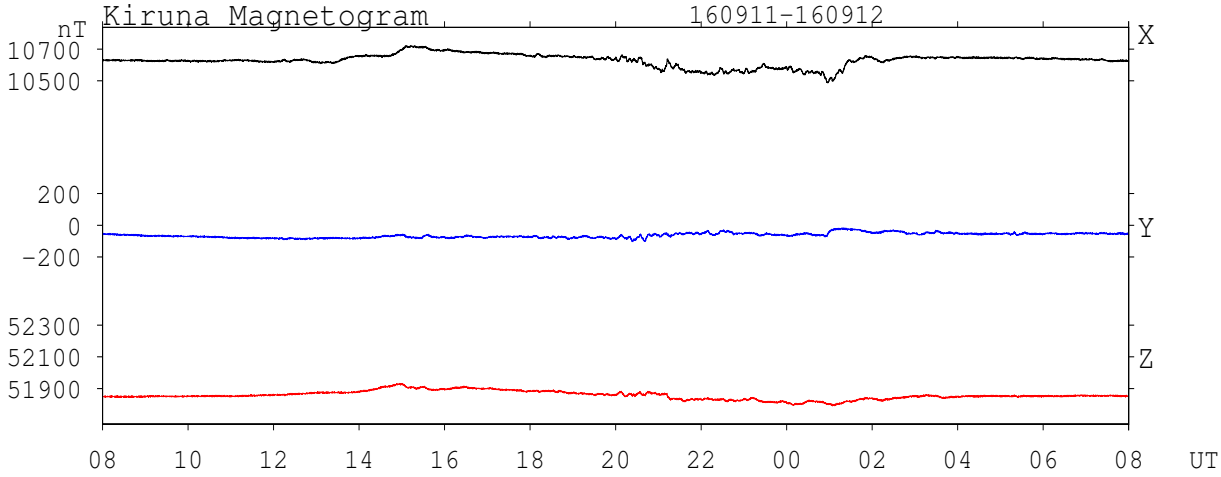

Kiruna Magnetogram
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Y
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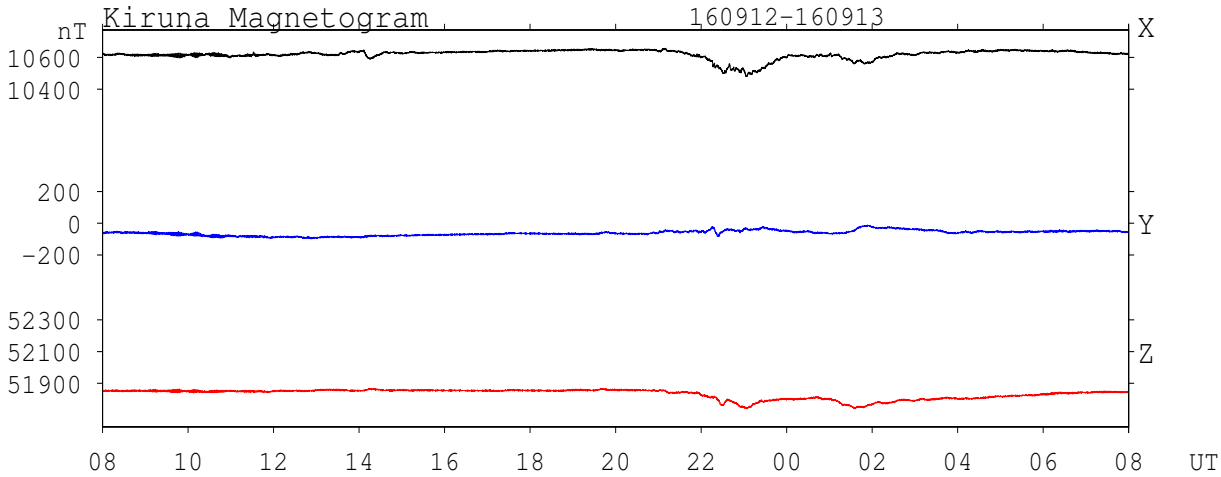

Kiruna Magnetogram
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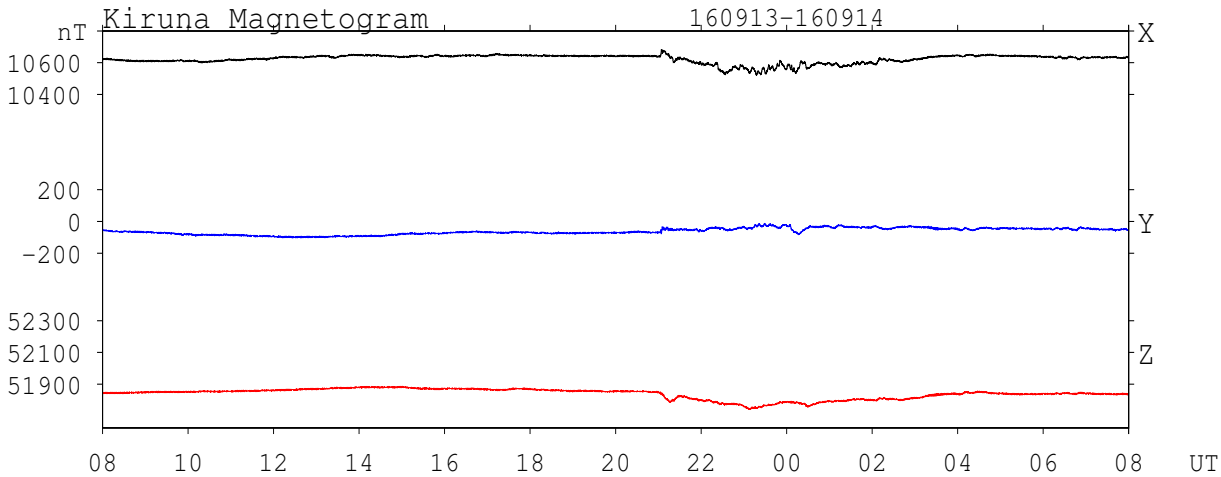

Kiruna Magnetogram
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-200
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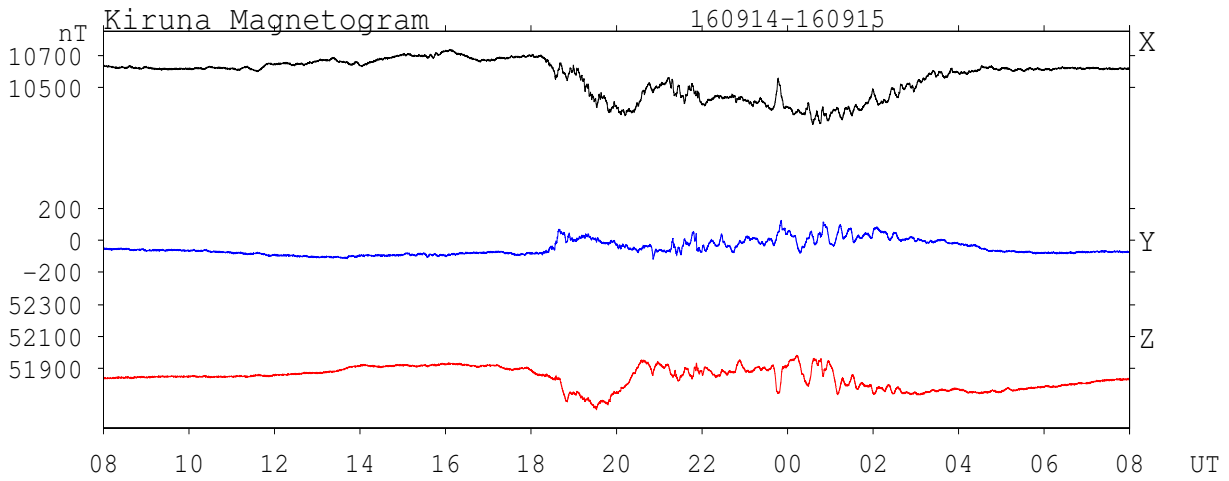

Kiruna Magnetogram
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Y
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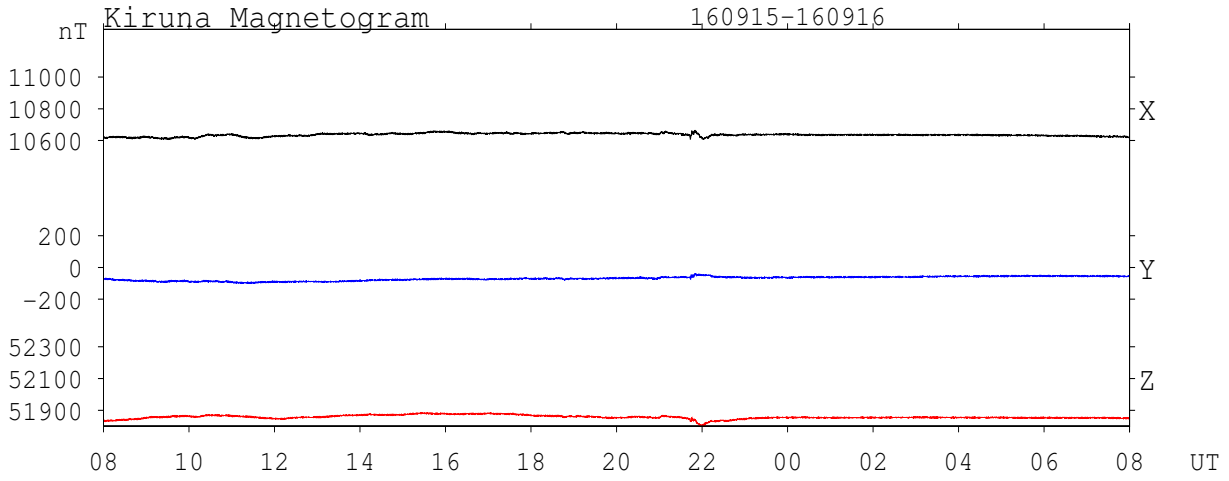

Kiruna Magnetogram
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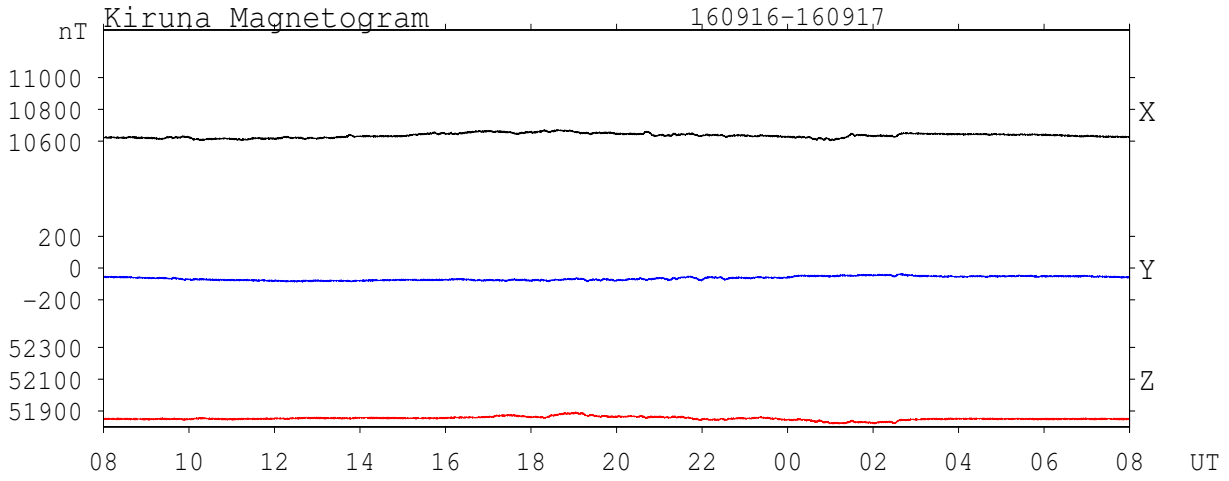

Kiruna Magnetogram
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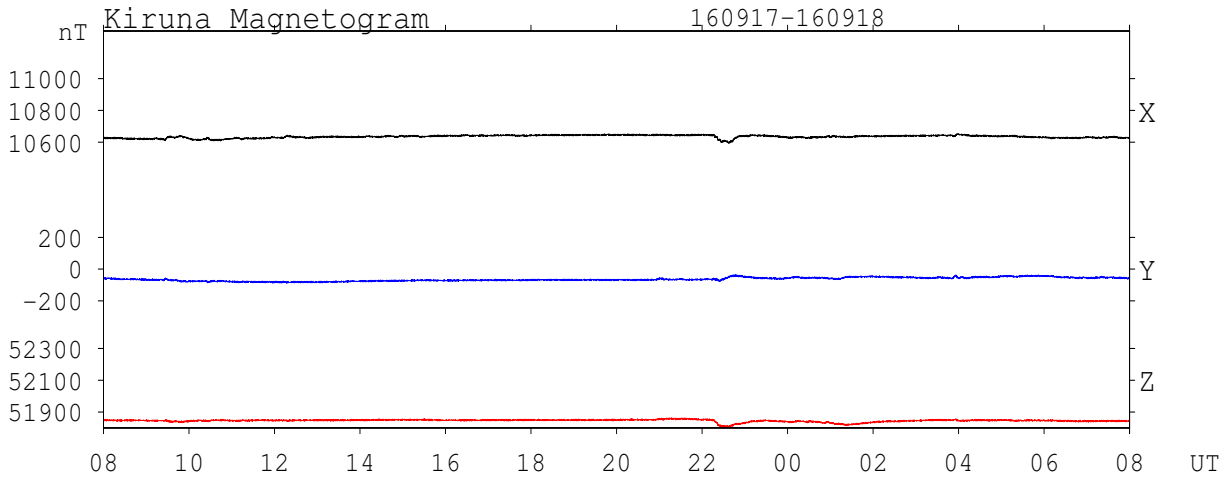

Kiruna Magnetogram
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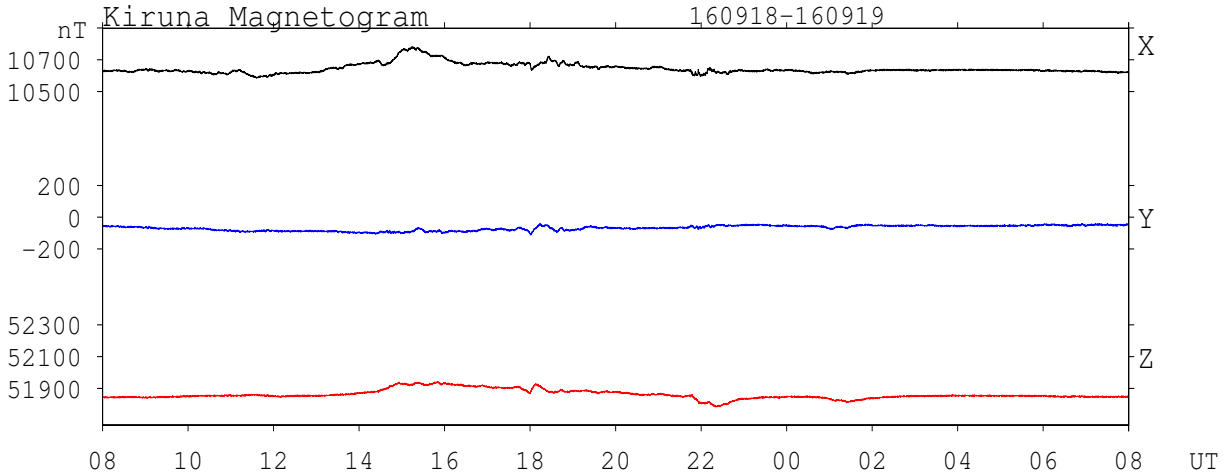

Kiruna Magnetogram
160913-160914
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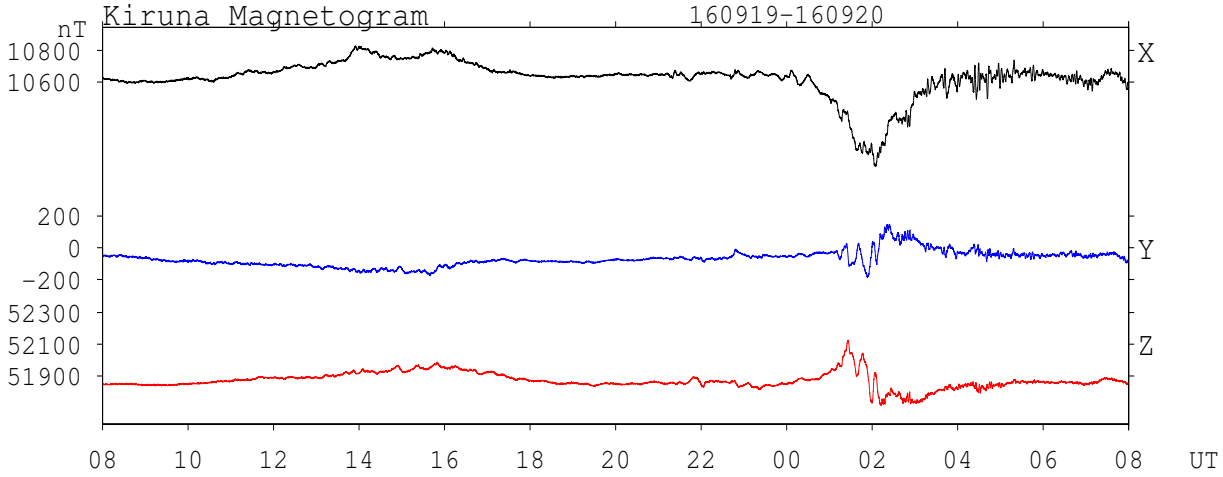

Kiruna Magnetogram
160914-160915
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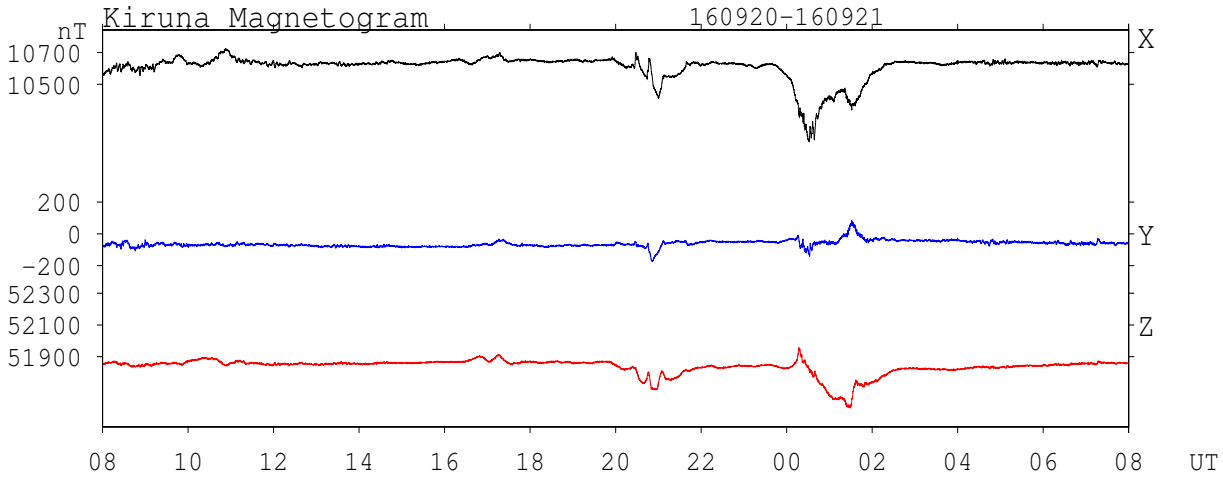

Kiruna Magnetogram
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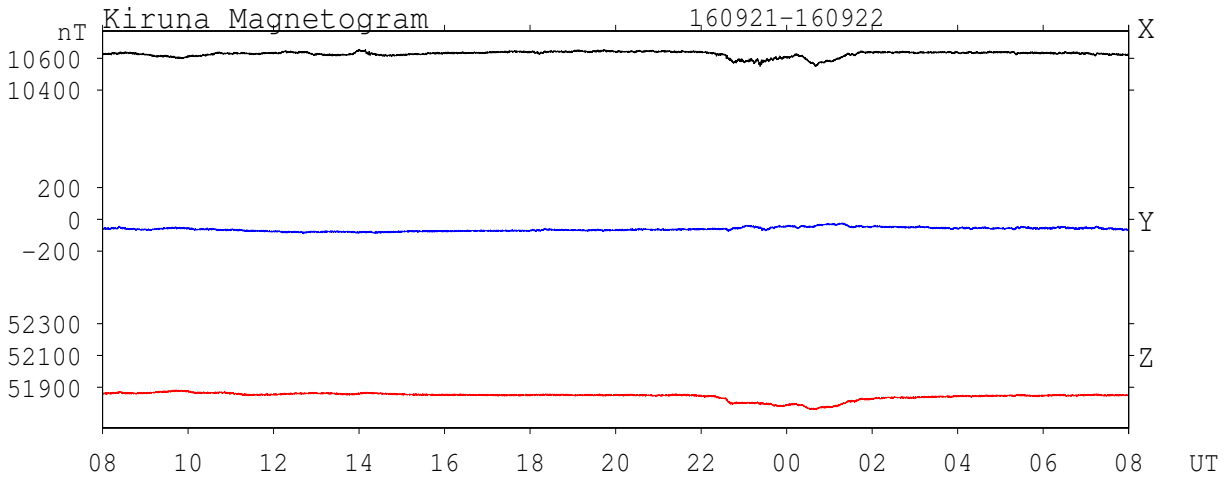

Kiruna Magnetogram
160916-160917
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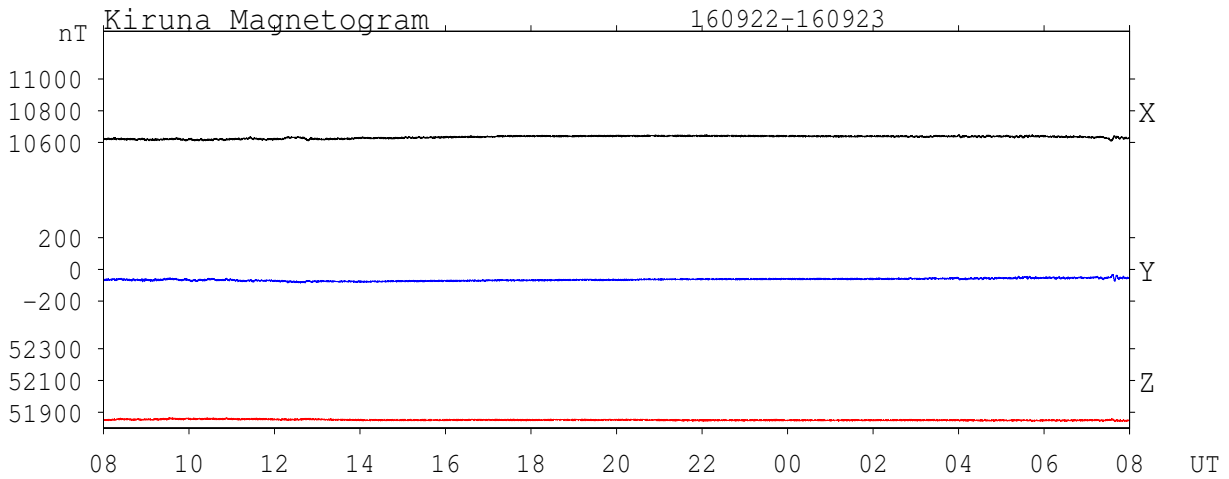

Kiruna Magnetogram
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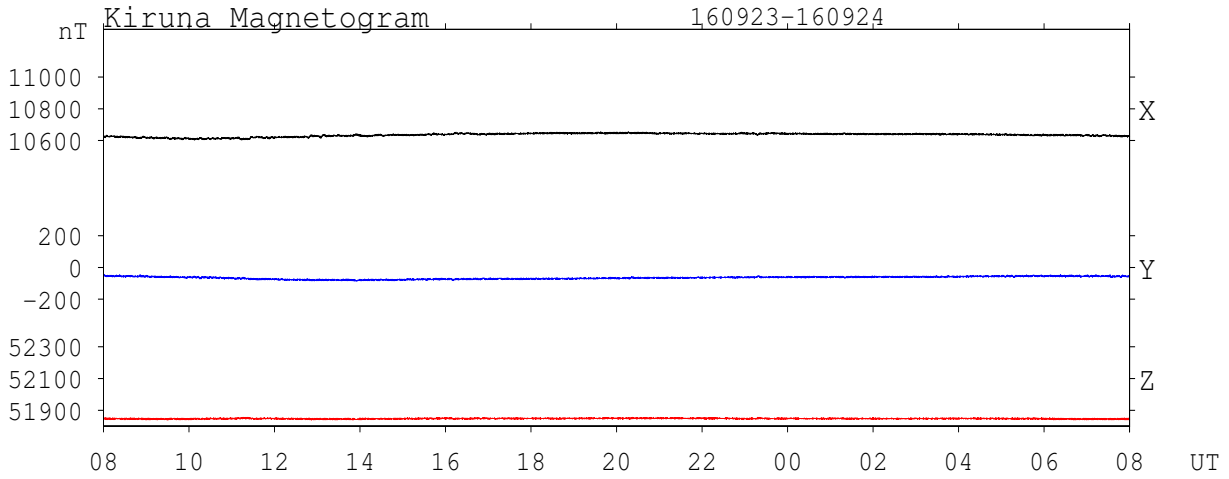

Kiruna Magnetogram
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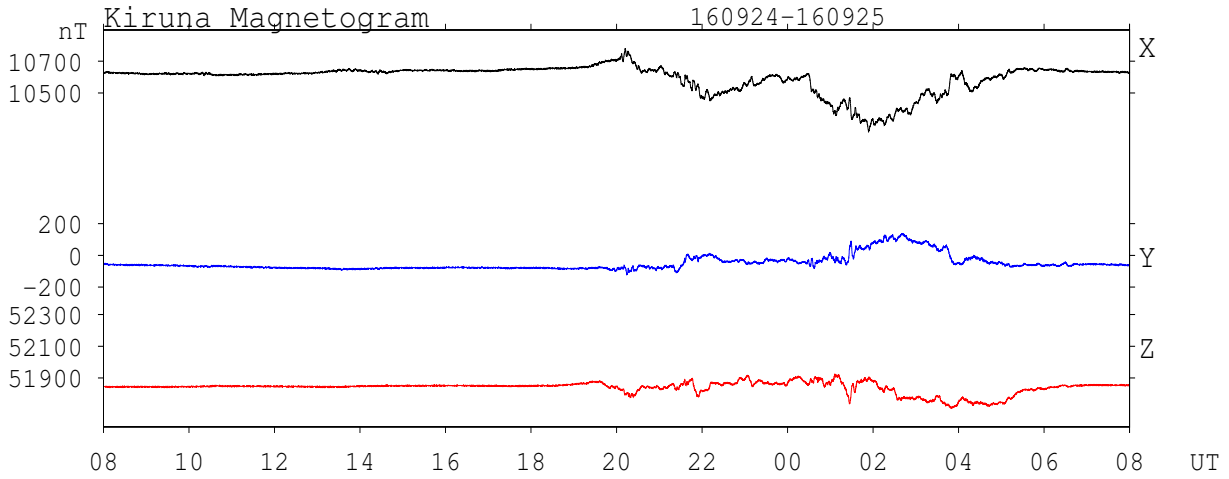

Kiruna Magnetogram
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08 10 12 14 16 18 20 22 00 02 04 06 08 UT

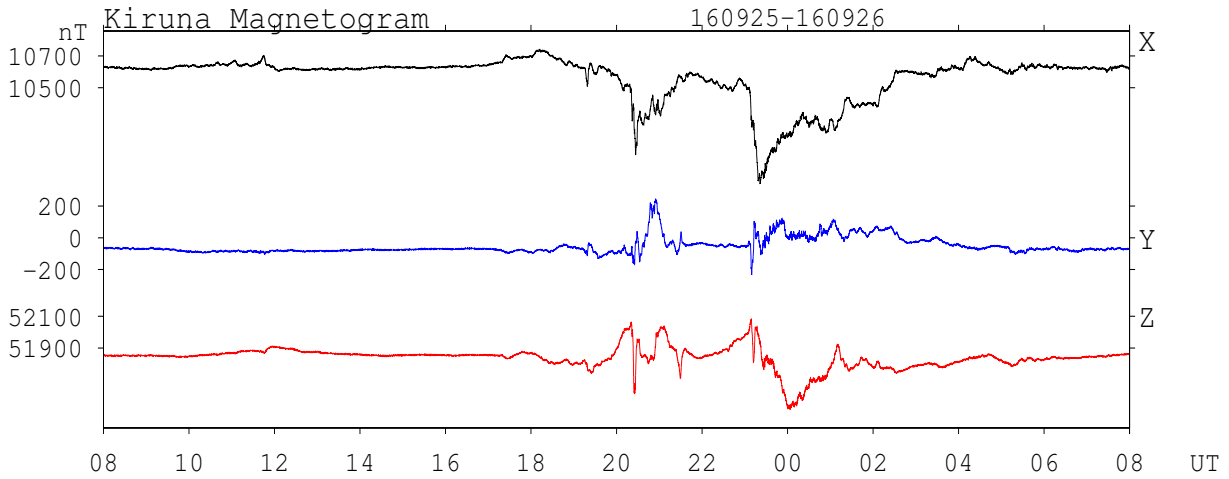

Kiruna Magnetogram
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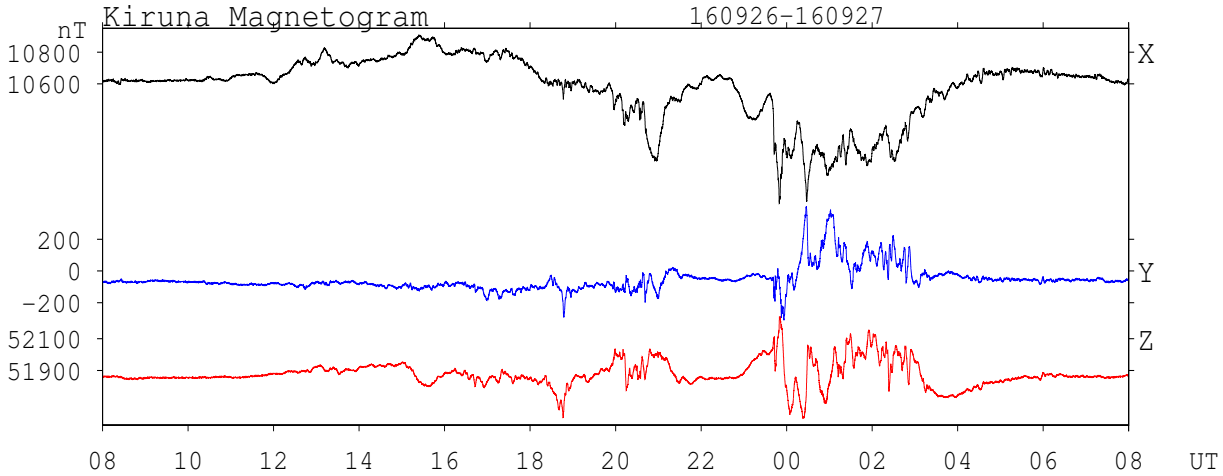

Kiruna Magnetogram
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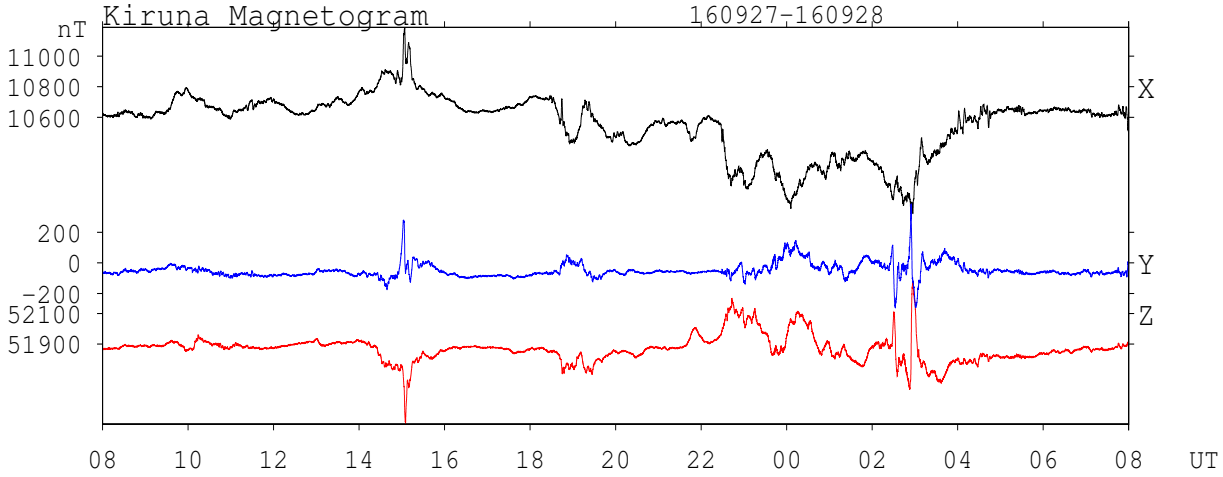

Kiruna Magnetogram
160922-160923
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X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

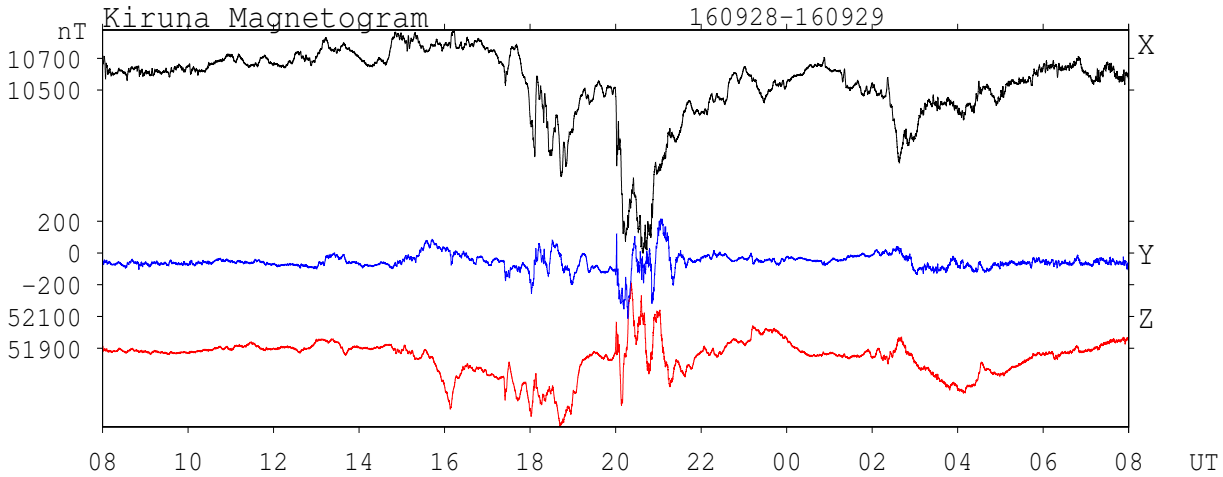

Kiruna Magnetogram
160923-160924
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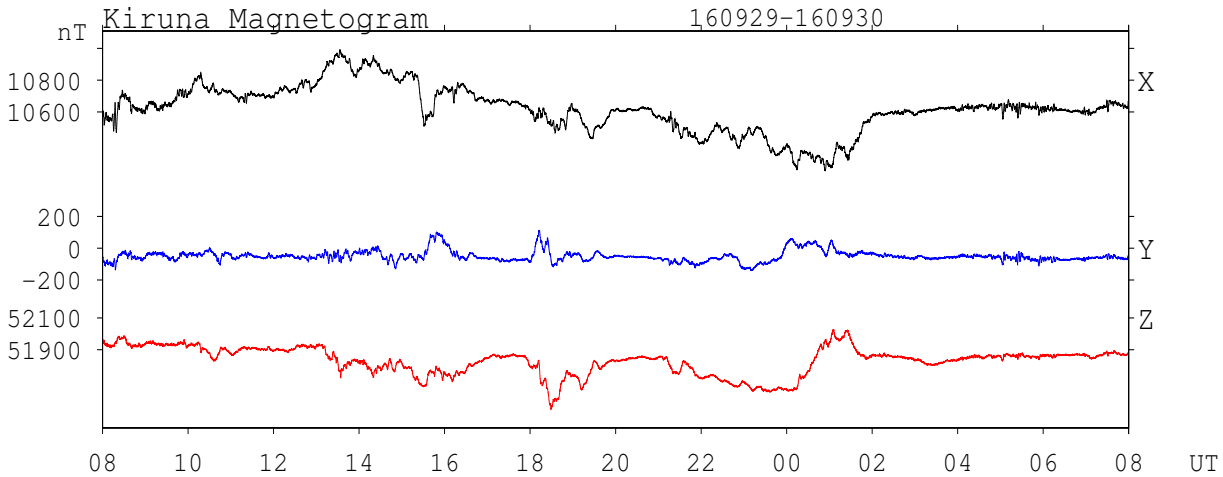

Kiruna Magnetogram
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52300
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X
Y
Z
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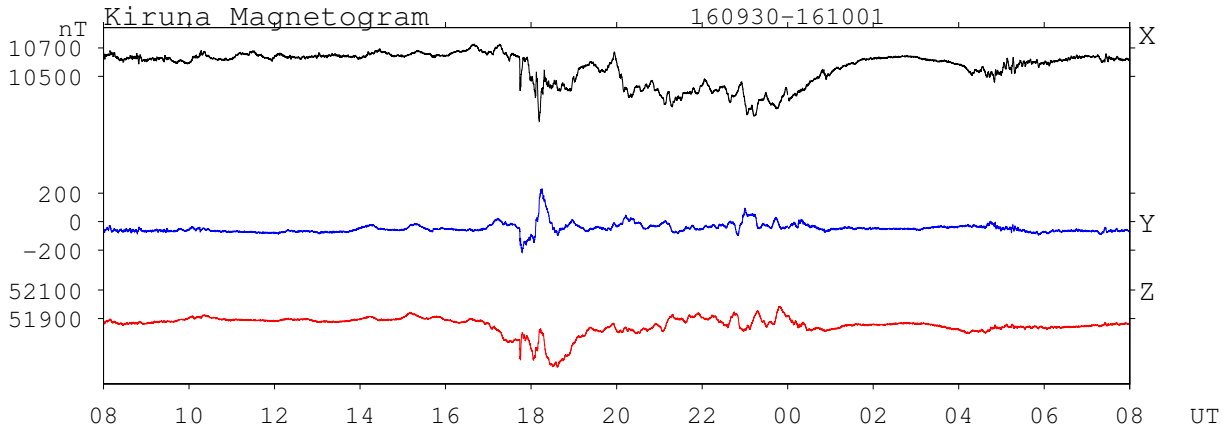

Kiruna Magnetogram
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-200
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT


Kiruna Magnetogram
160926-160927
nT
10800
10600
200
0
-200
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT


Kiruna Magnetogram
160927-160928
nT
11000
10800
10600
200
0
-200
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT


Kiruna Magnetogram
160928-160929
nT
10700
10500
200
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-200
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

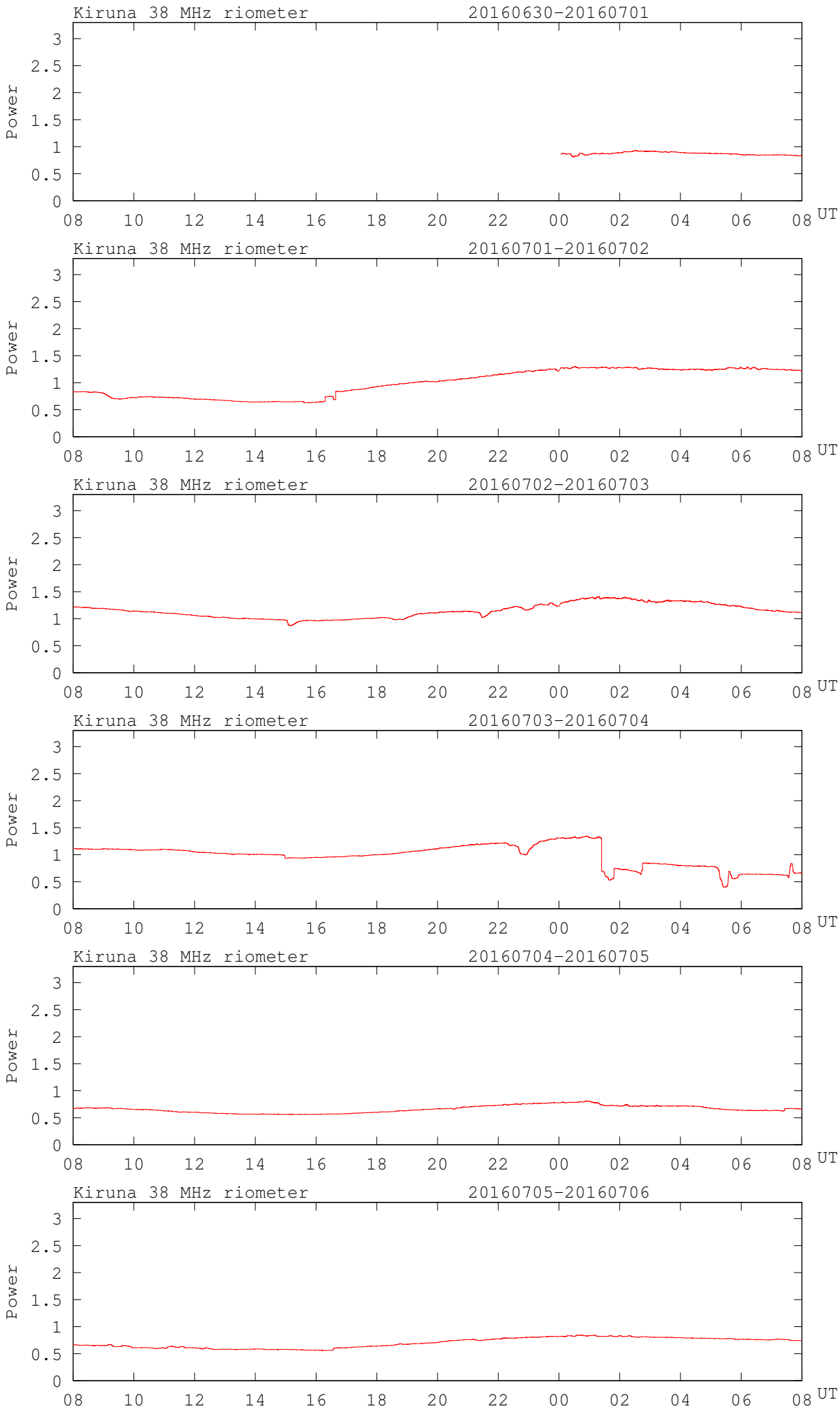

Kiruna Magnetogram
160929-160930
nT
10800
10600
200
0
-200
52100
51900
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

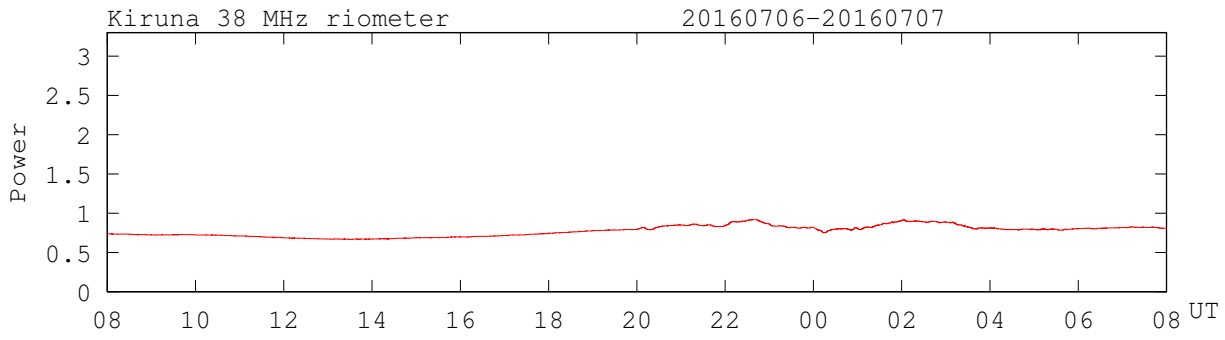

Kiruna Magnetogram
160930-161001
nT
10700
10500
200
0
-200
52100
51900
X
Y
Z
08
10
12
14
16
18
20
22
00
02
04
06
08
UT

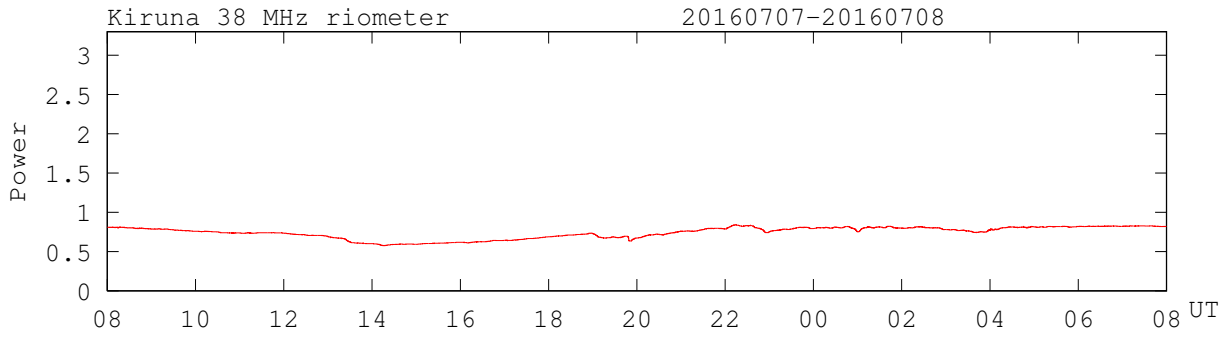
KIRUNA VERTICAL RIOMETER

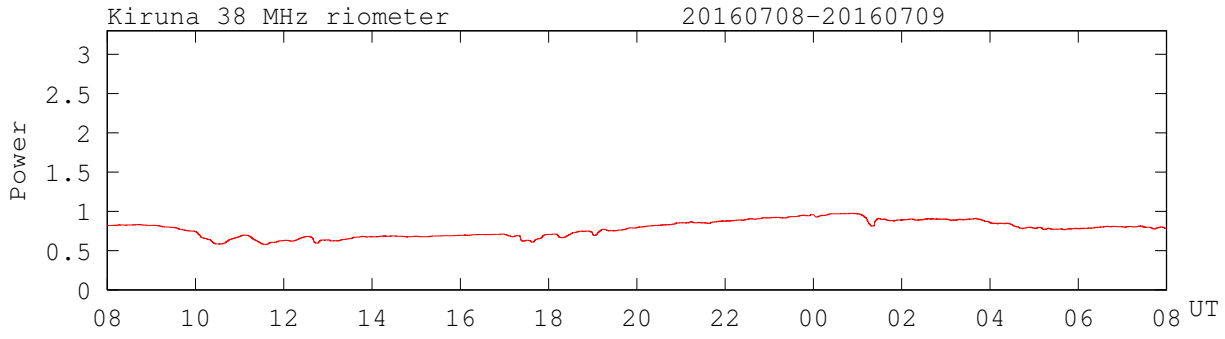
July - September 2016

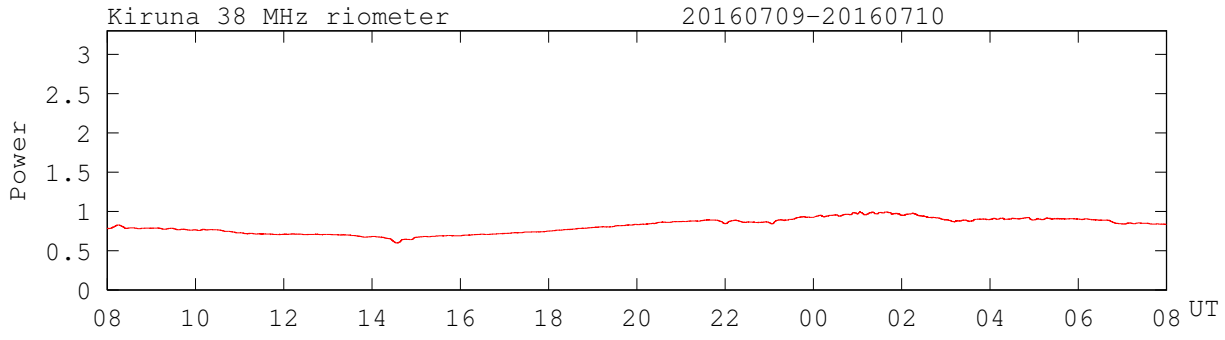
http://www.irf.se/~rio

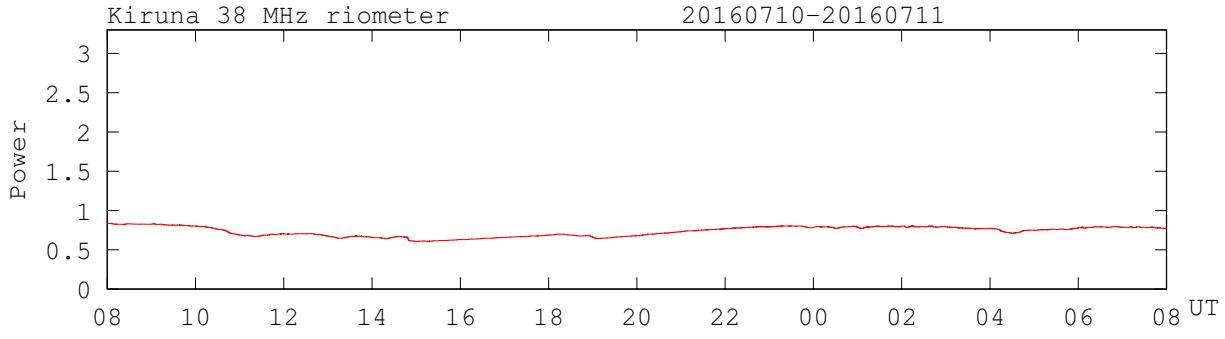

Kiruna 38 MHz riometer 20160630-20160701
Kiruna 38 MHz riometer 20160701-20160702
Kiruna 38 MHz riometer 20160702-20160703
Kiruna 38 MHz riometer 20160703-20160704
Kiruna 38 MHz riometer 20160704-20160705
Kiruna 38 MHz riometer 20160705-20160706
Power
0 0.5 1 1.5 2 2.5 3
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

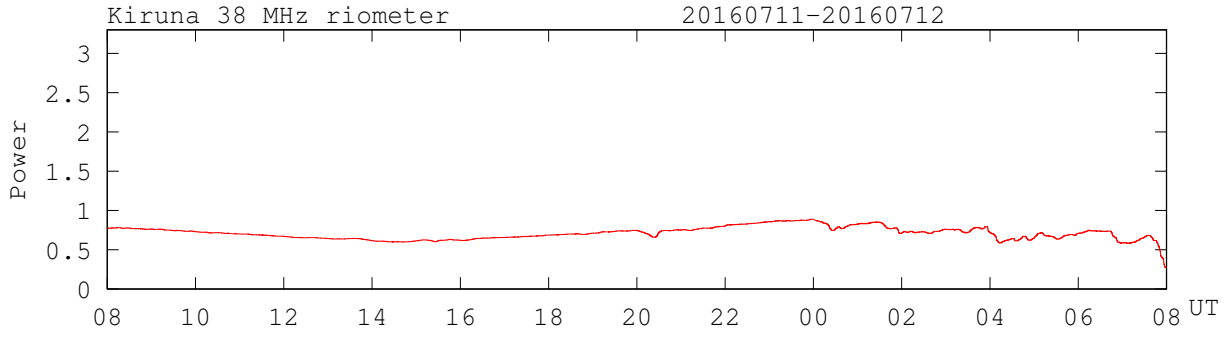

Kiruna 38 MHz riometer
20160706-20160707
Power
0
0.5
1
1.5
2
2.5
3
08
10
12
14
16
18
20
22
00
02
04
06
08
UT

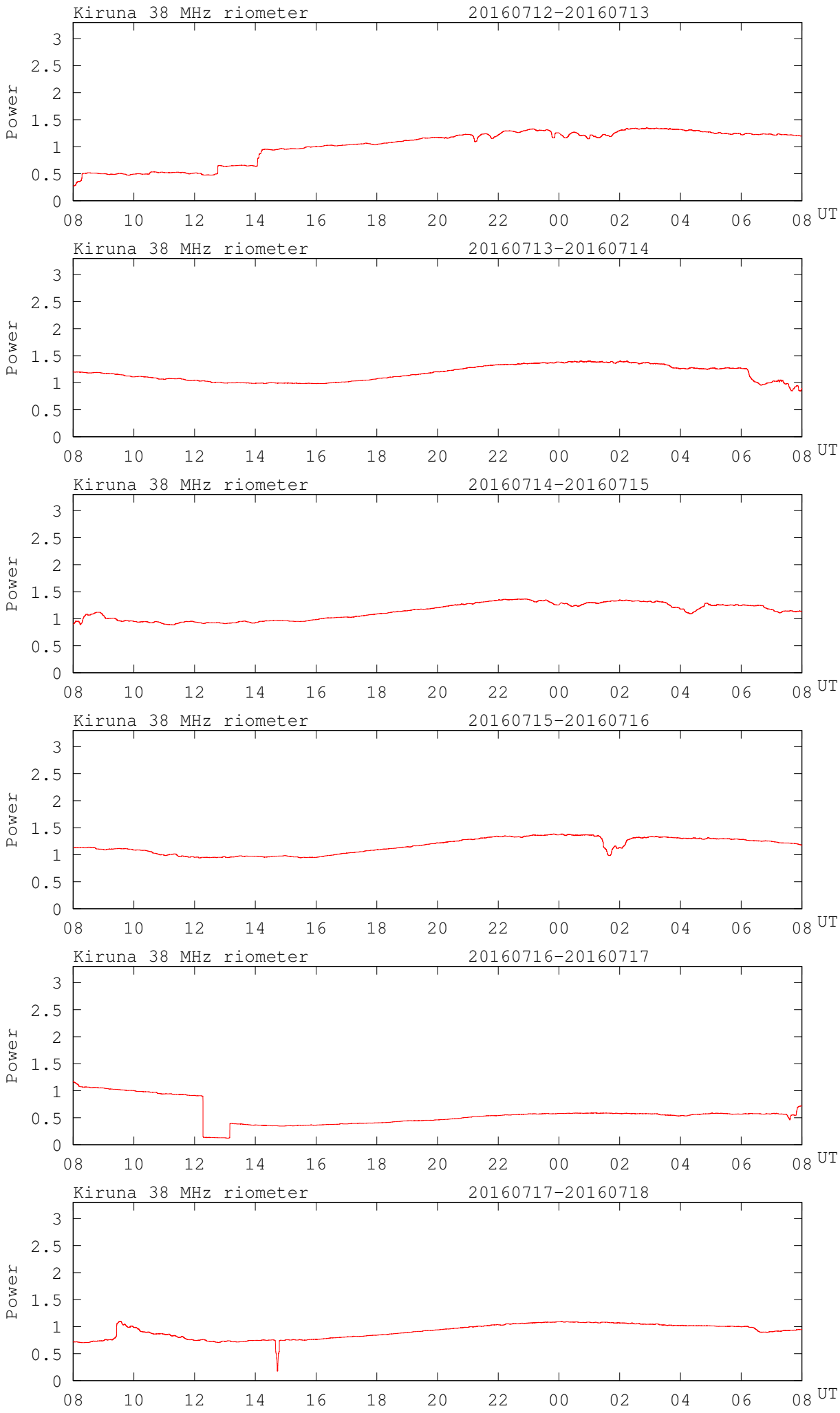

Kiruna 38 MHz riometer
20160707-20160708
Power
0
0.5
1
1.5
2
2.5
3
08
10
12
14
16
18
20
22
00
02
04
06
08
UT

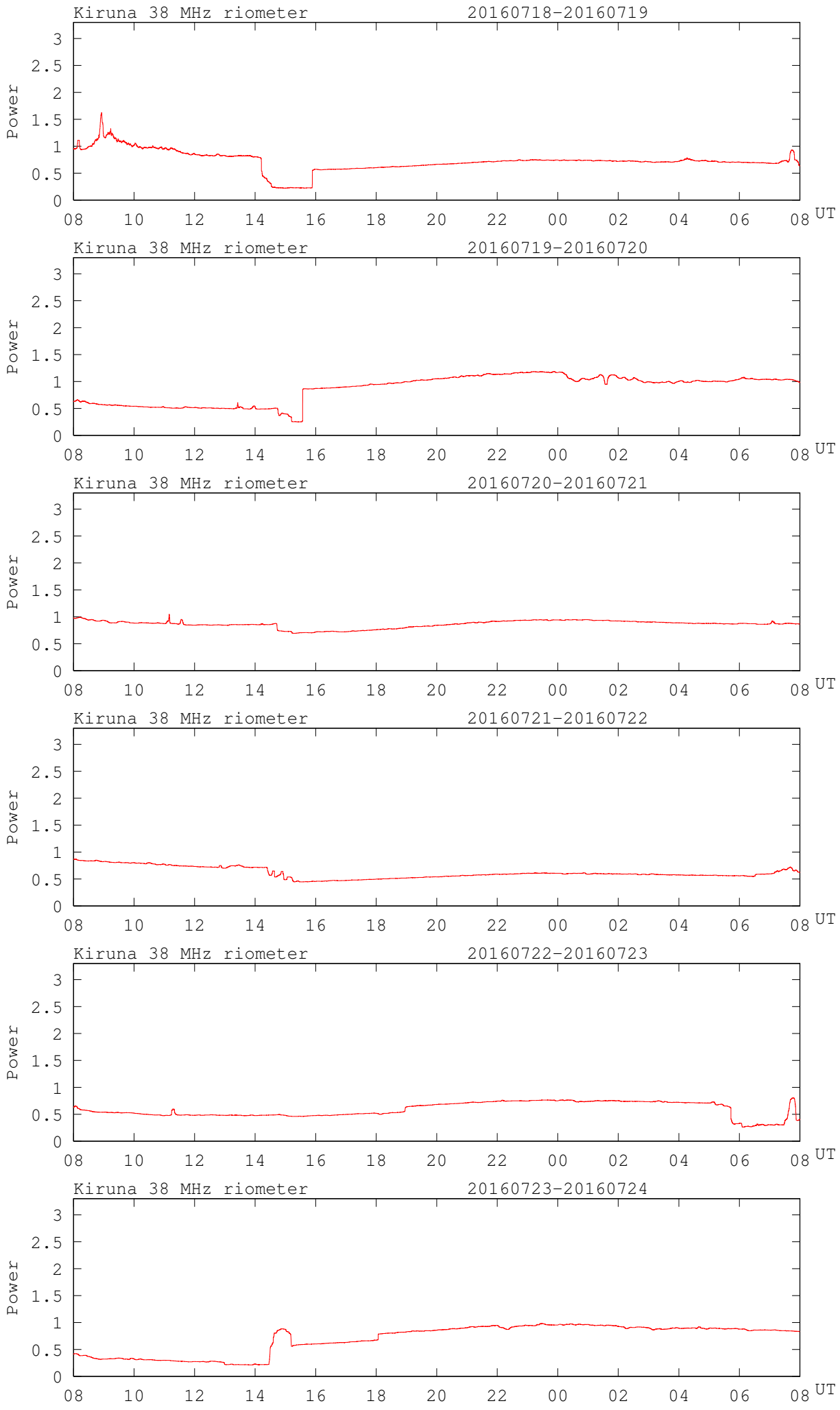

Kiruna 38 MHz riometer
20160708-20160709
Power
0
0.5
1
1.5
2
2.5
3
08
10
12
14
16
18
20
22
00
02
04
06
08
UT

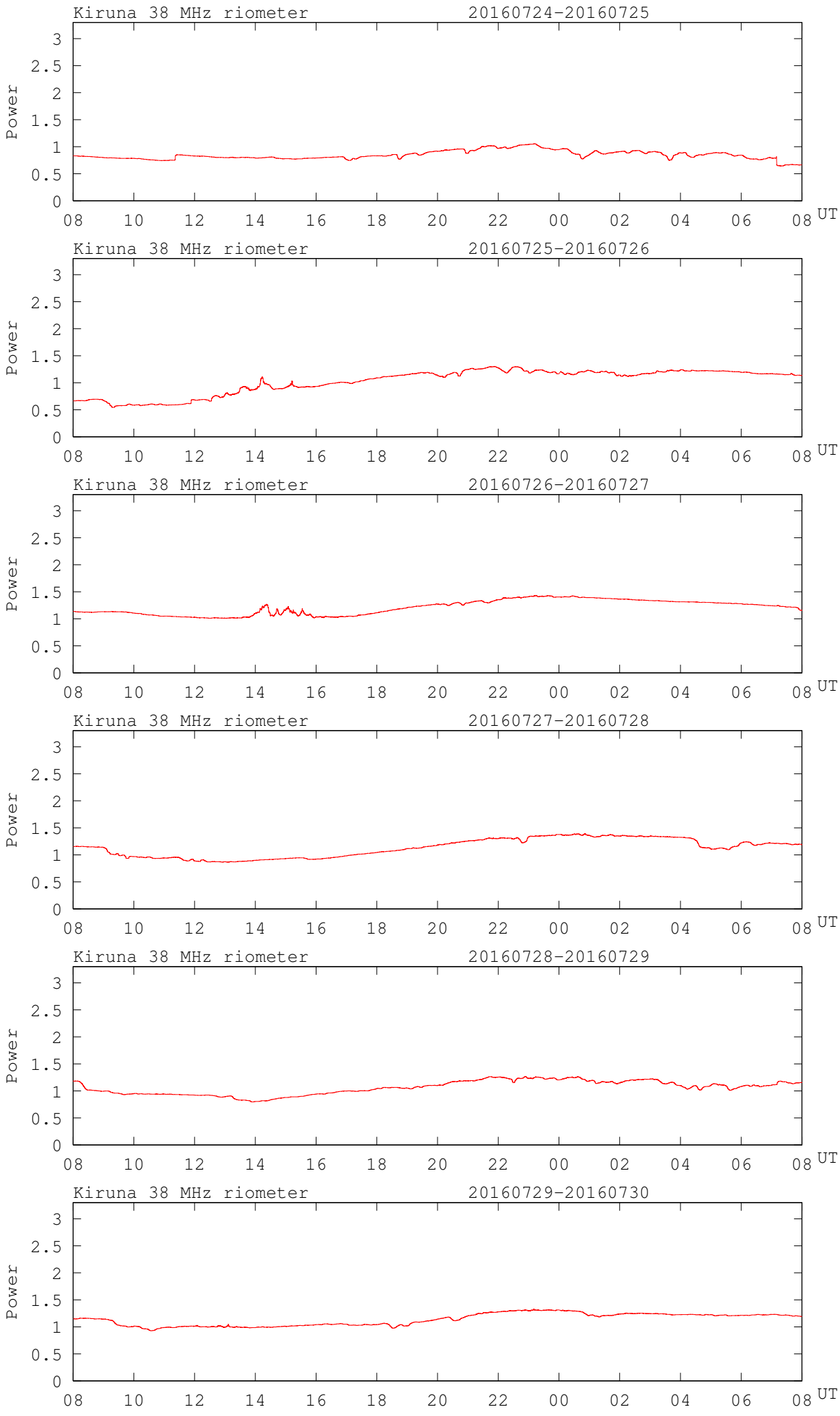

Kiruna 38 MHz riometer
20160709-20160710
Power
0
0.5
1
1.5
2
2.5
3
08
10
12
14
16
18
20
22
00
02
04
06
08
UT

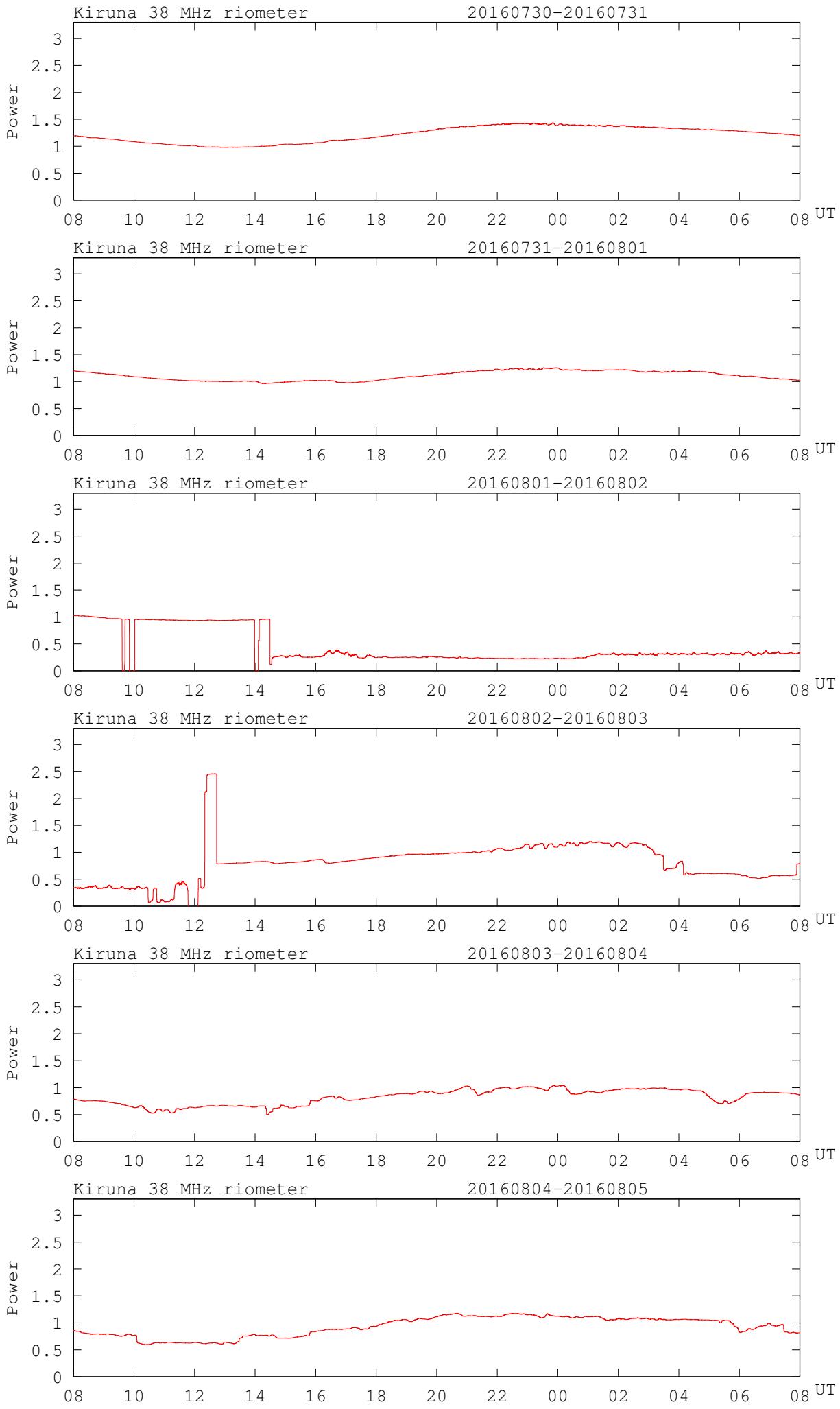

Kiruna 38 MHz riometer
20160710-20160711
Power
0
0.5
1
1.5
2
2.5
3
08
10
12
14
16
18
20
22
00
02
04
06
08
UT

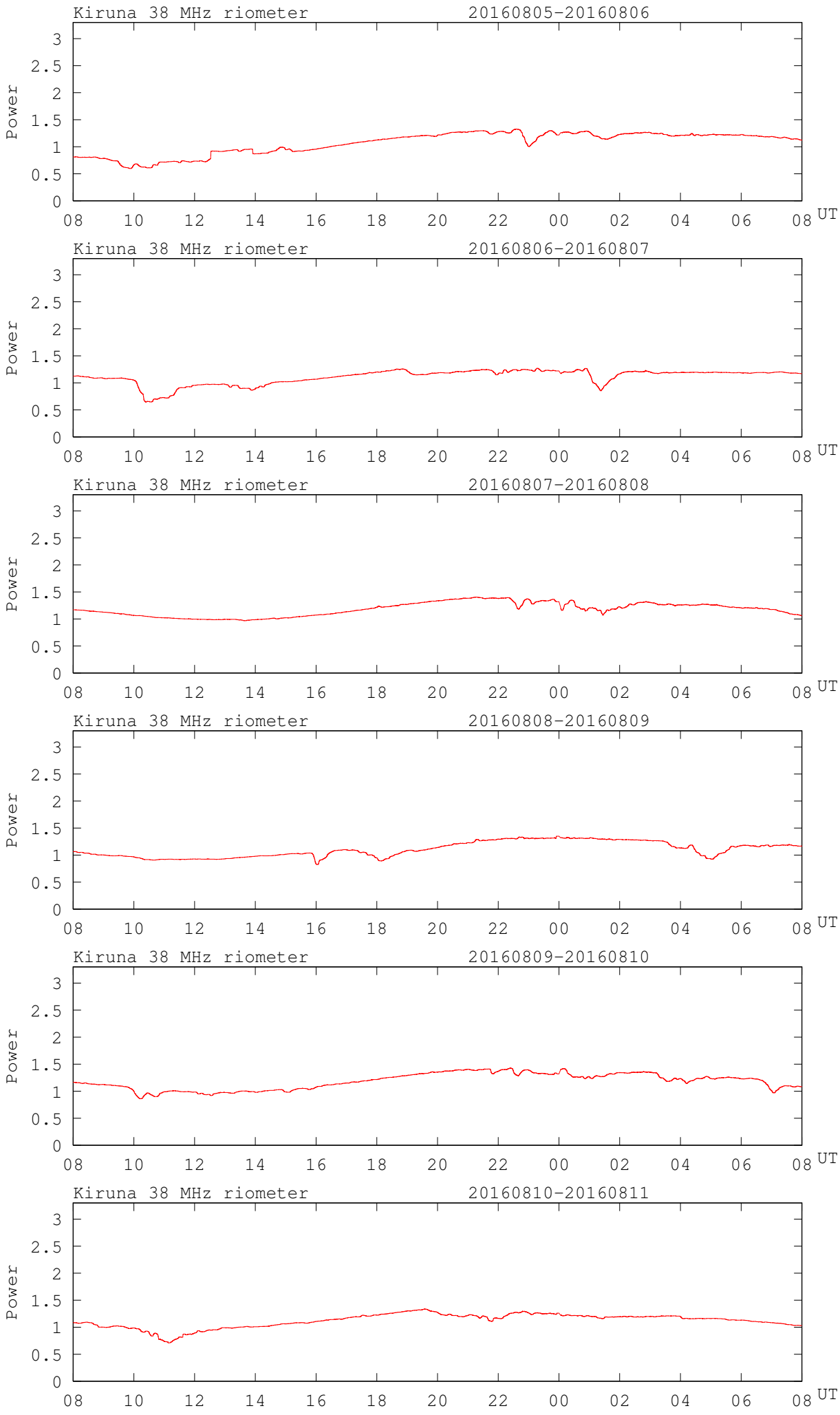

Kiruna 38 MHz riometer
20160711-20160712
Power
0
0.5
1
1.5
2
2.5
3
08
10
12
14
16
18
20
22
00
02
04
06
08
UT

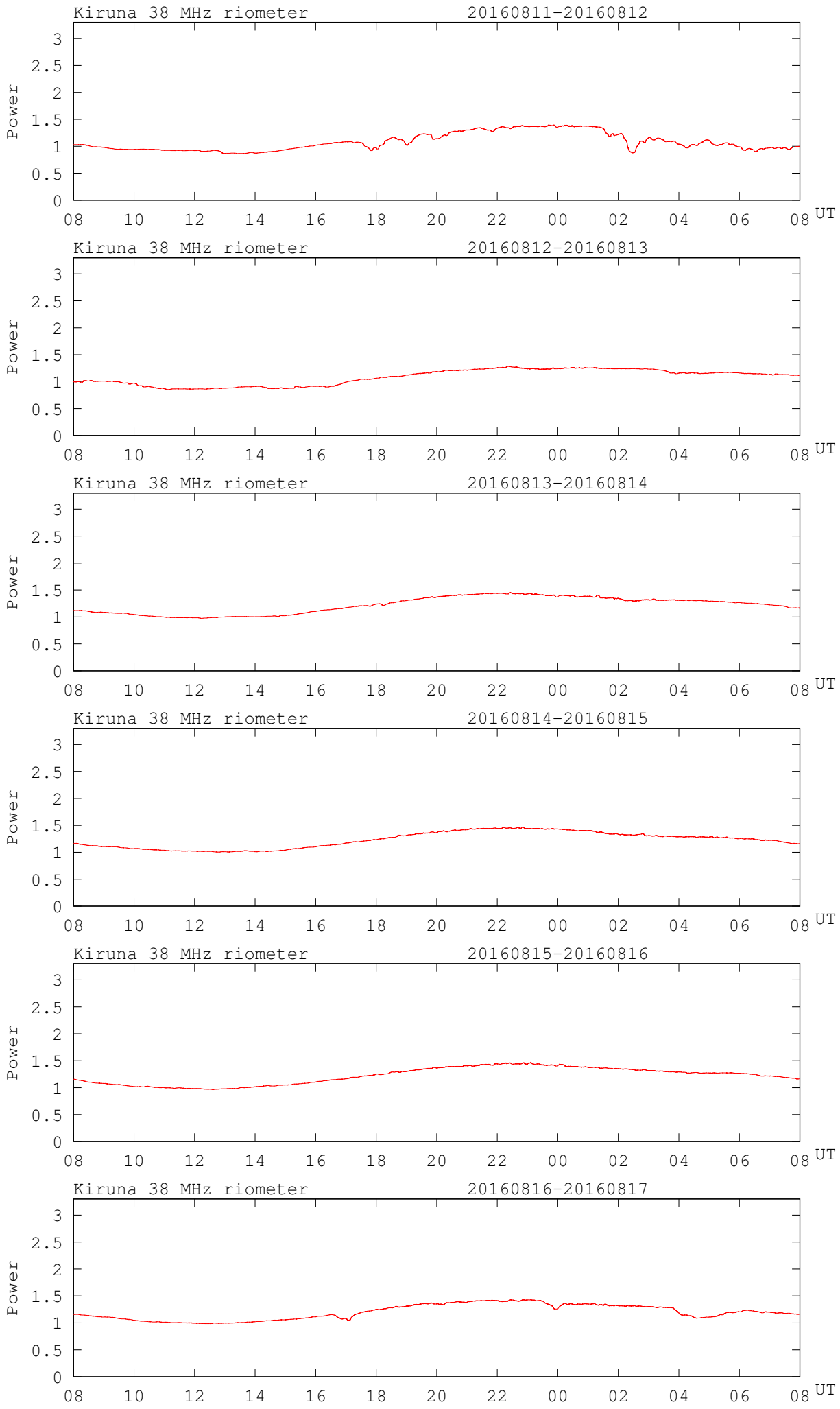

Kiruna 38 MHz riometer 20160712-20160713
Kiruna 38 MHz riometer 20160713-20160714
Kiruna 38 MHz riometer 20160714-20160715
Kiruna 38 MHz riometer 20160715-20160716
Kiruna 38 MHz riometer 20160716-20160717
Kiruna 38 MHz riometer 20160717-20160718
Power
0
0.5
1
1.5
2
2.5
3
08
10
12
14
16
18
20
22
00
02
04
06
08
UT

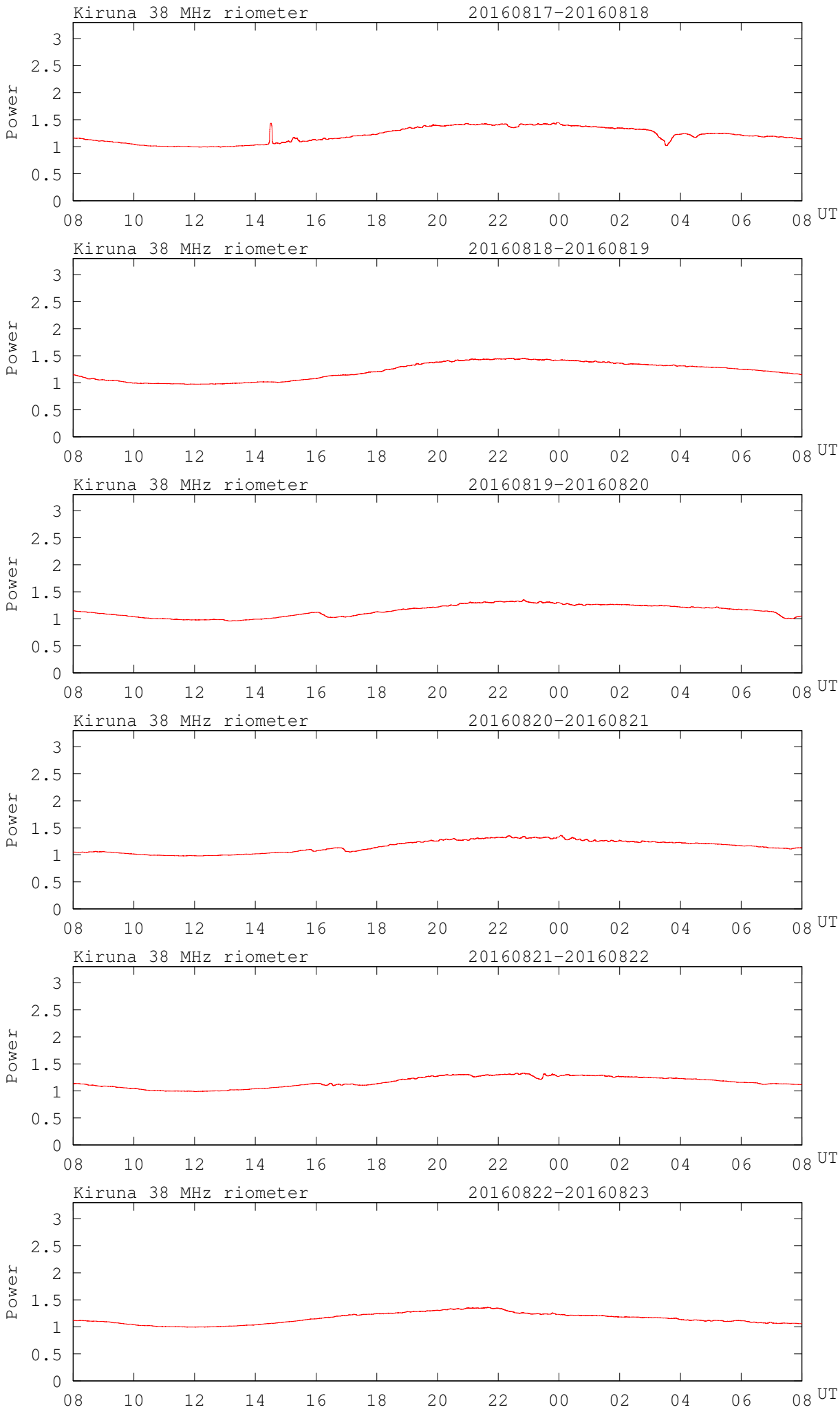

Kiruna 38 MHz riometer 20160718-20160719
Kiruna 38 MHz riometer 20160719-20160720
Kiruna 38 MHz riometer 20160720-20160721
Kiruna 38 MHz riometer 20160721-20160722
Kiruna 38 MHz riometer 20160722-20160723
Kiruna 38 MHz riometer 20160723-20160724
Power
0
0.5
1
1.5
2
2.5
3
08 10 12 14 16 18 20 22 00 02 04 06 08
UT

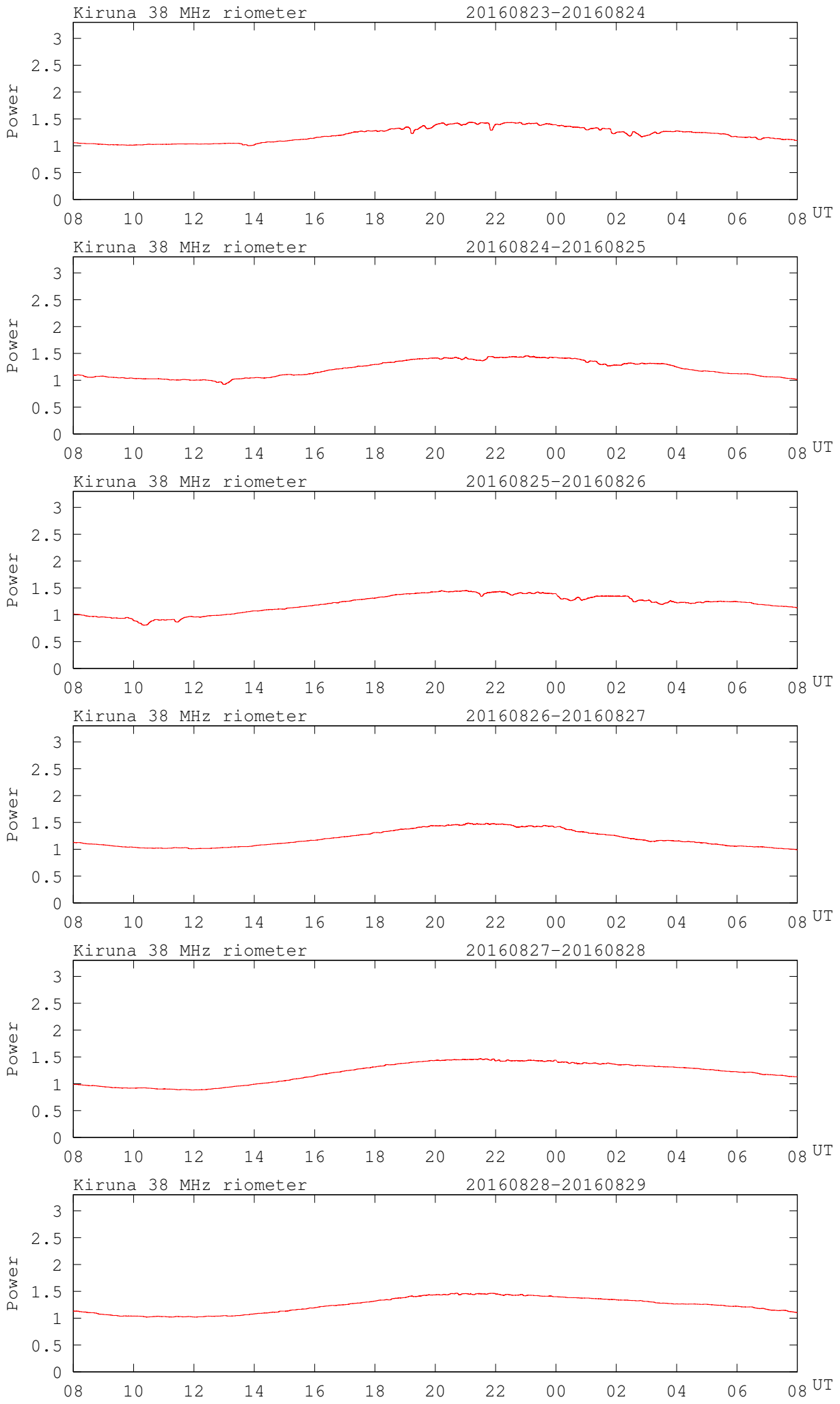

Kiruna 38 MHz riometer 20160724-20160725
Kiruna 38 MHz riometer 20160725-20160726
Kiruna 38 MHz riometer 20160726-20160727
Kiruna 38 MHz riometer 20160727-20160728
Kiruna 38 MHz riometer 20160728-20160729
Kiruna 38 MHz riometer 20160729-20160730
Power
0
0.5
1
1.5
2
2.5
3
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

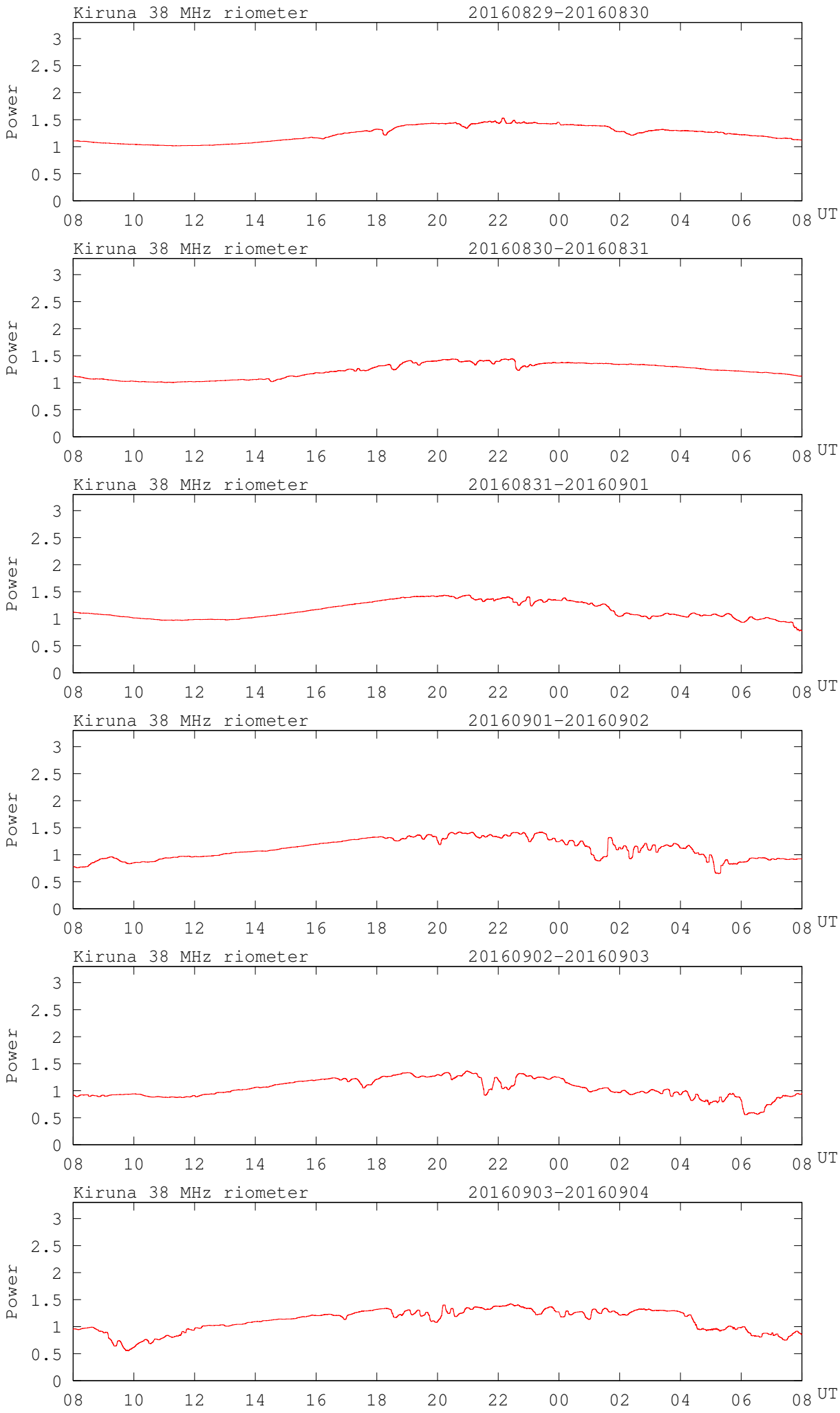

Kiruna 38 MHz riometer 20160730-20160731
Kiruna 38 MHz riometer 20160731-20160801
Kiruna 38 MHz riometer 20160801-20160802
Kiruna 38 MHz riometer 20160802-20160803
Kiruna 38 MHz riometer 20160803-20160804
Kiruna 38 MHz riometer 20160804-20160805
Power
0
0.5
1
1.5
2
2.5
3
08
10
12
14
16
18
20
22
00
02
04
06
08
UT

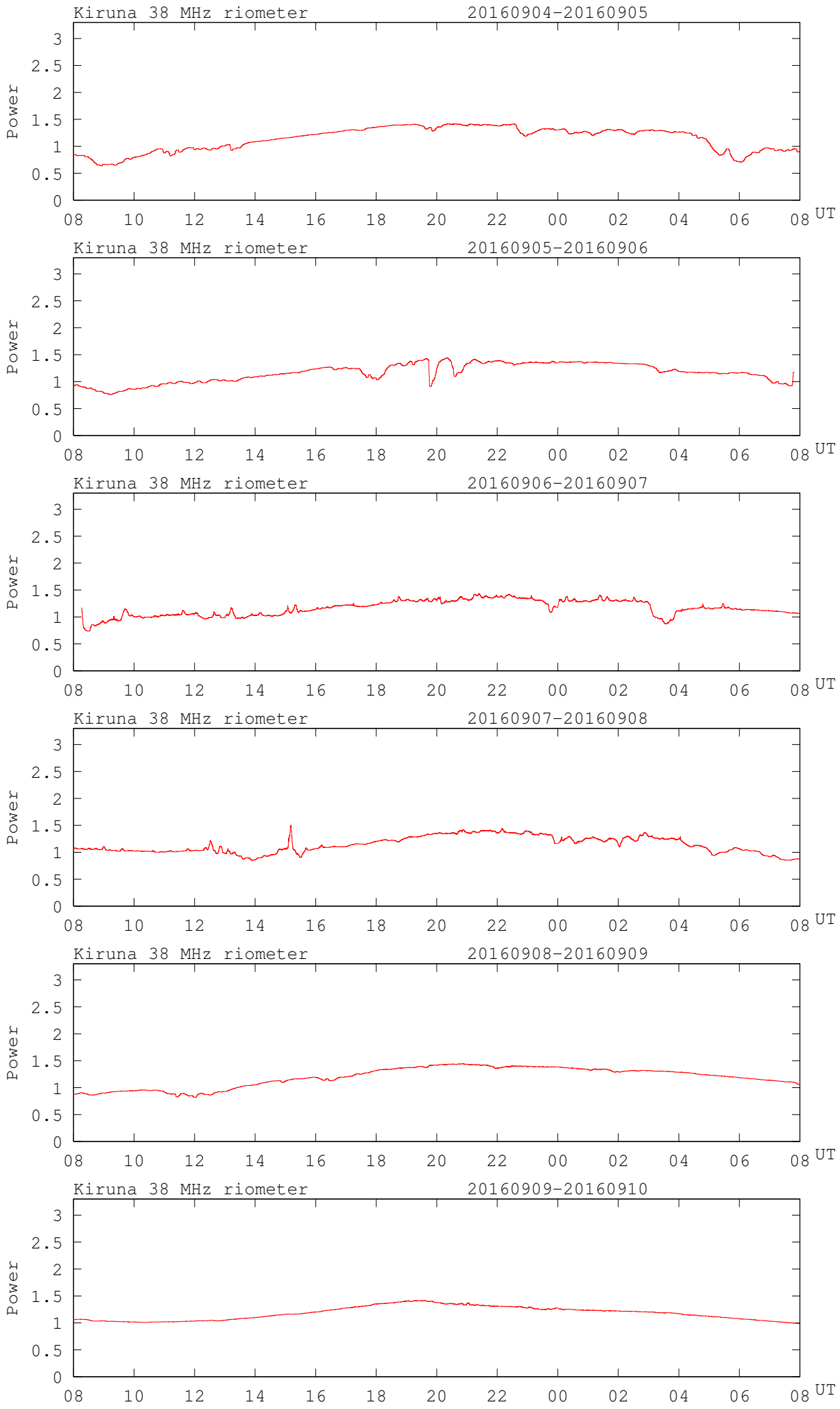

Kiruna 38 MHz riometer 20160805-20160806
Kiruna 38 MHz riometer 20160806-20160807
Kiruna 38 MHz riometer 20160807-20160808
Kiruna 38 MHz riometer 20160808-20160809
Kiruna 38 MHz riometer 20160809-20160810
Kiruna 38 MHz riometer 20160810-20160811
Power
0
0.5
1
1.5
2
2.5
3
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

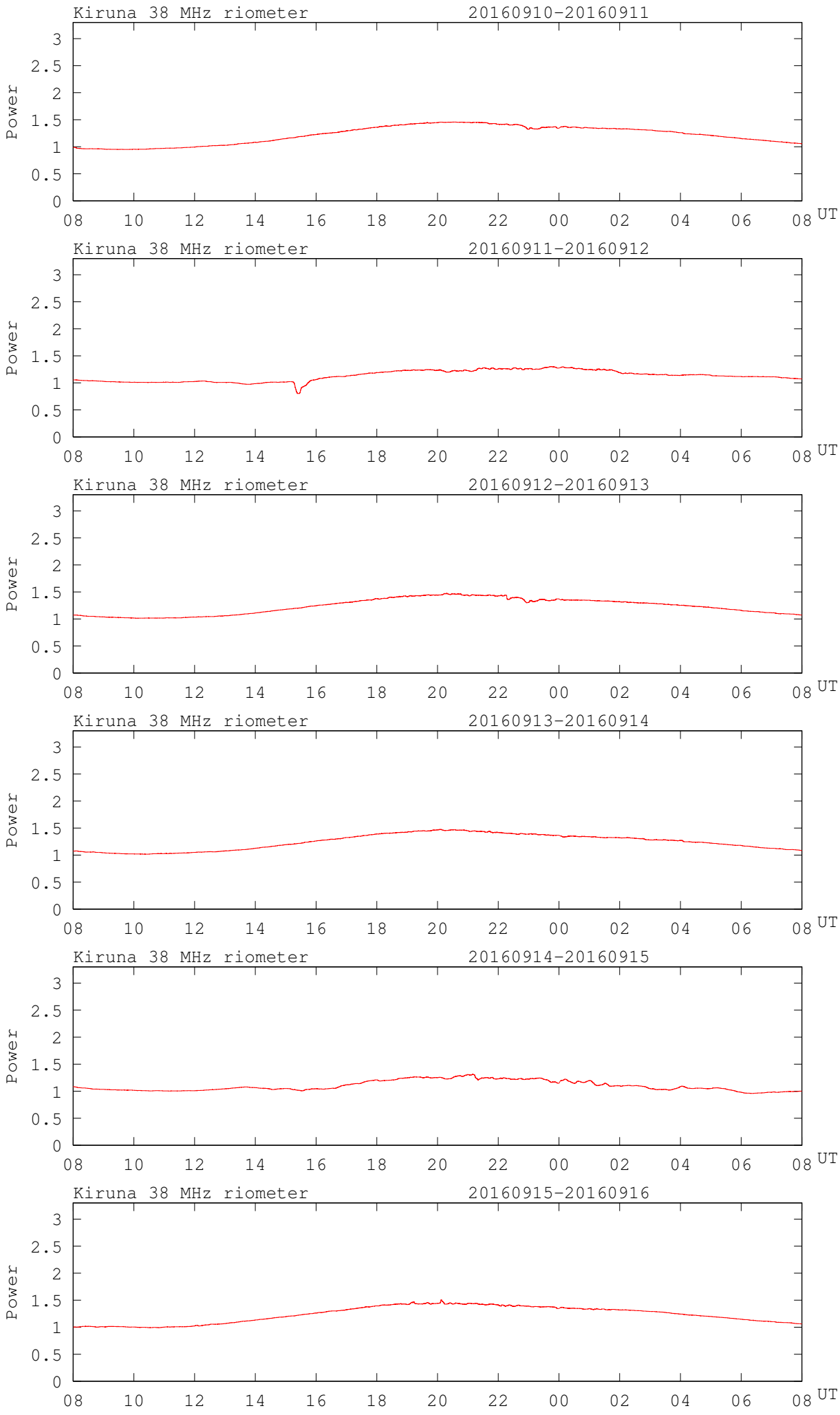

Kiruna 38 MHz riometer 20160811-20160812
Kiruna 38 MHz riometer 20160812-20160813
Kiruna 38 MHz riometer 20160813-20160814
Kiruna 38 MHz riometer 20160814-20160815
Kiruna 38 MHz riometer 20160815-20160816
Kiruna 38 MHz riometer 20160816-20160817
Power
0
0.5
1
1.5
2
2.5
3
08 10 12 14 16 18 20 22 00 02 04 06 08
UT

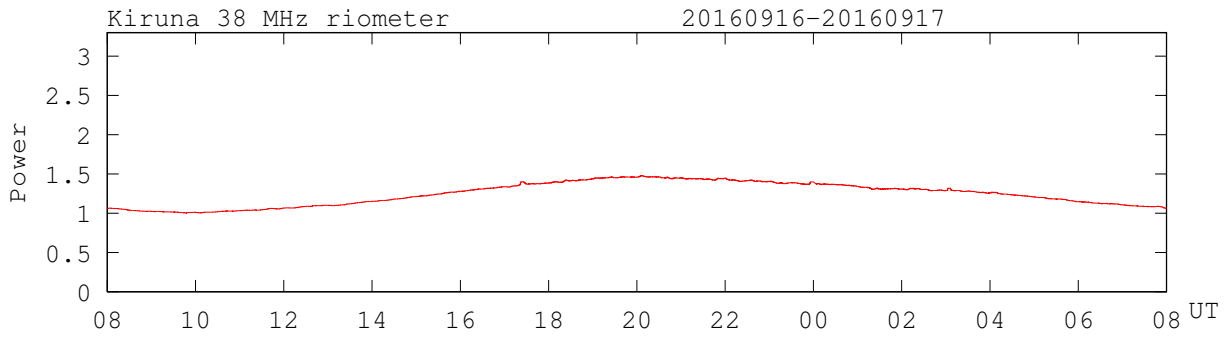

Kiruna 38 MHz riometer 20160817-20160818
Kiruna 38 MHz riometer 20160818-20160819
Kiruna 38 MHz riometer 20160819-20160820
Kiruna 38 MHz riometer 20160820-20160821
Kiruna 38 MHz riometer 20160821-20160822
Kiruna 38 MHz riometer 20160822-20160823
Power
0
0.5
1
1.5
2
2.5
3
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

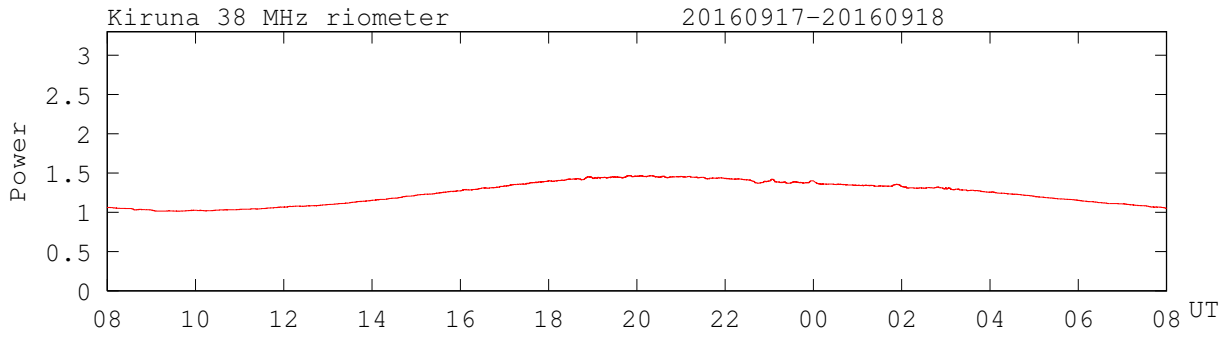

Kiruna 38 MHz riometer 20160823-20160824
Kiruna 38 MHz riometer 20160824-20160825
Kiruna 38 MHz riometer 20160825-20160826
Kiruna 38 MHz riometer 20160826-20160827
Kiruna 38 MHz riometer 20160827-20160828
Kiruna 38 MHz riometer 20160828-20160829
Power
0
0.5
1
1.5
2
2.5
3
08 10 12 14 16 18 20 22 00 02 04 06 08
UT

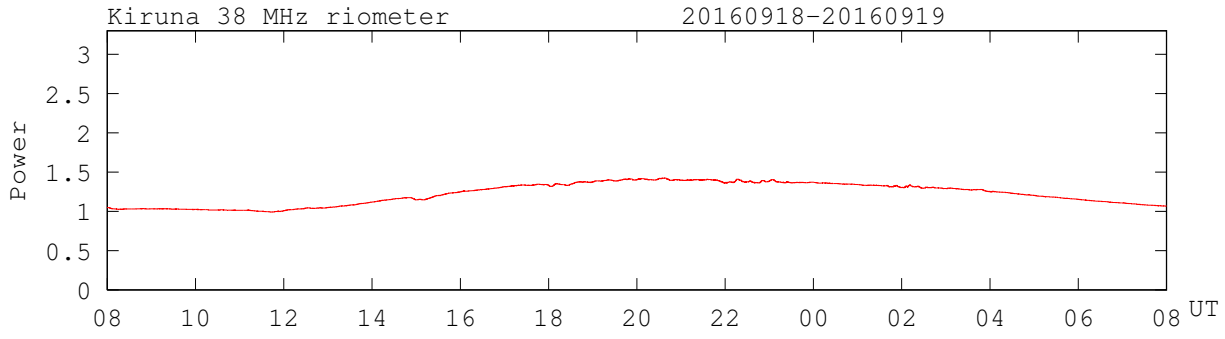

Kiruna 38 MHz riometer 20160829-20160830
Kiruna 38 MHz riometer 20160830-20160831
Kiruna 38 MHz riometer 20160831-20160901
Kiruna 38 MHz riometer 20160901-20160902
Kiruna 38 MHz riometer 20160902-20160903
Kiruna 38 MHz riometer 20160903-20160904
Power
0
0.5
1
1.5
2
2.5
3
08
10
12
14
16
18
20
22
00
02
04
06
08
UT

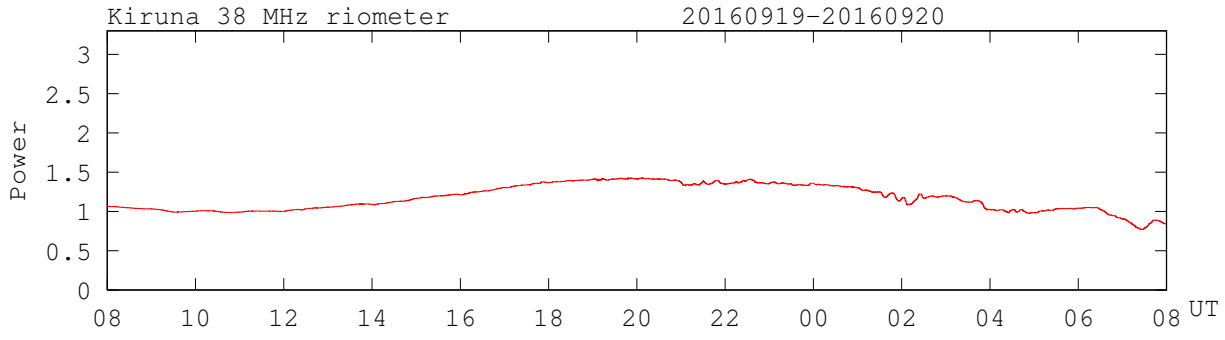

Kiruna 38 MHz riometer 20160904-20160905
Kiruna 38 MHz riometer 20160905-20160906
Kiruna 38 MHz riometer 20160906-20160907
Kiruna 38 MHz riometer 20160907-20160908
Kiruna 38 MHz riometer 20160908-20160909
Kiruna 38 MHz riometer 20160909-20160910
Power
0
0.5
1
1.5
2
2.5
3
08 10 12 14 16 18 20 22 00 02 04 06 08
UT

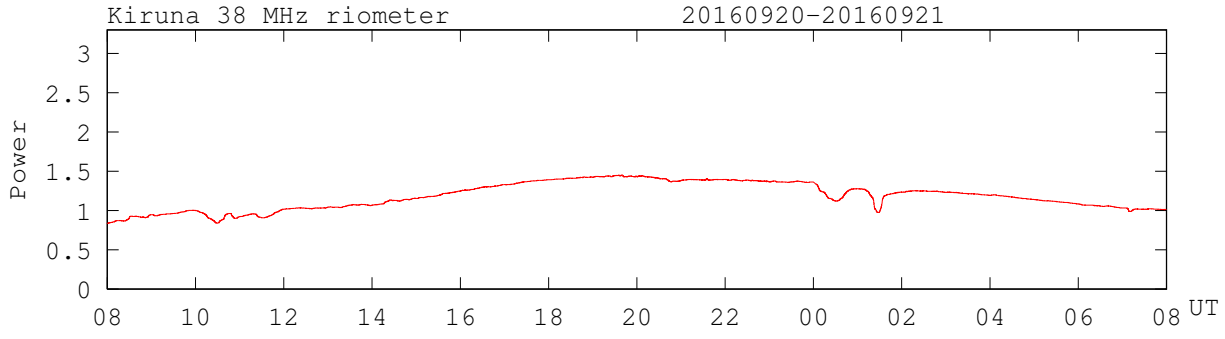

Kiruna 38 MHz riometer 20160910-20160911
Kiruna 38 MHz riometer 20160911-20160912
Kiruna 38 MHz riometer 20160912-20160913
Kiruna 38 MHz riometer 20160913-20160914
Kiruna 38 MHz riometer 20160914-20160915
Kiruna 38 MHz riometer 20160915-20160916
Power
0
0.5
1
1.5
2
2.5
3
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

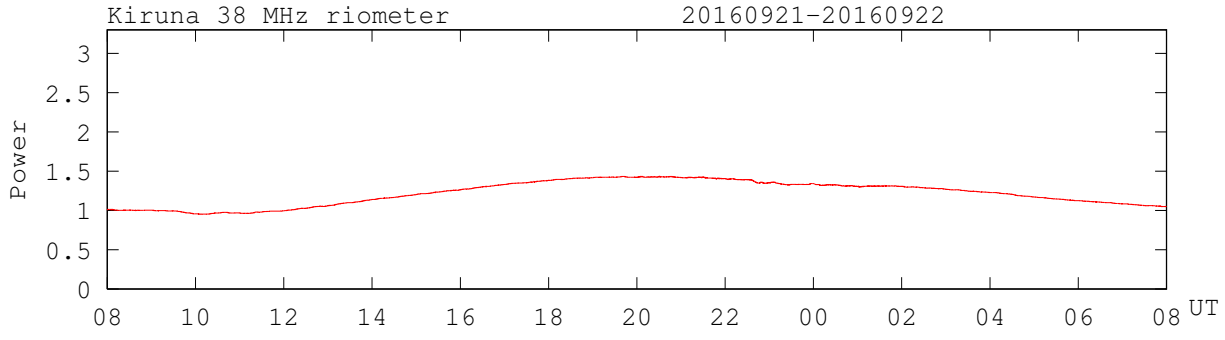

Kiruna 38 MHz riometer
20160916-20160917
Power
0
0.5
1
1.5
2
2.5
3
08
10
12
14
16
18
20
22
00
02
04
06
08
UT

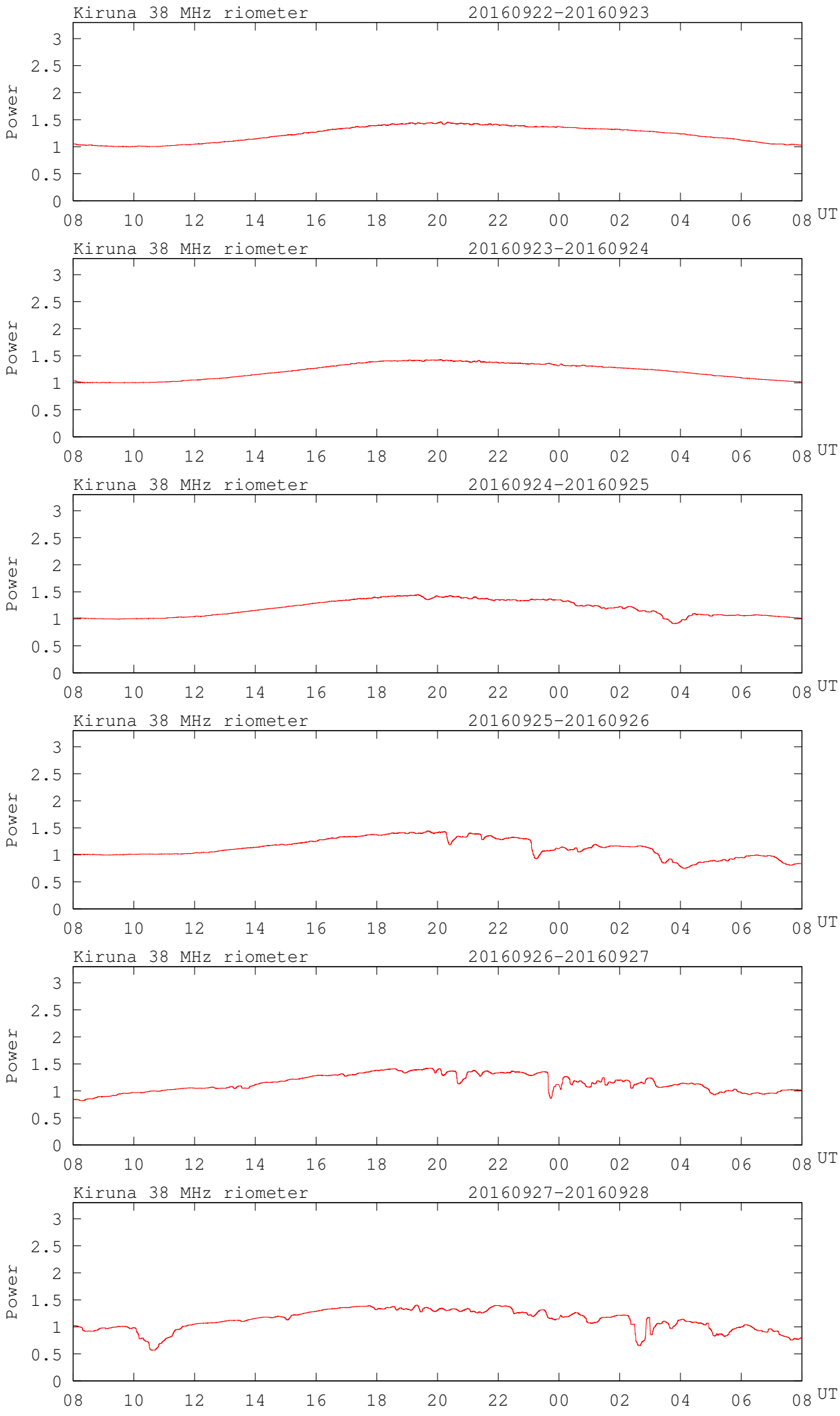

Kiruna 38 MHz riometer
20160917-20160918
Power
0
0.5
1
1.5
2
2.5
3
08
10
12
14
16
18
20
22
00
02
04
06
08
UT

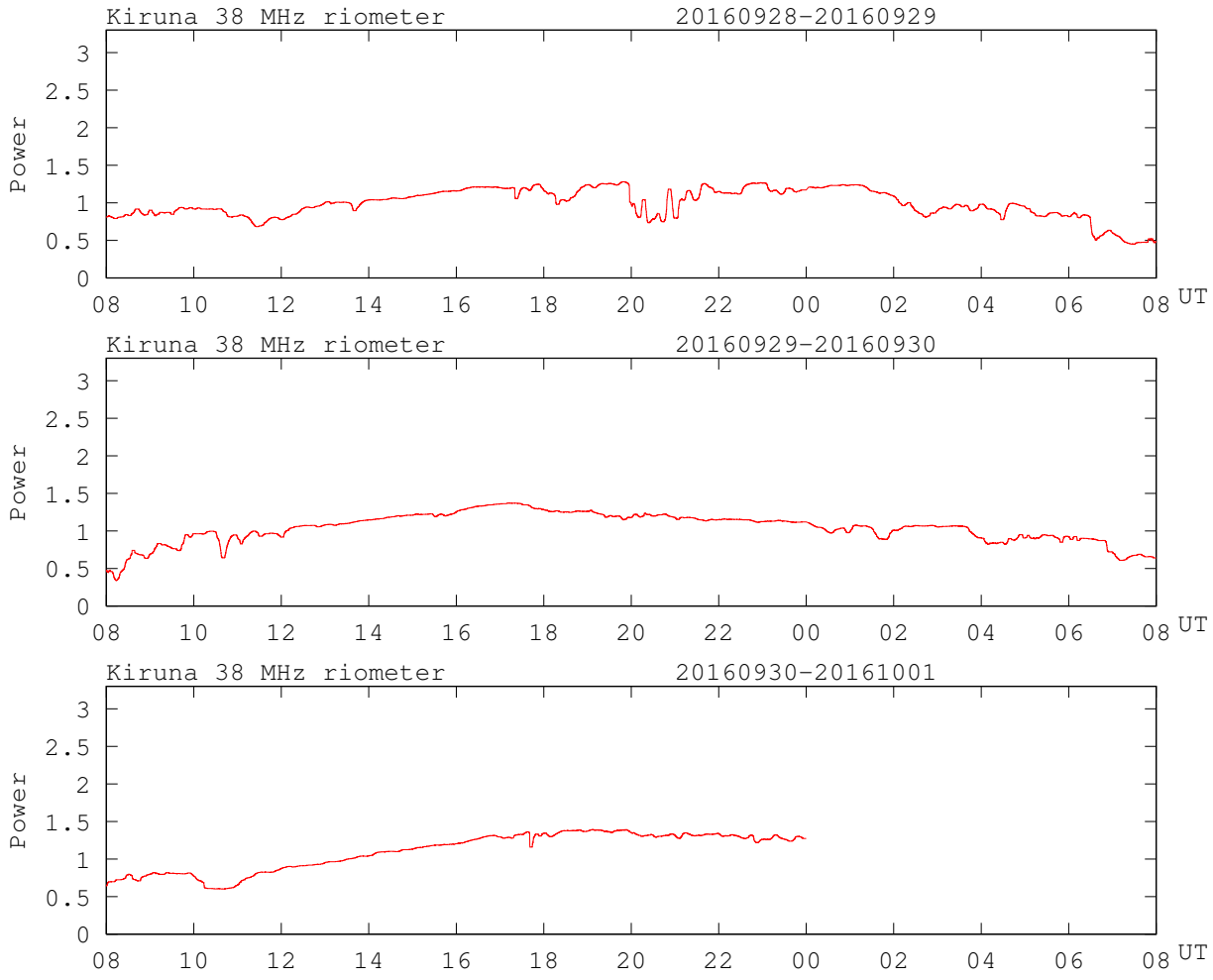

Kiruna 38 MHz riometer
20160918-20160919
Power
0
0.5
1
1.5
2
2.5
3
08
10
12
14
16
18
20
22
00
02
04
06
08
UT


Kiruna 38 MHz riometer
20160919-20160920
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
20160920-20160921
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
20160921-20160922
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 20160922-20160923
Kiruna 38 MHz riometer 20160923-20160924
Kiruna 38 MHz riometer 20160924-20160925
Kiruna 38 MHz riometer 20160925-20160926
Kiruna 38 MHz riometer 20160926-20160927
Kiruna 38 MHz riometer 20160927-20160928
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
20160928-20160929
Power
UT
Kiruna 38 MHz riometer
20160929-20160930
Power
UT
Kiruna 38 MHz riometer
20160930-20161001
Power
UT



Institutet för rymdfysik

Swedish Institute of Space Physics

Swedish Institute of Space Physics
Box 812, SE- 981 28 Kiruna, SWEDEN
tel. +46-980-790 00, fax +46-980-790 50, e-post: irf@irf.se

www.irf.se