

KIRUNA GEOPHYSICAL DATA

DATA SUMMARY 08/07-09
JULY-SEPTEMBER 2008



Collected at
SWEDISH INSTITUTE OF SPACE PHYSICS
KIRUNA, SWEDEN

Kiruna Geophysical Data

Data Summary 08/07-09
July – September 2008

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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

The Ionospheric Observatory at Lycksele (64.7°N, 18.8°E) is also operated by the Swedish Institute of Space Physics. Magnetometer, riometer, and ionosonde measurements are conducted there.

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 ingrid.sandahl@irf.se or 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 2008

Lower limit of K=9 is 1500 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	1	3	2	0	1	11
2	2	0	1	1	1	1	1	1	8
3	1	1	1	2	2	2	0	1	10
4	1	0	1	2	2	1	0	1	8
5	1	1	2	2	3	1	2	4	16
6	2	1	1	2	2	2	2	1	13
7	1	1	1	1	0	1	0	2	7
8	1	1	1	2	1	2	0	2	10
9	0	1	1	2	2	1	1	2	10
10	0	0	1	2	2	2	1	3	11
11	3	1	2	2	3	1	1	2	15
12	3	5	4	4	3	2	3	3	27
13	3	3	3	3	3	4	5	5	29
14	3	2	3	3	3	4	2	5	25
15	5	2	2	2	2	2	1	3	19
16	3	2	2	2	2	2	4	4	21
17	4	2	1	2	1	2	1	1	14
18	1	1	1	1	1	2	0	1	8
19	1	1	1	1	1	1	0	1	7
20	1	1	2	1	2	2	1	1	11
21	2	1	2	2	3	2	1	2	15
22	1	1	1	3	4	4	5	6	25
23	5	4	2	3	5	4	5	6	34
24	7	2	3	2	2	1	2	2	21
25	1	1	1	2	1	2	0	1	9
26	1	1	1	3	3	1	2	1	13
27	0	0	1	2	2	2	2	5	14
28	3	2	2	2	2	1	1	1	14
29	0	1	1	1	1	1	1	2	8
30	2	2	2	1	0	1	2	1	11
31	0	0	0	2	2	2	1	1	8
Sum	60	42	48	61	64	58	47	72	

GEOMAGNETIC K-INDICES, KIRUNA

August 2008

Lower limit of K=9 is 1500 nT

Time in UT

Day	00 - 03	03 - 06	06 - 09	09 - 12	12 - 15	15 - 18	18 - 21	21 - 24	Sum
1	1	1	2	1	2	2	2	2	13
2	1	0	1	2	2	1	1	1	9
3	2	1	2	1	1	3	2	2	14
4	2	1	2	2	1	2	1	1	12
5	1	1	1	2	1	1	0	0	7
6	1	1	2	2	2	2	1	3	14
7	2	1	2	1	1	1	1	2	11
8	1	1	2	1	1	2	0	1	9
9	2	3	2	2	3	5	6	6	29
10	6	4	4	2	3	4	4	4	31
11	4	2	2	2	3	1	1	3	18
12	2	3	2	2	3	2	1	2	17
13	4	2	2	2	1	1	1	1	14
14	3	4	2	2	2	2	1	1	17
15	3	1	1	1	1	1	0	0	8
16	1	1	2	1	1	2	2	5	15
17	4	2	2	2	3	2	2	2	19
18	4	3	3	4	5	4	5	4	32
19	5	3	2	2	3	3	3	2	23
20	3	3	2	2	2	2	0	0	14
21	1	1	2	2	2	1	1	1	11
22	2	1	1	1	2	1	1	2	11
23	1	1	2	1	2	1	1	2	11
24	1	1	2	1	1	1	0	1	8
25	1	1	2	1	0	1	0	1	7
26	1	1	2	1	1	2	1	1	10
27	2	2	2	1	1	0	0	0	8
28	1	1	2	1	1	1	2	1	10
29	1	1	2	1	1	1	1	0	8
30	1	1	2	1	1	1	0	0	7
31	1	1	2	1	2	1	2	1	11
Sum	65	50	61	48	55	54	43	52	

GEOMAGNETIC K-INDICES, KIRUNA

September 2008

Lower limit of K=9 is 1500 nT

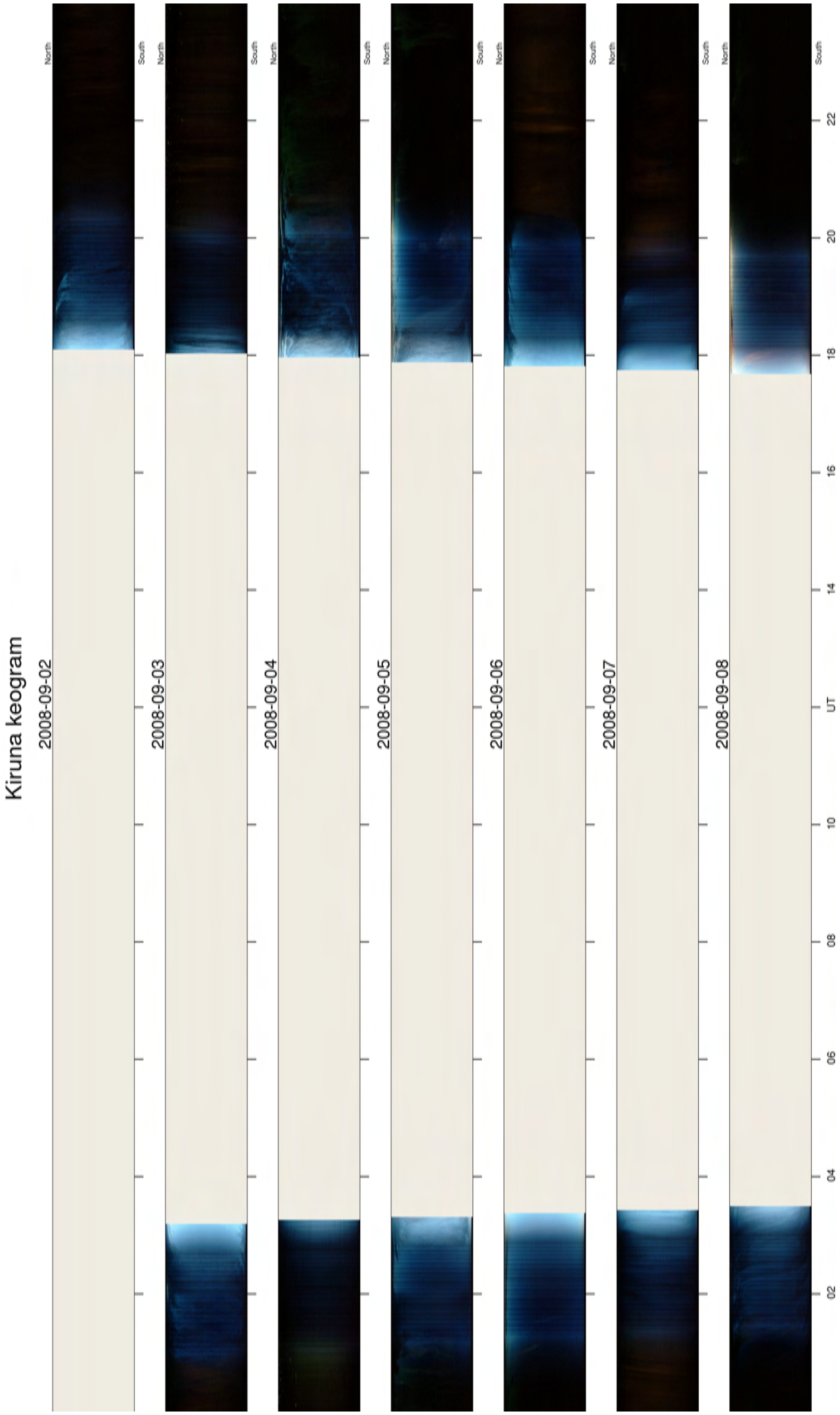
Time in UT

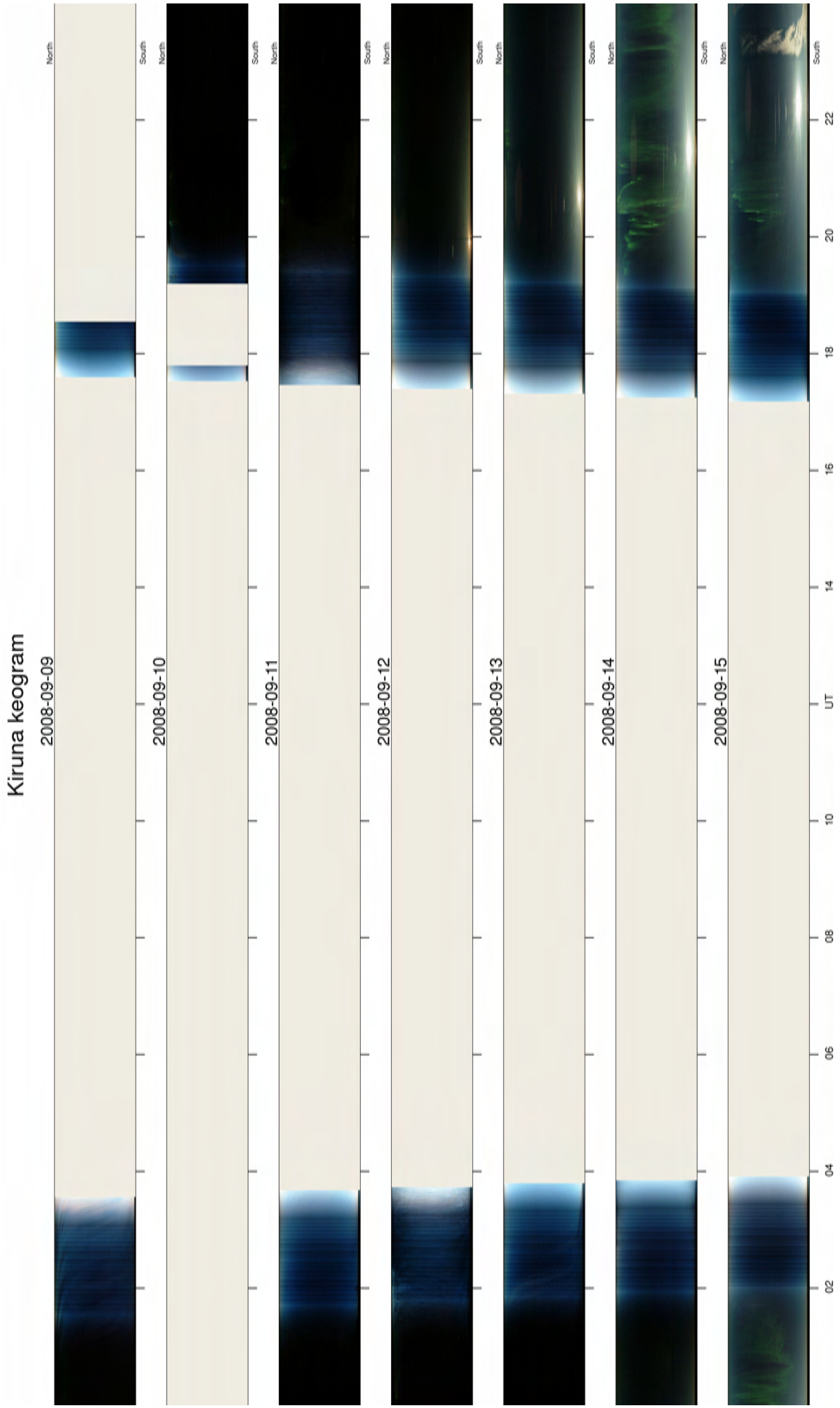
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1	1	1	1	1	1	1	2	1	9
2	1	1	2	2	2	0	0	1	9
3	1	1	2	2	2	3	2	4	17
4	7	7	3	3	4	5	5	4	38
5	4	3	2	3	3	2	3	5	25
6	4	2	2	2	3	2	4	3	22
7	5	3	2	2	3	2	5	1	23
8	1	2	3	3	2	3	5	4	23
9	2	2	2	1	1	0	0	5	13
10	2	1	2	1	1	1	2	2	12
11	1	1	1	0	0	1	1	3	8
12	1	1	1	0	1	0	0	1	5
13	0	1	1	1	0	1	0	1	5
14	0	1	1	1	1	1	6	5	16
15	5	2	3	4	4	4	6	6	34
16	1	2	2	3	2	3	3	3	19
17	3	2	1	0	0	0	0	0	6
18	0	0	0	0	0	1	2	2	5
19	1	1	1	1	2	2	4	3	15
20	2	3	1	1	1	1	0	1	10
21	1	1	2	1	1	0	2	4	12
22	5	2	2	1	1	1	0	1	13
23	2	1	2	1	1	1	1	2	11
24	1	2	2	1	1	0	0	1	8
25	1	1	2	1	1	1	4	4	15
26	2	2	2	1	1	1	0	1	10
27	1	2	2	1	1	1	3	2	13
28	1	1	2	2	2	1	0	1	10
29	0	2	2	1	1	1	0	1	8
30	1	1	2	1	2	2	1	4	14
Sum	57	52	53	42	45	42	61	76	

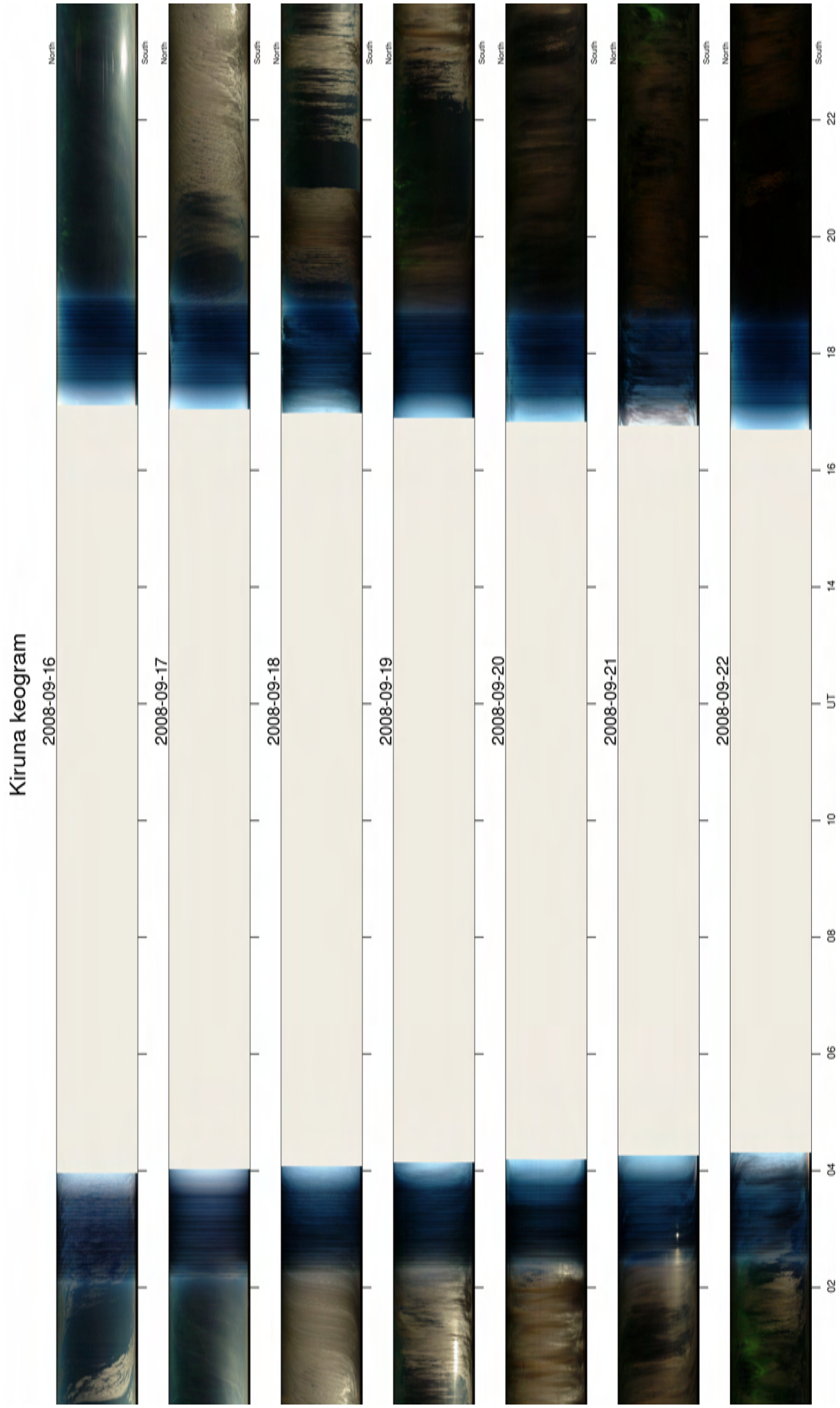
ALL-SKY CAMERA KEOGRAMS

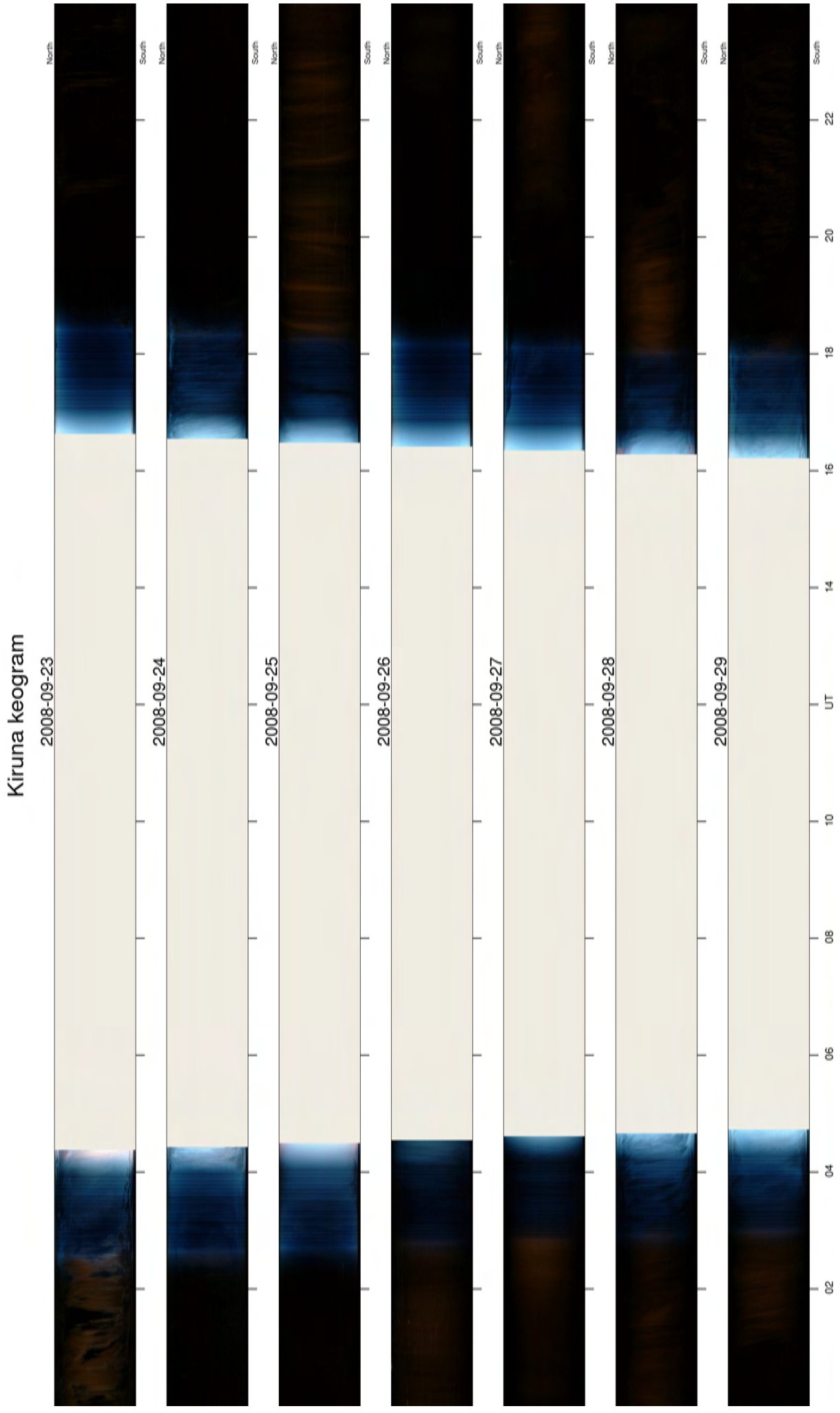
July - September 2008

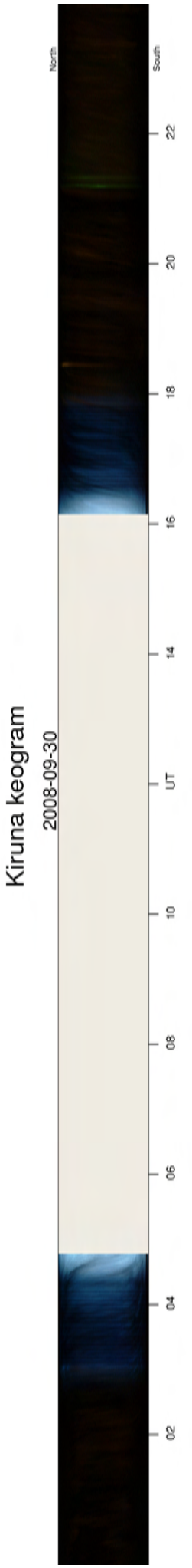
http://www.irf.se/allsky/kgd


Kiruna keogram
2008-09-02
2008-09-03
2008-09-04
2008-09-05
2008-09-06
2008-09-07
2008-09-08
North
South
02
04
06
08
10
12
14
16
18
20
22
UT


Kiruna keogram
2008-09-09
2008-09-10
2008-09-11
2008-09-12
2008-09-13
2008-09-14
2008-09-15
North
South
02
04
06
08
10
12
14
16
18
20
22
UT


Kiruna keogram
2008-09-16
2008-09-17
2008-09-18
2008-09-19
2008-09-20
2008-09-21
2008-09-22
North
South
02
04
06
08
10
12
14
16
18
20
22
UT

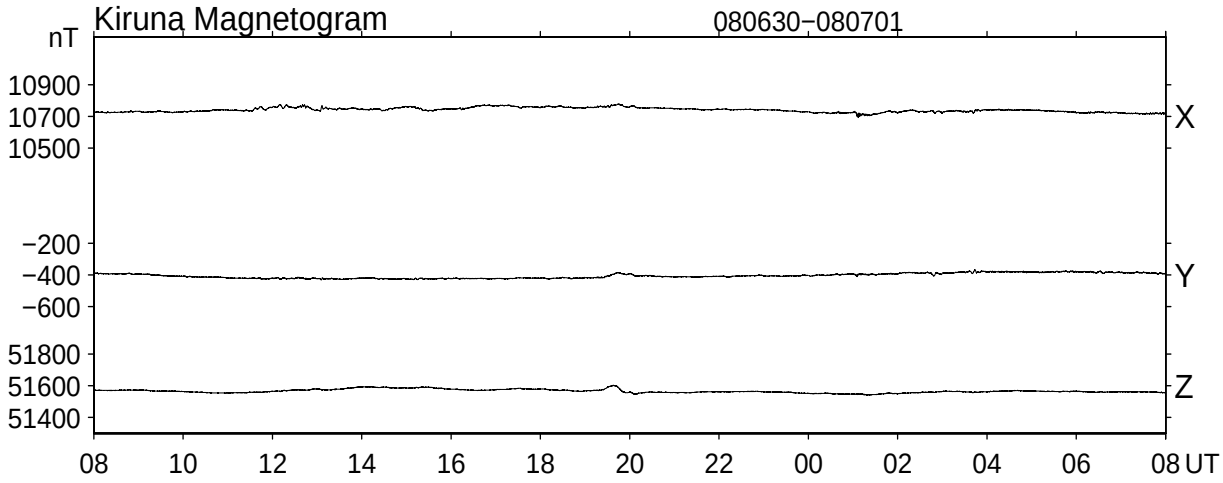

Kiruna keogram
2008-09-23
2008-09-24
2008-09-25
2008-09-26
2008-09-27
2008-09-28
2008-09-29
North
South
02
04
06
08
10
12
14
16
18
20
22
UT

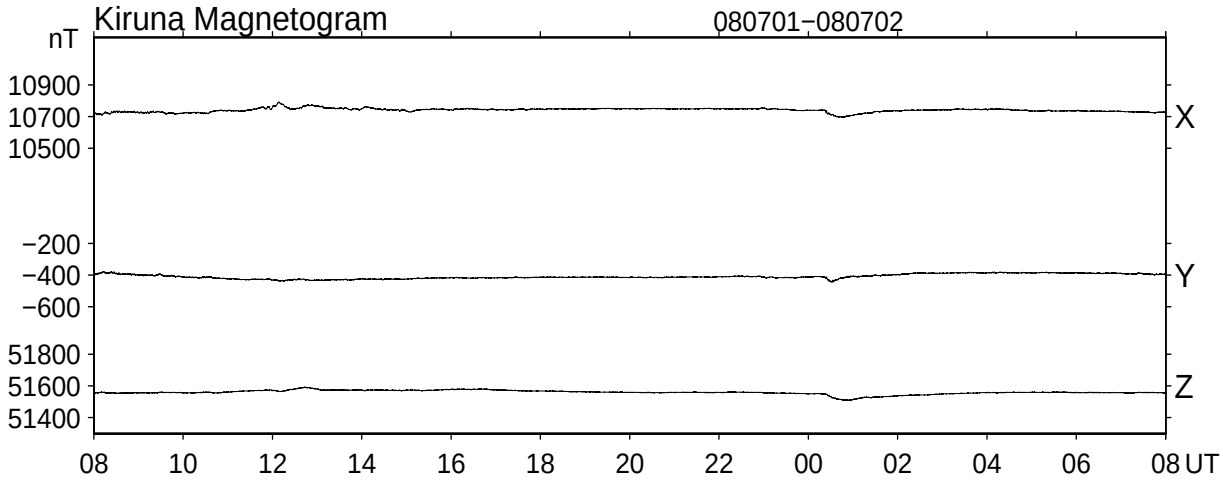

Kiruna keogram
2008-09-30
North
South
02
04
06
08
10
UT
14
16
18
20
22

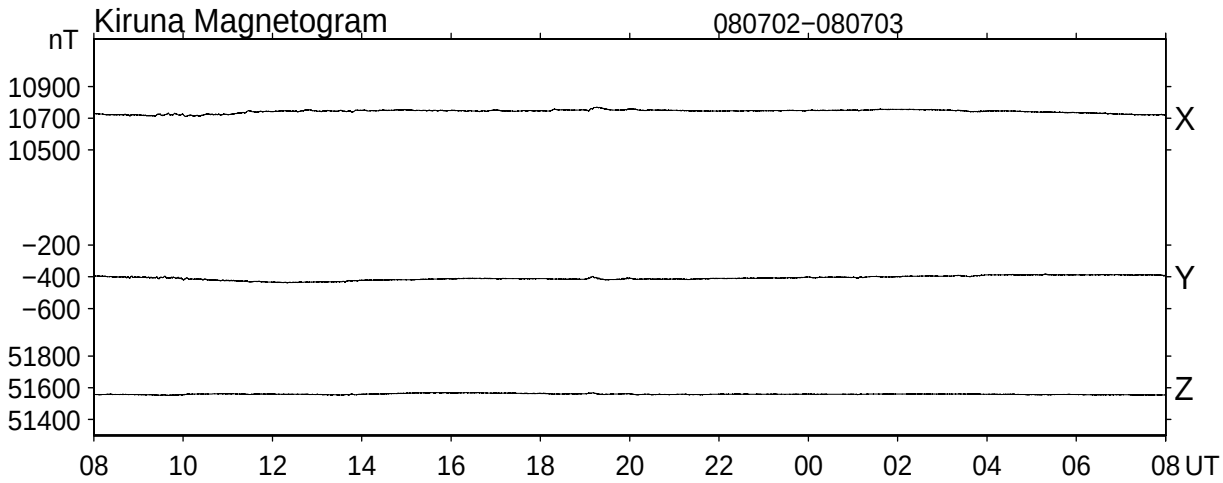
KIRUNA MAGNETOGRAM PLOTS

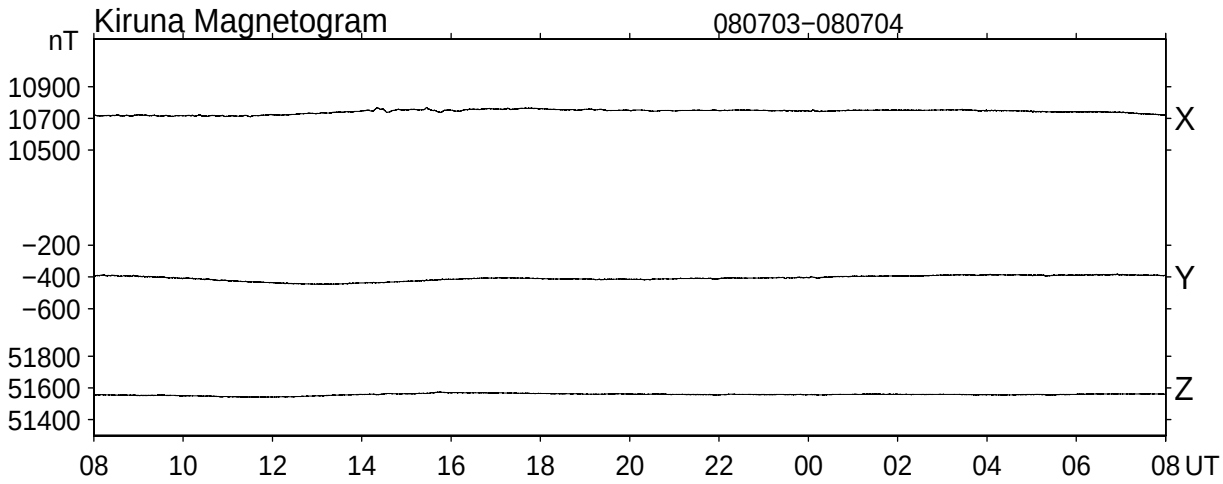
July - September 2008

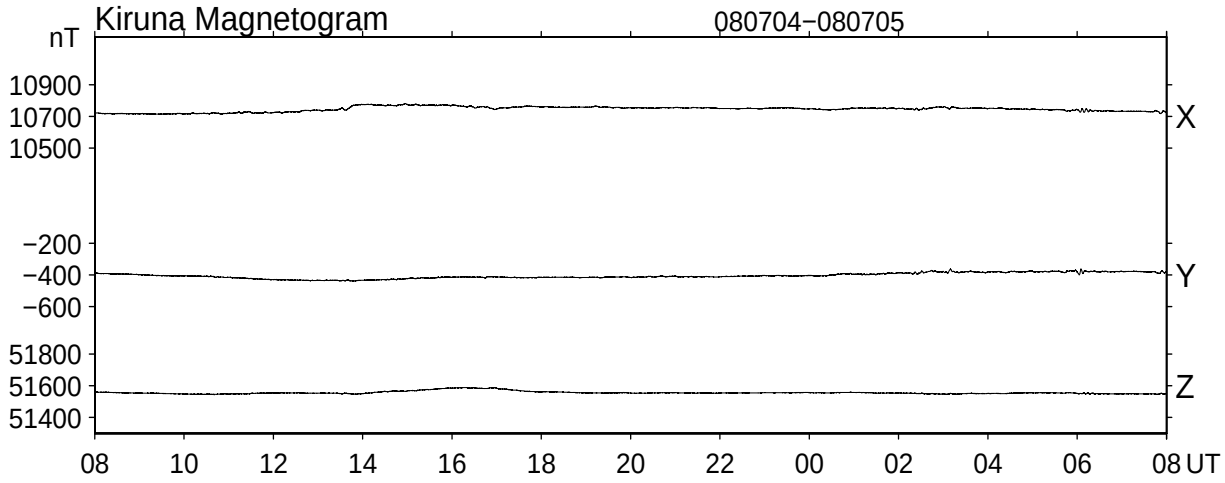
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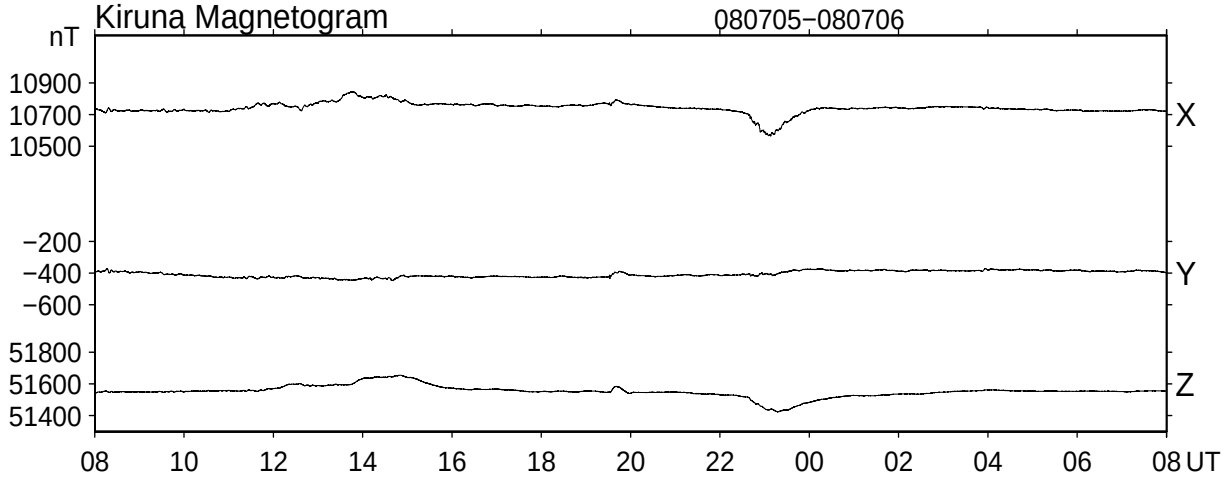

Kiruna Magnetogram
080630−080701
nT
10900
10700
10500
−200
−400
−600
51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

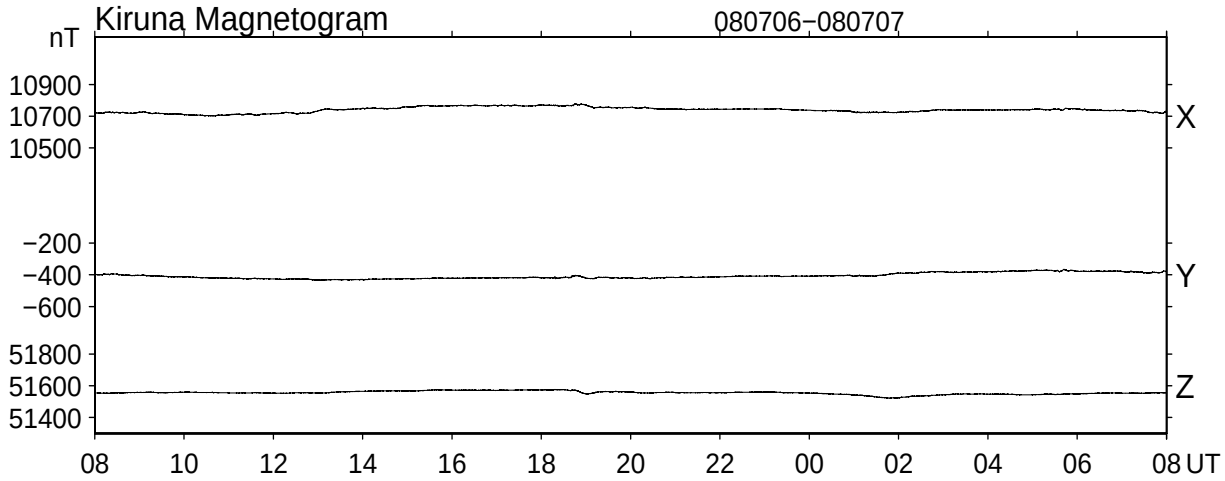

Kiruna Magnetogram
080701−080702
nT
10900
10700
10500
−200
−400
−600
51800
51600
51400
X
Y
Z
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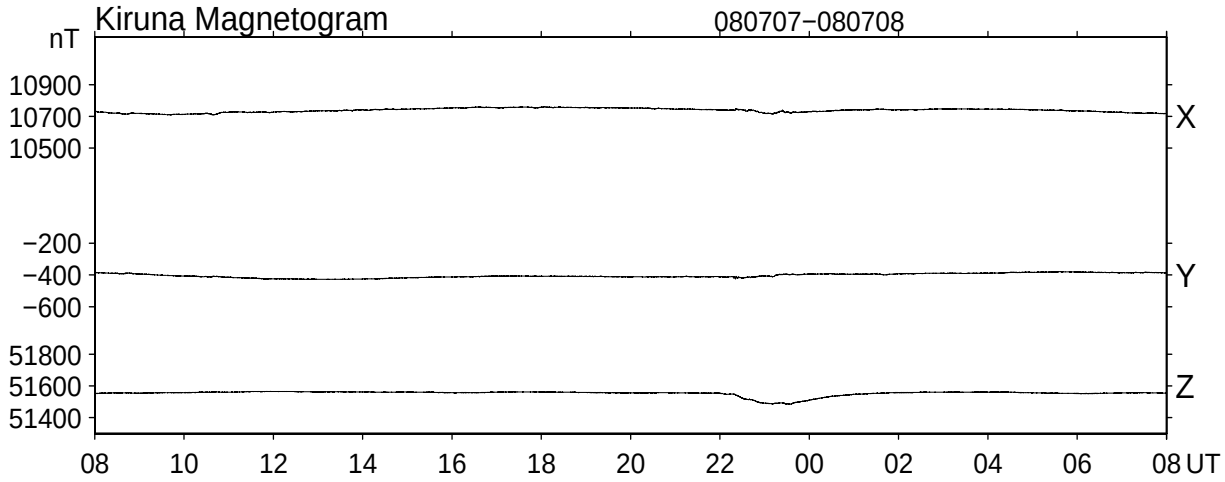

Kiruna Magnetogram
080702−080703
nT
10900
10700
10500
−200
−400
−600
51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

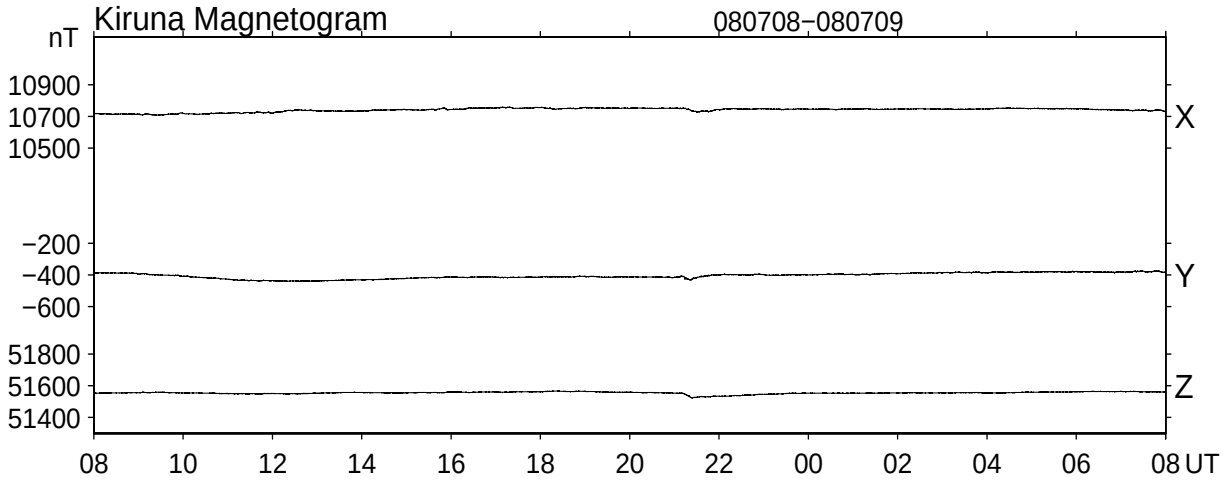

Kiruna Magnetogram
080703−080704
nT
10900
10700
10500
−200
−400
−600
51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

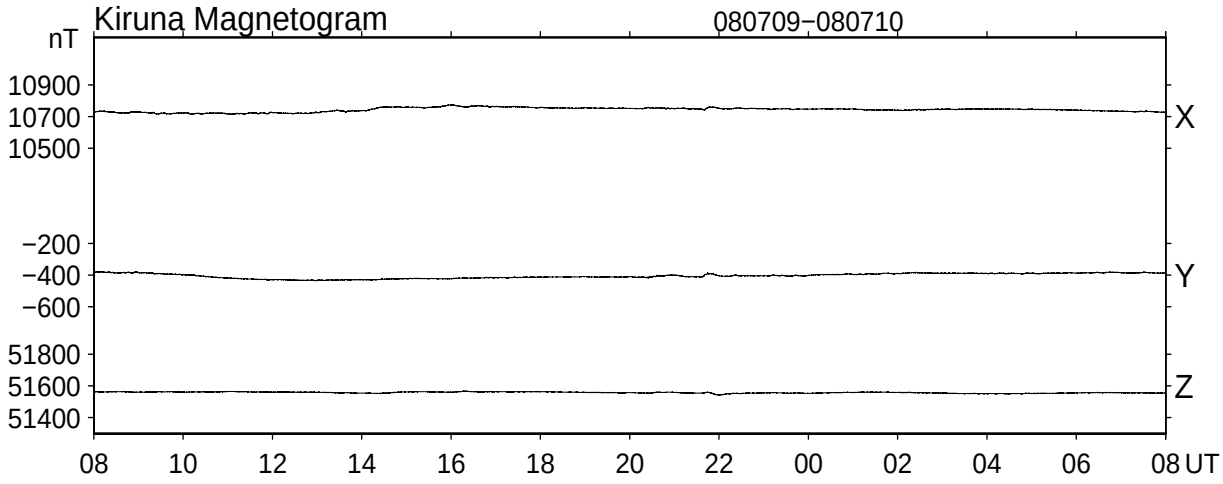

Kiruna Magnetogram
080704−080705
nT
10900
10700
10500
−200
−400
−600
51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

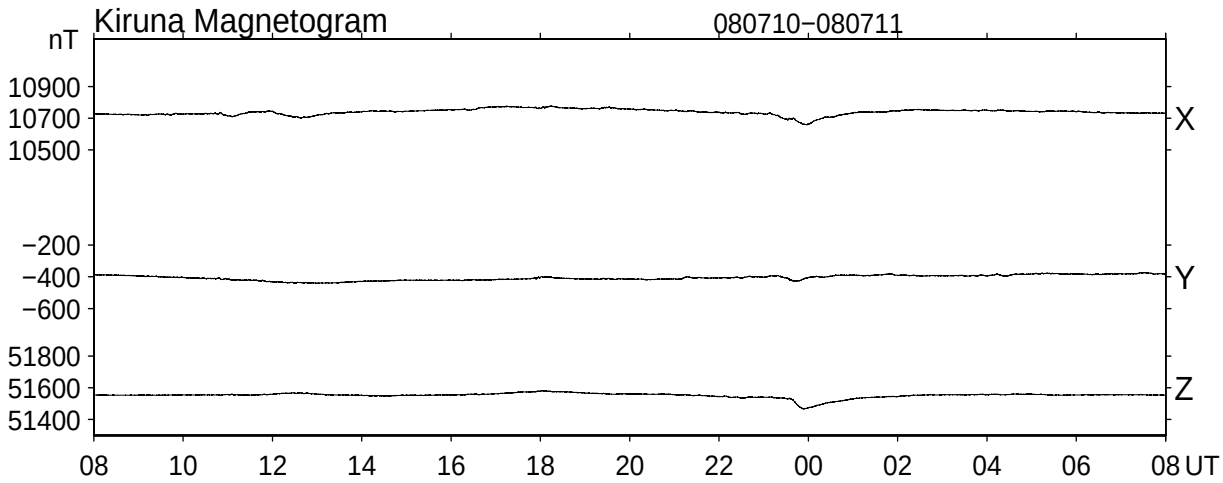

Kiruna Magnetogram
080705−080706
nT
10900
10700
10500
−200
−400
−600
51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

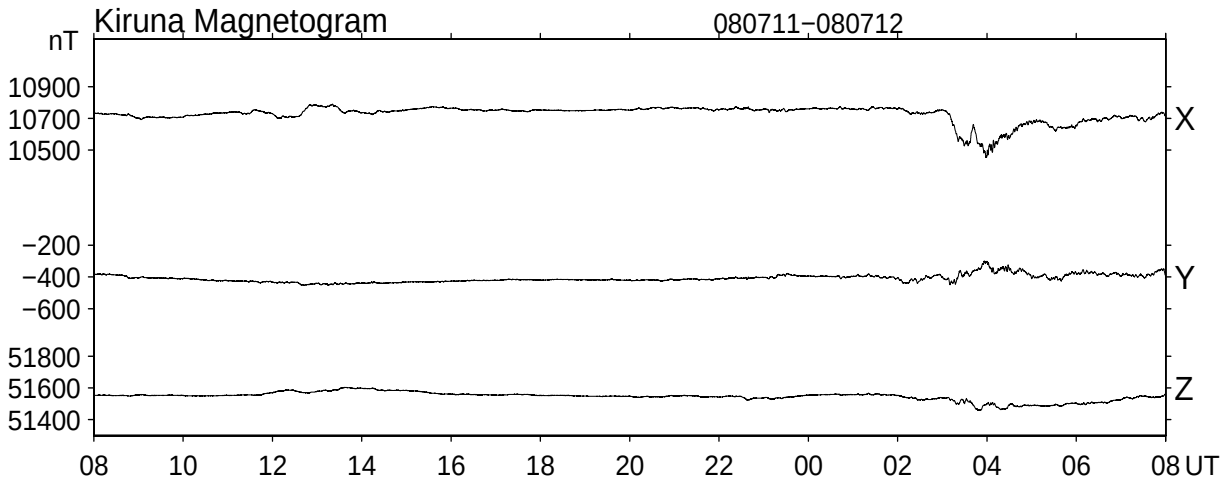

Kiruna Magnetogram
080706−080707
nT
10900
10700
10500
−200
−400
−600
51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

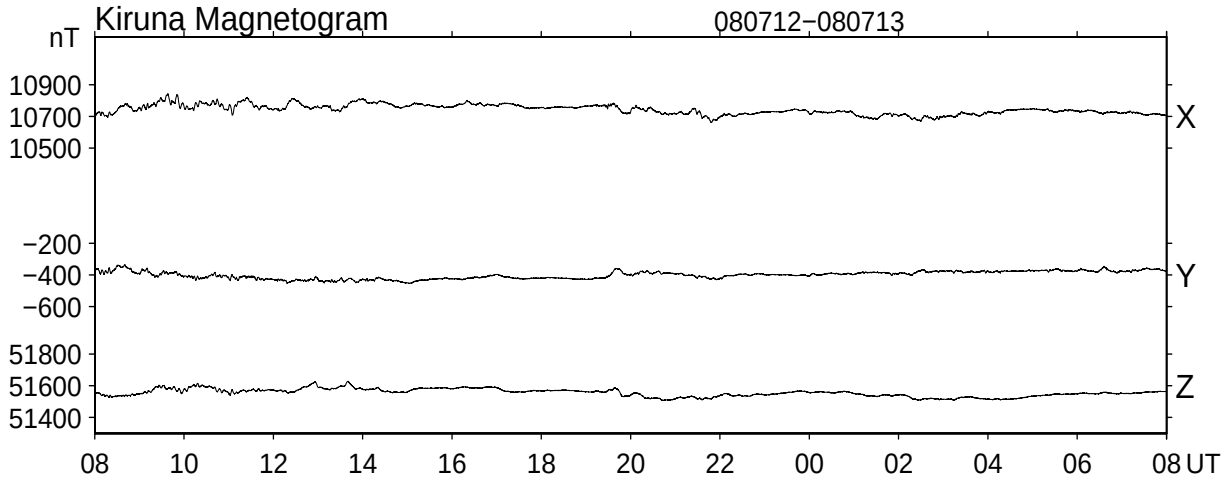

Kiruna Magnetogram
080707−080708
nT
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10700
10500
−200
−400
−600
51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

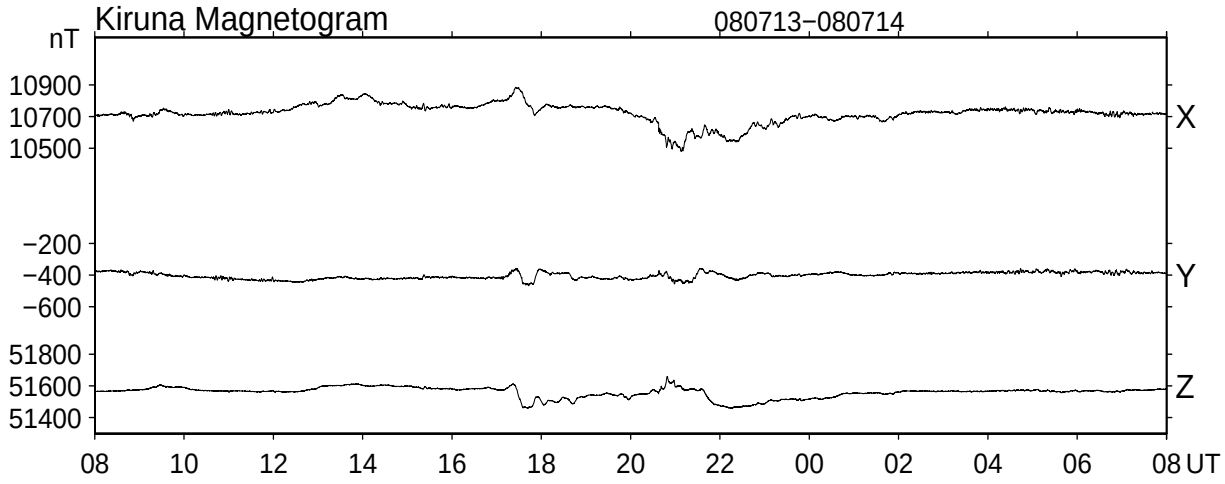

Kiruna Magnetogram
080708−080709
nT
10900
10700
10500
−200
−400
−600
51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

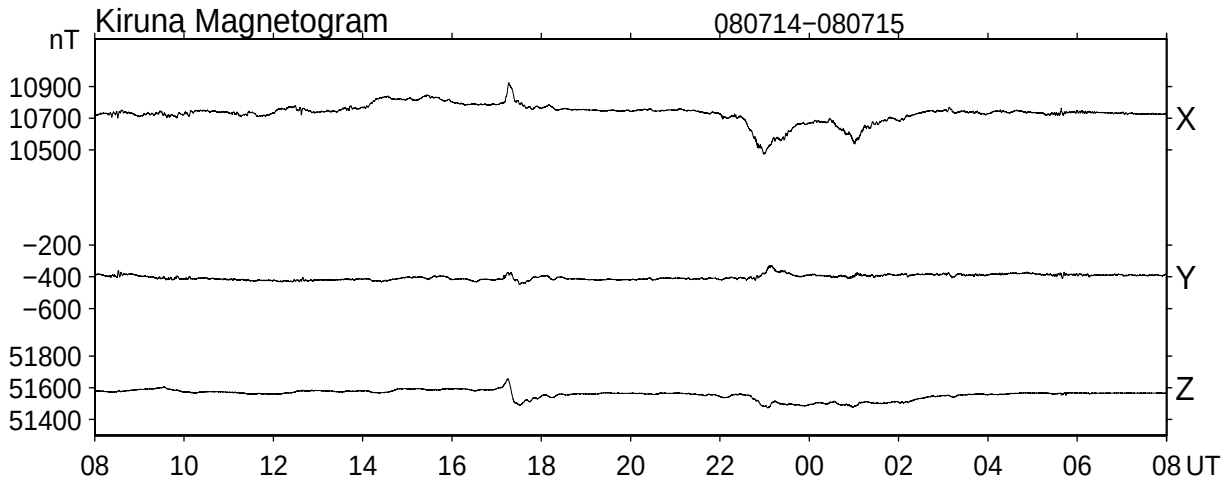

Kiruna Magnetogram
080709−080710
nT
10900
10700
10500
−200
−400
−600
51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

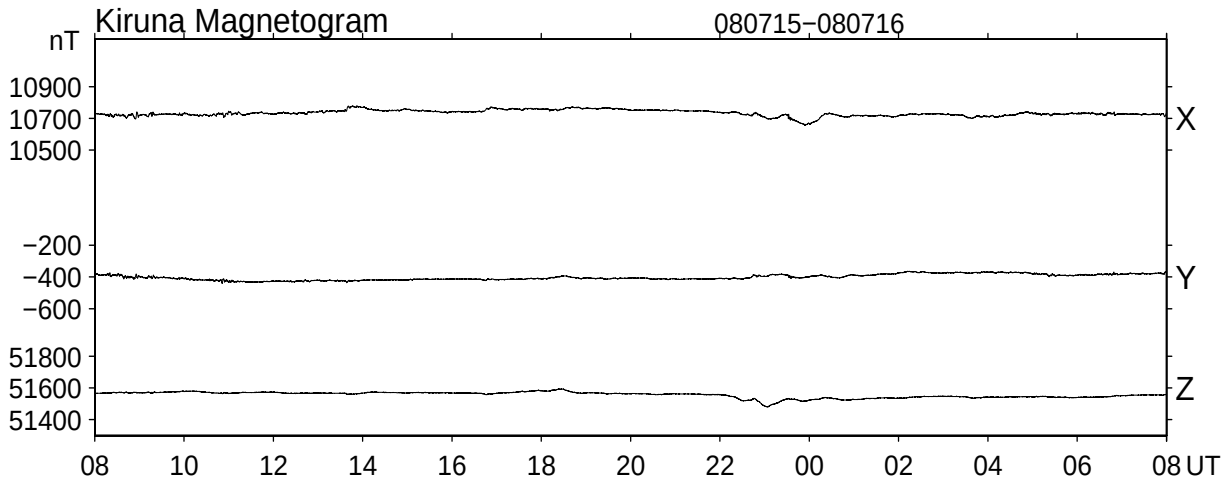

Kiruna Magnetogram
080710−080711
nT
10900
10700
10500
−200
−400
−600
51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

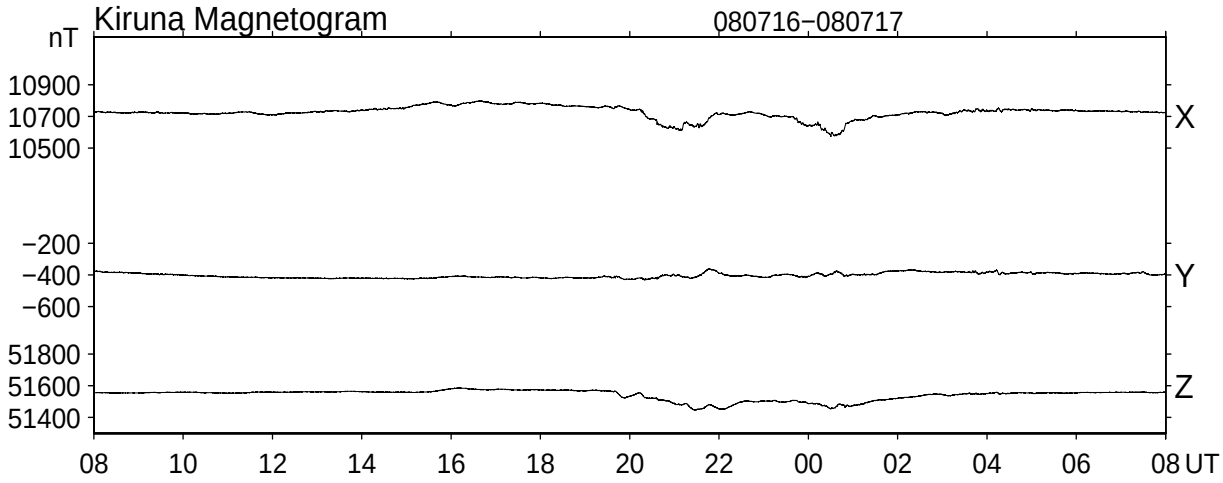

Kiruna Magnetogram
080711−080712
nT
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10700
10500
−200
−400
−600
51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

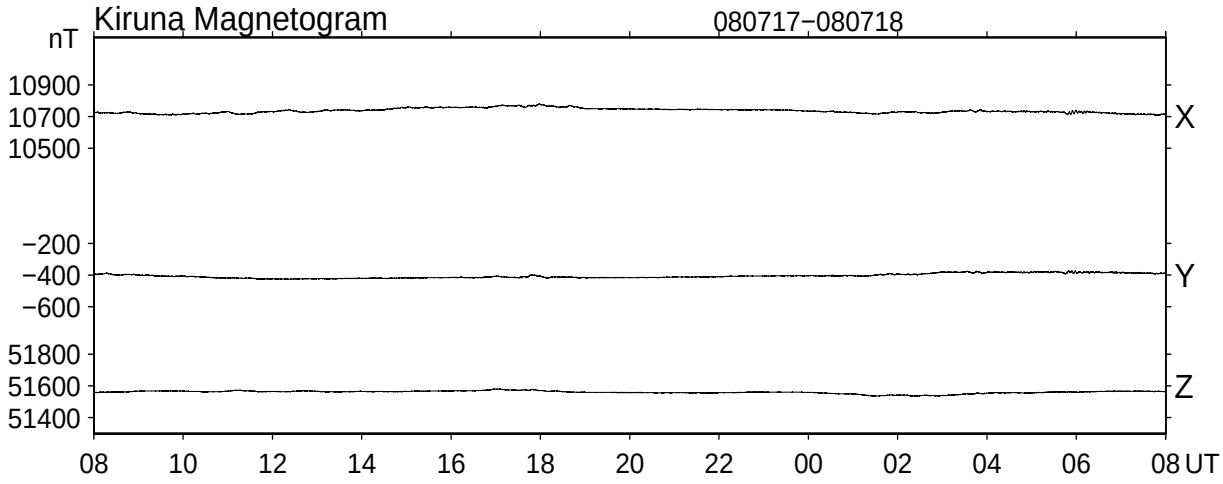

Kiruna Magnetogram
080712−080713
nT
10900
10700
10500
−200
−400
−600
51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

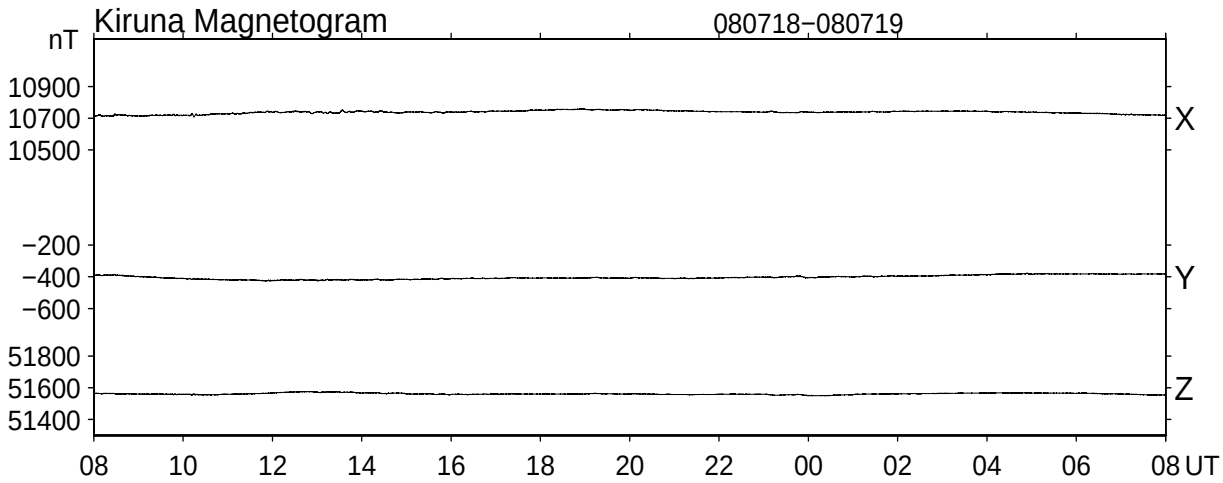

Kiruna Magnetogram
080713−080714
nT
10900
10700
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−200
−400
−600
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51600
51400
X
Y
Z
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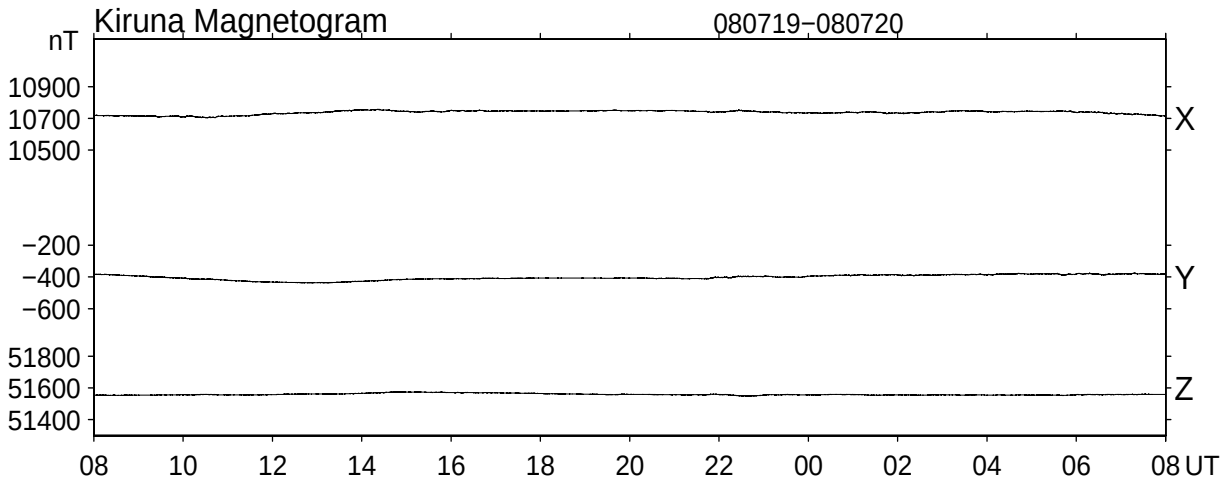

Kiruna Magnetogram
080714−080715
nT
10900
10700
10500
−200
−400
−600
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51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

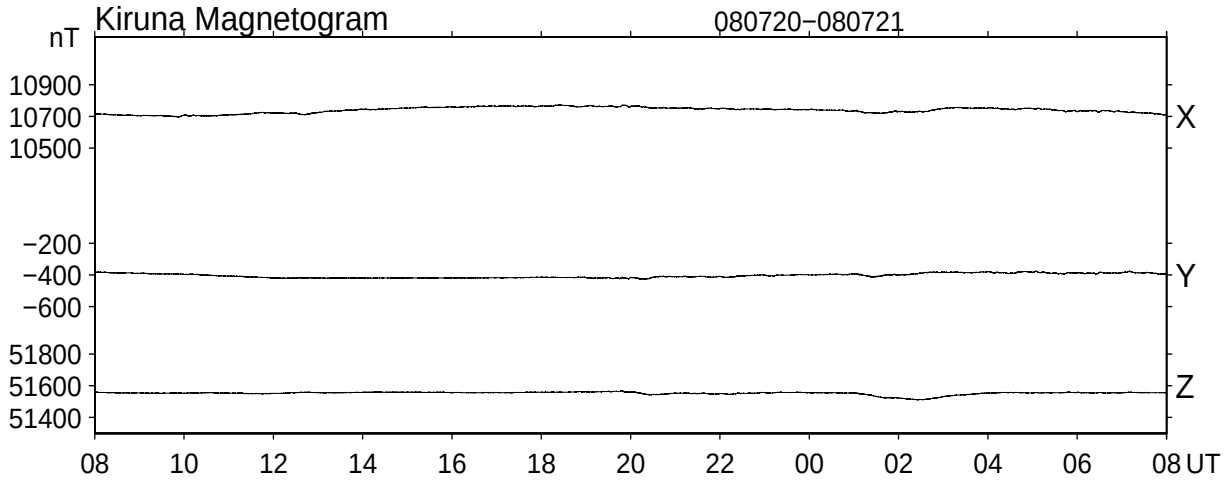

Kiruna Magnetogram
080715−080716
nT
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10700
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−200
−400
−600
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51600
51400
X
Y
Z
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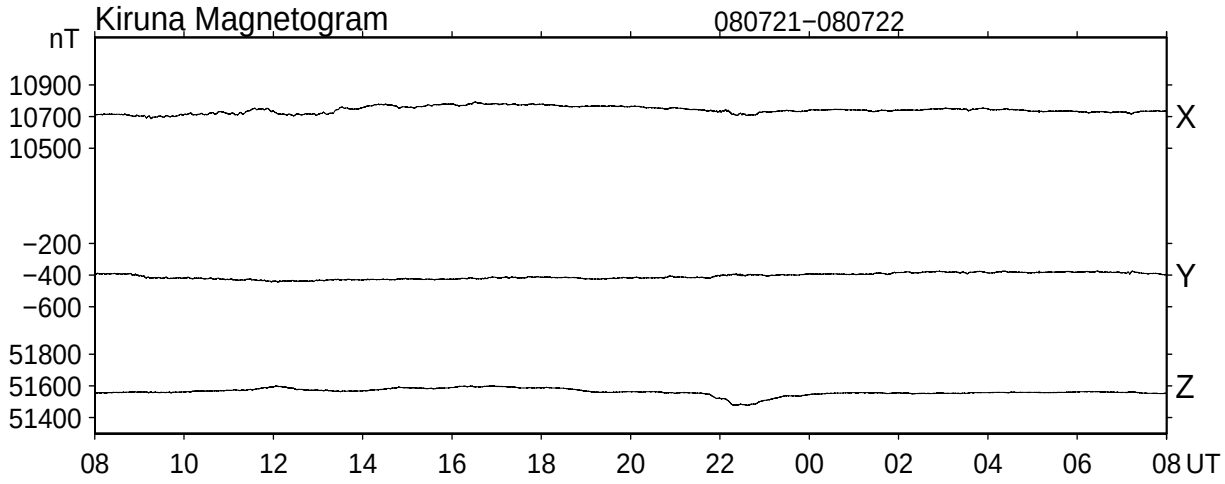

Kiruna Magnetogram
080716−080717
nT
10900
10700
10500
−200
−400
−600
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51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

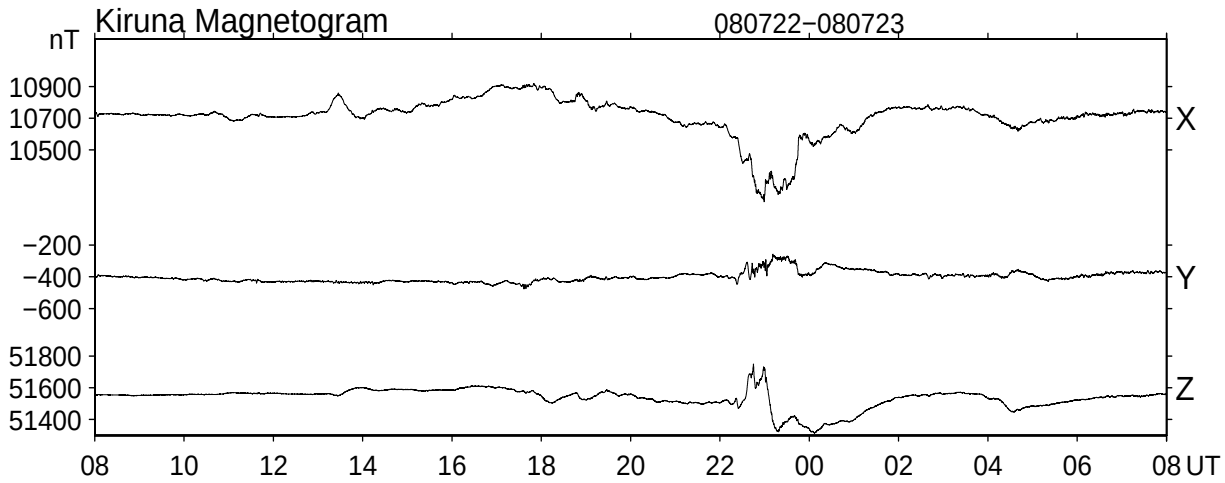

Kiruna Magnetogram
080717−080718
nT
10900
10700
10500
−200
−400
−600
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51600
51400
X
Y
Z
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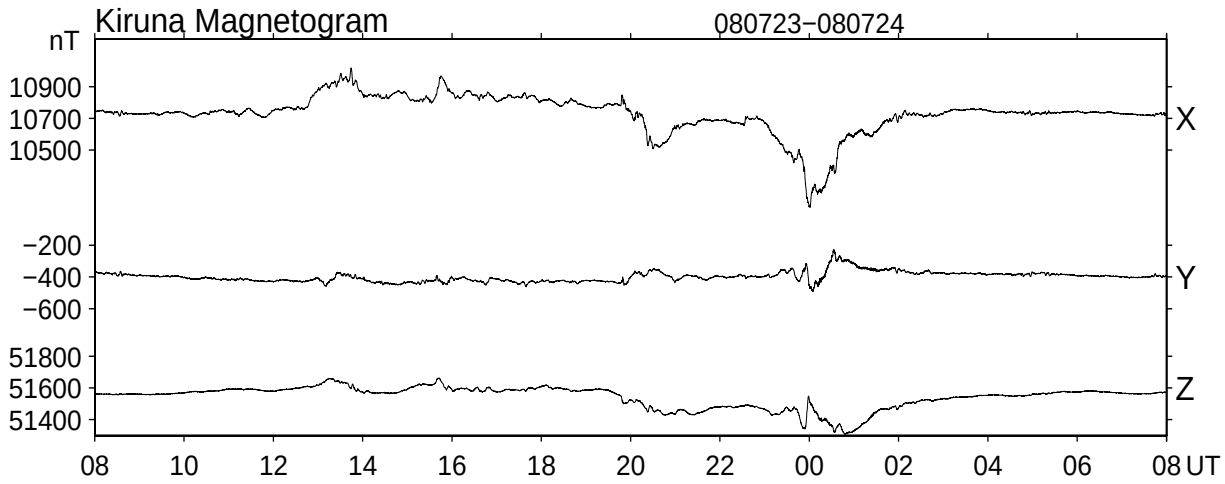

Kiruna Magnetogram
080718−080719
nT
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10700
10500
−200
−400
−600
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51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

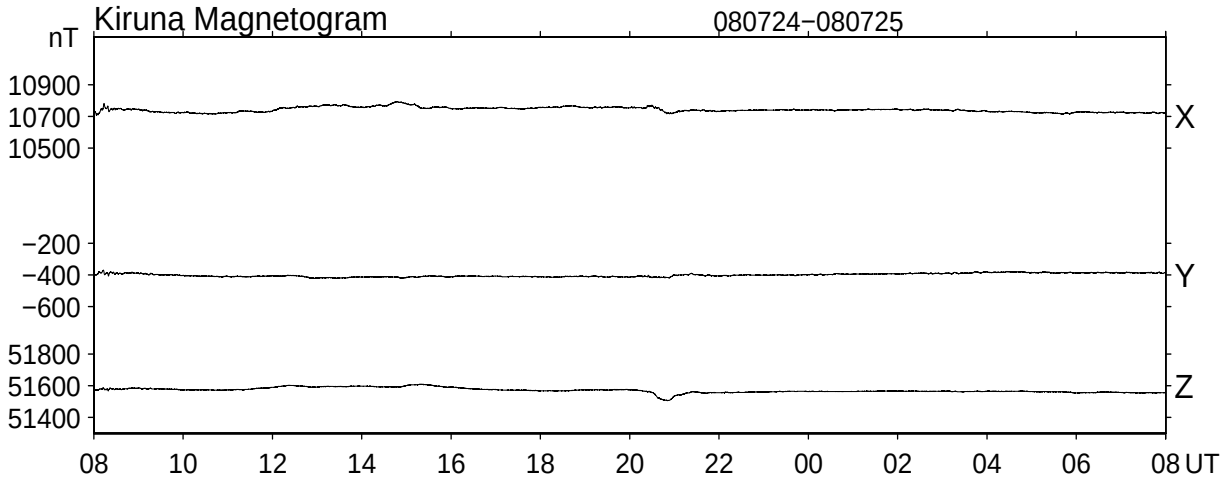

Kiruna Magnetogram
080719−080720
nT
10900
10700
10500
−200
−400
−600
51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

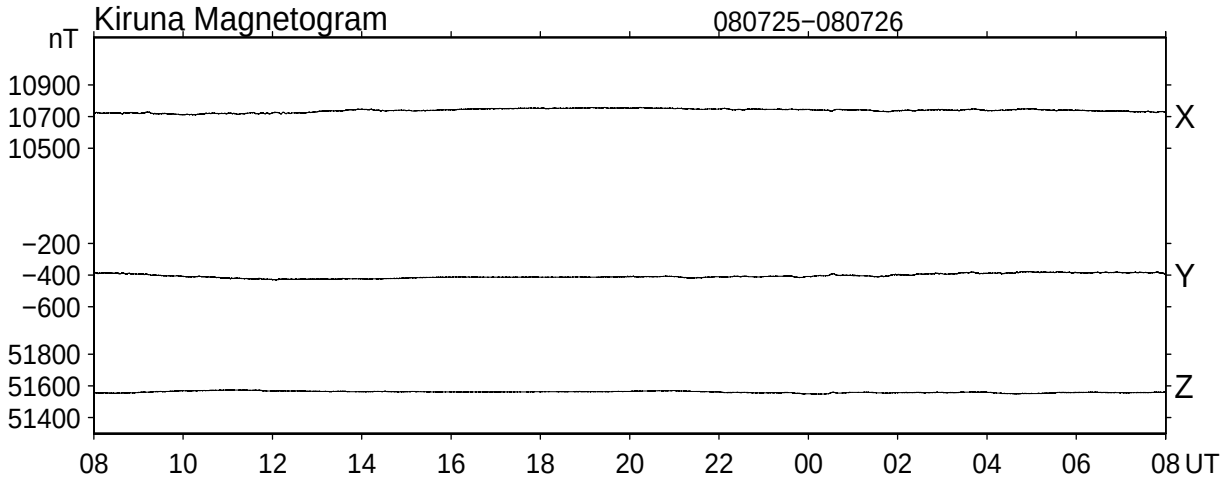

Kiruna Magnetogram
080720−080721
nT
10900
10700
10500
−200
−400
−600
51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

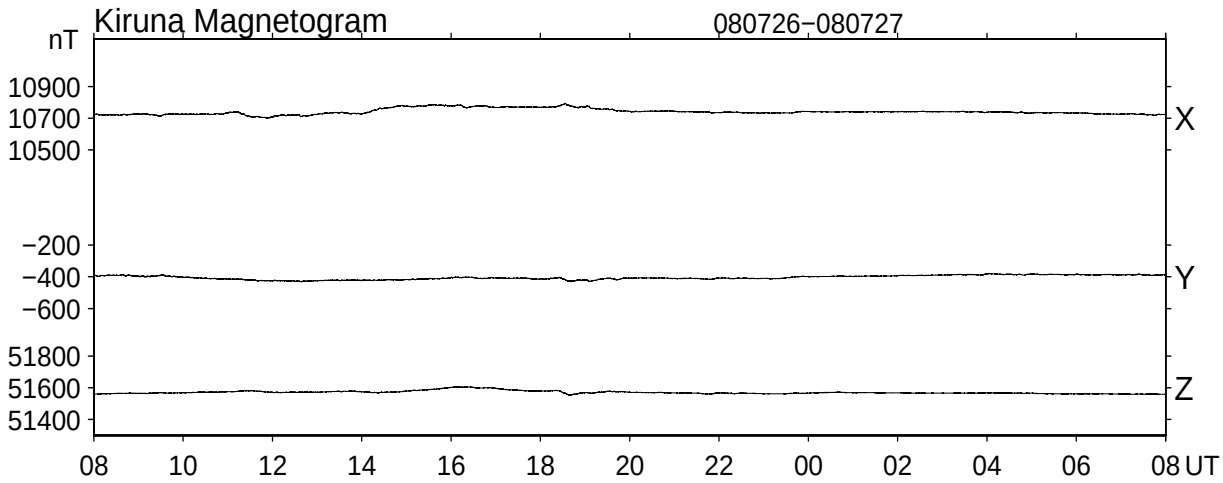

Kiruna Magnetogram
080721−080722
nT
10900
10700
10500
−200
−400
−600
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51600
51400
X
Y
Z
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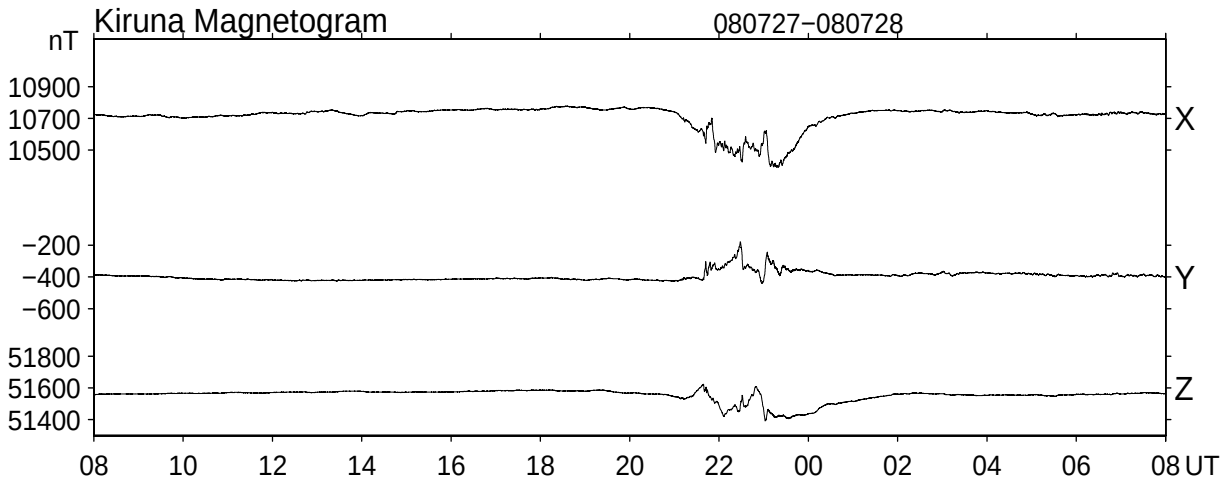

Kiruna Magnetogram
080722−080723
nT
10900
10700
10500
−200
−400
−600
51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

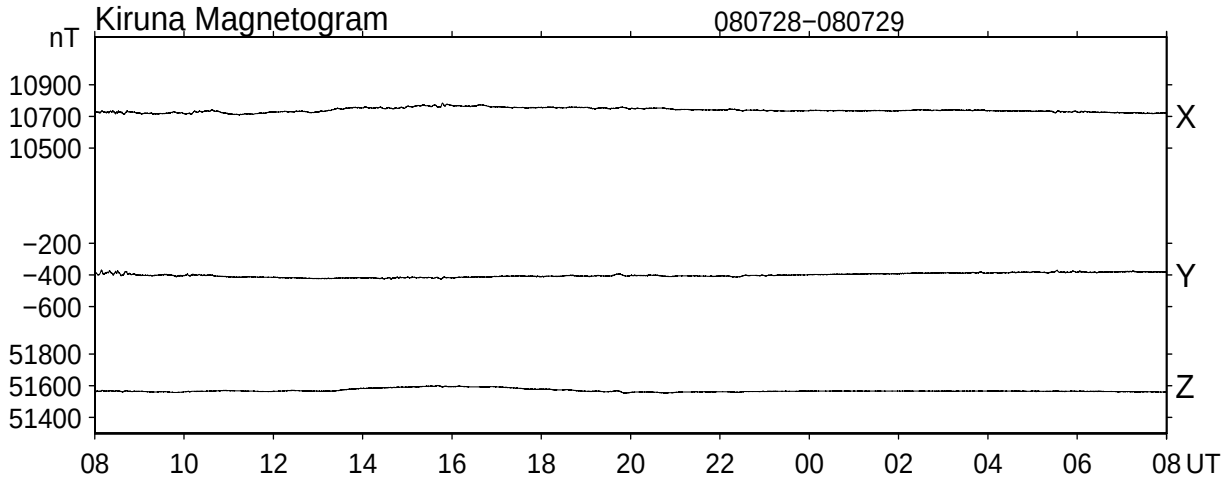

Kiruna Magnetogram
080723−080724
nT
10900
10700
10500
−200
−400
−600
51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

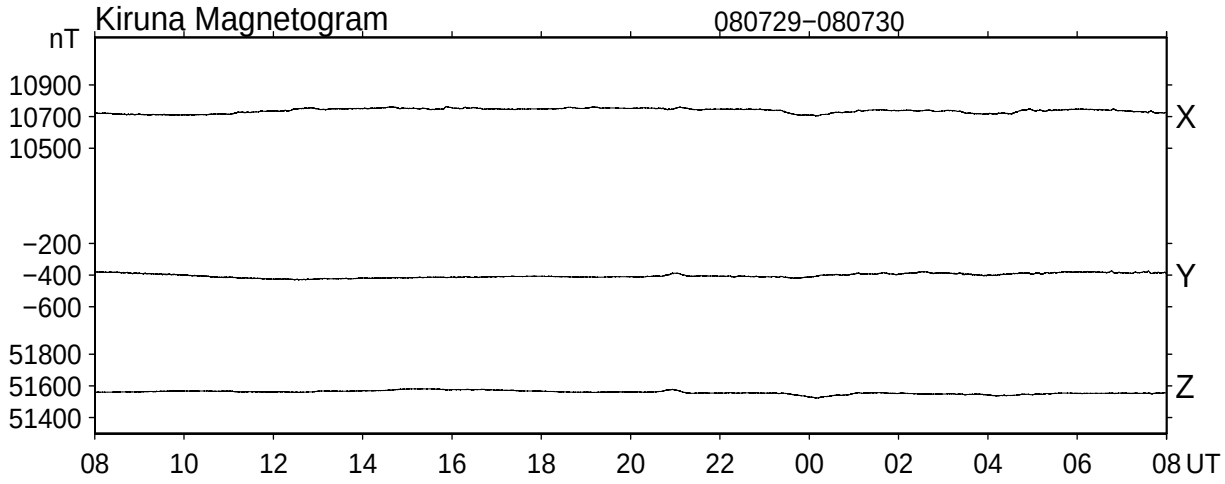

Kiruna Magnetogram
080724−080725
nT
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10700
10500
−200
−400
−600
51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

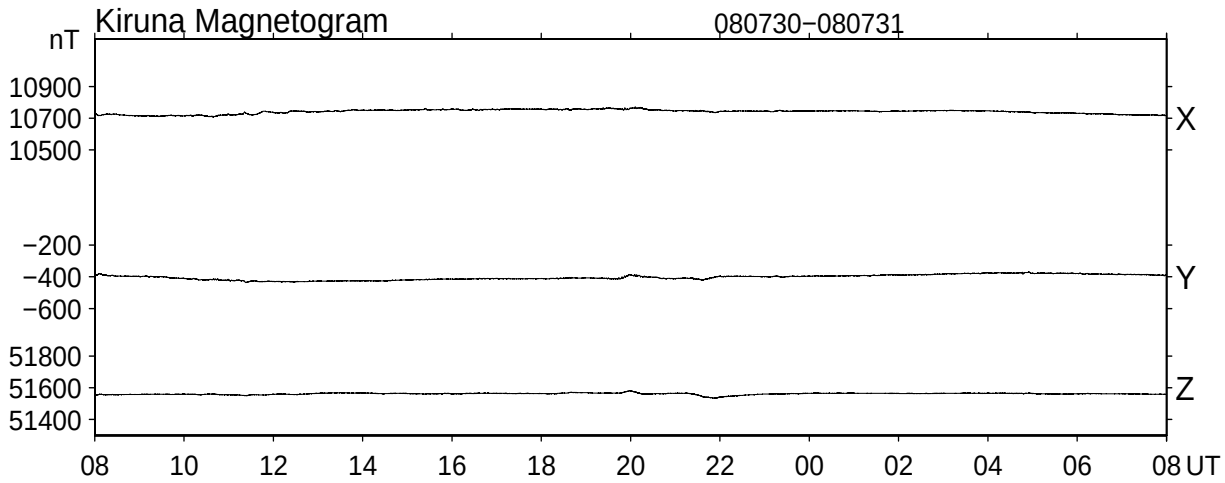

Kiruna Magnetogram
080725−080726
nT
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10700
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−200
−400
−600
51800
51600
51400
X
Y
Z
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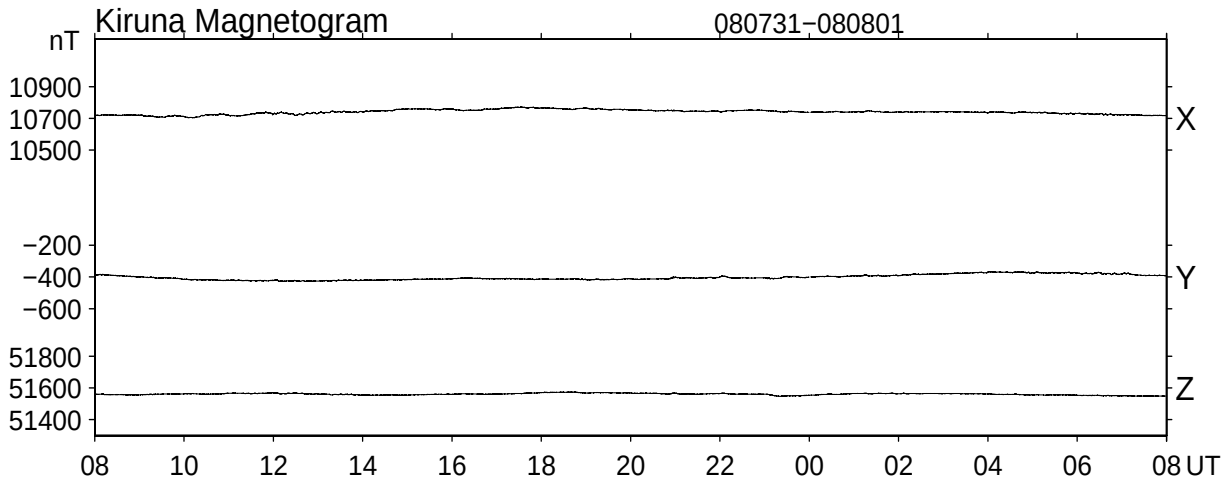

Kiruna Magnetogram
080726−080727
nT
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10700
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−200
−400
−600
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51600
51400
X
Y
Z
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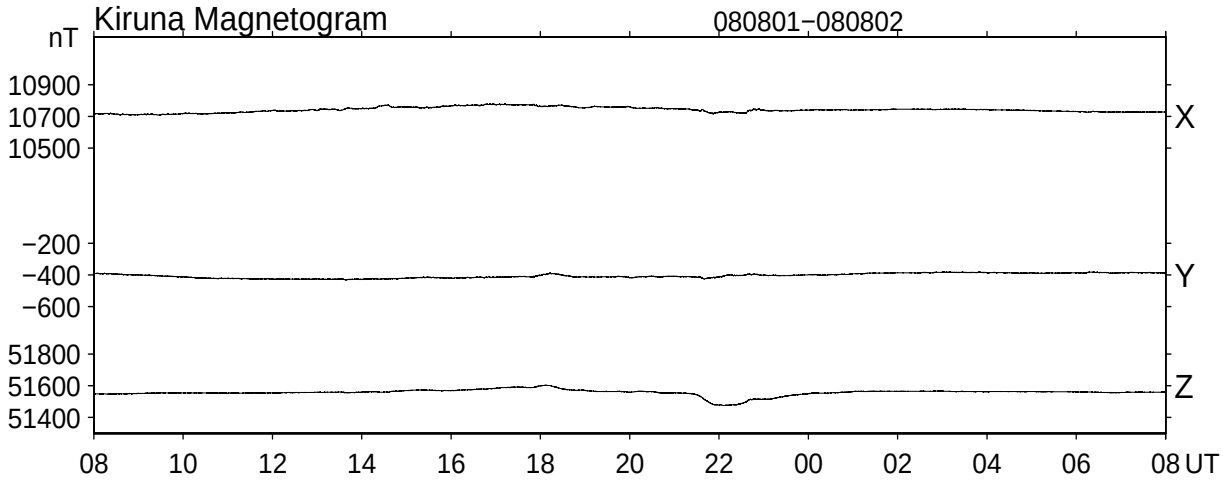

Kiruna Magnetogram
080727−080728
nT
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10700
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−200
−400
−600
51800
51600
51400
X
Y
Z
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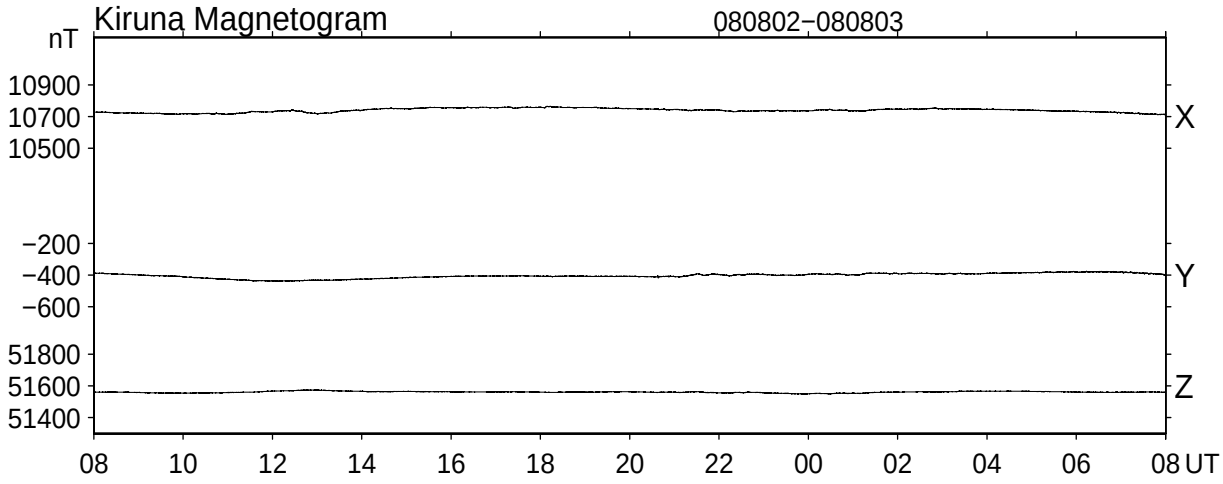

Kiruna Magnetogram
080728–080729
nT
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10700
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−200
−400
−600
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51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

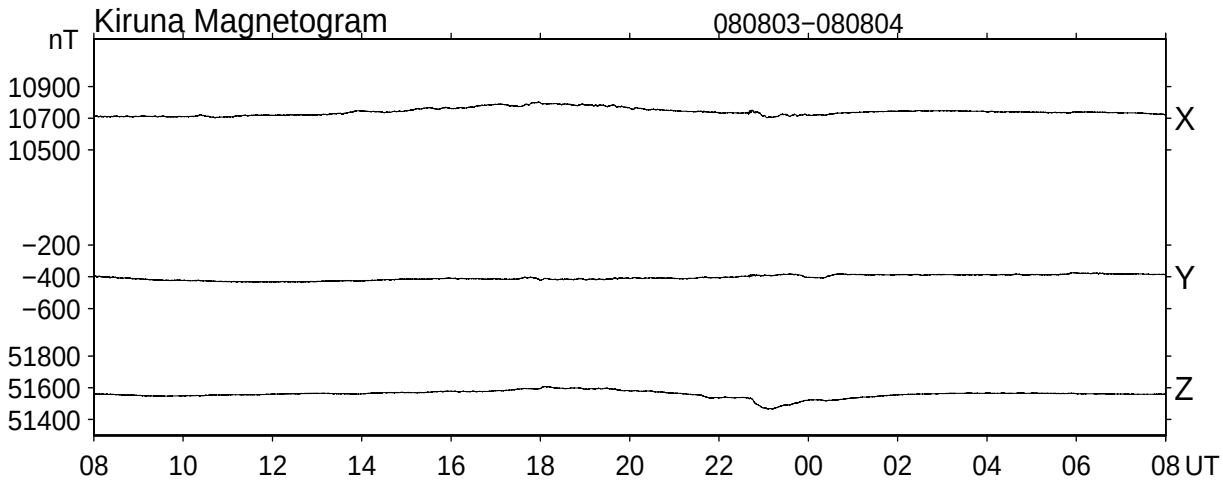

Kiruna Magnetogram
080729–080730
nT
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10700
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−200
−400
−600
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51600
51400
X
Y
Z
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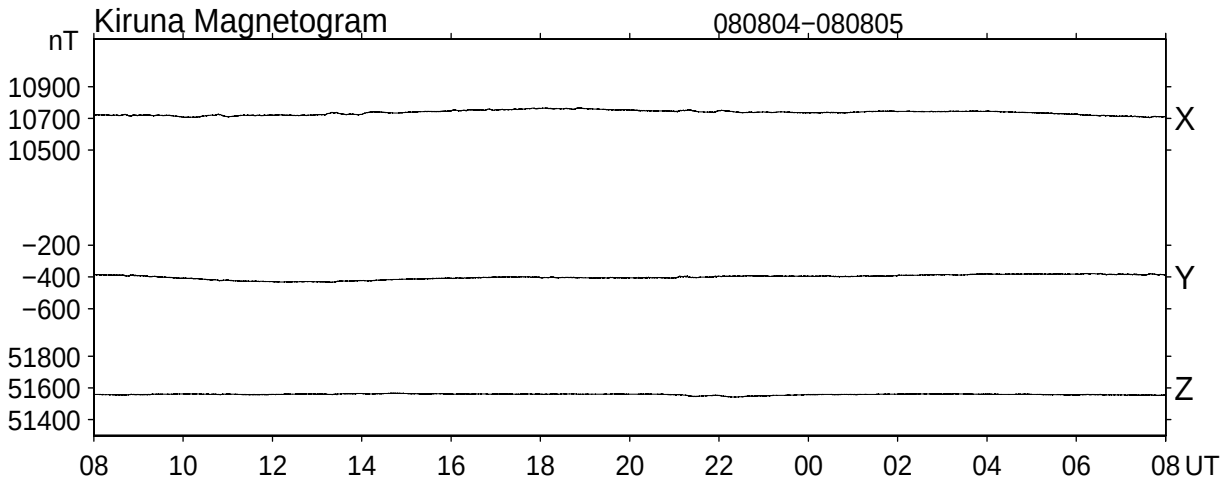

Kiruna Magnetogram
080730–080731
nT
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10700
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−200
−400
−600
51800
51600
51400
X
Y
Z
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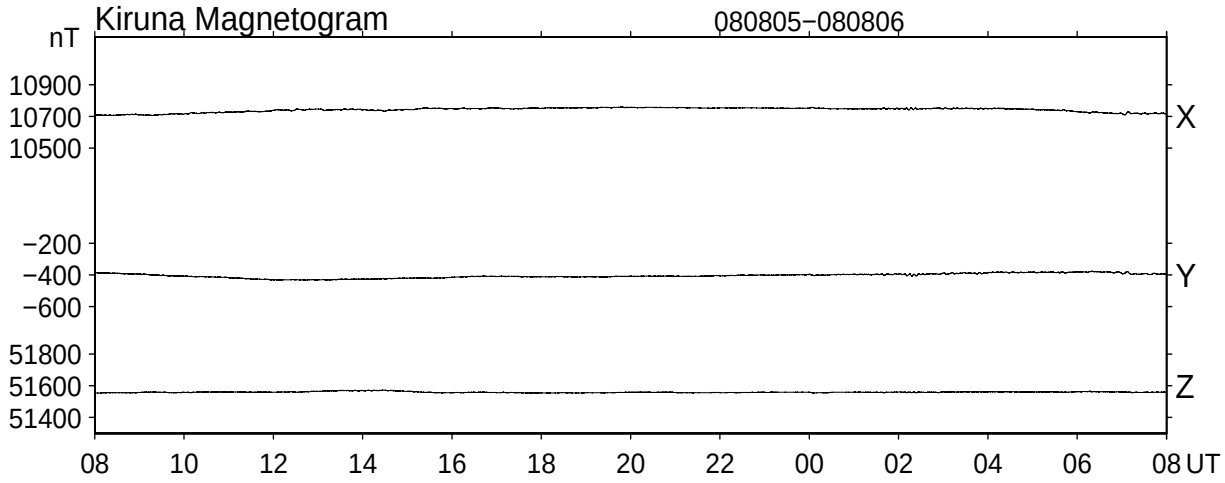

Kiruna Magnetogram
080731–080801
nT
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10700
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−200
−400
−600
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51600
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Y
Z
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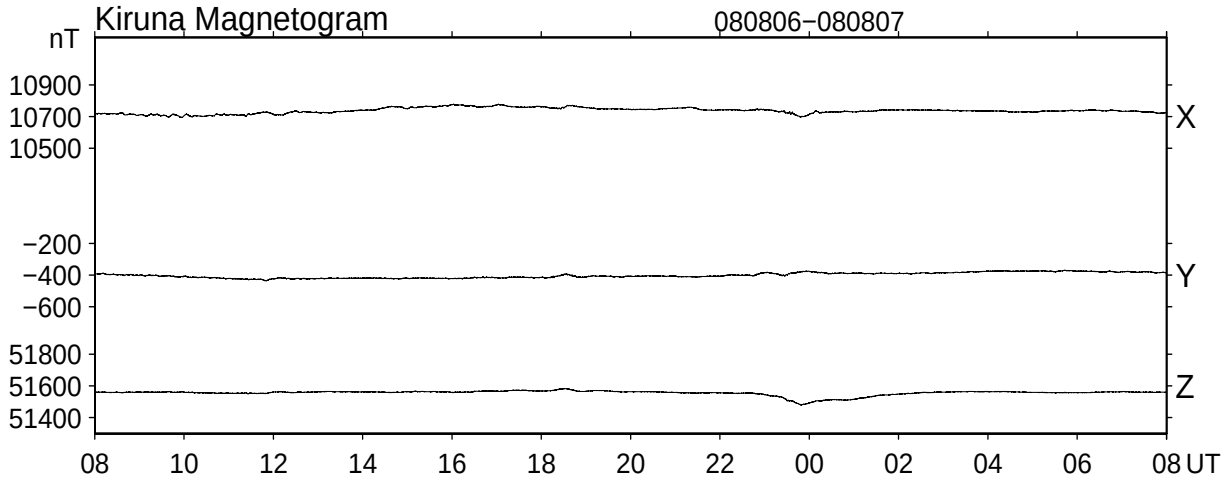

Kiruna Magnetogram
080801–080802
nT
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10700
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−400
−600
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51600
51400
X
Y
Z
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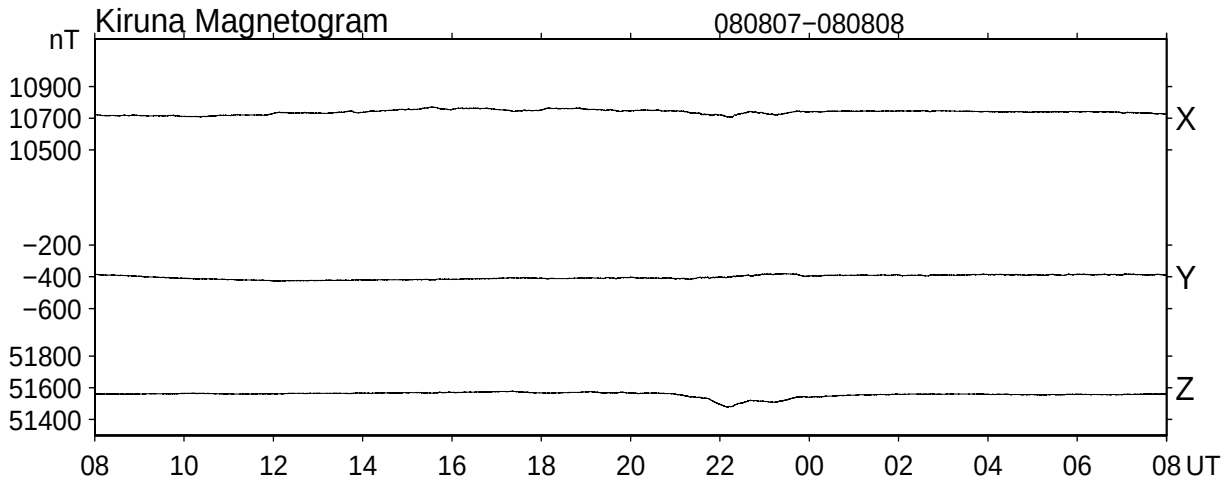

Kiruna Magnetogram
080802–080803
nT
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−200
−400
−600
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51600
51400
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Y
Z
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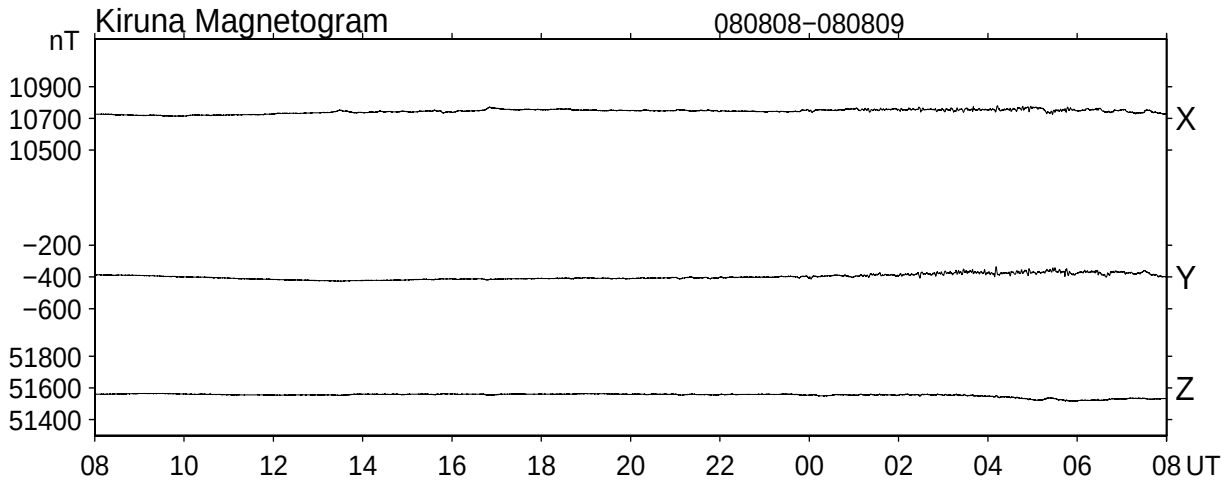

Kiruna Magnetogram
080803–080804
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51600
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X
Y
Z
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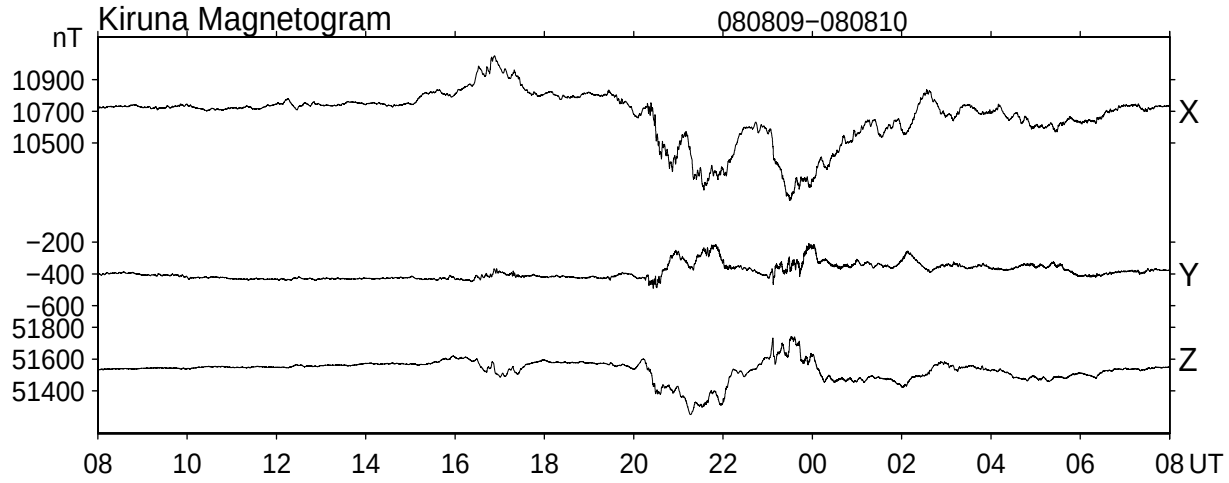

Kiruna Magnetogram
080804–080805
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X
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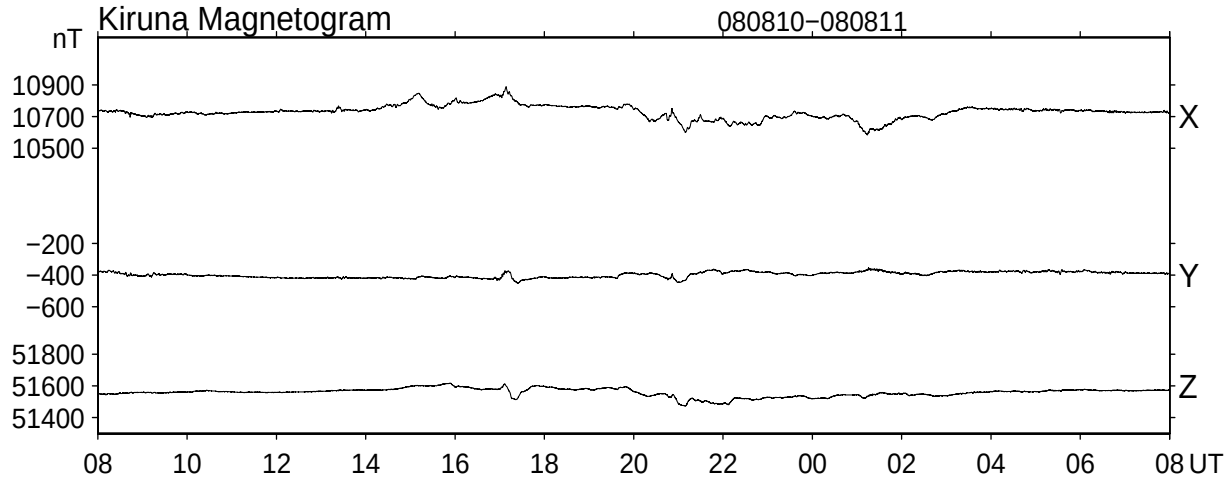

Kiruna Magnetogram
080805−080806
nT
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X
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Z
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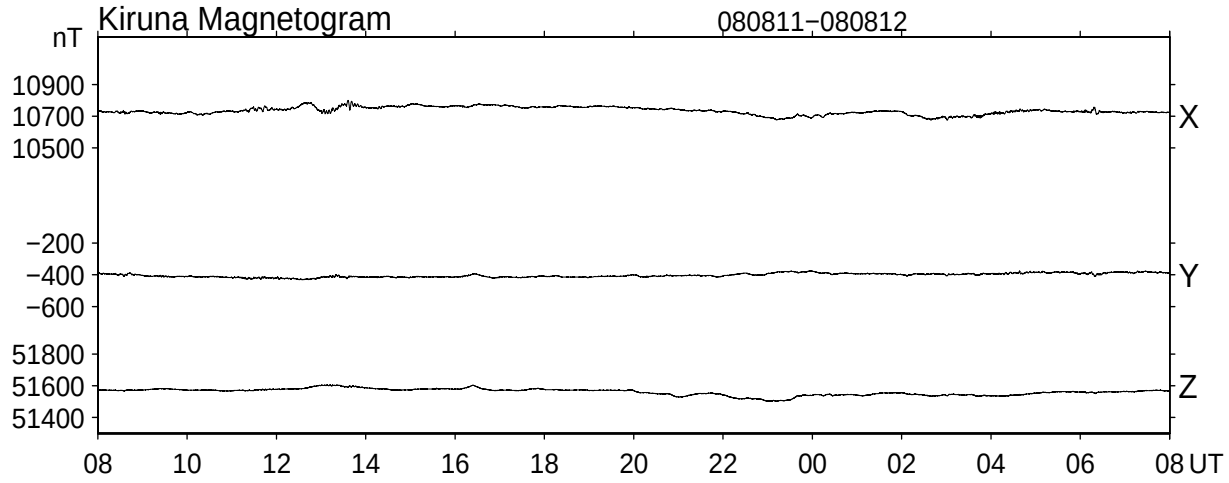

Kiruna Magnetogram
080806−080807
nT
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X
Y
Z
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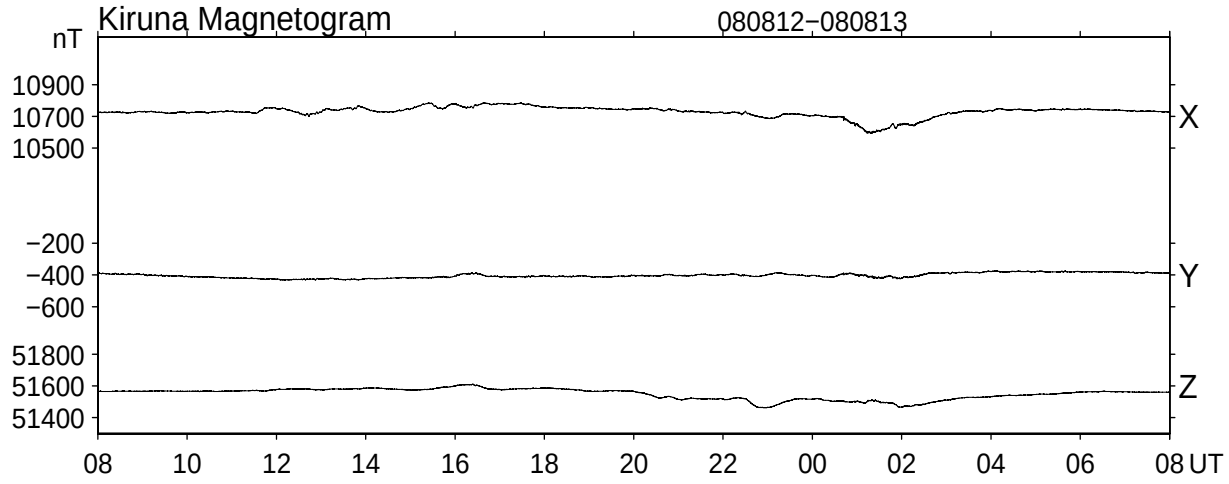

Kiruna Magnetogram
080807−080808
nT
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X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

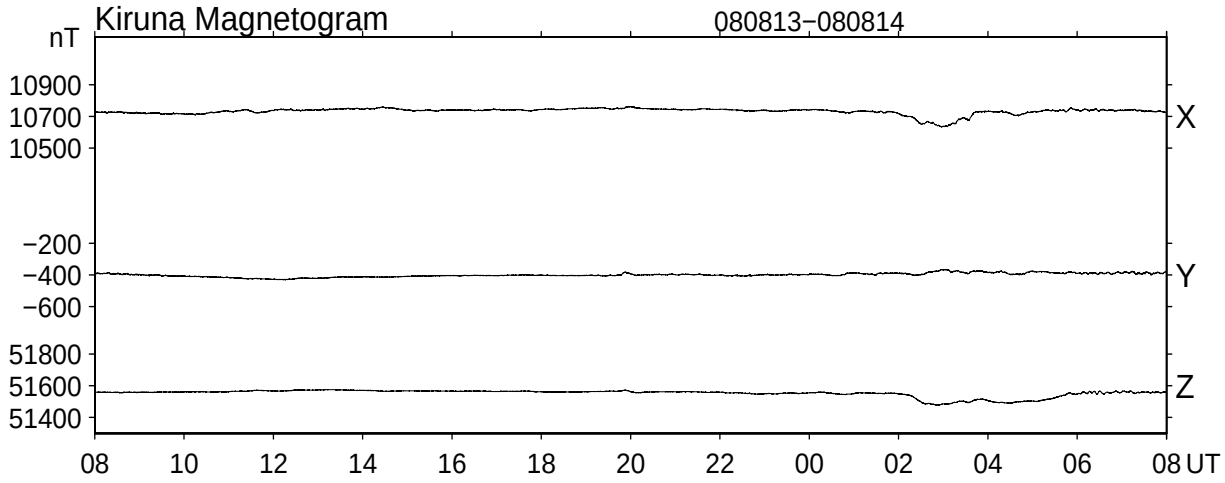

Kiruna Magnetogram
080808−080809
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X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

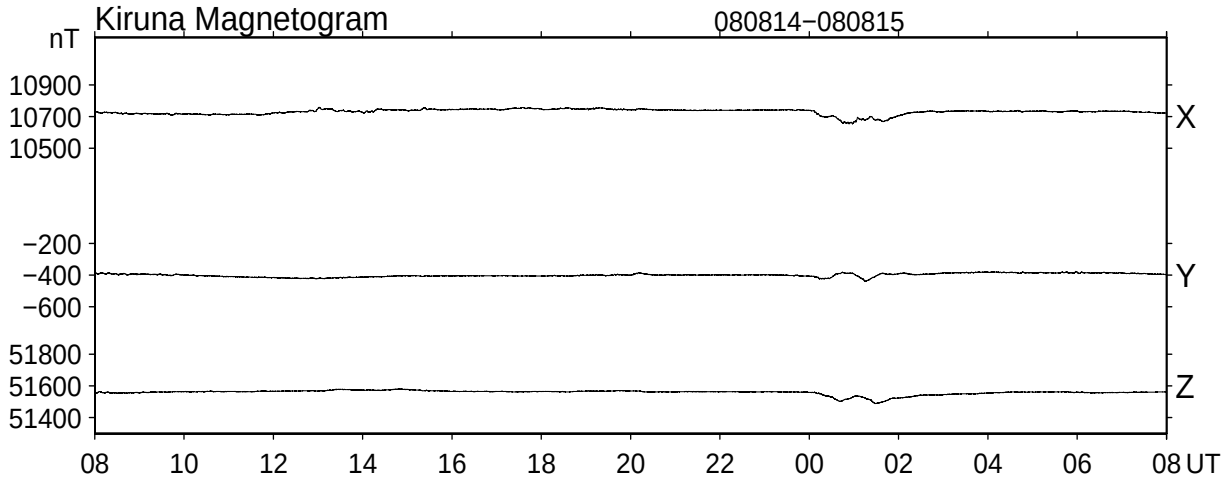

Kiruna Magnetogram
080809–080810
nT
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−200
−400
−600
51800
51600
51400
X
Y
Z
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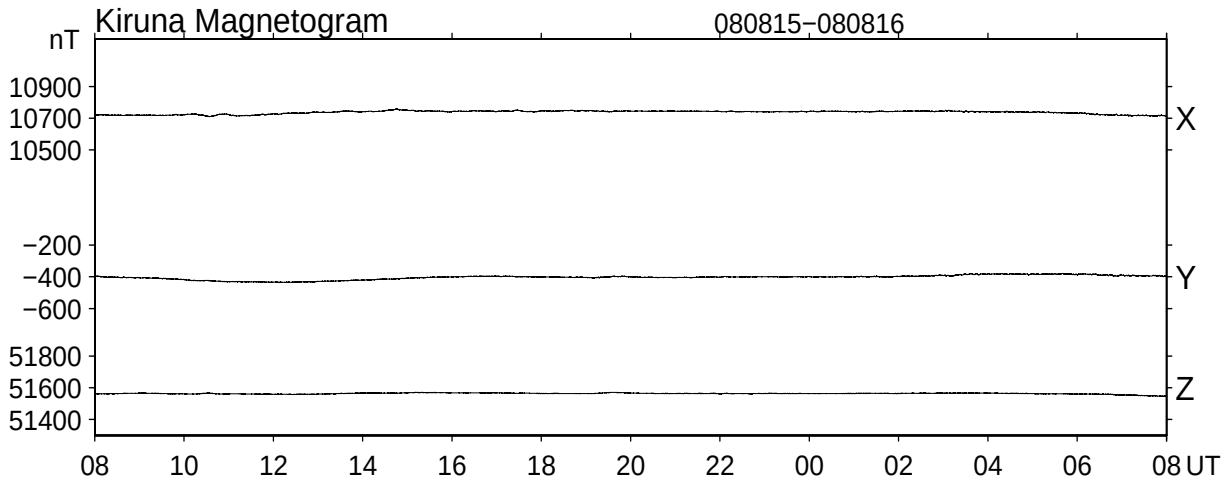

Kiruna Magnetogram
080810–080811
nT
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51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

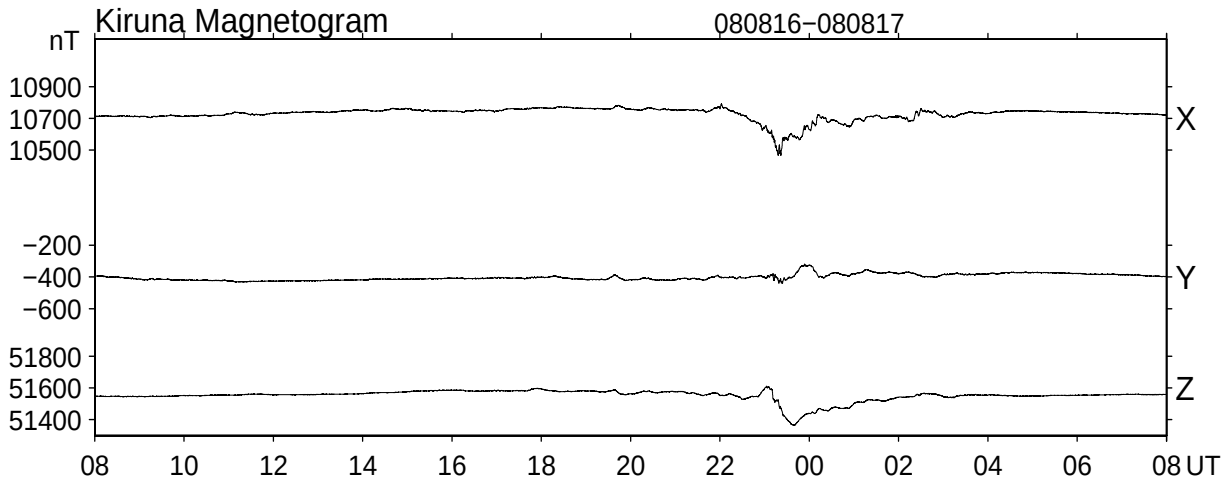

Kiruna Magnetogram
080811–080812
nT
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10700
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−400
−600
51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

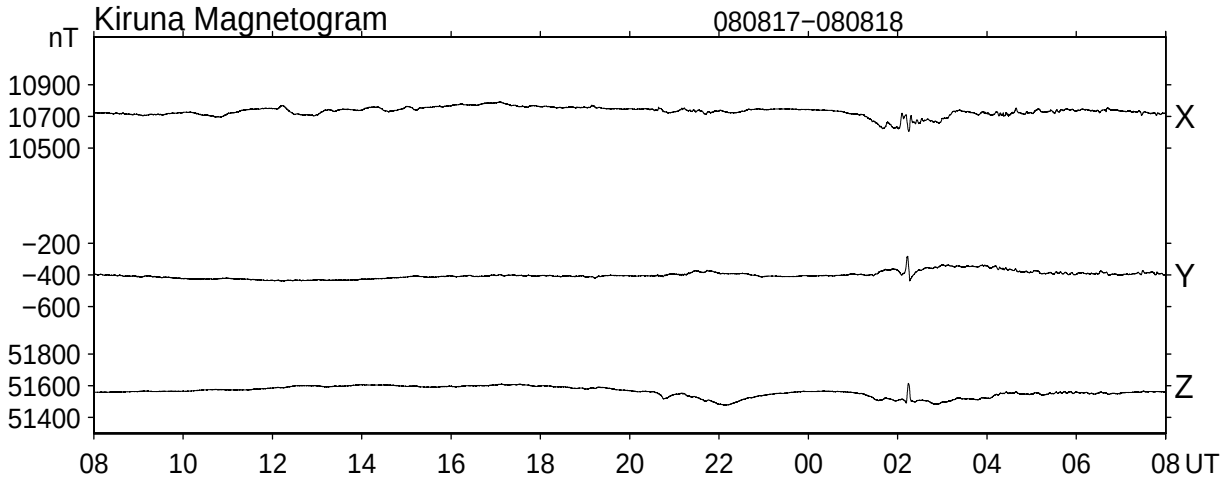

Kiruna Magnetogram
080812–080813
nT
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10700
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−200
−400
−600
51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

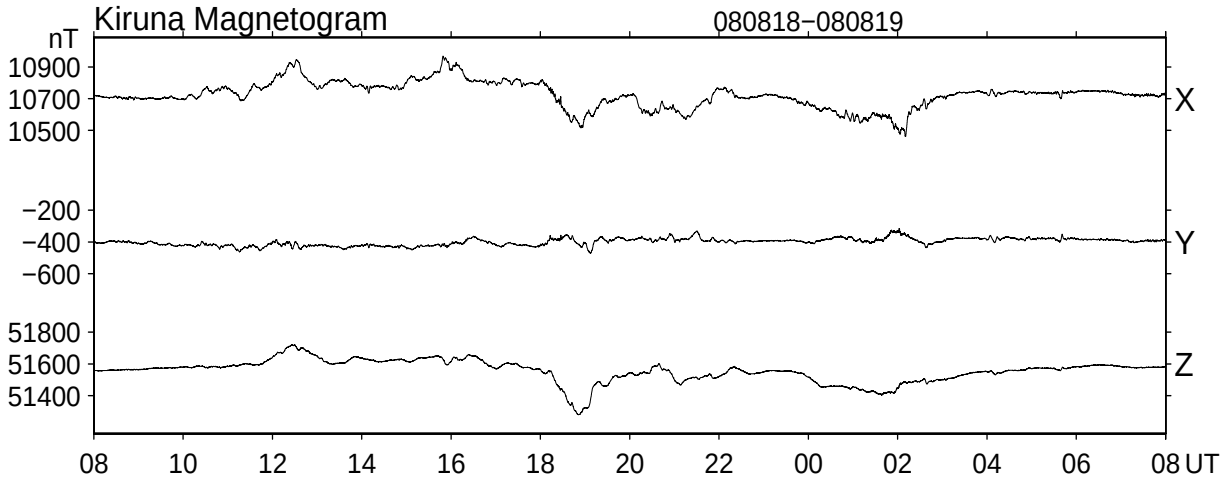

Kiruna Magnetogram
080813−080814
nT
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10700
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−200
−400
−600
51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

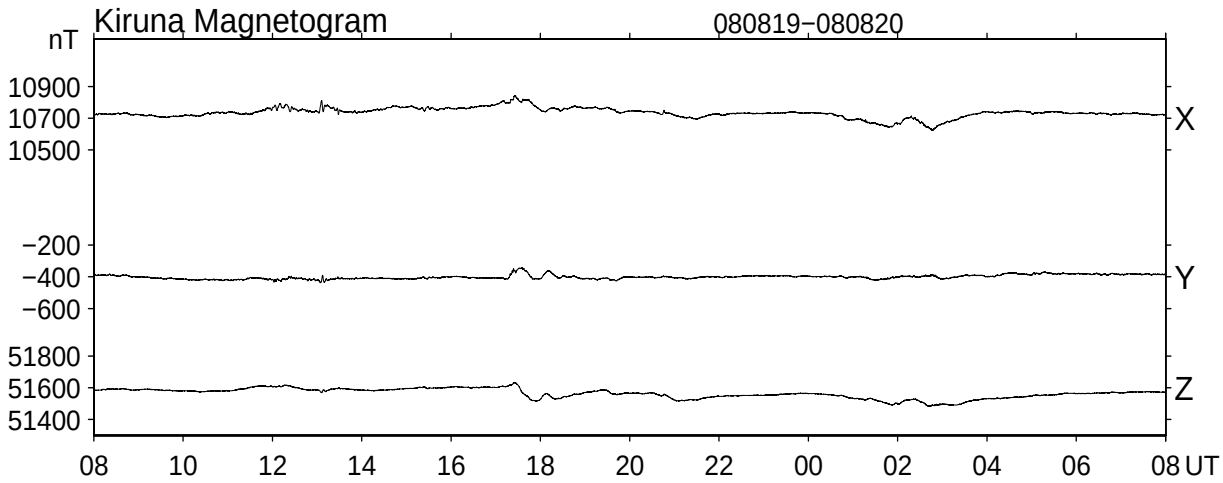

Kiruna Magnetogram
080814−080815
nT
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−400
−600
51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

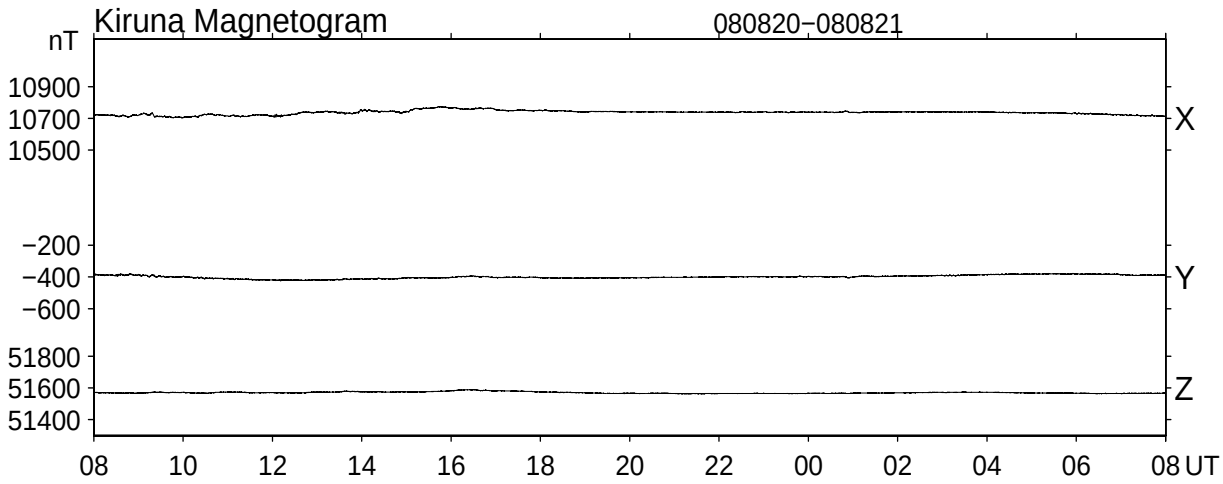

Kiruna Magnetogram
080815−080816
nT
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10700
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−200
−400
−600
51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

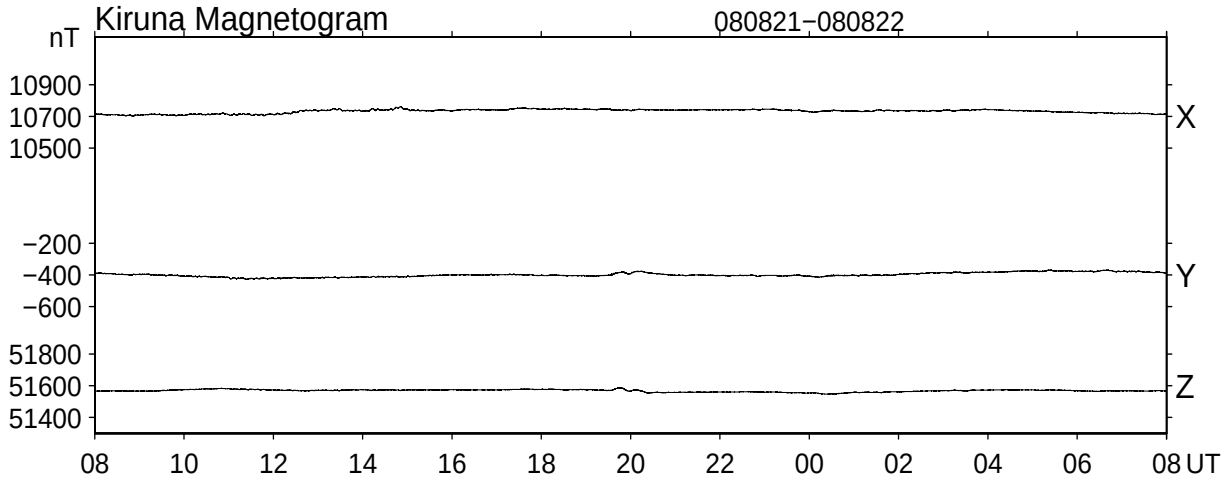

Kiruna Magnetogram
080816−080817
nT
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10700
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−200
−400
−600
51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

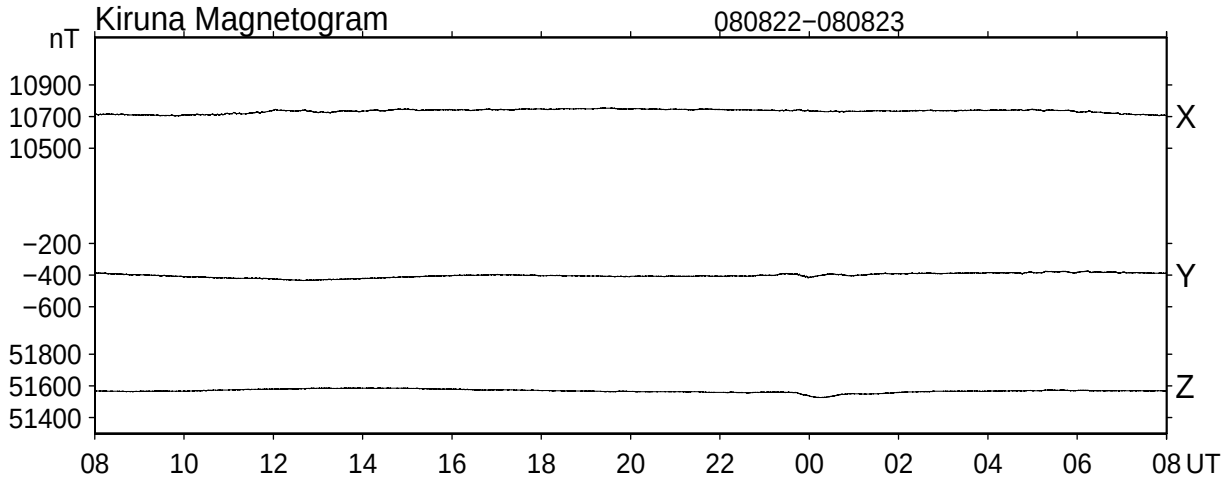

Kiruna Magnetogram
080817−080818
nT
10900
10700
10500
−200
−400
−600
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51400
X
Y
Z
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10
12
14
16
18
20
22
00
02
04
06
08 UT

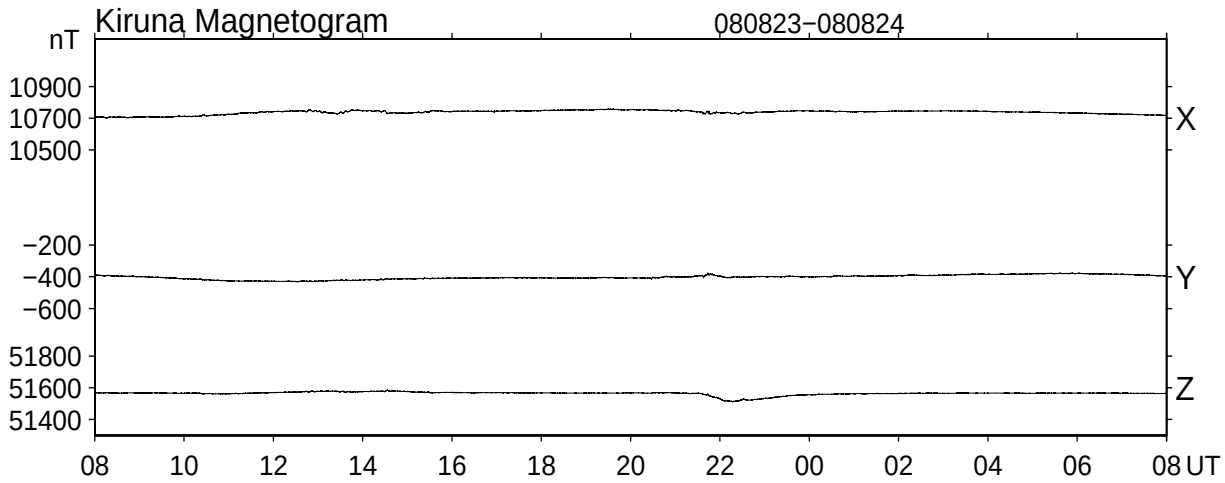

Kiruna Magnetogram
080818−080819
nT
10900
10700
10500
−200
−400
−600
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51600
51400
X
Y
Z
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10
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16
18
20
22
00
02
04
06
08 UT

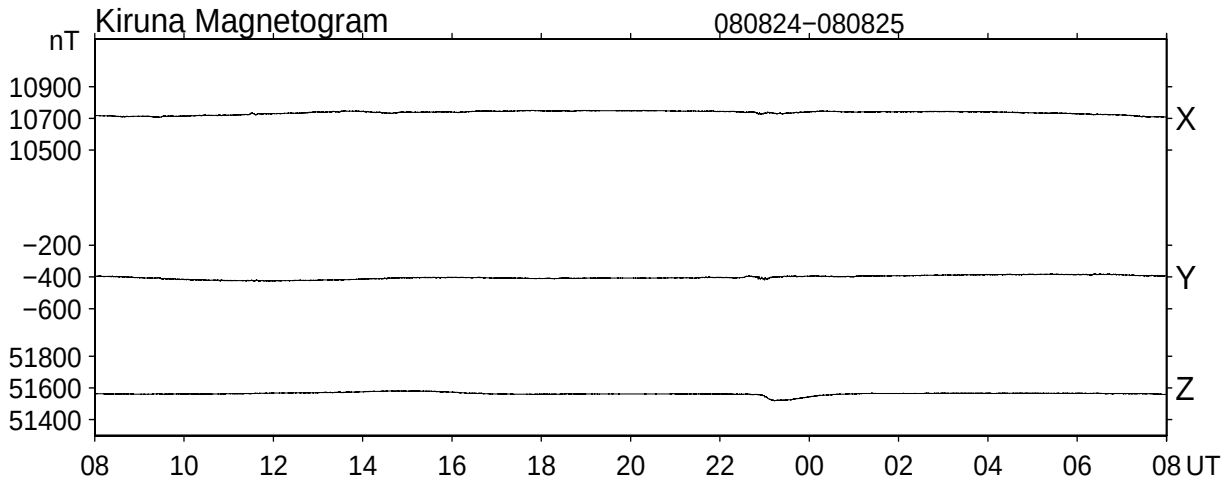

Kiruna Magnetogram
080819−080820
nT
10900
10700
10500
−200
−400
−600
51800
51600
51400
X
Y
Z
08
10
12
14
16
18
20
22
00
02
04
06
08 UT

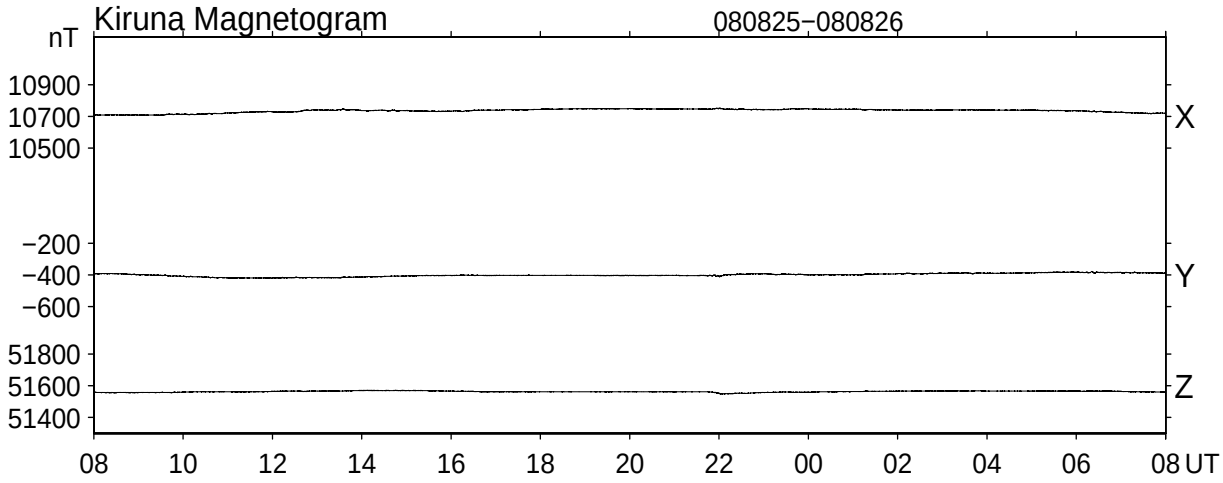

Kiruna Magnetogram
080820−080821
nT
10900
10700
10500
−200
−400
−600
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51600
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X
Y
Z
08
10
12
14
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18
20
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02
04
06
08 UT

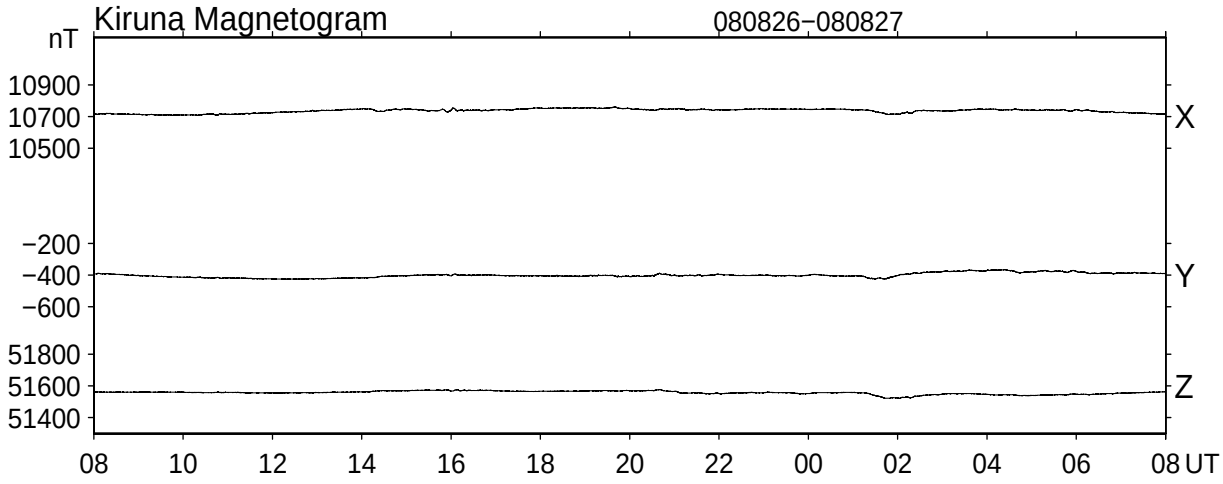

Kiruna Magnetogram
080821−080822
nT
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10700
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−200
−400
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Y
Z
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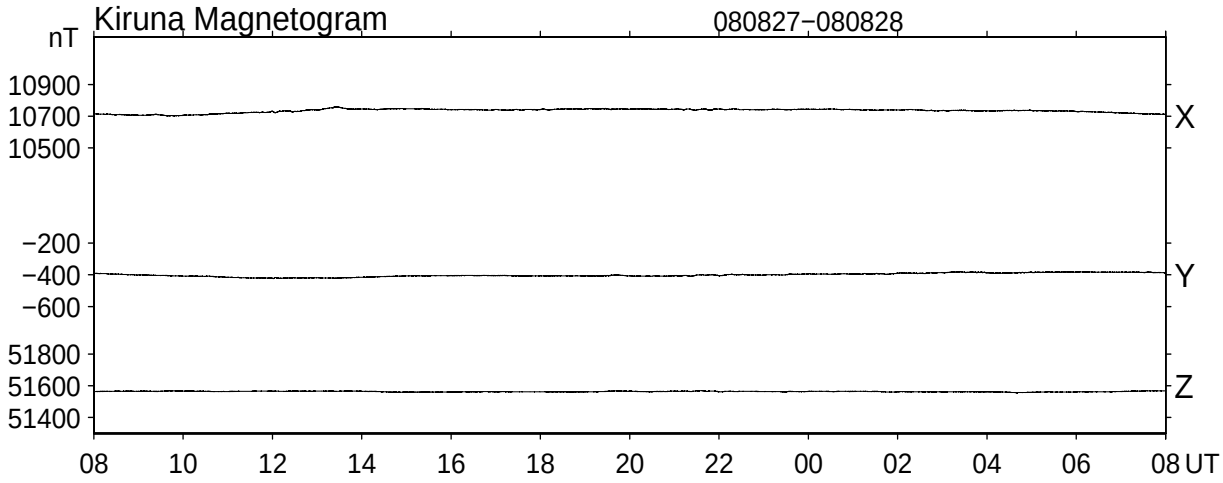

Kiruna Magnetogram
080822−080823
nT
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10700
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−200
−400
−600
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51600
51400
X
Y
Z
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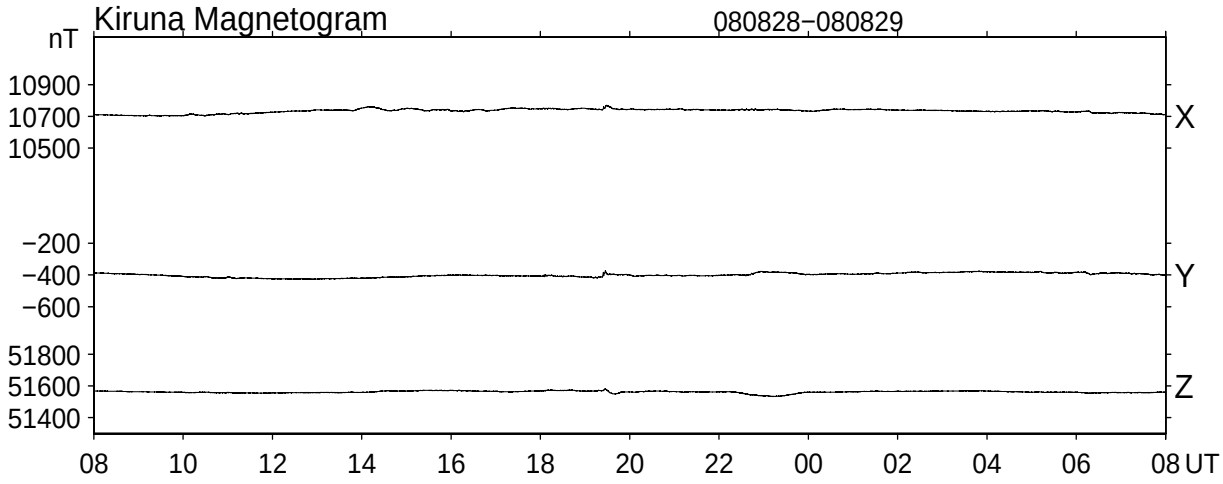

Kiruna Magnetogram
080823−080824
nT
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−400
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51600
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Y
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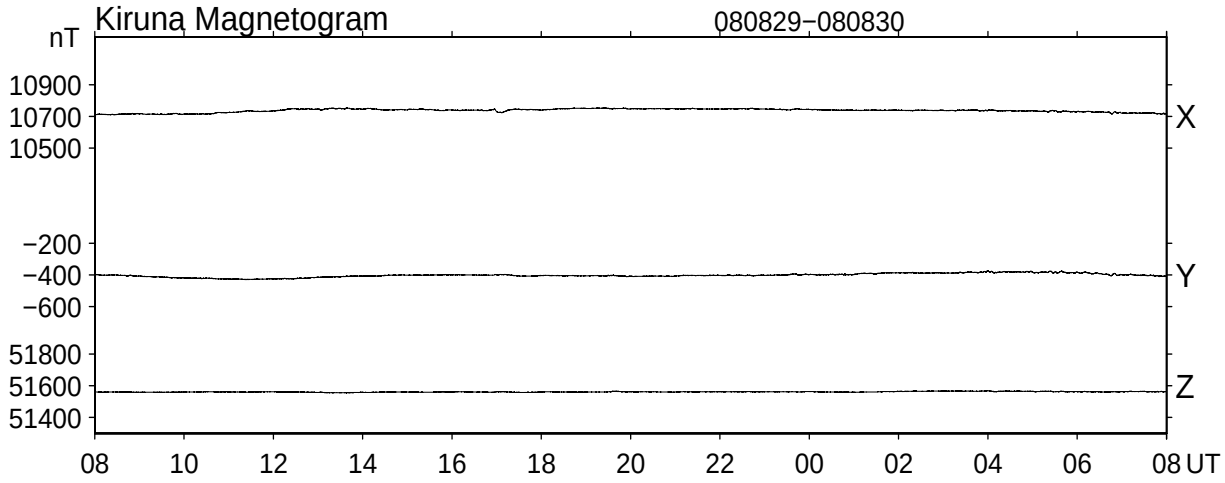

Kiruna Magnetogram
080824−080825
nT
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−200
−400
−600
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51600
51400
X
Y
Z
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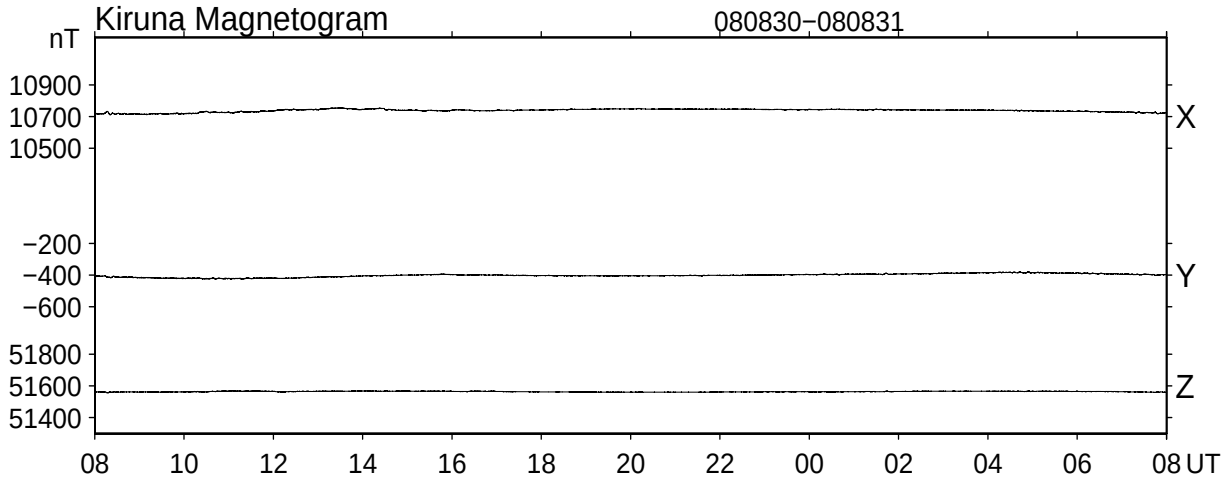

Kiruna Magnetogram
080825–080826
nT
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10700
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−200
−400
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51600
51400
X
Y
Z
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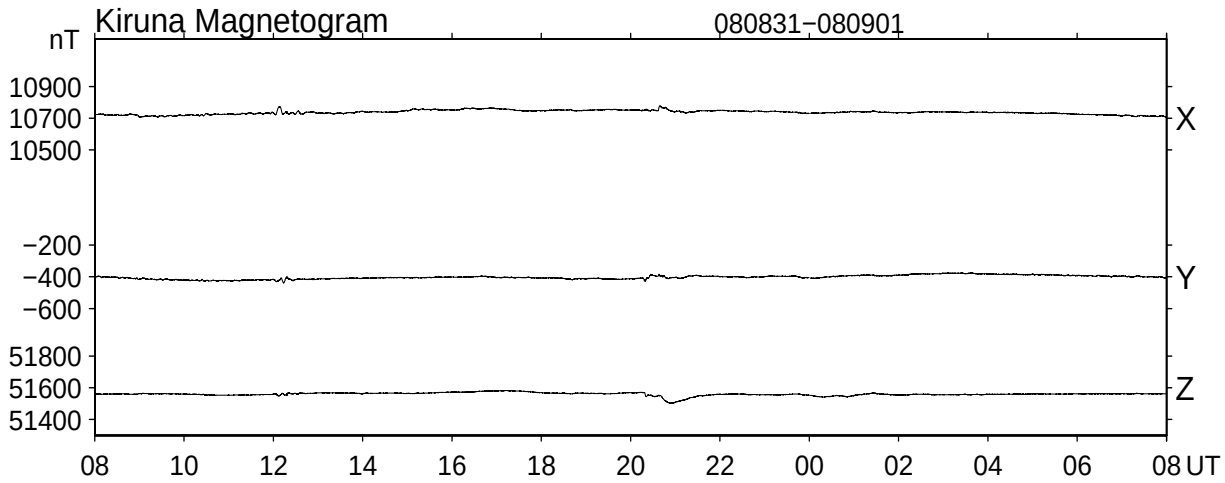

Kiruna Magnetogram
080826–080827
nT
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10700
10500
−200
−400
−600
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51600
51400
X
Y
Z
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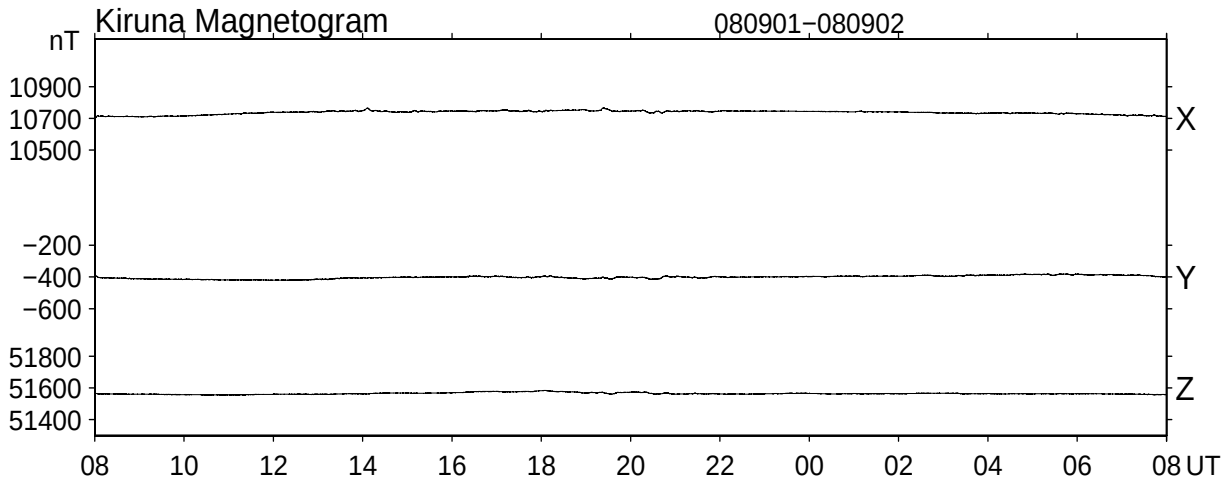

Kiruna Magnetogram
080827–080828
nT
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10700
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−200
−400
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51600
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Y
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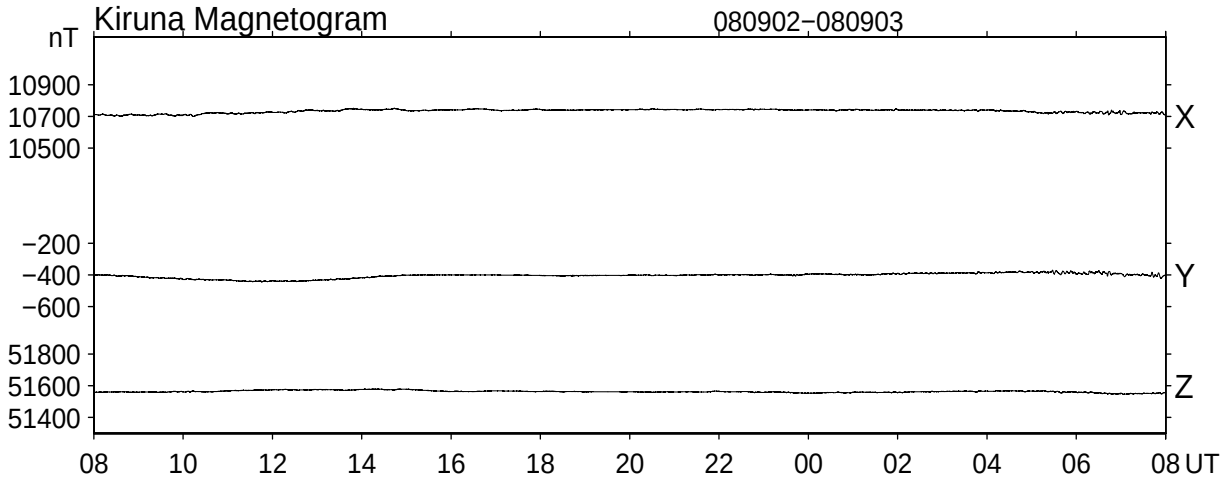

Kiruna Magnetogram
080828–080829
nT
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−200
−400
−600
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51600
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X
Y
Z
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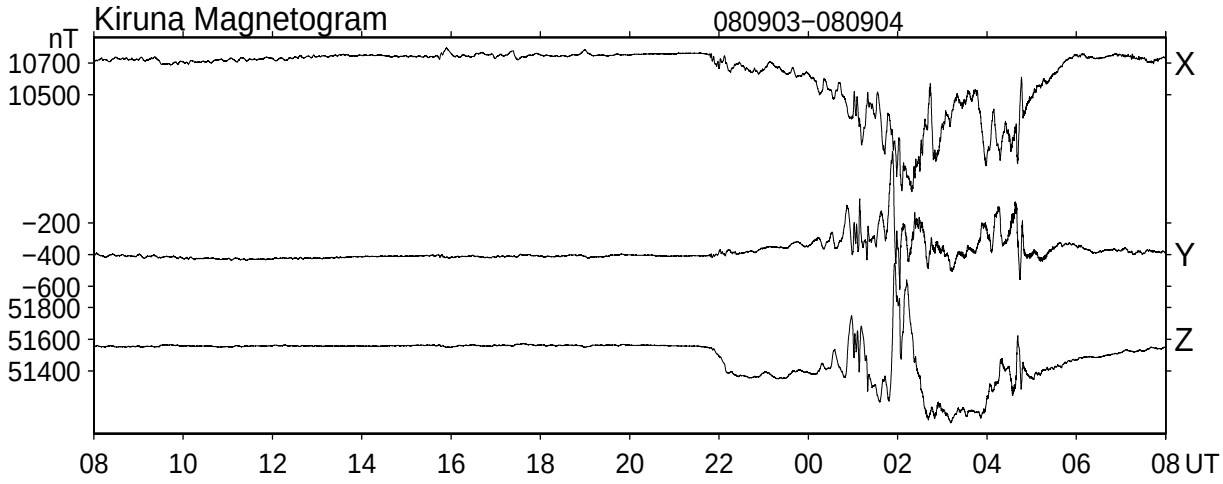

Kiruna Magnetogram
080829−080830
nT
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10700
10500
−200
−400
−600
51800
51600
51400
X
Y
Z
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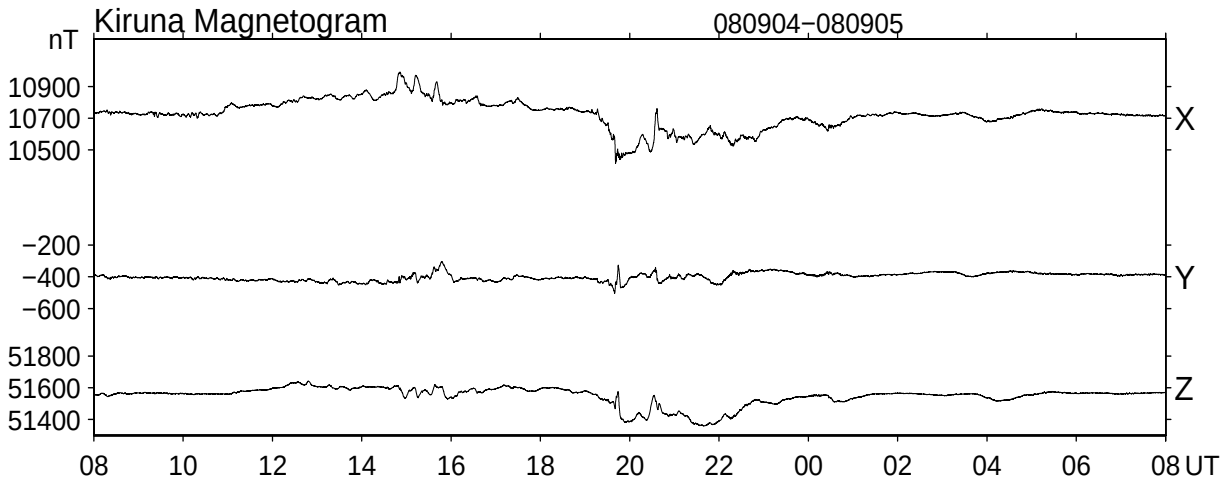

Kiruna Magnetogram
080830−080831
nT
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10700
10500
−200
−400
−600
51800
51600
51400
X
Y
Z
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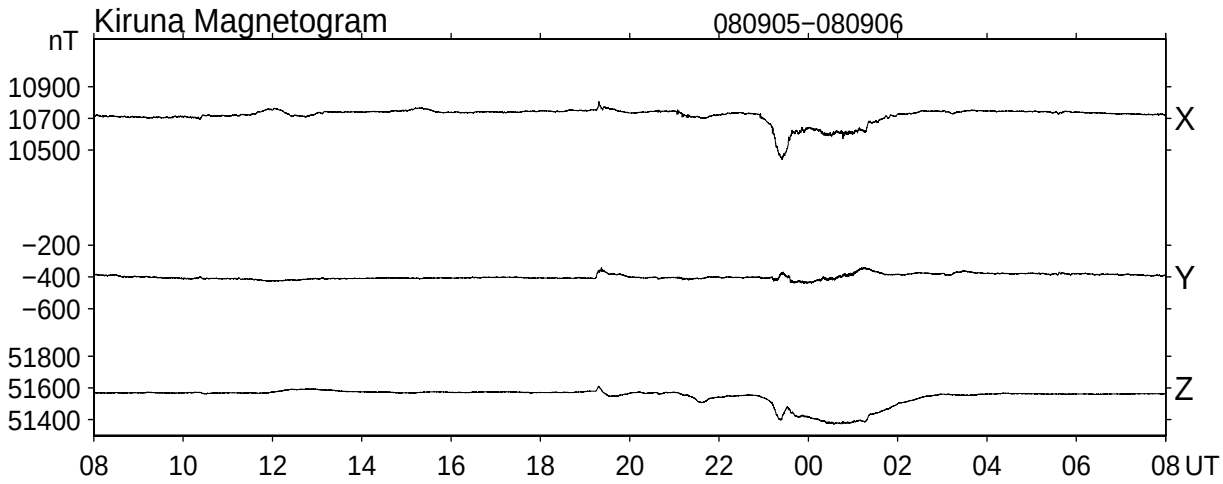

Kiruna Magnetogram
080831−080901
nT
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−400
−600
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51600
51400
X
Y
Z
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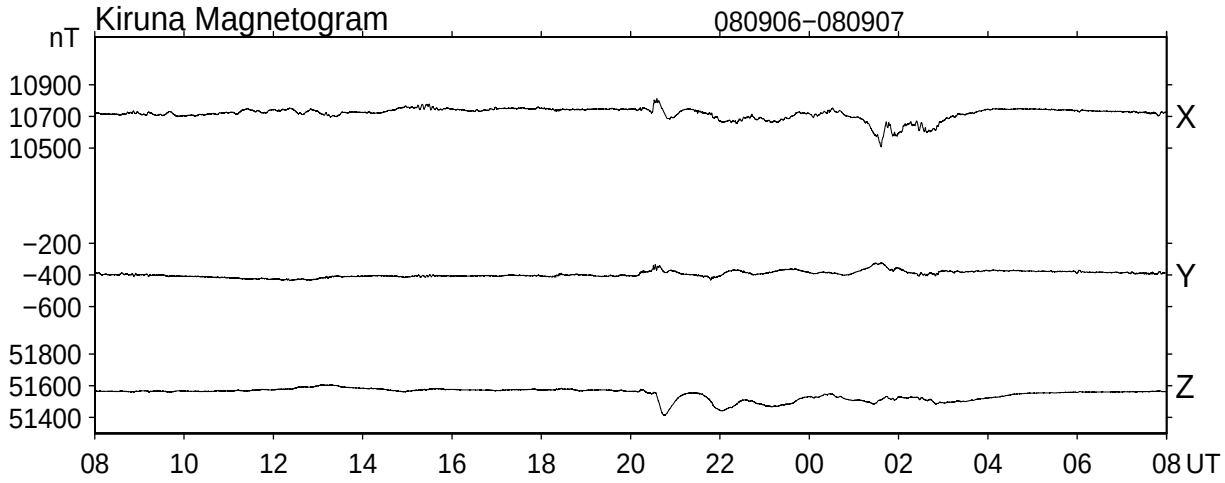

Kiruna Magnetogram
080901−080902
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−400
−600
51800
51600
51400
X
Y
Z
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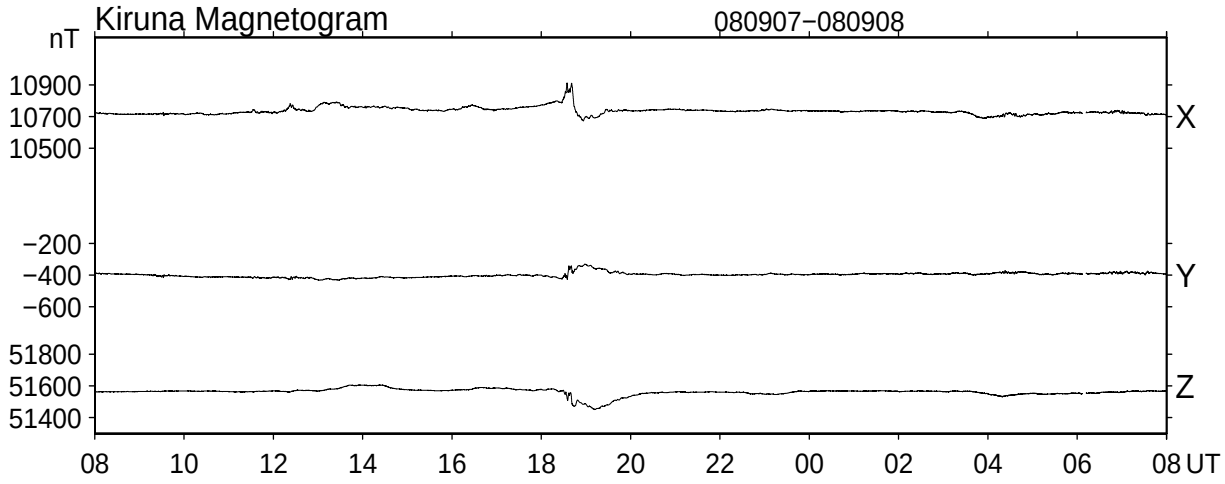

Kiruna Magnetogram
080902–080903
nT
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10700
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−200
−400
−600
51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

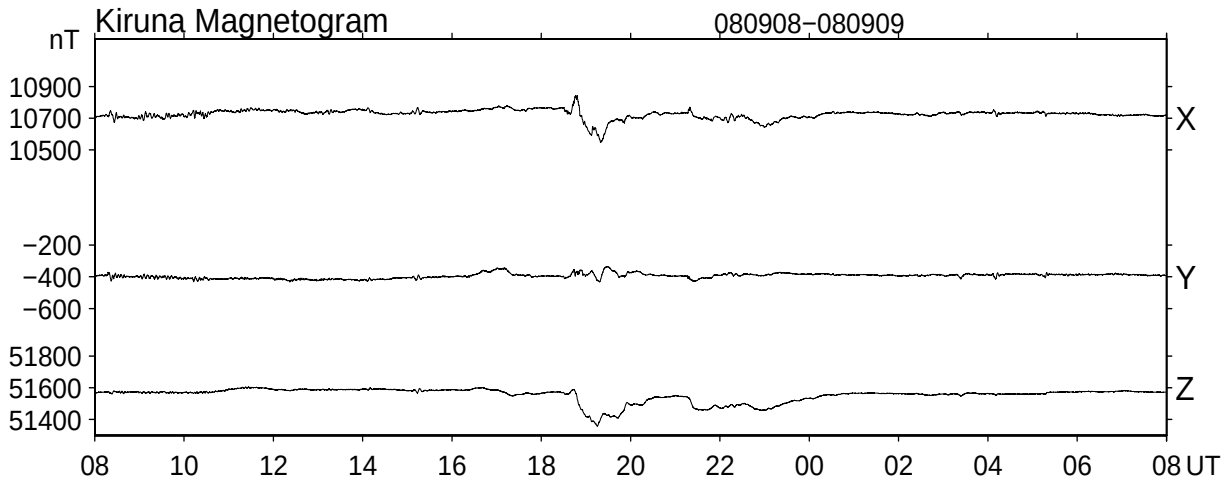

Kiruna Magnetogram
080903–080904
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−200
−400
−600
51800
51600
51400
X
Y
Z
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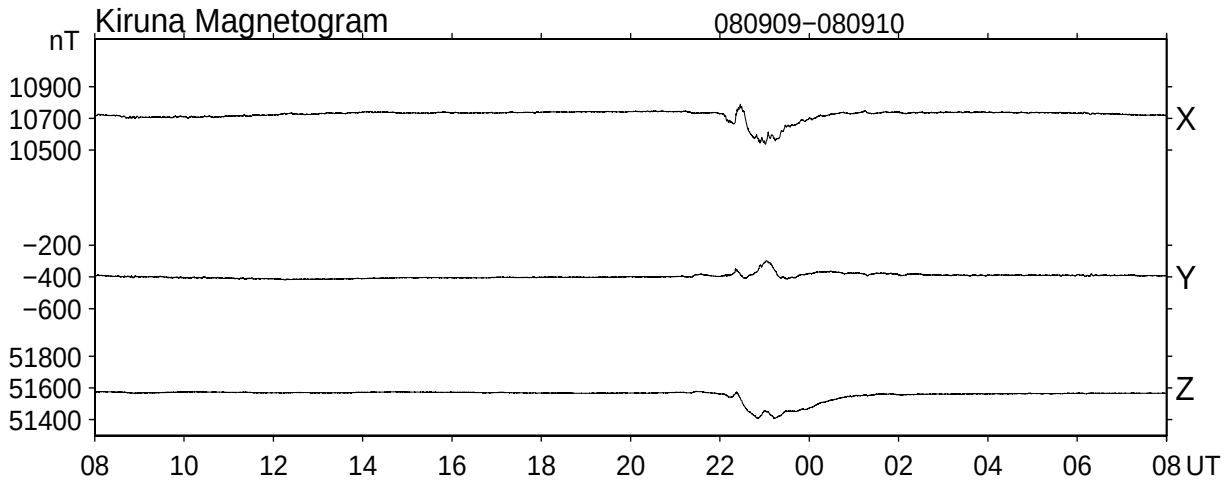

Kiruna Magnetogram
080904–080905
nT
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10700
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−200
−400
−600
51800
51600
51400
X
Y
Z
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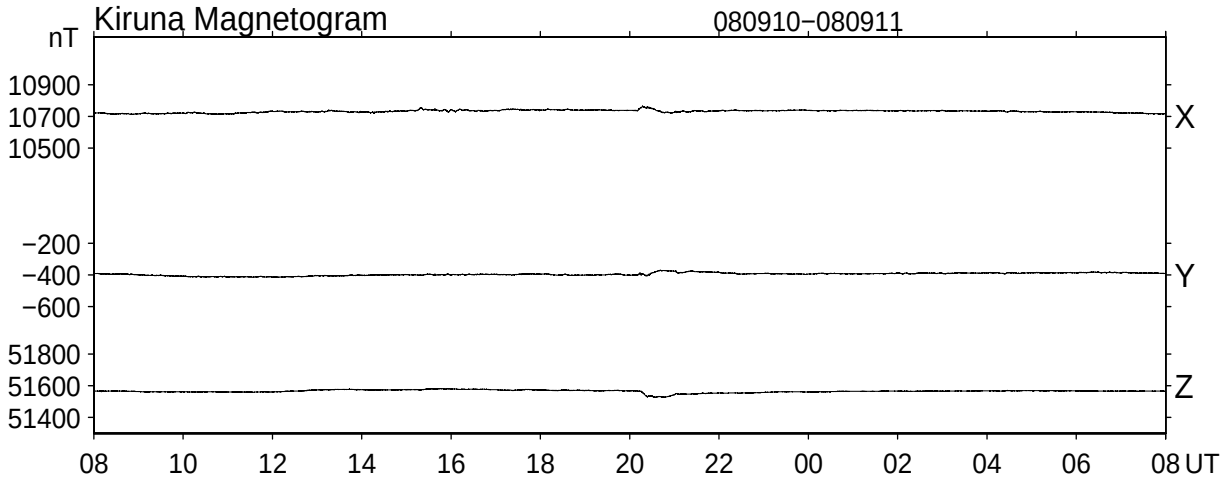

Kiruna Magnetogram
080905–080906
nT
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10700
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−200
−400
−600
51800
51600
51400
X
Y
Z
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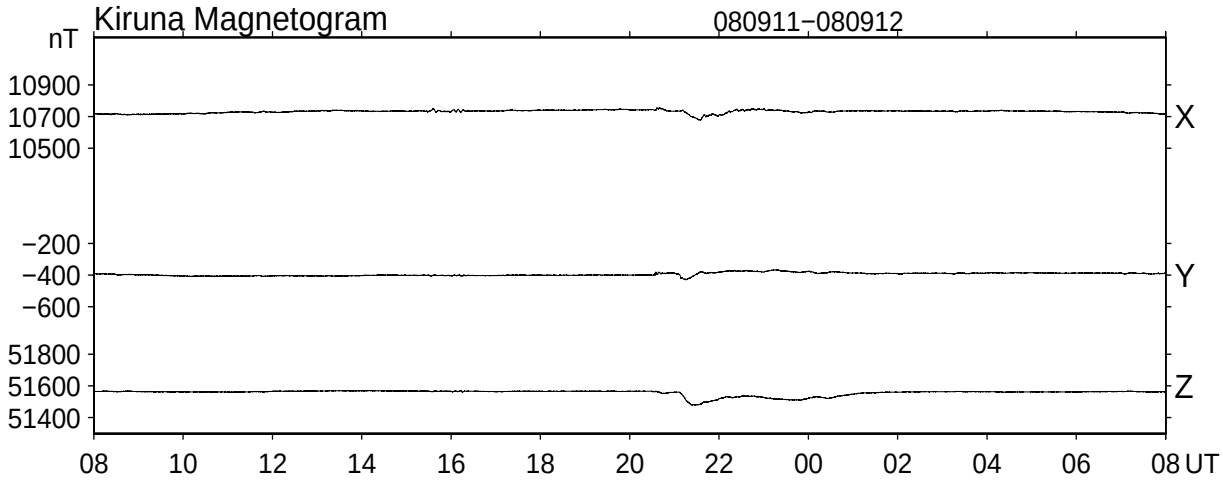

Kiruna Magnetogram
080906−080907
nT
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10700
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−200
−400
−600
51800
51600
51400
X
Y
Z
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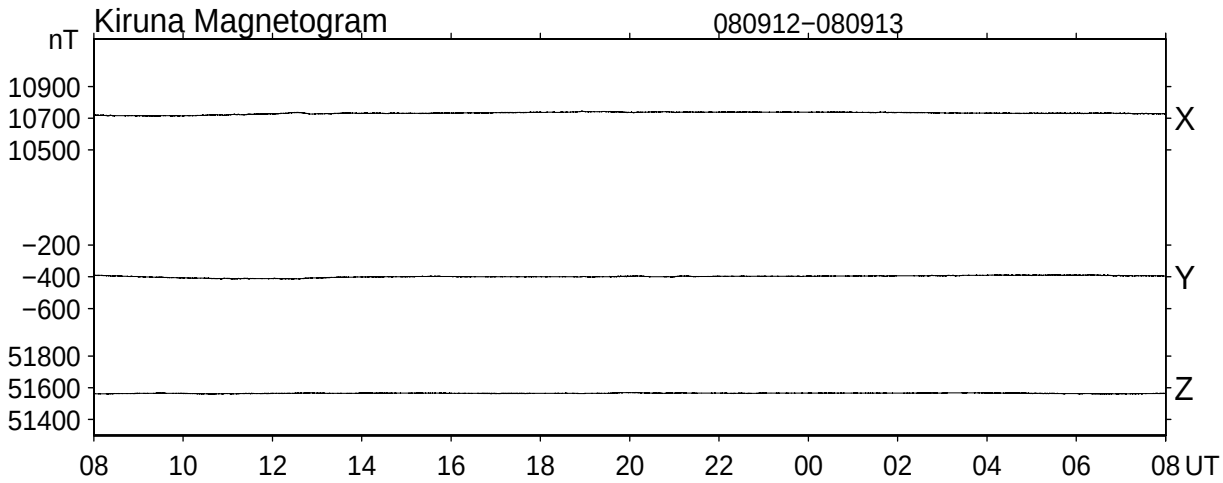

Kiruna Magnetogram
080907−080908
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−400
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51600
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X
Y
Z
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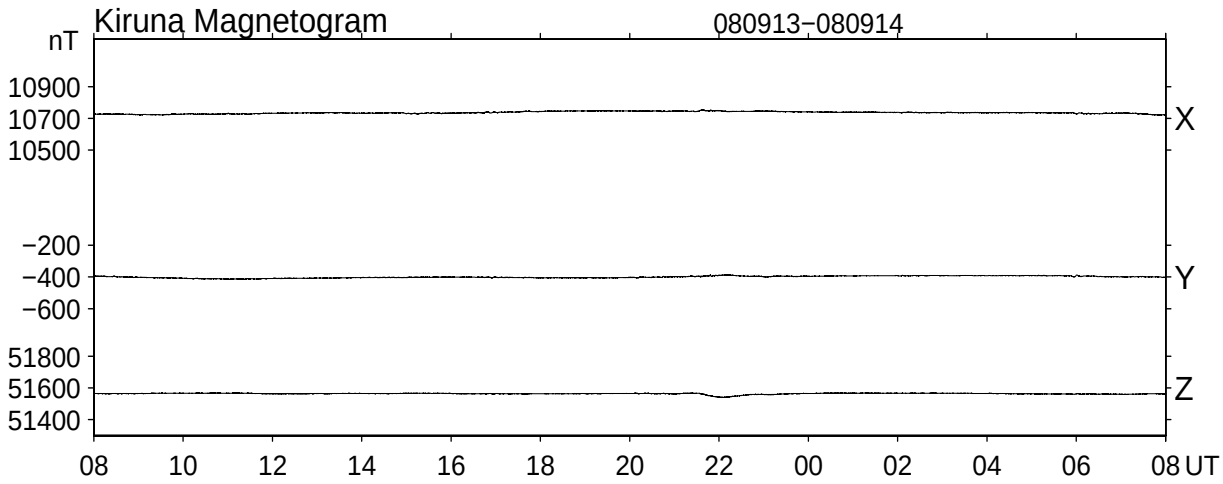

Kiruna Magnetogram
080908−080909
nT
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−200
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X
Y
Z
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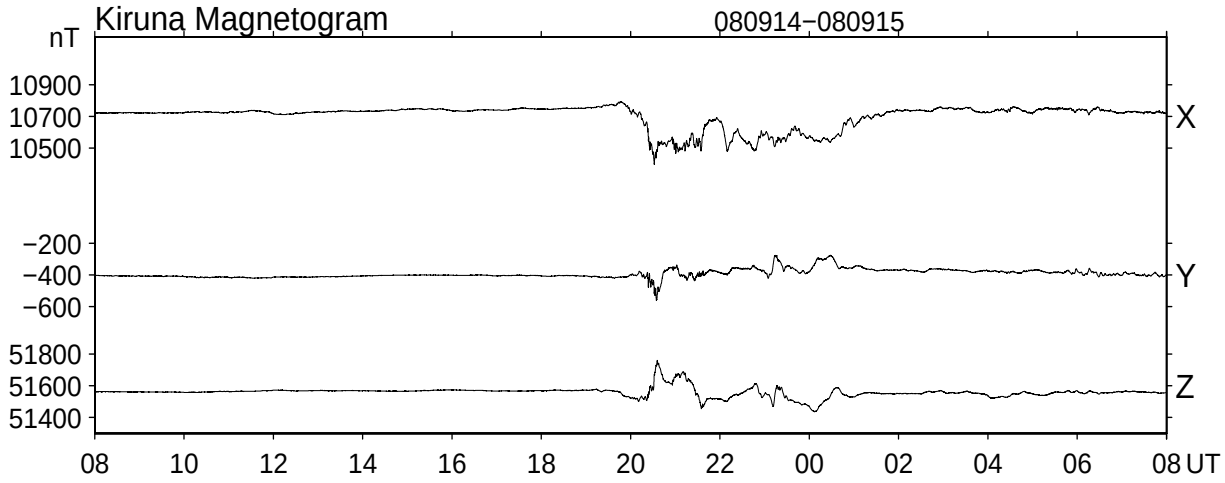

Kiruna Magnetogram
080909−080910
nT
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X
Y
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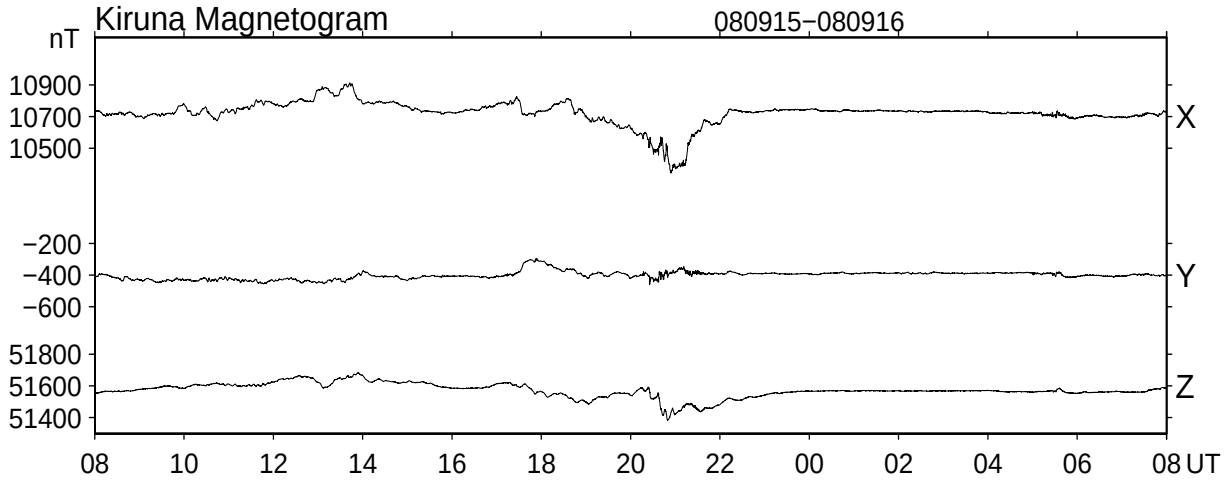

Kiruna Magnetogram
080910−080911
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X
Y
Z
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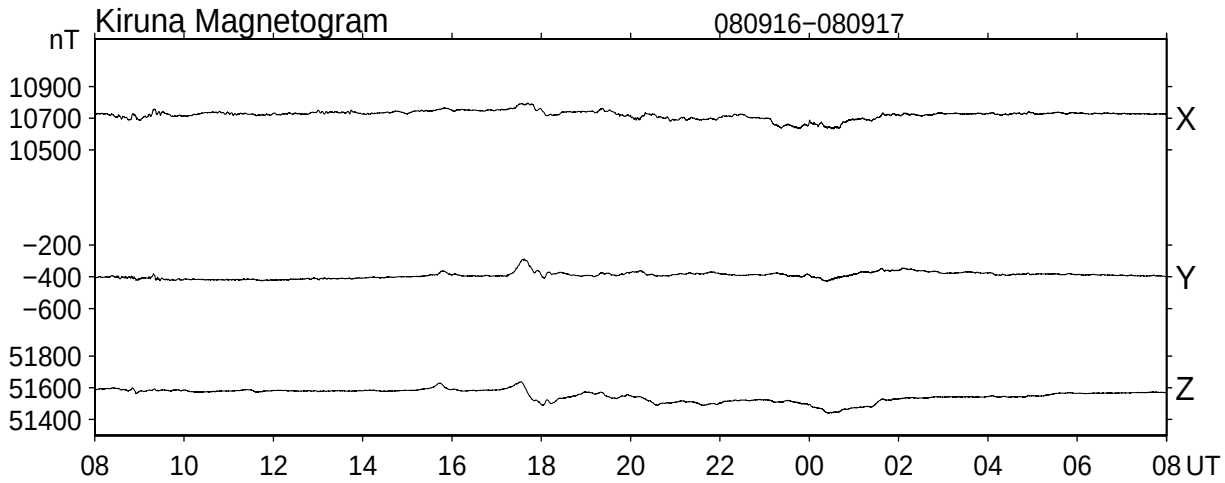

Kiruna Magnetogram
080911−080912
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X
Y
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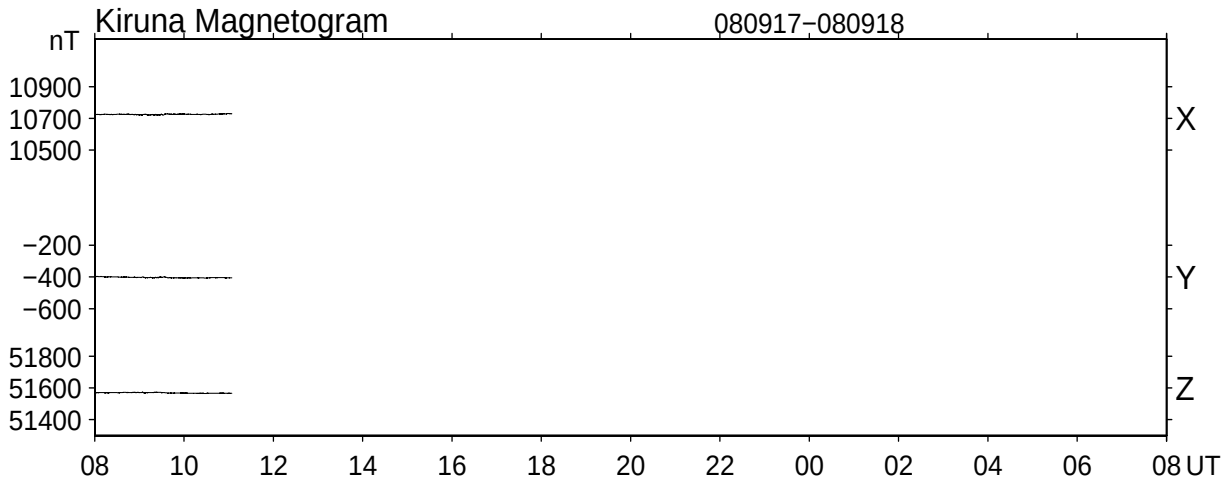

Kiruna Magnetogram
080912−080913
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−600
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X
Y
Z
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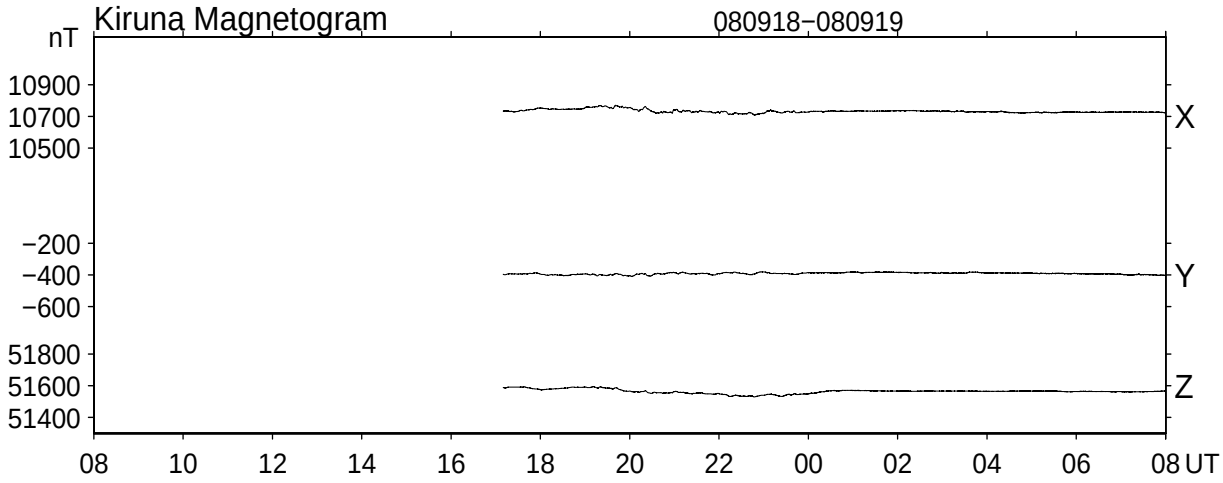

Kiruna Magnetogram
080913−080914
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X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

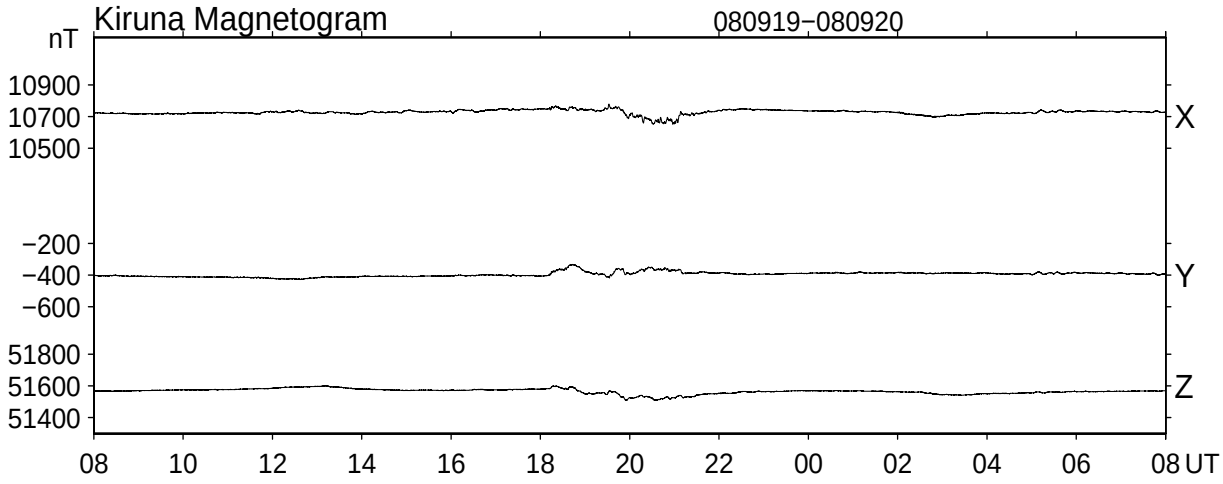

Kiruna Magnetogram
080914−080915
nT
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−400
−600
51800
51600
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X
Y
Z
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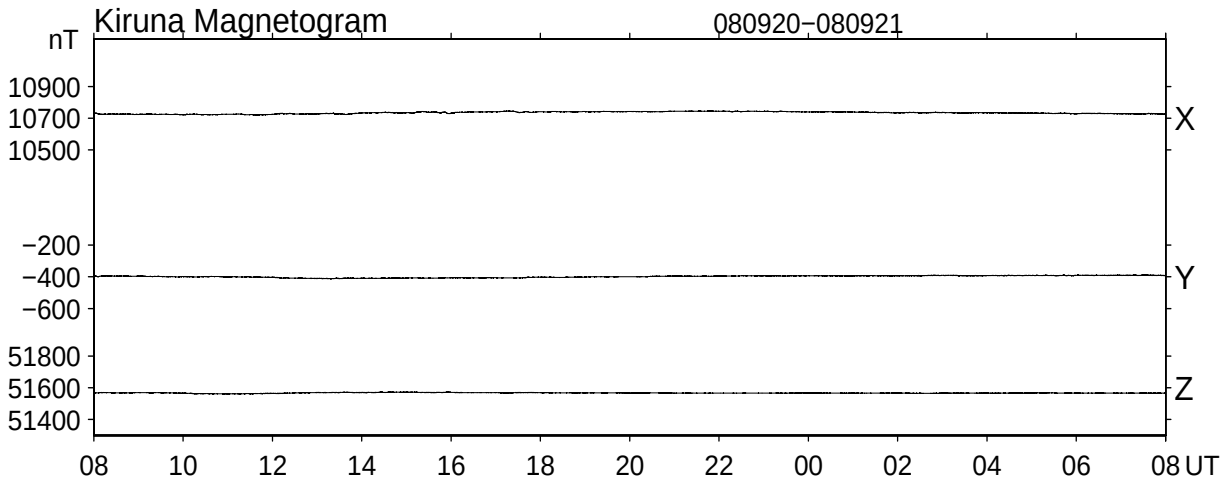

Kiruna Magnetogram
080915−080916
nT
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10700
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−200
−400
−600
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51600
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X
Y
Z
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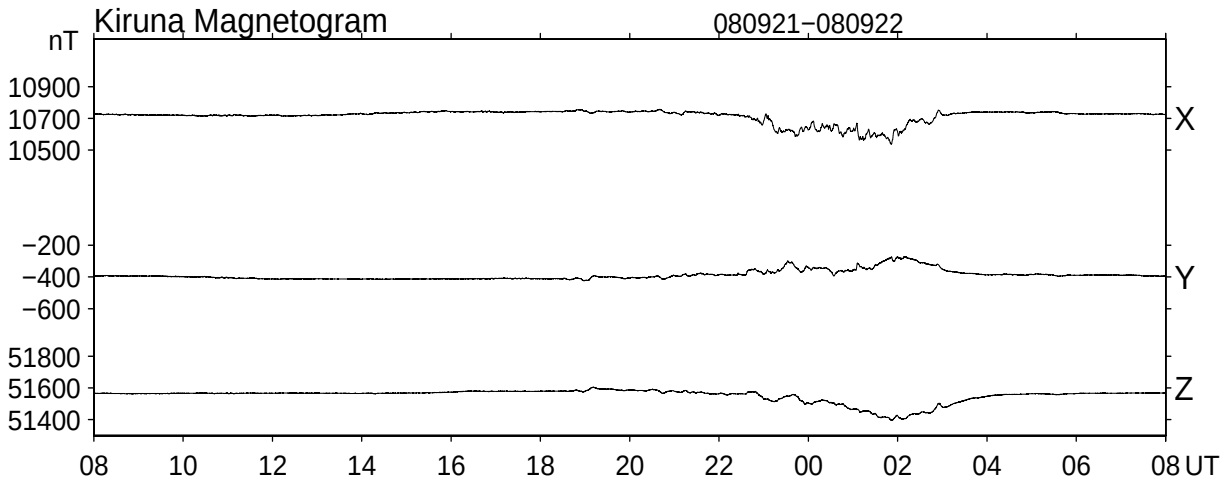

Kiruna Magnetogram
080916−080917
nT
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X
Y
Z
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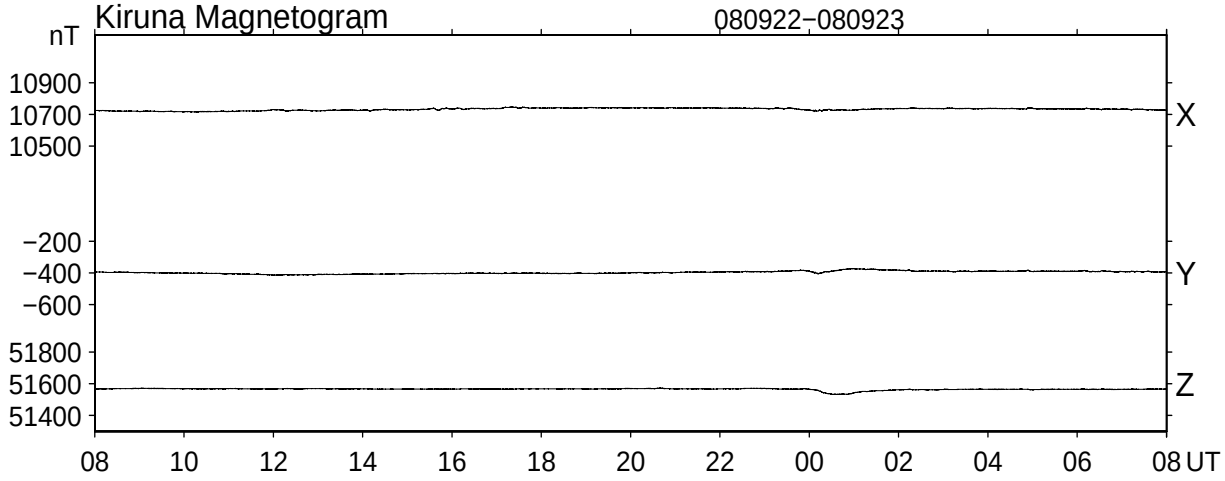

Kiruna Magnetogram
080917−080918
nT
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51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

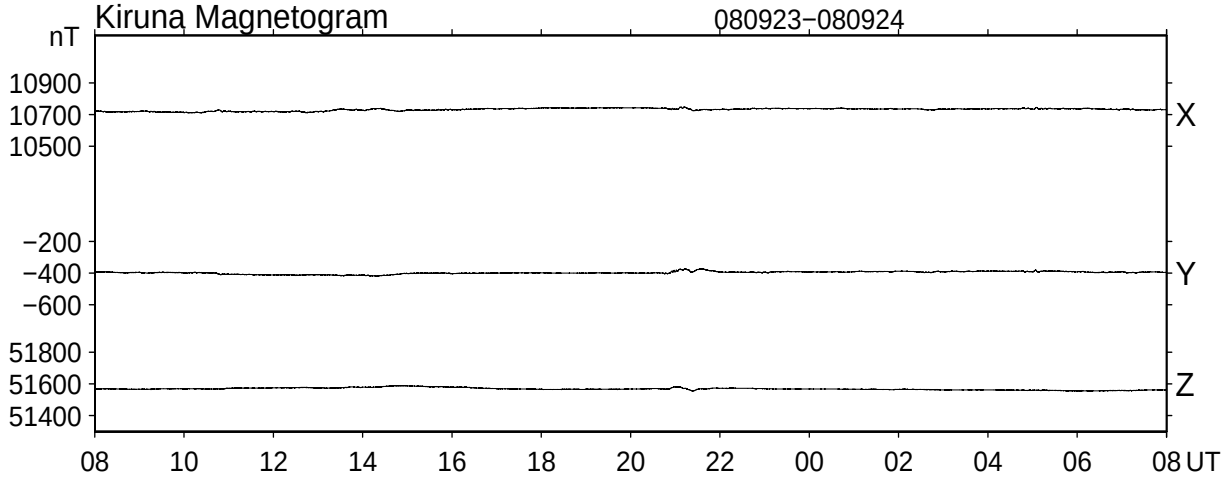

Kiruna Magnetogram
080918−080919
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51600
51400
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Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

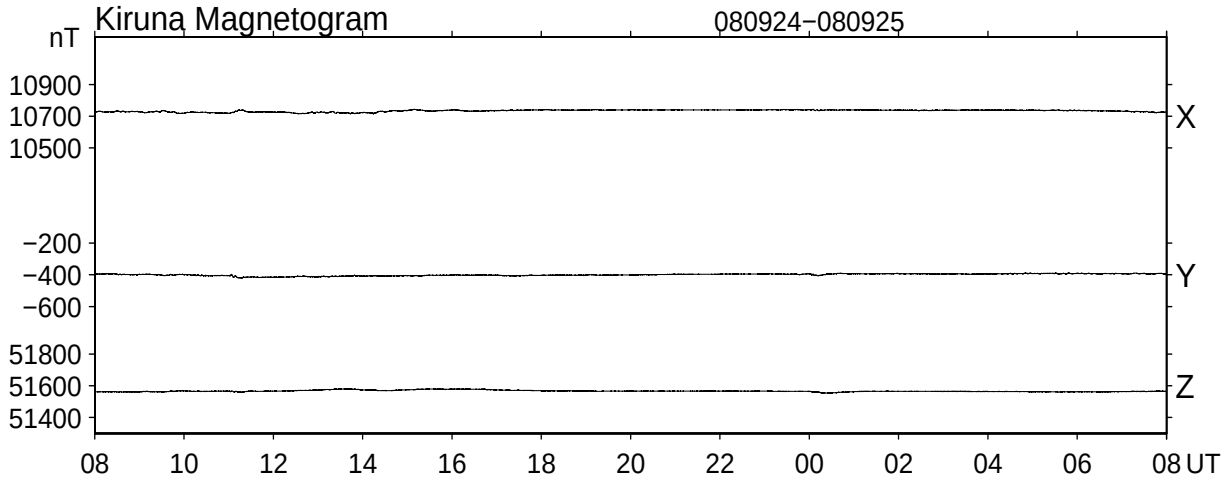

Kiruna Magnetogram
080919−080920
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−400
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51800
51600
51400
X
Y
Z
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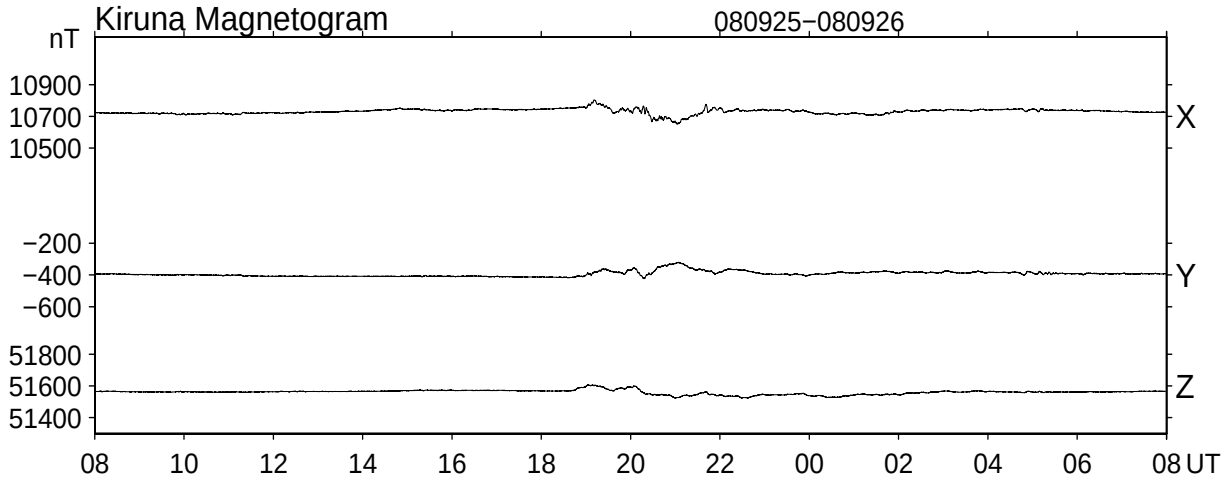

Kiruna Magnetogram
080920−080921
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−400
−600
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51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

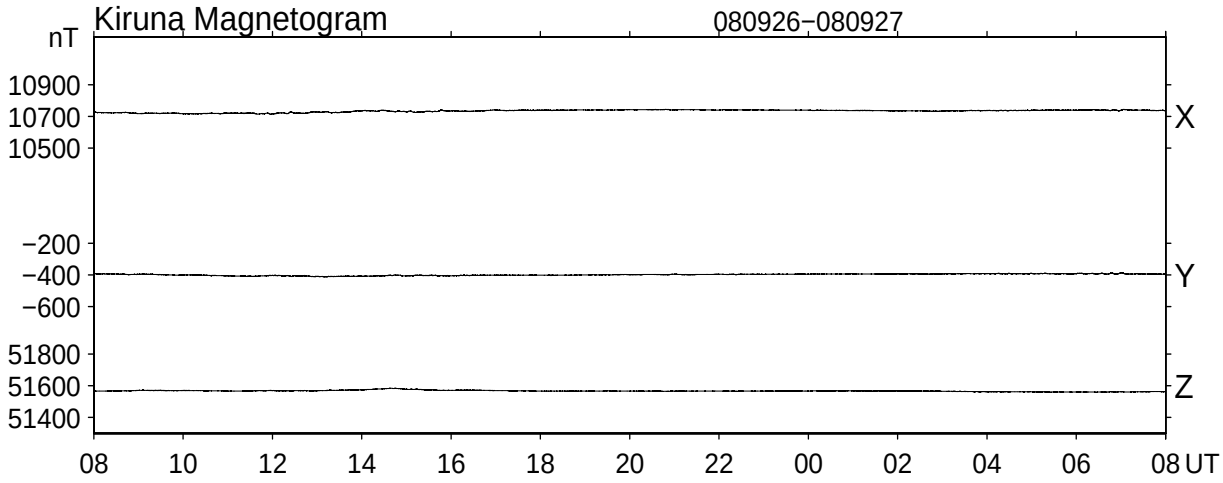

Kiruna Magnetogram
080921−080922
nT
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10700
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−400
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51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

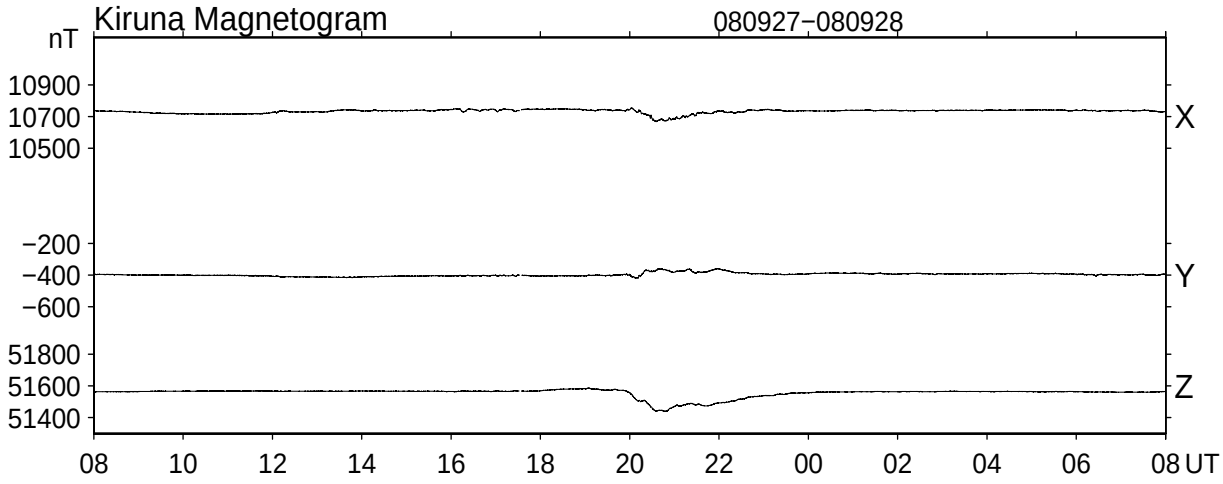

Kiruna Magnetogram
080922−080923
nT
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10700
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−200
−400
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51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

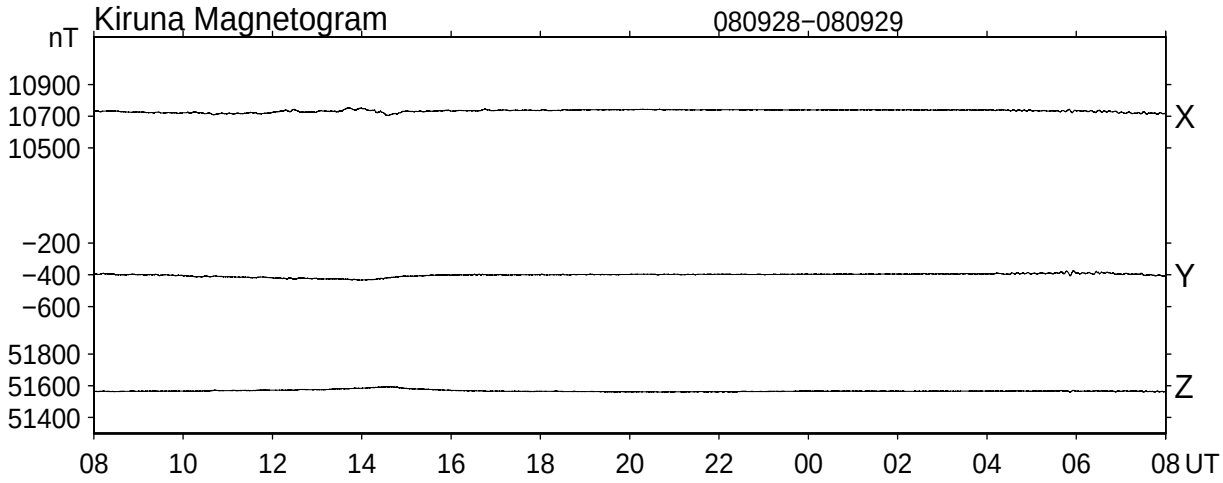

Kiruna Magnetogram
080923−080924
nT
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10700
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−200
−400
−600
51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

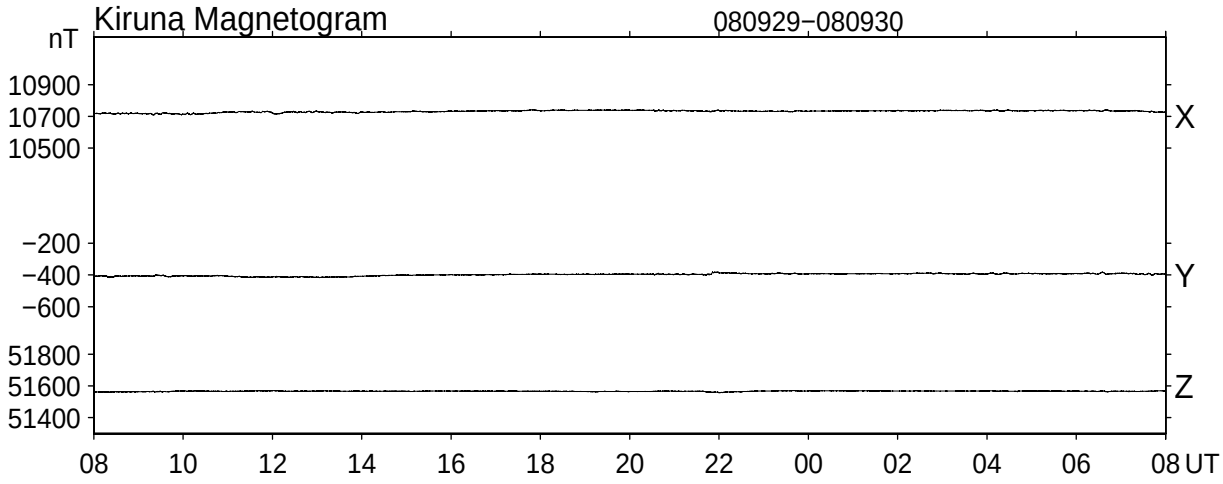

Kiruna Magnetogram
080924−080925
nT
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−200
−400
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51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT

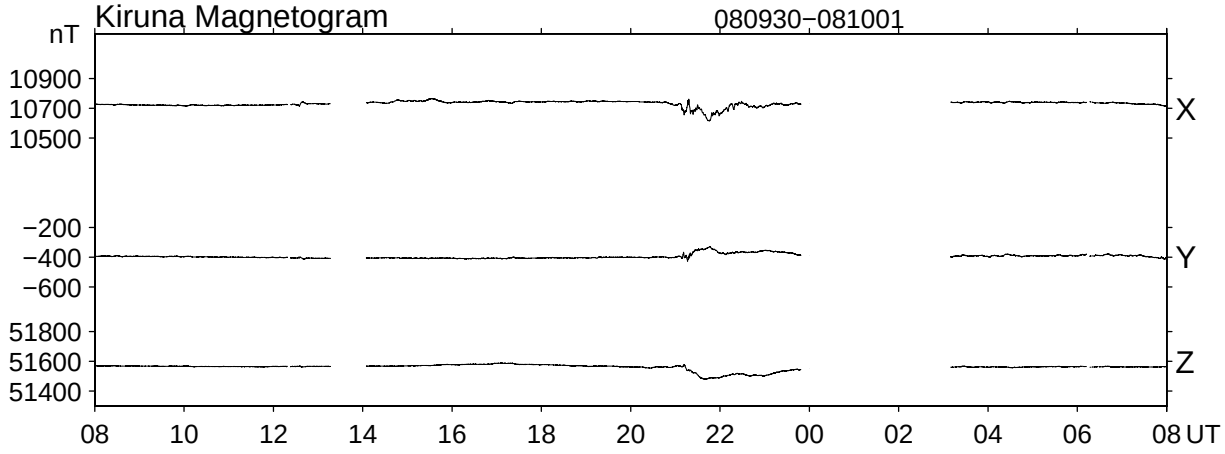

Kiruna Magnetogram
080925−080926
nT
10900
10700
10500
−200
−400
−600
51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT


Kiruna Magnetogram
080926–080927
nT
10900
10700
10500
−200
−400
−600
51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT


Kiruna Magnetogram
080927–080928
nT
10900
10700
10500
−200
−400
−600
51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT


Kiruna Magnetogram
080928–080929
nT
10900
10700
10500
−200
−400
−600
51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT


Kiruna Magnetogram
080929–080930
nT
10900
10700
10500
−200
−400
−600
51800
51600
51400
X
Y
Z
08 10 12 14 16 18 20 22 00 02 04 06 08 UT


Kiruna Magnetogram
080930−081001
nT
10900
10700
10500
−200
−400
−600
51800
51600
51400
X
Y
Z
08
10
12
14
16
18
20
22
00
02
04
06
08 UT

KIRUNA VERTICAL RIOMETER

July - September 2008

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

Riometer plots are not available in this issue since the riometer had severe technical problems during the period it covers. Riometer plots will appear again from the 2010 January-March issue.



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