

R O S E T T A

FLIGHT REPORTS
of RPC-MAG

RO-IGEP-TR-0011

Issue: 4 Revision: 0

January 25, 2010

Report of the
INTERFERENCE CAMPAIGN

Time period: September 20. - October 14., 2004

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1 Summary

The interference campaign for ROSETTA was executed in the time period September 20. – October 14., 2004. All the performed steps were successful. MAG worked as expected.

The next sections give a brief description of the executed activities and show the obtained data. Housekeeping data (Temperature of the OB & IB sensor, Filter Stages A & B, Filter configuration register, Reference voltage, negative and positive 5V supply voltage, and the coarse HK sampled magnetic field data of the OB sensor) are presented as well as magnetic field science data of the OB and IB sensor in the activated modes. Magnetic field data are plotted in instrument coordinates if not otherwise stated. They are calibrated according to the results of the ground calibration and the results of the new created temperature model using the flight data from March until September. Sensitivity, Misalignment, and Temperature effects are taken into account. The s/c residual field is not subtracted.

The dynamic spectra show some clear lines which are varying with the time. A detailed investigation showed, that these lines have their origin in the reaction wheels of the ROSETTA S/C. As they are rotating with different speeds they generate different disturbance frequencies. The signatures of the reaction wheels are folded down in the measurement range of the magnetometers. A detailed investigation of this phenomenon is given in RO-IGEP-TR0012.

From time to time there are also horizontal lines in the dynamic spectrum to be seen. These lines represent constant frequencies and are caused by the LAP instrument. This behavior was investigated and proofed during the PC10 campaign in November 2010. See RO-IGEP-TR0030 for further details.

2 September 20, 2004:

2.1 Actions

MAG was switched on immediately after PIU and set to HK mode at 16:02. All commands passed smoothly and the instrument followed in the expected way.

Time	Stage A, Stage B, Filter cfg	Stage 1, Stage 2, Stage3	Mode
16:22 – 24:00	0 0 0	0 0 0	SID3

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2.2 Plots of Calibrated Data using the new Temperature Model

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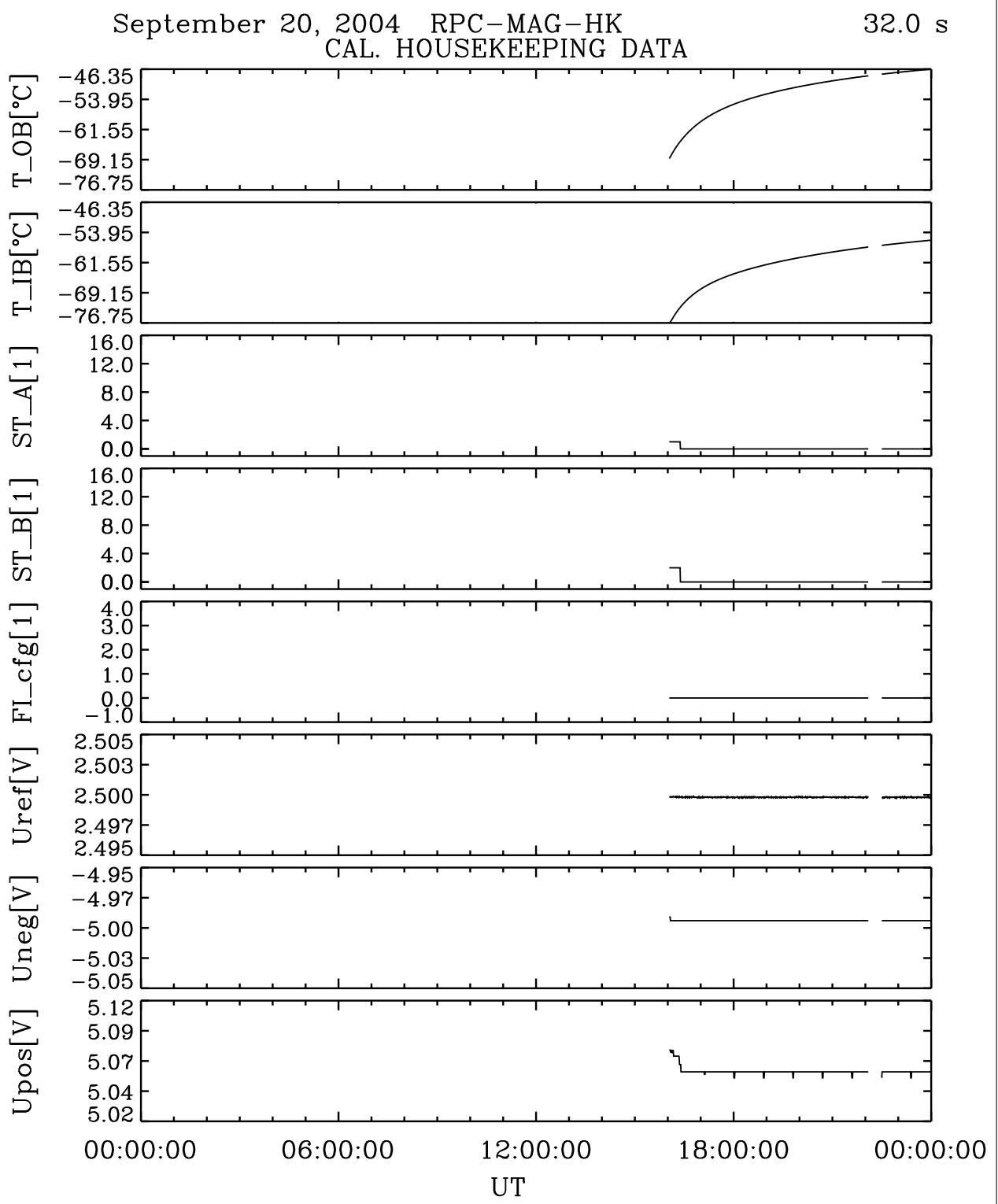


Figure 1: File: RPCMAG040920T1602_CLA_HK_P0000_2400

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September 20, 2004 RPC-MAG-HK
HOUSEKEEPING B_OB DATA 32.0 s

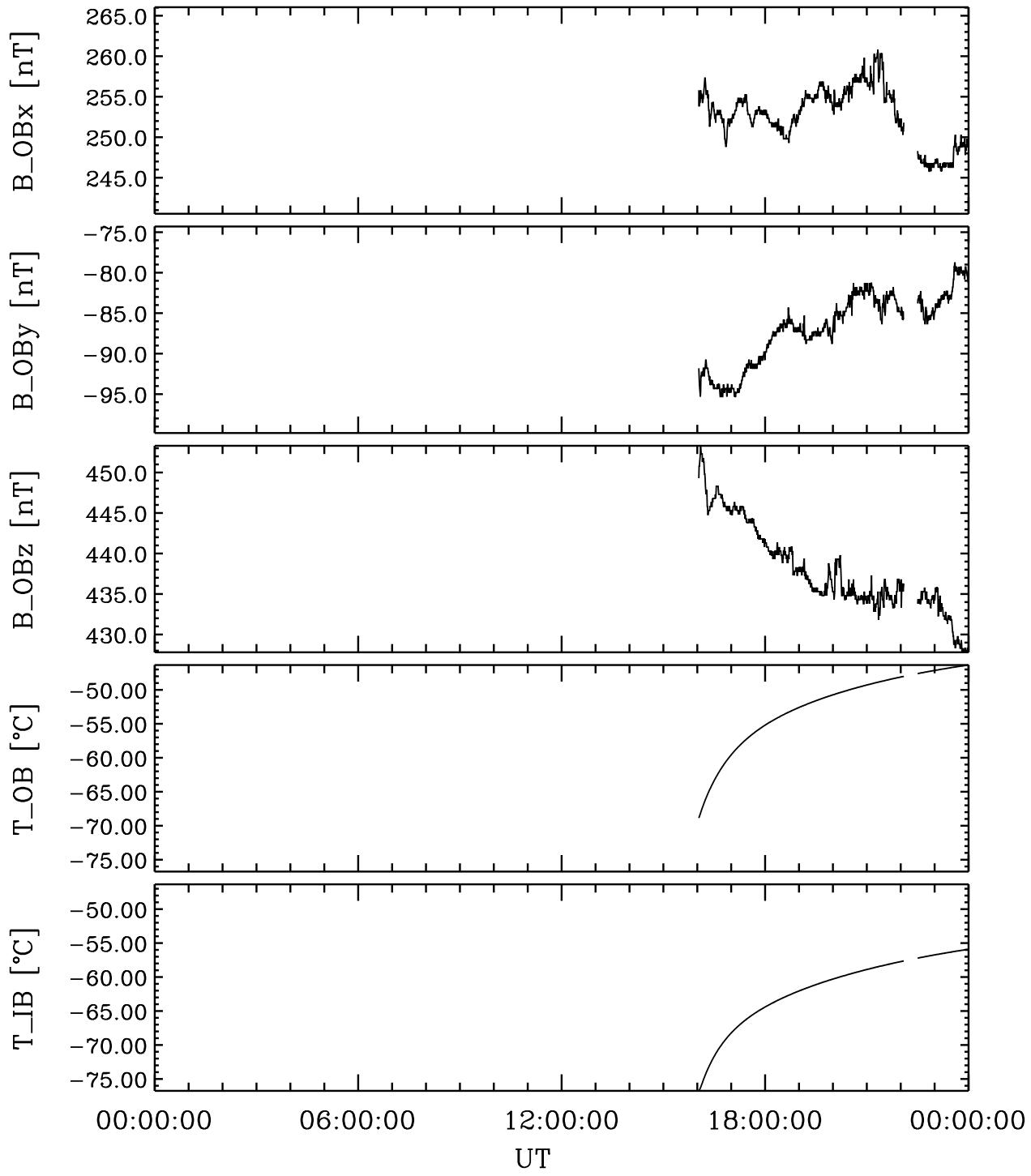


Figure 2: File: RPCMAG040920T1602_CLA_HK_B_P0000_2400

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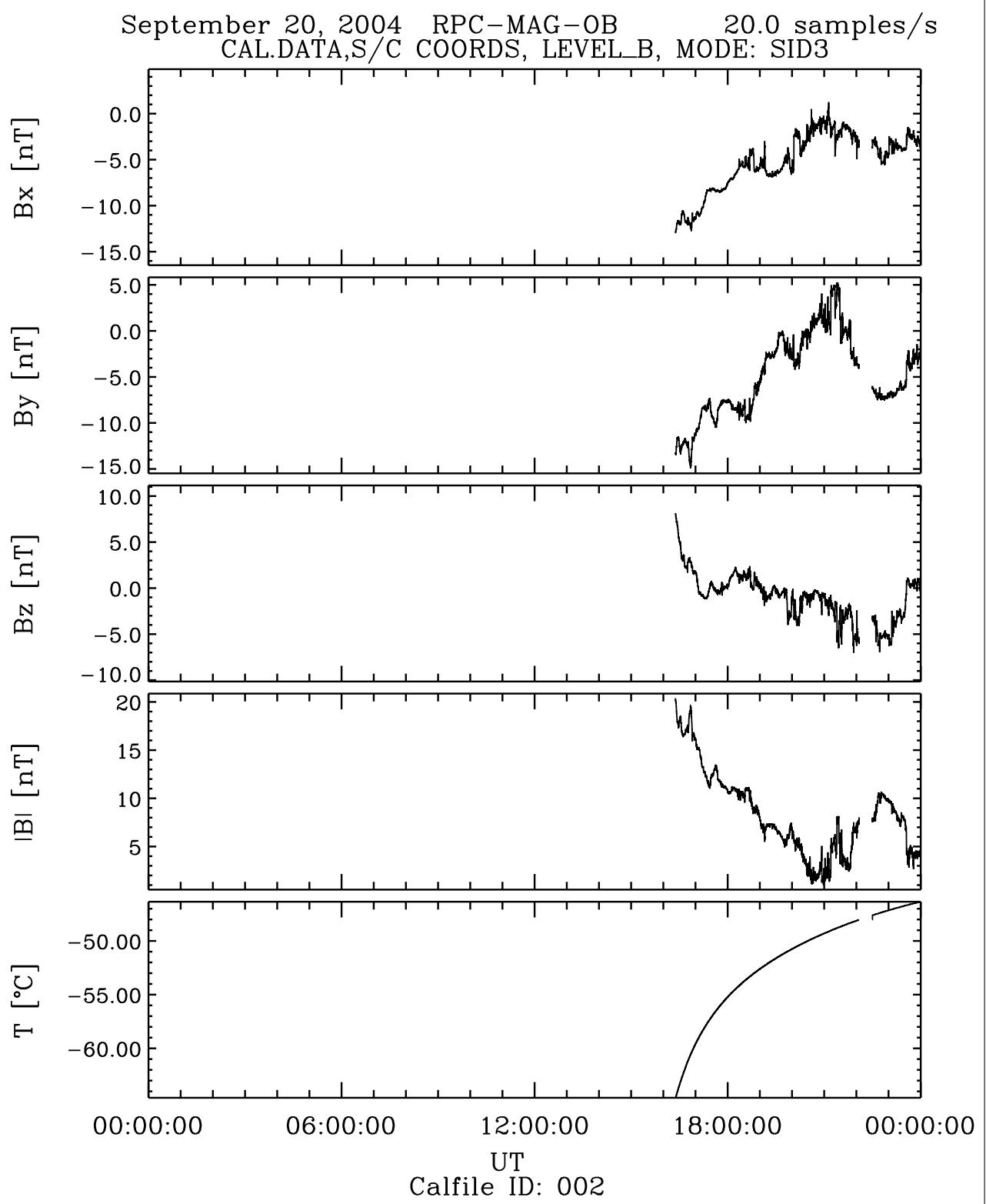


Figure 3: File: RPCMAG040920T1622_CLB_OB_M3_T0000_2400_002

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September 20, 2004 RPC-MAG-IB
CAL.DATA,S/C COORDS, LEVEL_B, MODE: SID3 1.0 s

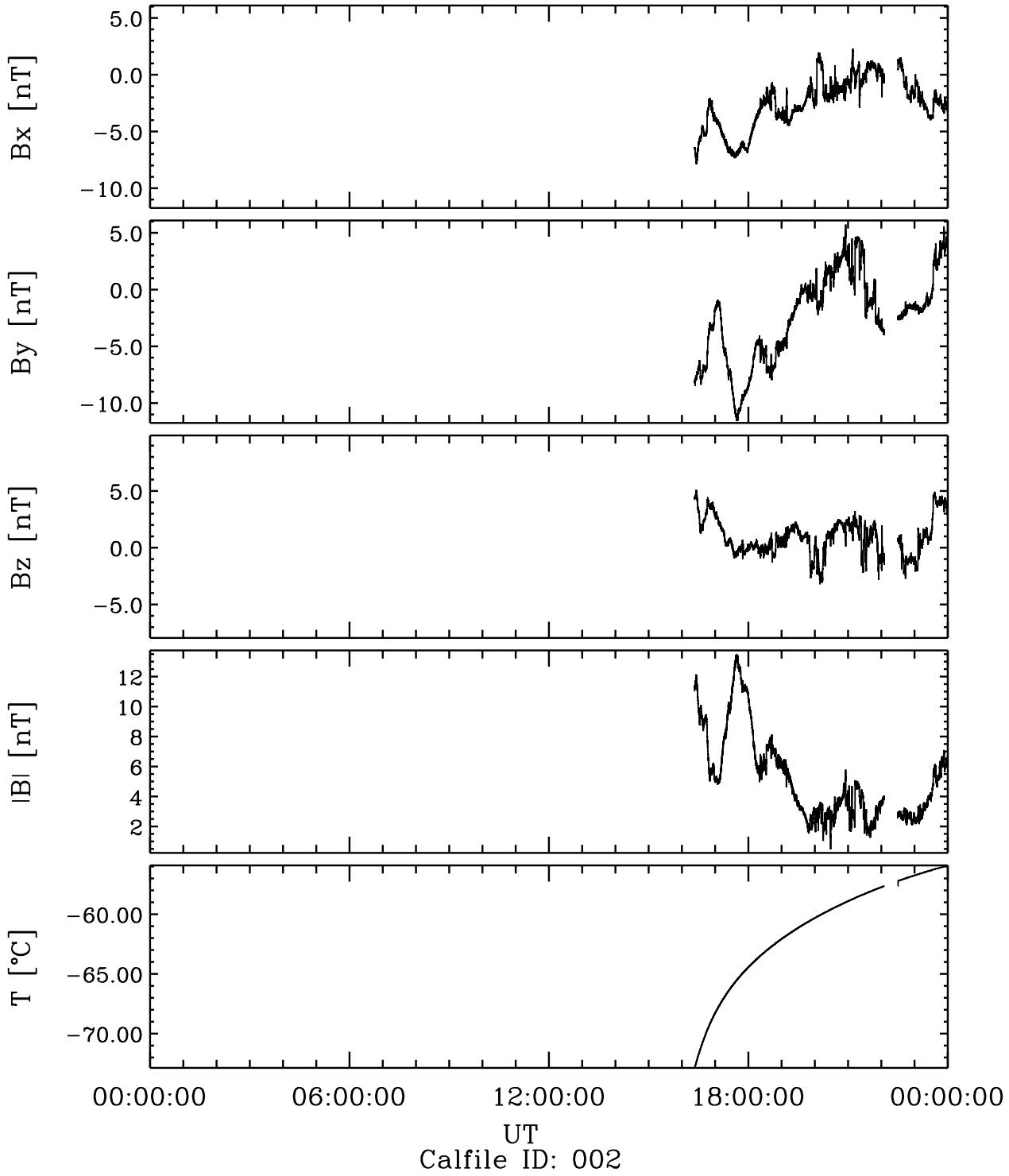


Figure 4: File: RPCMAG040920T1622_CLB_IB_M3_T0000_2400_002

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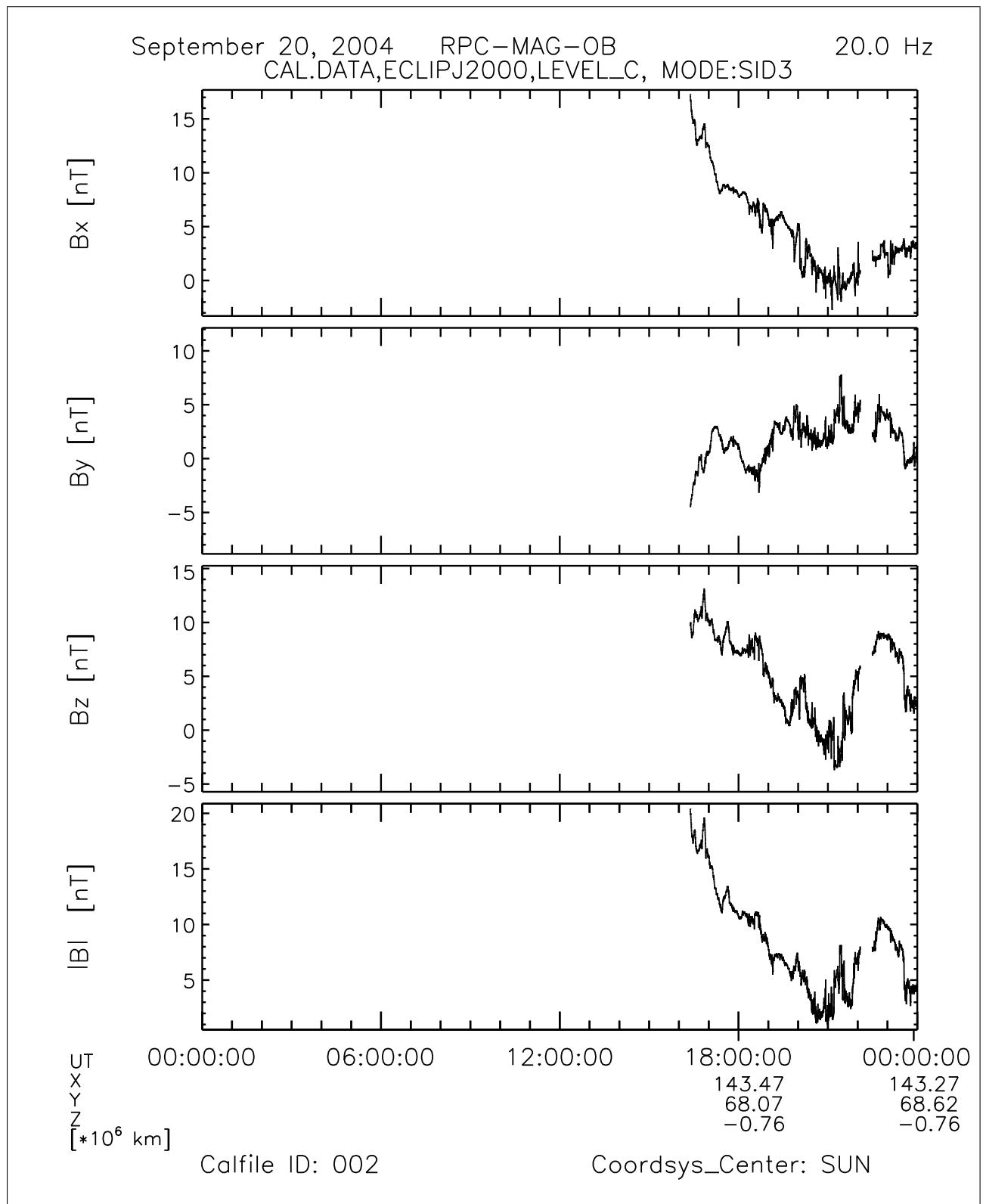


Figure 5: File: RPCMAG040920T1622_CLC_OB_M3_T0000_2400_002

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September 20, 2004 RPC-MAG-IB
 CAL.DATA,ECLIPJ2000,LEVEL_C, MODE:SID3 1.0 s

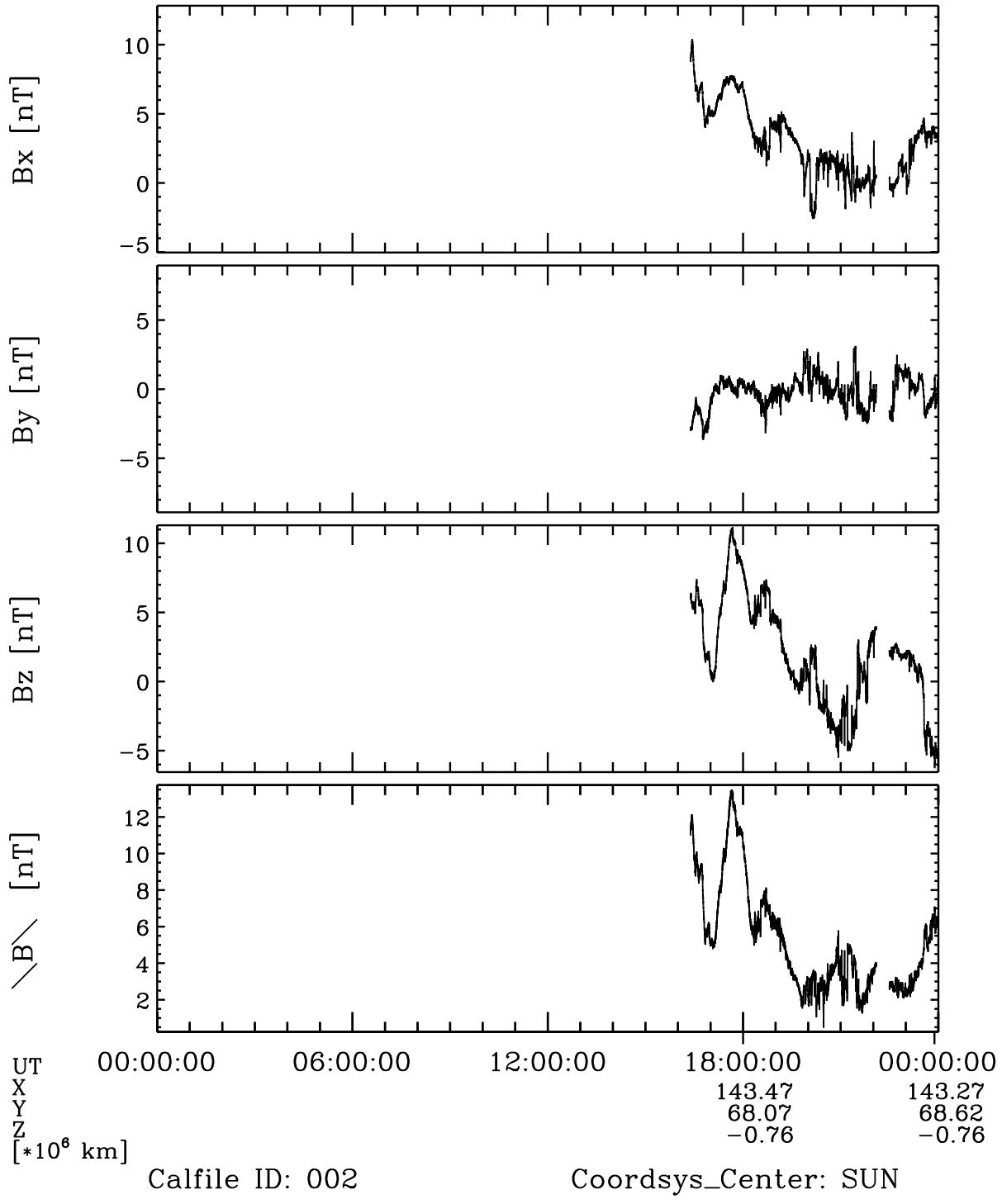


Figure 6: File: RPCMAG040920T1622_CLC_IB_M3_T0000_2400_002

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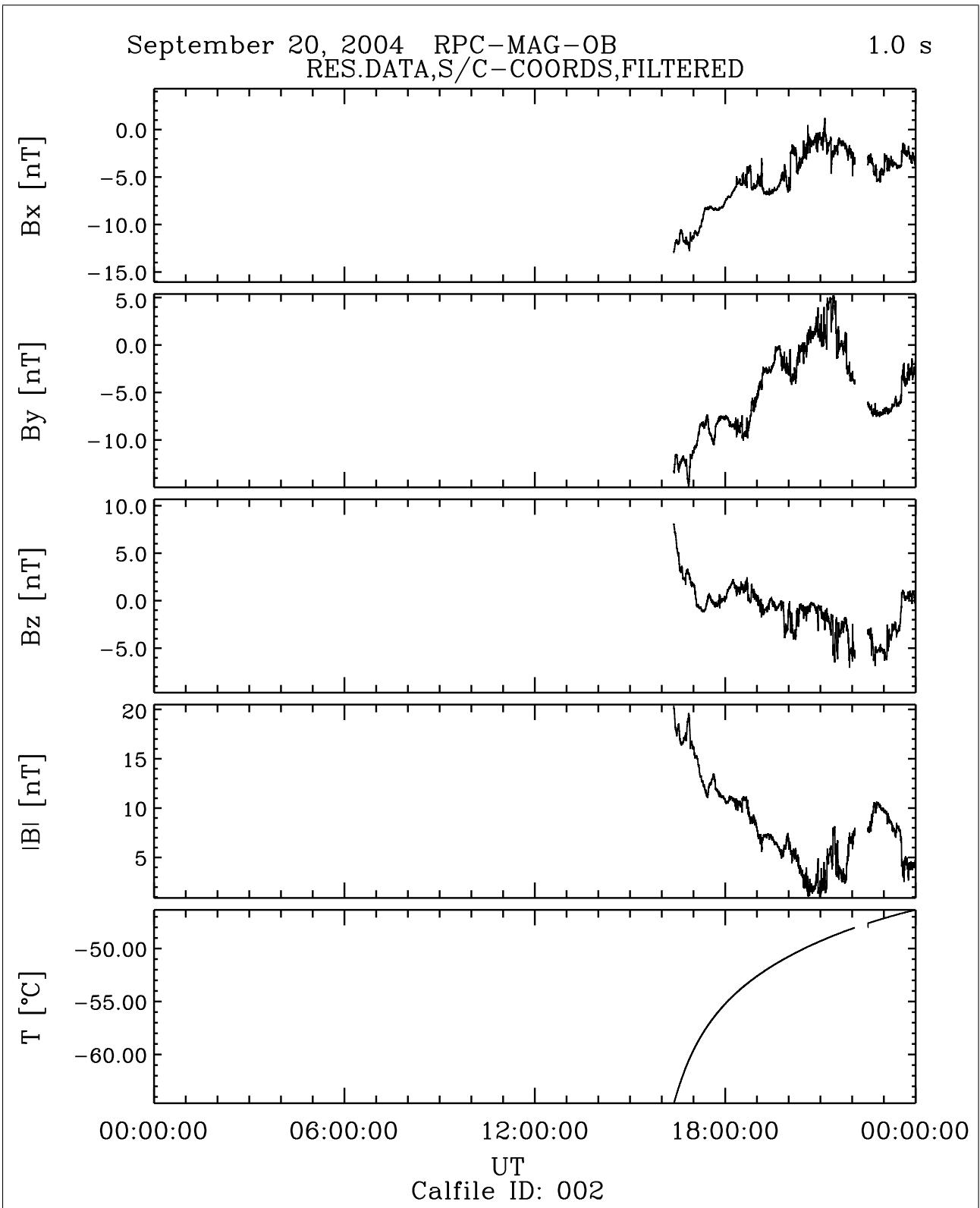


Figure 7: File: RPCMAG040920.CLF.0B_A1_T0000_2400_002

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September 20, 2004 RPC-MAG-IB
RES.DATA,S/C-COORDS,FILTERED 1.0 s

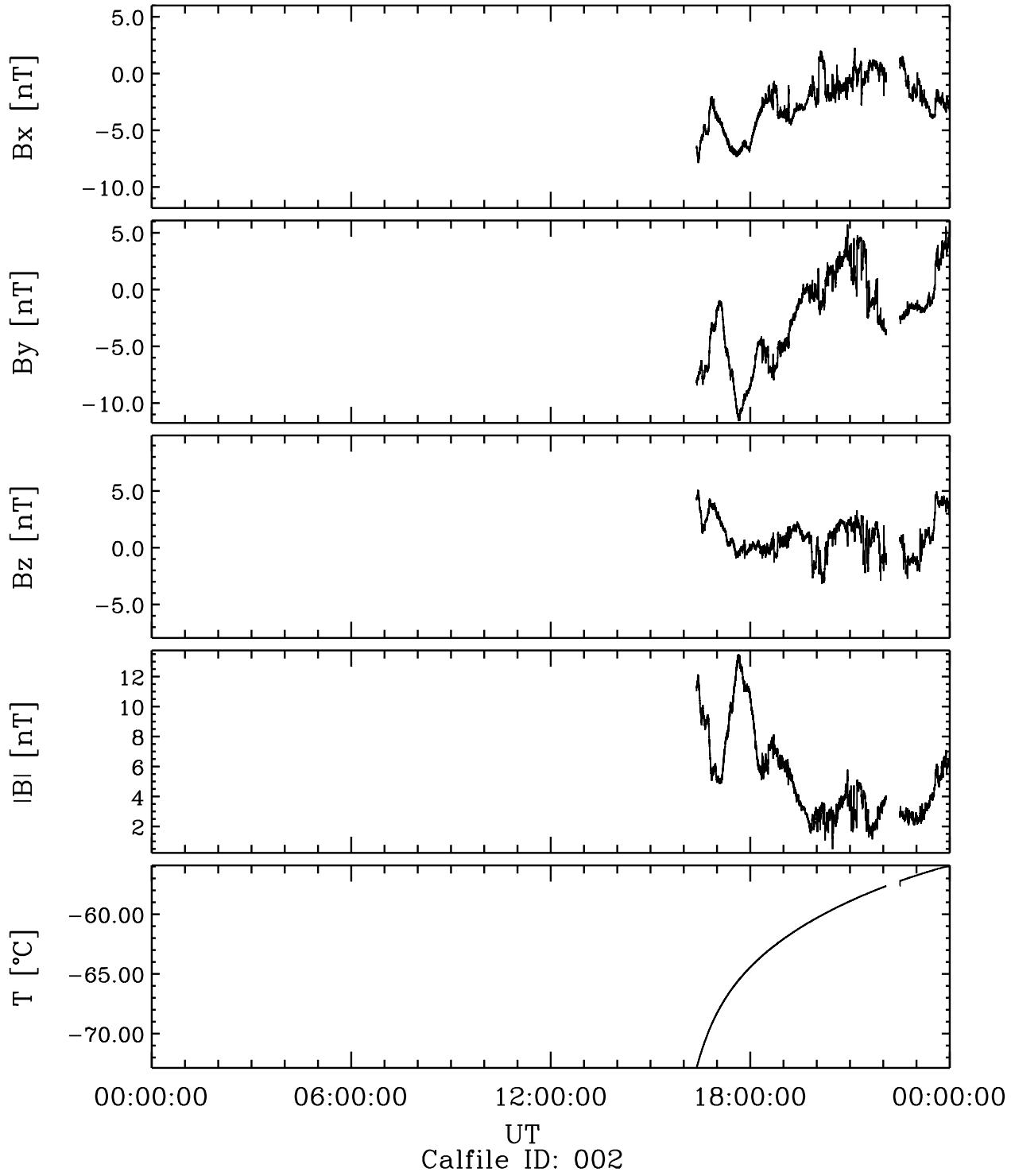


Figure 8: File: RPCMAG040920_CLF_IB_A1_T0000_2400_002

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September 20, 2004 RPC-MAG-OB 1.0 s
 RES.DATA,ECLIPJ2000,FILTERED

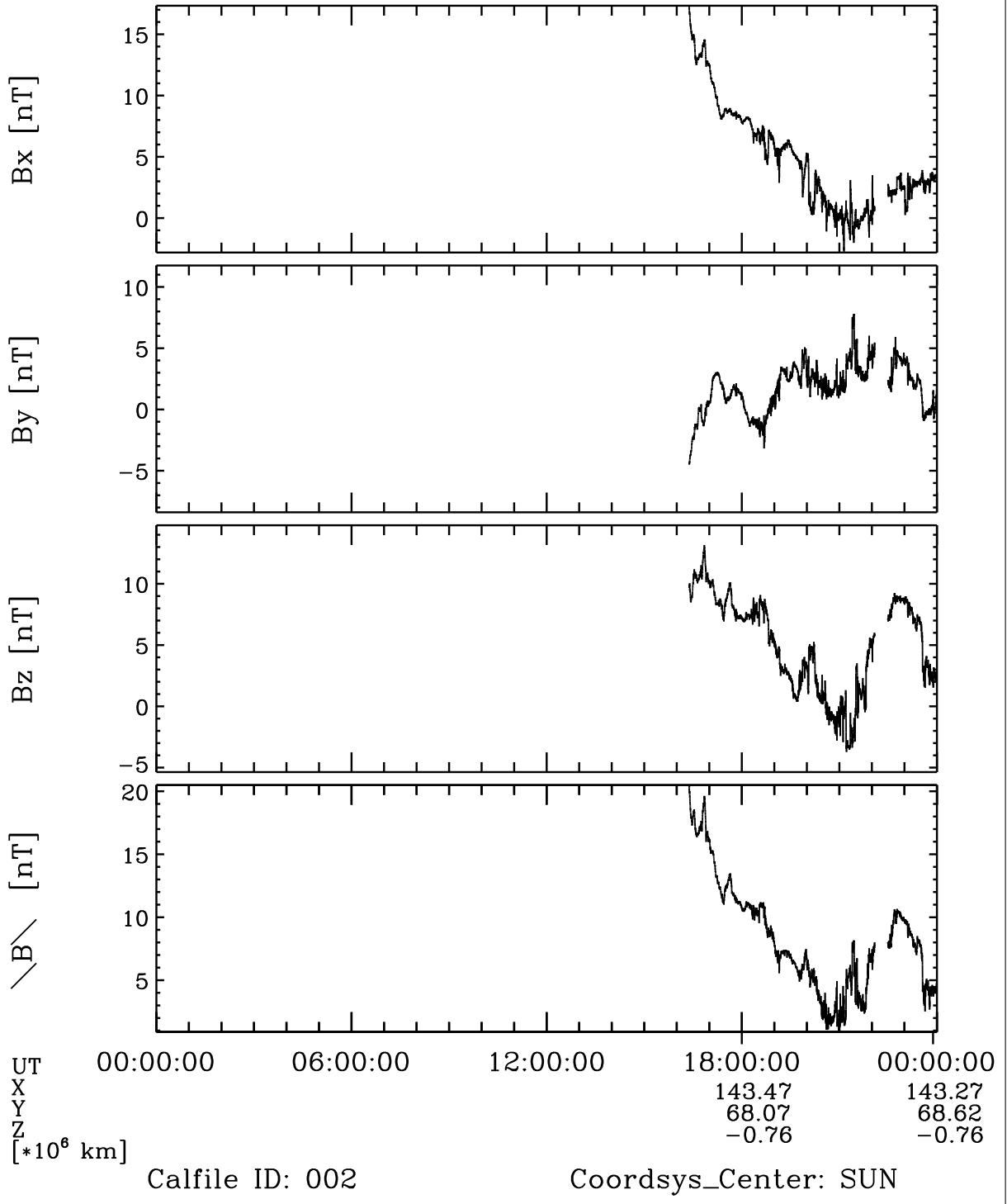


Figure 9: File: RPCMAG040920_CLG_OB_A1_T0000_2400_002

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September 20, 2004 RPC-MAG-IB 1.0 s
 RES.DATA,ECLIPJ2000,FILTERED

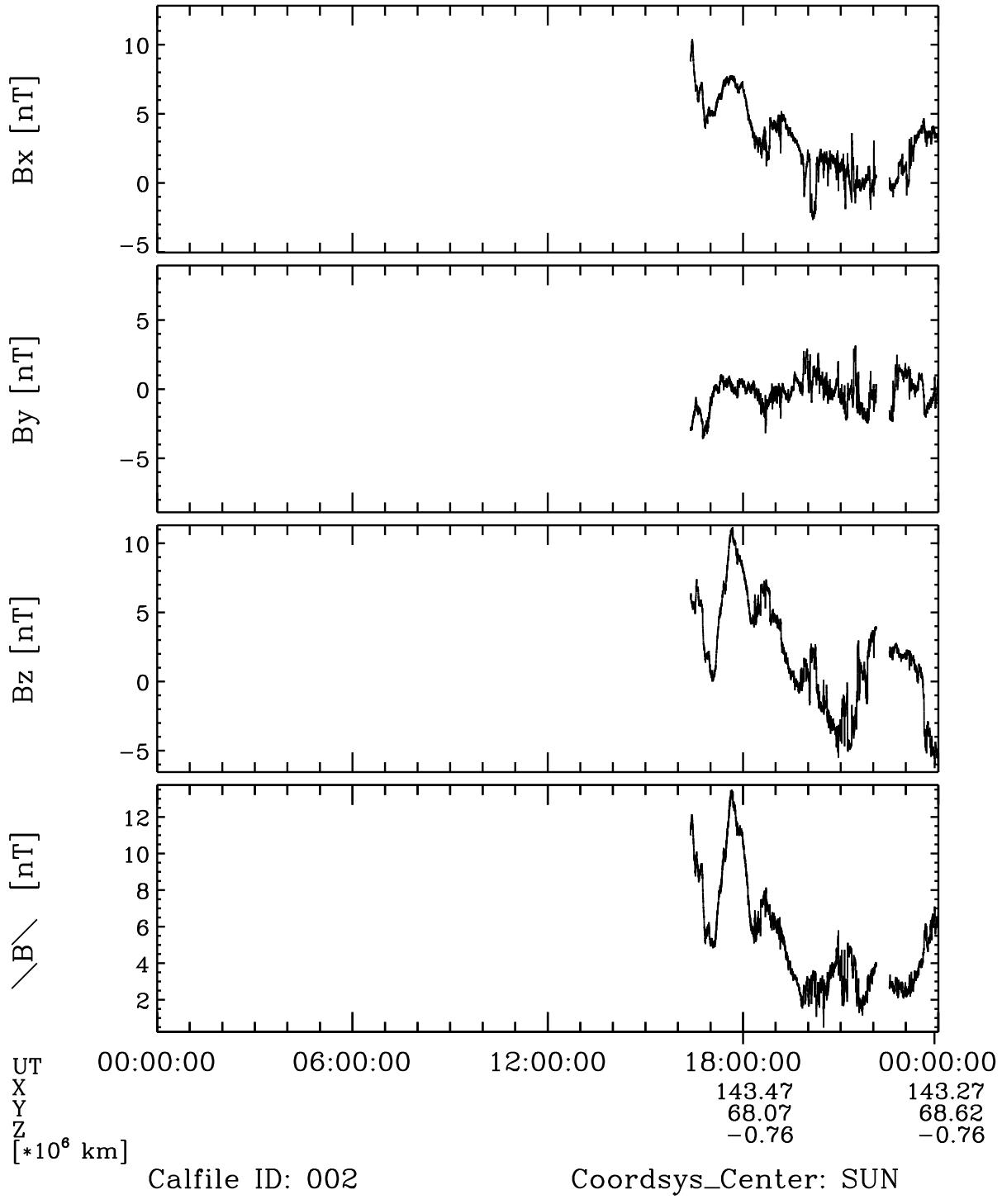


Figure 10: File: RPCMAG040920_CLG_IB_A1_T0000_2400_002

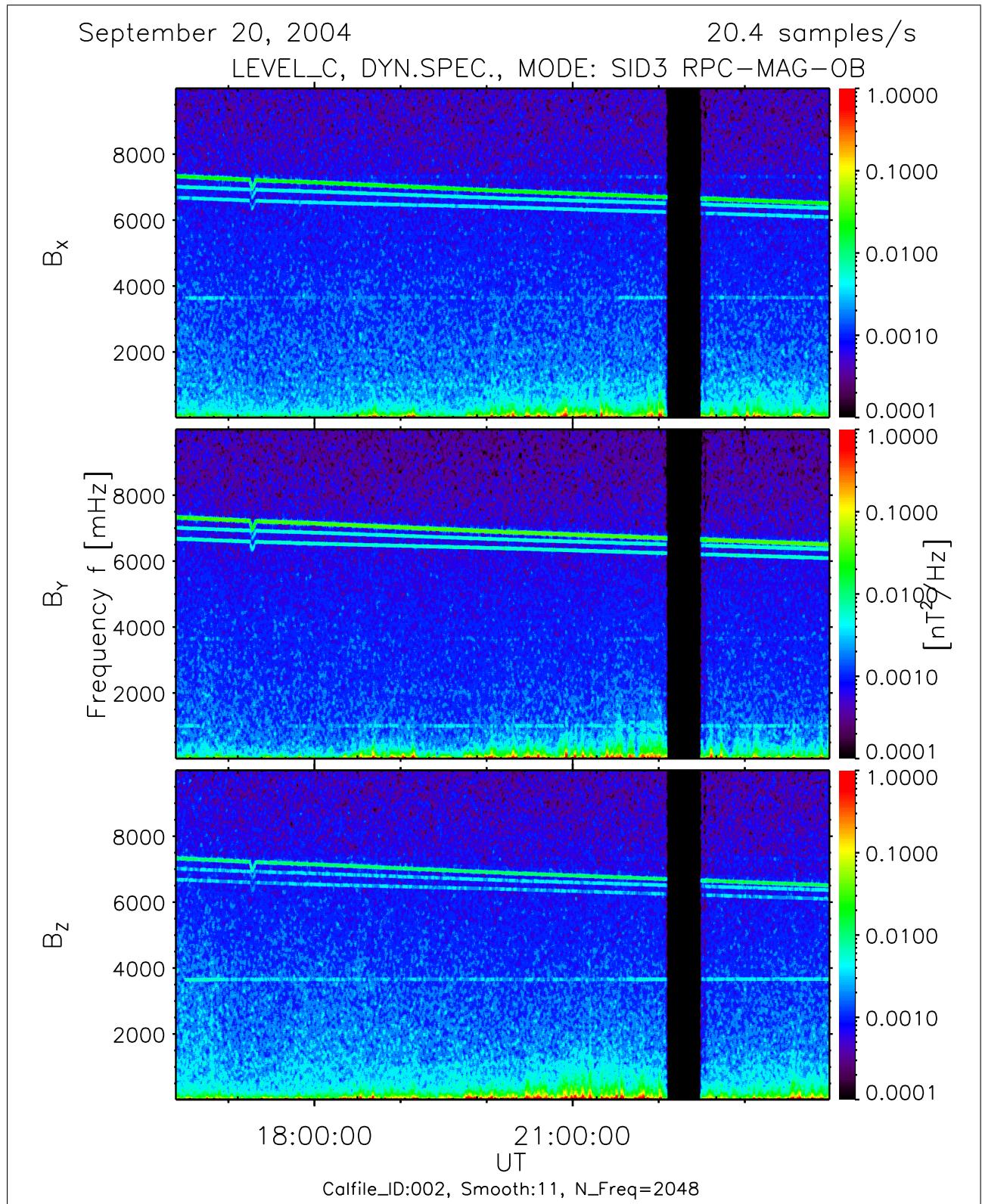


Figure 11: File: RPCMAG040920T1622_CLC_OB_M3_DS0_10000_002

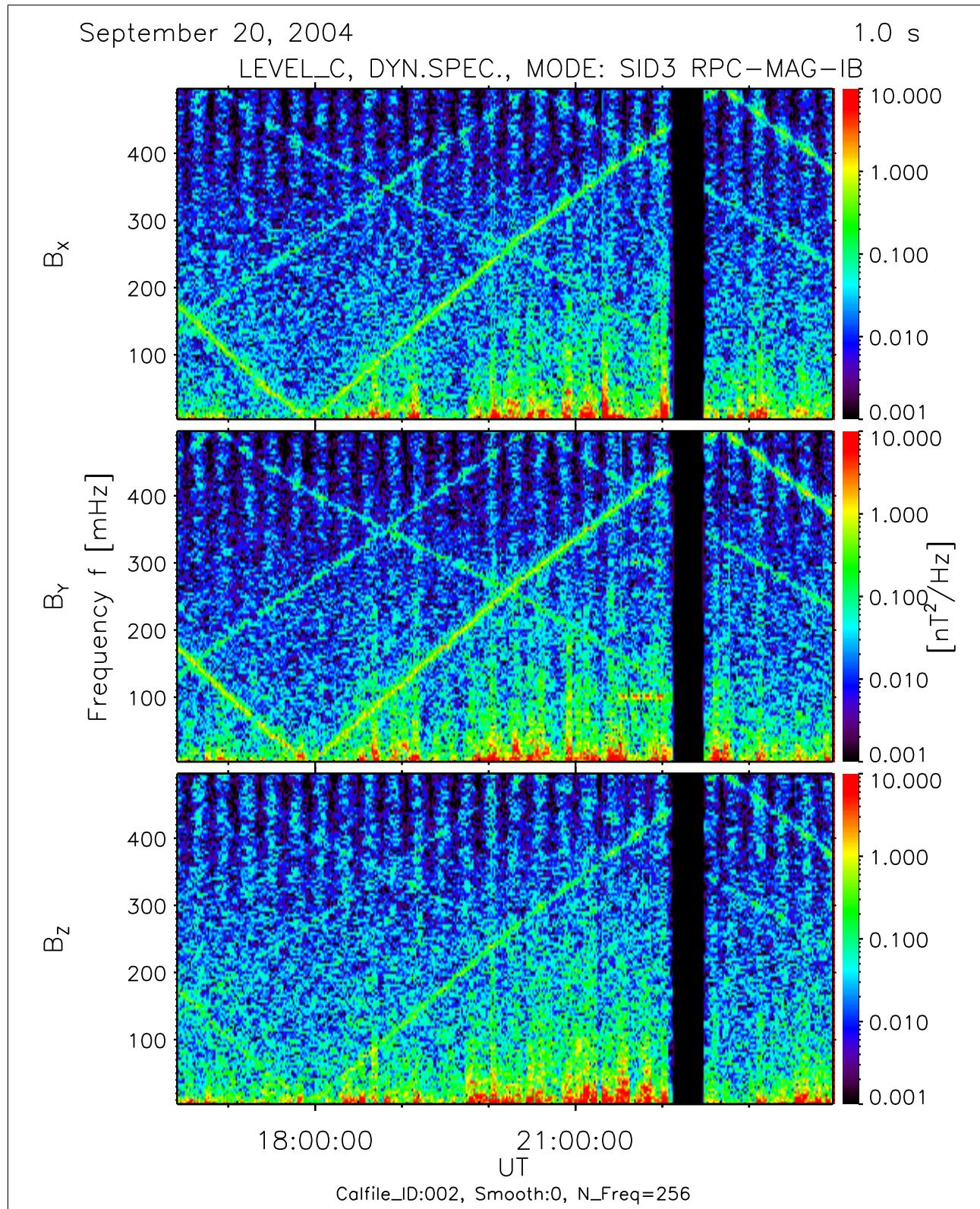


Figure 12: File: RPCMAG040920T1622_CLC_IB_M3_DS0_500_002

2.3 Plots of ROSETTA's Reaction Wheels Speeds

The following plots show the time series of the revolutions of the 4 reaction wheels. Two kinds of data are shown:

- The original reaction wheel data as they are stored in the DDS.
- The theoretical response of the wheels impact seen by an instrument sampling with different frequencies. Here the response at 20 Hz and 1 Hz sampling frequency is plotted.

A comparison with the dynamic spectra of the MAG data gives an impressive accordance between the reaction wheel frequencies and the spectral lines observed in the dynamic MAG spectra.

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Revolutions of the four Rosetta Reaction Wheels
September 20, 2004

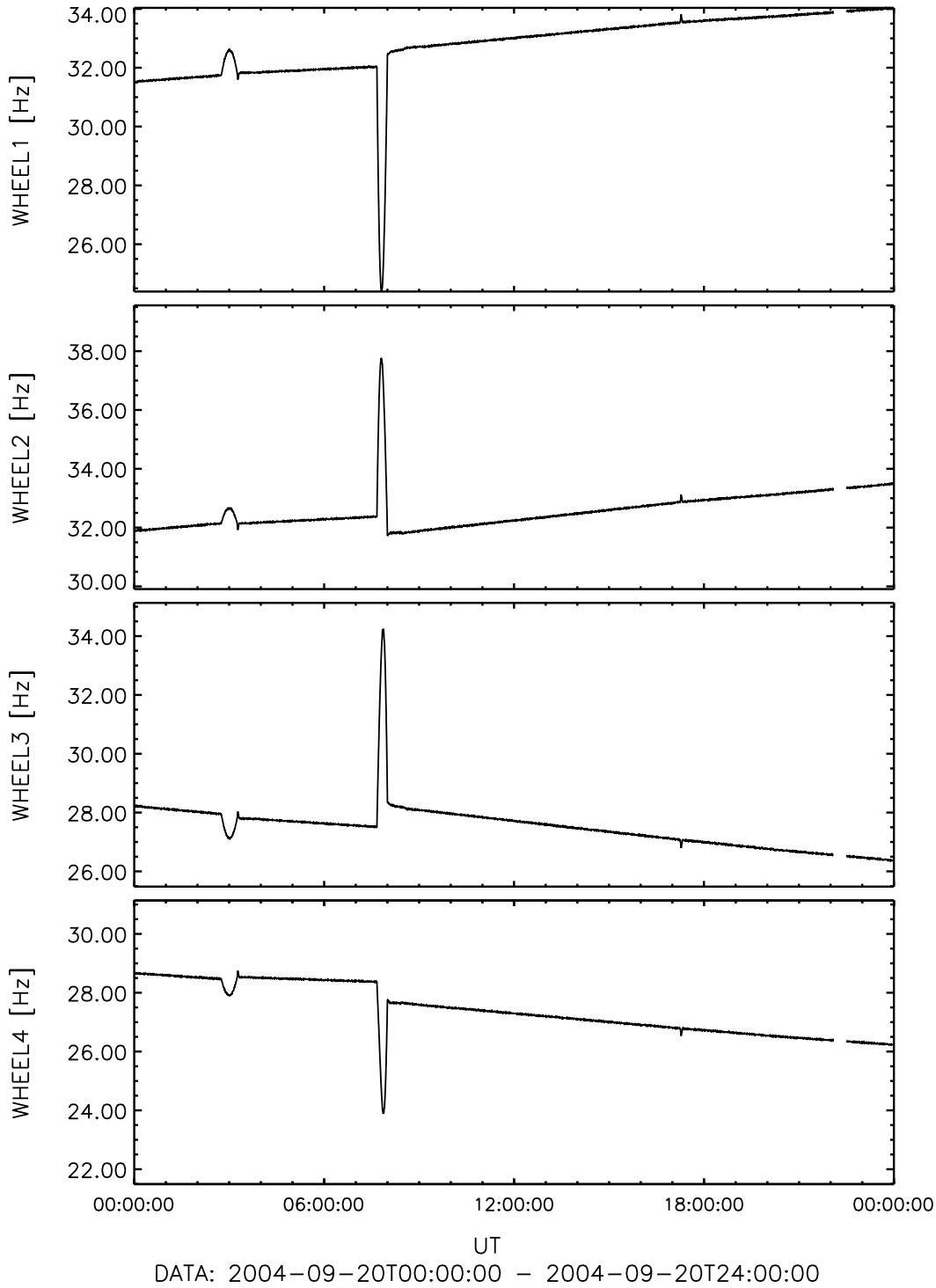


Figure 13: File: wheels_Hz2004-09-20T00-00

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Reaction Wheels – Response at 1Hz Sampling
 September 20, 2004

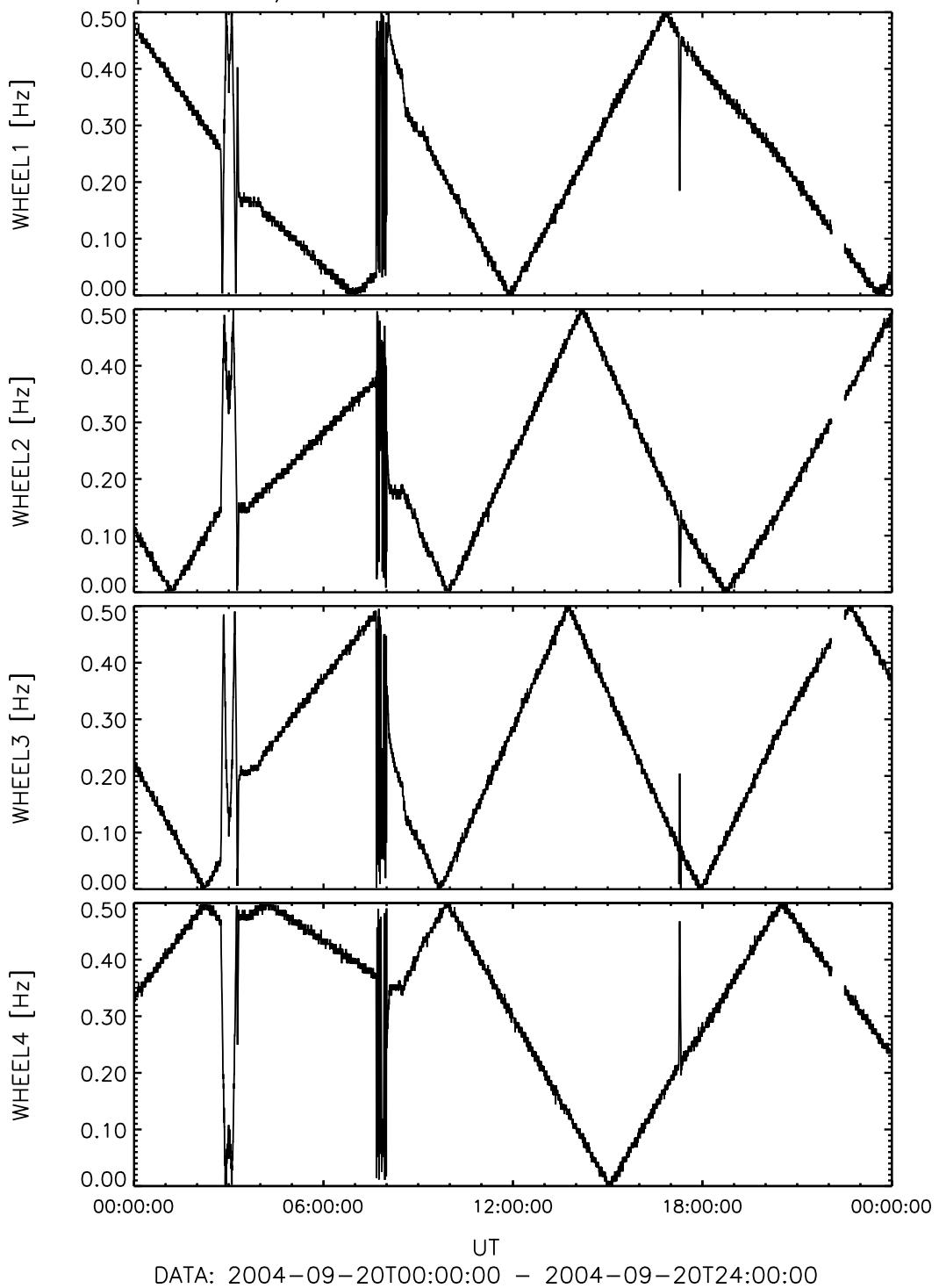


Figure 14: File: wheels_1Hz_Sampling2004-09-20T00-00

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Reaction Wheels – Response at 20 Hz Sampling
September 20, 2004

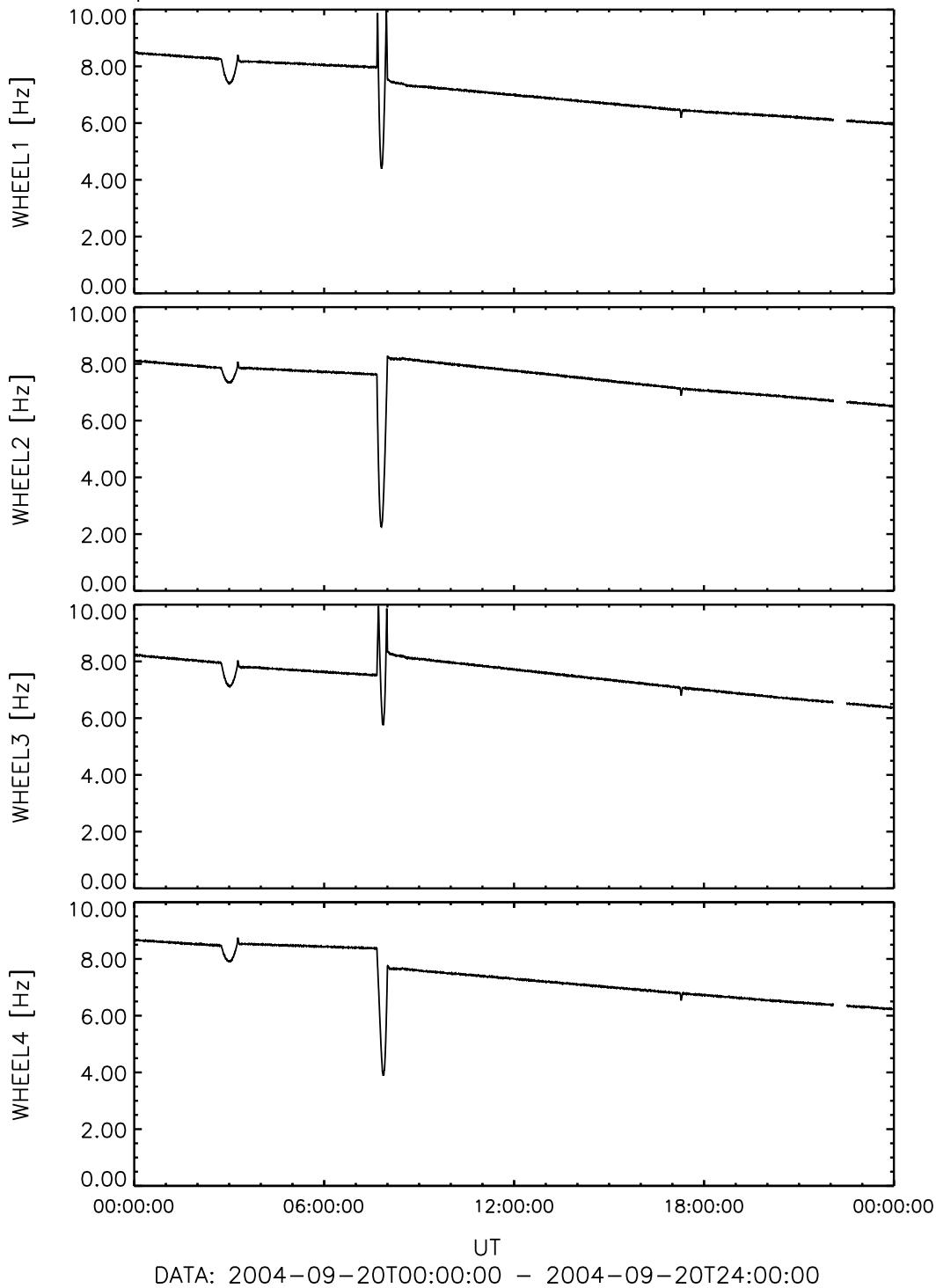


Figure 15: File: wheels_20Hz_Sampling2004-09-20T00-00

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2.4 Plots of Reaction Wheel and LAP Disturbance corrected Data

The following plots show the dynamic spectra of the LEVEL_H data. These data have been purged from ROSETTAs reaction wheel disturbance and also from the disturbance of the LAP instrument. Plots are only shown for the primary sensor.

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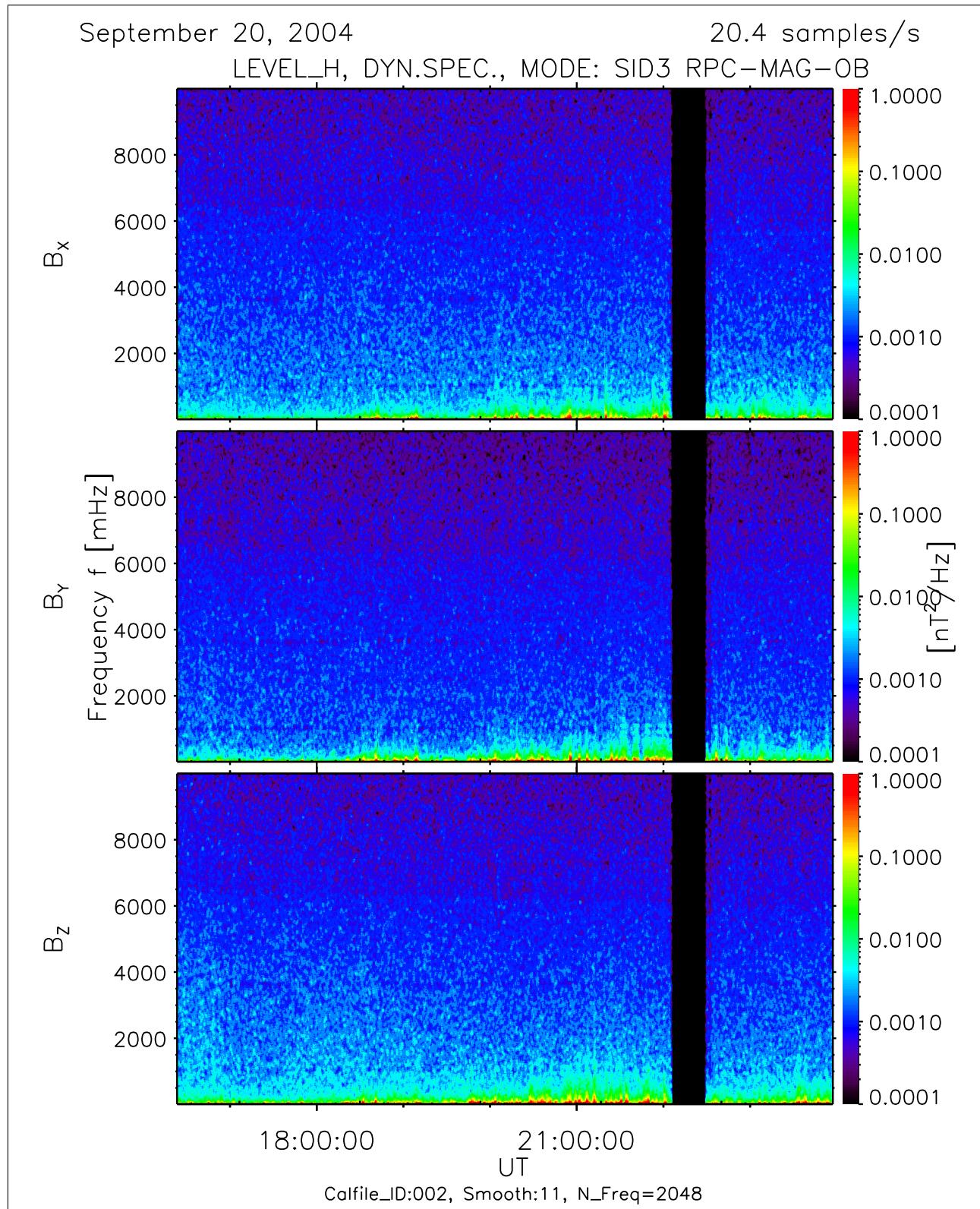


Figure 16: File: RPCMAG040920_CLH_OB_M3_DS0_10000_002

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3 September 21, 2004:

3.1 Actions

The Instrument remained switched on until 02:02. It was switched on again at 17:02.

Time	Stage A, Stage B, Filter cfg	Stage 1, Stage 2, Stage3	Mode
00:00 – 02:01	0 0 0	0 0 0	SID3
20:19 – 24:00	0 0 0	0 0 0	SID3

3.2 Plots of Calibrated Data using the new Temperature Model

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September 21, 2004 RPC-MAG-HK
 CAL. HOUSEKEEPING DATA 32.0 s

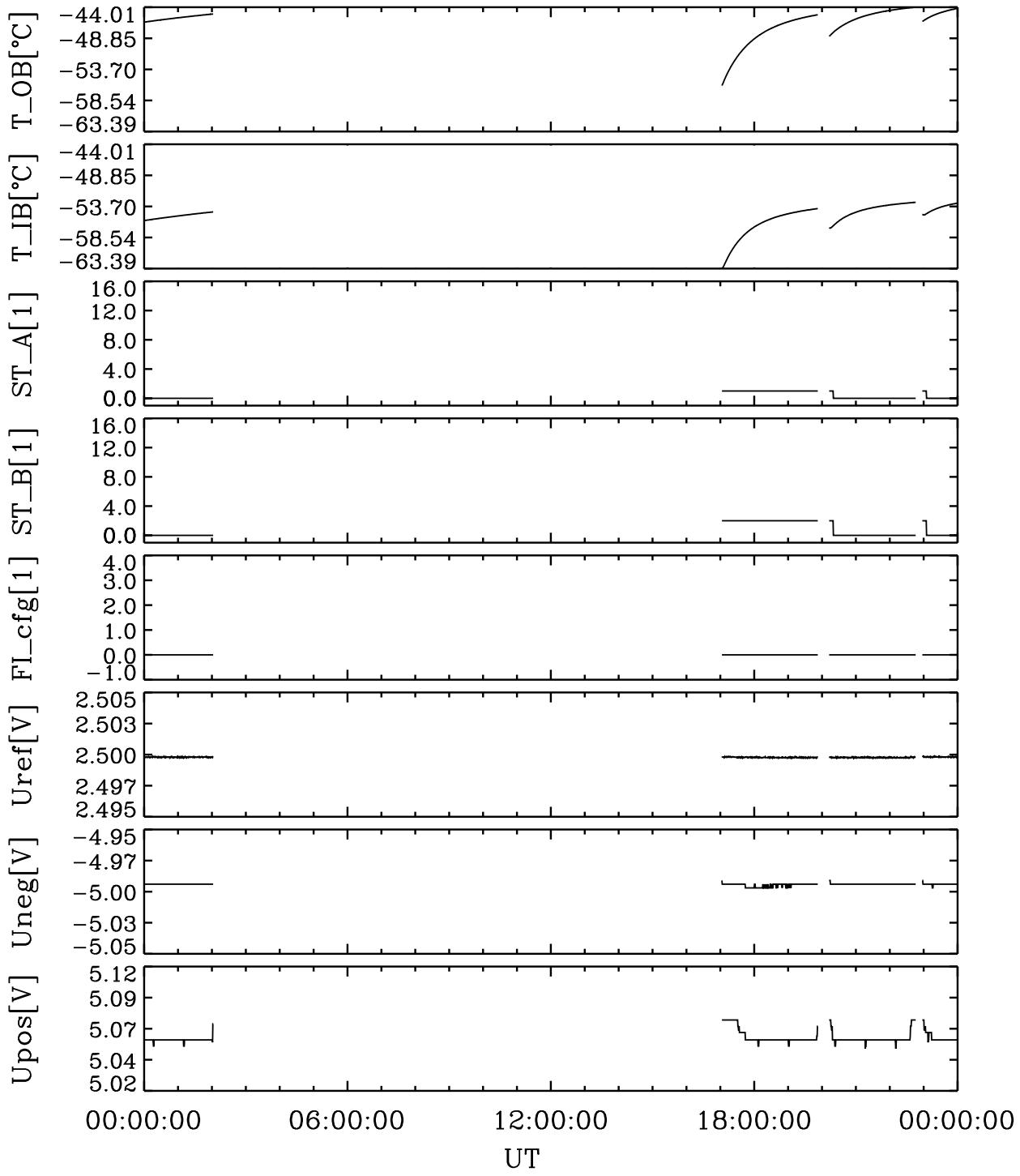


Figure 17: File: RPCMAG040921T0000_CLA_HK_P0000_2400

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September 21, 2004 RPC-MAG-HK
 HOUSEKEEPING B_OB DATA

32.0 s

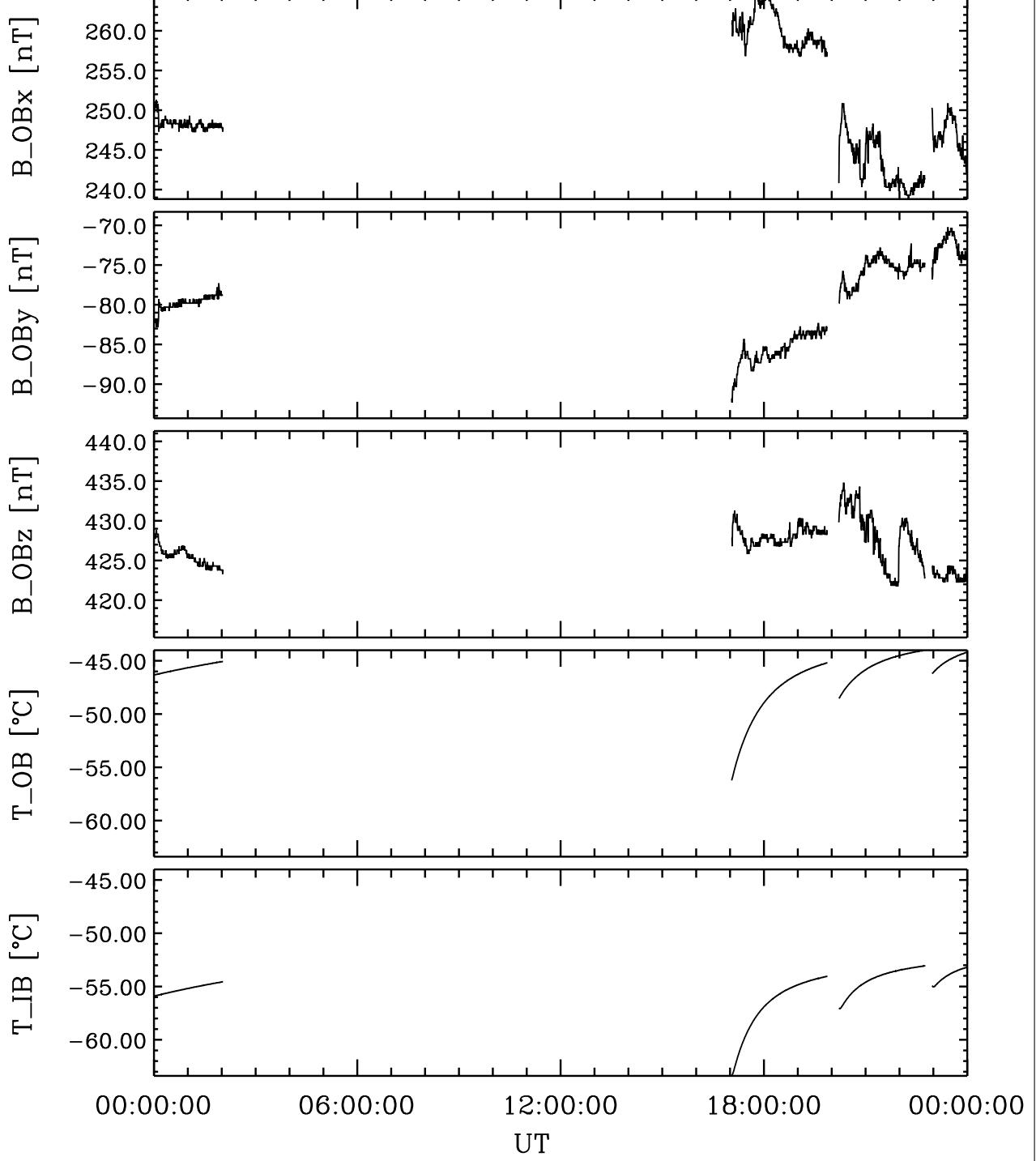


Figure 18: File: RPCMAG040921T0000_CLA_HK_B_P0000_2400

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September 21, 2004 RPC-MAG-OB 20.0 samples/s
CAL.DATA,S/C COORDS, LEVEL_B, MODE: SID3

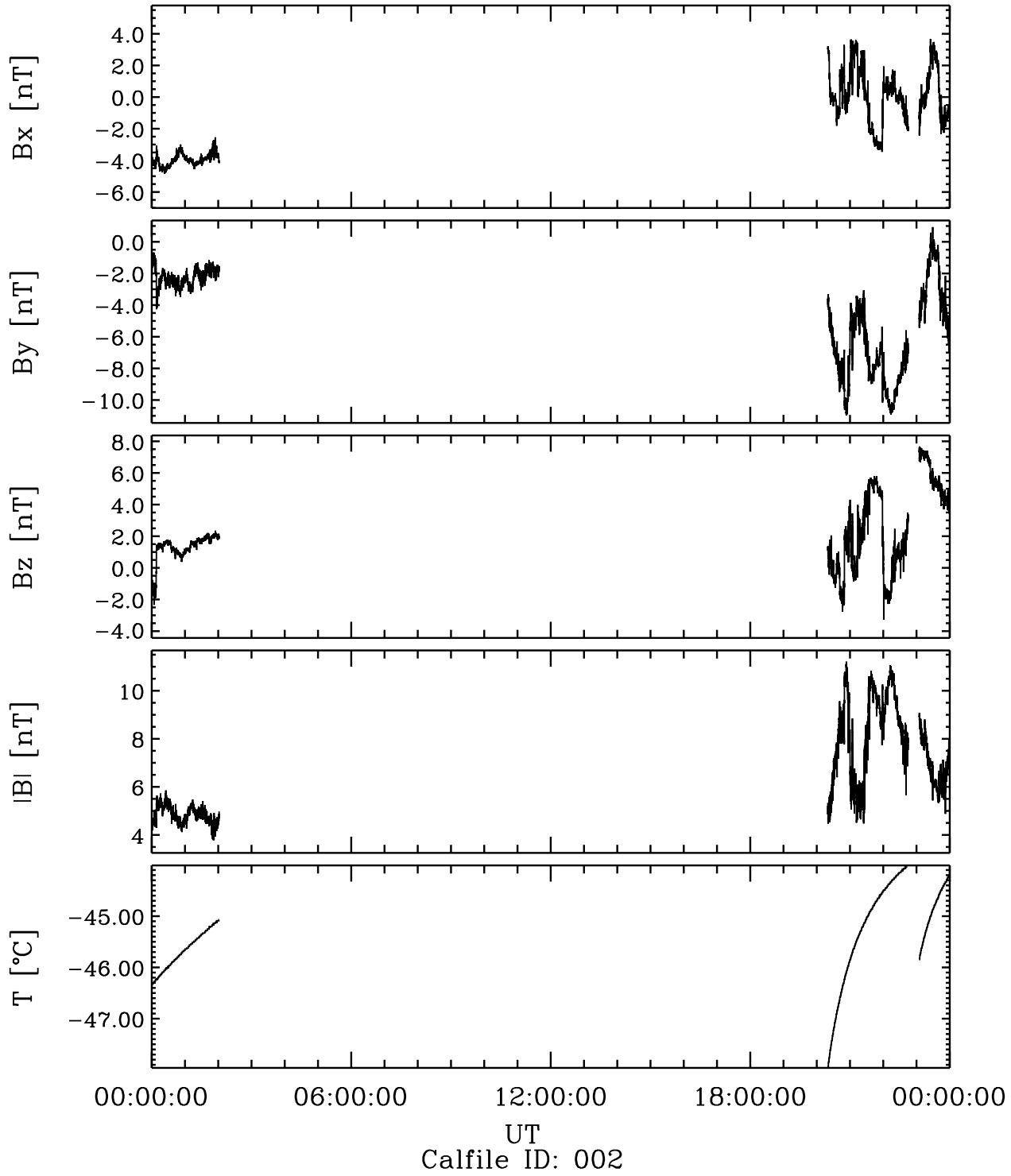


Figure 19: File: RPCMAG040921T0000_CLB_OB_M3_T0000_2400_002

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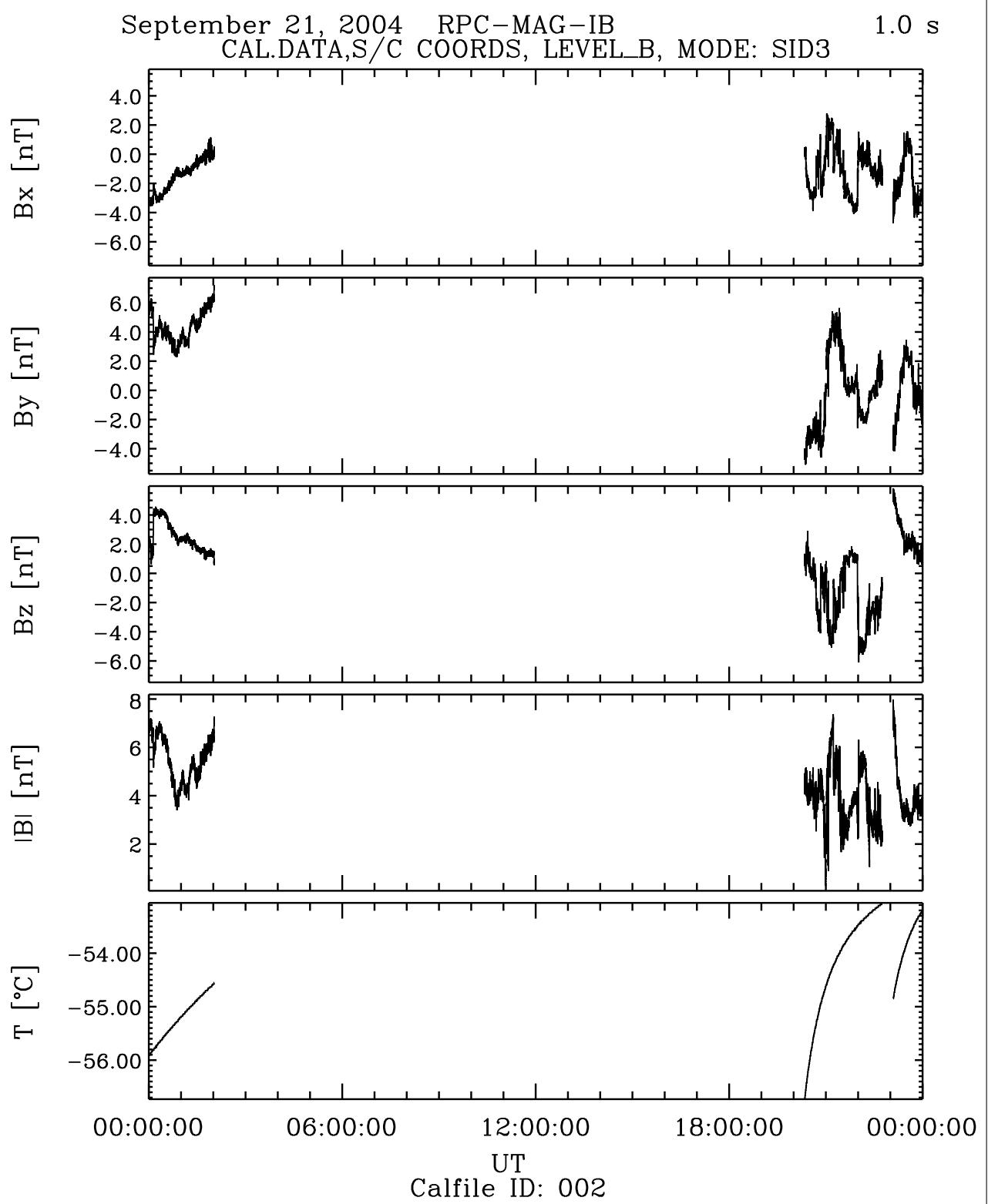


Figure 20: File: RPCMAG040921T0000_CLB_IB_M3_T0000_2400_002

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September 21, 2004 RPC-MAG-OB
 CAL.DATA,ECLIPJ2000,LEVEL_C, MODE:SID3 20.0 Hz

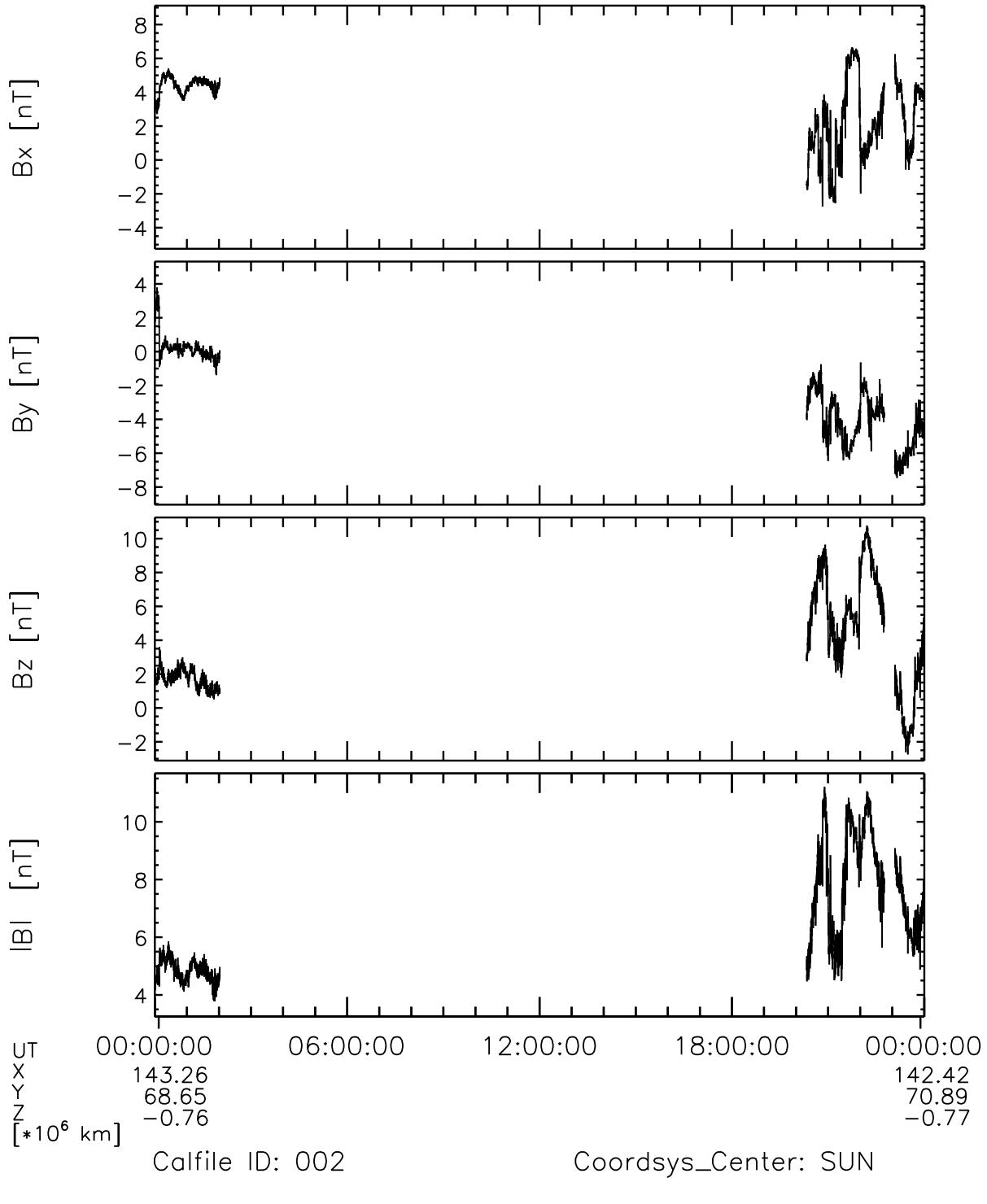


Figure 21: File: RPCMAG040921T0000_CLC_OB_M3_T0000_2400_002

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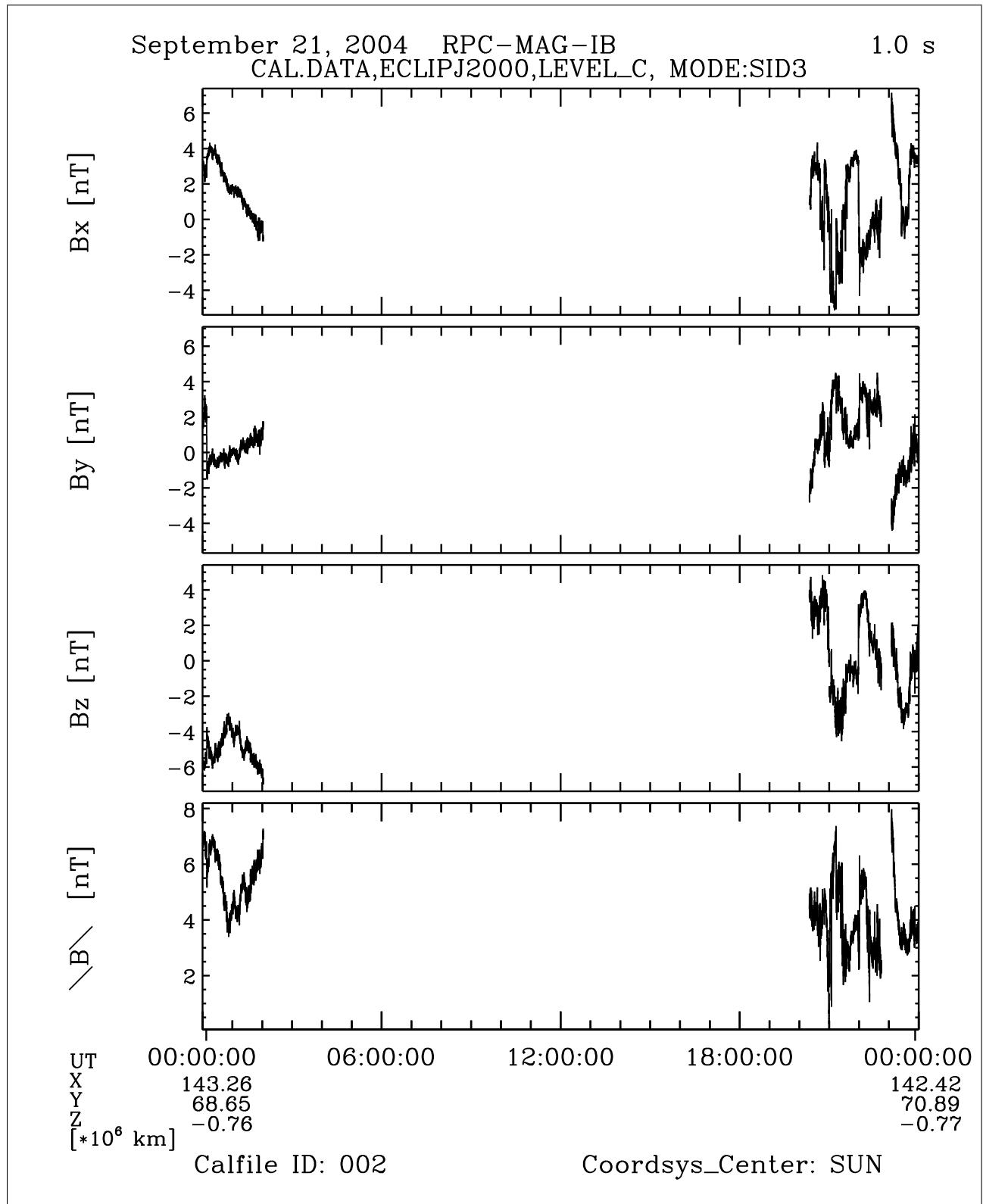


Figure 22: File: RPCMAG040921T0000_CLC_IB_M3_T0000_2400_002

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September 21, 2004 RPC-MAG-OB 1.0 s
RES.DATA,S/C-COORDS,FILTERED

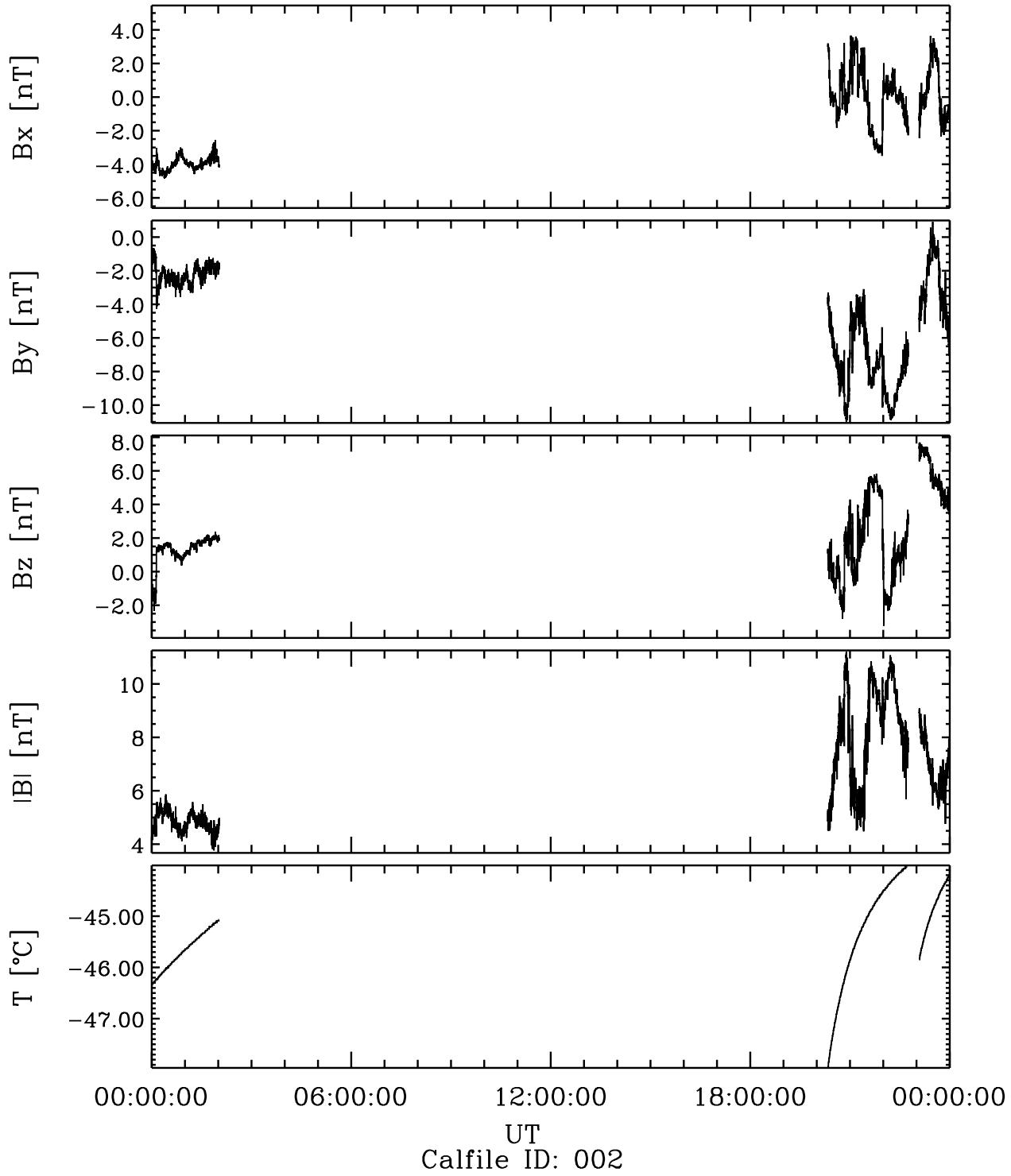


Figure 23: File: RPCMAG040921_CLF_OB_A1_T0000_2400_002

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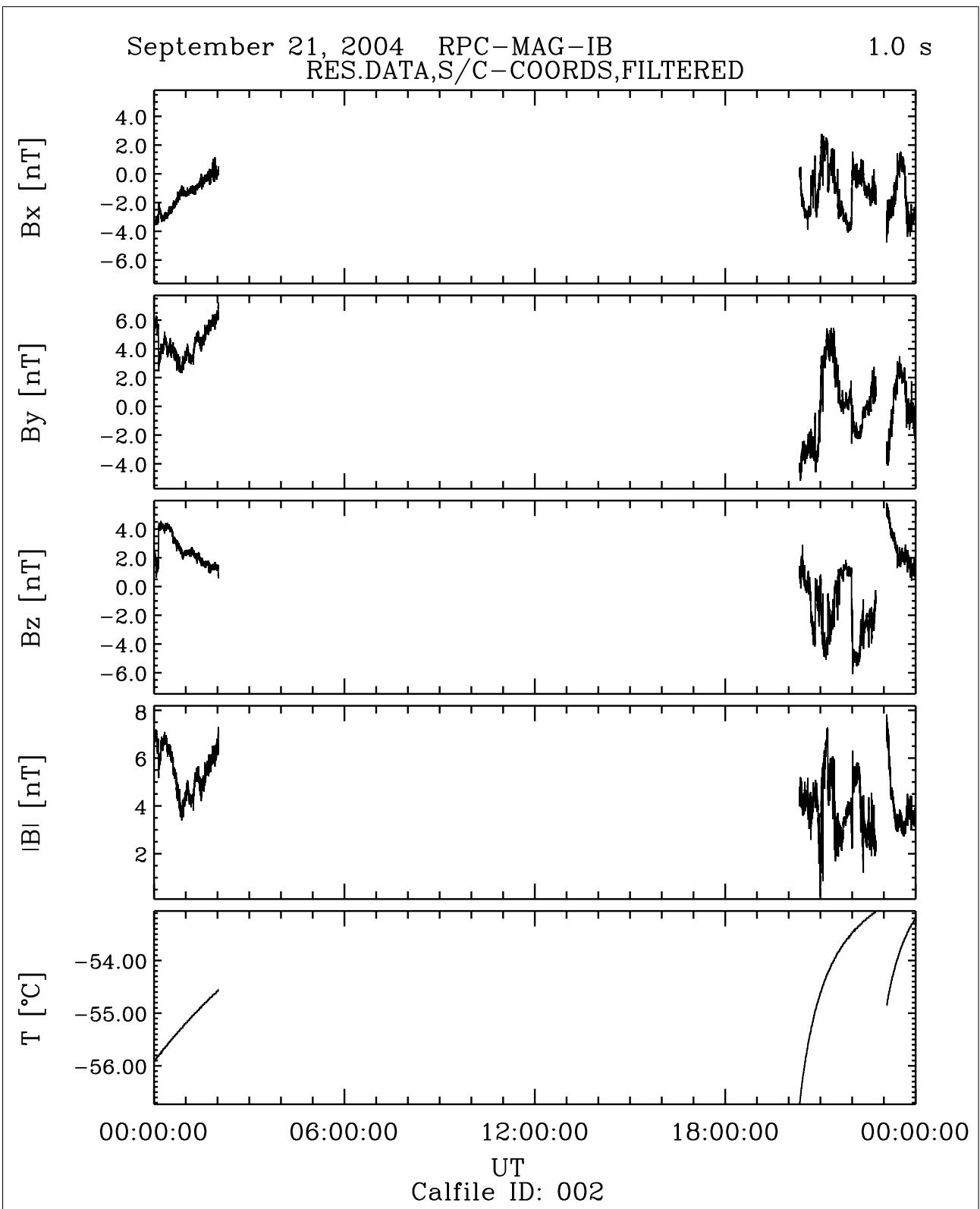


Figure 24: File: RPCMAG040921_CLF_IB_A1_T0000_2400_002

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September 21, 2004 RPC-MAG-OB 1.0 s
 RES.DATA,ECLIPJ2000,FILTERED

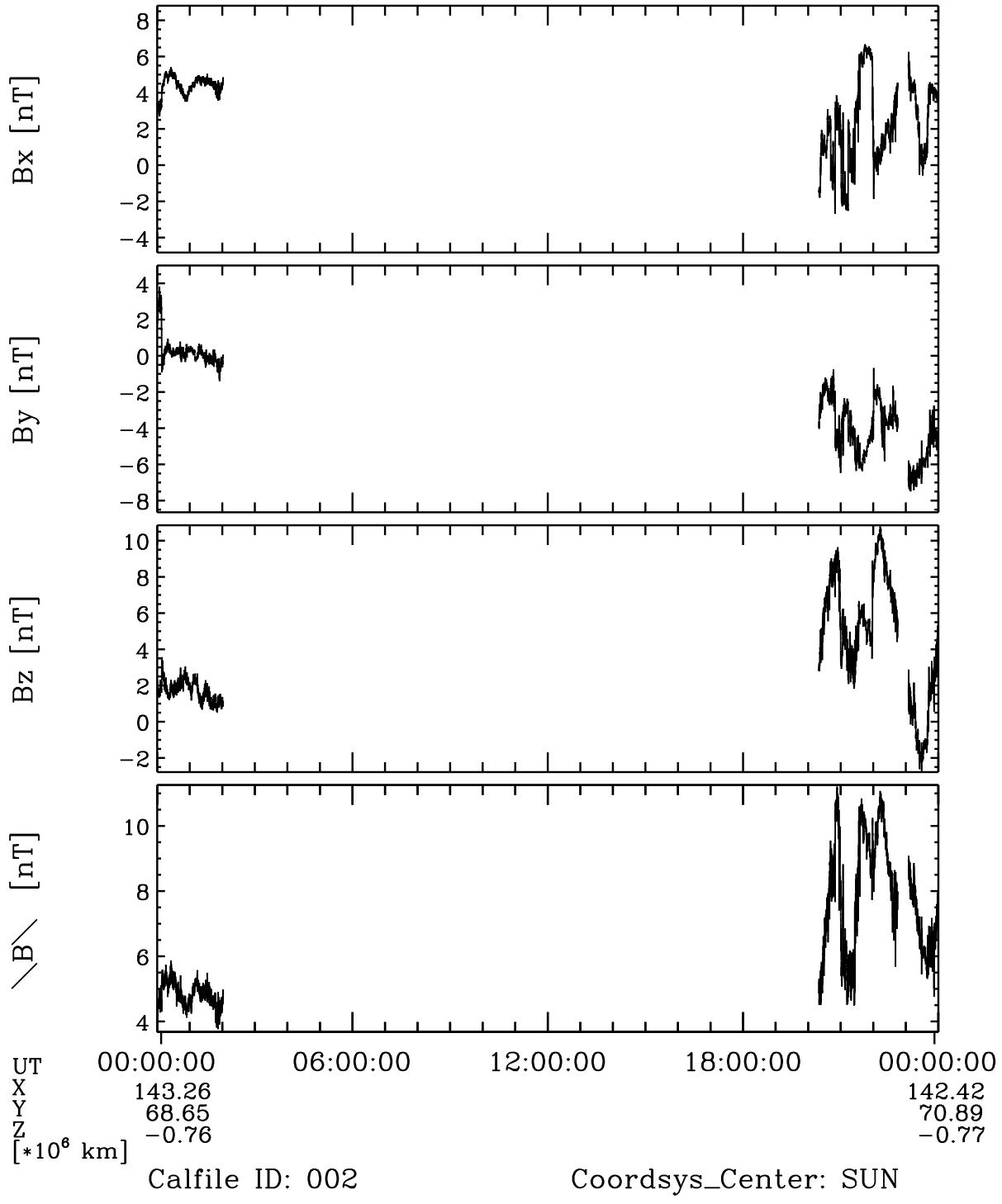


Figure 25: File: RPCMAG040921_CLG_OB_A1_T0000_2400_002

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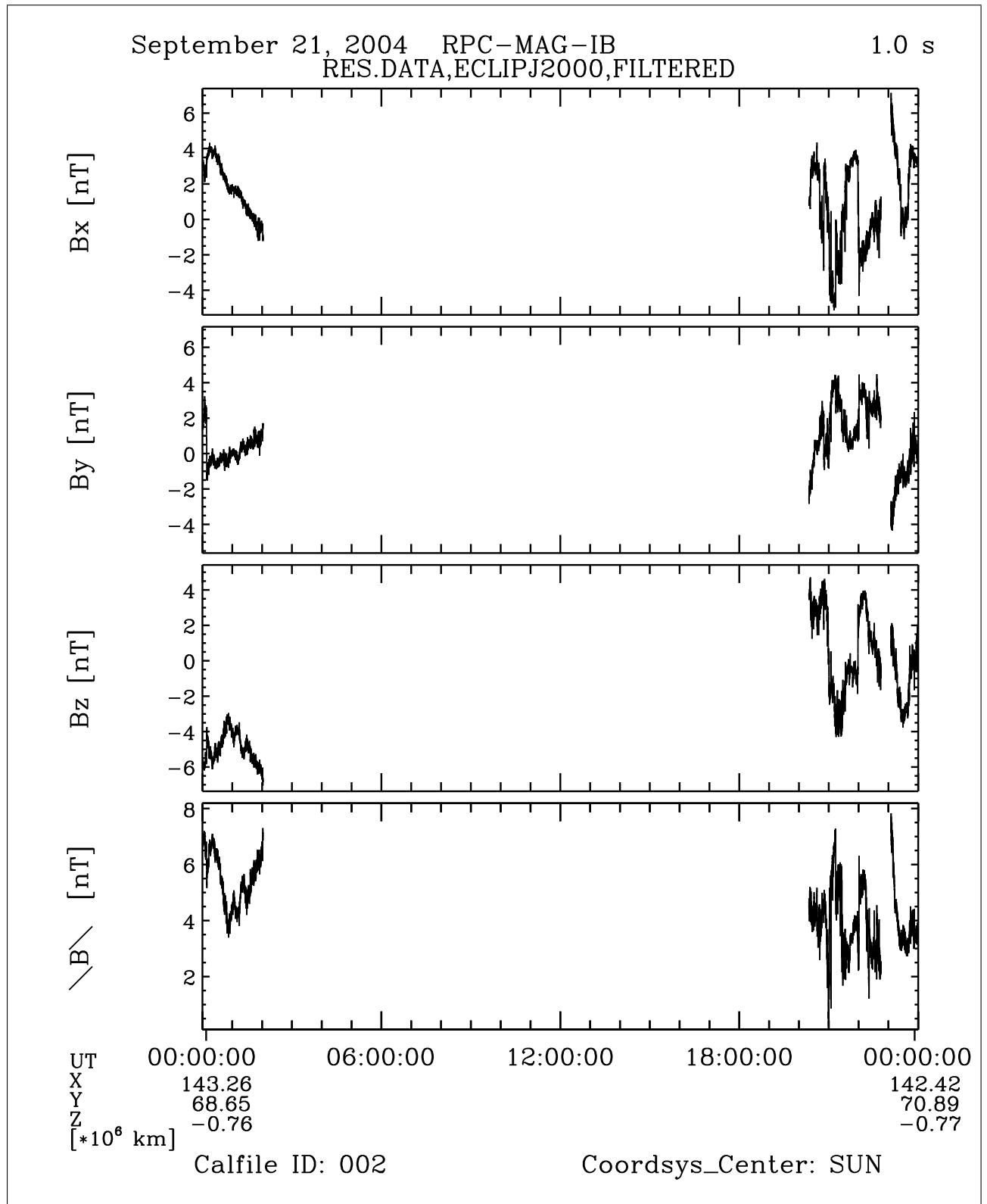


Figure 26: File: RPCMAG040921_CLG_IB_A1_T0000_2400_002

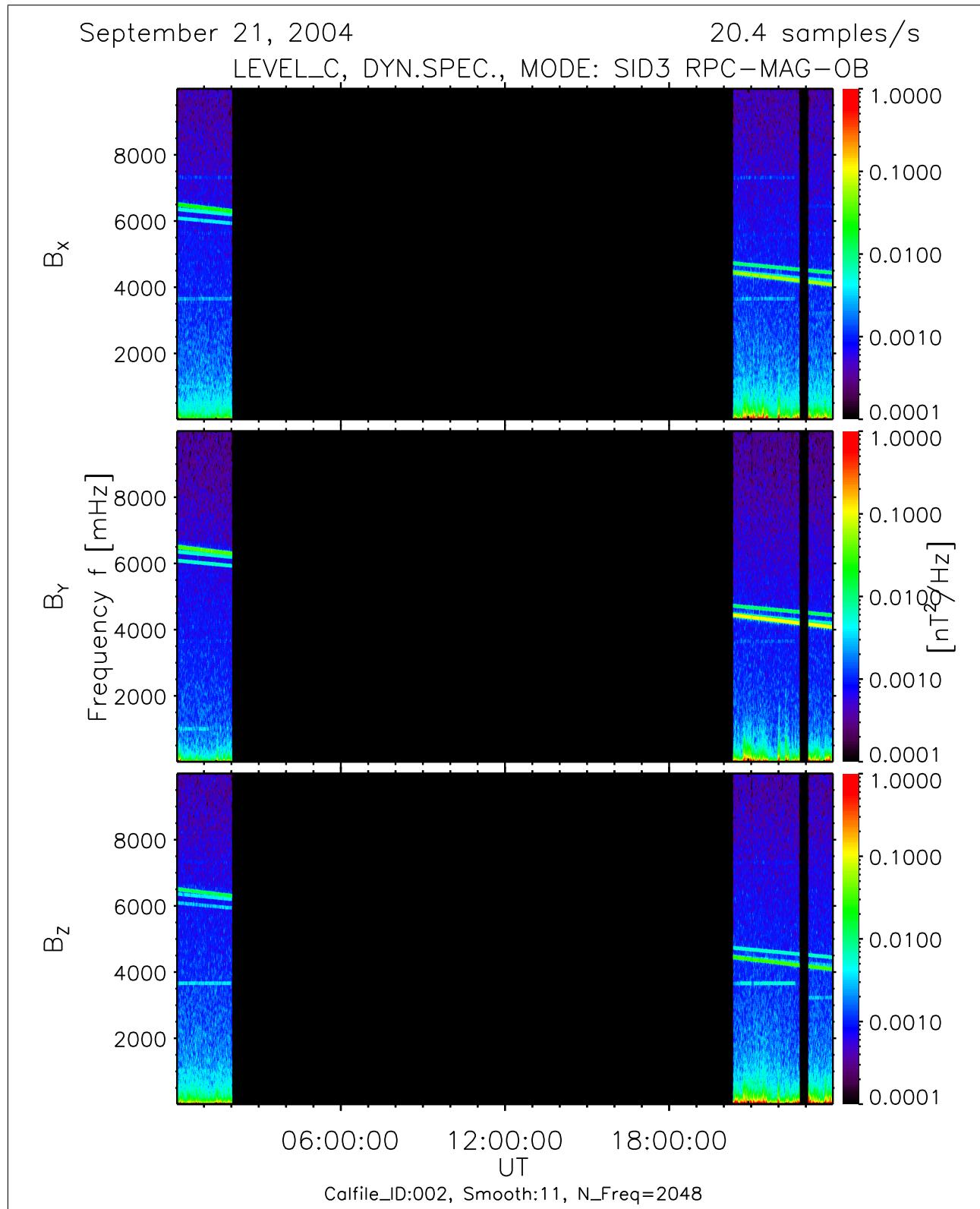


Figure 27: File: RPCMAG040921T0000_CLC_OB_M3_DS0_10000_002

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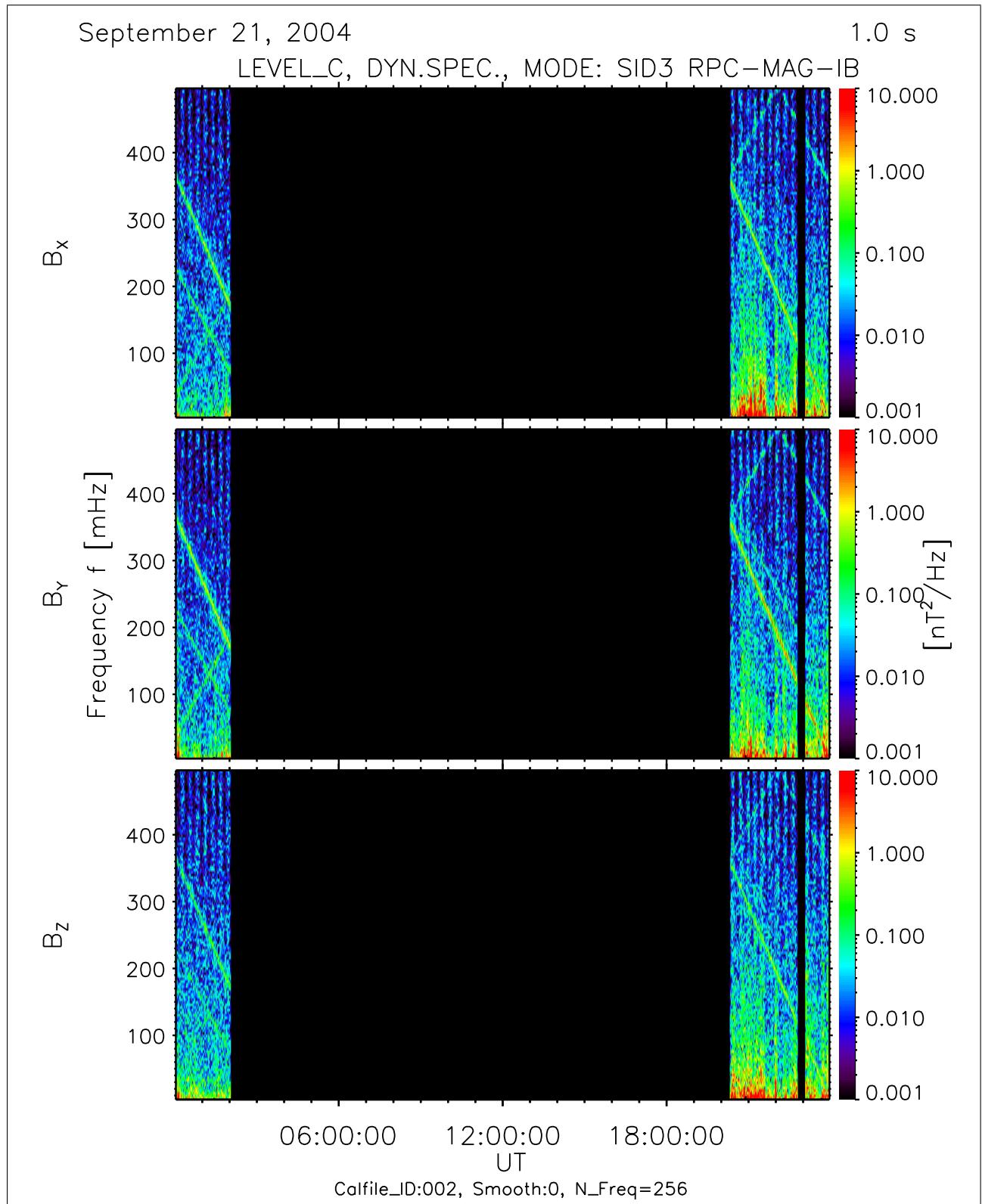


Figure 28: File: RPCMAG040921T0000_CLC_IB_M3_DS0_500_002

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3.3 Plots of ROSETTA's Reaction Wheels Speeds

The following plots show the time series of the revolutions of the 4 reaction wheels. Two kinds of data are shown:

- The original reaction wheel data as they are stored in the DDS.
- The theoretical response of the wheels impact seen by an instrument sampling with different frequencies. Here the response at 20 Hz and 1 Hz sampling frequency is plotted.

A comparison with the dynamic spectra of the MAG data gives an impressive accordance between the reaction wheel frequencies and the spectral lines observed in the dynamic MAG spectra.

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Revolutions of the four Rosetta Reaction Wheels
September 21, 2004

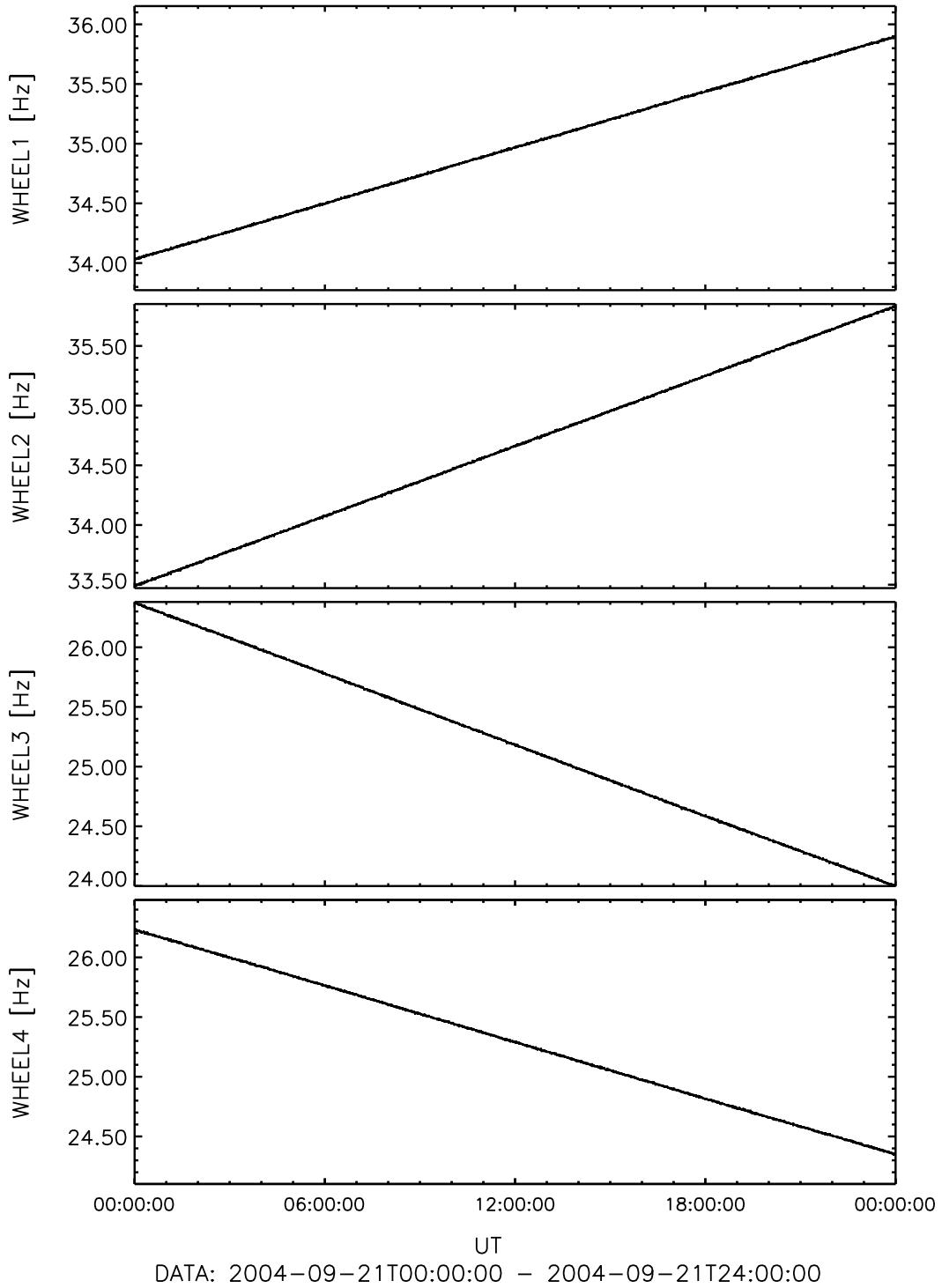


Figure 29: File: wheels_Hz2004-09-21T00-00

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Reaction Wheels – Response at 1Hz Sampling
September 21, 2004

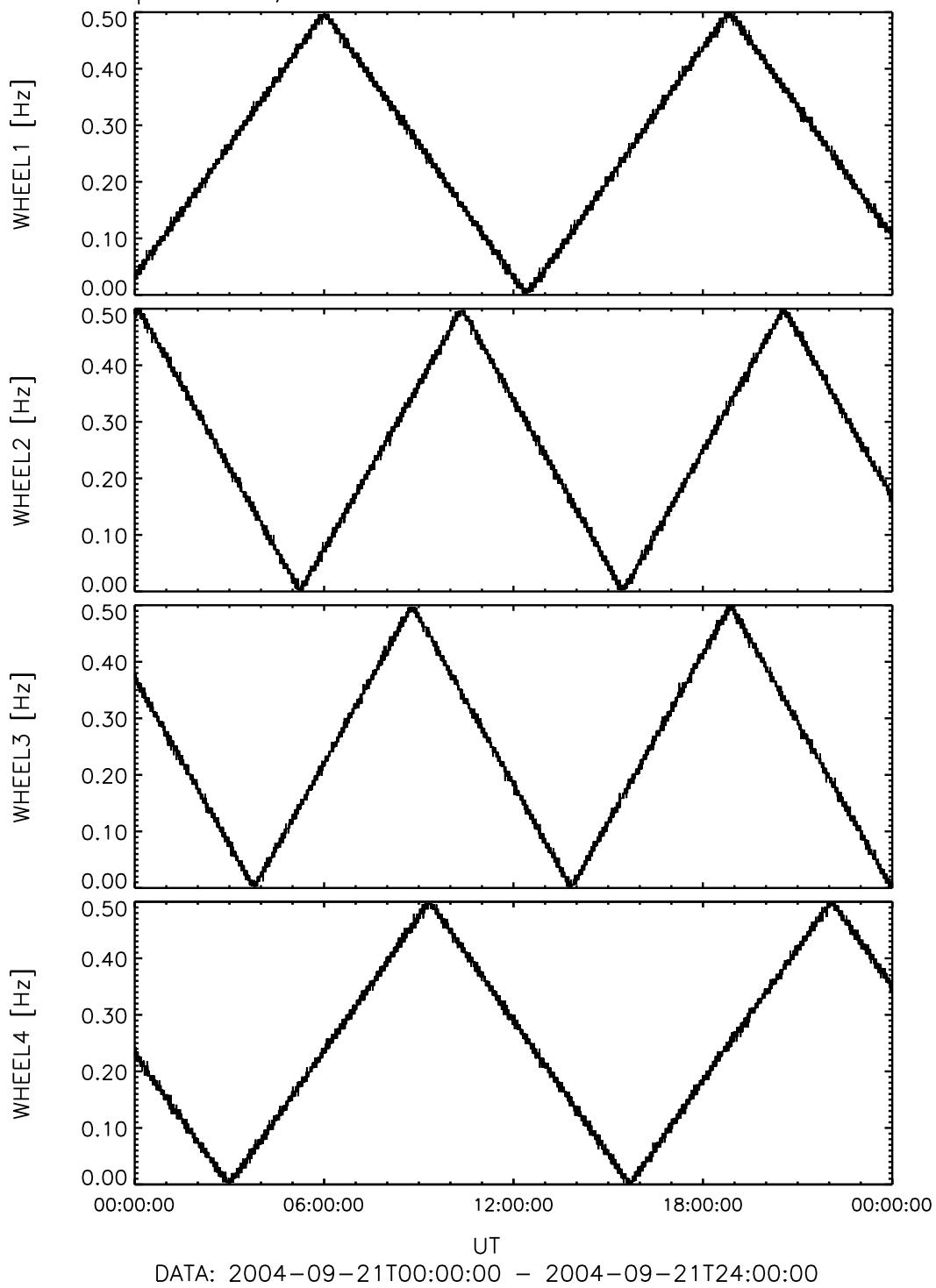


Figure 30: File: wheels_1Hz_Sampling2004-09-21T00-00

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Reaction Wheels – Response at 20 Hz Sampling
September 21, 2004

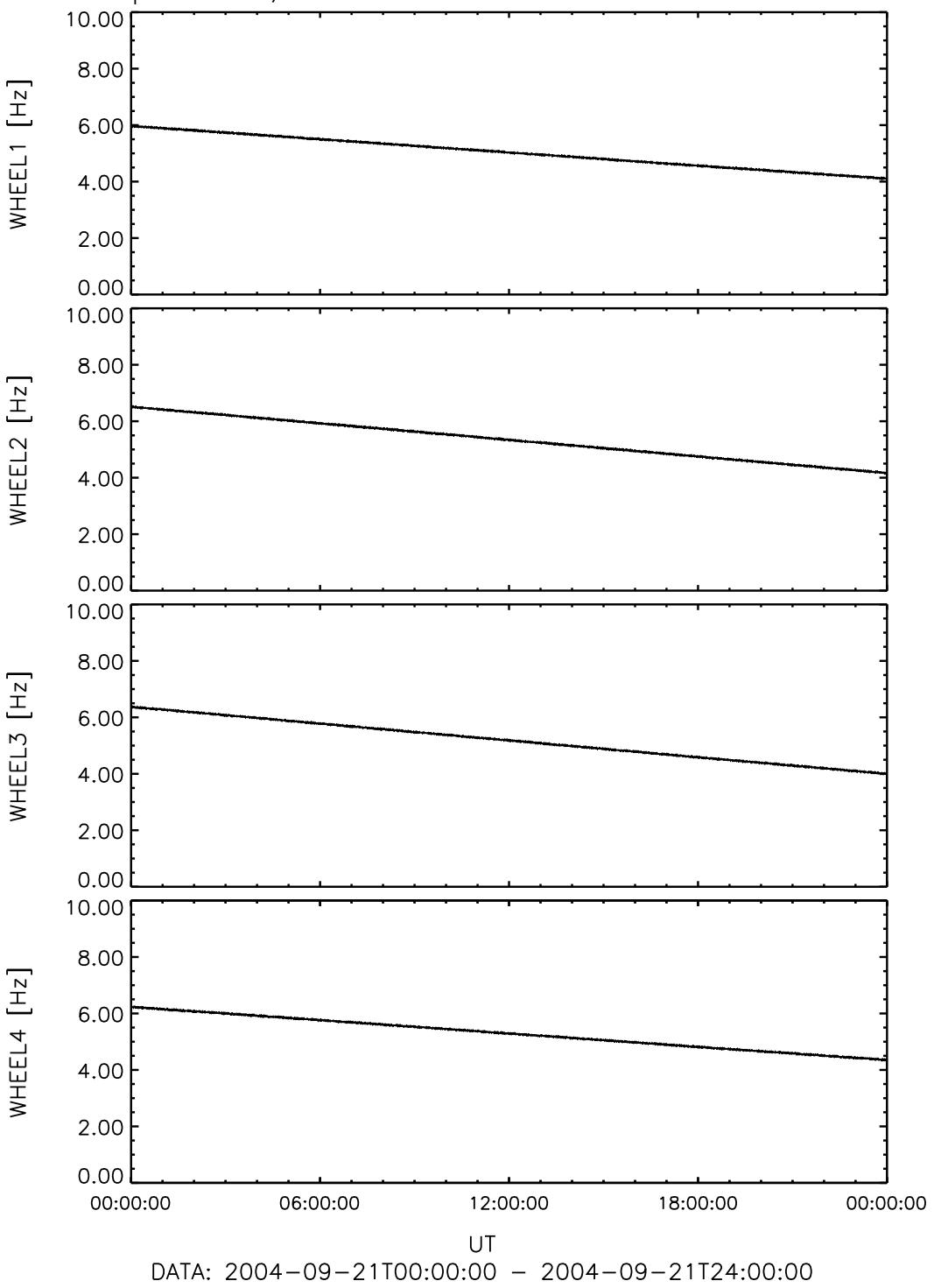


Figure 31: File: wheels_20Hz_Sampling2004-09-21T00-00

3.4 Plots of Reaction Wheel and LAP Disturbance corrected Data

The following plots show the dynamic spectra of the LEVEL_H data. These data have been purged from ROSETTA's reaction wheel disturbance and also from the disturbance of the LAP instrument. Plots are only shown for the primary sensor.

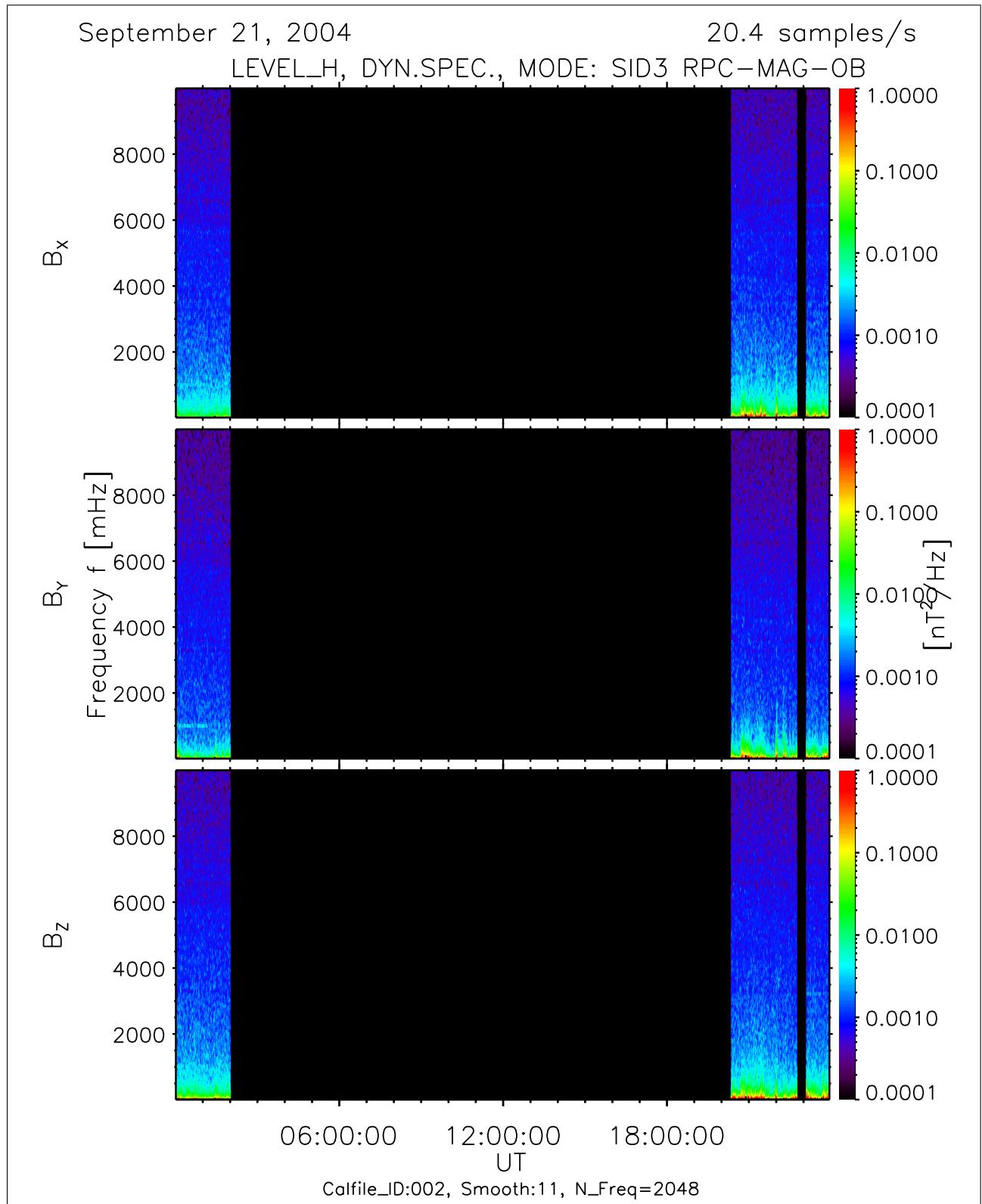


Figure 32: File: RPCMAG040921T0000_CLH_OB_M3_DS0_10000_002

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4 September 22, 2004:

4.1 Actions

The Instrument remained switched on until 02:01.

Time	Stage A, Stage B, Filter cfg	Stage 1, Stage 2, Stage3	Mode
00:00 – 02:01	0 0 0	0 0 0	SID3

4.2 Plots of Calibrated Data using the new Temperature Model

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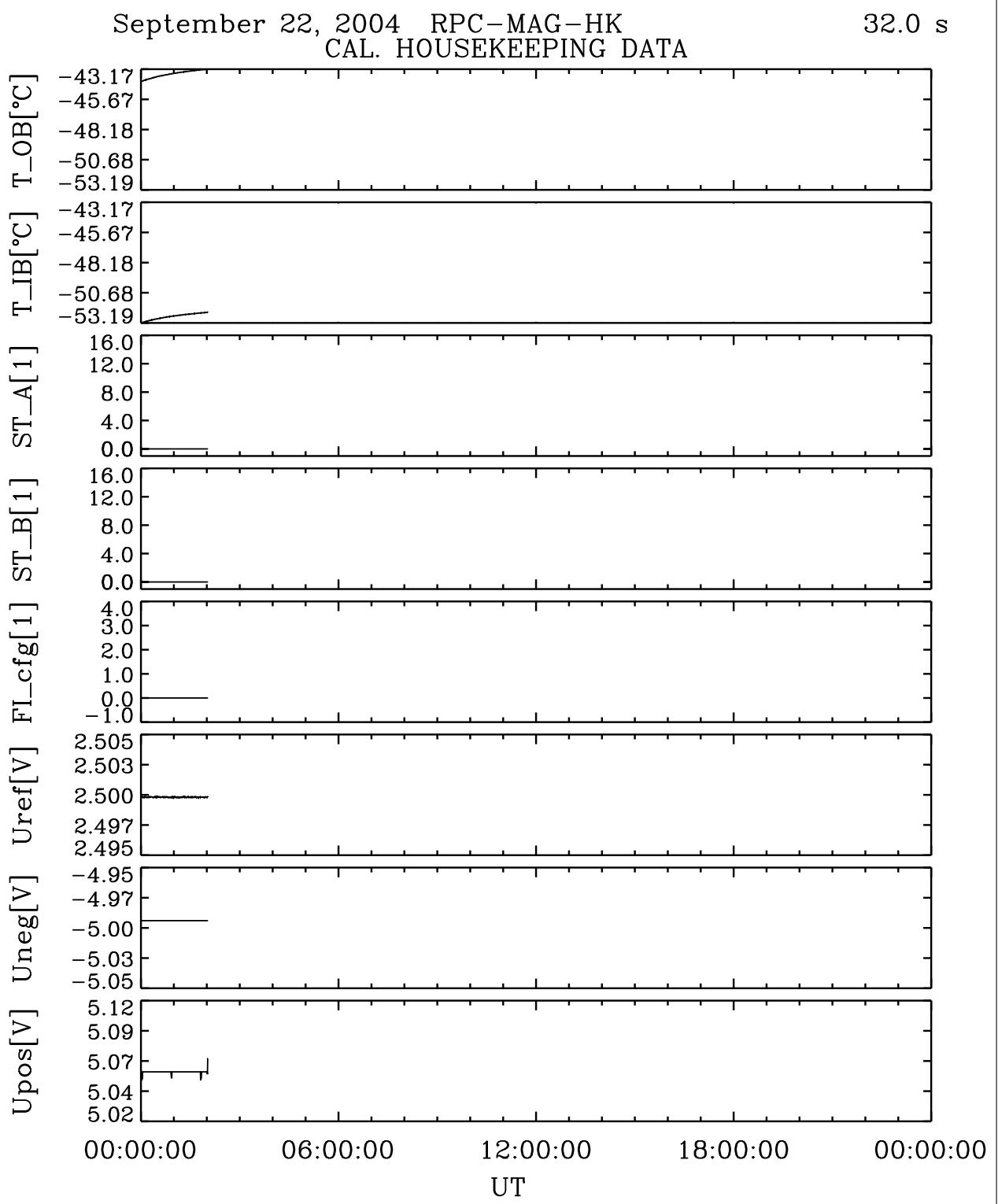


Figure 33: File: RPCMAG040922T0000_CLA_HK_P0000_2400

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September 22, 2004 RPC-MAG-HK
HOUSEKEEPING B_OB DATA 32.0 s

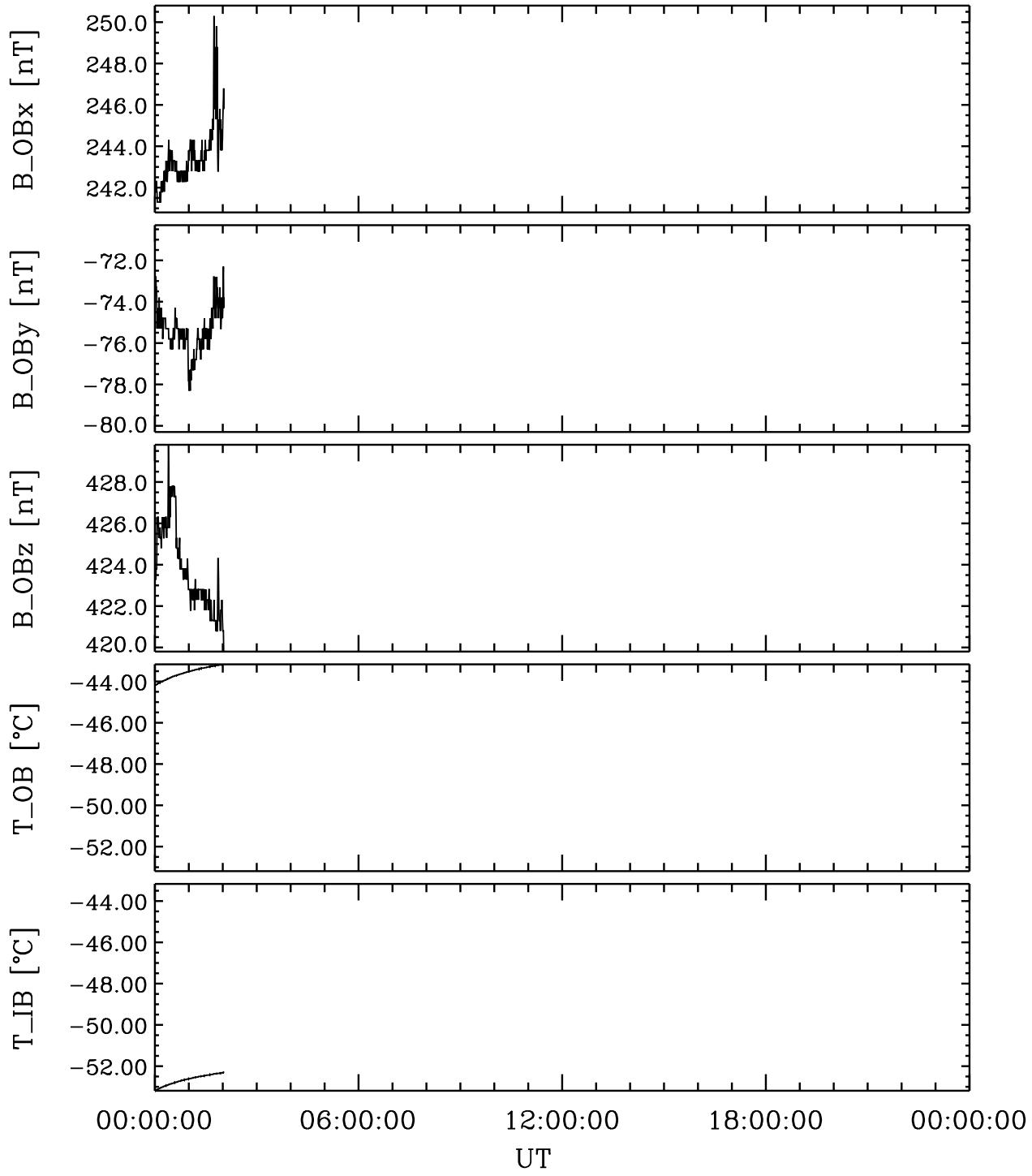


Figure 34: File: RPCMAG040922T0000_CLA_HK_B_P0000_2400

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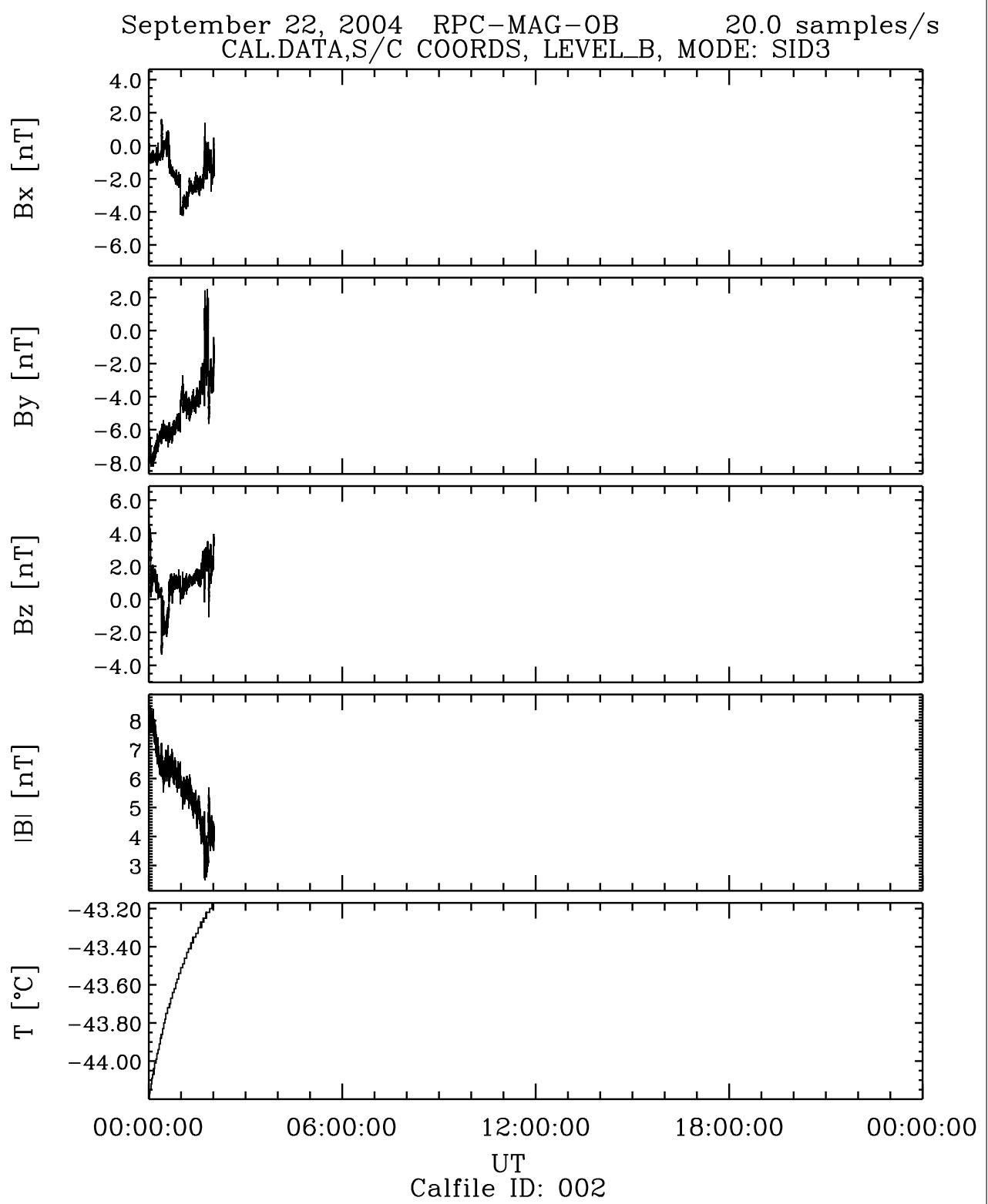


Figure 35: File: RPCMAG040922T0000_CLB_OB_M3_T0000_2400_002

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September 22, 2004 RPC-MAG-IB
CAL.DATA,S/C COORDS, LEVEL_B, MODE: SID3 1.0 s

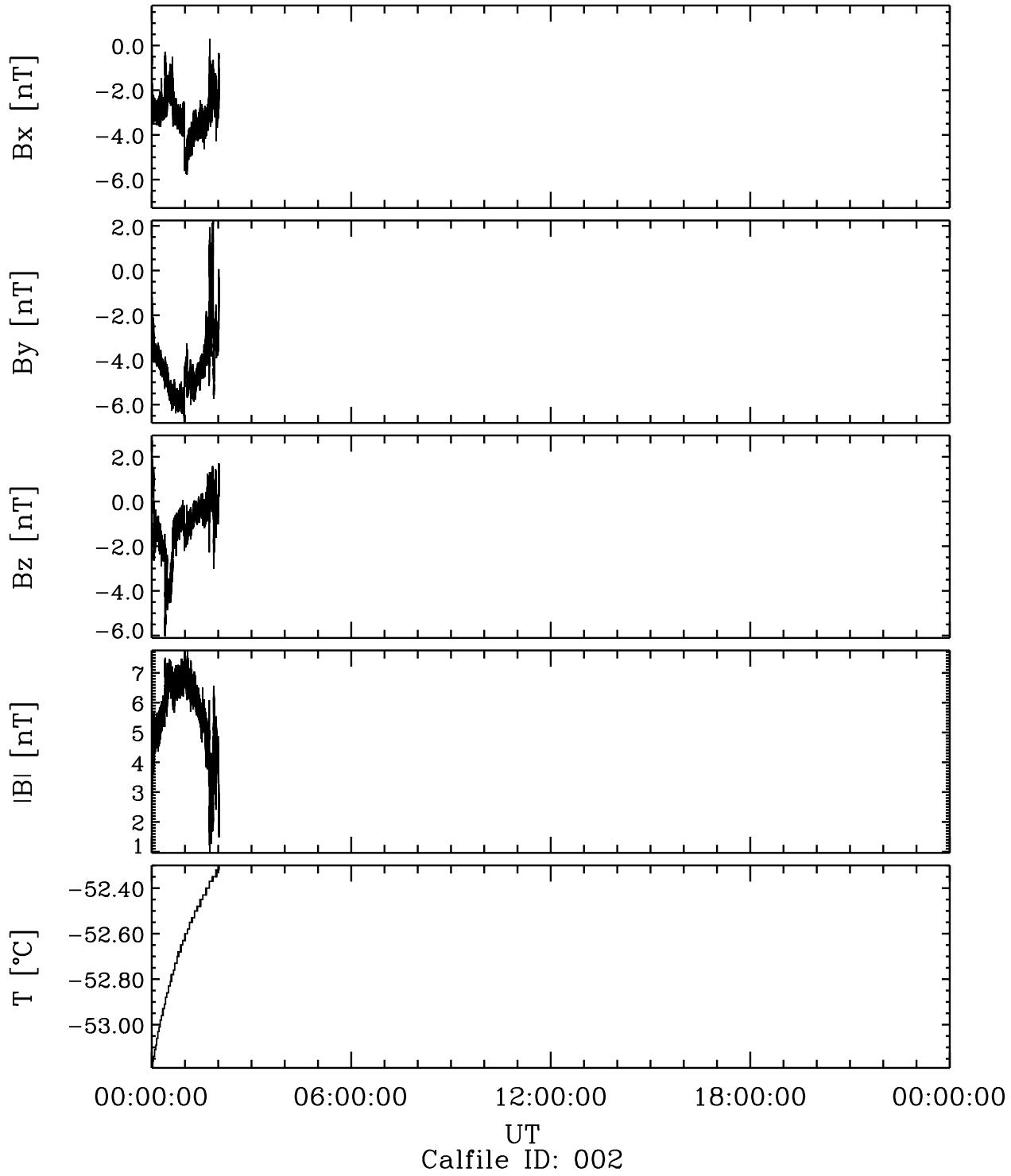


Figure 36: File: RPCMAG040922T0000_CLB_IB_M3_T0000_2400_002

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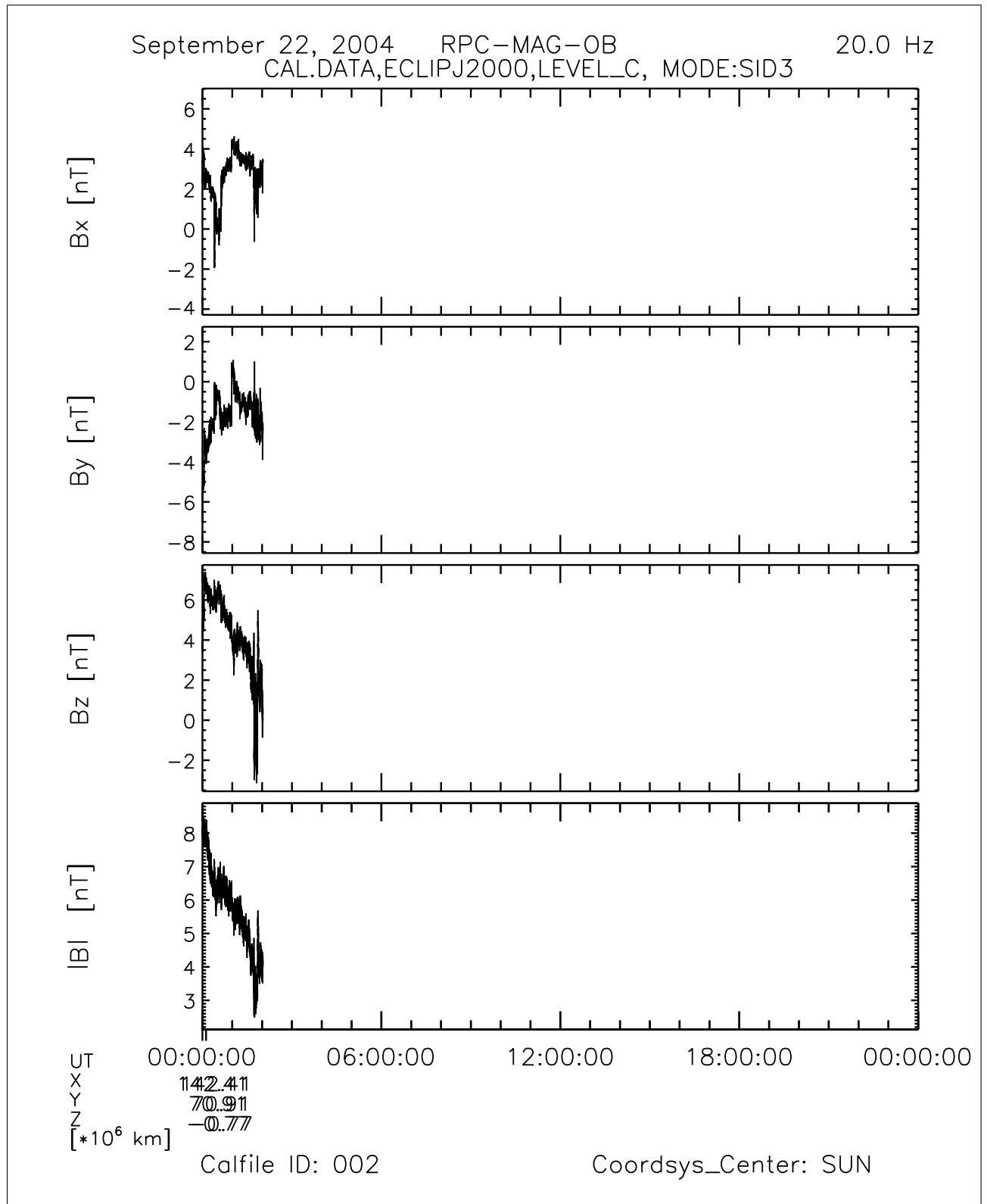


Figure 37: File: RPCMAG040922T0000_CLC_OB_M3_T0000_2400_002

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September 22, 2004 RPC-MAG-IB
 CAL.DATA,ECLIPJ2000,LEVEL_C, MODE:SID3 1.0 s

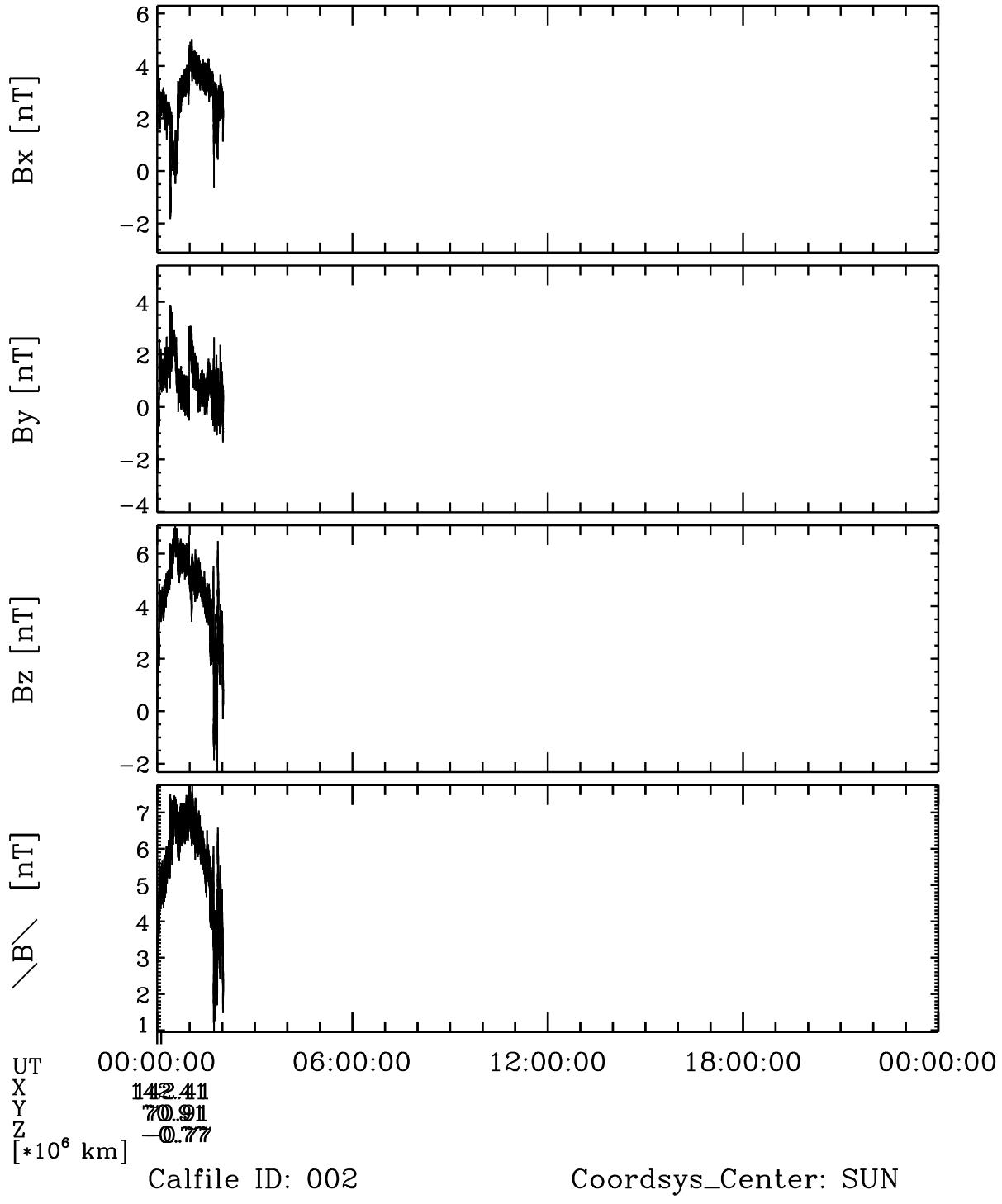


Figure 38: File: RPCMAG040922T0000_CLC_IB_M3_T0000_2400_002

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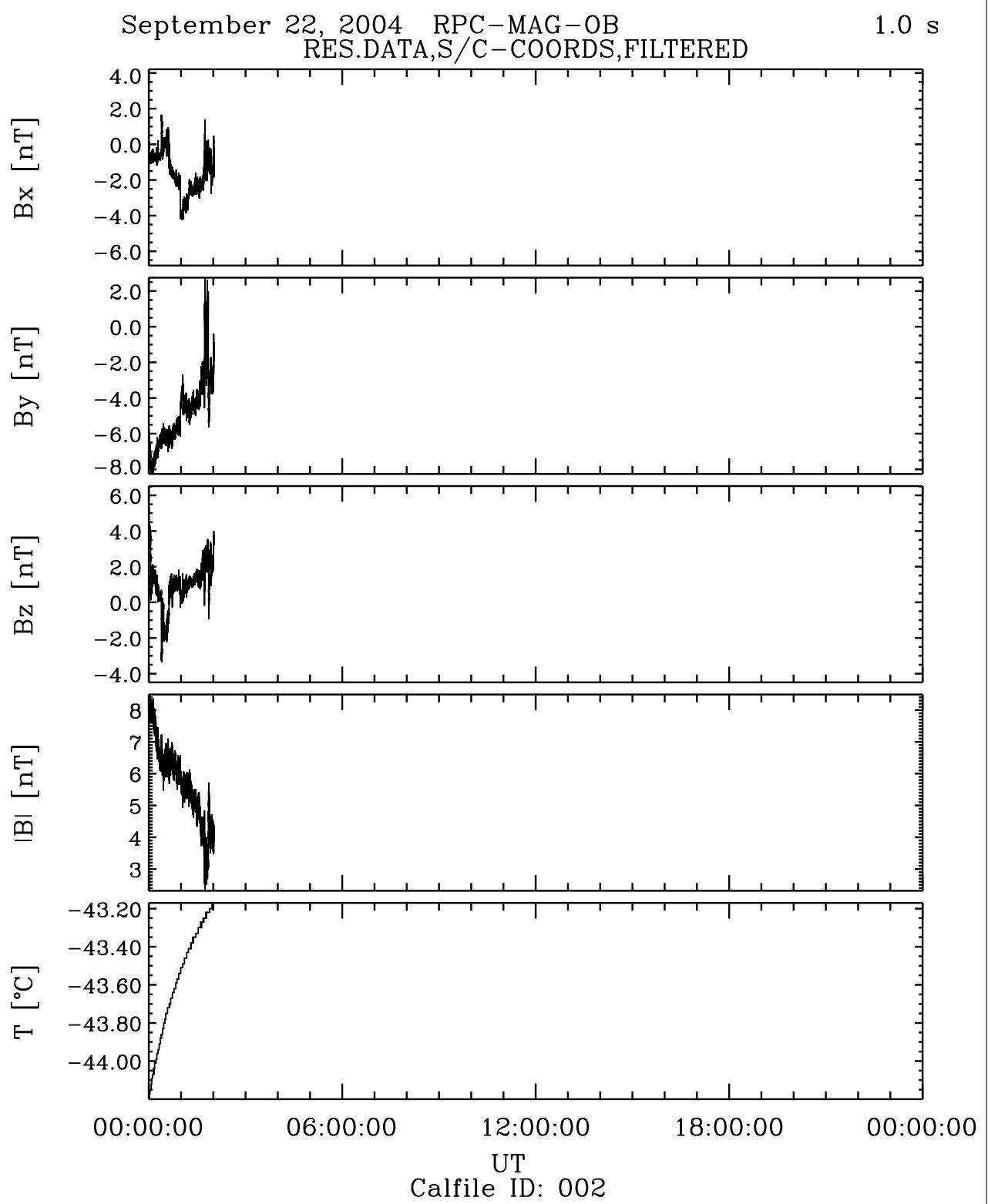


Figure 39: File: RPCMAG040922_CLF_OB_A1_T0000_2400_002

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September 22, 2004 RPC-MAG-IB 1.0 s
RES.DATA,S/C-COORDS,FILTERED

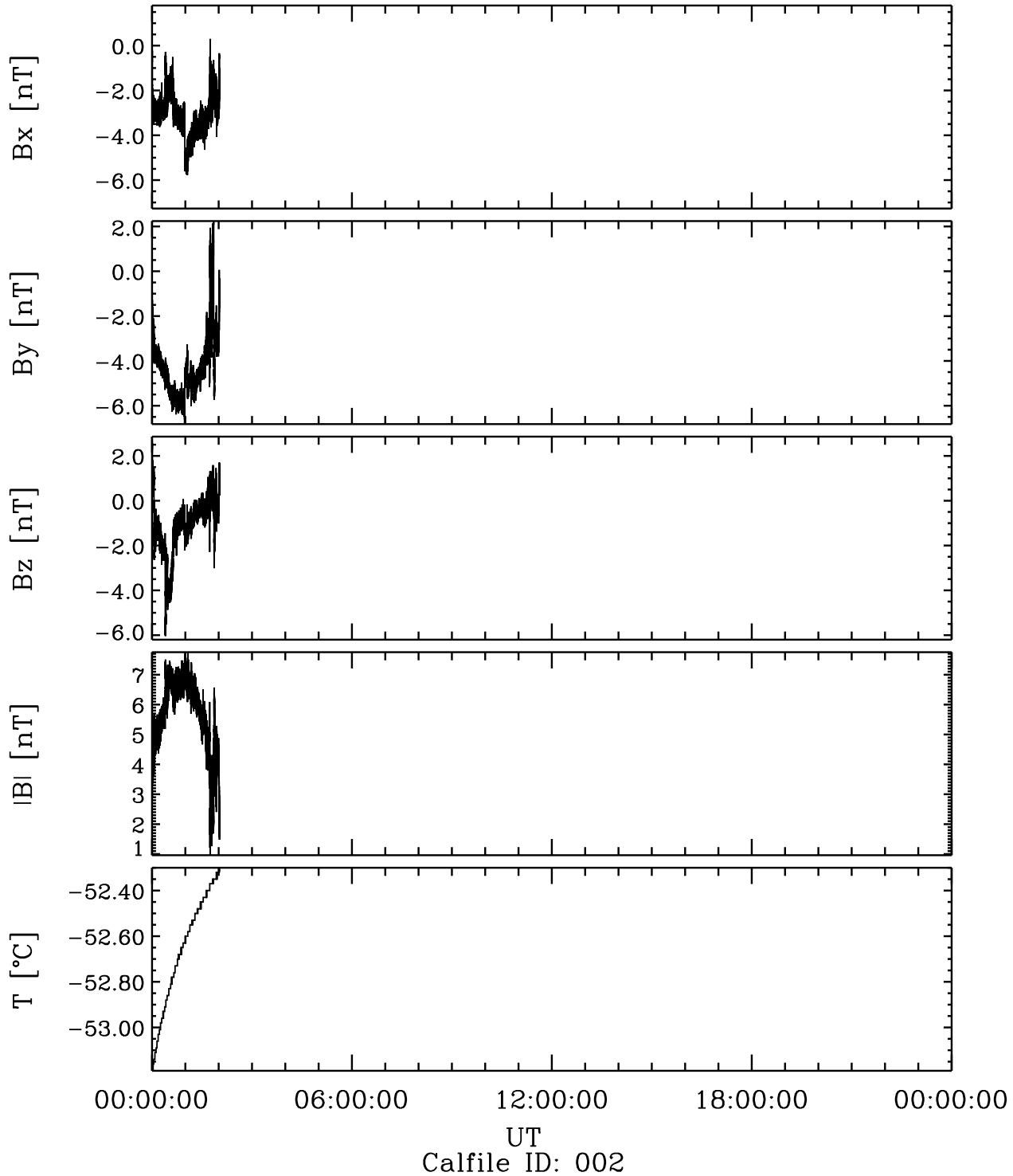


Figure 40: File: RPCMAG040922_CLF_IB_A1_T0000_2400_002

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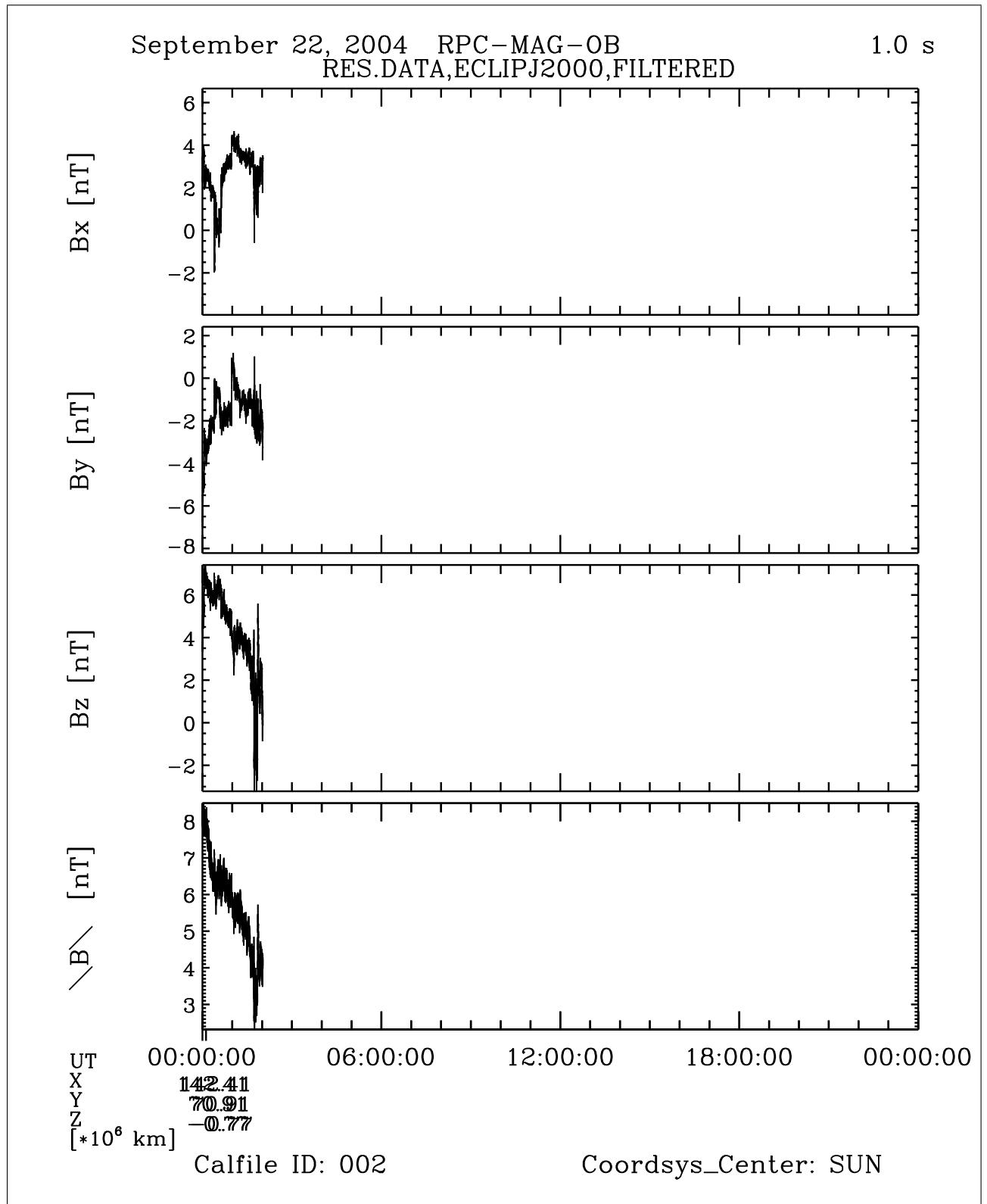


Figure 41: File: RPCMAG040922_CLG_OB_A1_T0000_2400_002

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September 22, 2004 RPC-MAG-IB 1.0 s
 RES.DATA,ECLIPJ2000,FILTERED

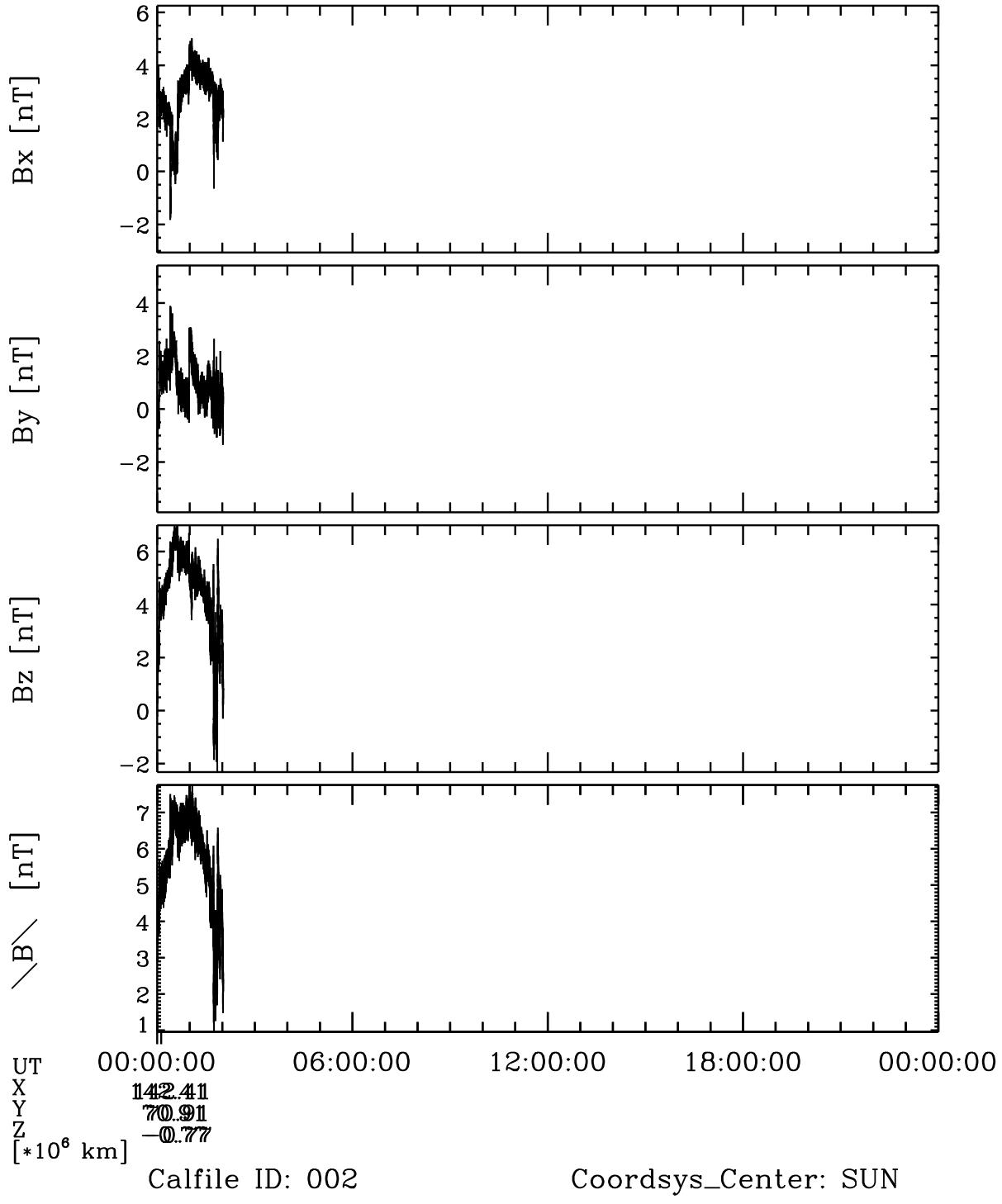


Figure 42: File: RPCMAG040922_CLG_IB_A1_T0000_2400_002

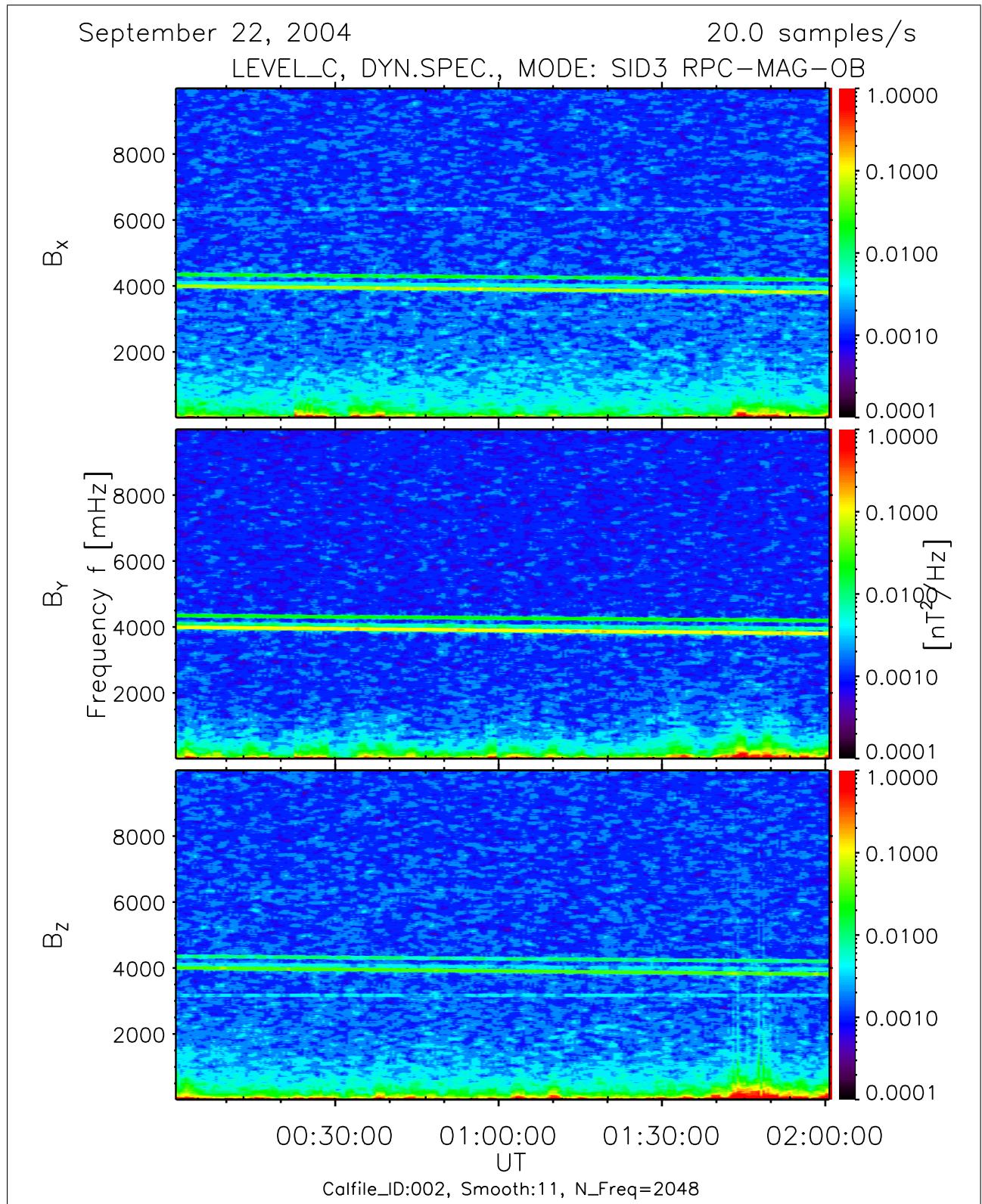


Figure 43: File: RPCMAG040922T0000_CLC_OB_M3_DS0_10000_002

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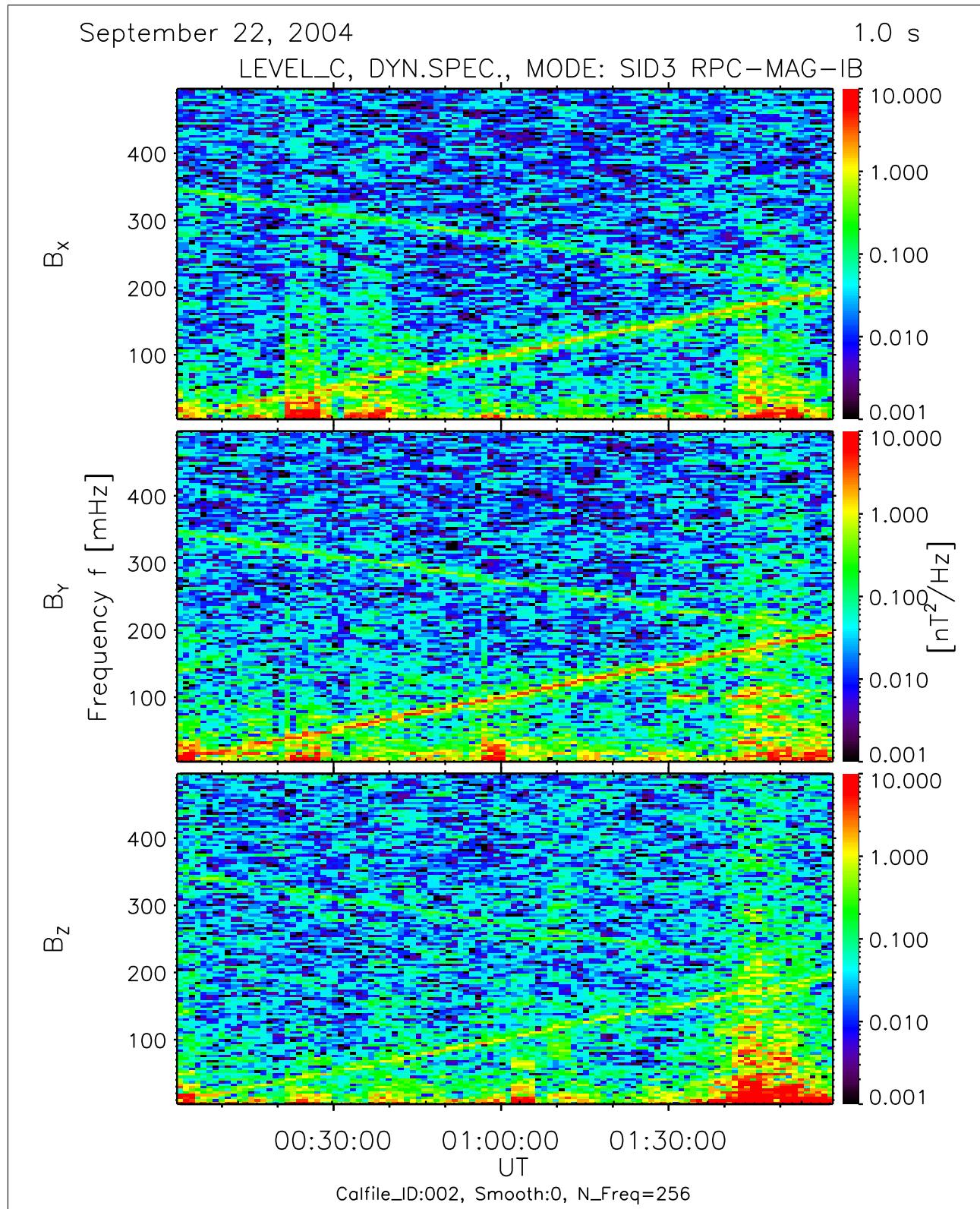


Figure 44: File: RPCMAG040922T0000_CLC_IB_M3_DS0_500_002

4.3 Plots of ROSETTA's Reaction Wheels Speeds

The following plots show the time series of the revolutions of the 4 reaction wheels. Two kinds of data are shown:

- The original reaction wheel data as they are stored in the DDS.
- The theoretical response of the wheels impact seen by an instrument sampling with different frequencies. Here the response at 20 Hz and 1 Hz sampling frequency is plotted.

A comparison with the dynamic spectra of the MAG data gives an impressive accordance between the reaction wheel frequencies and the spectral lines observed in the dynamic MAG spectra.

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Revolutions of the four Rosetta Reaction Wheels
September 22, 2004

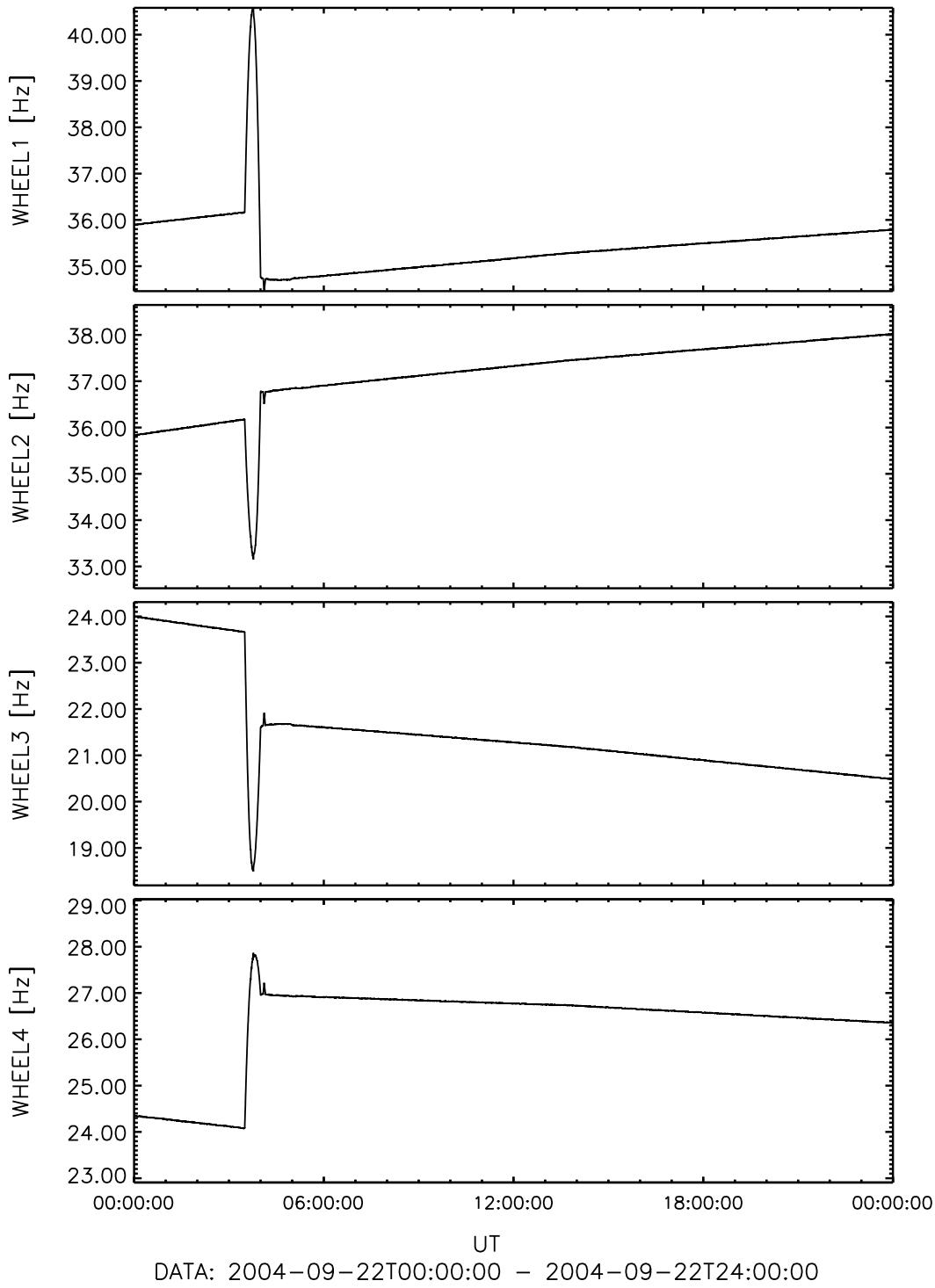


Figure 45: File: wheels_Hz2004-09-22T00-00

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Reaction Wheels – Response at 1Hz Sampling
September 22, 2004

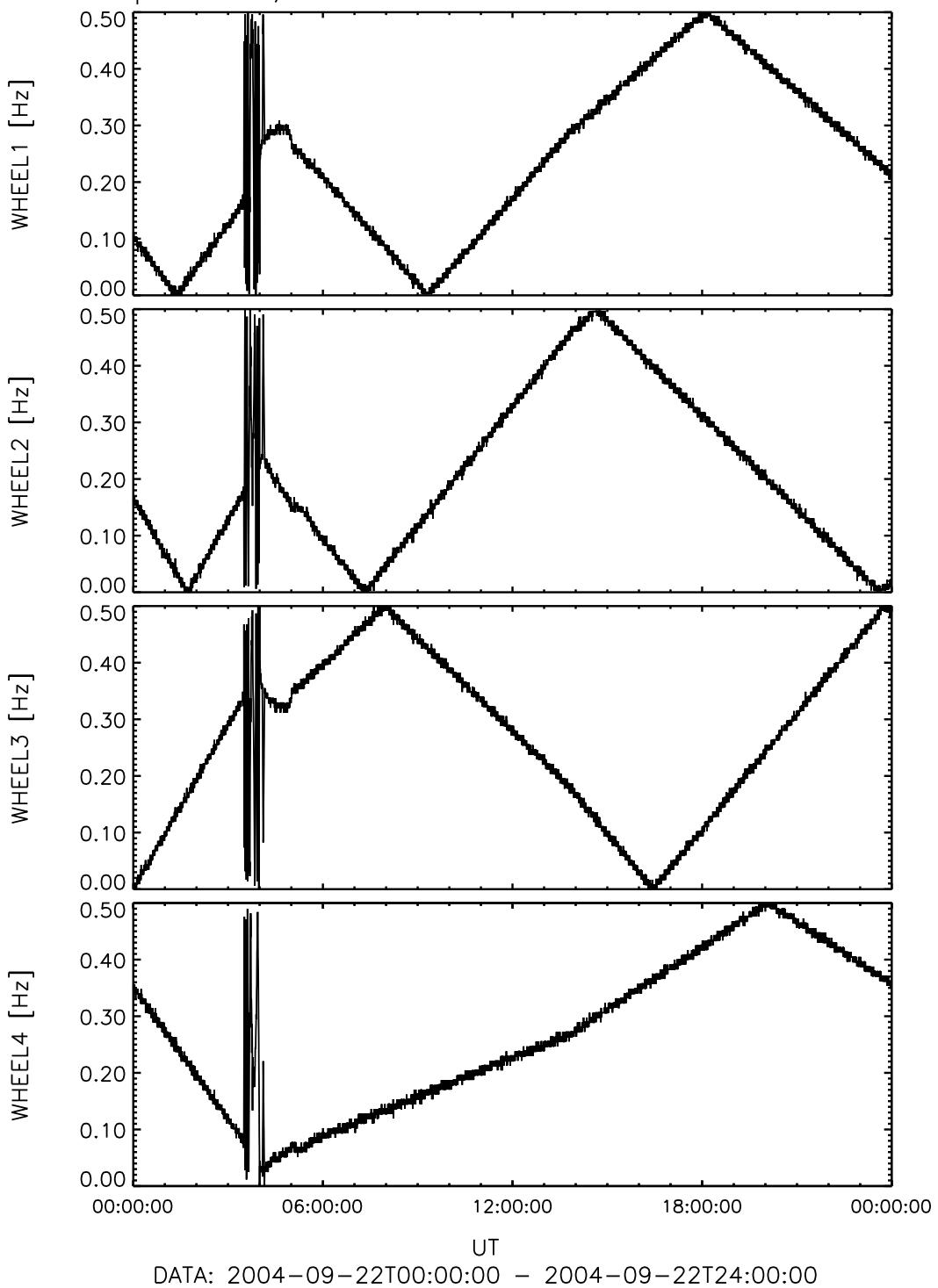


Figure 46: File: wheels_1Hz_Sampling2004-09-22T00-00

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Reaction Wheels – Response at 20 Hz Sampling
September 22, 2004

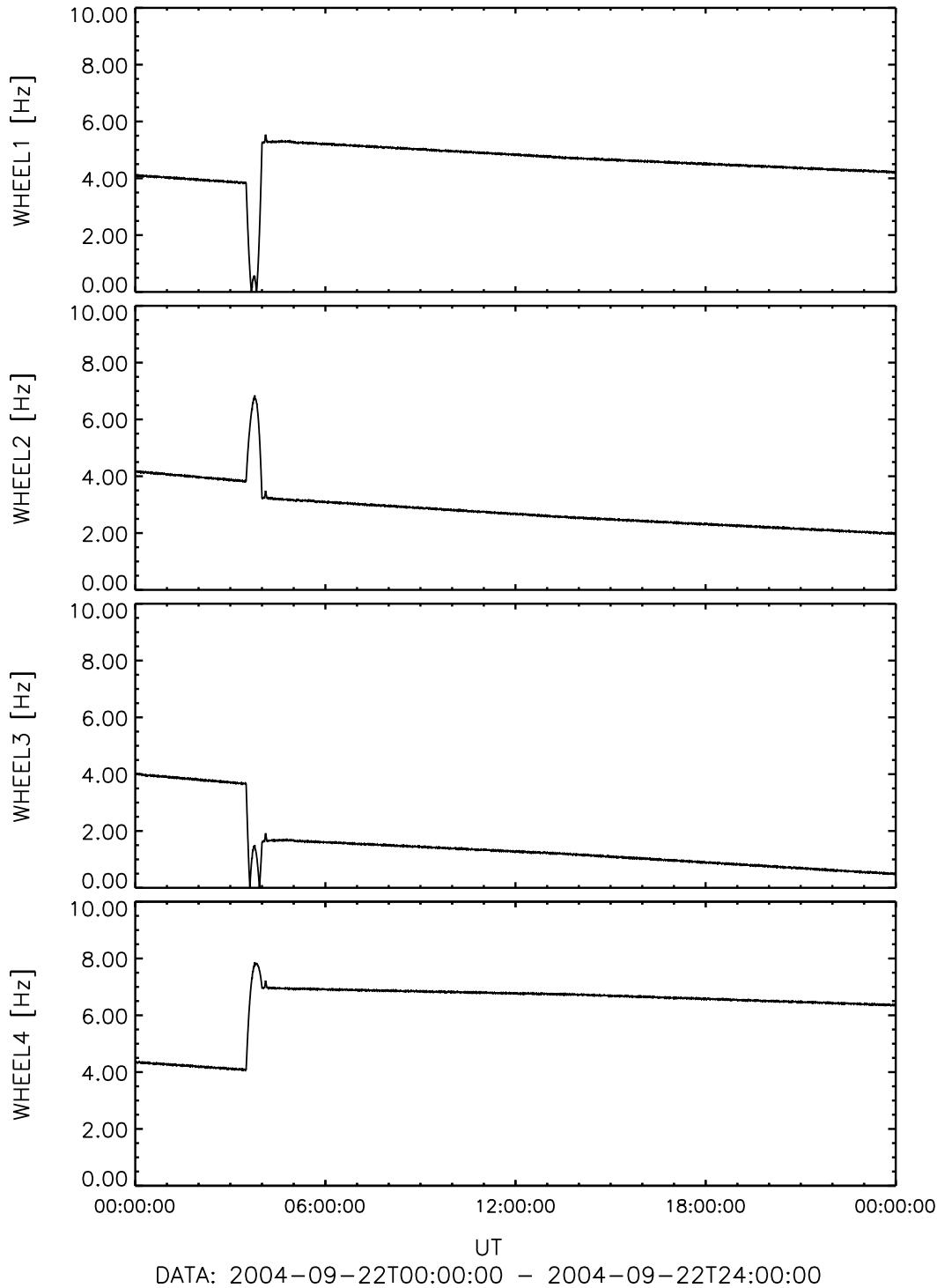


Figure 47: File: wheels_20Hz_Sampling2004-09-22T00-00

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4.4 Plots of Reaction Wheel and LAP Disturbance corrected Data

The following plots show the dynamic spectra of the LEVEL_H data. These data have been purged from ROSETTAs reaction wheel disturbance and also from the disturbance of the LAP instrument. Plots are only shown for the primary sensor.

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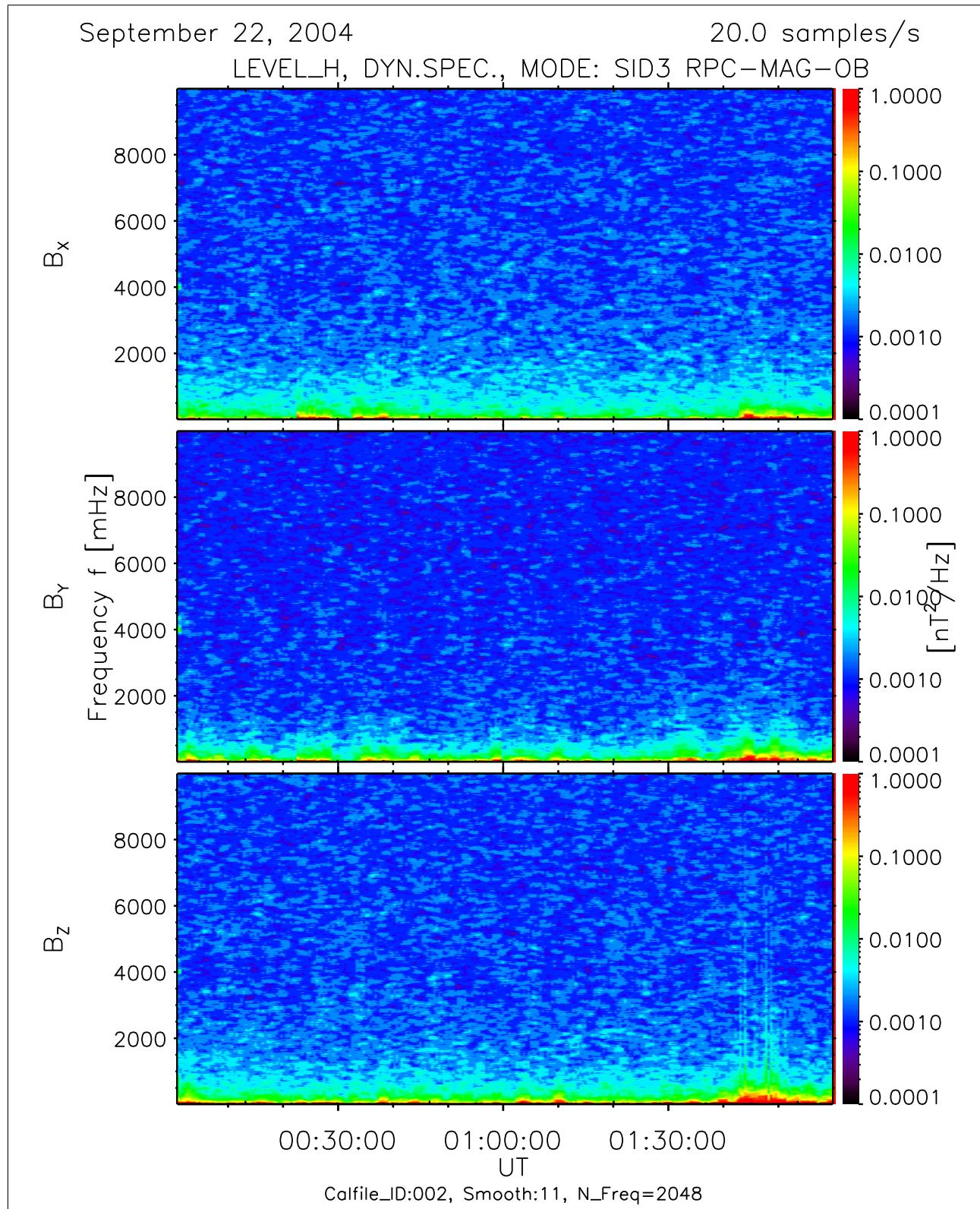


Figure 48: File: RPCMAG040922T0000_CLH_OB_M3_DS0_10000_002

5 September 23, 2004:

5.1 Actions

The Instrument was switched on at 06:32 and switched off at 16:39.

Time	Stage A, Stage B, Filter cfg	Stage 1, Stage 2, Stage3	Mode
06:40 – 10:25	1 2 0	1 2 0	SID2
10:25 – 10:42	4 3 0	4 3 0	SID5
10:42 – 16:24	1 2 0	1 2 0	SID2

5.2 Plots of Calibrated Data using the new Temperature Model

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September 23, 2004 RPC-MAG-HK
 CAL. HOUSEKEEPING DATA 32.0 s

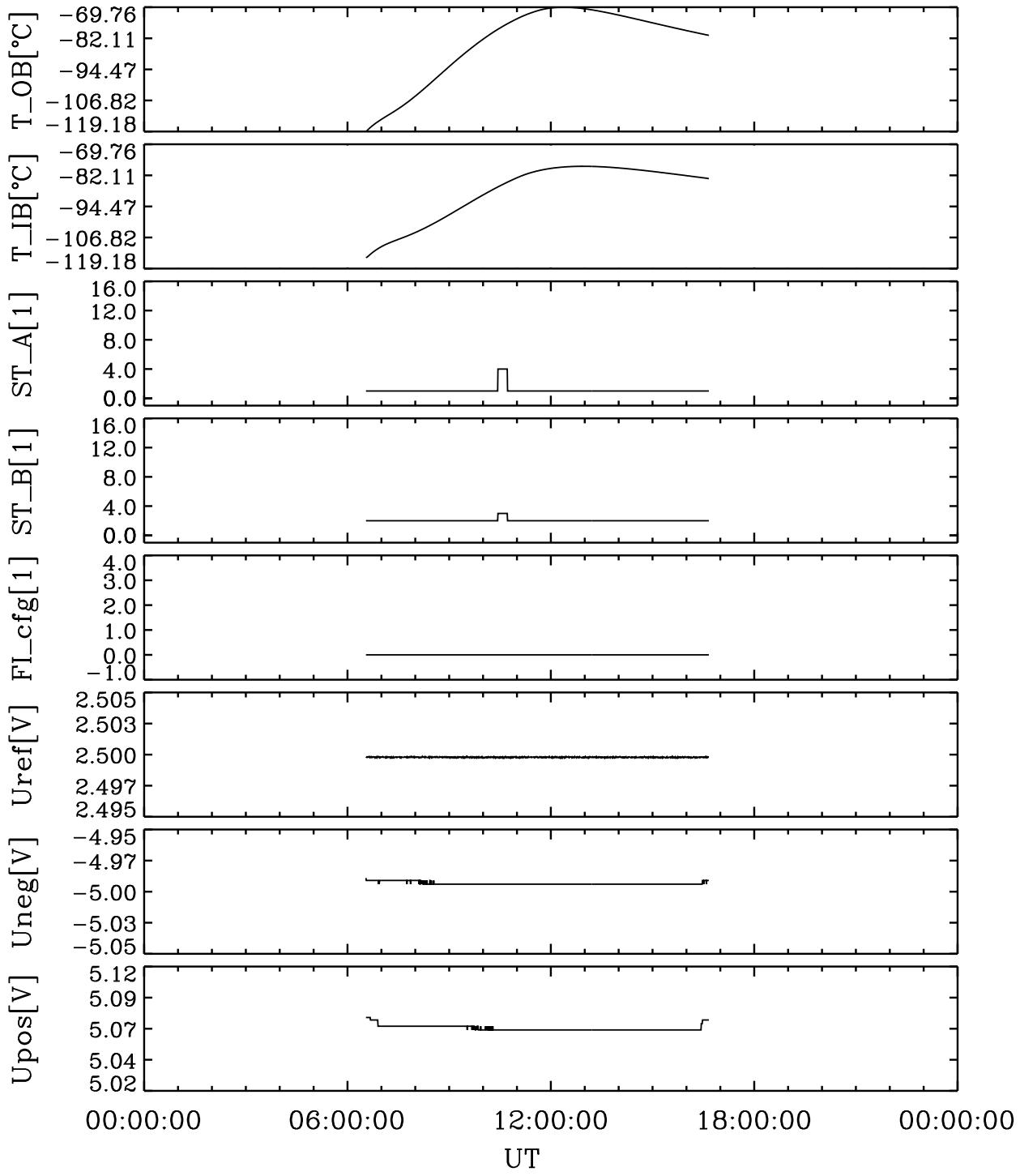


Figure 49: File: RPCMAG040923T0632_CLA_HK_P0000_2400

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September 23, 2004 RPC-MAG-HK
 HOUSEKEEPING B_OB DATA

32.0 s

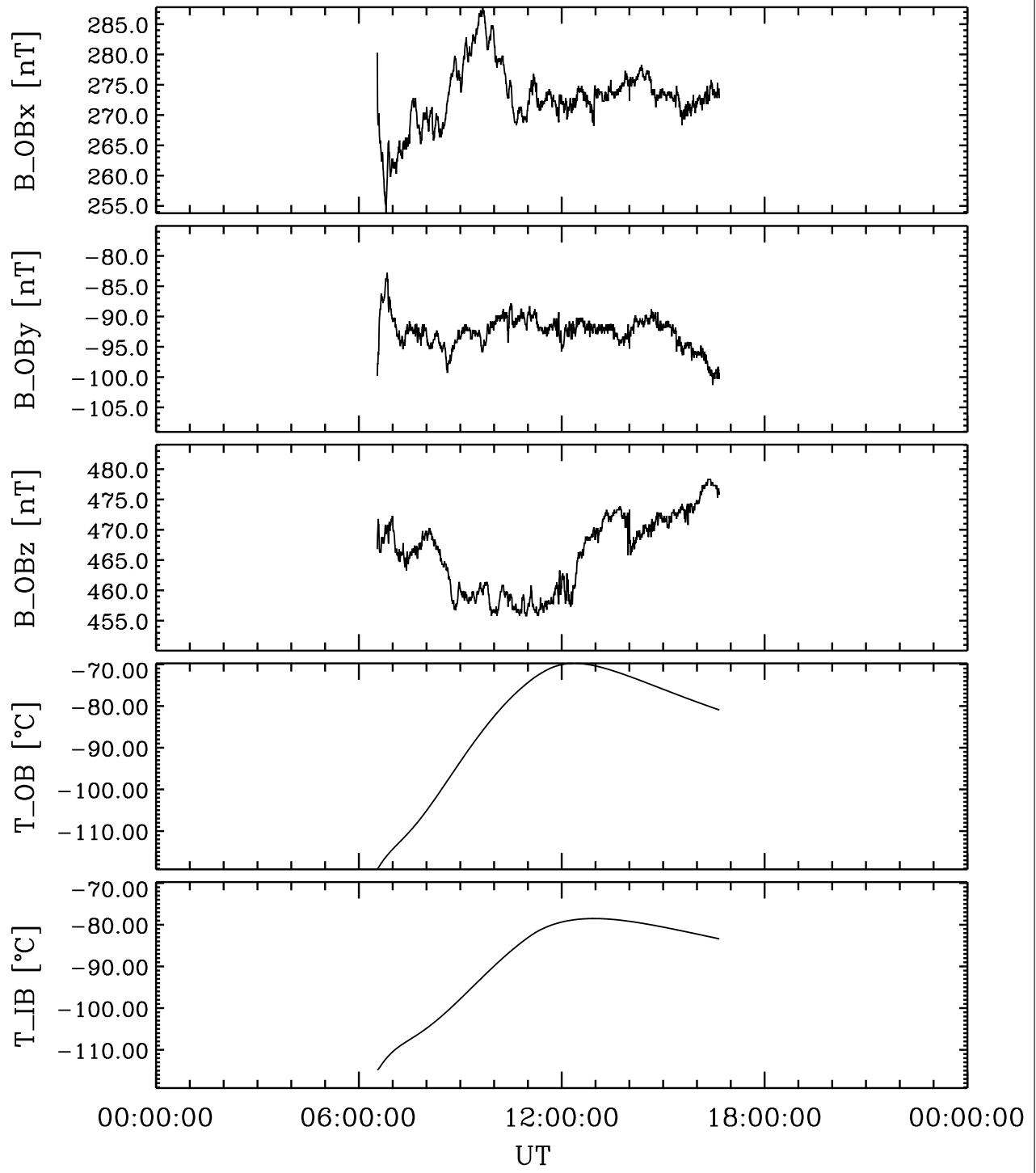


Figure 50: File: RPCMAG040923T0632_CLA_HK_B_P0000_2400

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September 23, 2004 RPC-MAG-OB
CAL.DATA,S/C COORDS, LEVEL_B, MODE: SID2 1.0 s

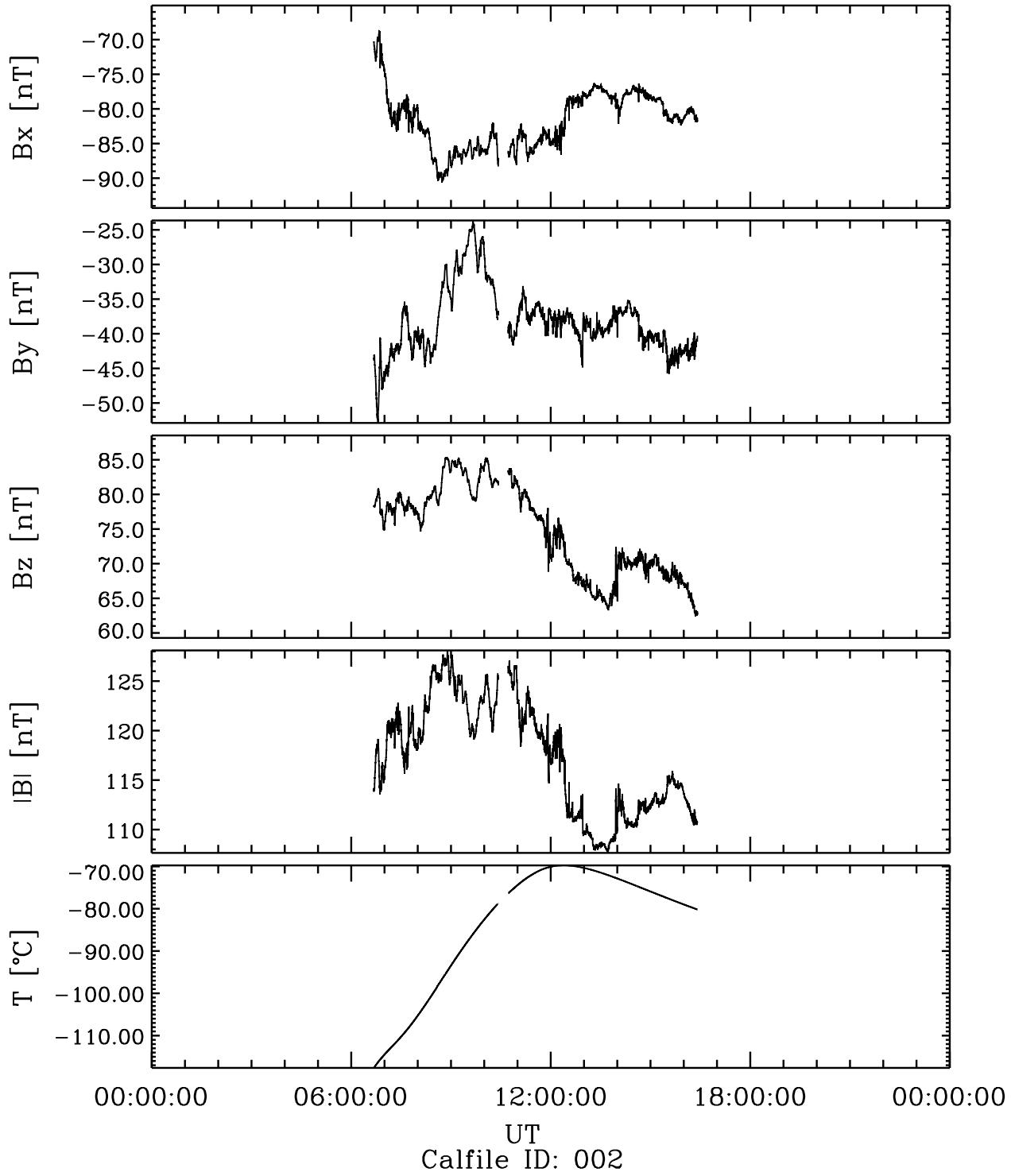


Figure 51: File: RPCMAG040923T0640_CLB_OB_M2_T0000_2400_002

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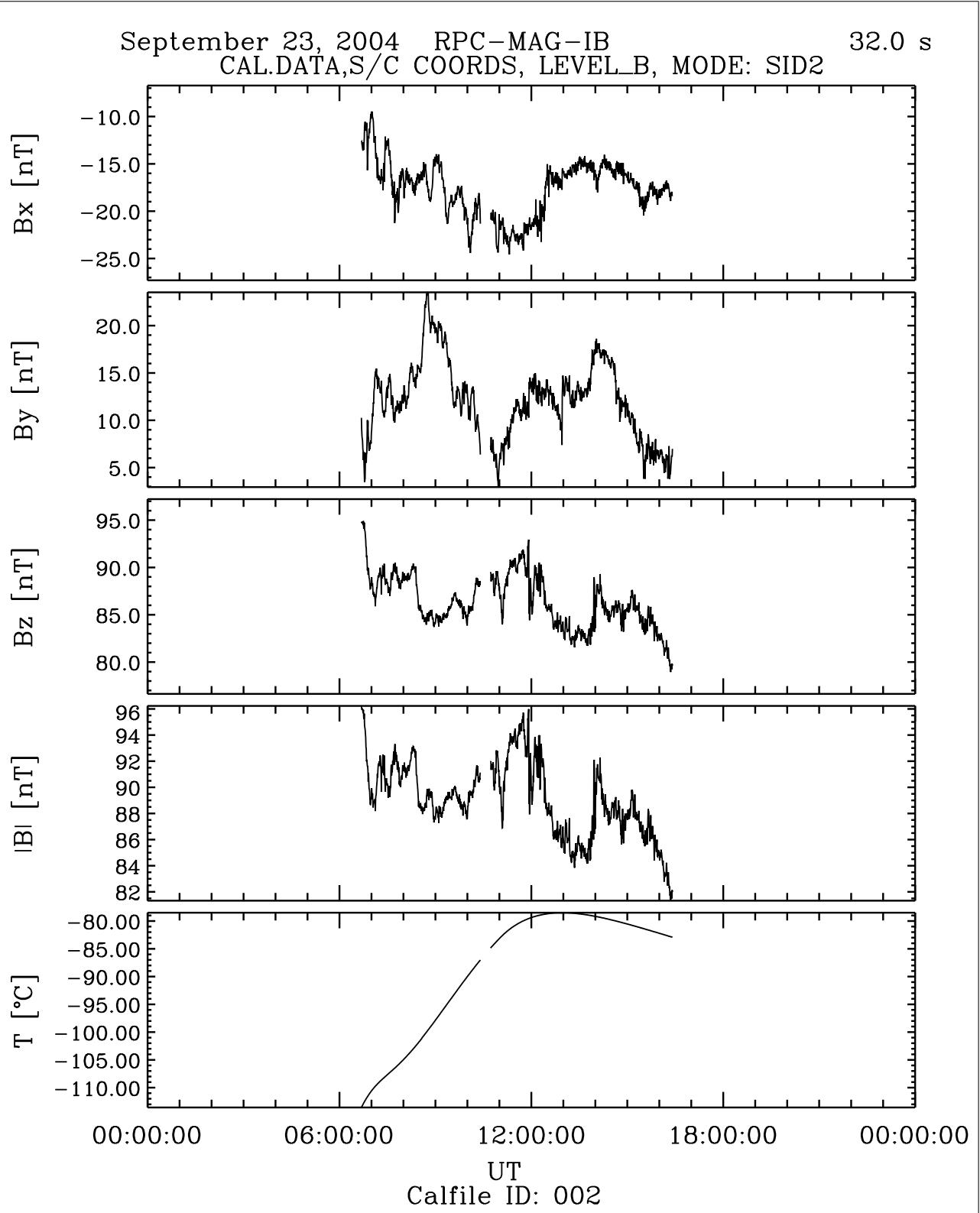


Figure 52: File: RPCMAG040923T0640_CLB_IB_M2_T0000_2400_002

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September 23, 2004 RPC-MAG-OB 1.0 s
 CAL.DATA,ECLIPJ2000,LEVEL_C, MODE:SID2

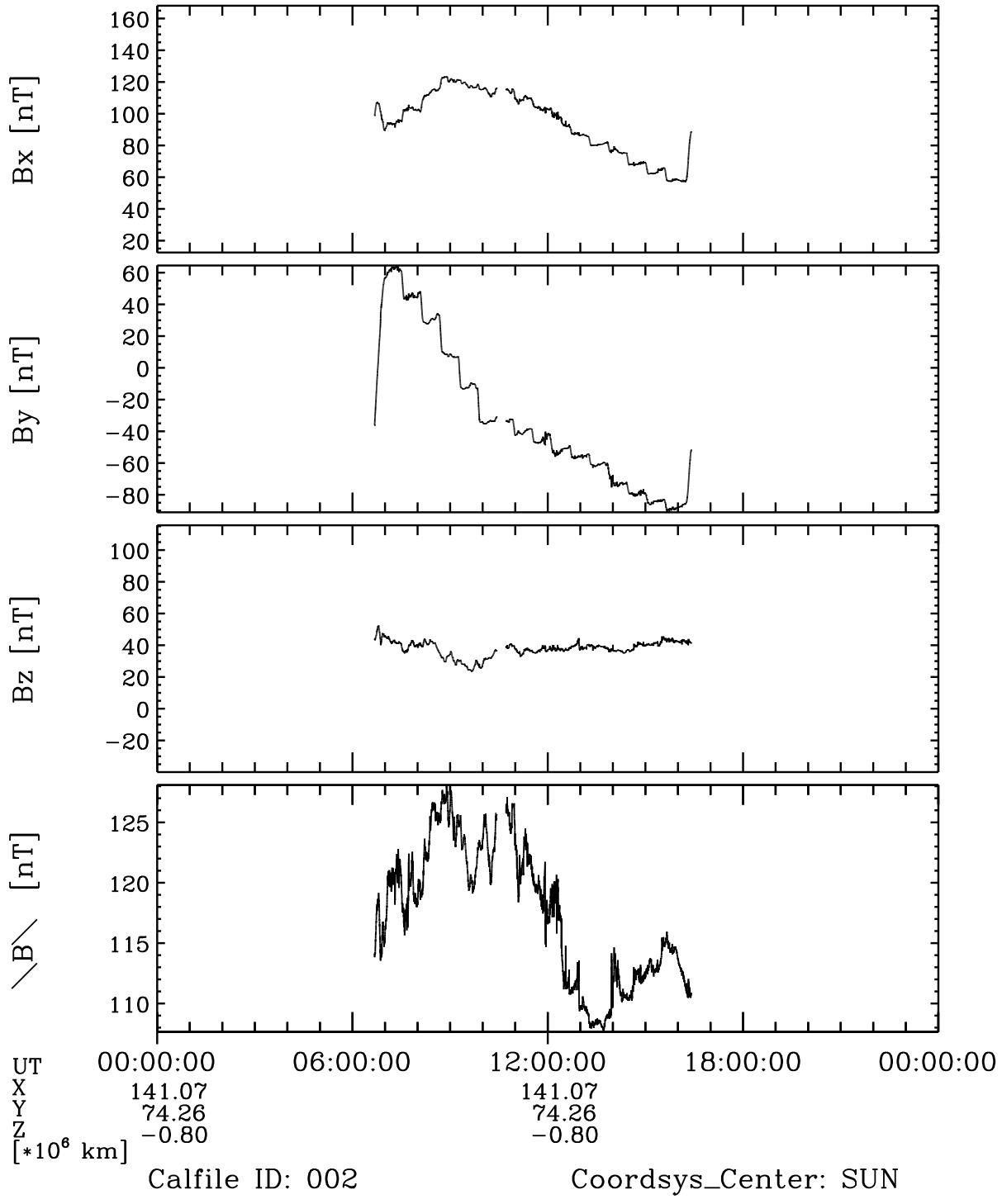


Figure 53: File: RPCMAG040923T0640_CLC_OB_M2_T0000_2400_002

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September 23, 2004 RPC-MAG-IB
CAL.DATA,ECLIPJ2000,LEVEL_C, MODE:SID2 32.0 s

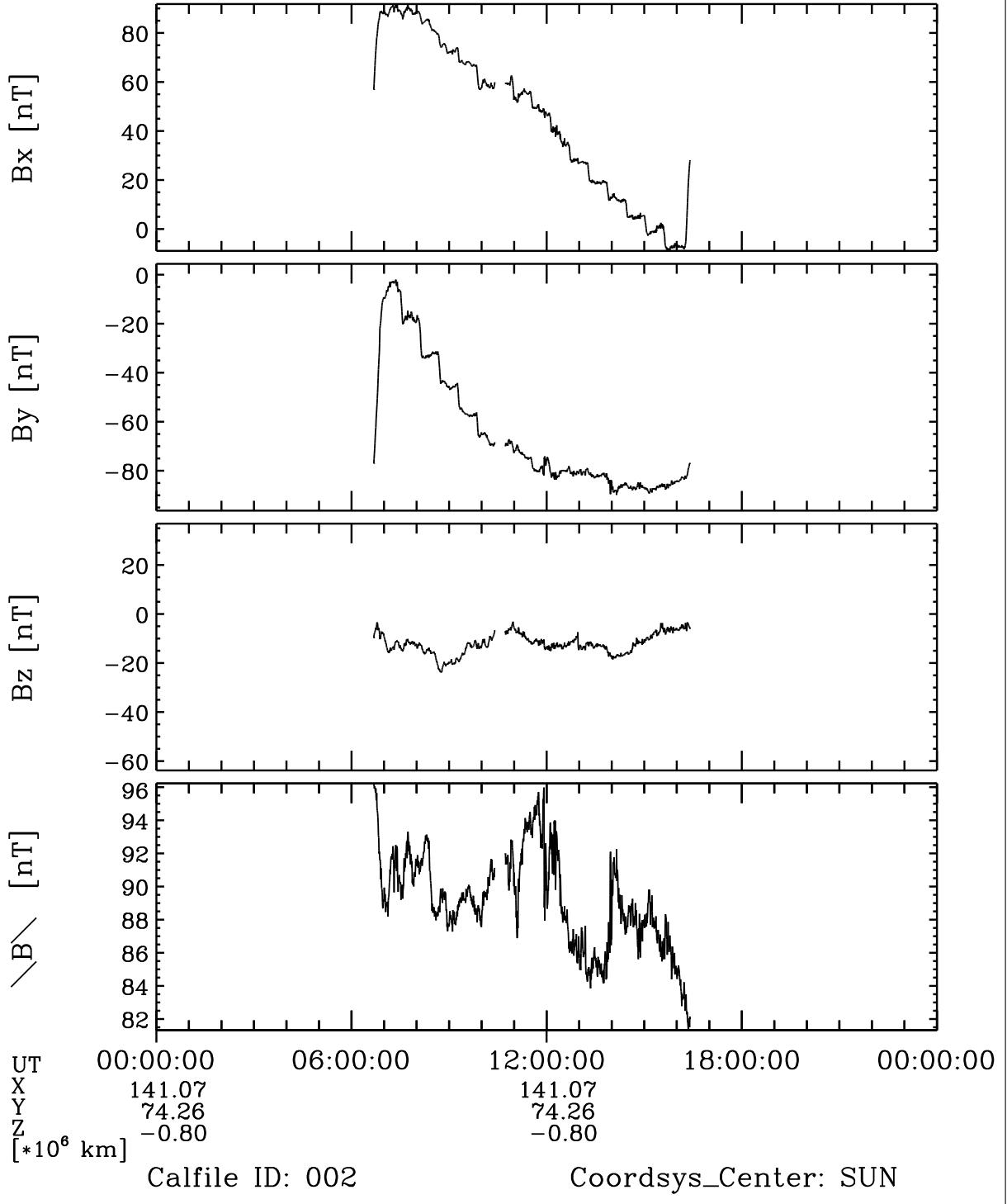


Figure 54: File: RPCMAG040923T0640_CLC_IB_M2_T0000_2400_002

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September 23, 2004 RPC-MAG-OB 1.0 s
RES.DATA,S/C-COORDS,FILTERED

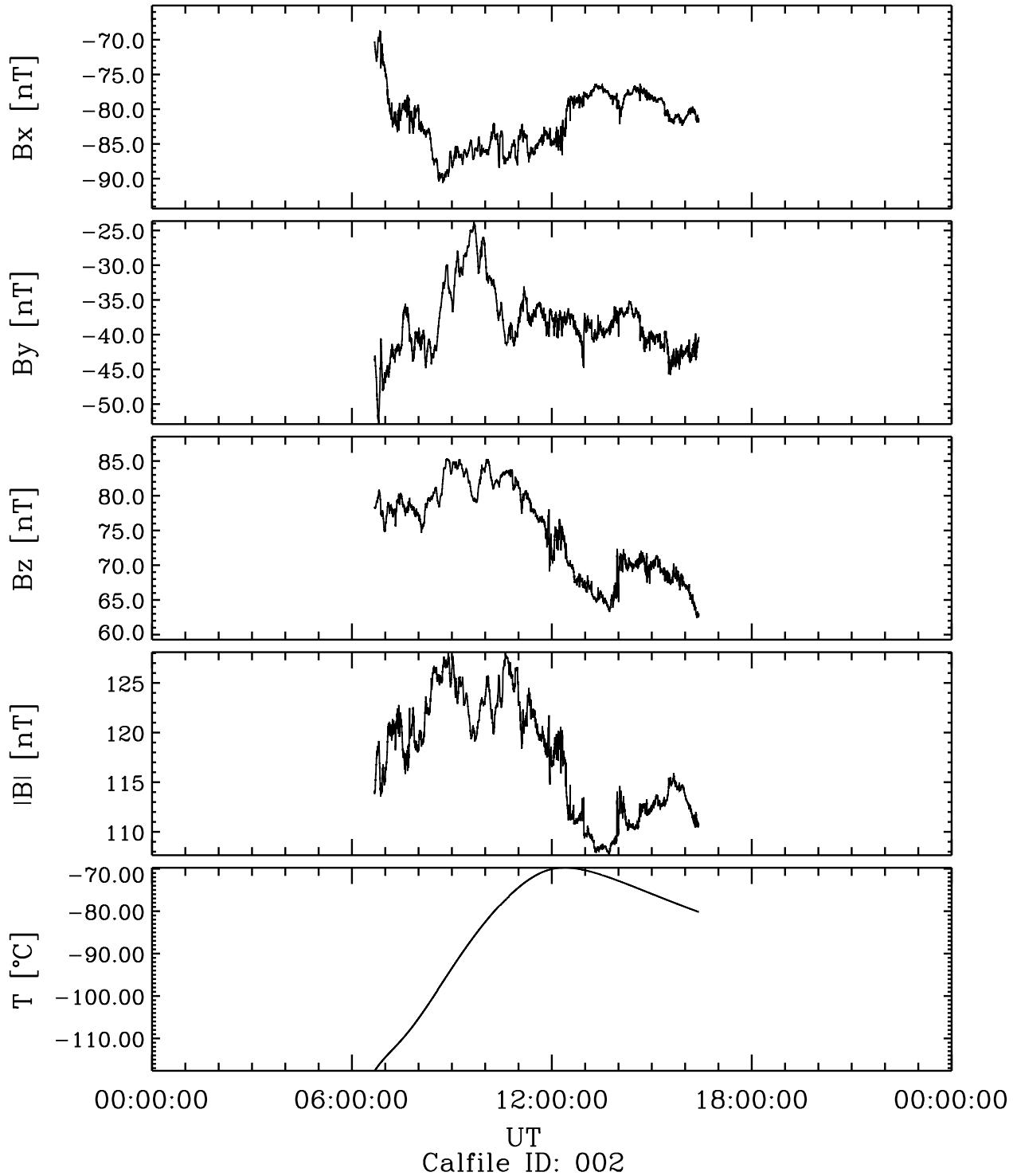


Figure 55: File: RPCMAG040923.CLF.0B_A1_T0000_2400_002

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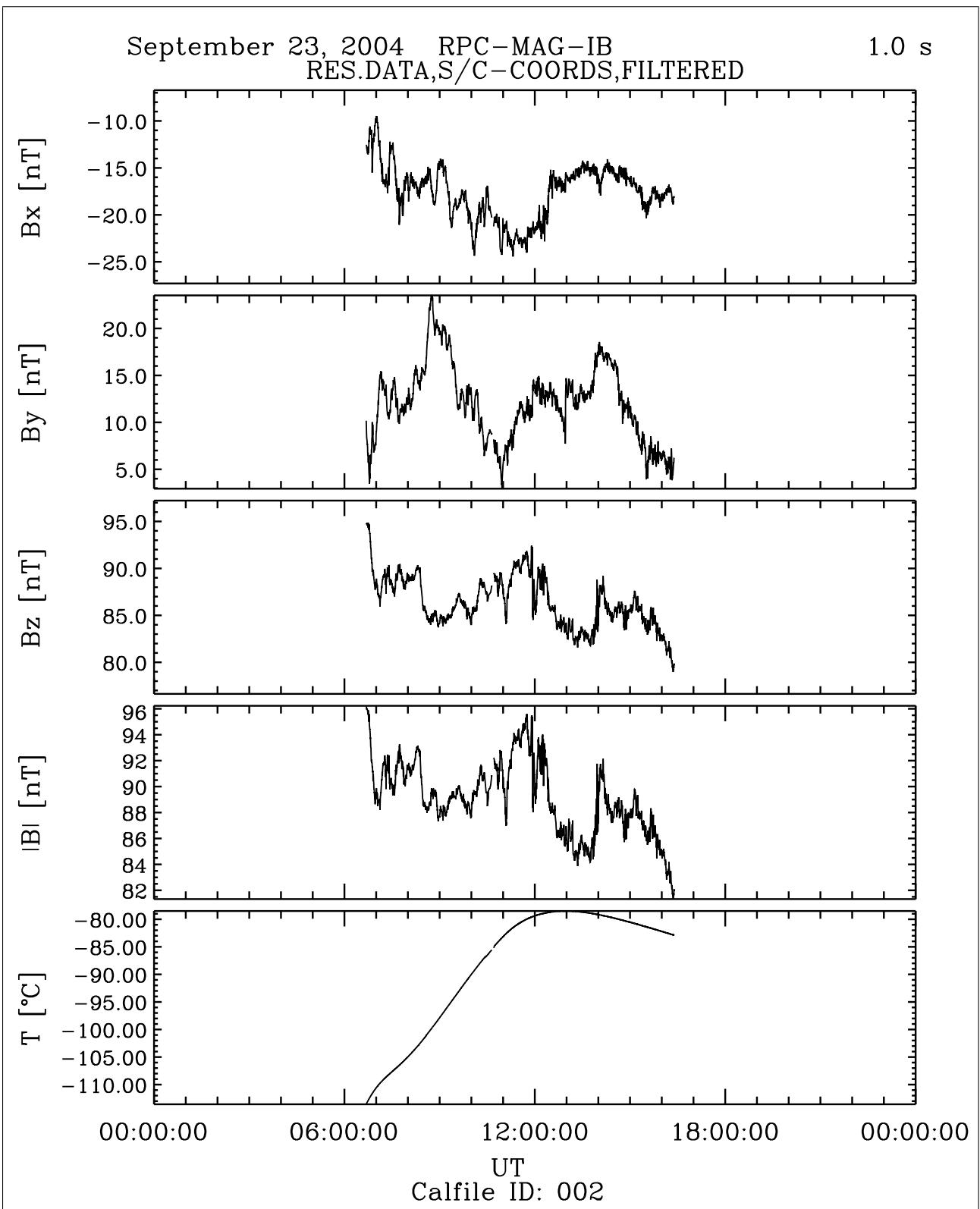


Figure 56: File: RPCMAG040923_CLF_IB_A1_T0000_2400_002

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September 23, 2004 RPC-MAG-OB 1.0 s
RES.DATA,ECLIPJ2000,FILTERED

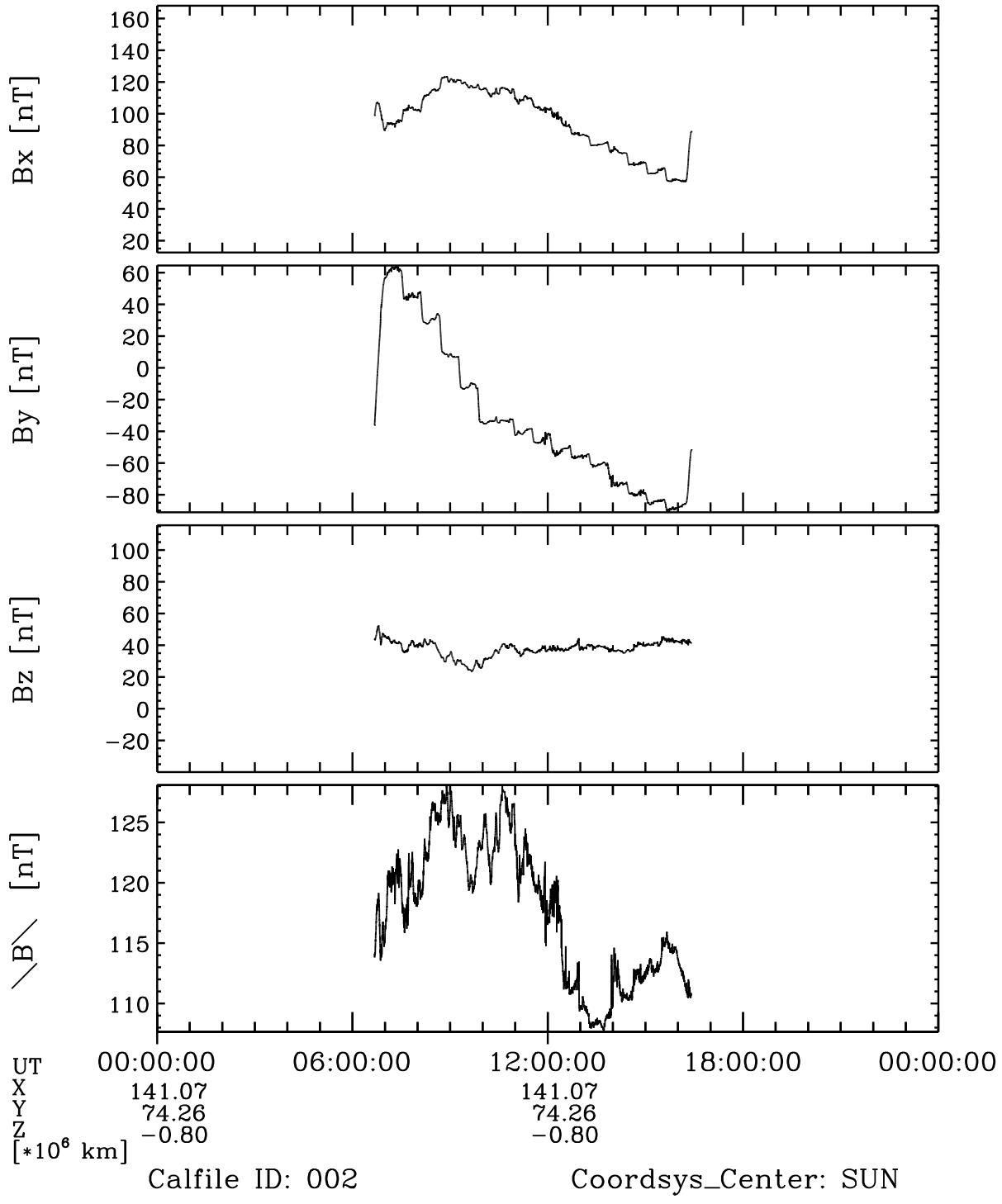


Figure 57: File: RPCMAG040923_CLG_OB_A1_T0000_2400_002

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September 23, 2004 RPC-MAG-IB

RES.DATA,ECLIPJ2000,FILTERED

1.0 s

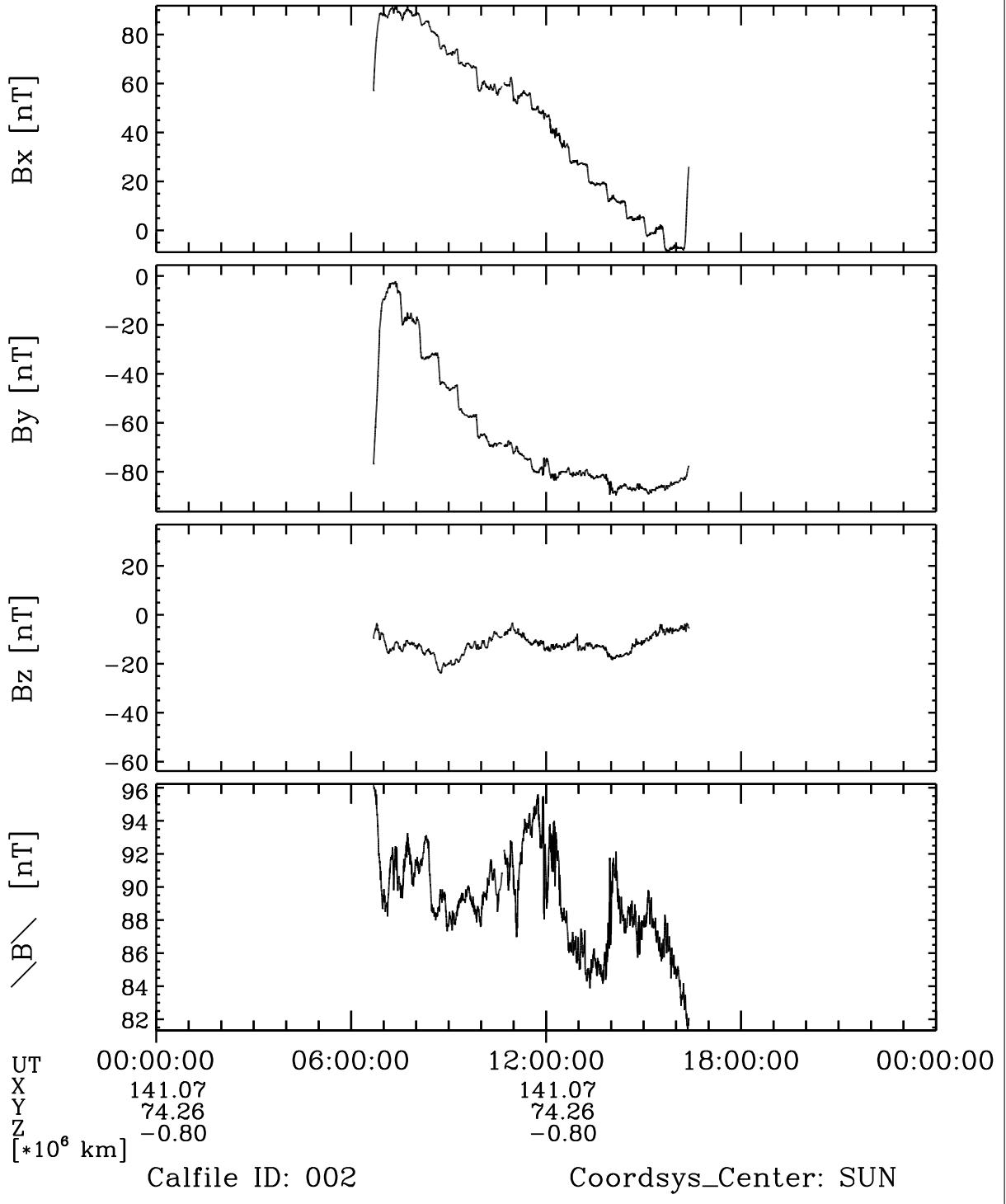


Figure 58: File: RPCMAG040923_CLG_IB_A1_T0000_2400_002

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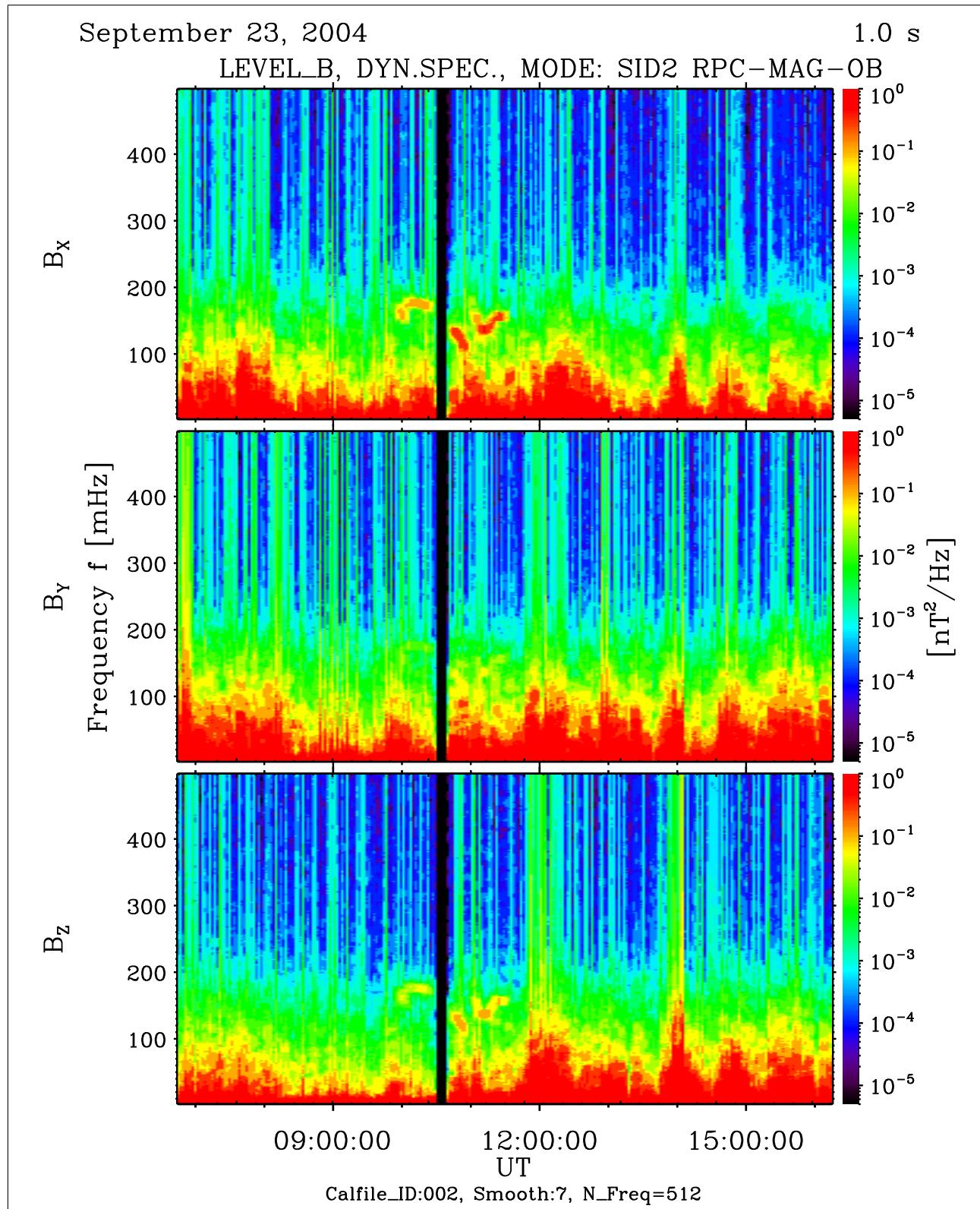


Figure 59: File: RPCMAG040923T0640_CLB_OB_M2_DS0_500_002

5.3 Plots of ROSETTA's Reaction Wheels Speeds

The following plots show the time series of the revolutions of the 4 reaction wheels. Two kinds of data are shown:

- The original reaction wheel data as they are stored in the DDS.
- The theoretical response of the wheels impact seen by an instrument sampling with different frequencies. Here the response at 1 Hz sampling frequency is plotted.

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Revolutions of the four Rosetta Reaction Wheels
September 23, 2004

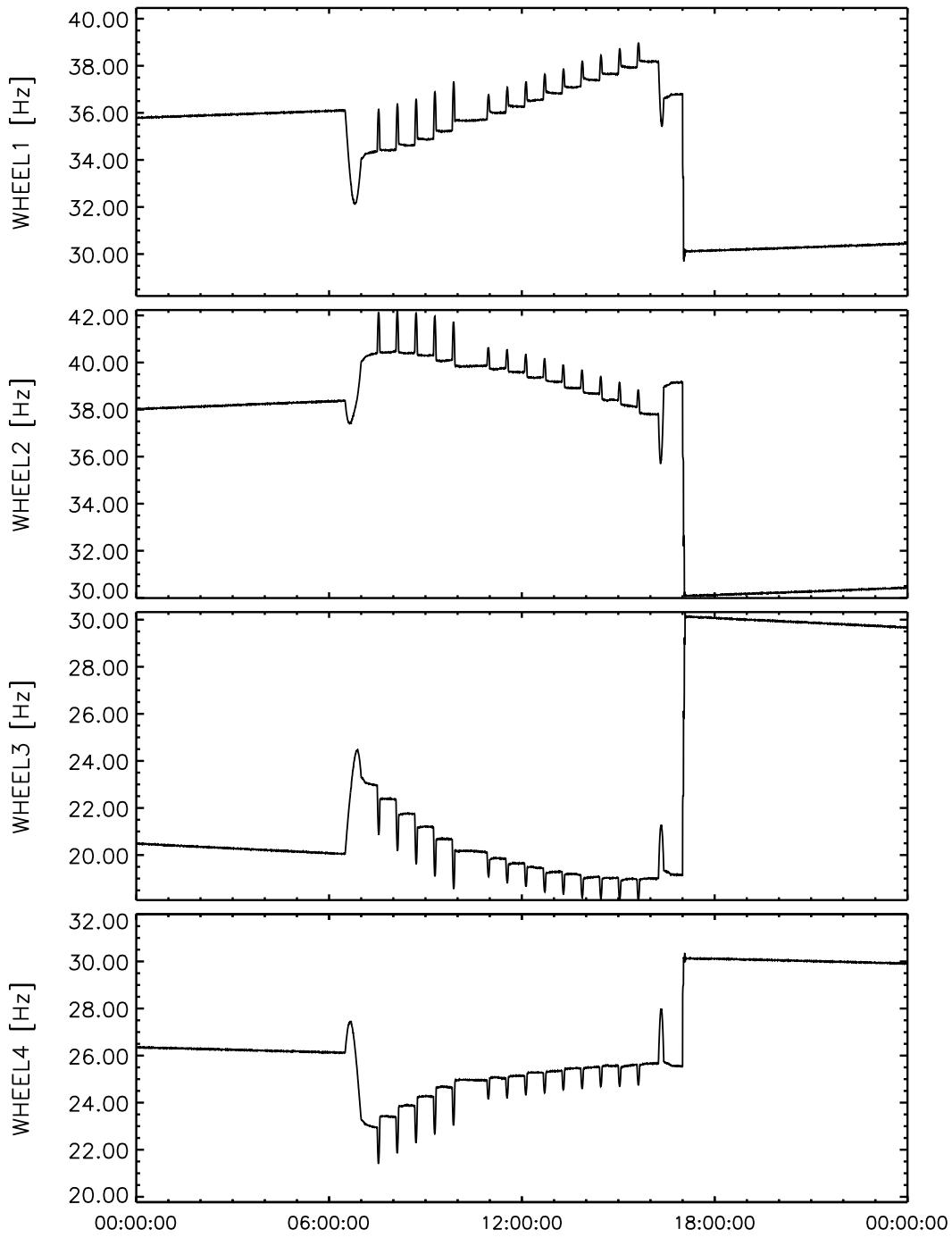


Figure 60: File: wheels_Hz2004-09-23T00-00

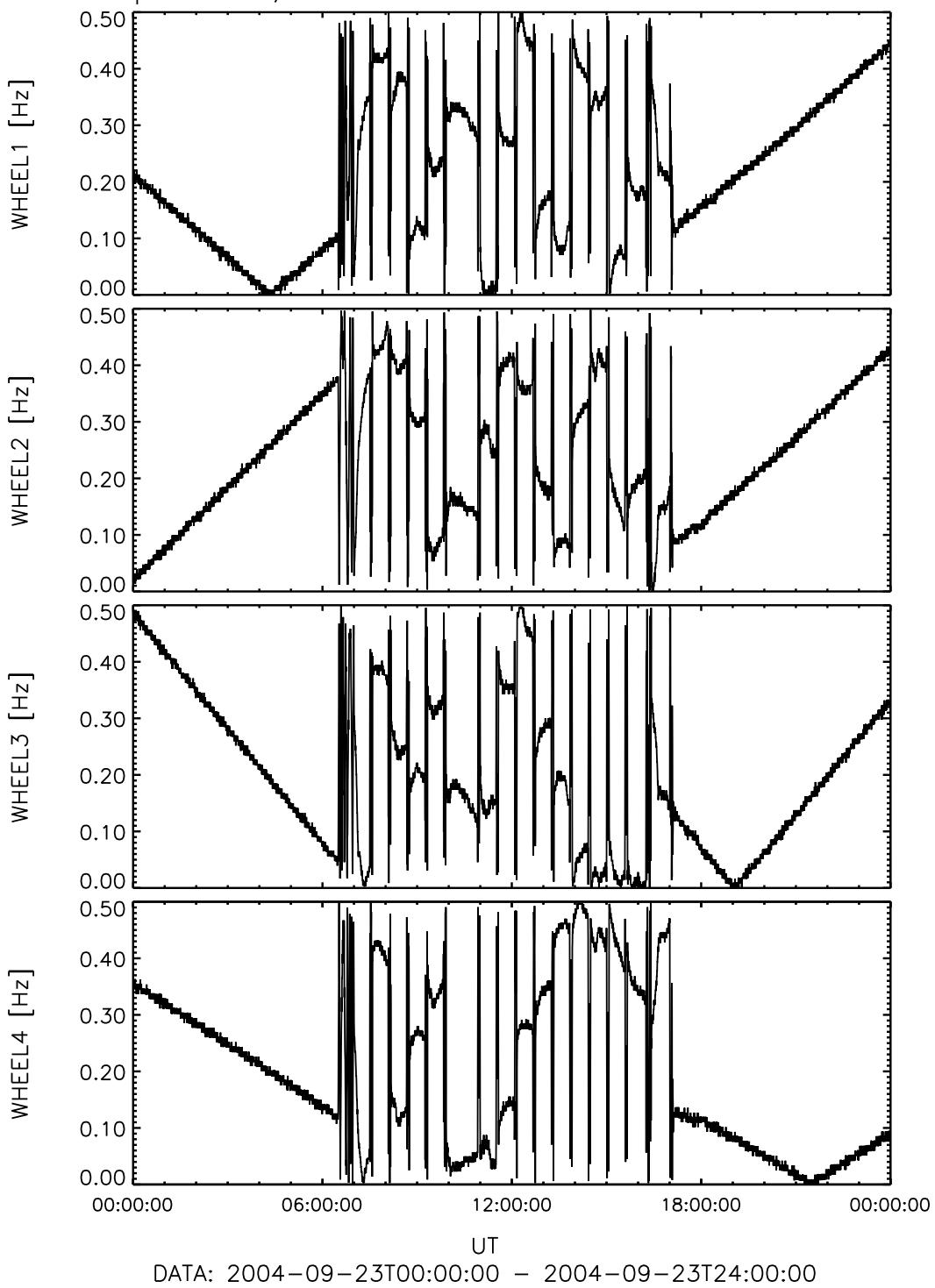
Reaction Wheels – Response at 1Hz Sampling
September 23, 2004

Figure 61: File: wheels_1Hz_Sampling2004-09-23T00-00

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6 September 29, 2004:

6.1 Actions

The Instrument was switched on at 05:02 and switched off at 14:14.

Time	Stage A, Stage B, Filter cfg	Stage 1, Stage 2, Stage3	Mode
06:03 – 07:04	0 0 0	0 0 0	SID3
07:05 – 08:13	4 3 0	4 3 0	SID5
08:16 – 08:45	0 0 0	0 0 0	SID3
08:46 – 09:54	4 3 0	4 3 0	SID5
09:58 – 12:48	0 0 0	0 0 0	SID3
12:49 – 13:59	1 2 0	1 2 0	SID2

6.2 Plots of Calibrated Data using the new Temperature Model

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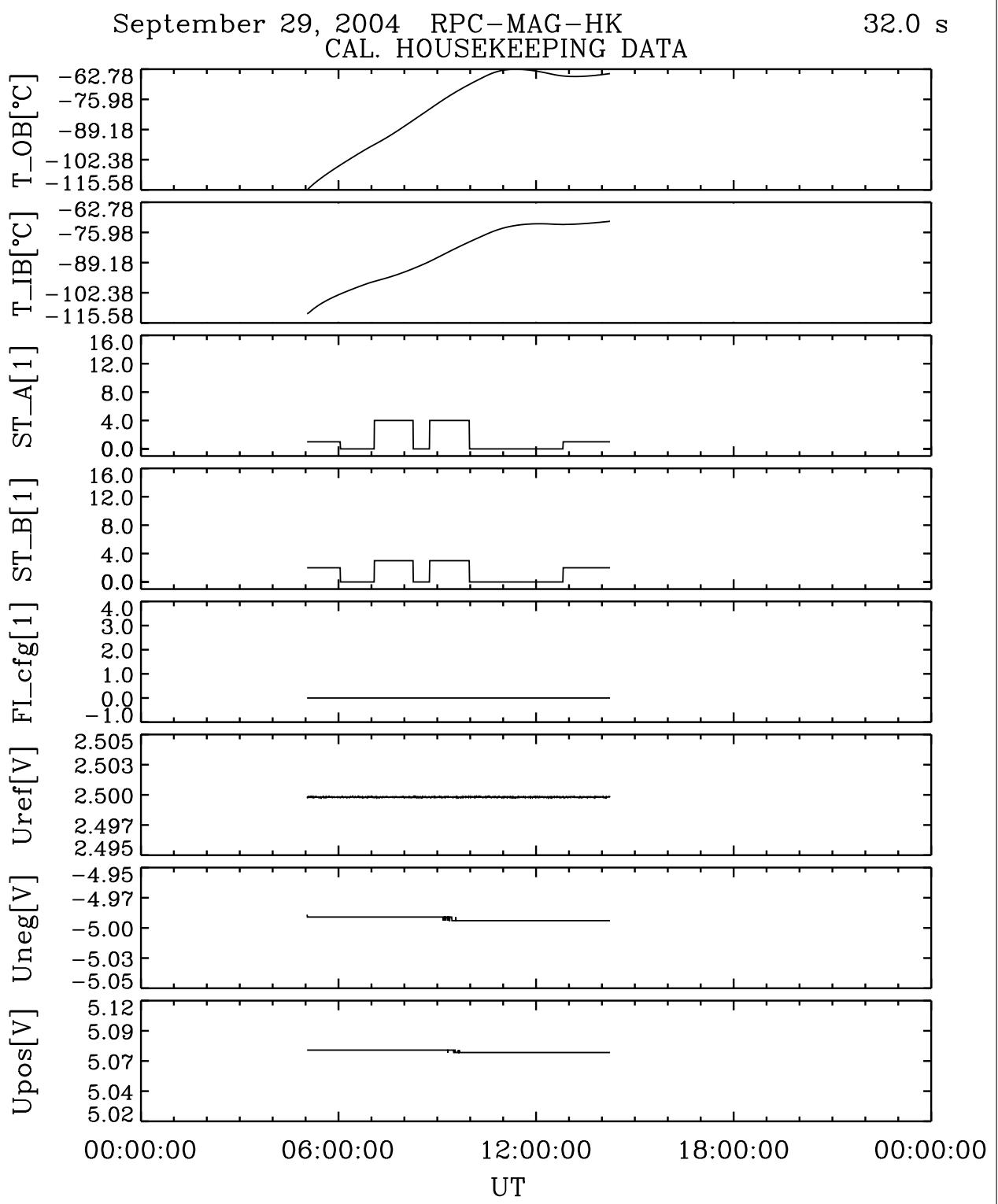


Figure 62: File: RPCMAG040929T0502_CLA_HK_P0000_2400

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September 29, 2004 RPC-MAG-HK
HOUSEKEEPING B_OB DATA 32.0 s

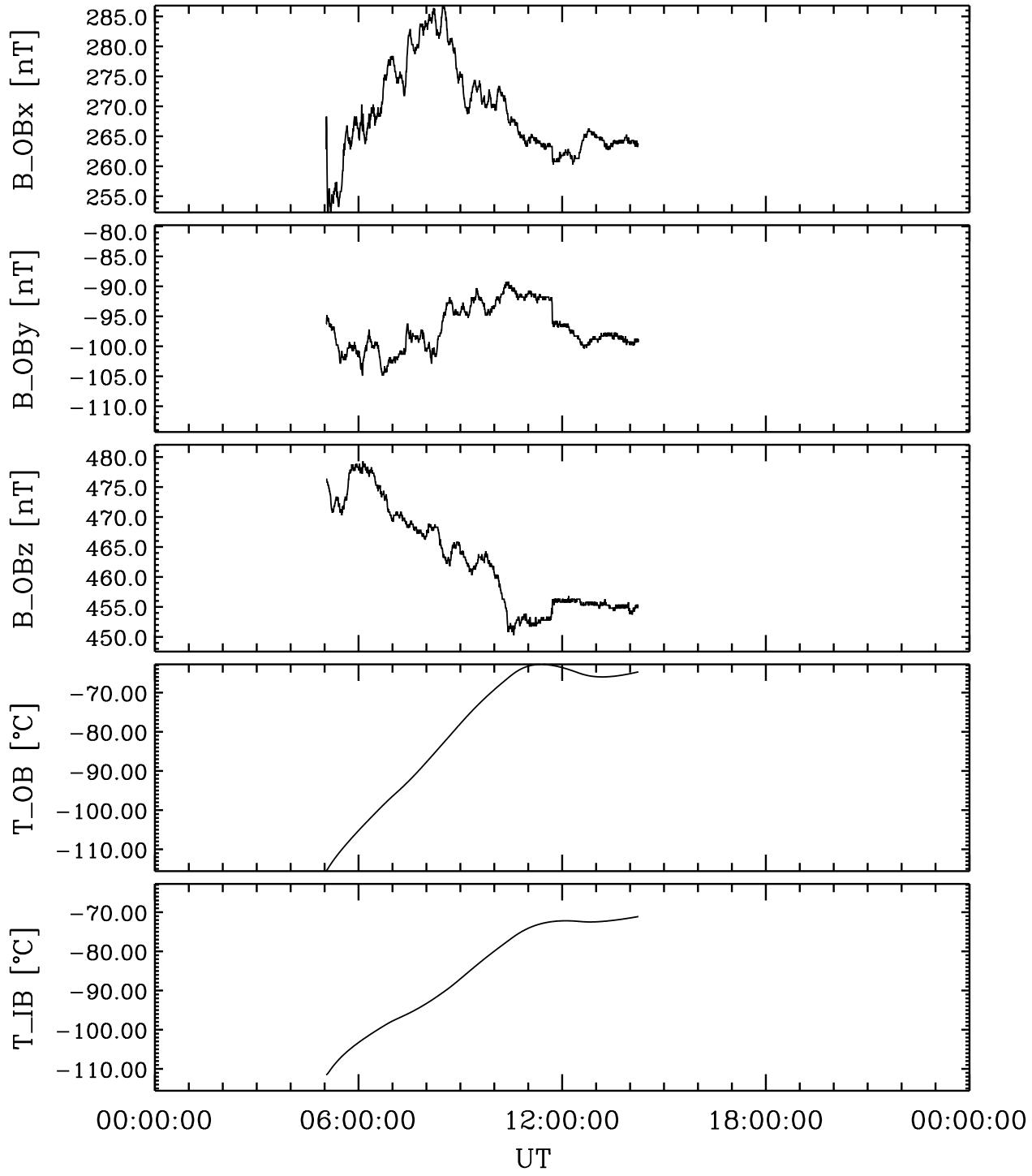


Figure 63: File: RPCMAG040929T0502.CLA.HK_B_P0000_2400

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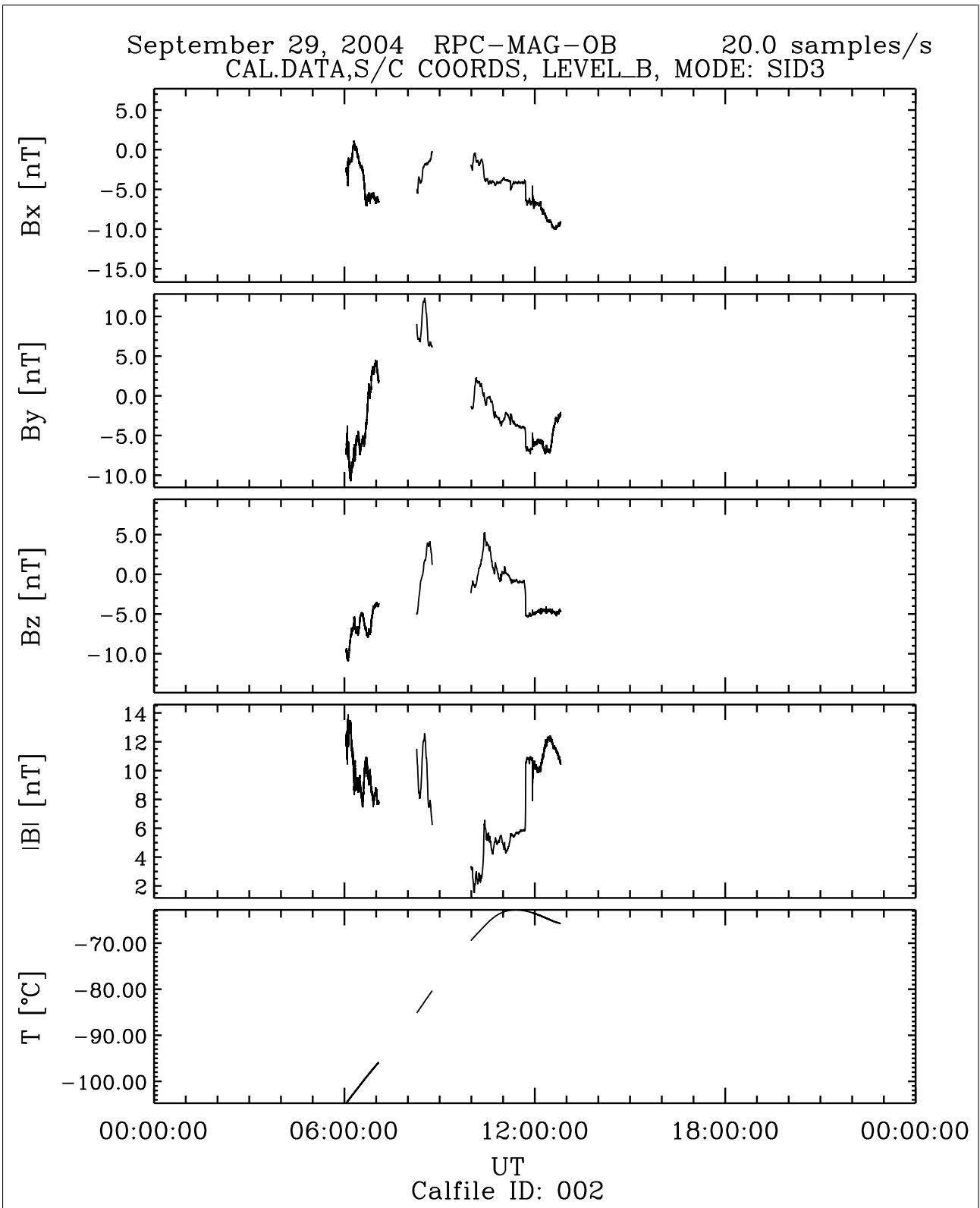


Figure 64: File: RPCMAG040929T0603_CLB_OB_M3_T0000_2400_002

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CAL.DATA,S/C COORDS, LEVEL_B, MODE: SID5 4.0 s

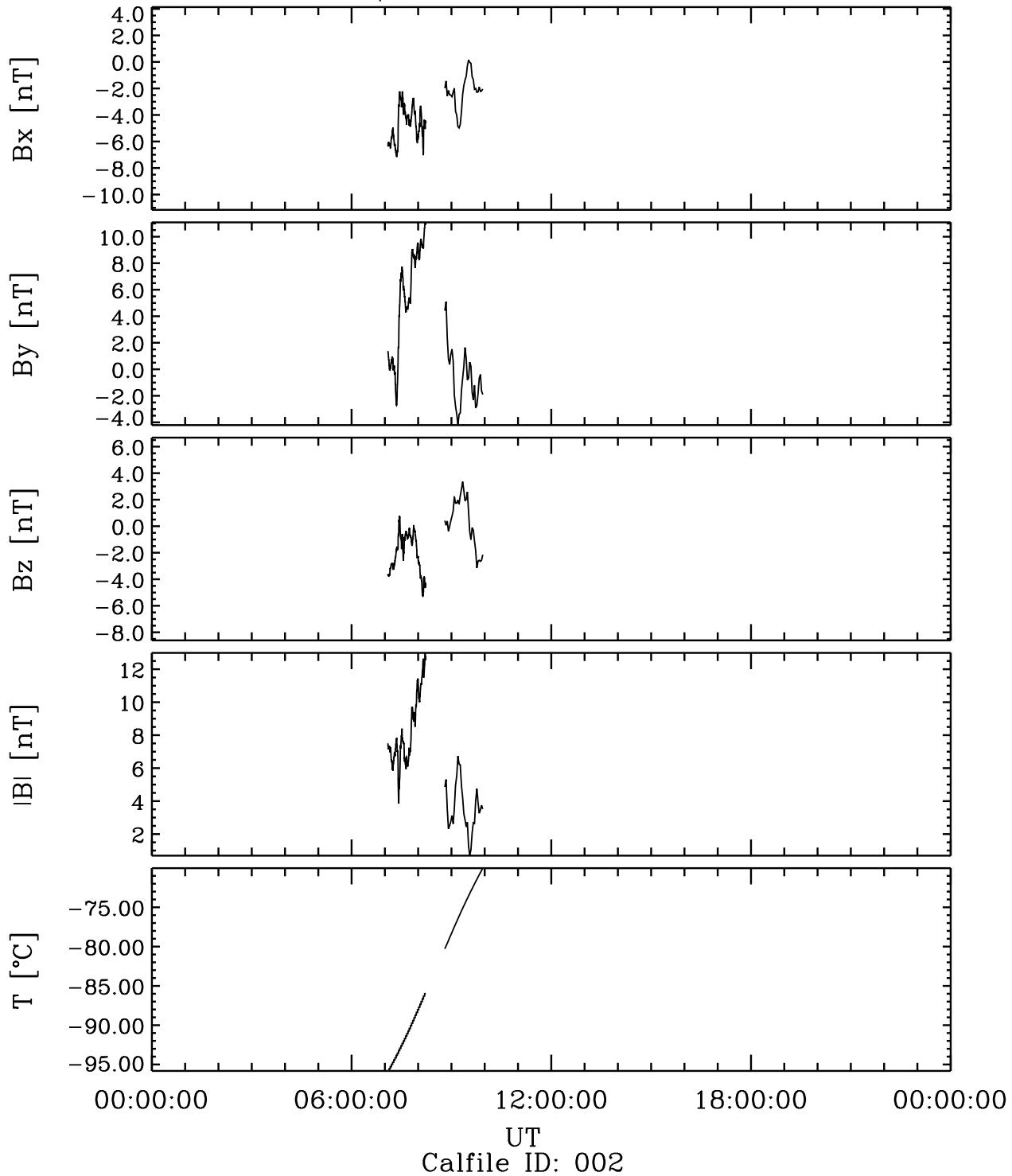


Figure 65: File: RPCMAG040929T0705_CLB_OB_M5_T0000_2400_002

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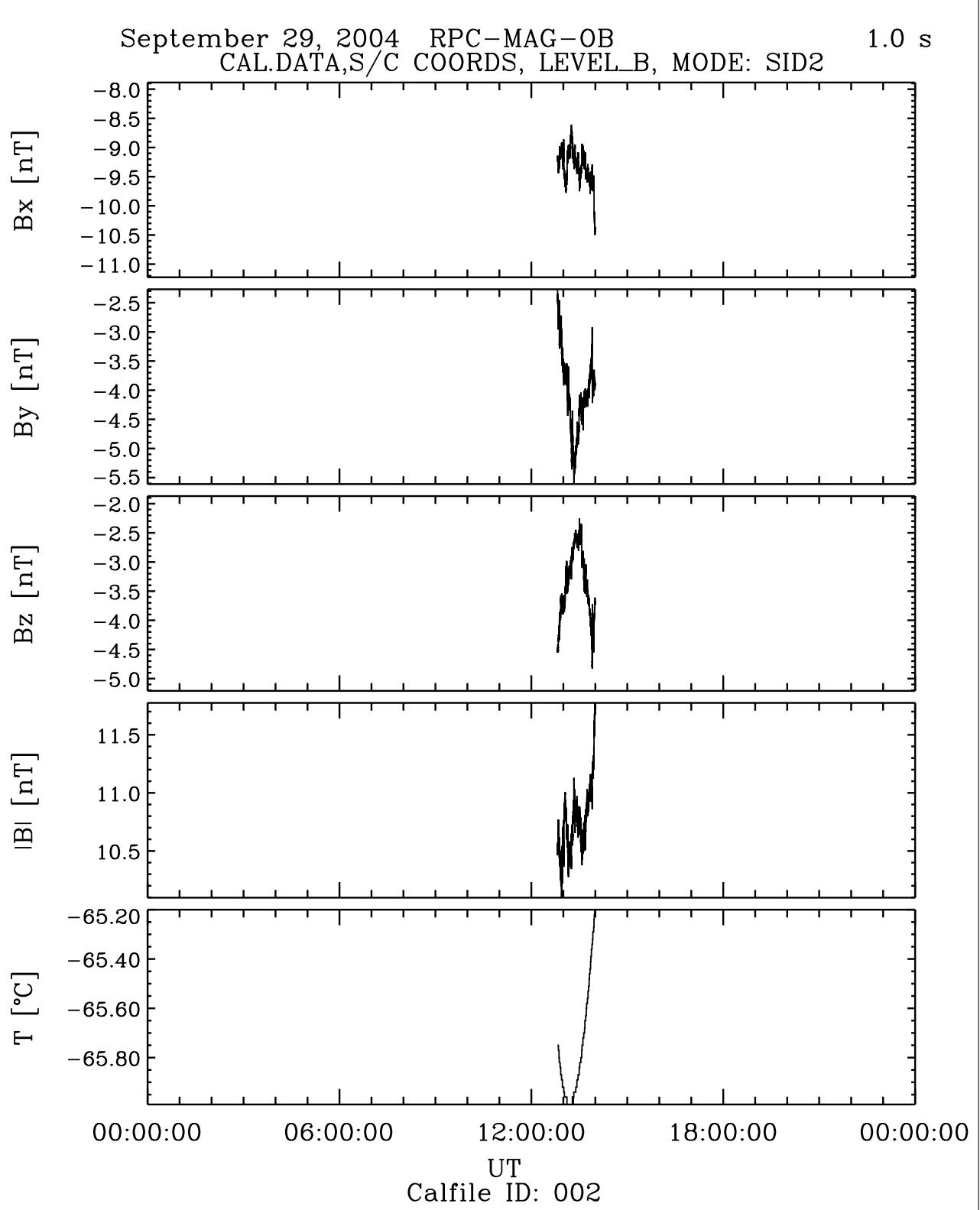


Figure 66: File: RPCMAG040929T1249_CLB_OB_M2_T0000_2400_002

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September 29, 2004 RPC-MAG-IB 20.0 samples/s
CAL.DATA,S/C COORDS, LEVEL_B, MODE: SID3

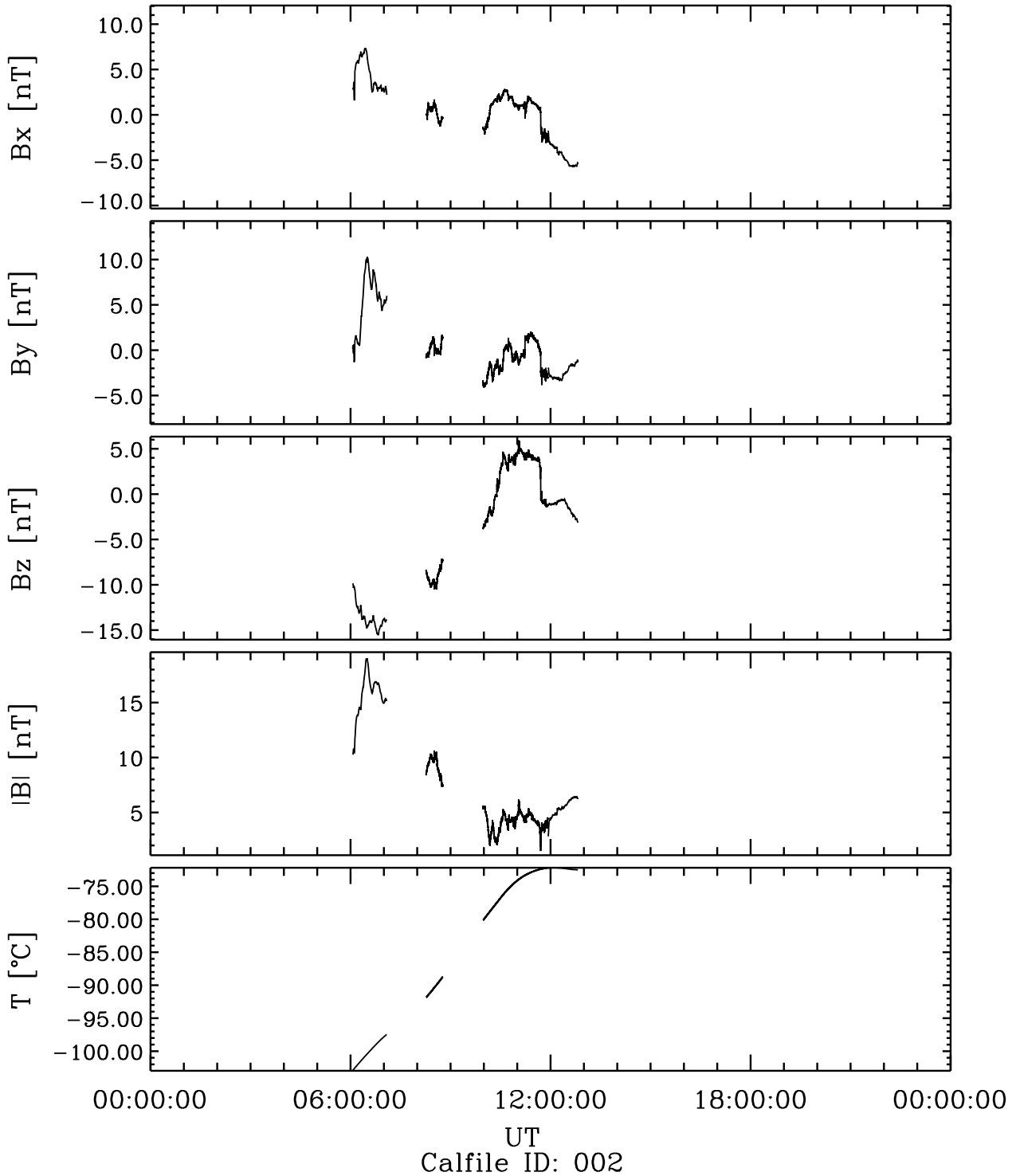


Figure 67: File: RPCMAG040929T0603_CLB_IB_M3_T0000_2400_002

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September 29, 2004 RPC-MAG-IB
 CAL.DATA,S/C COORDS, LEVEL_B, MODE: SID5 4.0 s

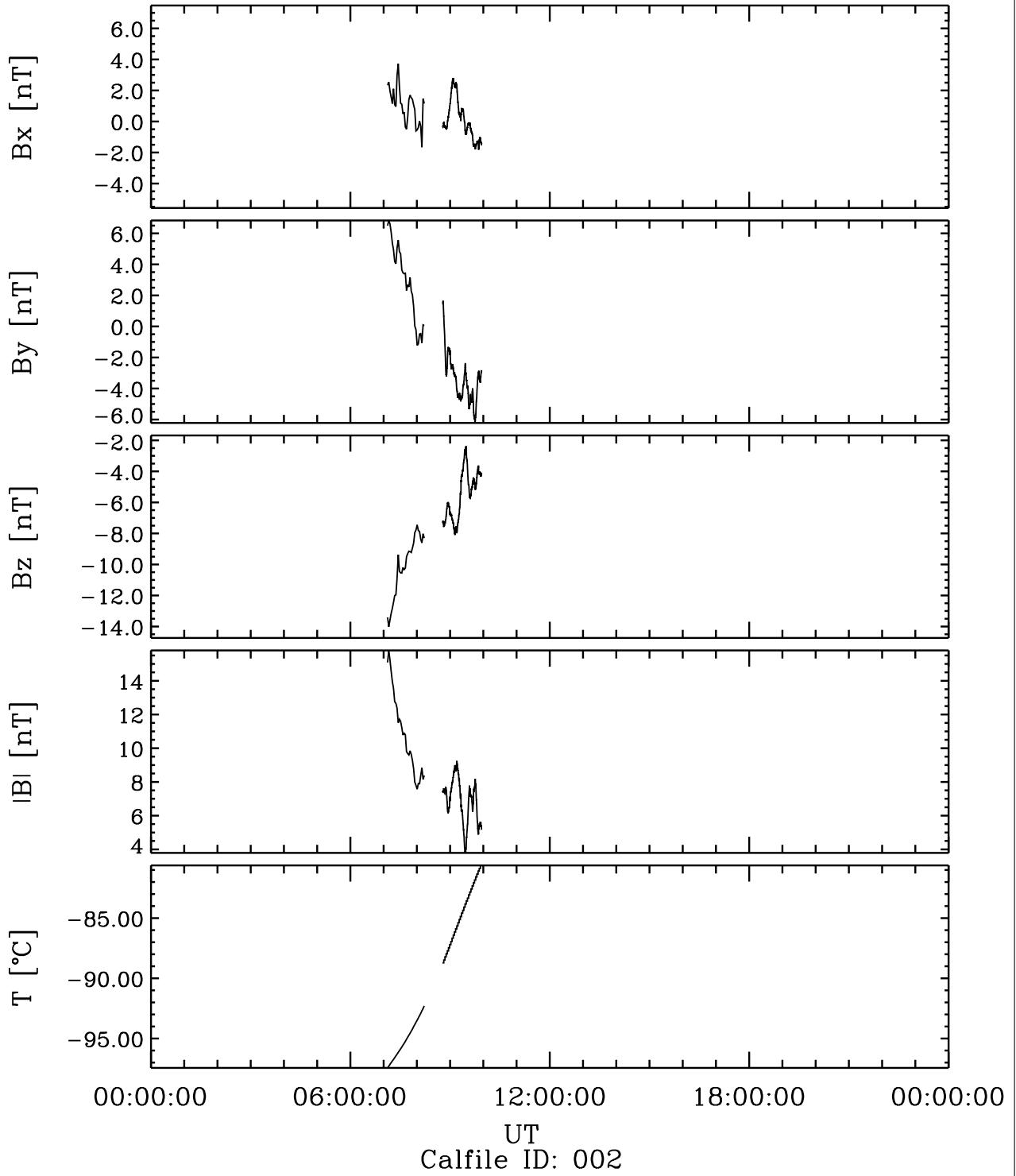


Figure 68: File: RPCMAG040929T0705_CLB_IB_M5_T0000_2400_002

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September 29, 2004 RPC-MAG-IB
CAL.DATA,S/C COORDS, LEVEL_B, MODE: SID2 32.0 s

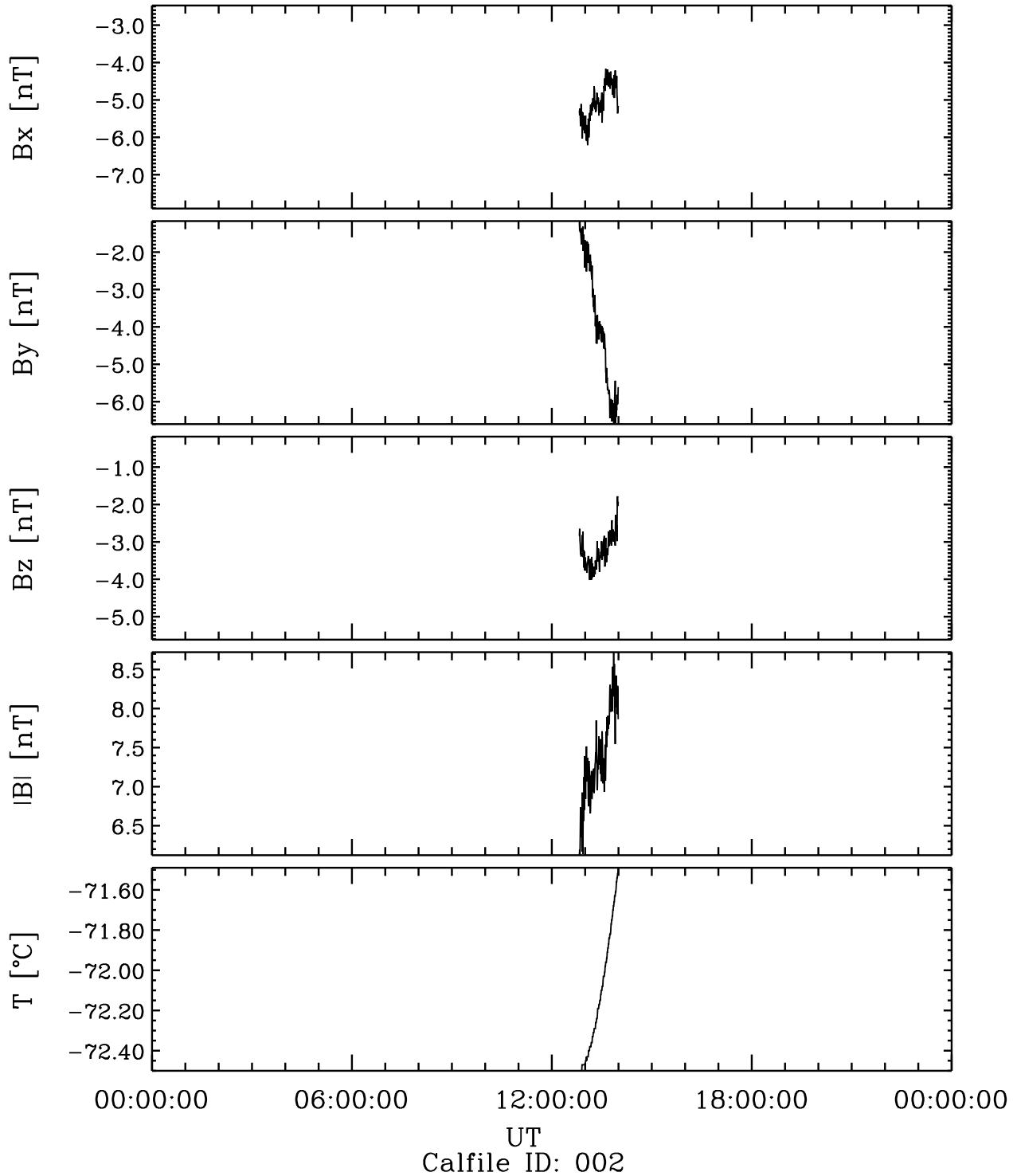


Figure 69: File: RPCMAG040929T1249_CLB_IB_M2_T0000_2400_002

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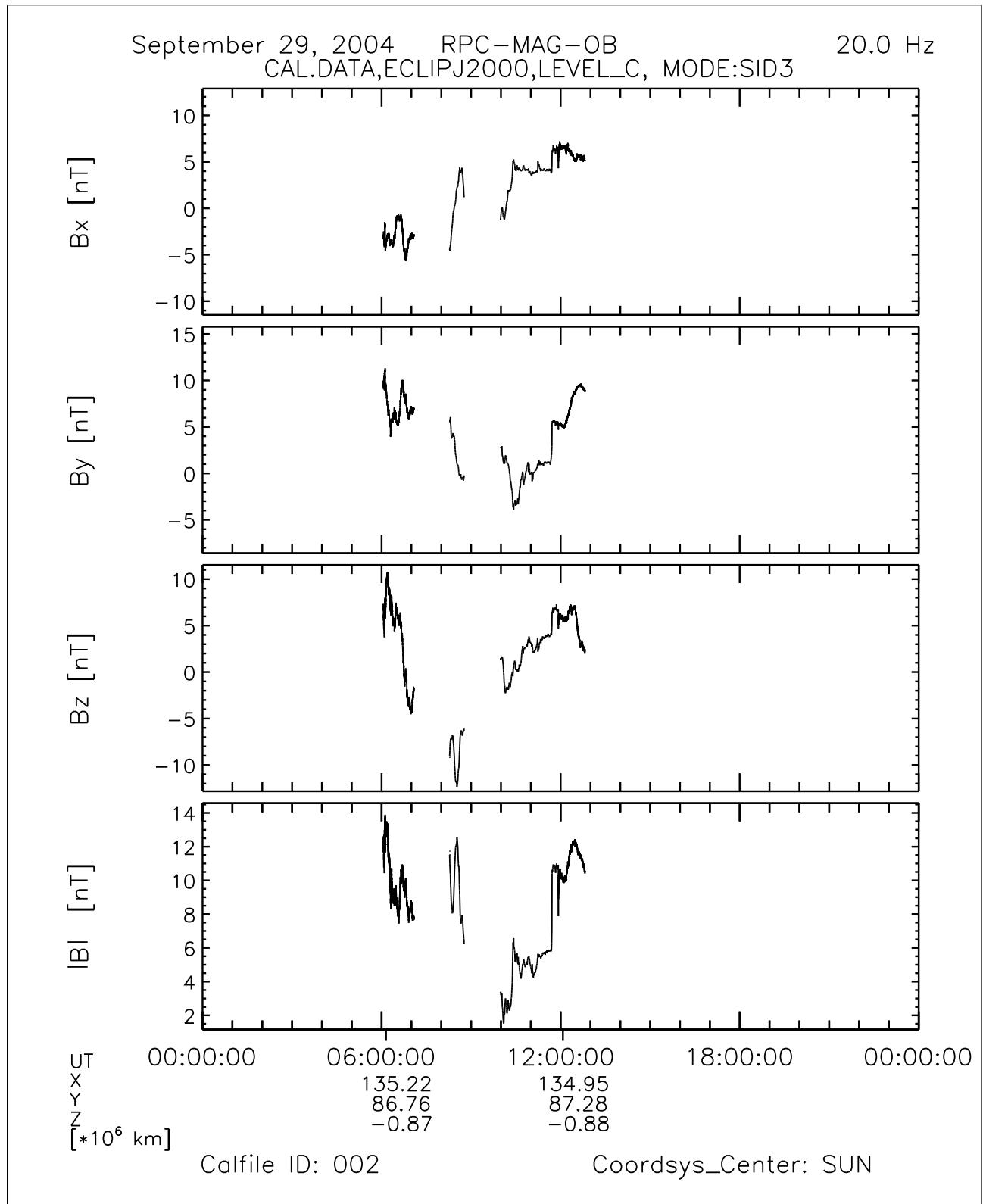


Figure 70: File: RPCMAG040929T0603_CLC_OB_M3_T0000_2400_002

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September 29, 2004 RPC-MAG-OB 4.0 s
 CAL.DATA,ECLIPJ2000,LEVEL_C, MODE:SID5

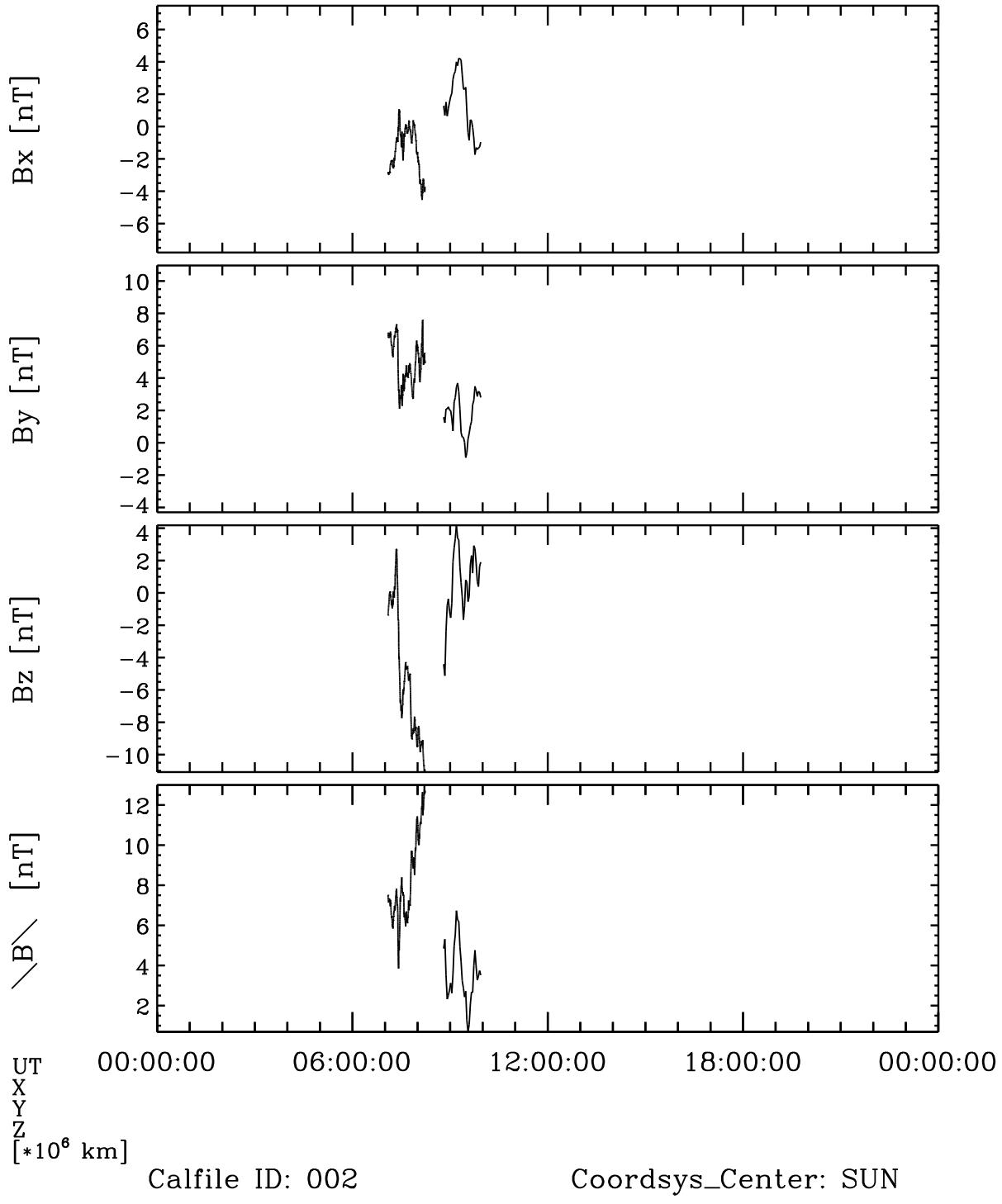


Figure 71: File: RPCMAG040929T0705_CLC_OB_M5_T0000_2400_002

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September 29, 2004 RPC-MAG-OB
CAL.DATA,ECLIPJ2000,LEVEL_C, MODE:SID2 1.0 s

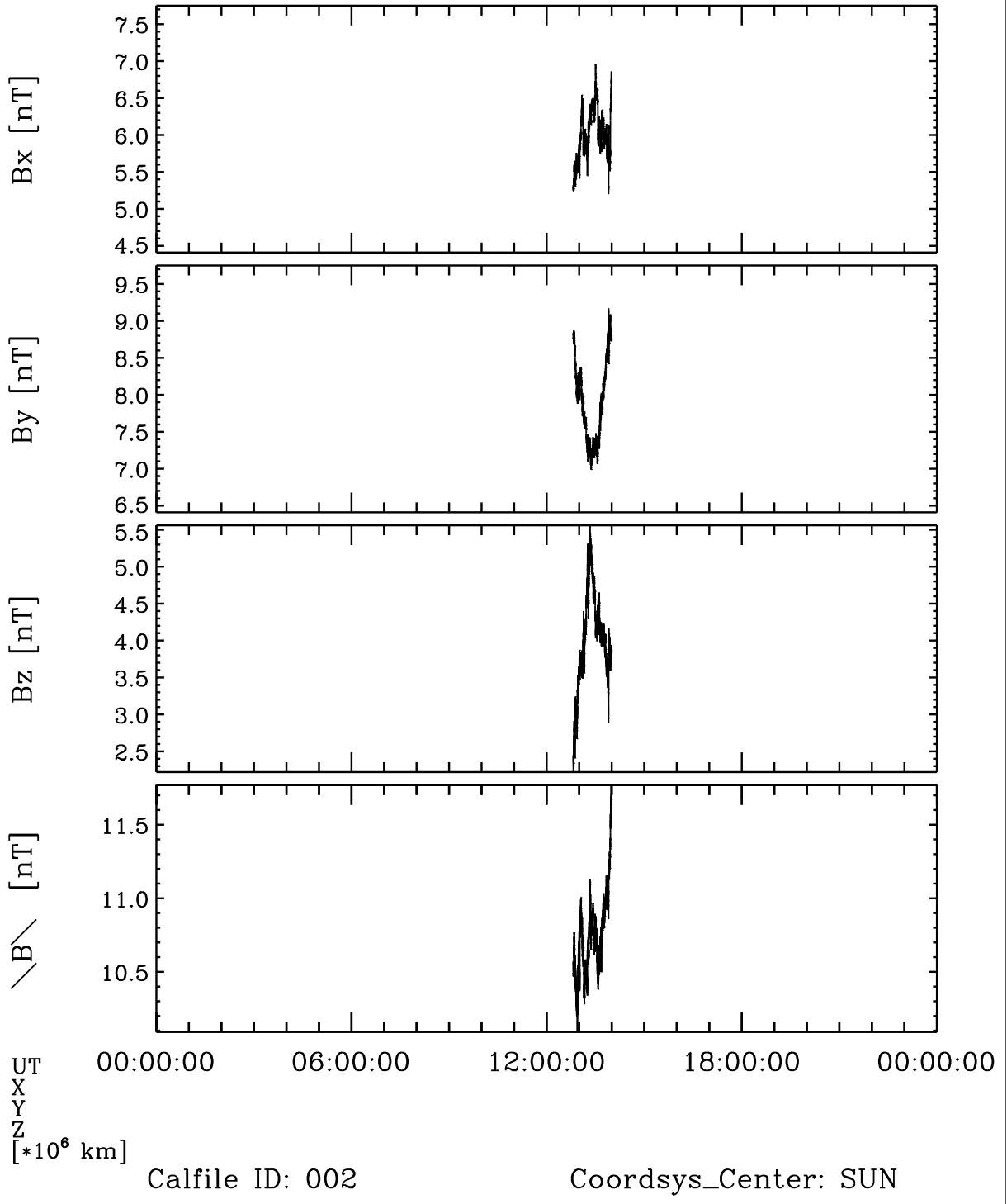


Figure 72: File: RPCMAG040929T1249_CLC_OB_M2_T0000_2400_002

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September 29, 2004 RPC-MAG-IB
 CAL.DATA,ECLIPJ2000,LEVEL_C, MODE:SID3 20.0 Hz

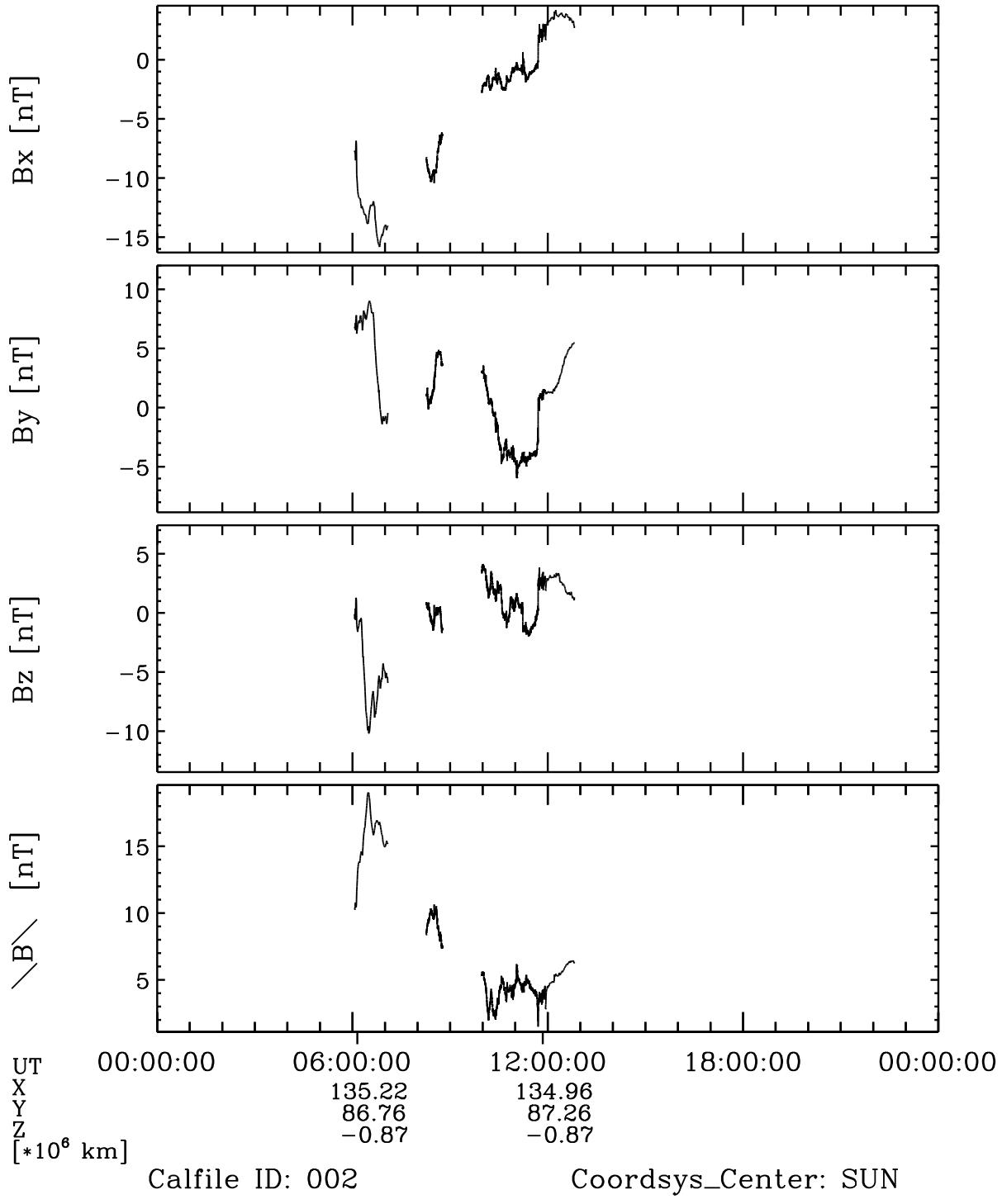


Figure 73: File: RPCMAG040929T0603_CLC_IB_M3_T0000_2400_002

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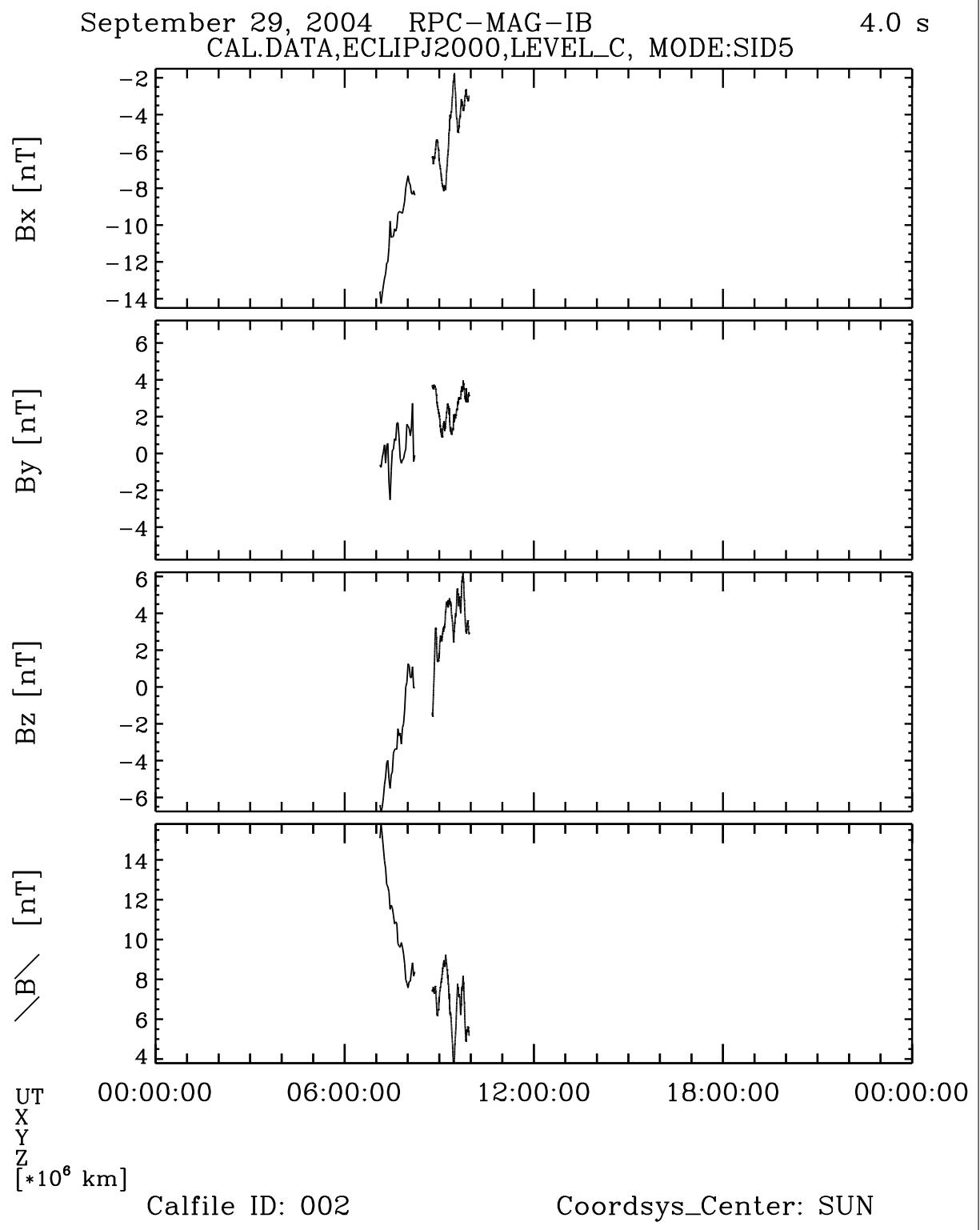


Figure 74: File: RPCMAG040929T0705_CLC_IB_M5_T0000_2400_002

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September 29, 2004 RPC-MAG-IB
CAL.DATA,ECLIPJ2000,LEVEL_C, MODE:SID2 32.0 s

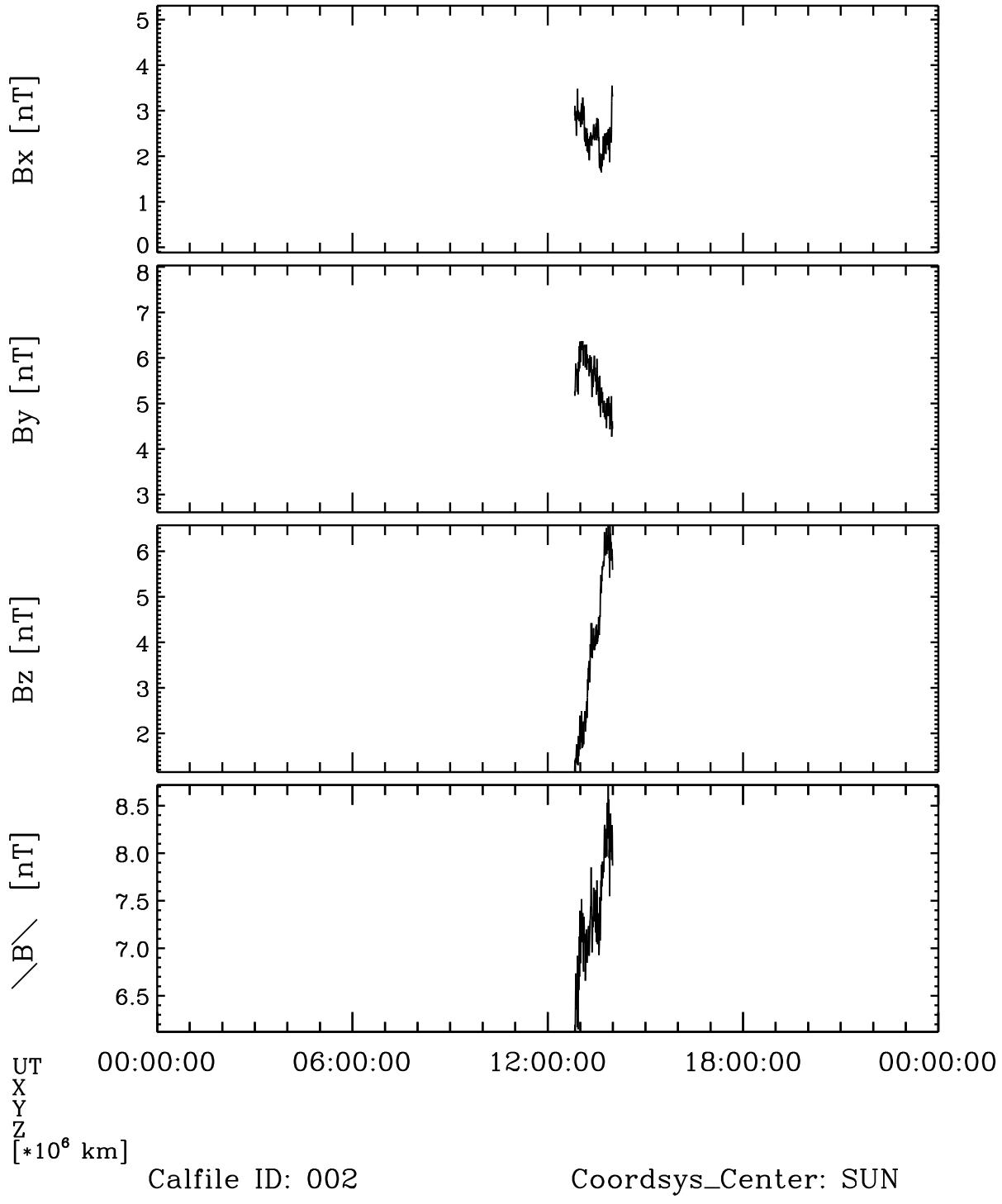


Figure 75: File: RPCMAG040929T1249_CLC_IB_M2_T0000_2400_002

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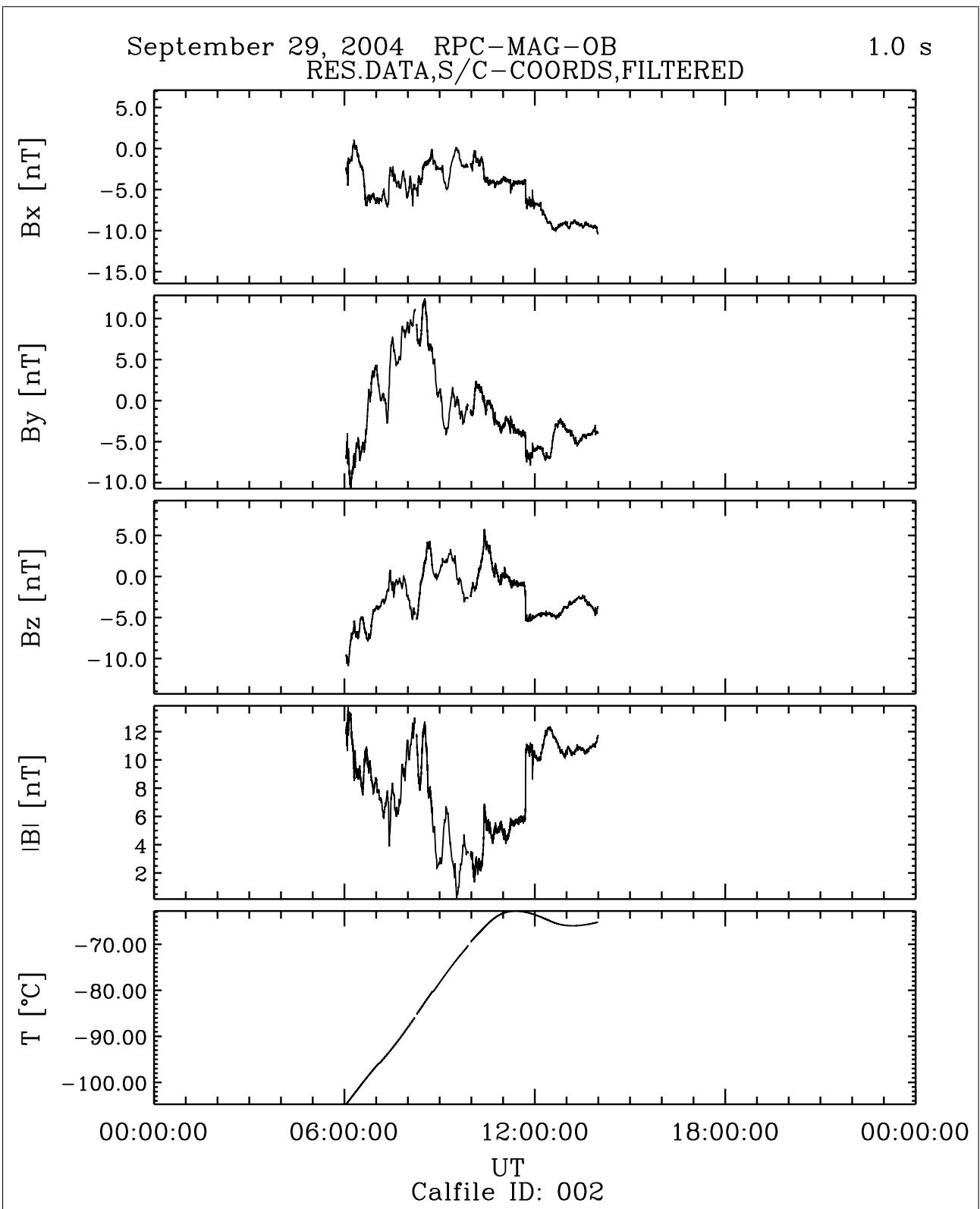


Figure 76: File: RPCMAG040929_CLF_OB_A1_T0000_2400_002

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September 29, 2004 RPC-MAG-IB
RES.DATA,S/C-COORDS,FILTERED 1.0 s

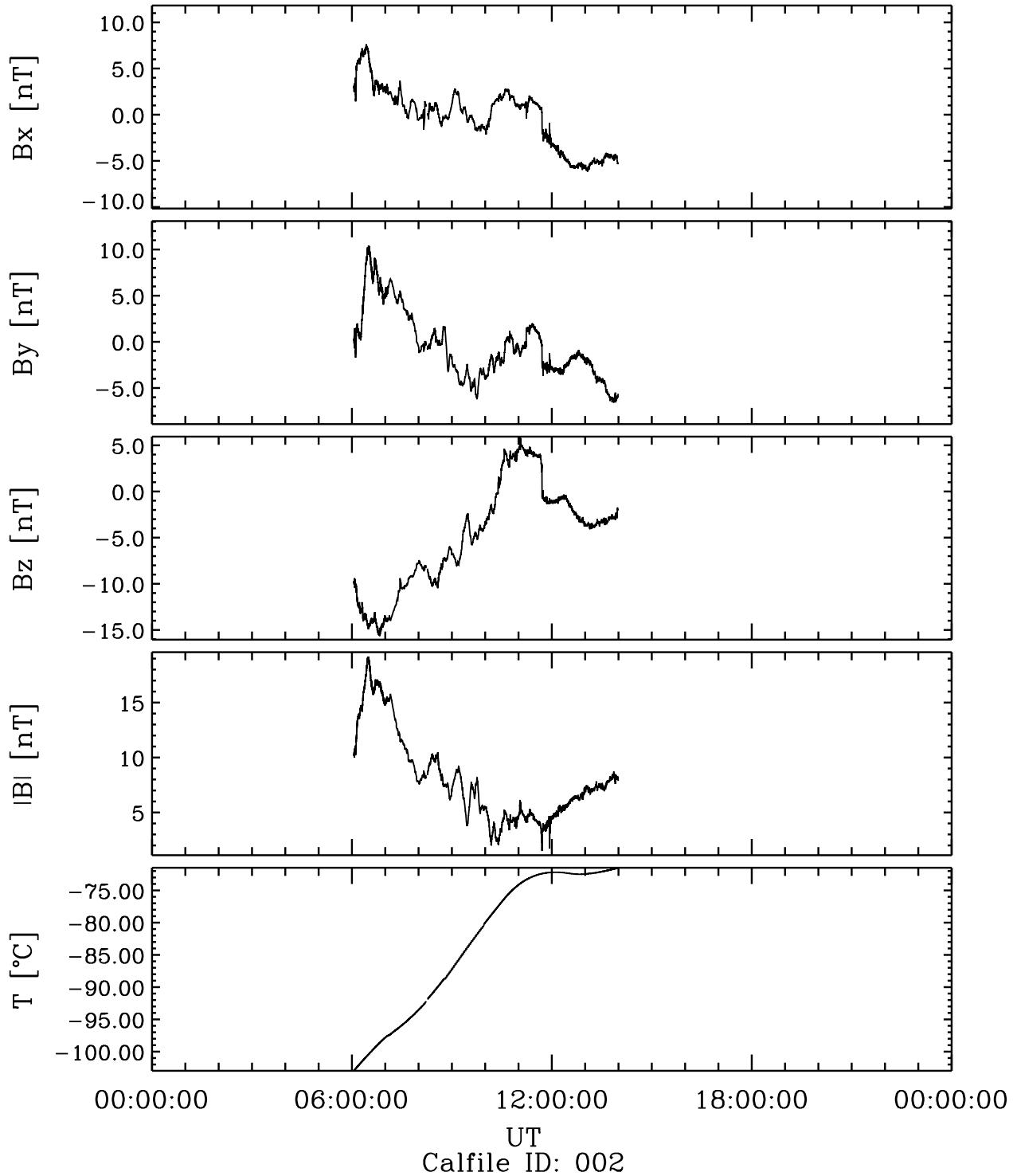


Figure 77: File: RPCMAG040929_CLF_IB_A1_T0000_2400_002

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September 29, 2004 RPC-MAG-OB 1.0 s
 RES.DATA,ECLIPJ2000,FILTERED

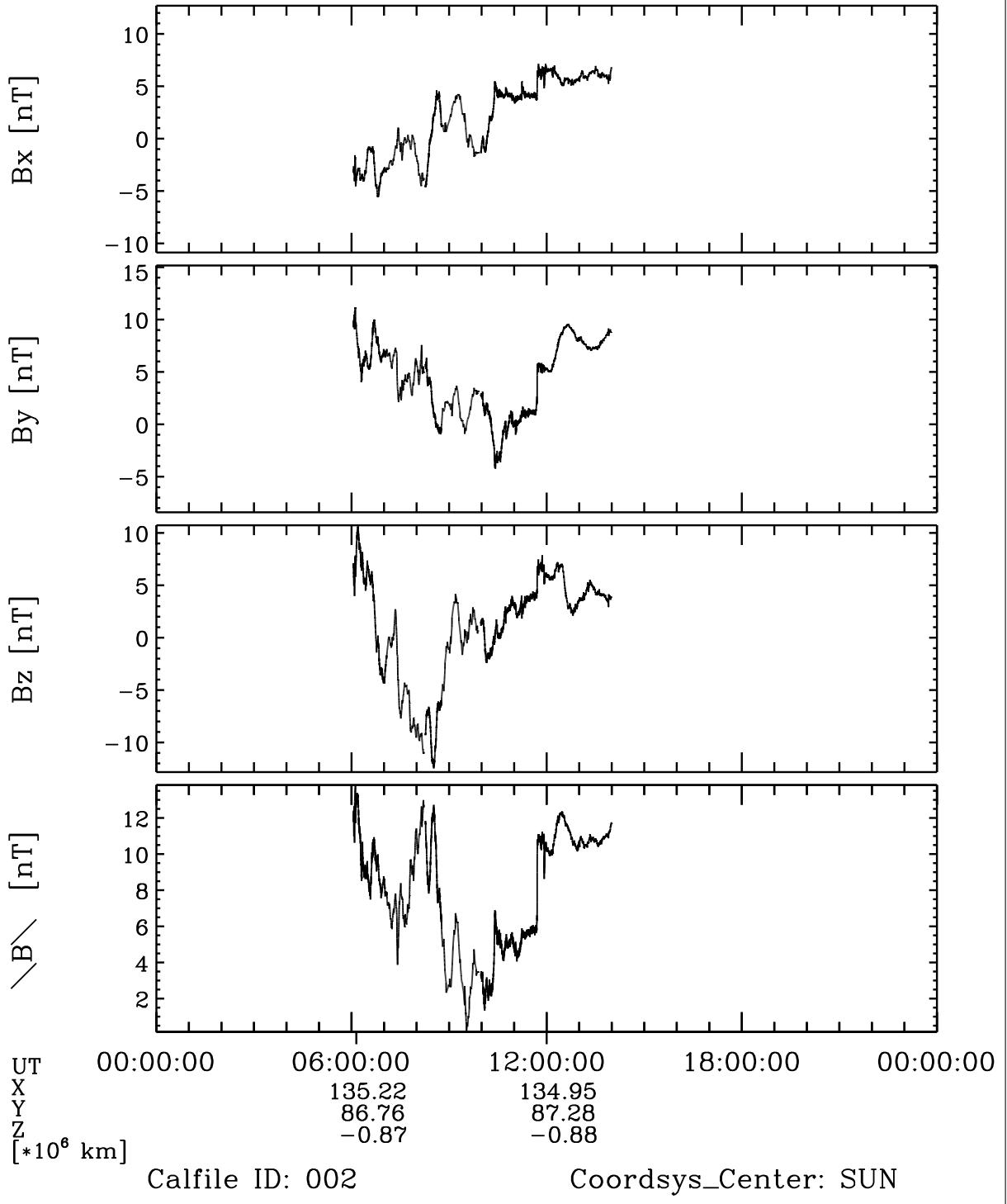


Figure 78: File: RPCMAG040929_CLG_OB_A1_T0000_2400_002

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September 29, 2004 RPC-MAG-IB
 RES.DATA,ECLIPJ2000,FILTERED 1.0 s

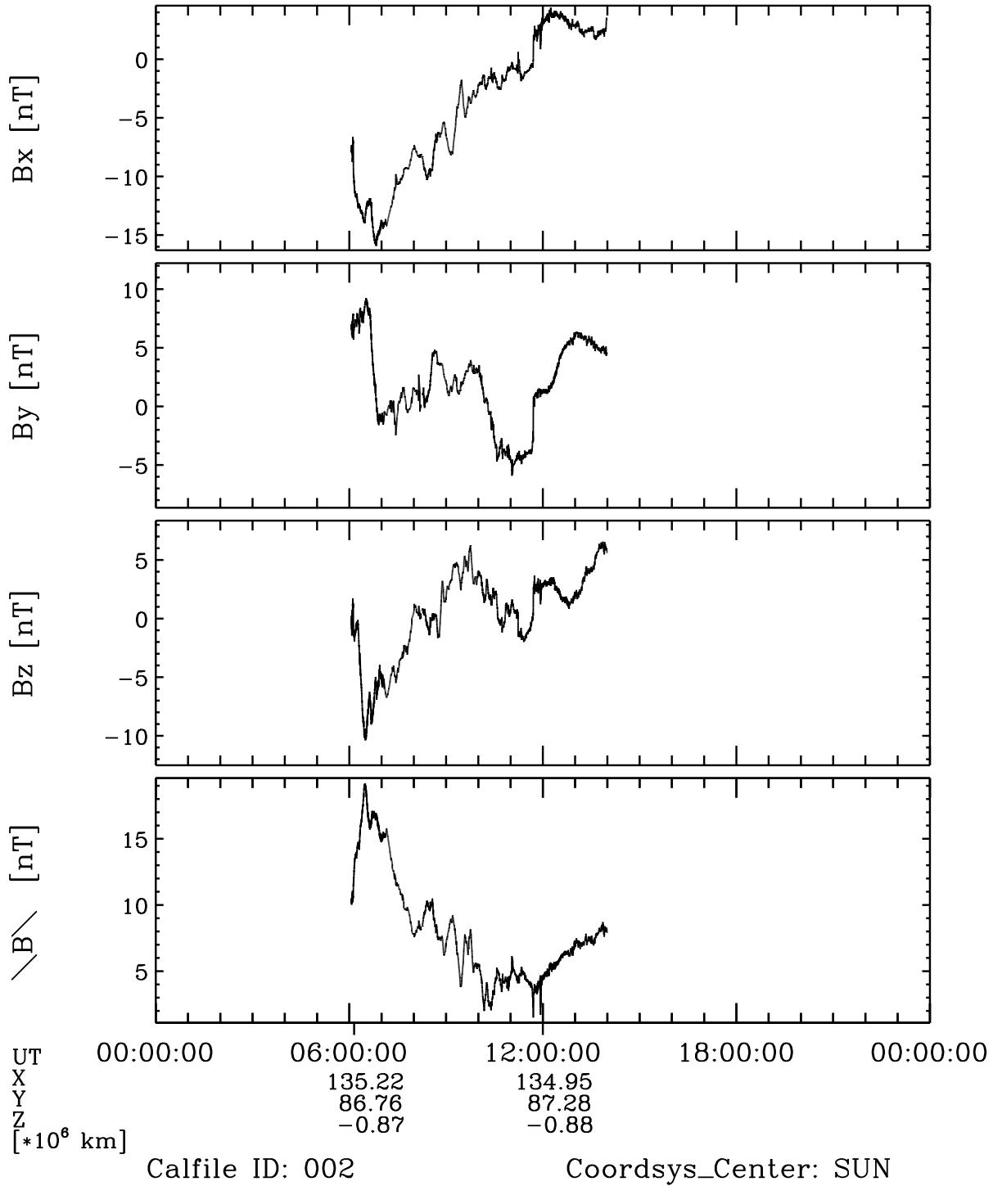


Figure 79: File: RPCMAG040929_CLG_IB_A1_T0000_2400_002

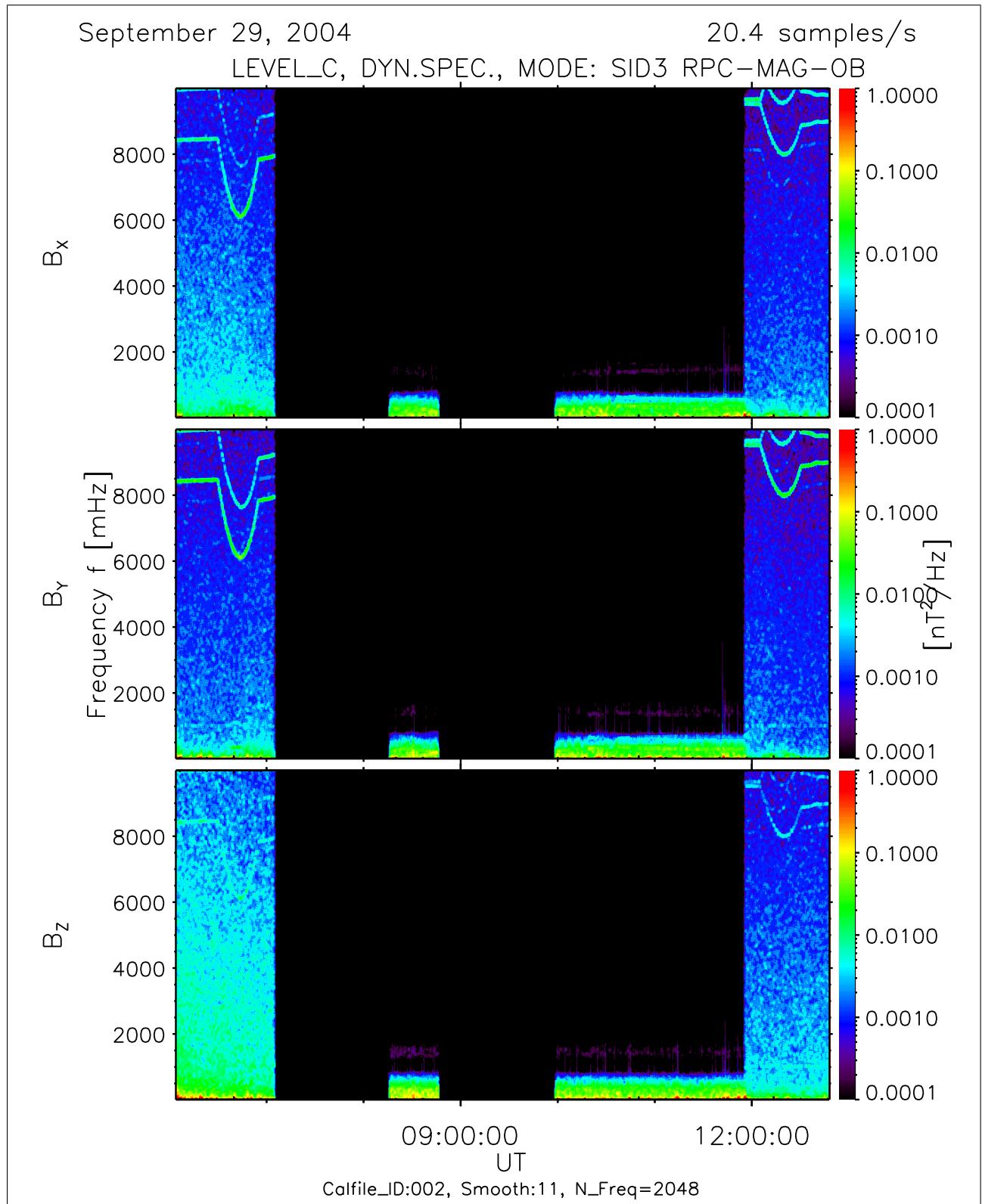


Figure 80: File: RPCMAG040929T0603_CLC_OB_M3_DS0_10000_002

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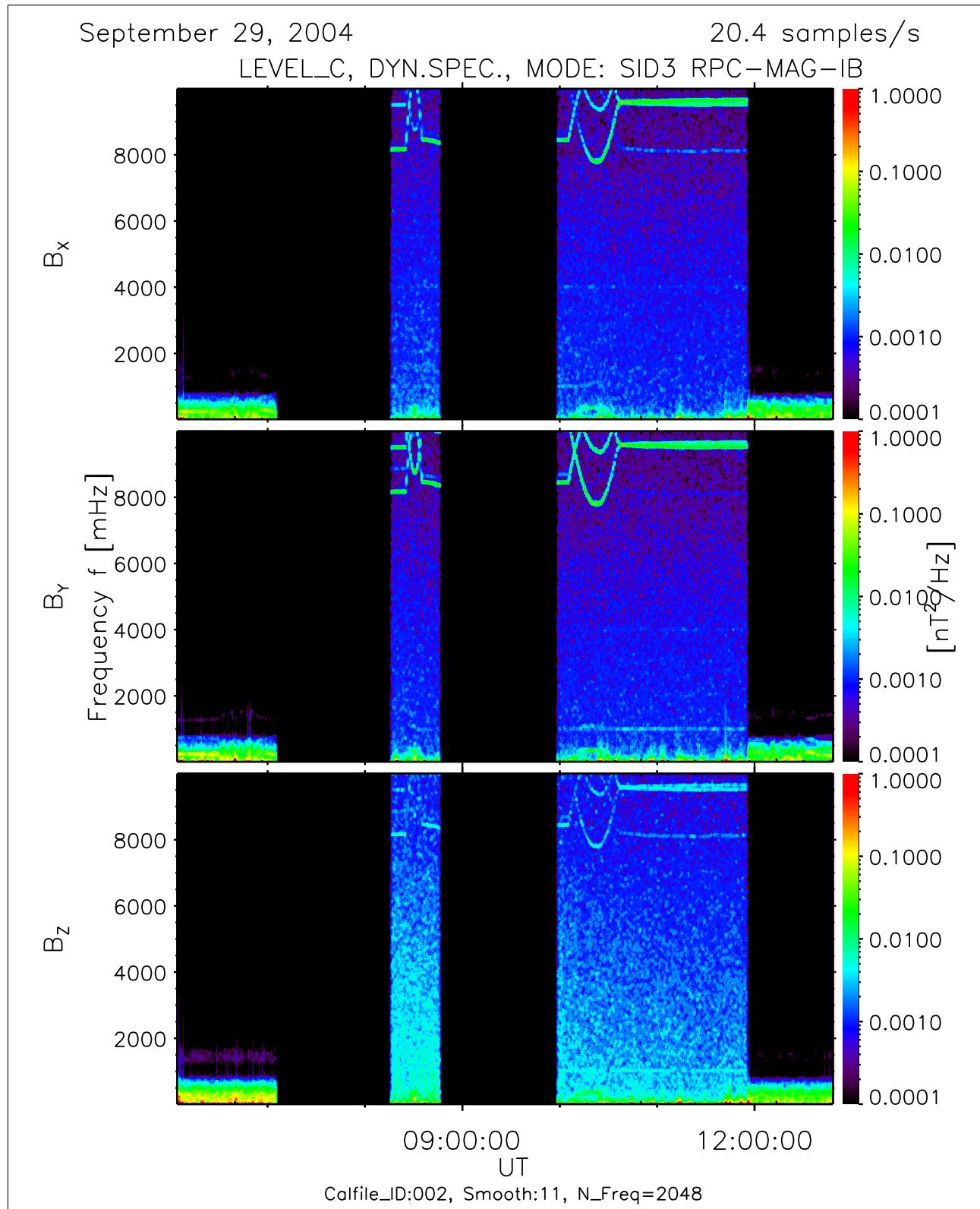


Figure 81: File: RPCMAG040929T0603_CLC_IB_M3_DS0_10000_002

6.3 Plots of ROSETTA's Reaction Wheels Speeds

The following plots show the time series of the revolutions of the 4 reaction wheels. Two kinds of data are shown:

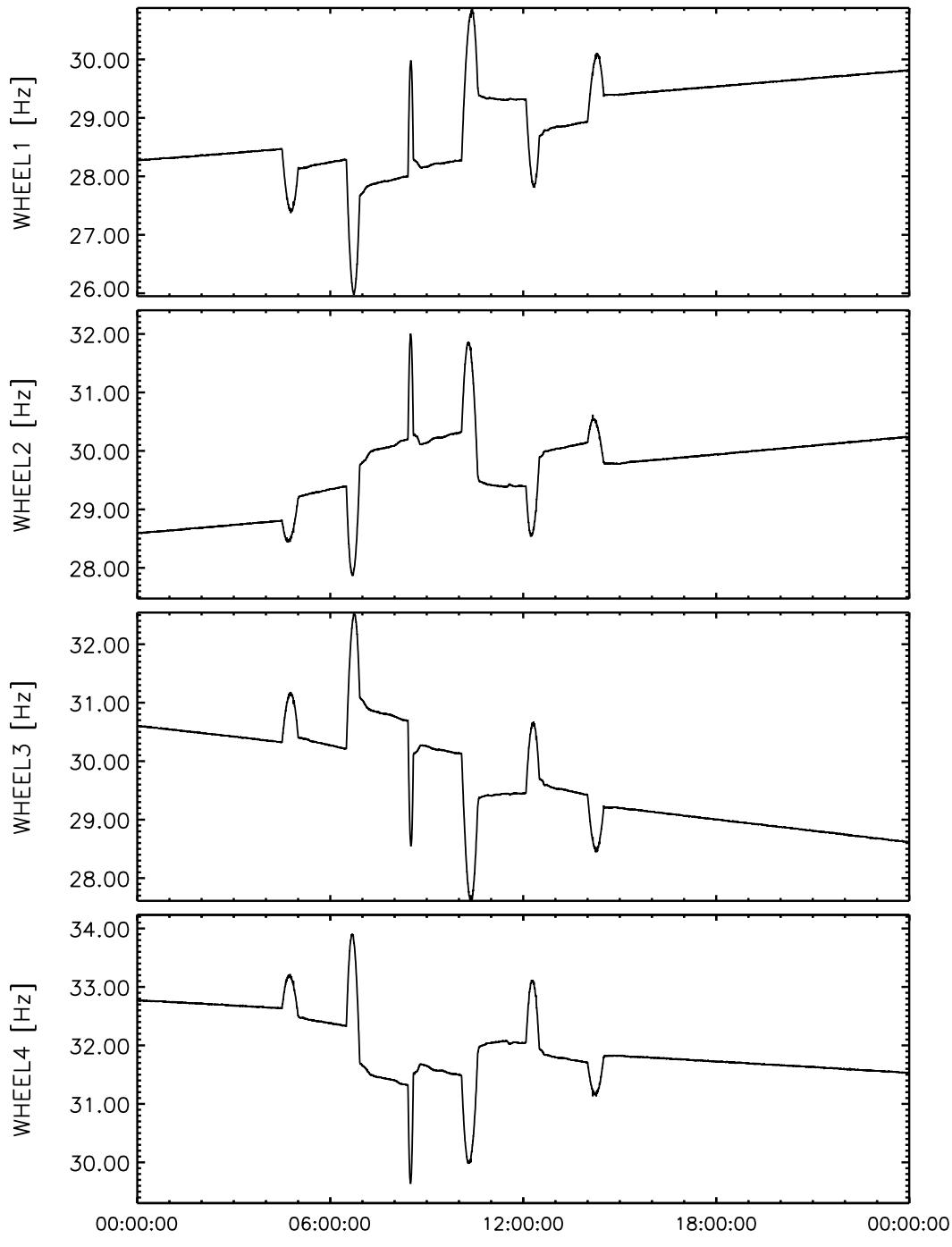
- The original reaction wheel data as they are stored in the DDS.
- The theoretical response of the wheels impact seen by an instrument sampling with different frequencies. Here the response at 1 Hz sampling frequency is plotted.

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Revolutions of the four Rosetta Reaction Wheels
September 29, 2004



DATA: 2004-09-29T00:00:00 – 2004-09-29T24:00:00

Figure 82: File: wheels_Hz2004-09-29T00-00

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Reaction Wheels – Response at 1Hz Sampling
 September 29, 2004

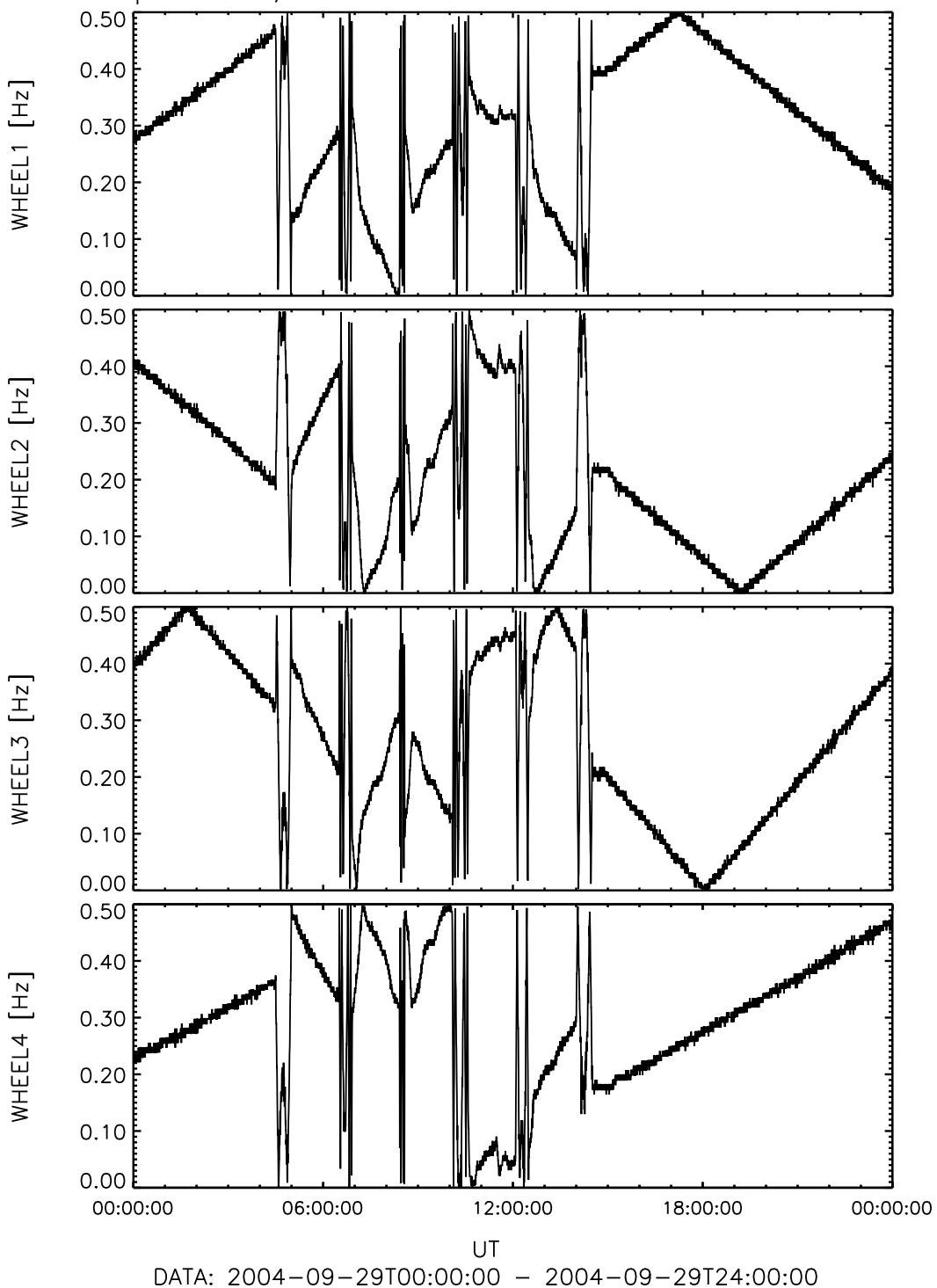


Figure 83: File: wheels_1Hz_Sampling2004-09-29T00-00

6.4 Plots of Reaction Wheel and LAP Disturbance corrected Data

The following plots show the dynamic spectra of the LEVEL_H data. These data have been purged from ROSETTAs reaction wheel disturbance and also from the disturbance of the LAP instrument. Plots are only shown for the primary sensor.

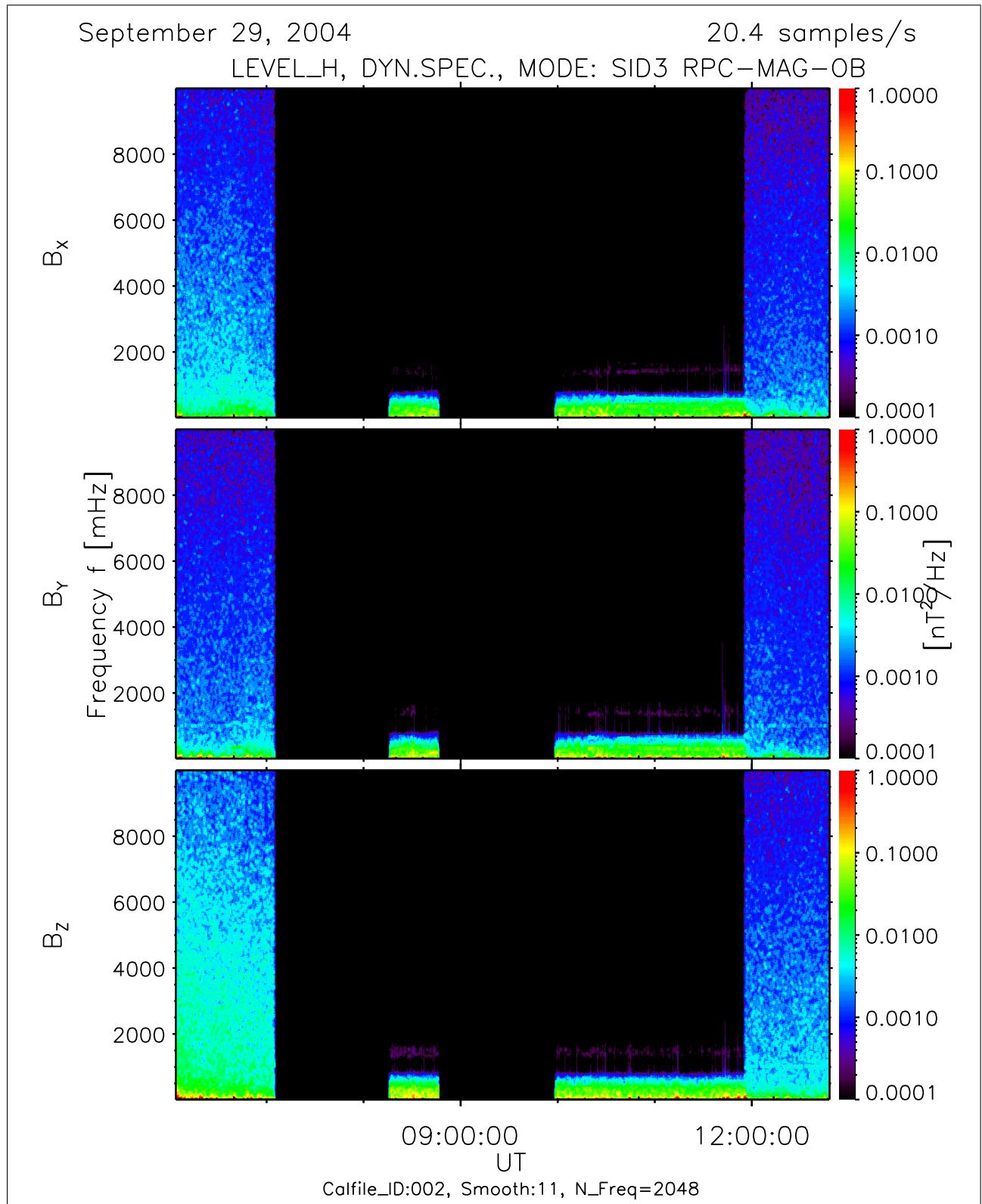


Figure 84: File: RPCMAG040929T0603_CLH_OB_M3_DS0_10000_002

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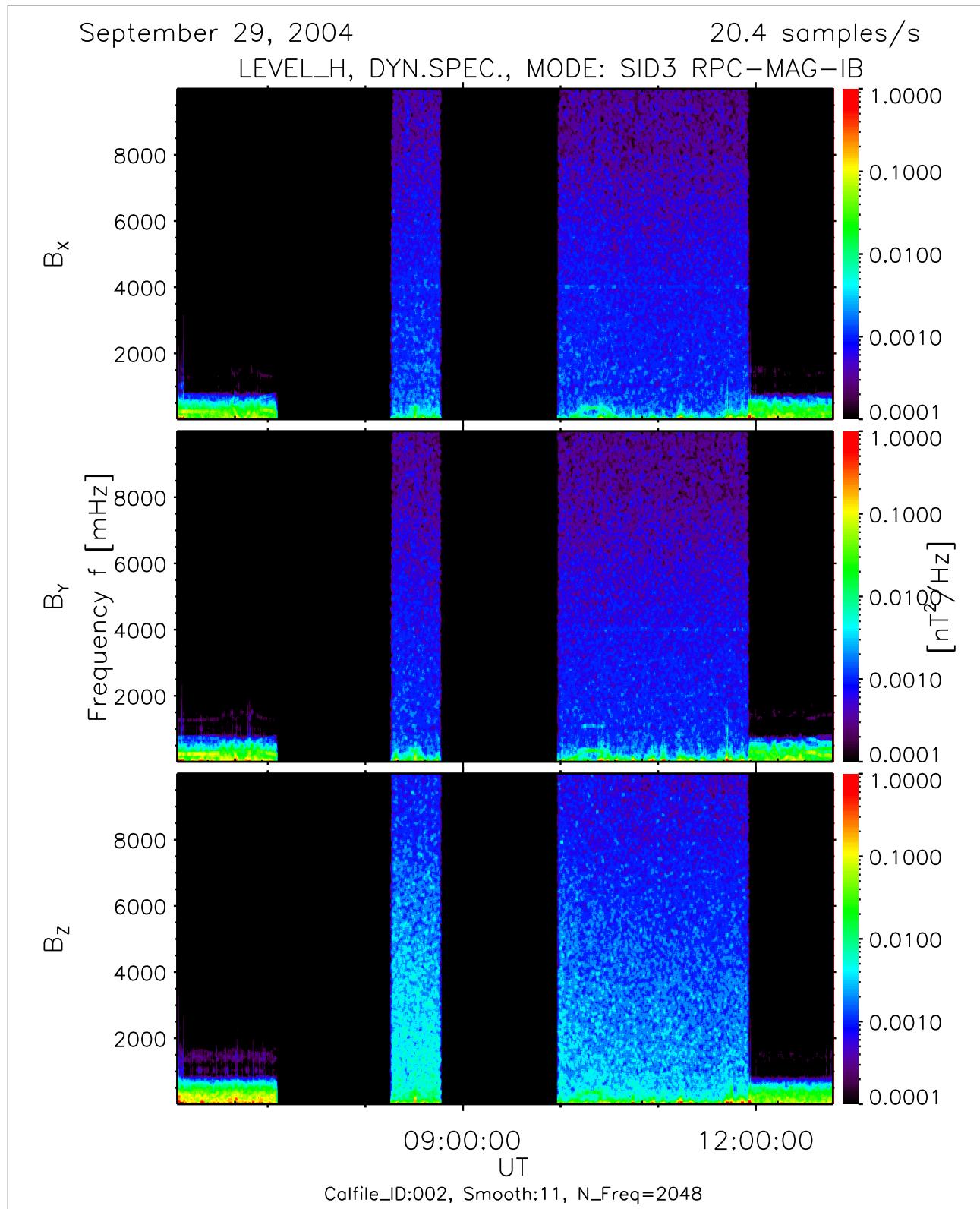


Figure 85: File: RPCMAG040929T0603_CLH_IB_M3_DS0_10000_002

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7 September 30, 2004:

7.1 Actions

The Instrument was switched on at 04:32 and switched off at 15:54.

Time	Stage A, Stage B, Filter cfg	Stage 1, Stage 2, Stage3	Mode
04:40 – 10:25	1 2 0	1 2 0	SID2
10:25 – 12:22	4 3 0	4 3 0	SID5
12:23 – 13:10	0 0 0	0 0 0	SID3
13:10 – 13:22	4 3 0	4 3 0	SID5
13:23 – 15:40	0 0 0	0 0 0	SID3

7.2 Plots of Calibrated Data using the new Temperature Model

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September 30, 2004 RPC-MAG-HK 32.0 s
 CAL. HOUSEKEEPING DATA

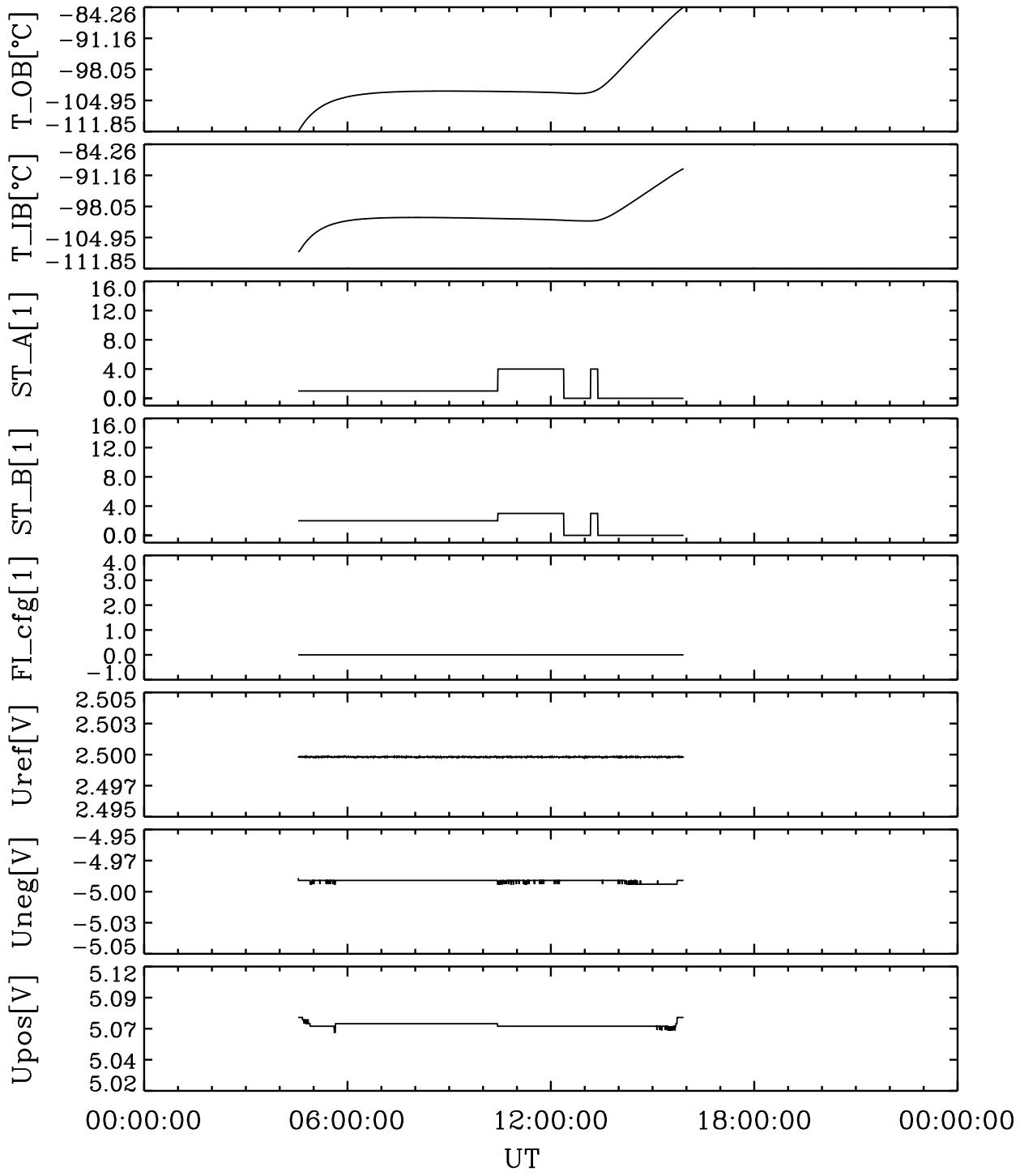


Figure 86: File: RPCMAG040930T0432_CLA_HK_P0000_2400

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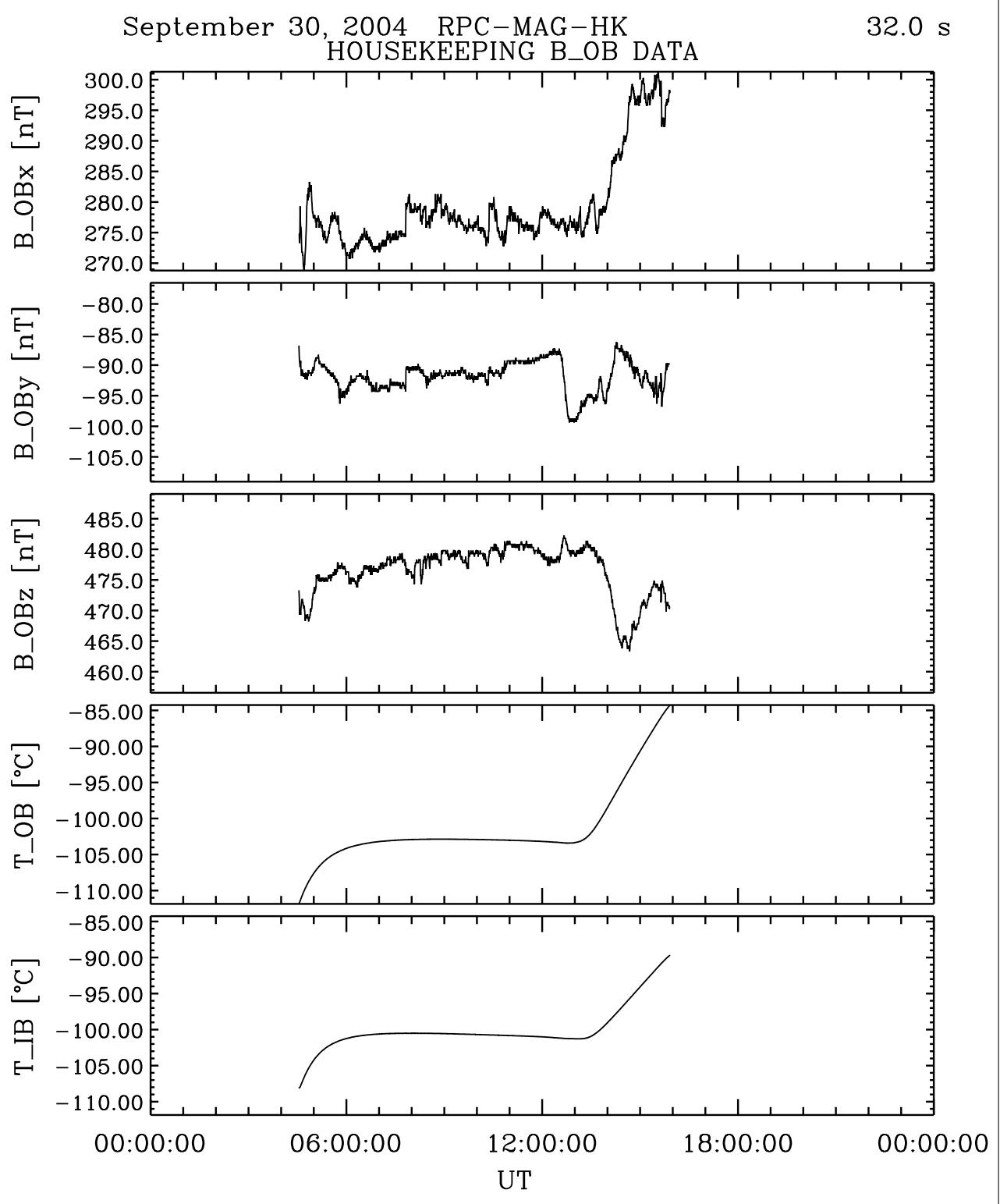


Figure 87: File: RPCMAG040930T0432.CLA_HK_B_P0000_2400

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September 30, 2004 RPC-MAG-OB 20.0 samples/s
CAL.DATA,S/C COORDS, LEVEL_B, MODE: SID3

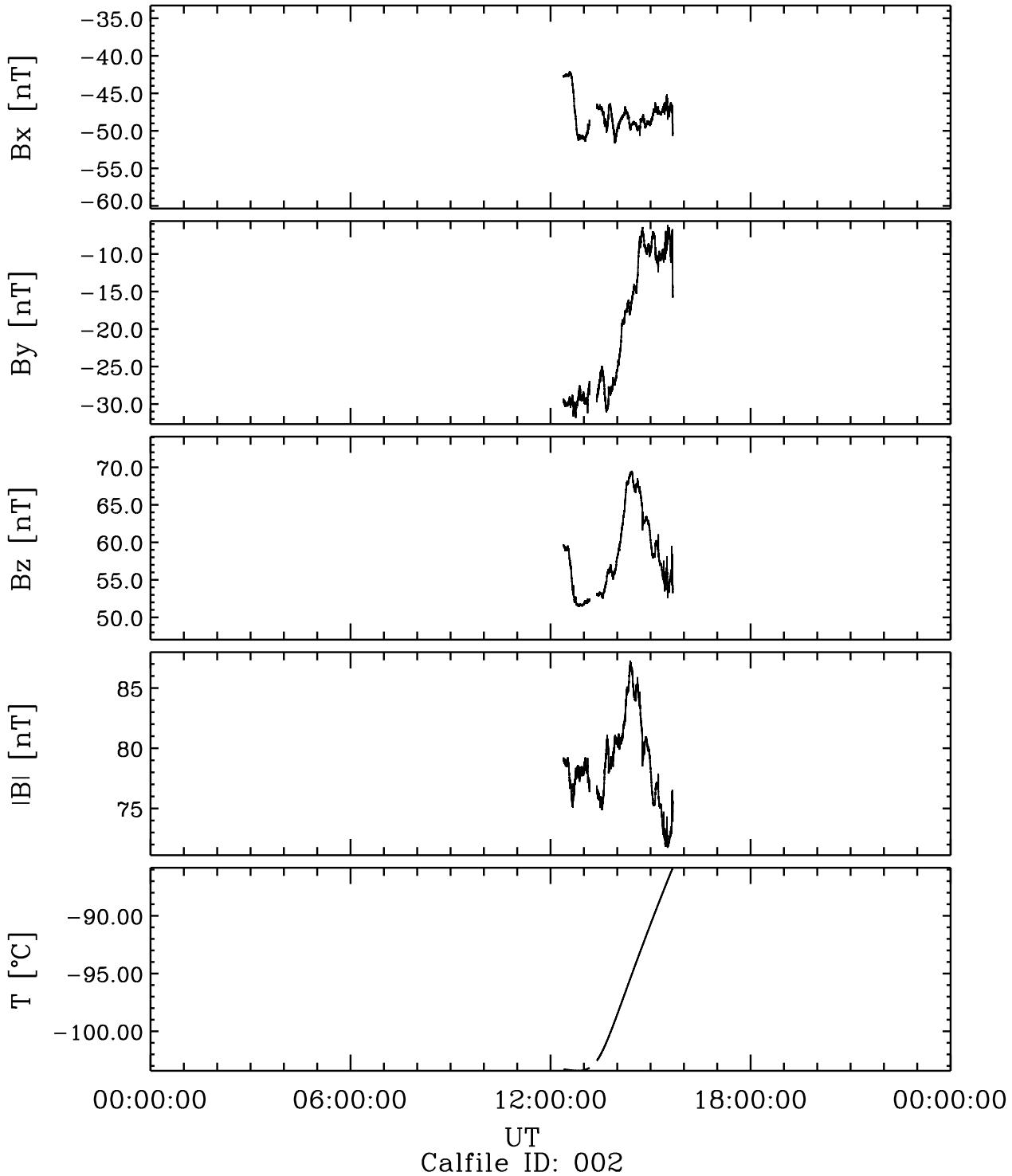


Figure 88: File: RPCMAG040930T1223_CLB_OB_M3_T0000_2400_002

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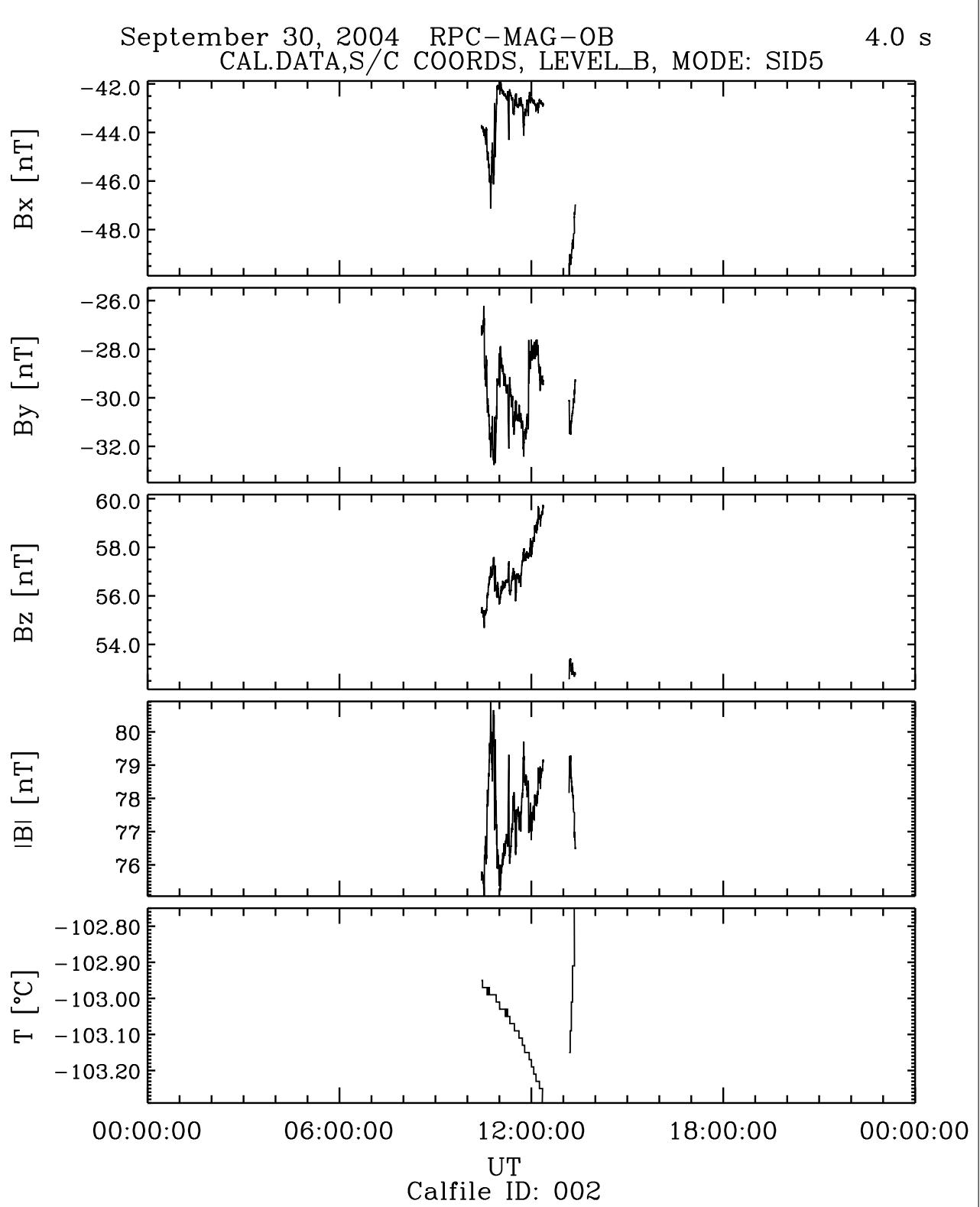


Figure 89: File: RPCMAG040930T1025_CLB_OB_M5_T0000_2400_002

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September 30, 2004 RPC-MAG-OB
CAL.DATA,S/C COORDS, LEVEL_B, MODE: SID2 1.0 s

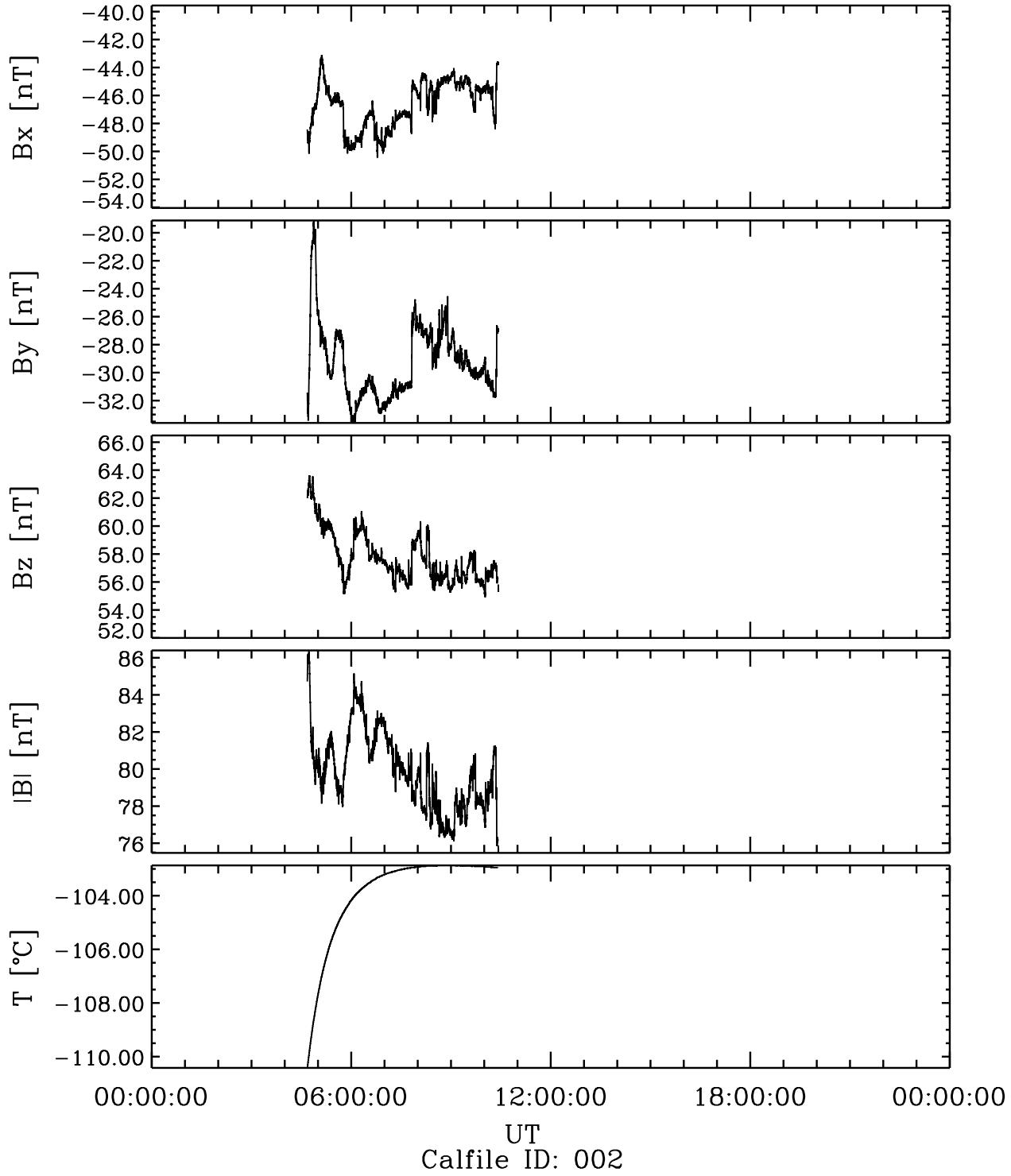


Figure 90: File: RPCMAG040930T0440_CLB_OB_M2_T0000_2400_002

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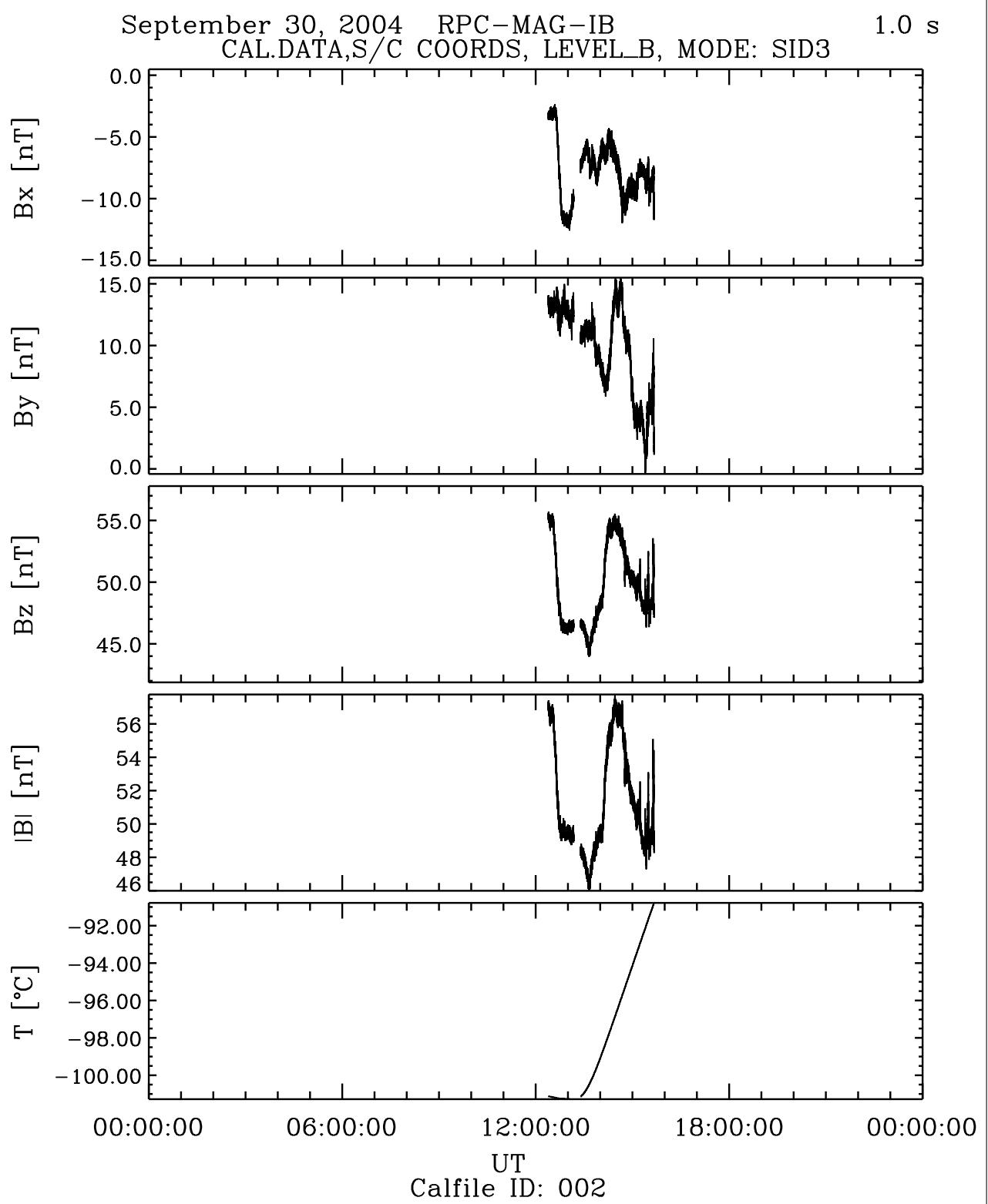


Figure 91: File: RPCMAG040930T1223_CLB_IB_M3_T0000_2400_002

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September 30, 2004 RPC-MAG-IB
CAL.DATA,S/C COORDS, LEVEL_B, MODE: SID5 128.1 s

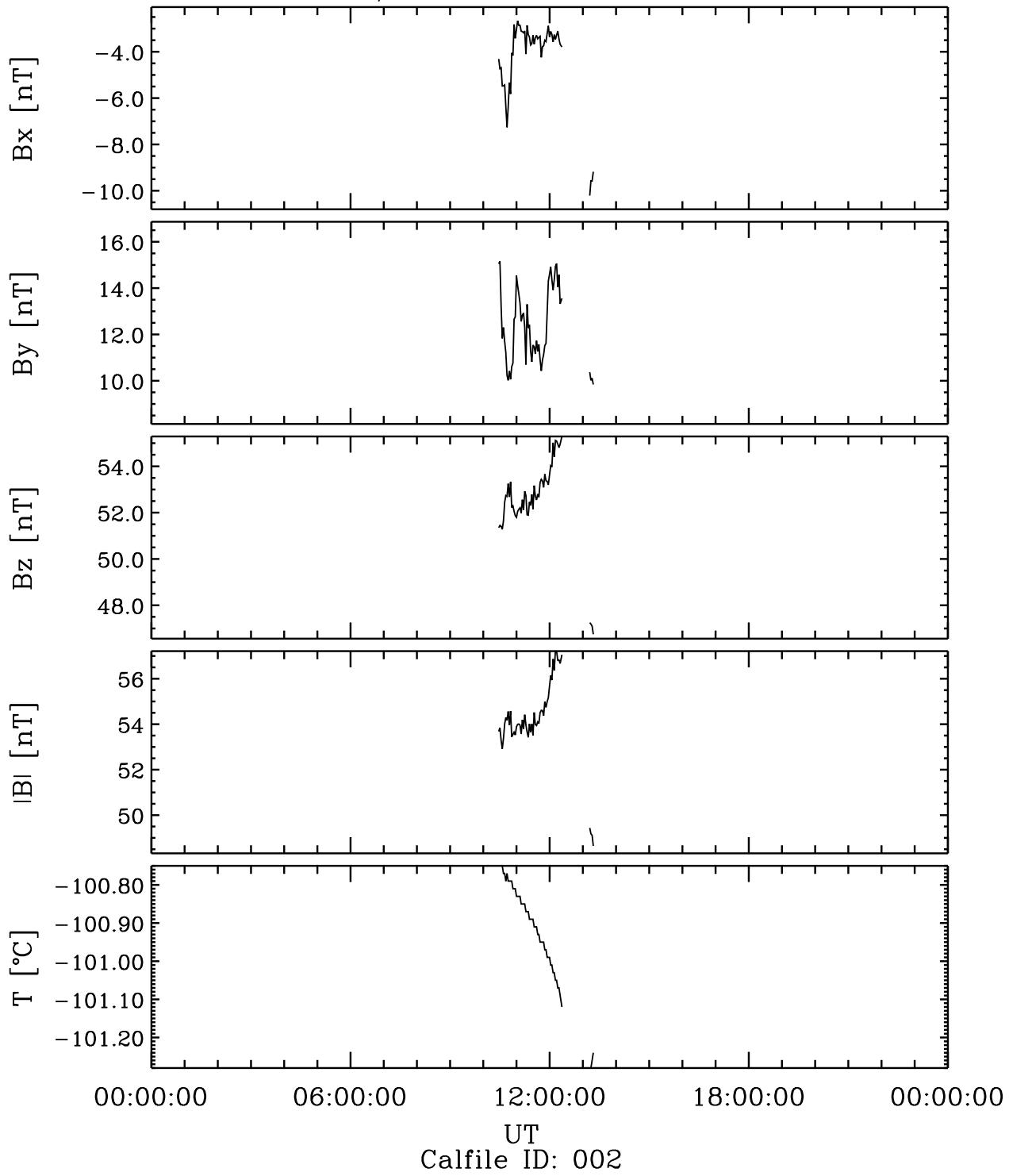


Figure 92: File: RPCMAG040930T1025_CLB_IB_M5_T0000_2400_002

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September 30, 2004 RPC-MAG-IB
 CAL.DATA,S/C COORDS, LEVEL_B, MODE: SID2 32.0 s

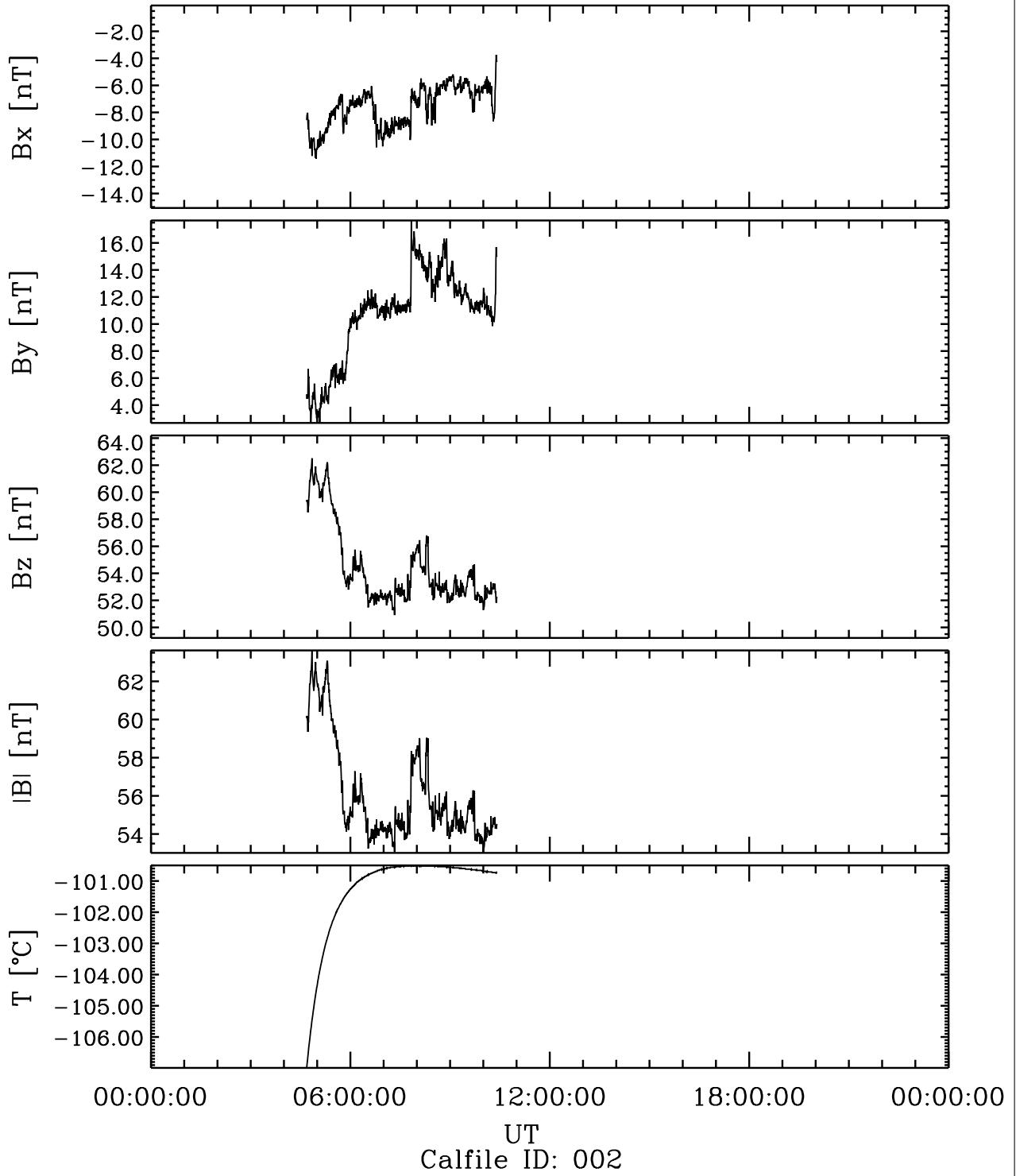


Figure 93: File: RPCMAG040930T0440_CLB_IB_M2_T0000_2400_002

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September 30, 2004 RPC-MAG-OB
 CAL.DATA,ECLIPJ2000,LEVEL_C, MODE:SID3 20.0 Hz

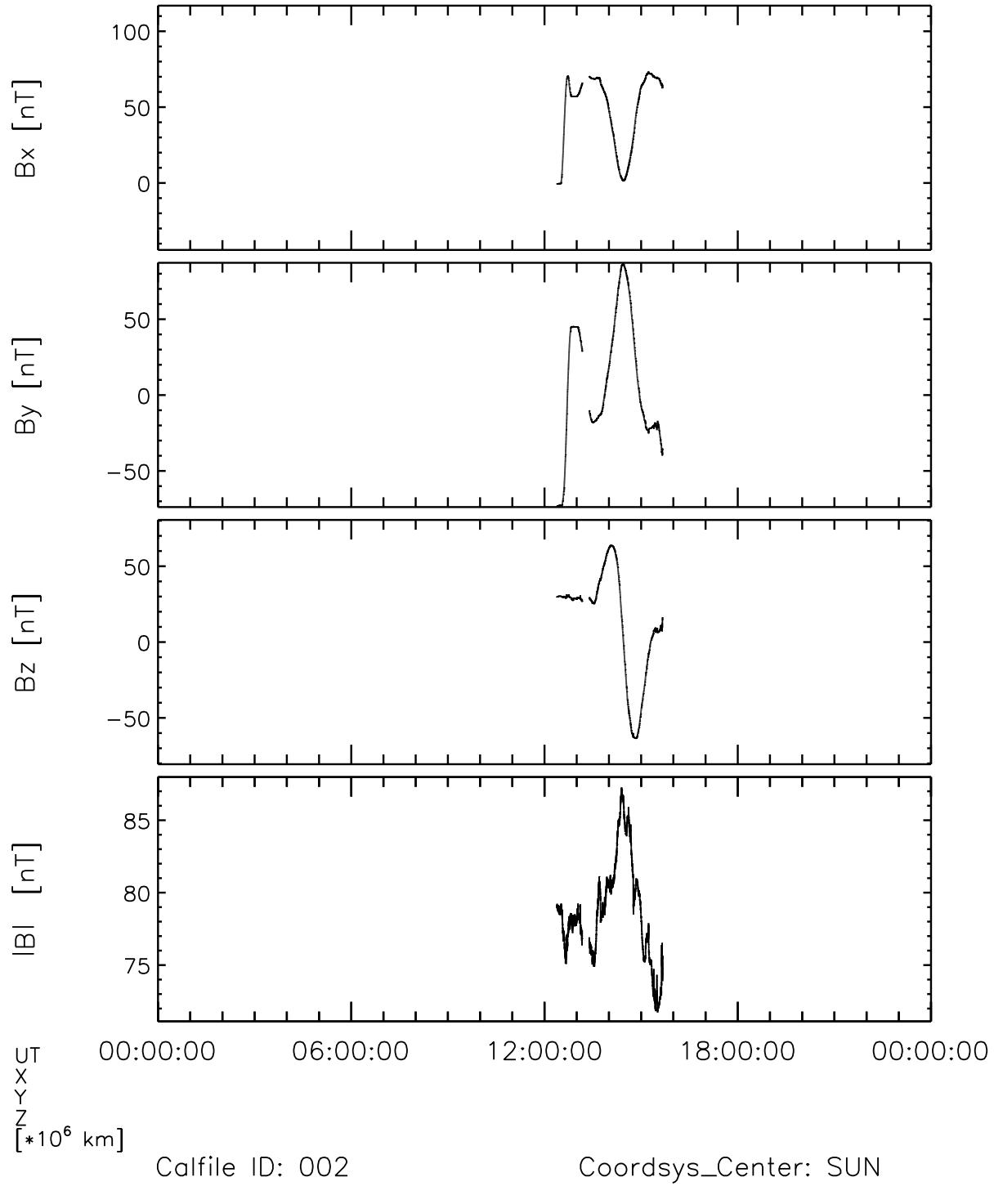


Figure 94: File: RPCMAG040930T1223_CLC_OB_M3_T0000_2400_002

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September 30, 2004 RPC-MAG-OB

CAL.DATA,ECLIPJ2000,LEVEL_C, MODE:SID5

4.0 s

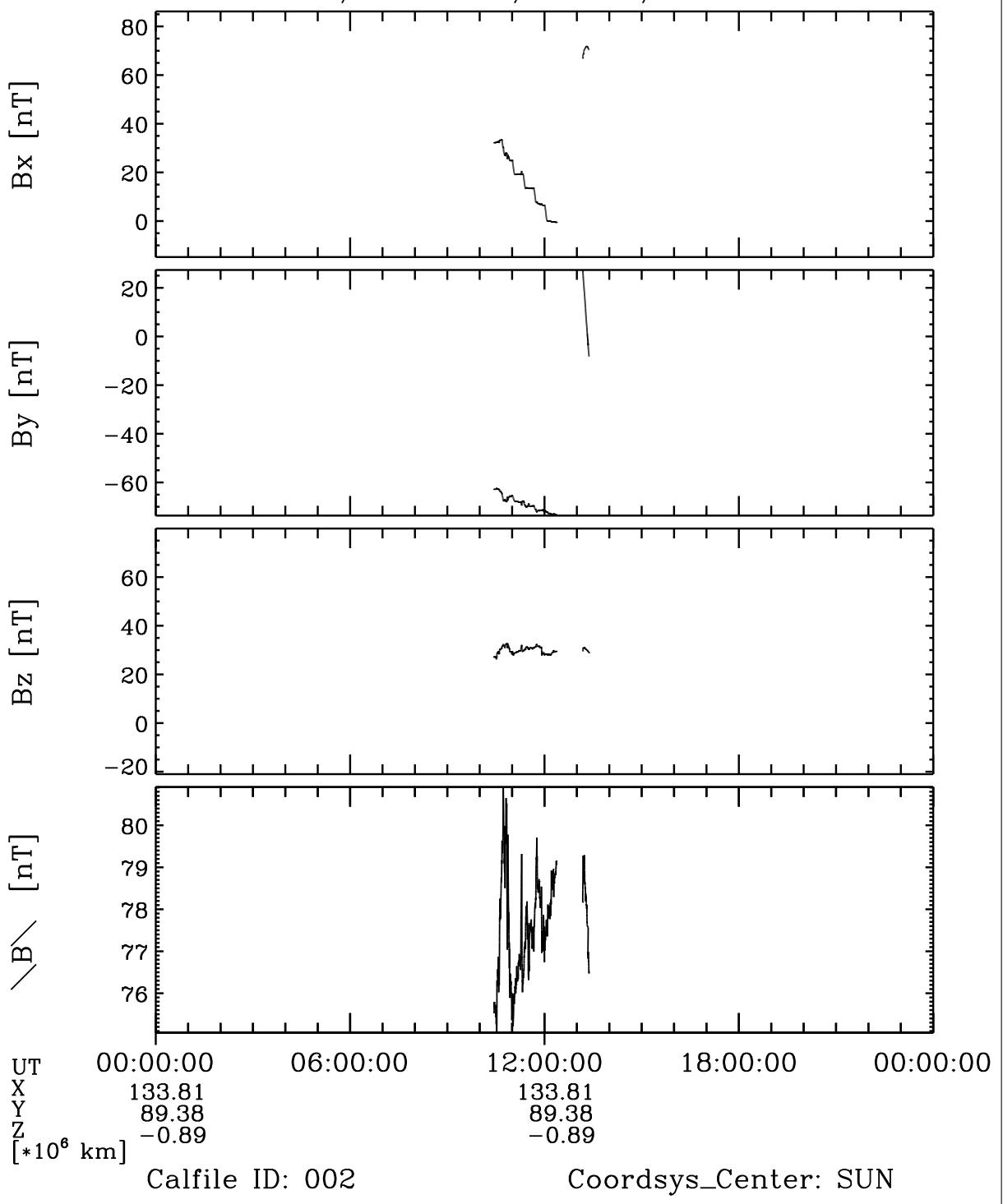


Figure 95: File: RPCMAG040930T1025_CLC_OB_M5_T0000_2400_002

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September 30, 2004 RPC-MAG-OB 1.0 s
 CAL.DATA,ECLIPJ2000,LEVEL_C, MODE:SID2

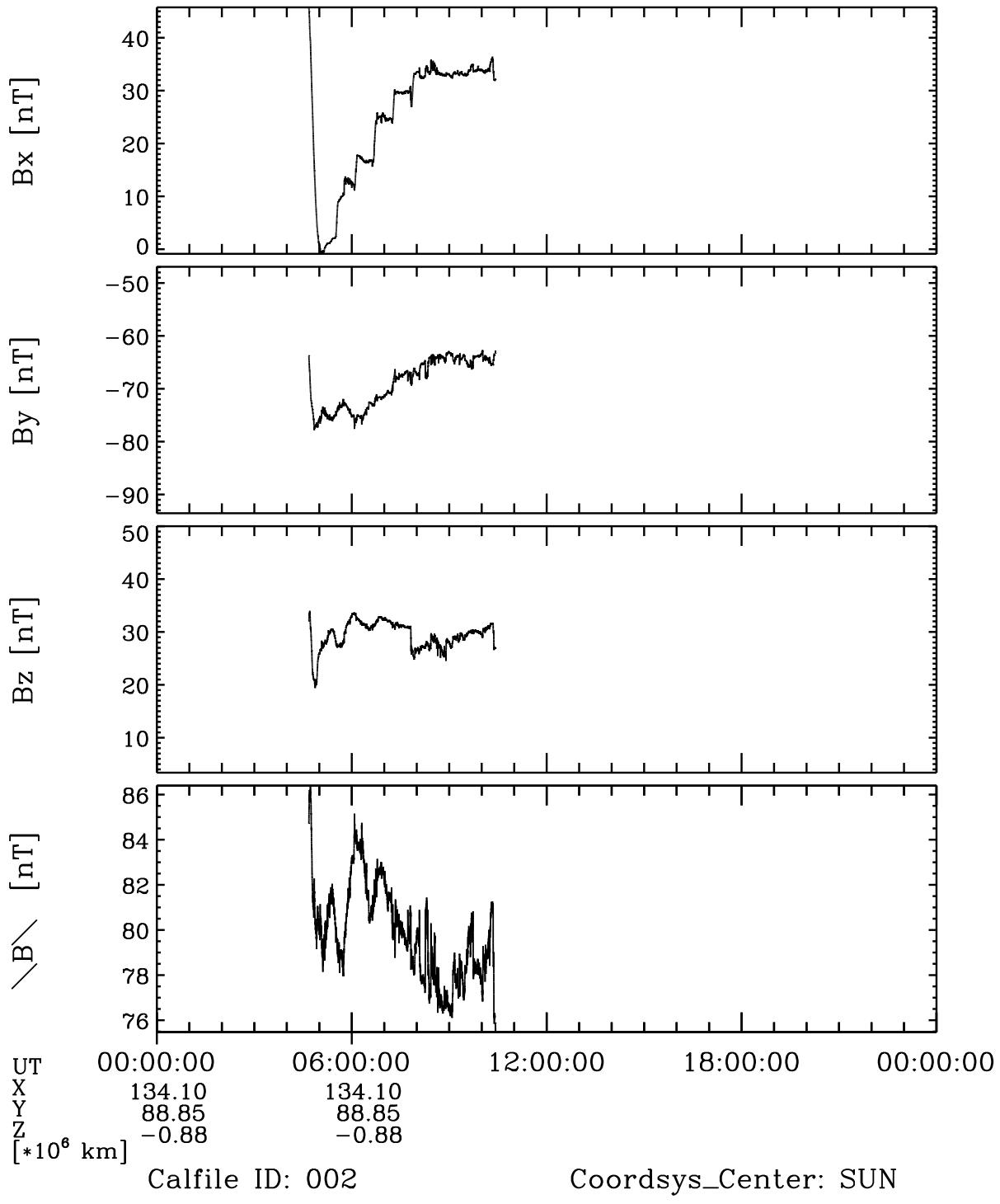


Figure 96: File: RPCMAG040930T0440_CLC_OB_M2_T0000_2400_002

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September 30, 2004 RPC-MAG-IB
CAL.DATA,ECLIPJ2000,LEVEL_C, MODE:SID3 1.0 s

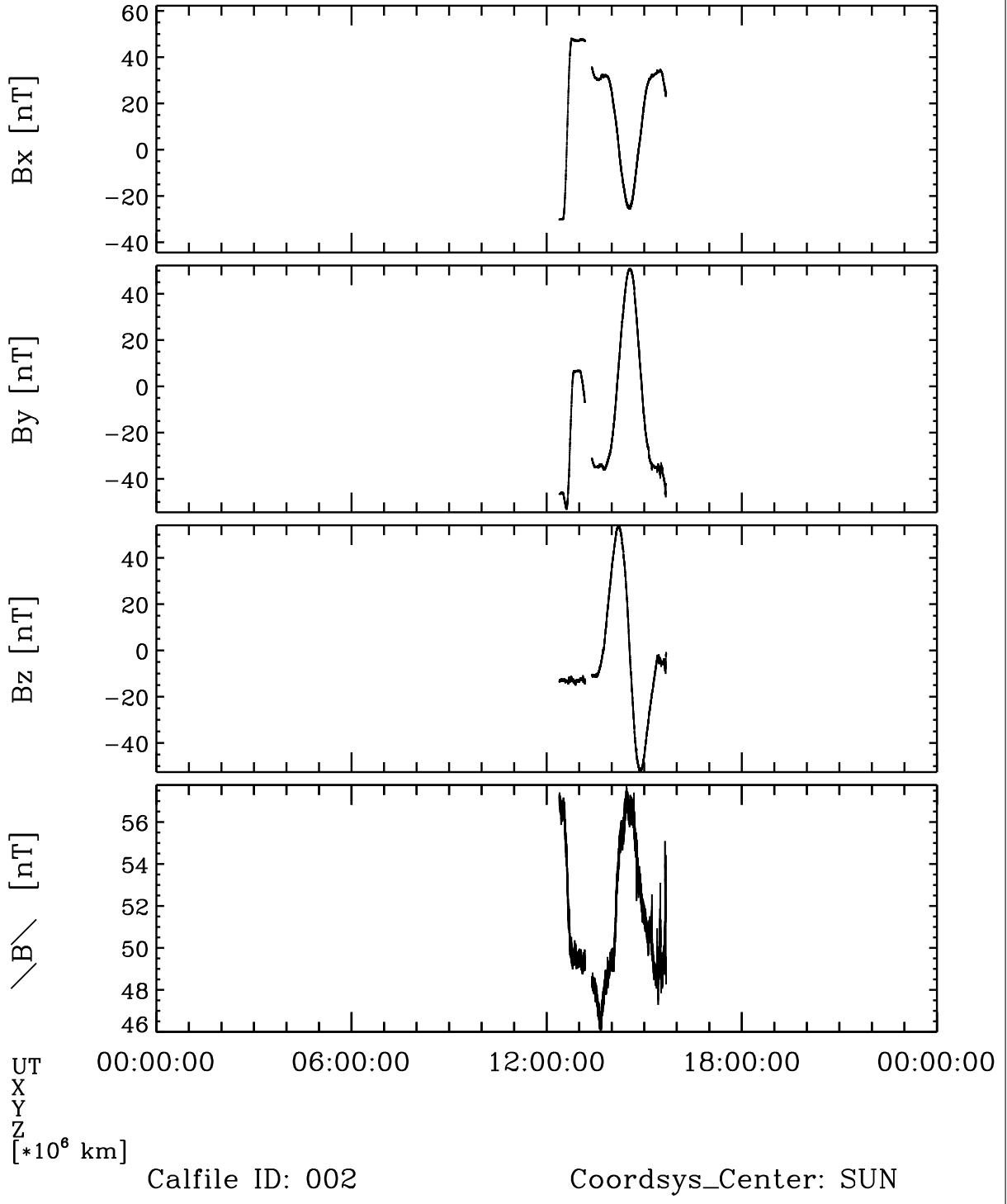


Figure 97: File: RPCMAG040930T1223_CLC_IB_M3_T0000_2400_002

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September 30, 2004 RPC-MAG-IB
 CAL.DATA,ECLIPJ2000,LEVEL_C, MODE:SID5 128.1 s

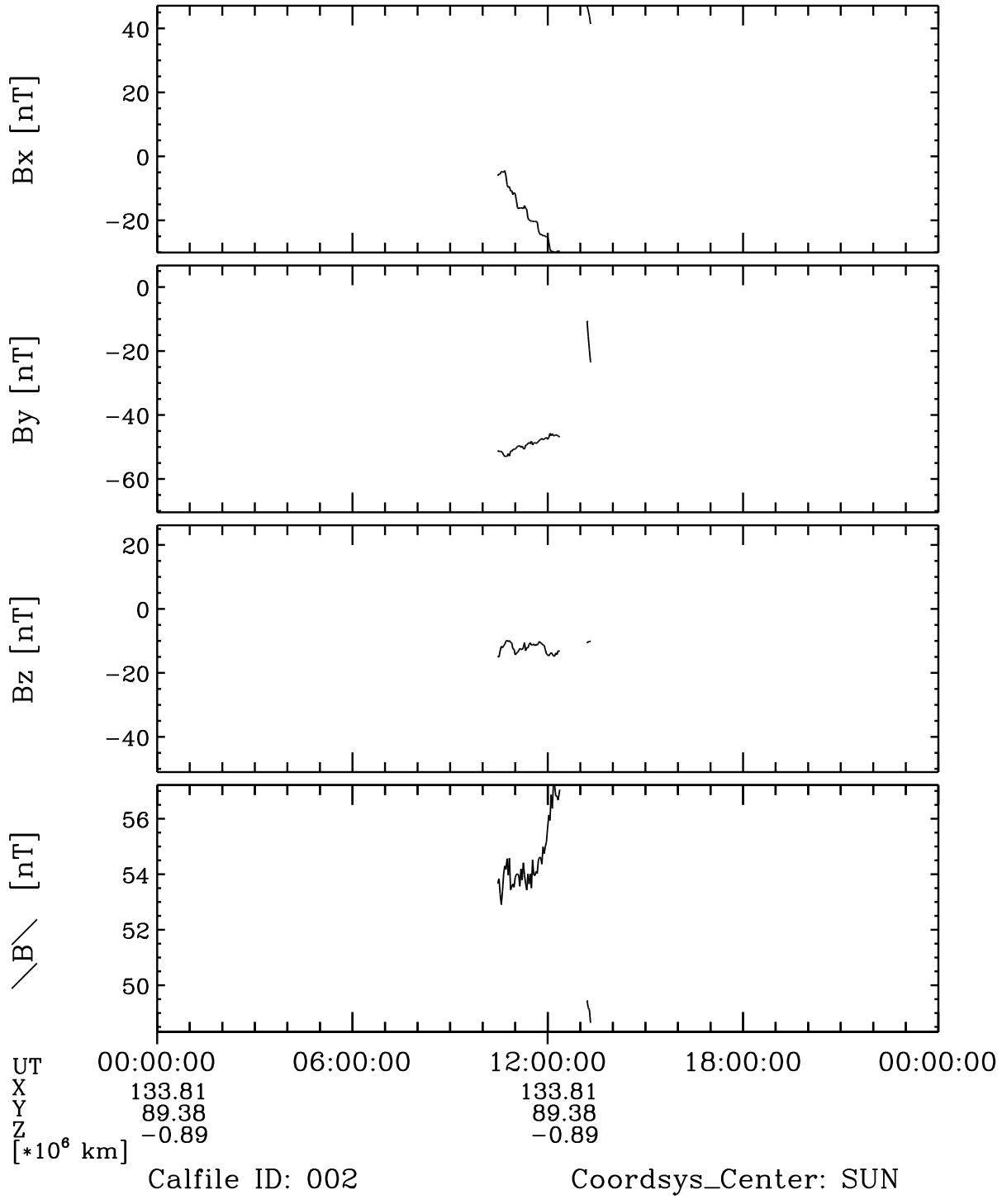


Figure 98: File: RPCMAG040930T1025_CLC_IB_M5_T0000_2400_002

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September 30, 2004 RPC-MAG-IB
CAL.DATA,ECLIPJ2000,LEVEL_C, MODE:SID2 32.0 s

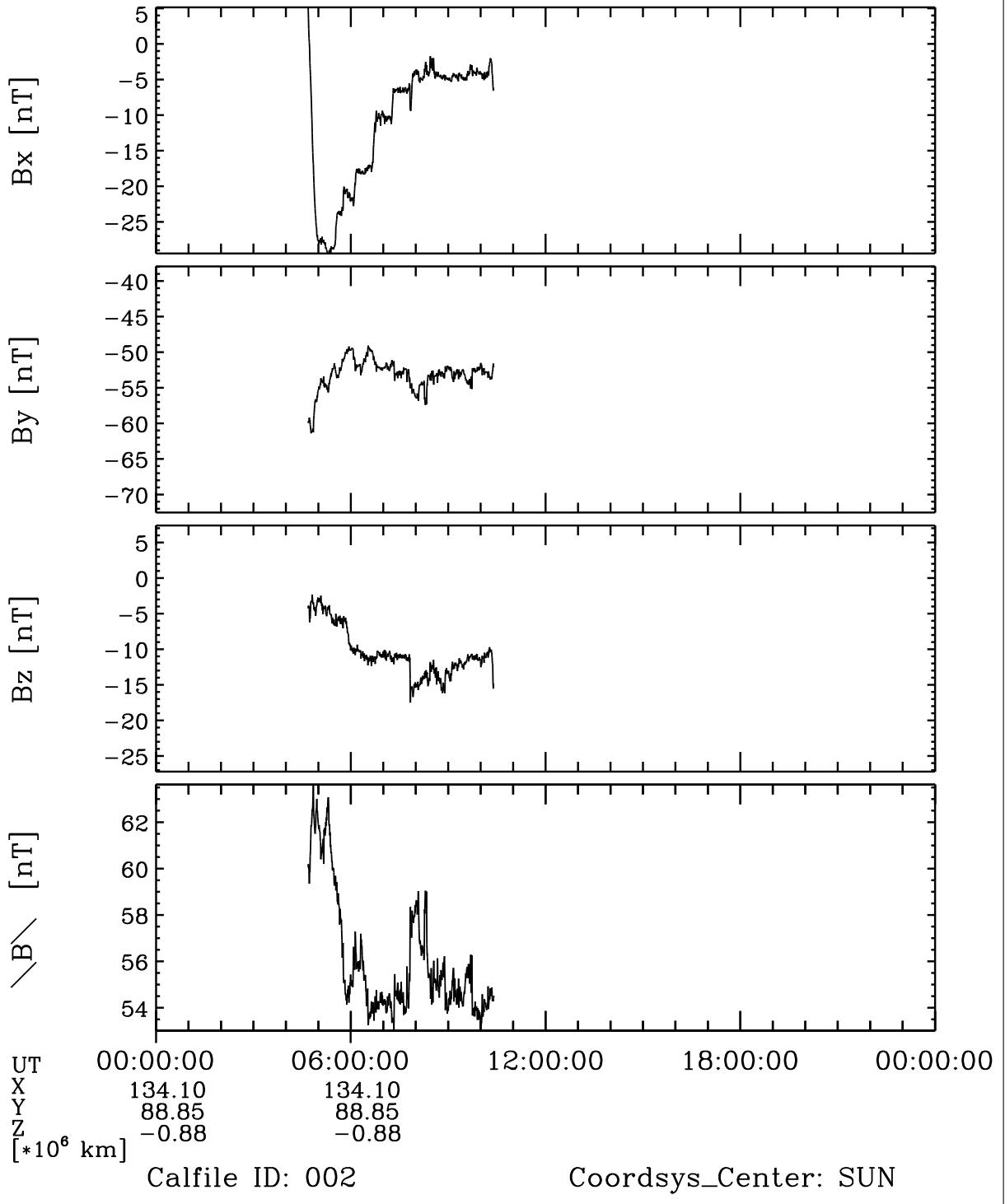


Figure 99: File: RPCMAG040930T0440_CLC_IB_M2_T0000_2400_002

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September 30, 2004 RPC-MAG-OB 1.0 s
RES.DATA,S/C-COORDS,FILTERED

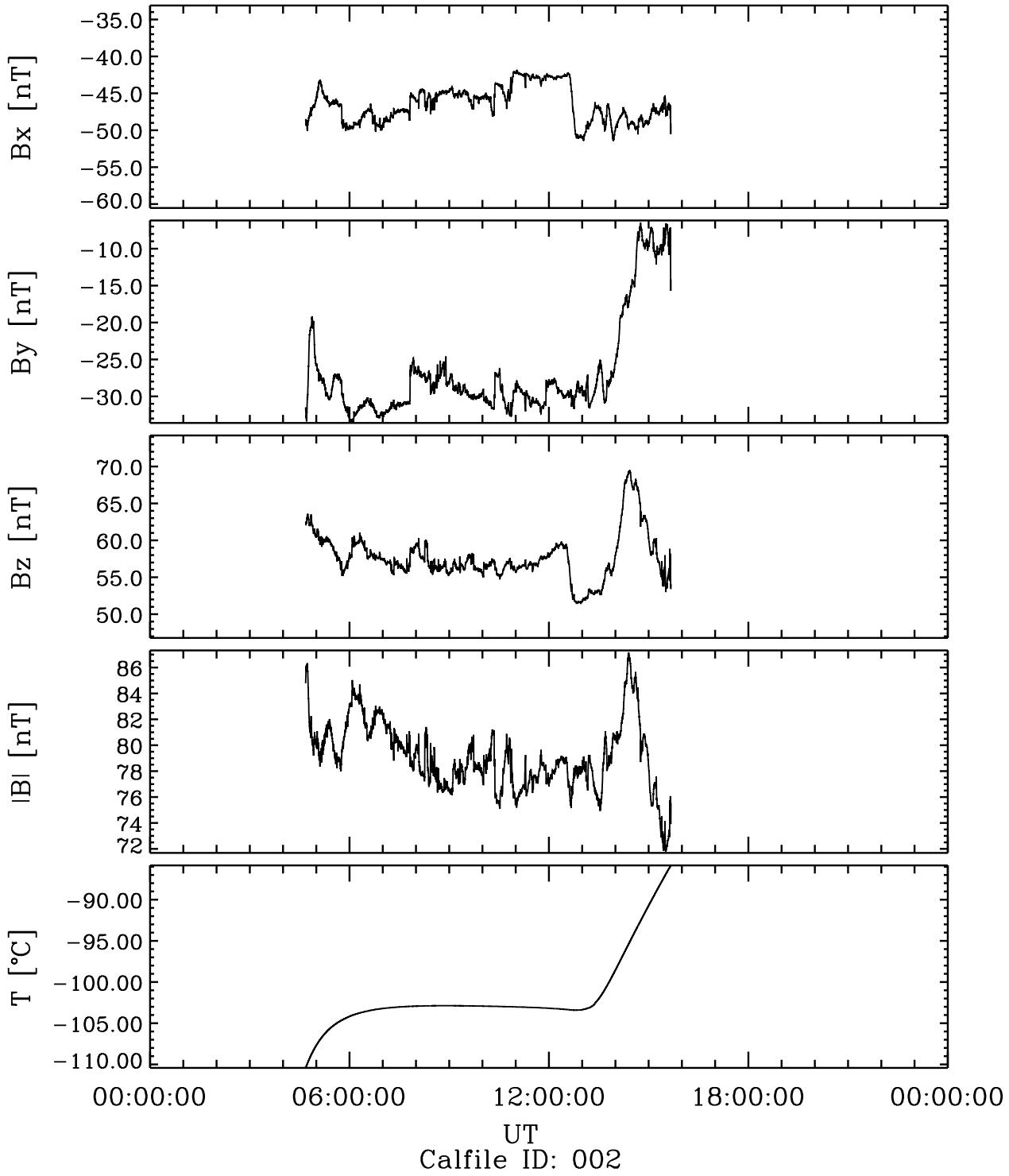


Figure 100: File: RPCMAG040930_CLF_OB_A1_T0000_2400_002

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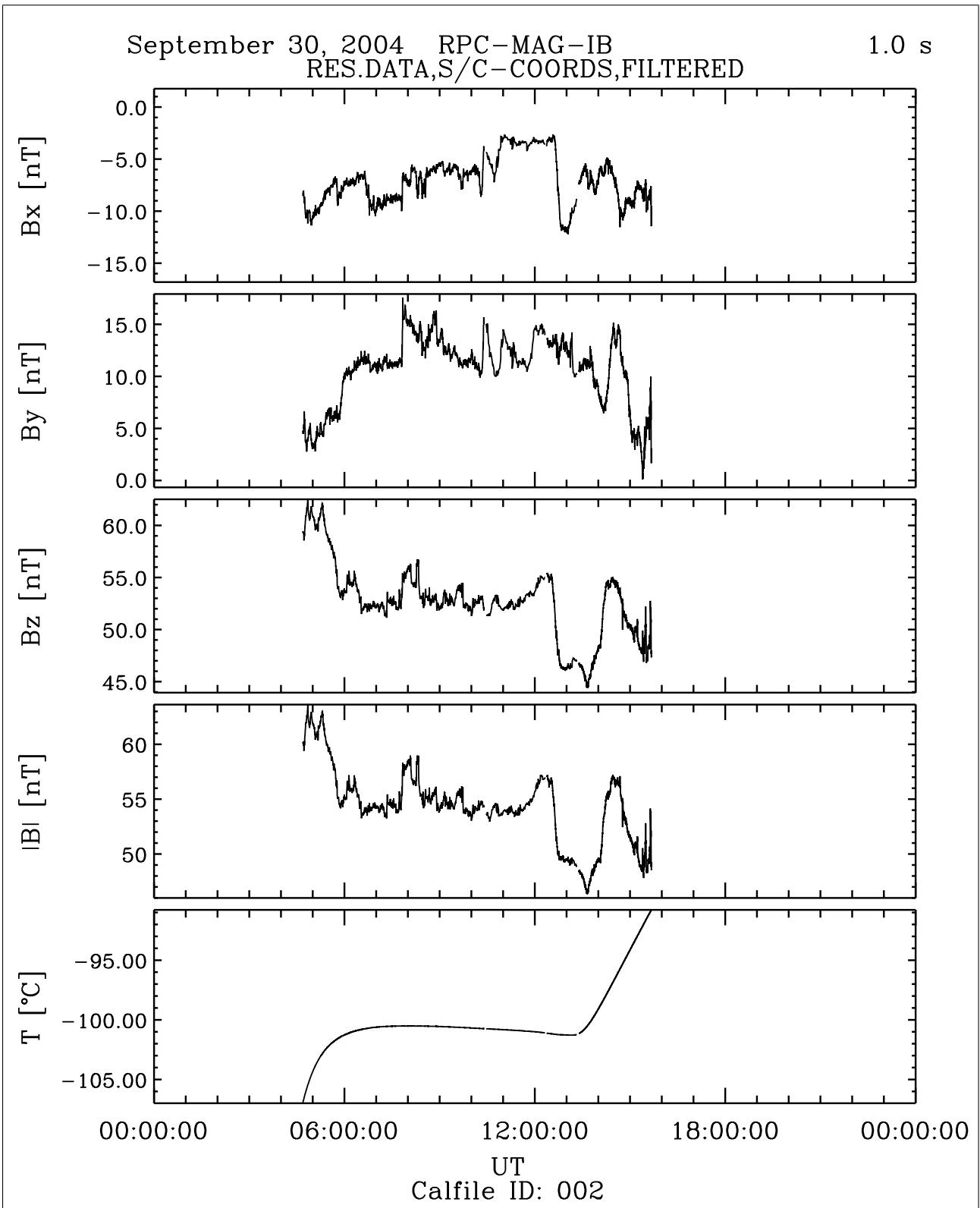


Figure 101: File: RPCMAG040930_CLF_IB_A1_T0000_2400_002

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September 30, 2004 RPC-MAG-OB 1.0 s
RES.DATA,ECLIPJ2000,FILTERED

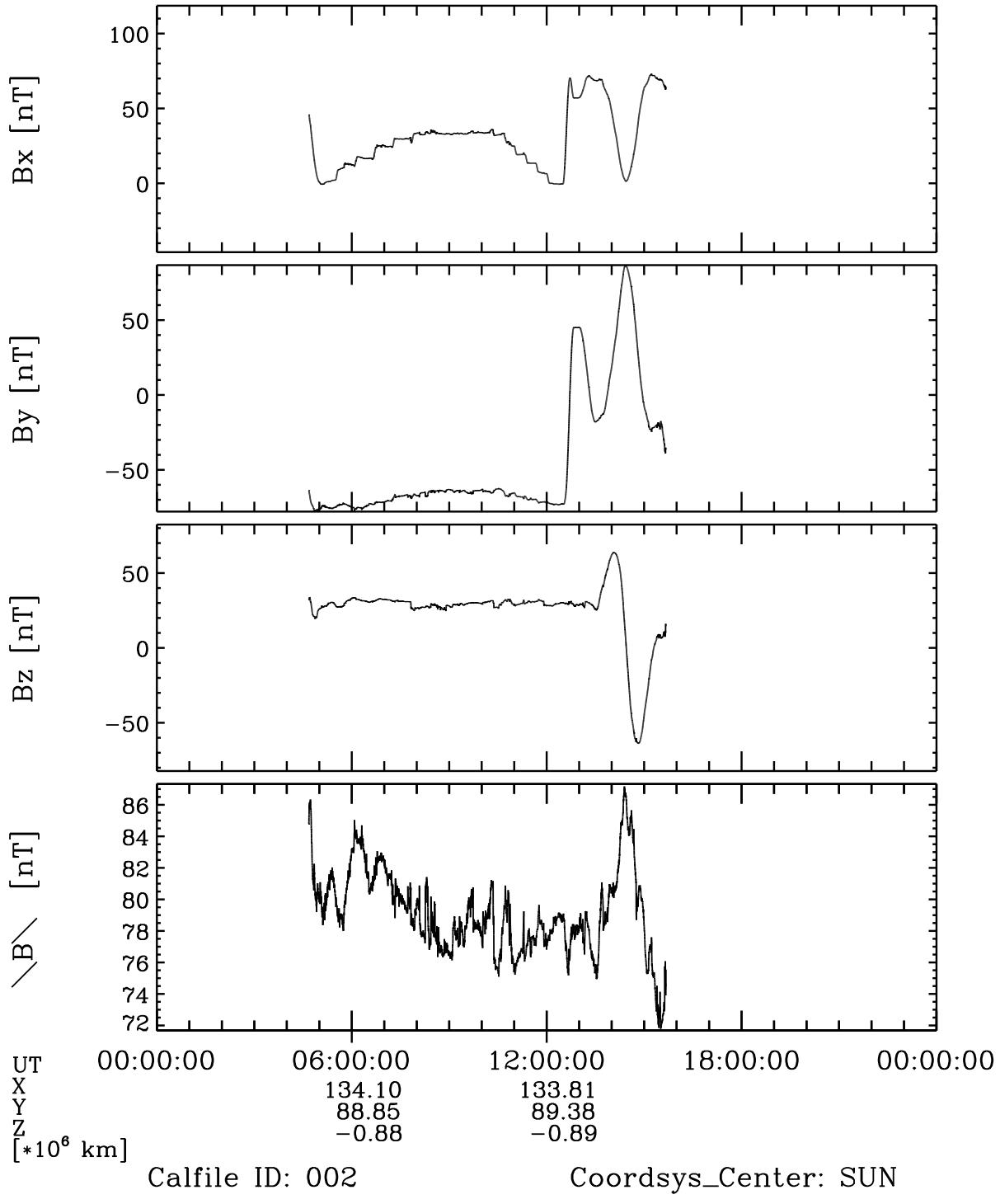


Figure 102: File: RPCMAG040930_CLG_OB_A1_T0000_2400_002

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RES.DATA,ECLIPJ2000,FILTERED

1.0 s

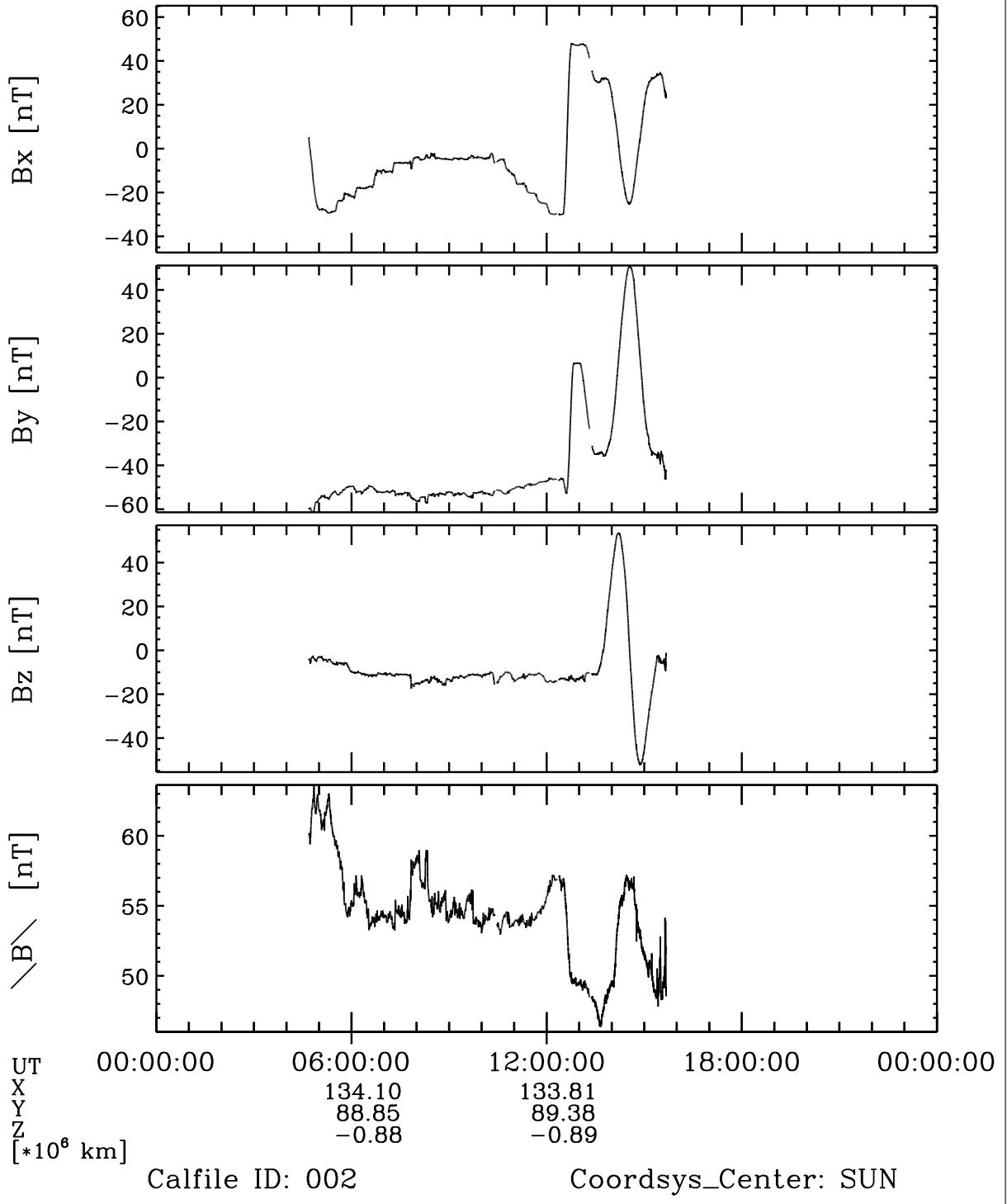


Figure 103: File: RPCMAG040930_CLG_IB_A1_T0000_2400_002

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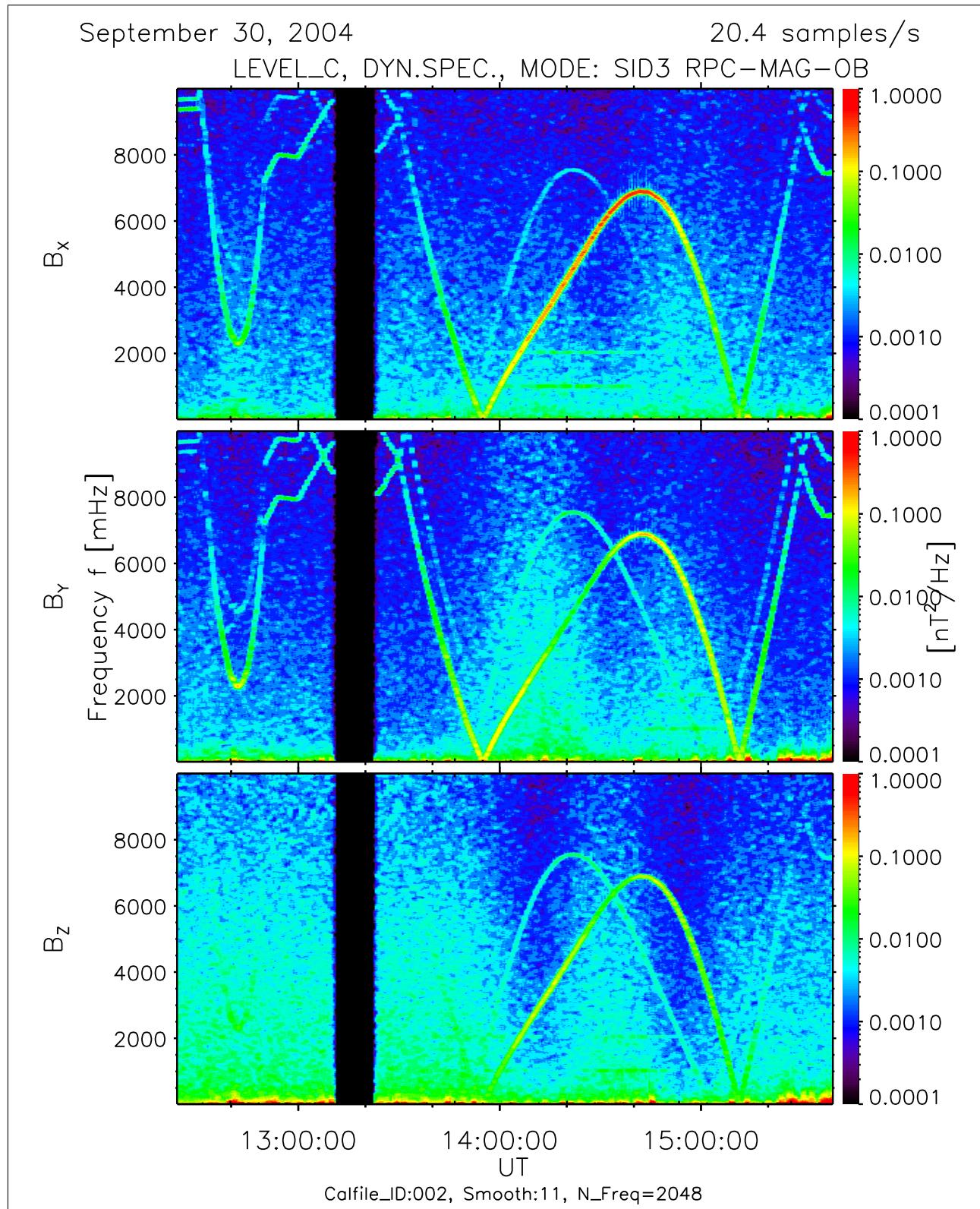


Figure 104: File: RPCMAG040930T1223_CLC_OB_M3_DS0_10000_002

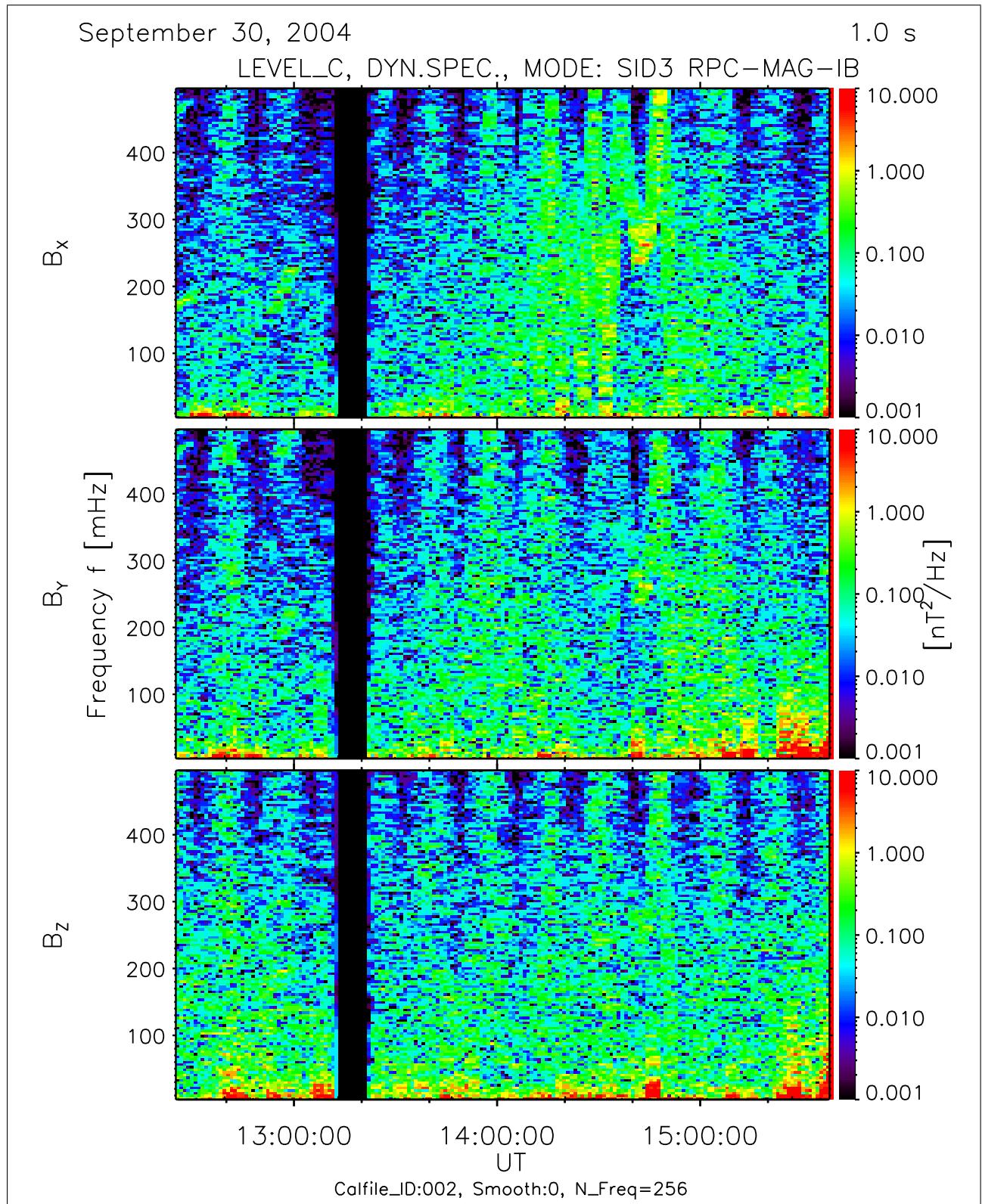


Figure 105: File: RPCMAG040930T1223_CLC_IB_M3_DS0_500_002

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7.3 Plots of ROSETTA's Reaction Wheels Speeds

The following plots show the time series of the revolutions of the 4 reaction wheels. Two kinds of data are shown:

- The original reaction wheel data as they are stored in the DDS.
- The theoretical response of the wheels impact seen by an instrument sampling with different frequencies. Here the response at 20 Hz, 1 Hz and 0.25 Hz sampling frequency is plotted.

A comparison with the dynamic spectra of the MAG data gives an impressive accordance between the reaction wheel frequencies and the spectral lines observed in the dynamic MAG spectra.

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Revolutions of the four Rosetta Reaction Wheels
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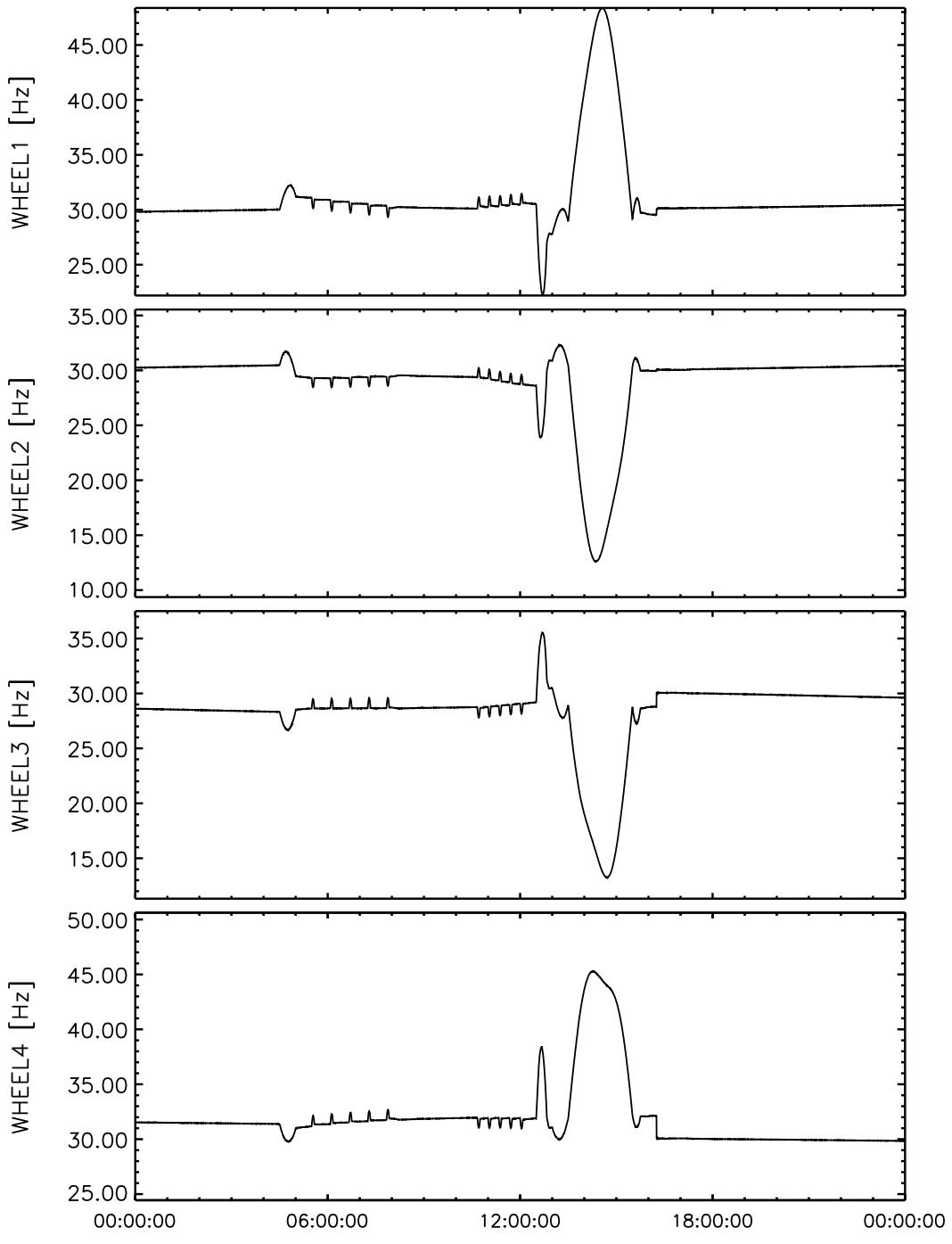


Figure 106: File: wheels_Hz2004-09-30T00-00

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Reaction Wheels – Response at 1Hz Sampling
September 30, 2004

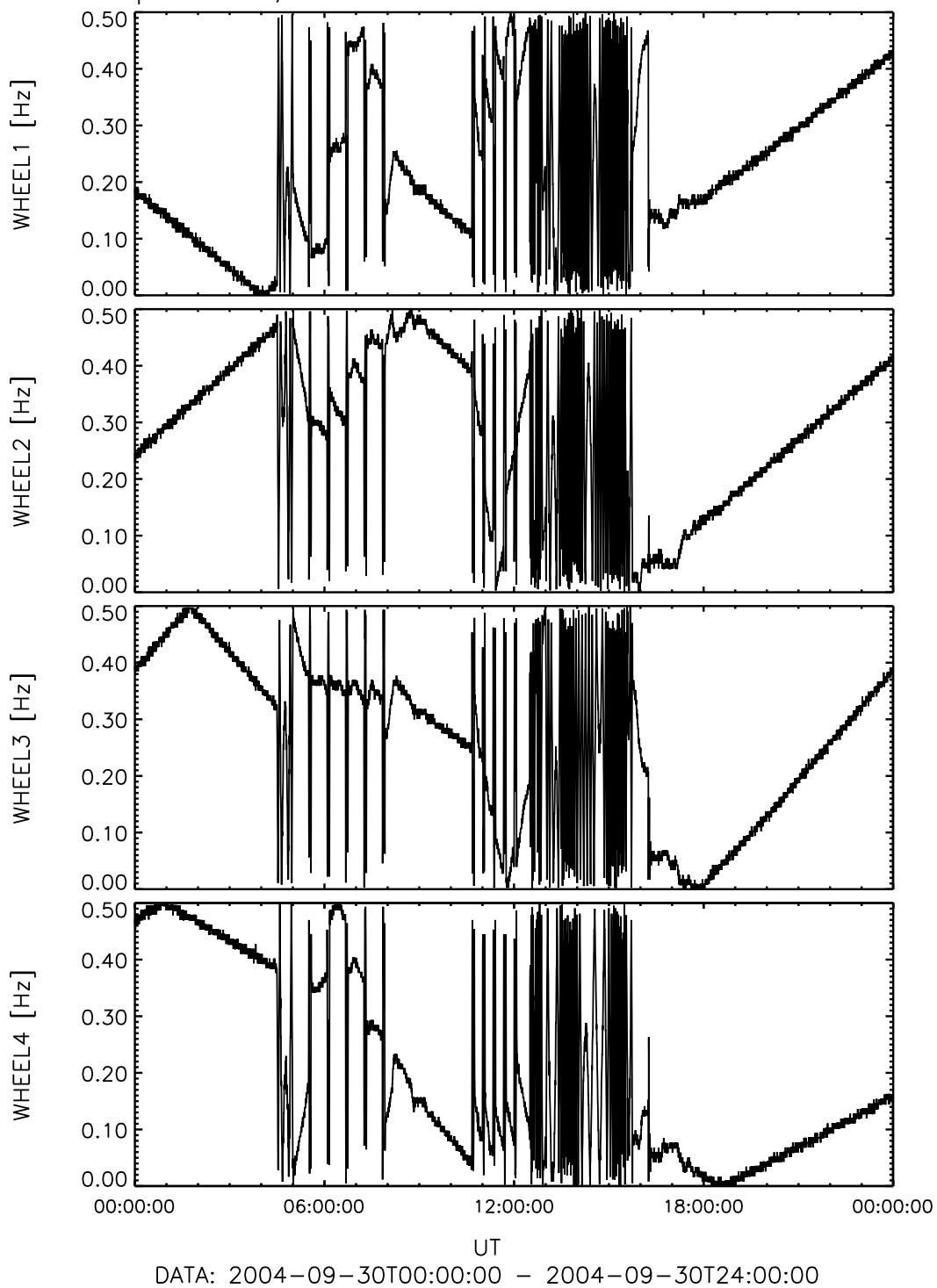


Figure 107: File: wheels_1Hz_Sampling2004-09-30T00-00

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Reaction Wheels – Response at 20 Hz Sampling
September 30, 2004

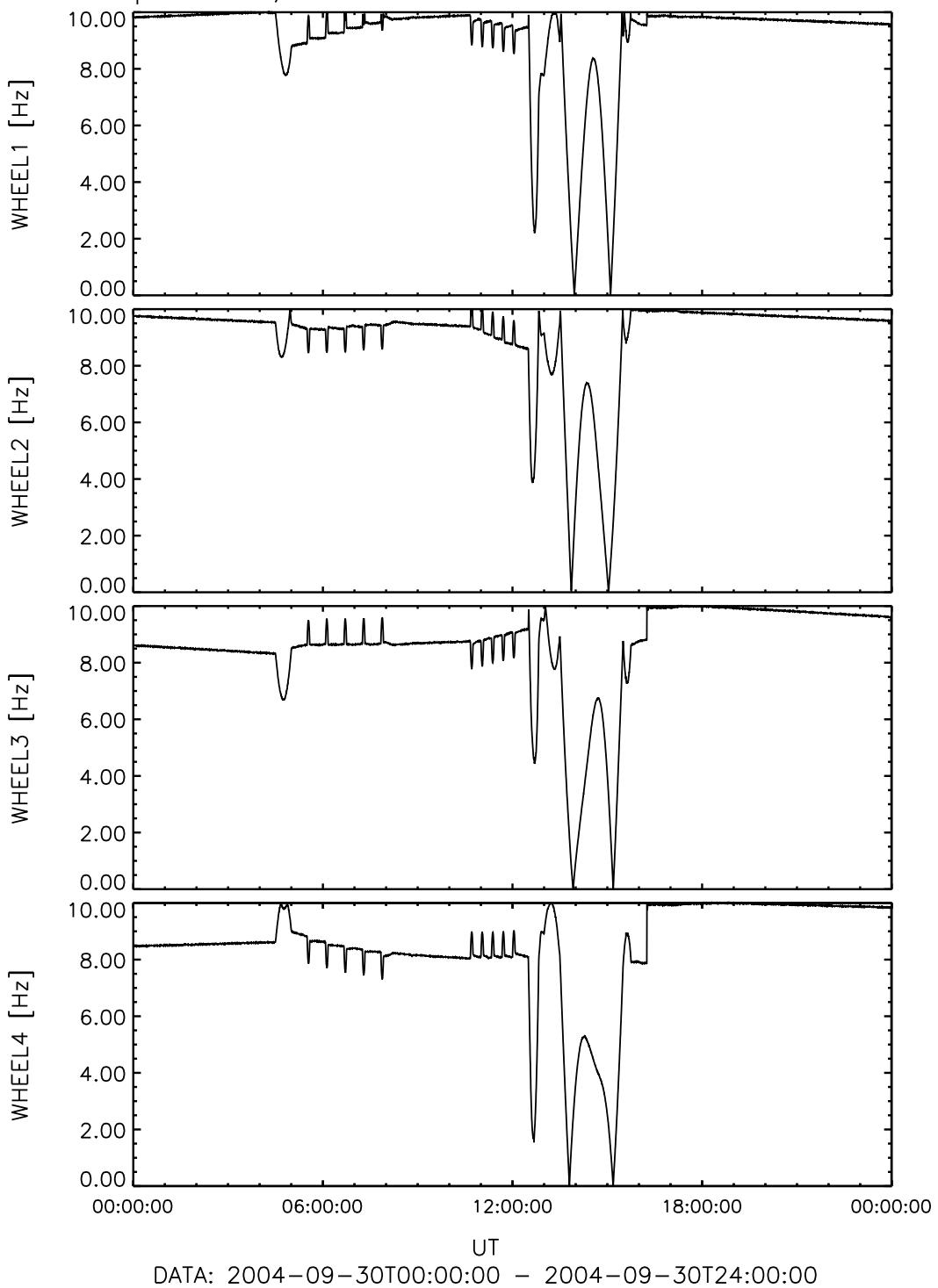


Figure 108: File: wheels_20Hz_Sampling2004-09-30T00-00

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Reaction Wheels – Response at 0.25 Hz Sampling
September 30, 2004

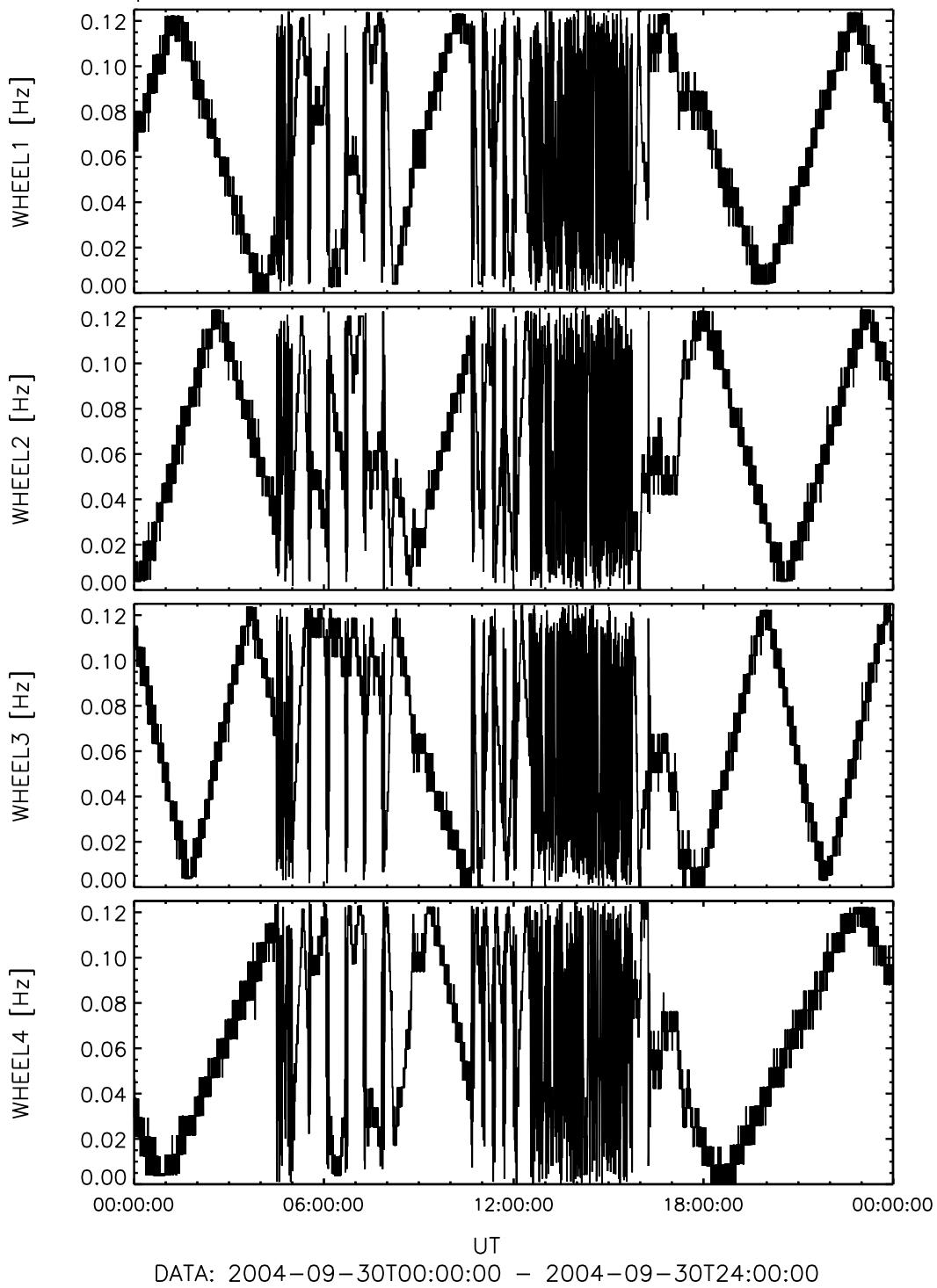


Figure 109: File: wheels_025Hz_Sampling2004-09-30T00-00

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Reaction Wheels – Response at 1Hz Sampling
 September 30, 2004

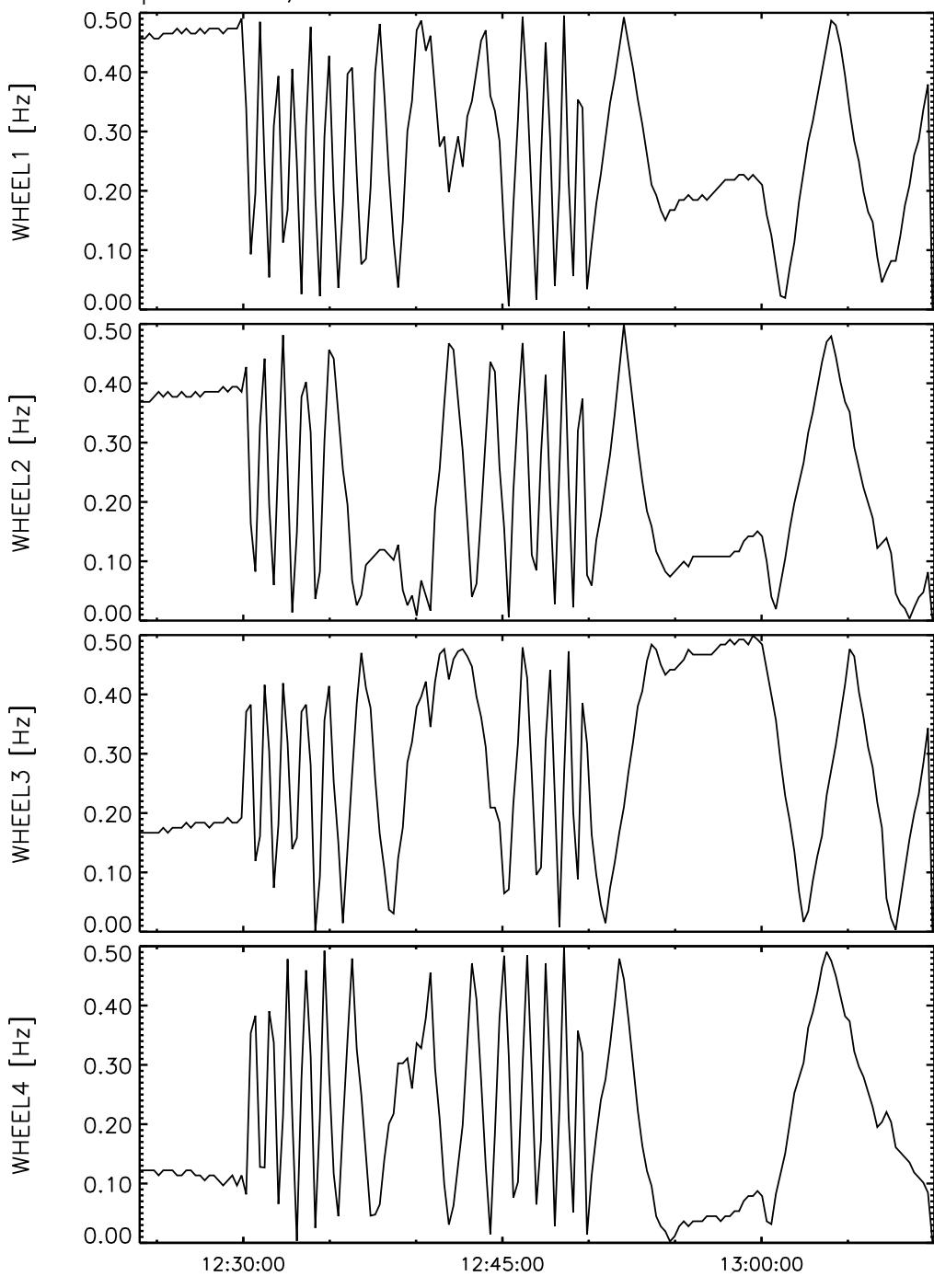


Figure 110: File: wheels_1Hz_Sampling2004-09-30T12-24

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Reaction Wheels – Response at 20 Hz Sampling
September 30, 2004

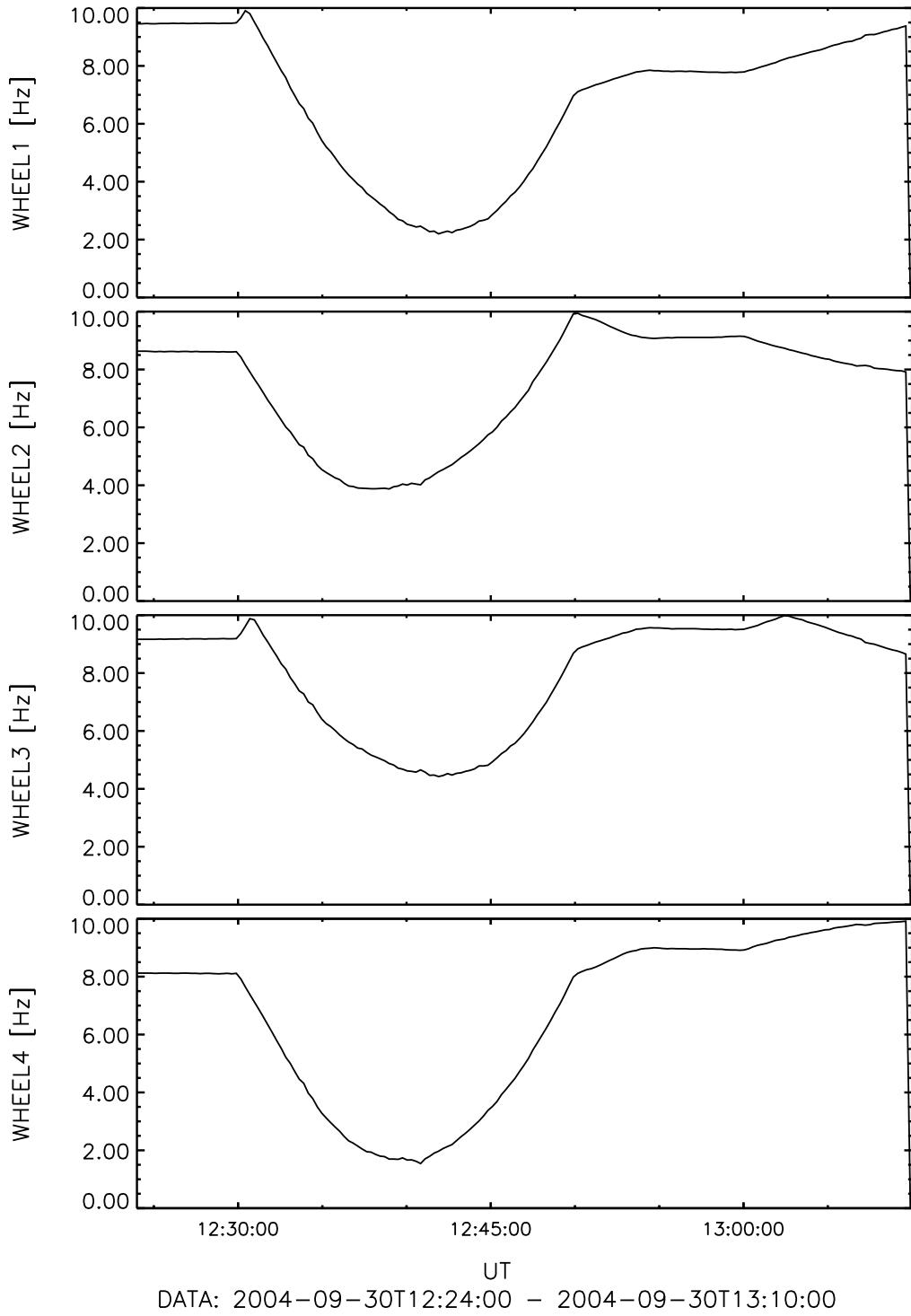


Figure 111: File: wheels_20Hz_Sampling2004-09-30T12-24

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7.4 Plots of Reaction Wheel and LAP Disturbance corrected Data

The following plots show the dynamic spectra of the LEVEL_H data. These data have been purged from ROSETTAs reaction wheel disturbance and also from the disturbance of the LAP instrument. Plots are only shown for the primary sensor.

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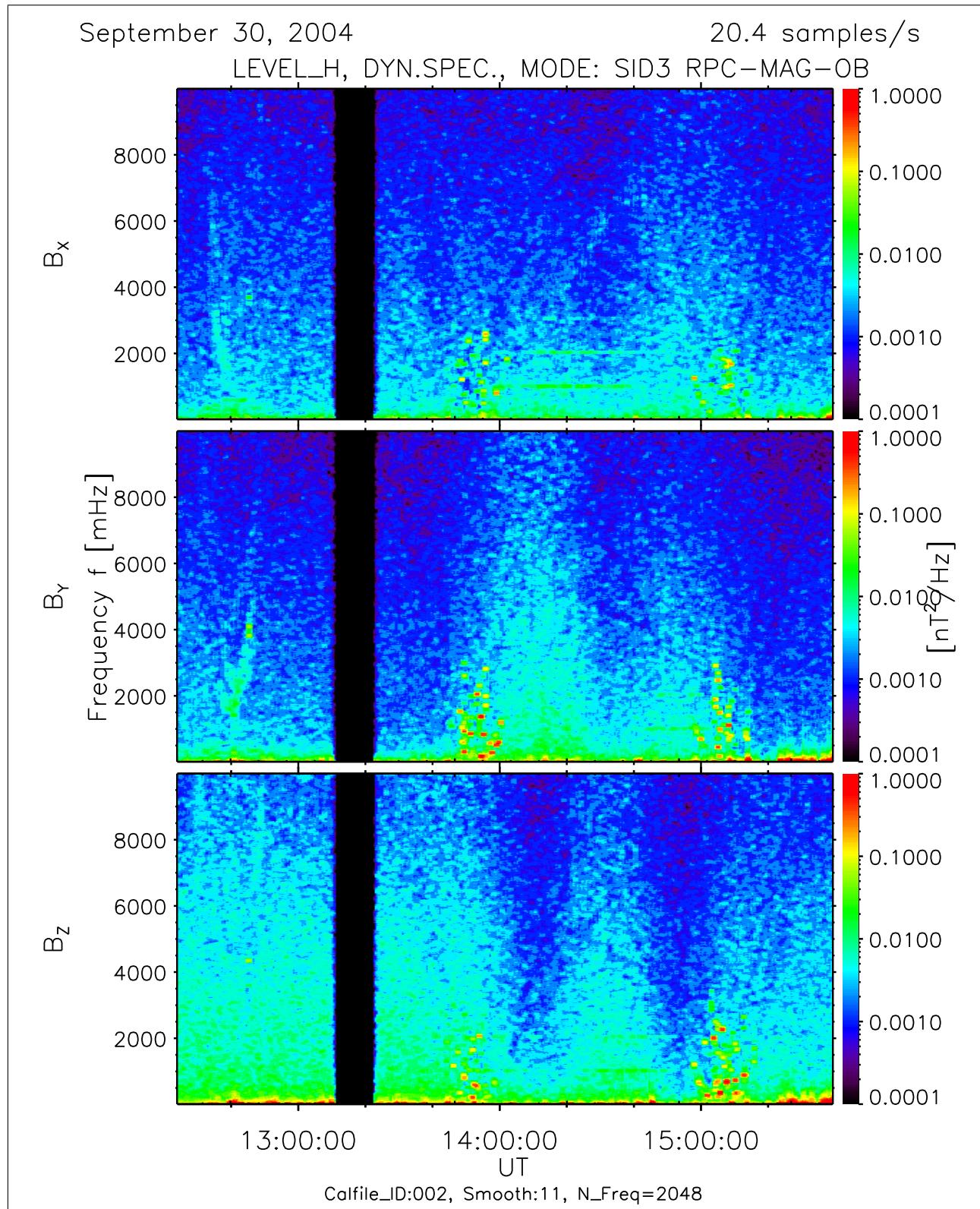


Figure 112: File: RPCMAG040930T1223_CLH_OB_M3_DS0_10000_002

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8 October 10, 2004:

8.1 Actions

The Instrument was switched on at 04:52 and switched off at 14:14.

Time	Stage A, Stage B, Filter cfg	Stage 1, Stage 2, Stage3	Mode
05:07 – 06:00	4 3 0	4 3 0	SID5
06:03 – 07:04	0 0 0	0 0 0	SID3
07:05 – 08:13	4 3 0	4 3 0	SID5
08:16 – 08:45	0 0 0	0 0 0	SID3
08:46 – 09:52	4 3 0	4 3 0	SID5
09:55 – 12:45	0 0 0	0 0 0	SID3
12:45 – 14:00	1 2 0	1 2 0	SID2

8.2 Plots of Calibrated Data using the new Temperature Model

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October 10, 2004 RPC-MAG-HK
 CAL. HOUSEKEEPING DATA 32.0 s

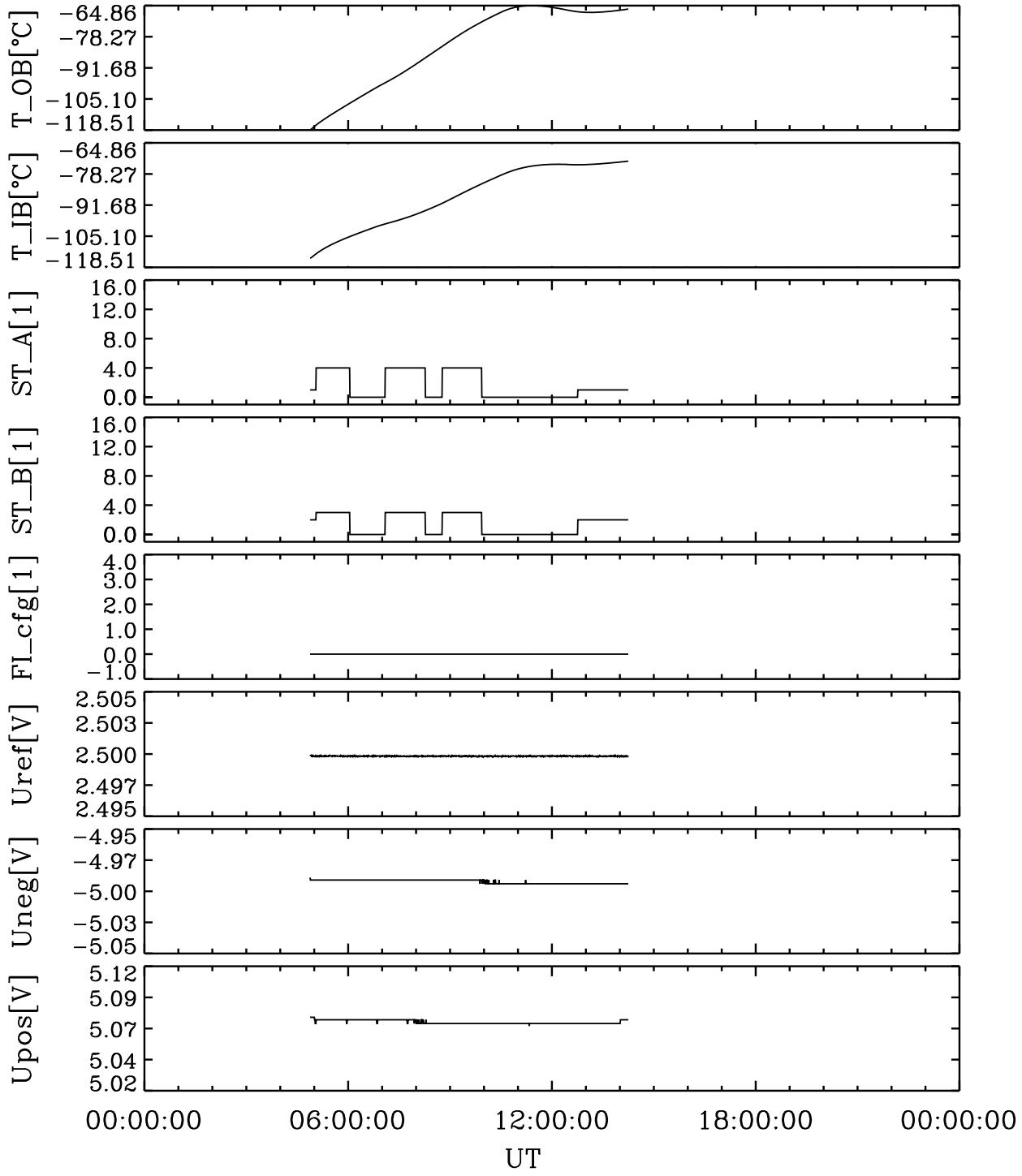


Figure 113: File: RPCMAG041010T0452_CLA_HK_P0000_2400

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October 10, 2004 RPC-MAG-HK
 HOUSEKEEPING B_OB DATA

32.0 s

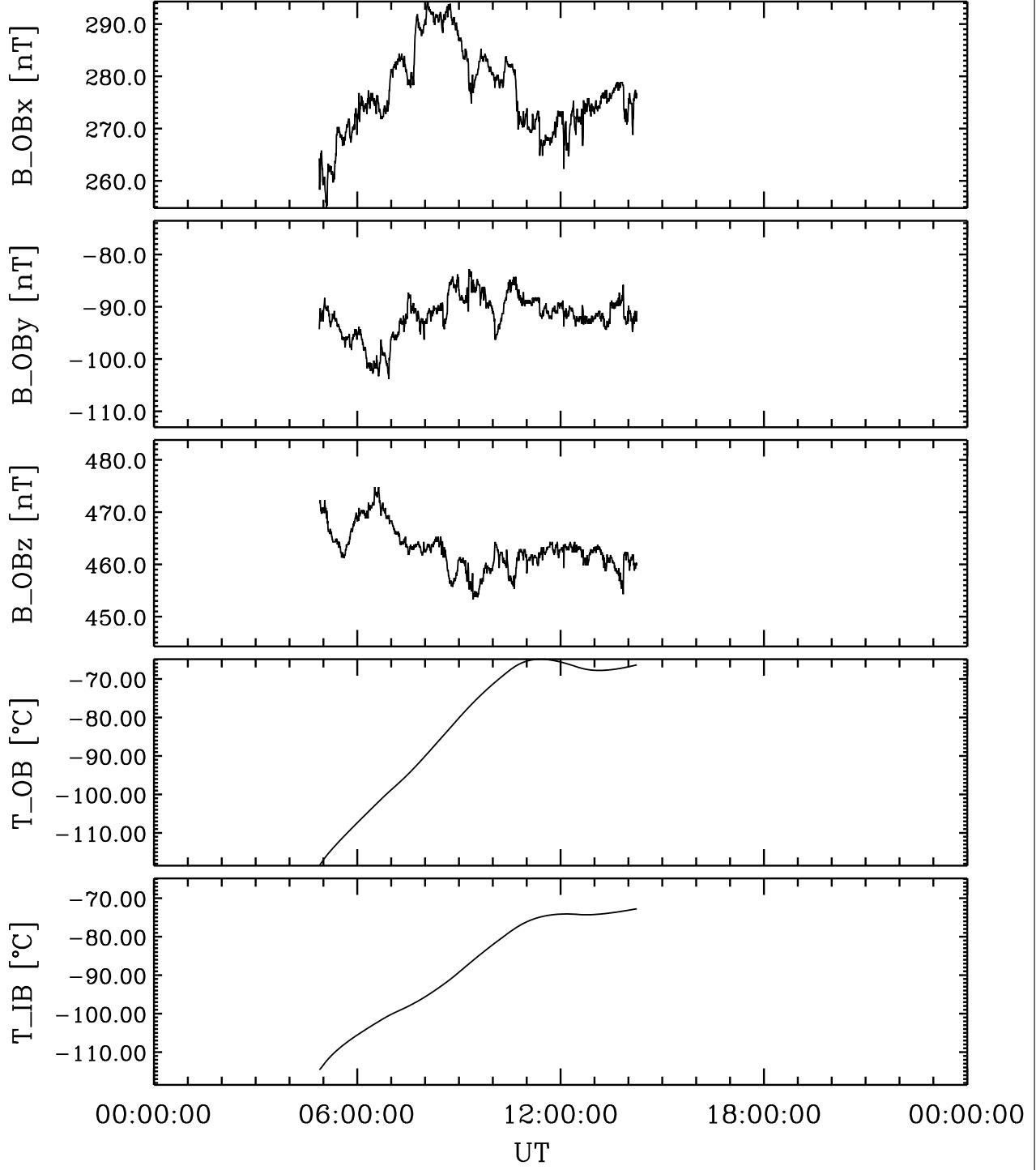


Figure 114: File: RPCMAG041010T0452_CLA_HK_B.P0000_2400

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October 10, 2004 RPC-MAG-OB
CAL.DATA,S/C COORDS, LEVEL_B, MODE: SID5 4.0 s

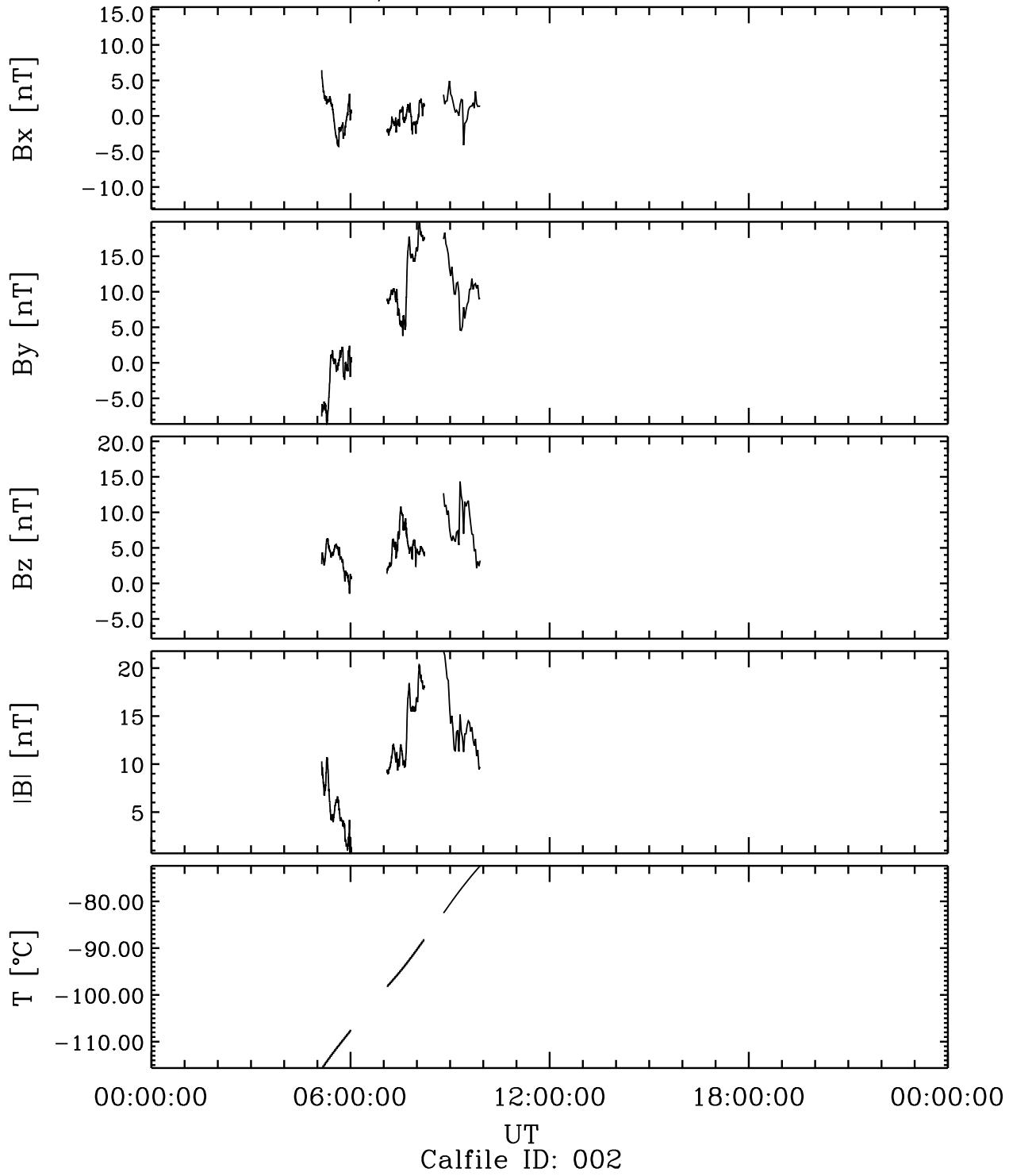


Figure 115: File: RPCMAG041010T0507_CLB_OB_M5_T0000_2400_002

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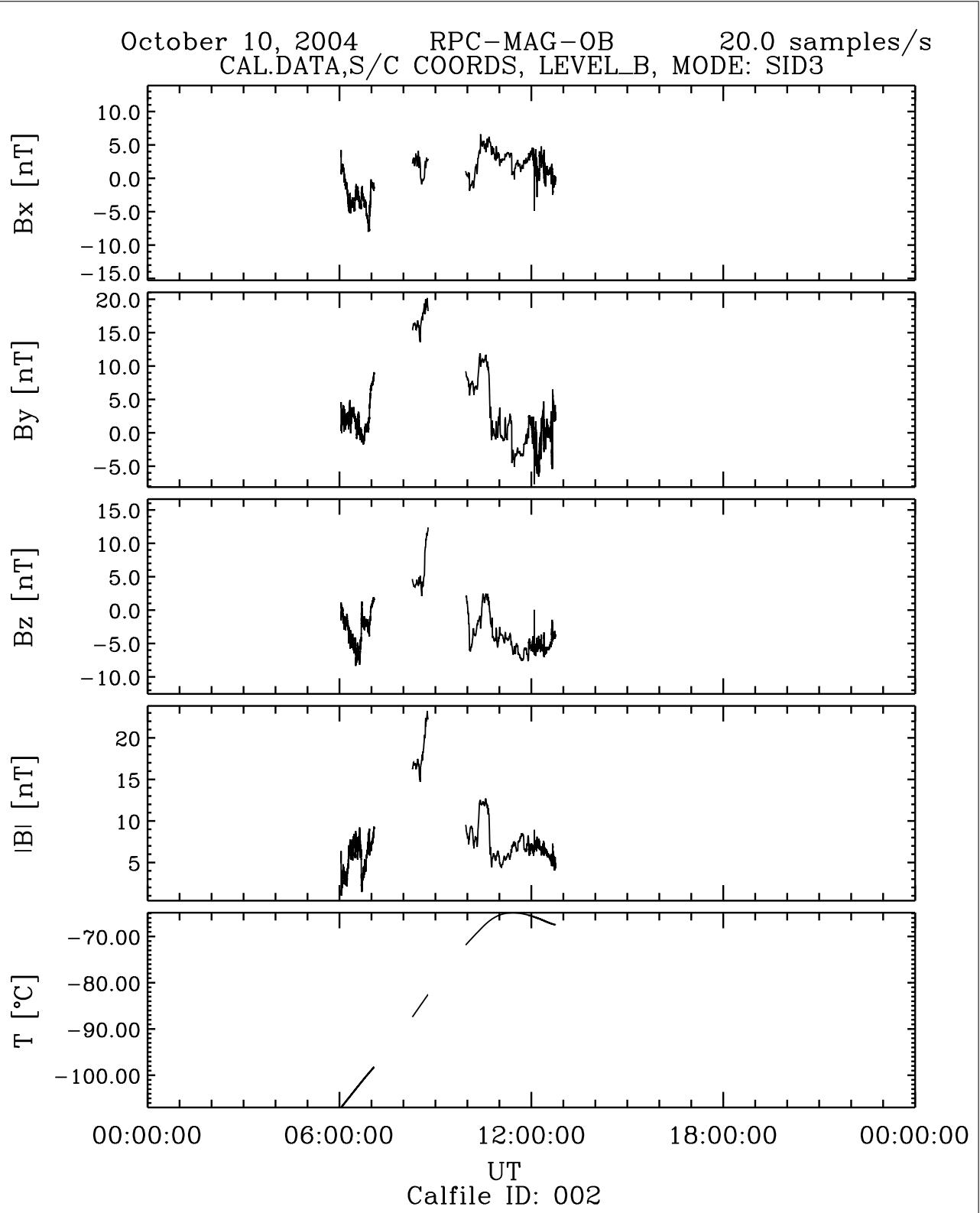


Figure 116: File: RPCMAG041010T0603_CLB_OB_M3_T0000_2400_002

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October 10, 2004 RPC-MAG-OB
CAL.DATA,S/C COORDS, LEVEL_B, MODE: SID2 1.0 s

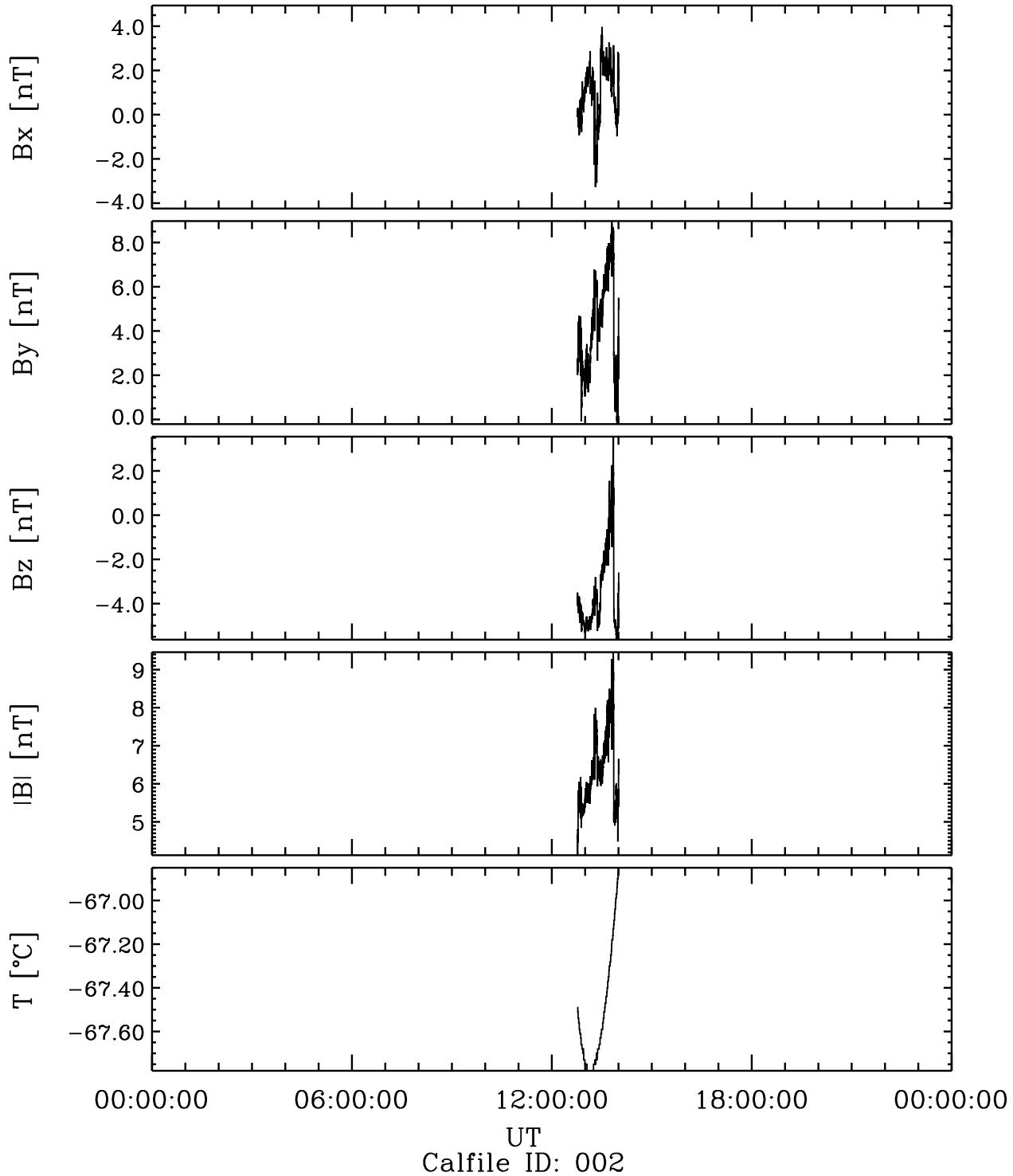


Figure 117: File: RPCMAG041010T1245_CLB_OB_M2_T0000_2400_002

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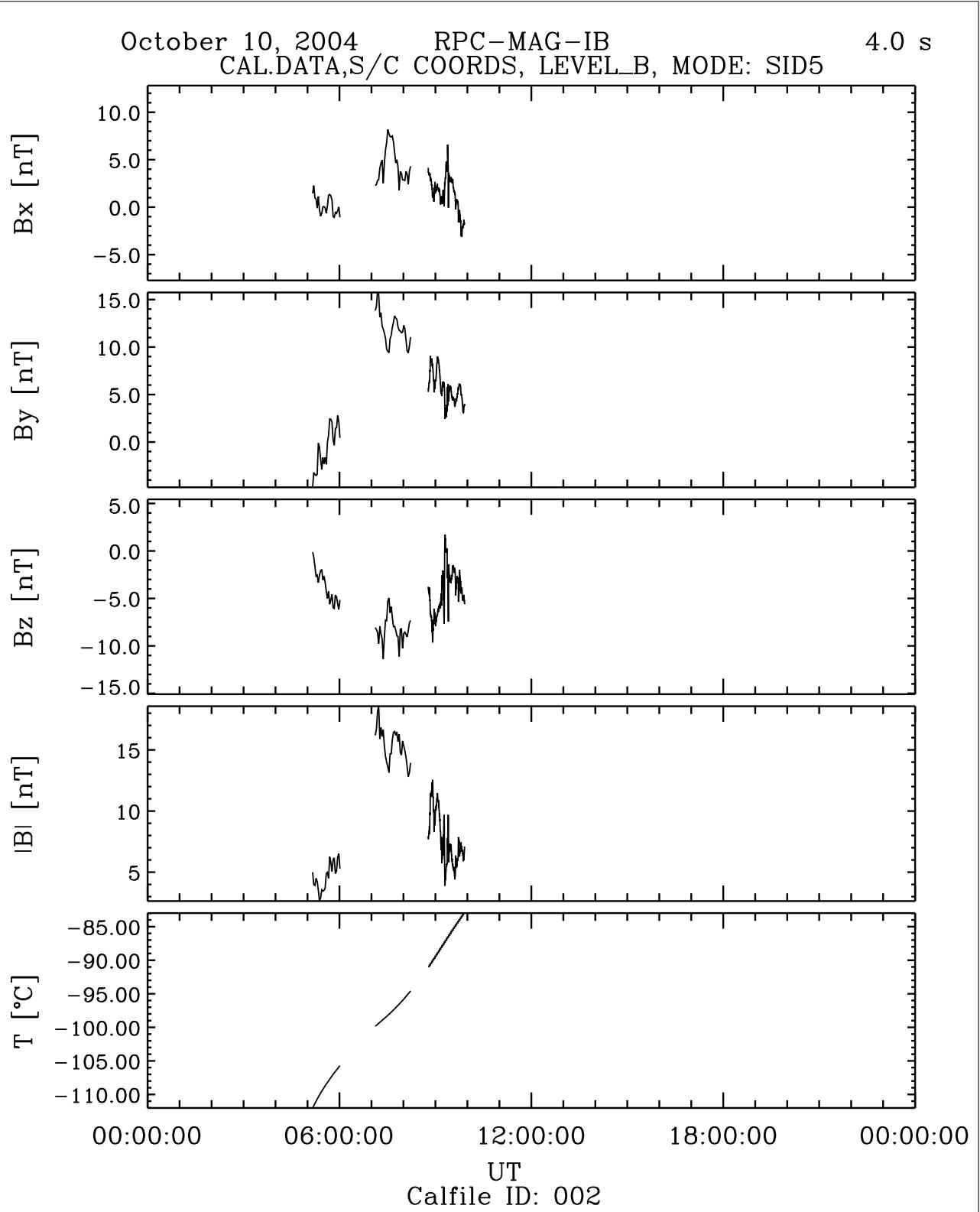


Figure 118: File: RPCMAG041010T0507_CLB_IB_M5_T0000_2400_002

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October 10, 2004 RPC-MAG-IB 20.0 samples/s
CAL.DATA,S/C COORDS, LEVEL_B, MODE: SID3

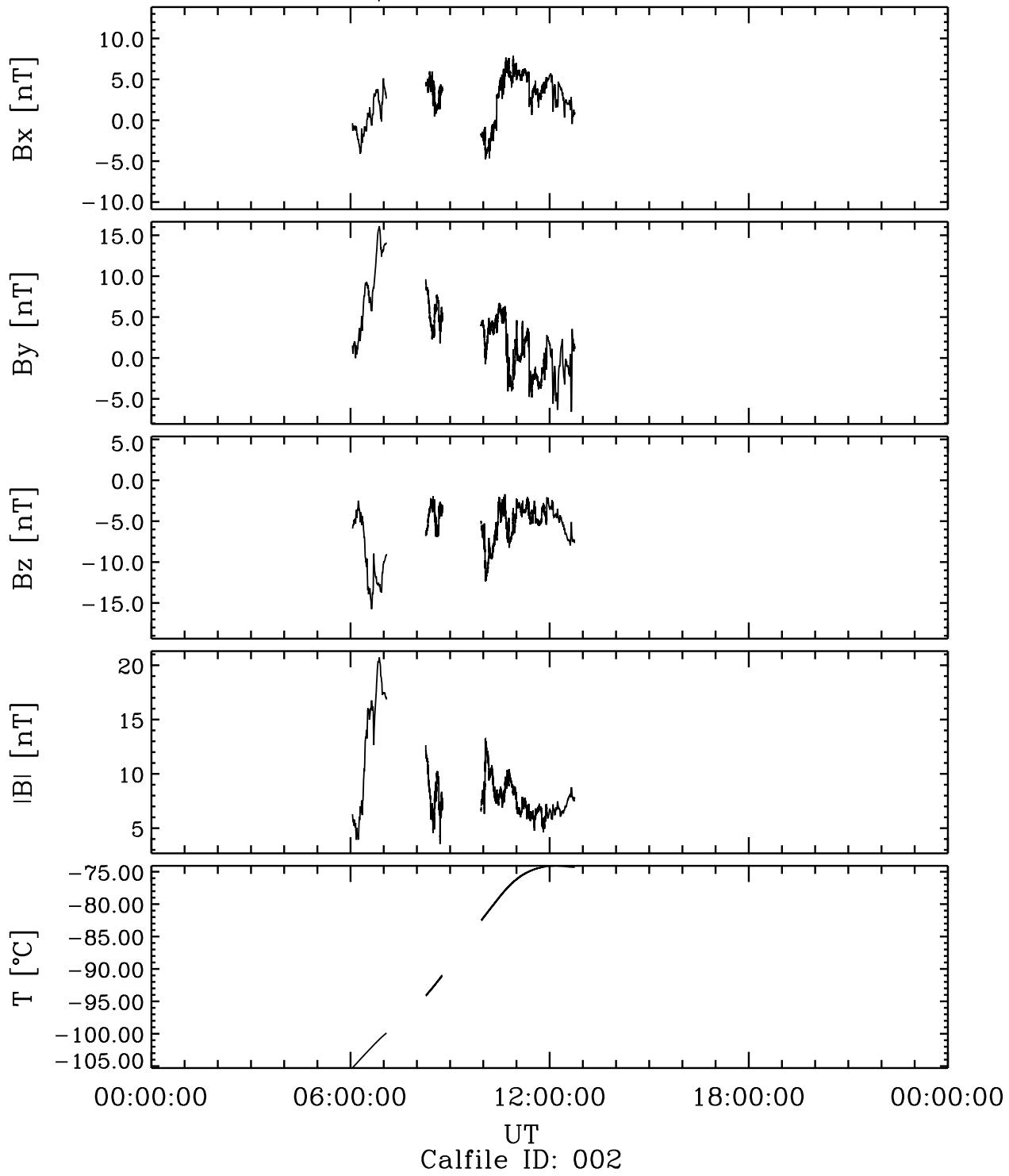


Figure 119: File: RPCMAG041010T0603_CLB_IB_M3_T0000_2400_002

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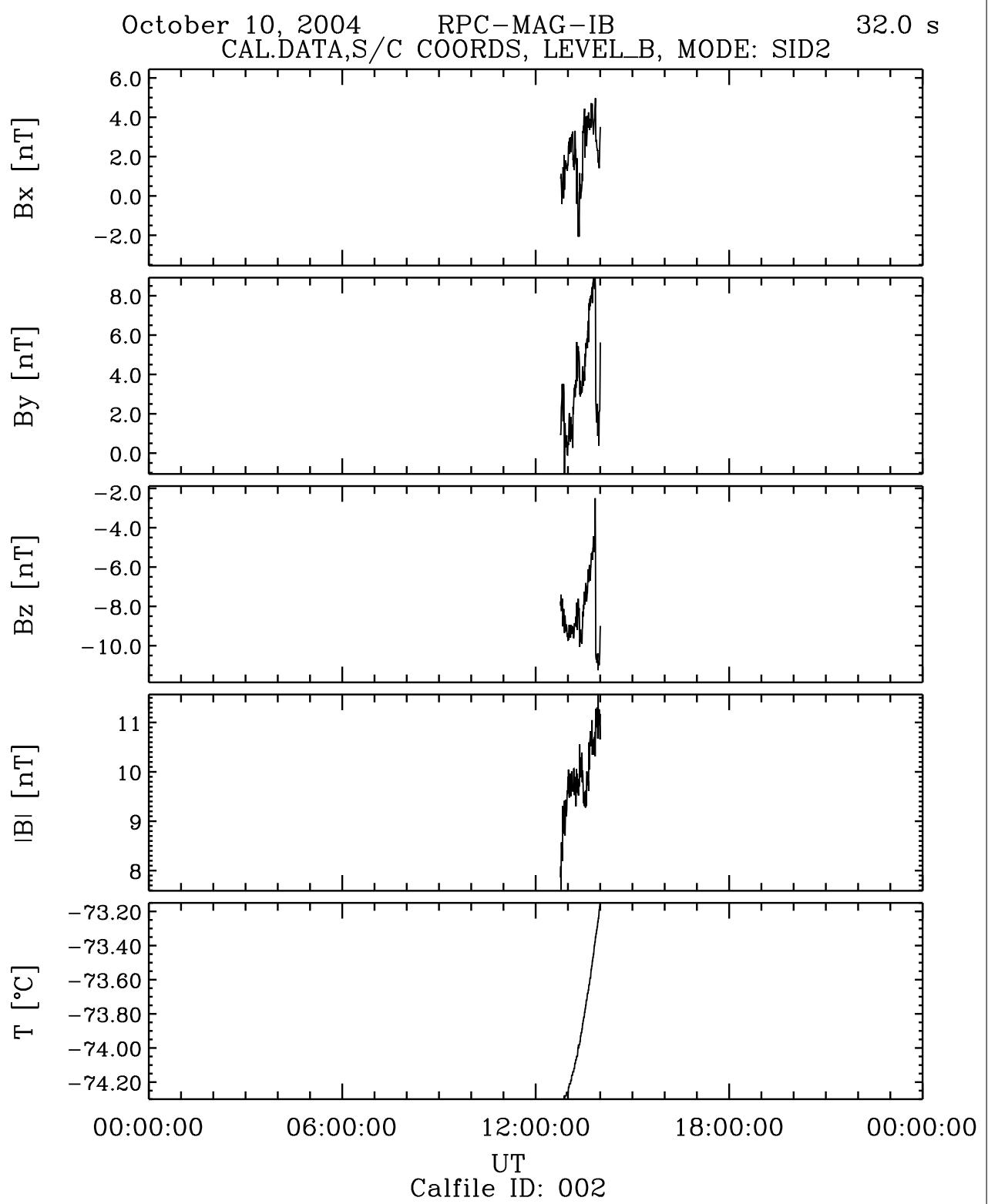


Figure 120: File: RPCMAG041010T1245_CLB_IB_M2_T0000_2400_002

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October 10, 2004 RPC-MAG-OB 4.0 s
 CAL.DATA,ECLIPJ2000,LEVEL_C, MODE:SID5

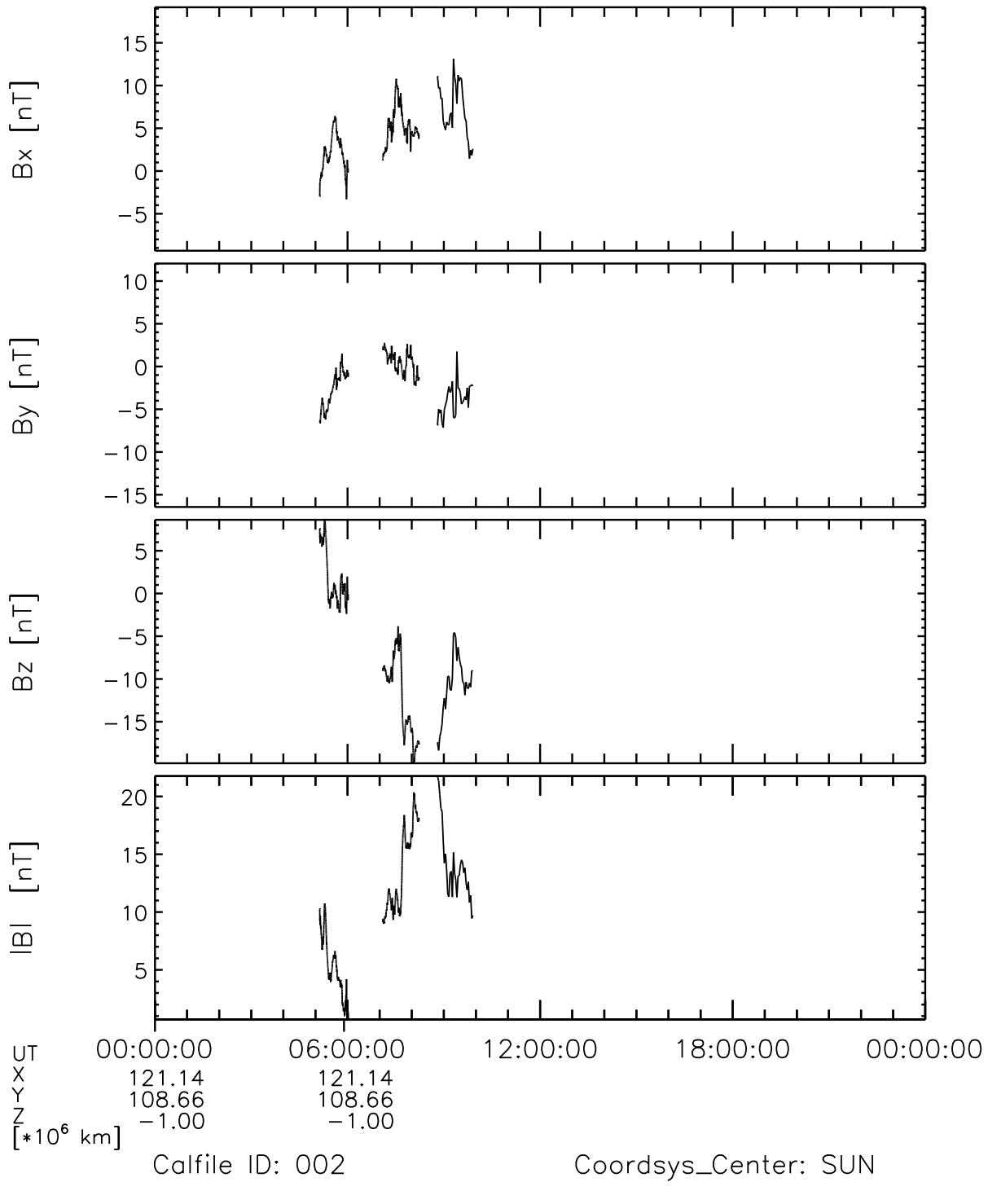


Figure 121: File: RPCMAG041010T0507_CLC_OB_M5_T0000_2400_002

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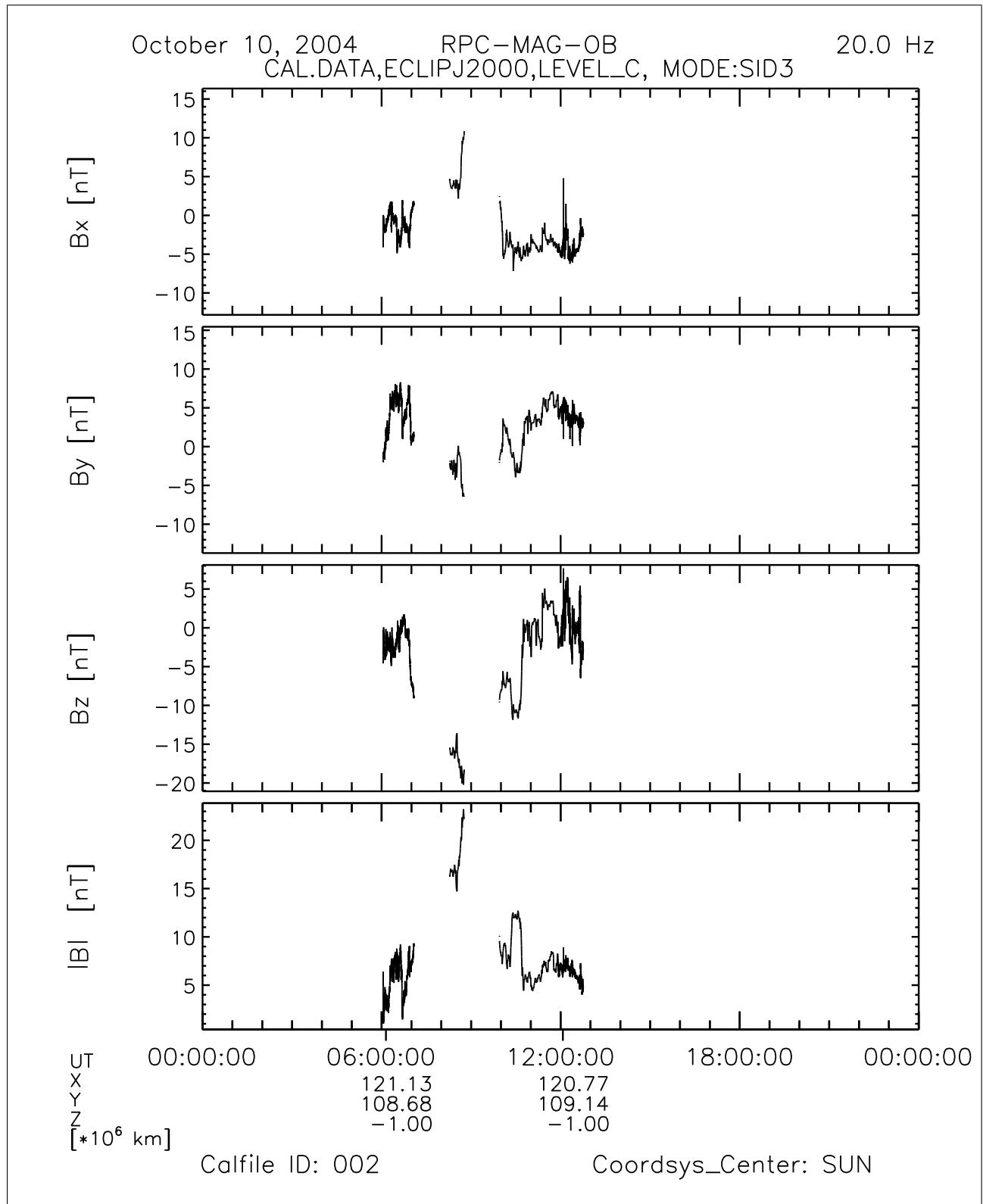


Figure 122: File: RPCMAG041010T0603_CLC_OB_M3_T0000_2400_002

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October 10, 2004 RPC-MAG-OB
CAL.DATA,ECLIPJ2000,LEVEL_C, MODE:SID2 1.0 s

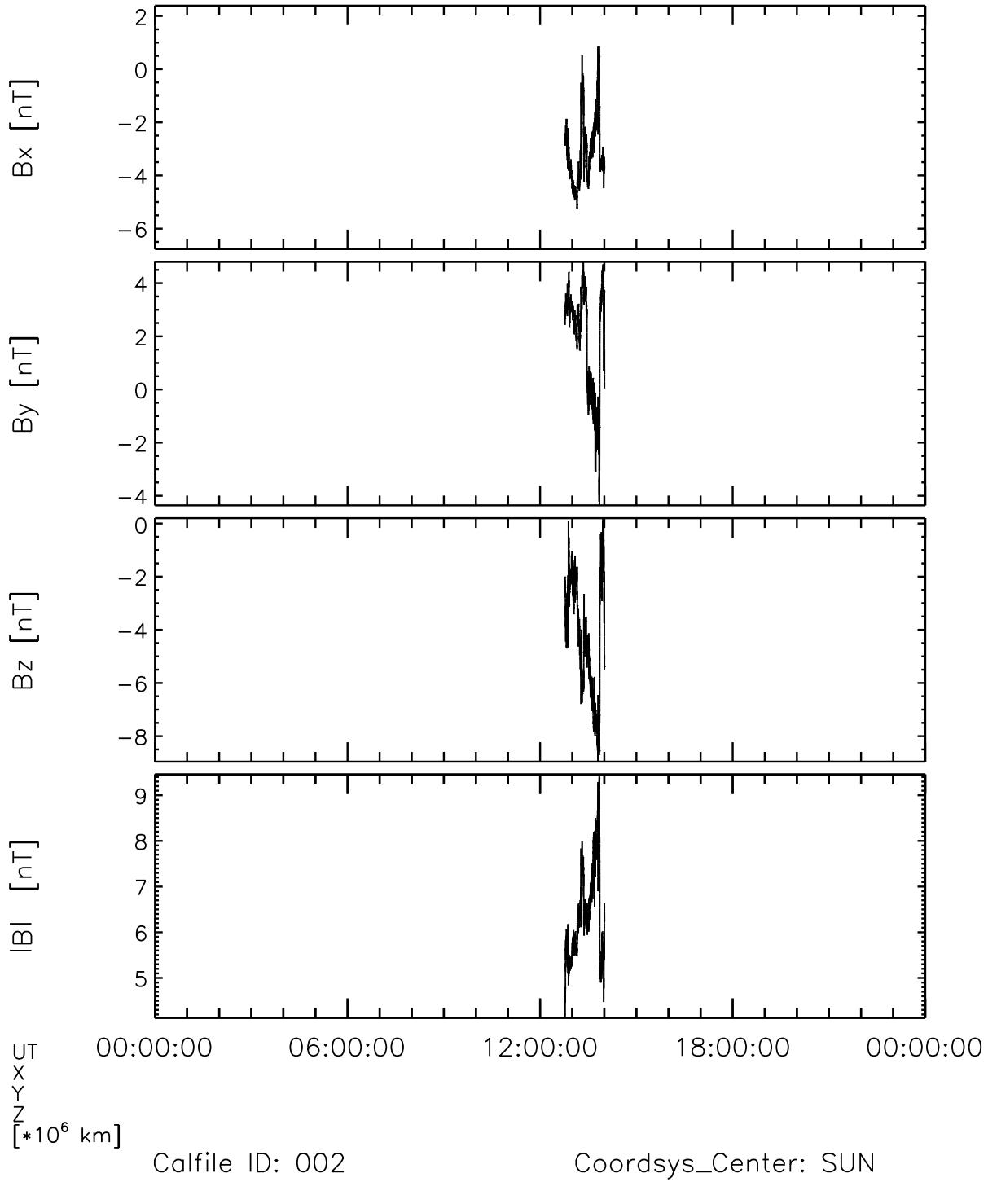


Figure 123: File: RPCMAG041010T1245_CLC_OB_M2_T0000_2400_002

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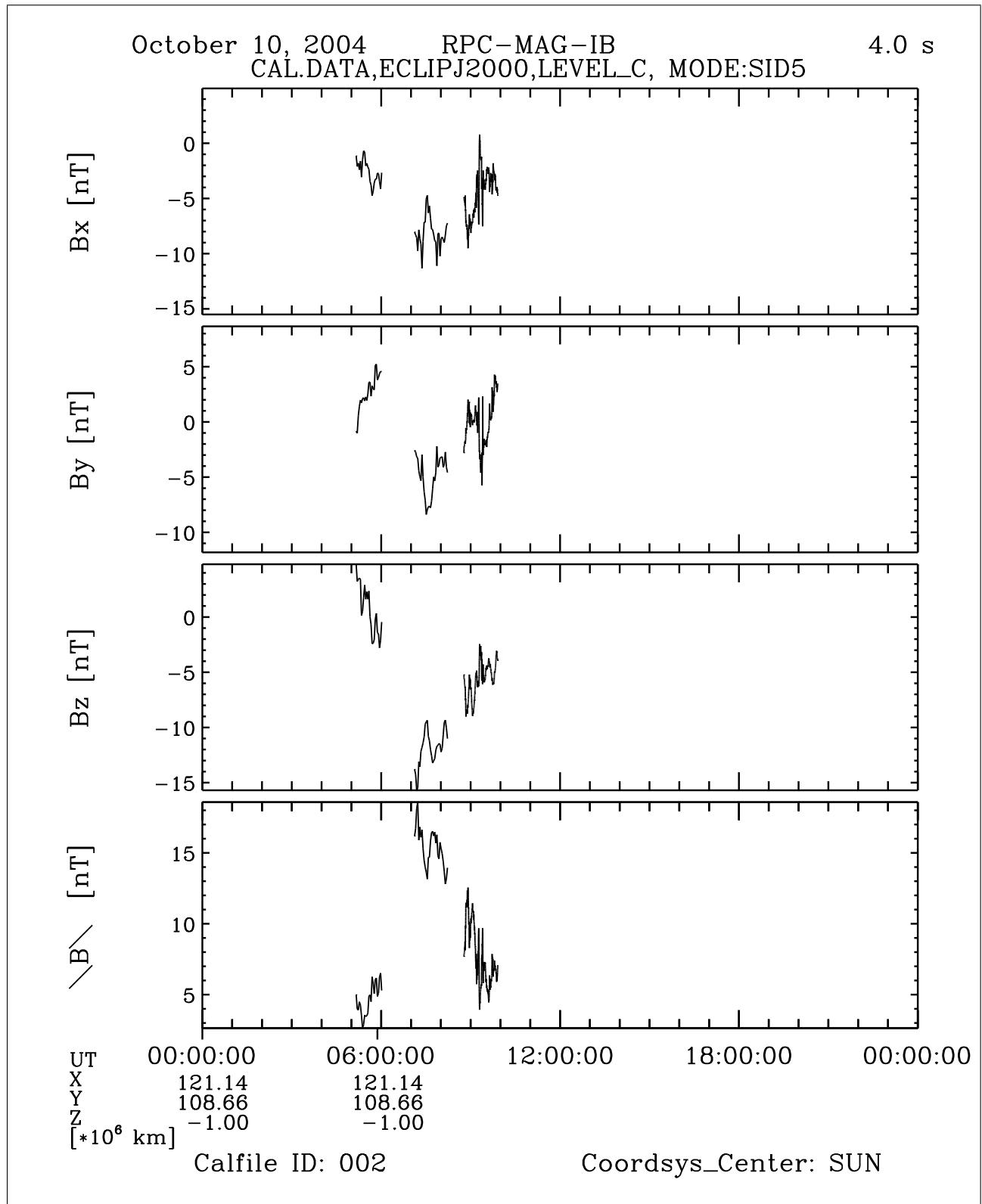


Figure 124: File: RPCMAG041010T0507_CLC_IB_M5_T0000_2400_002

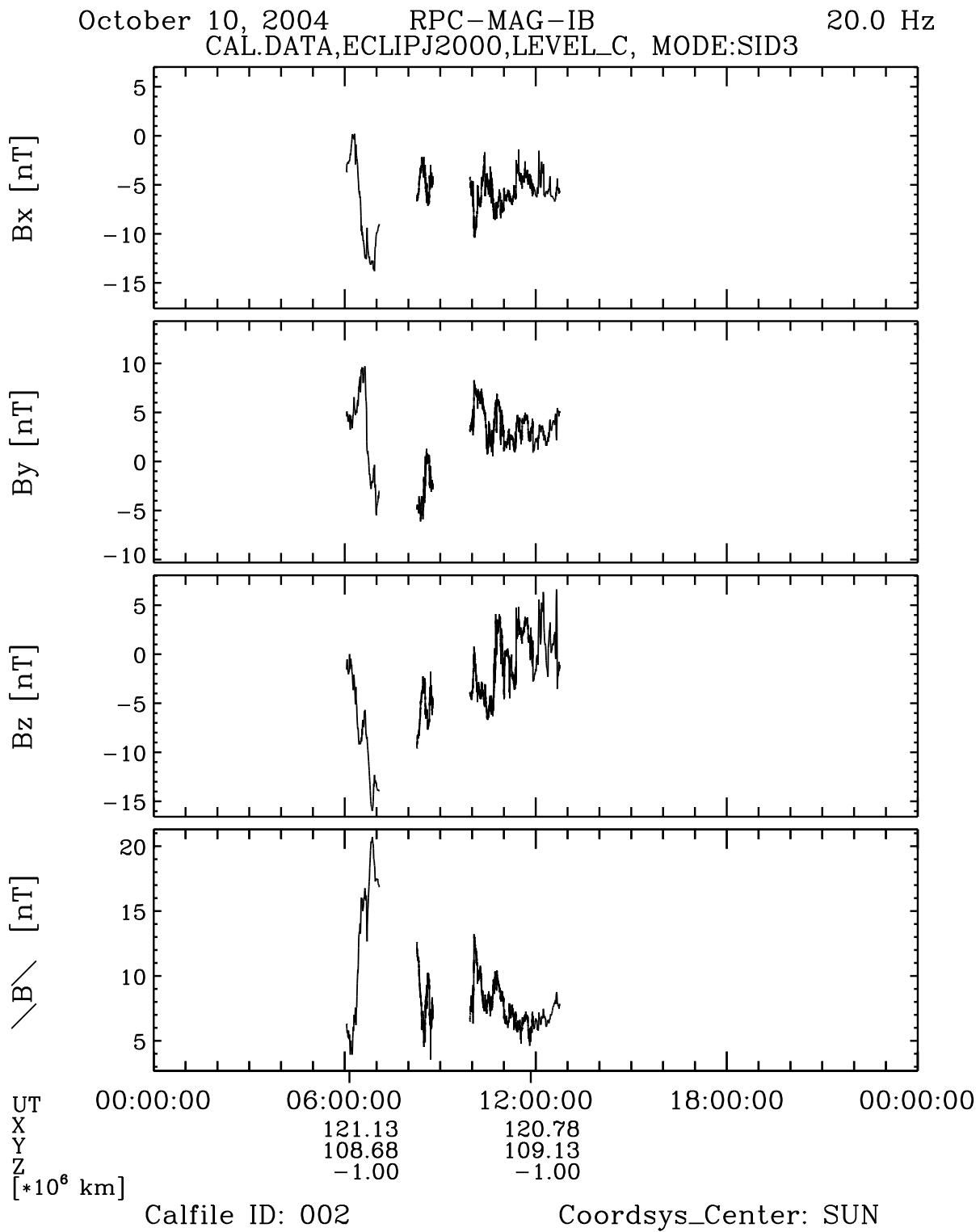


Figure 125: File: RPCMAG041010T0603_CLC_IB_M3_T0000_2400_002

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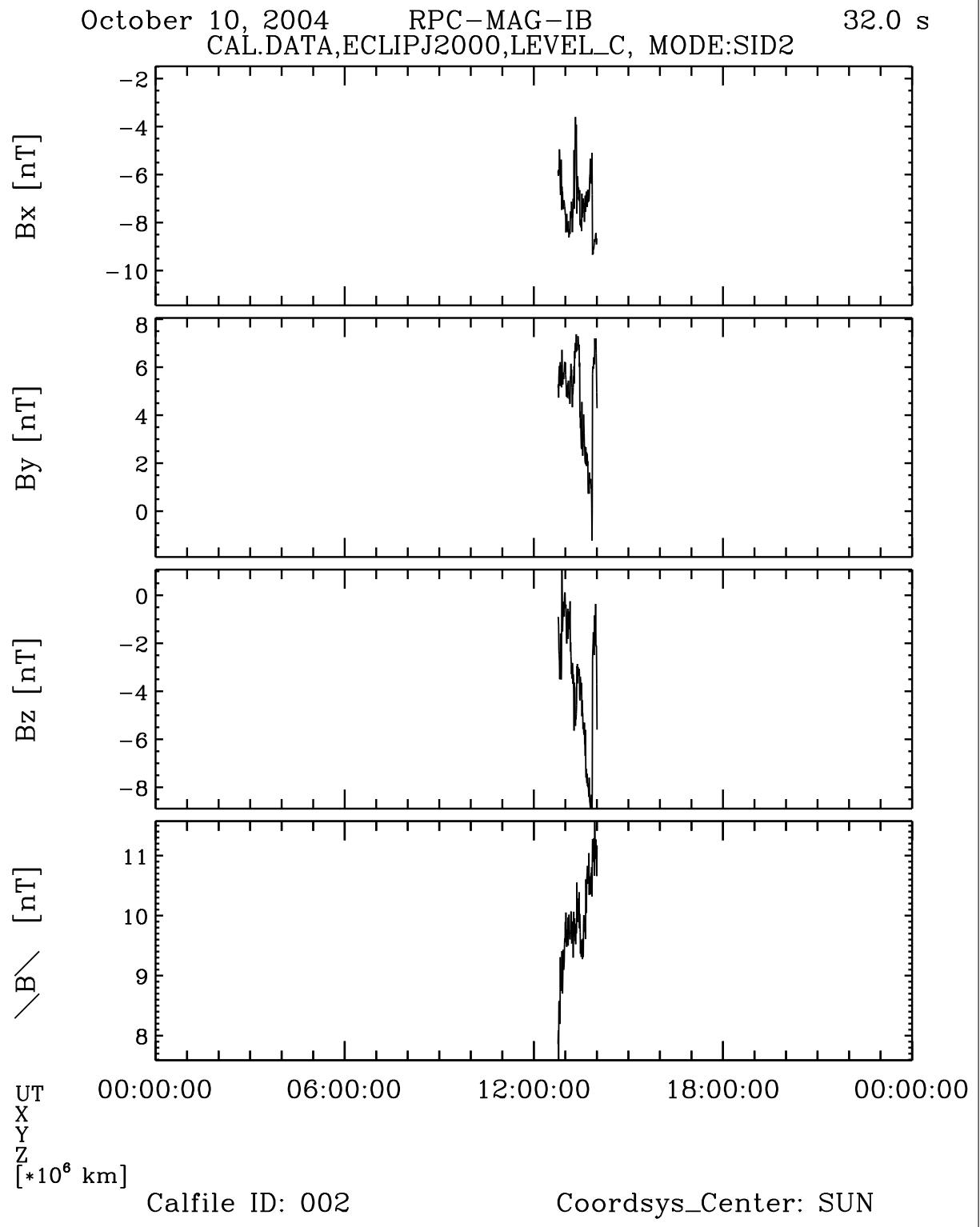


Figure 126: File: RPCMAG041010T1245_CLC_IB_M2_T0000_2400_002

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October 10, 2004 RPC-MAG-OB
RES.DATA,S/C-COORDS,FILTERED 1.0 s

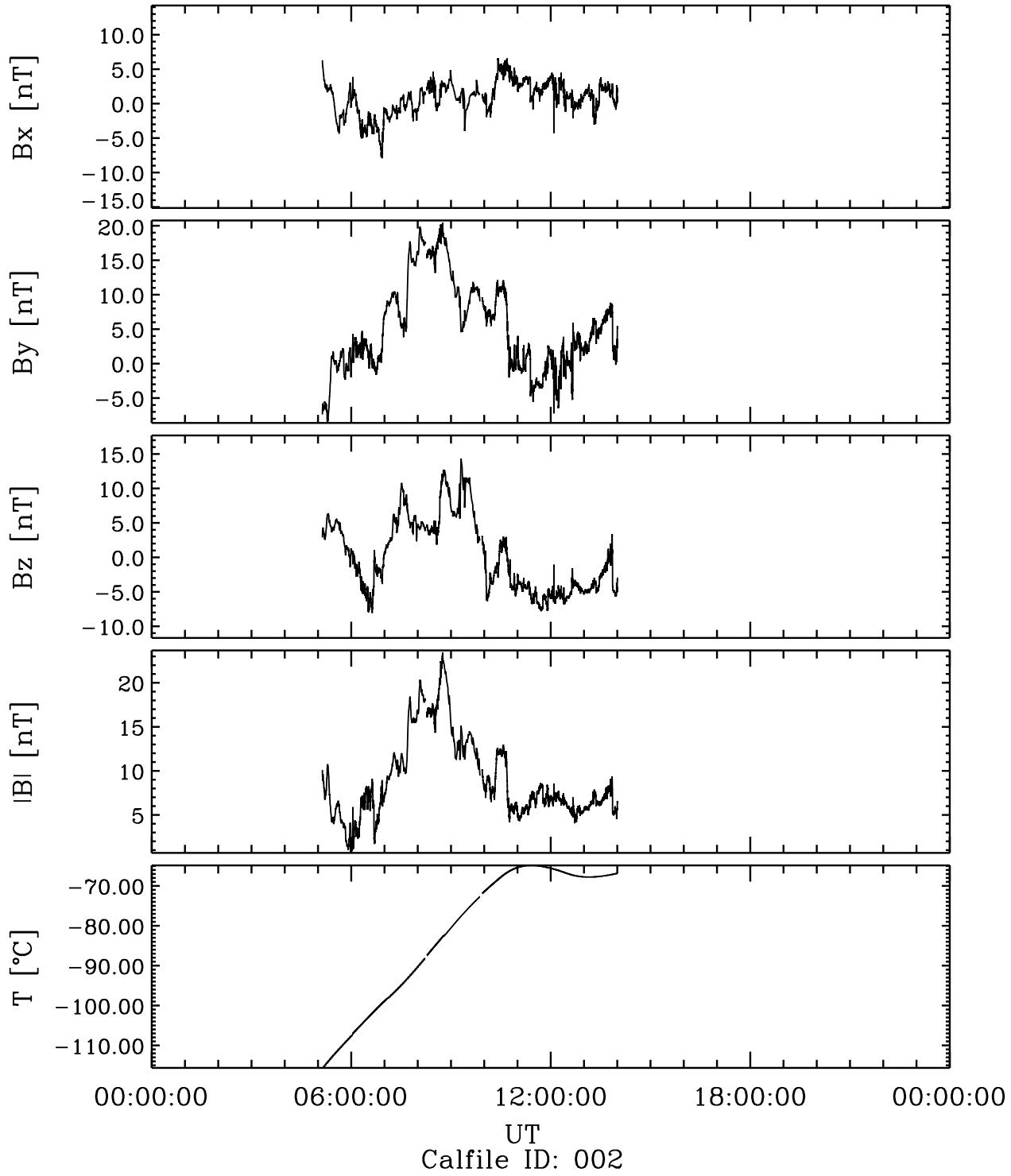


Figure 127: File: RPCMAG041010_CLF_OB_A1_T0000_2400_002

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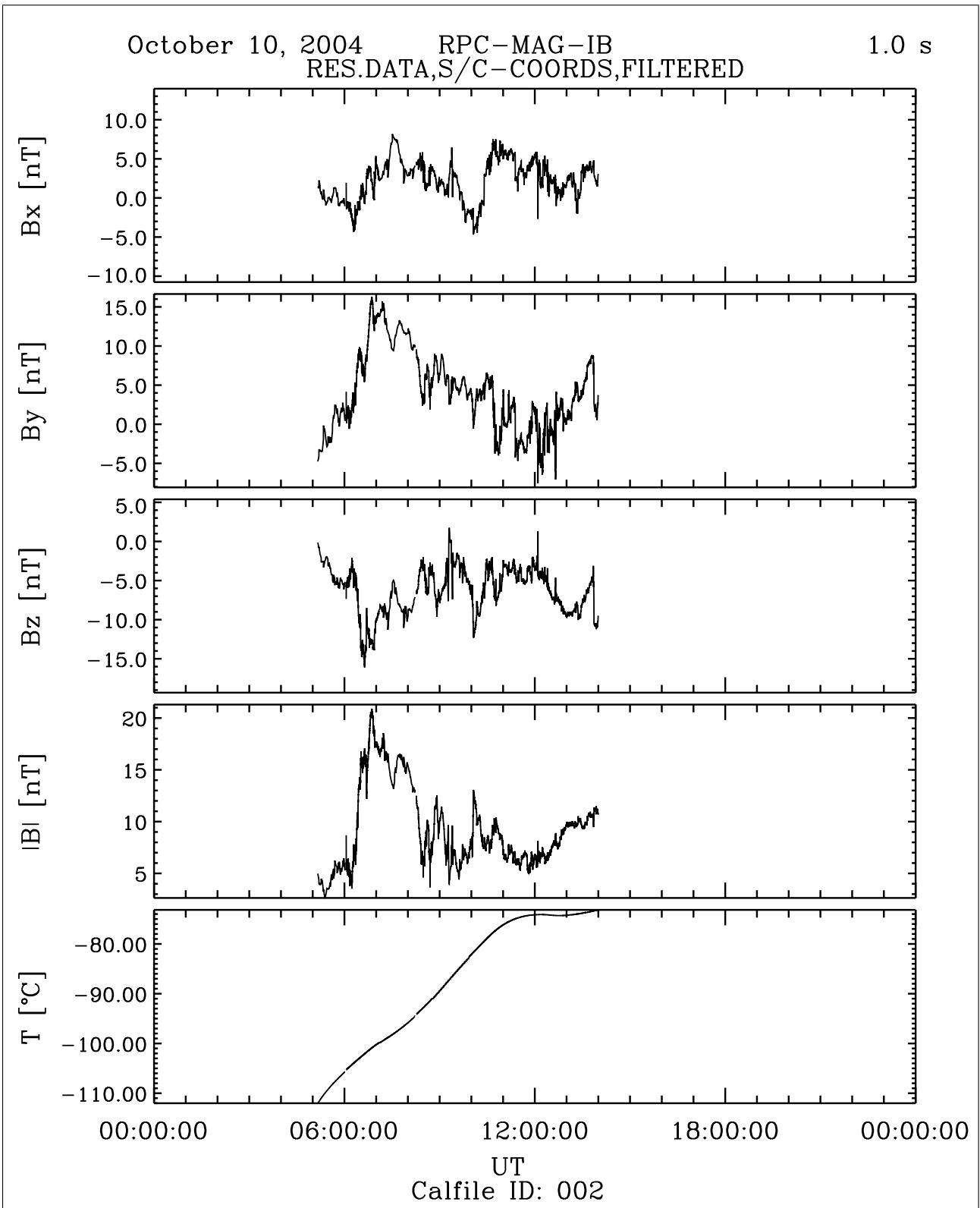


Figure 128: File: RPCMAG041010_CLF_IB_A1_T0000_2400_002

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October 10, 2004 RPC-MAG-OB
 RES.DATA,ECLIPJ2000,FILTERED 1.0 s

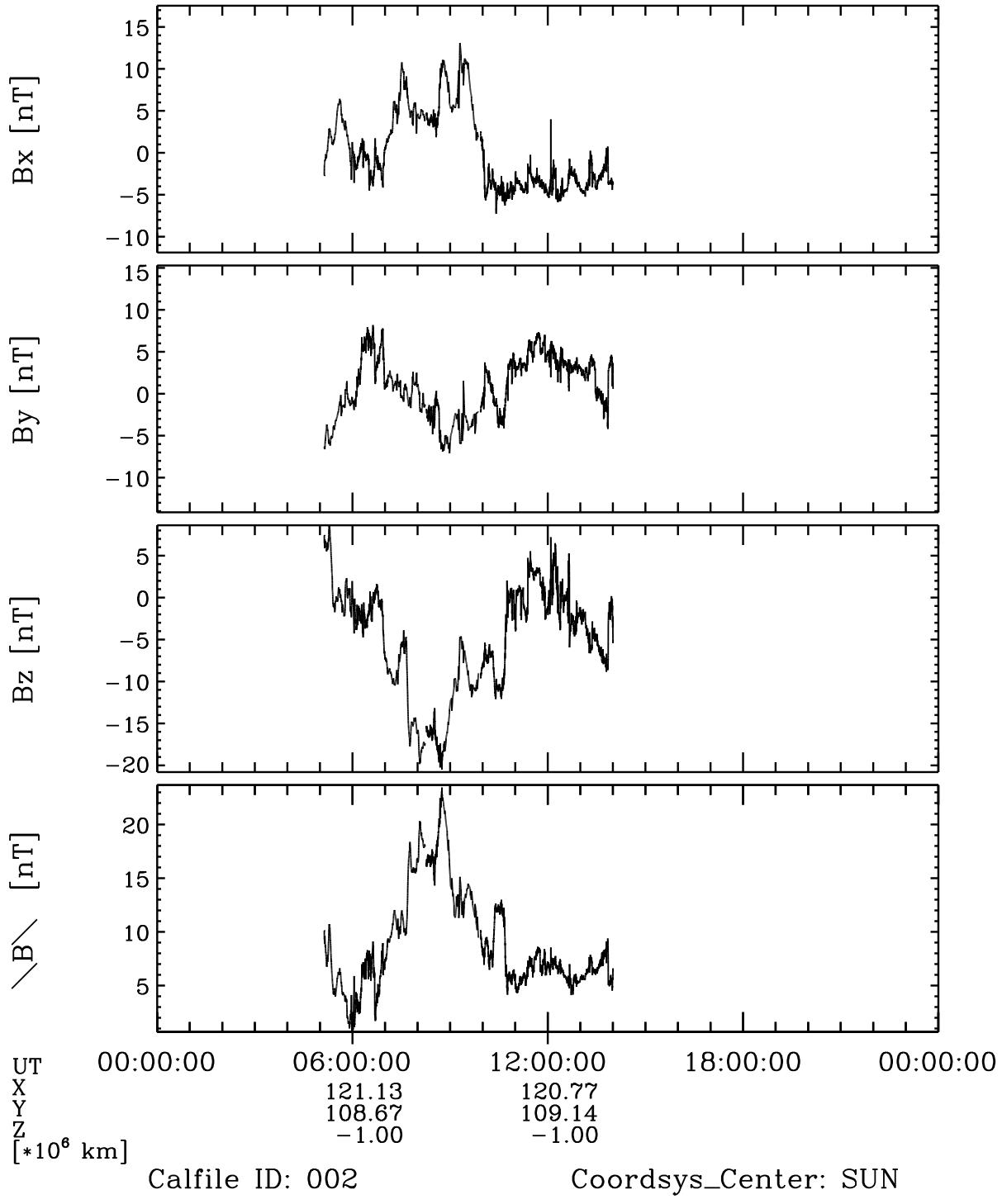


Figure 129: File: RPCMAG041010_CLG_OB_A1_T0000_2400_002

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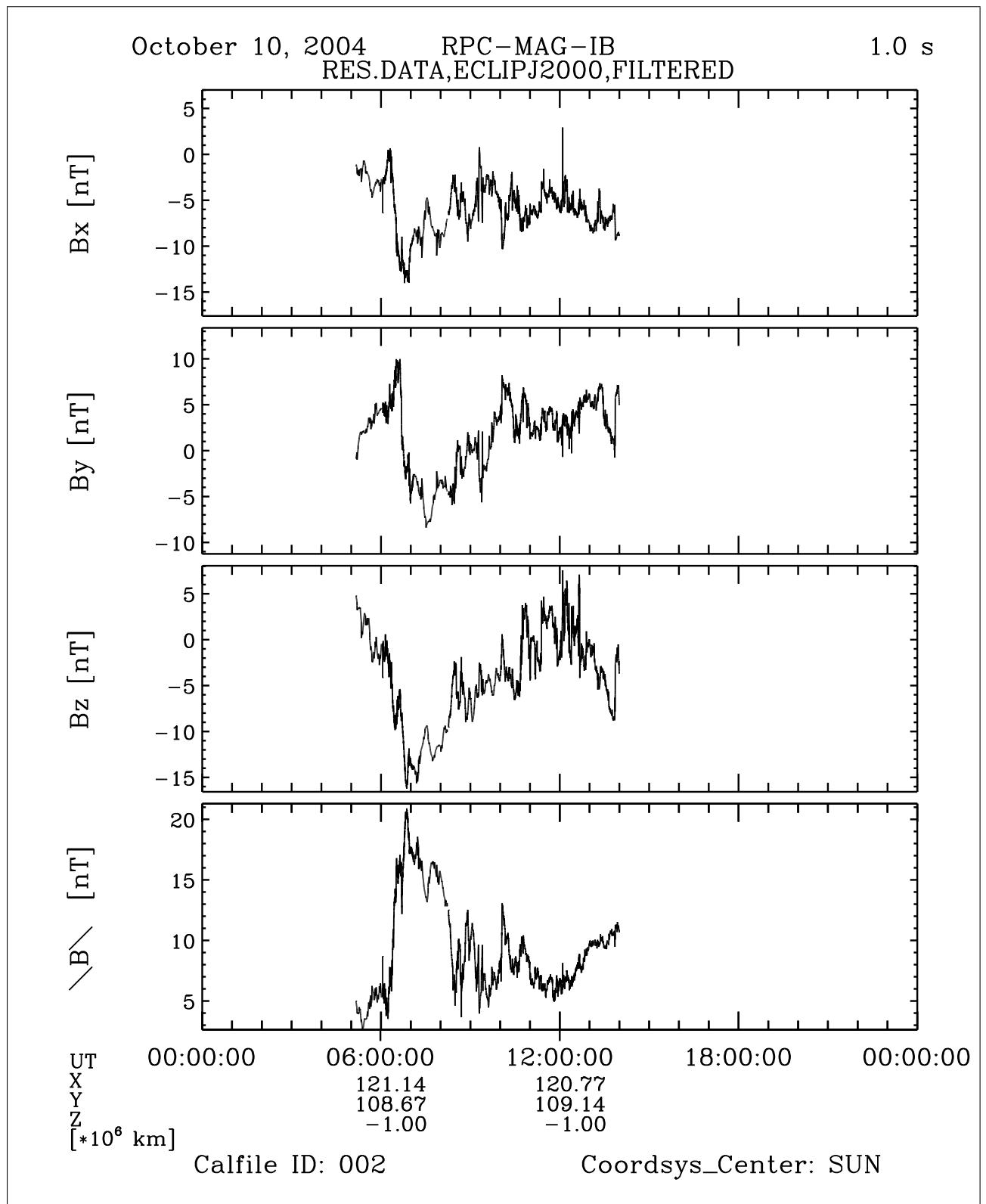


Figure 130: File: RPCMAG041010_CLG_IB_A1_T0000_2400_002

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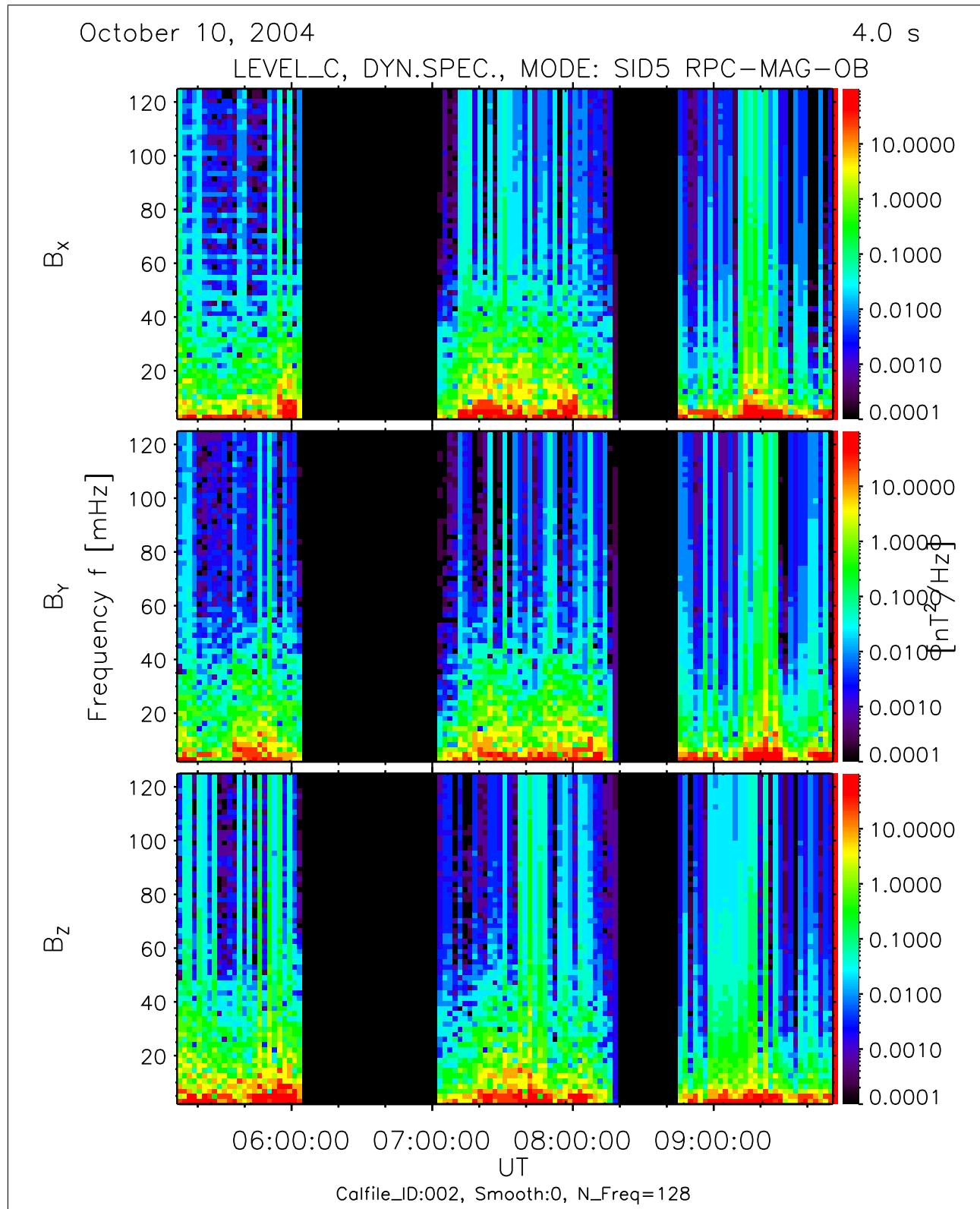


Figure 131: File: RPCMAG041010T0507_CLC_OB_M5_DS0_10000_002

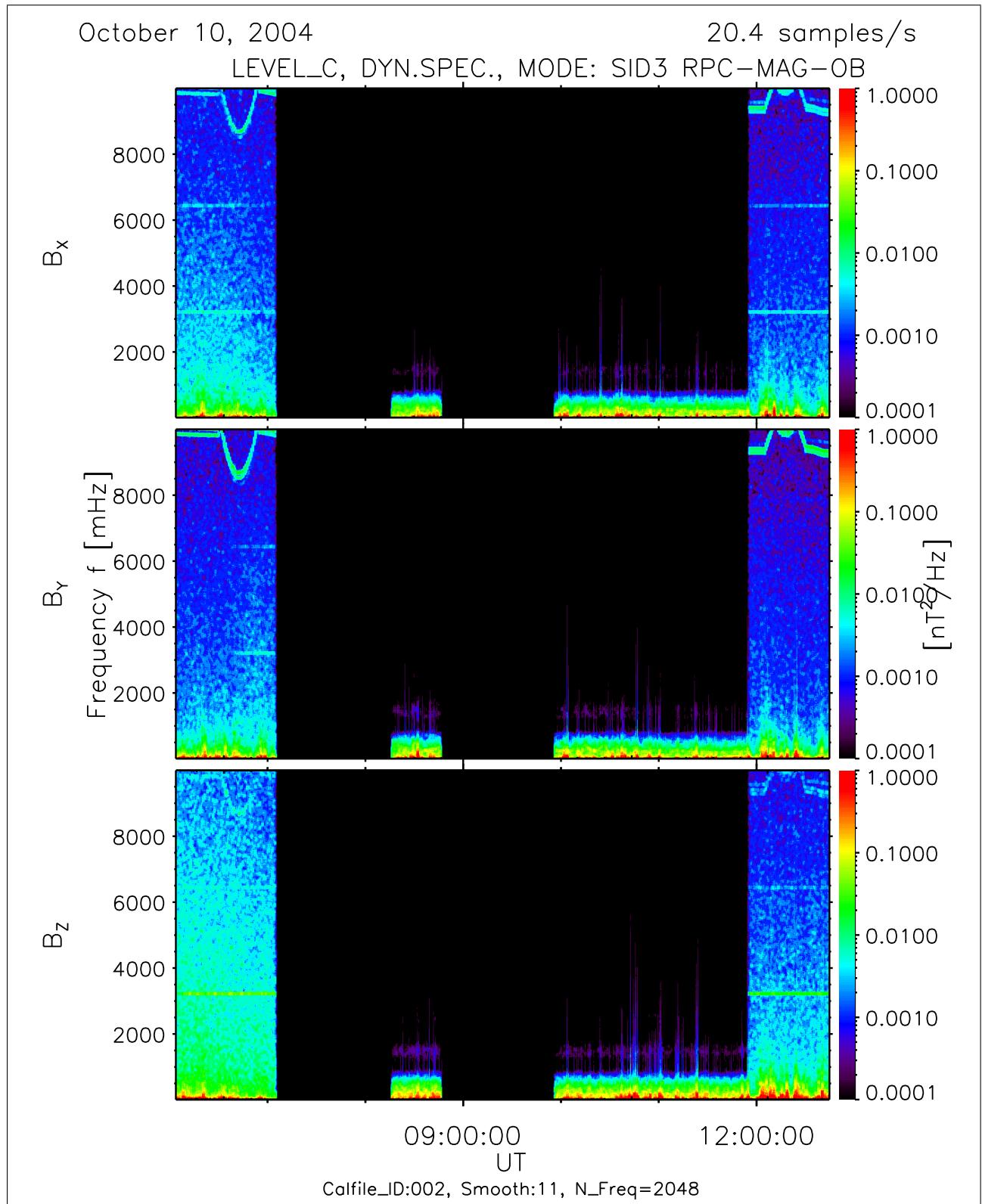


Figure 132: File: RPCMAG041010T0603_CLC_OB_M3_DS0_10000_002

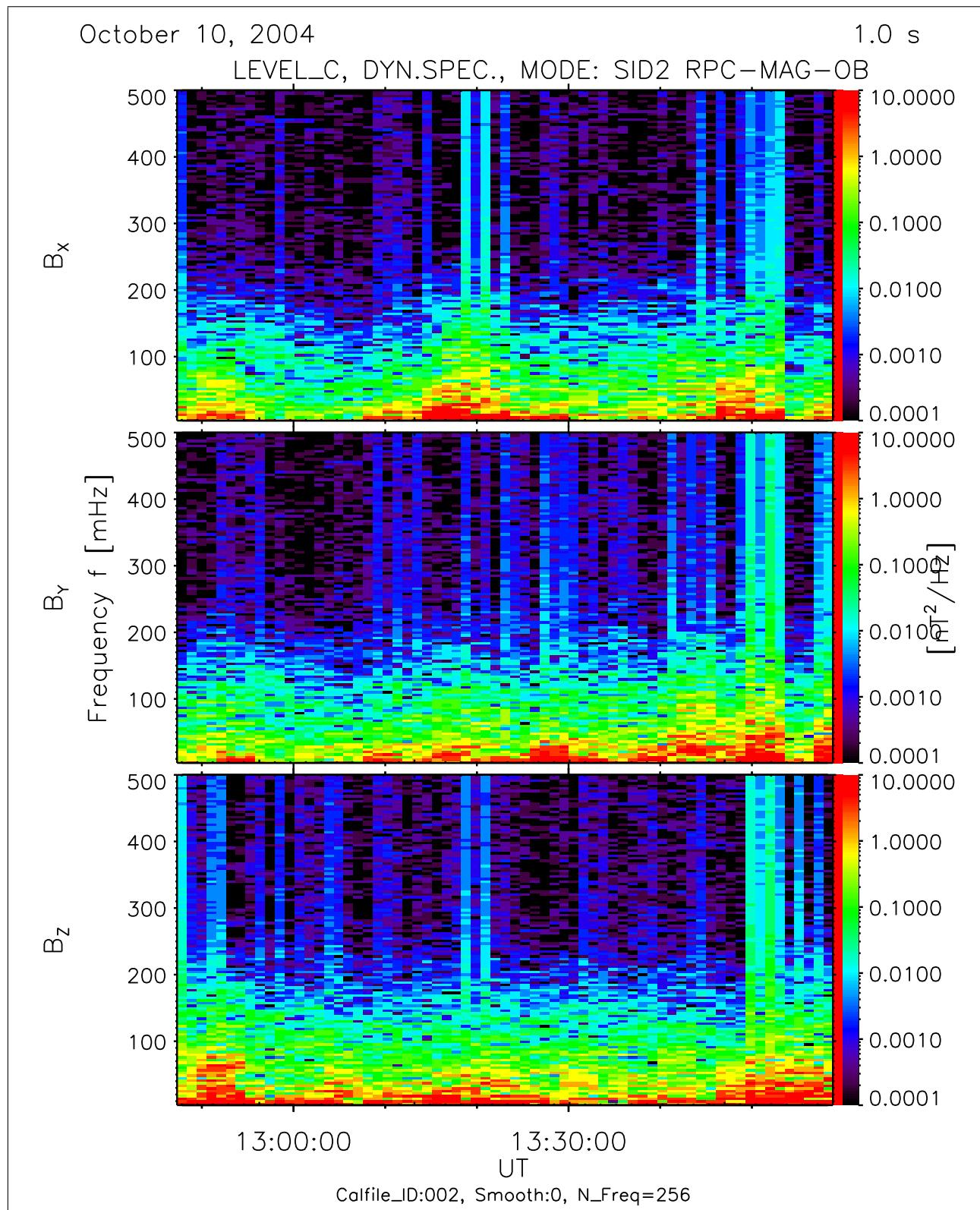


Figure 133: File: RPCMAG041010T1245_CLC_OB_M2_DS0_10000_002

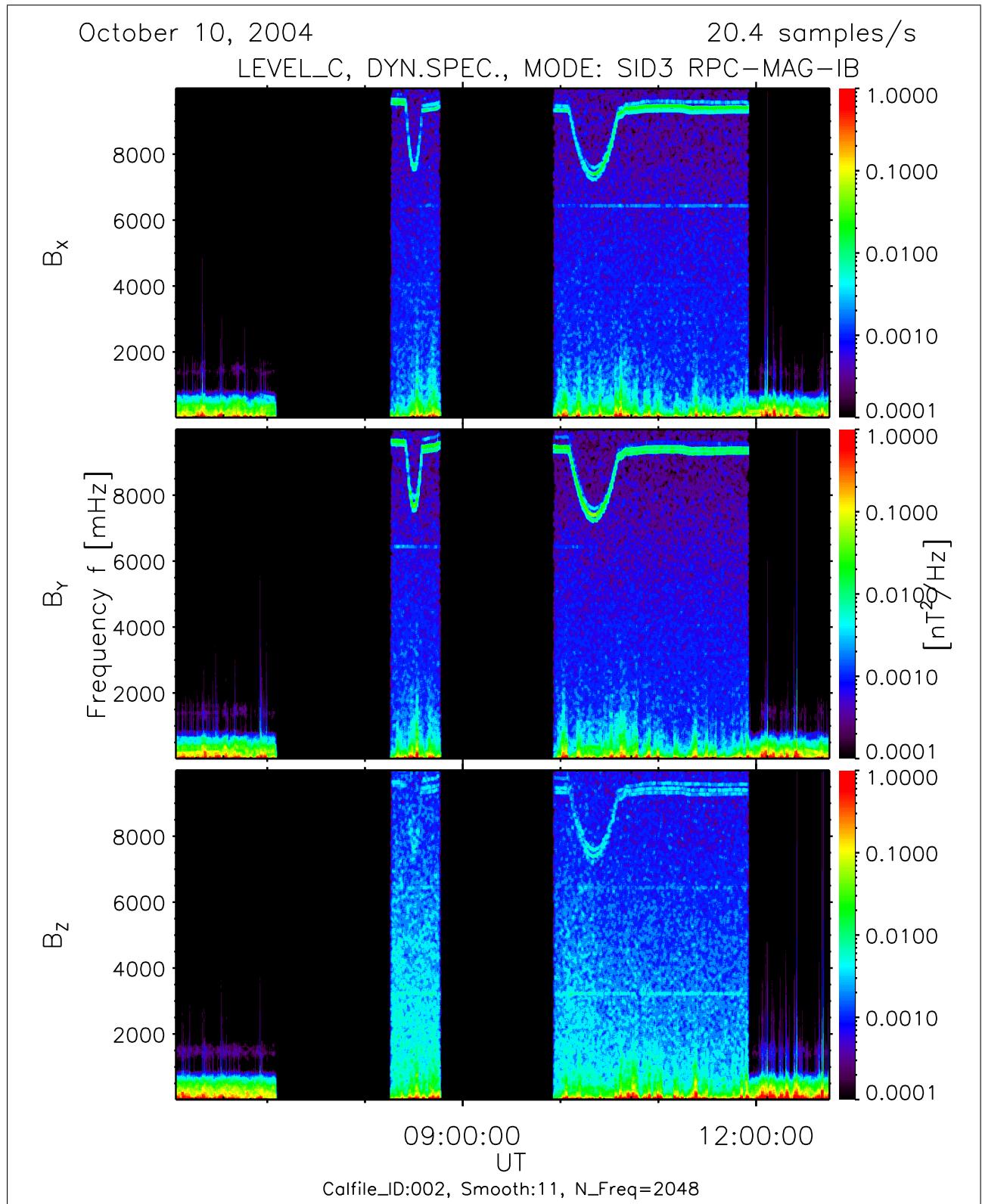


Figure 134: File: RPCMAG041010T0603_CLC_IB_M3_DS0_10000_002

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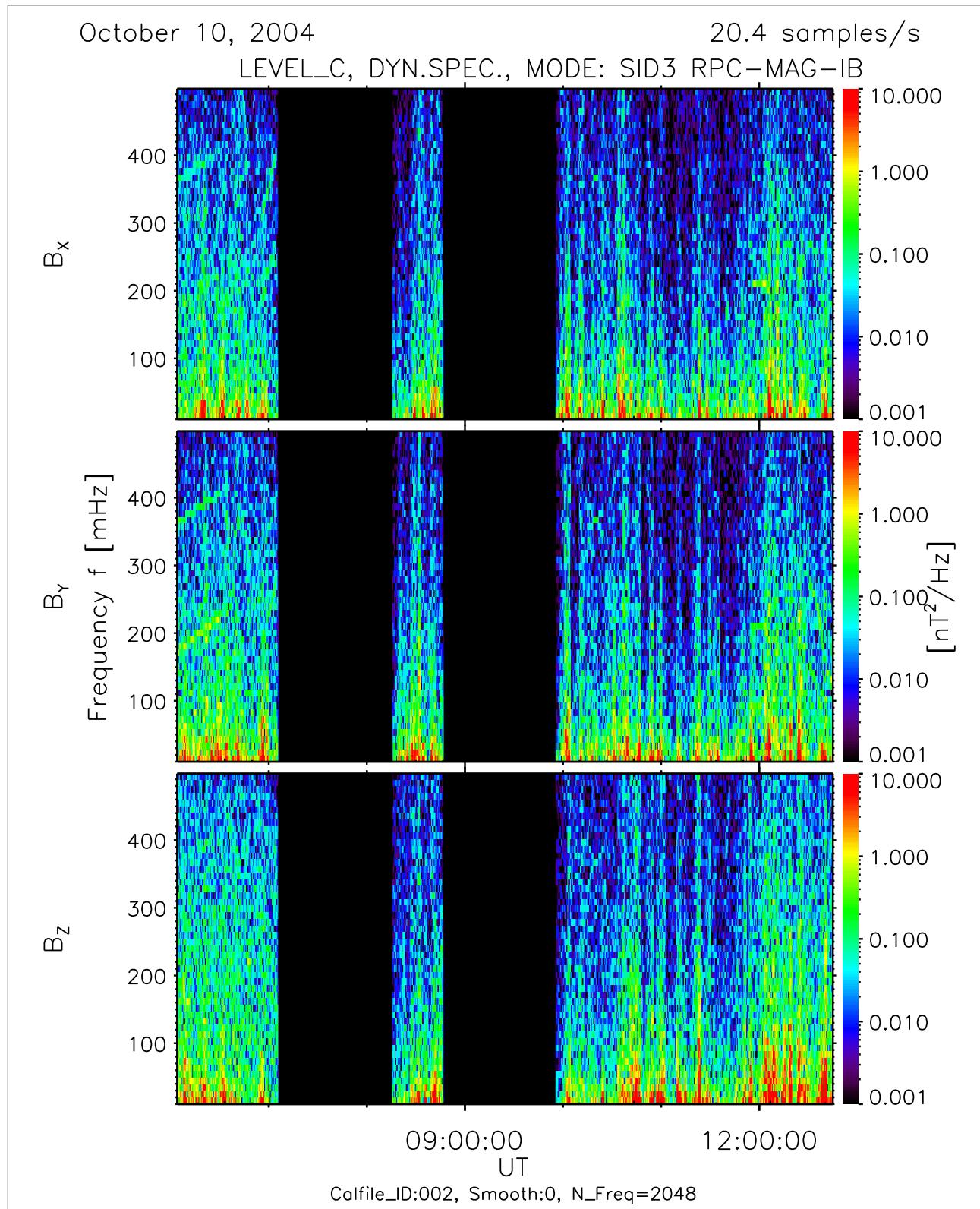


Figure 135: File: RPCMAG041010T0603_CLC_IB_M3_DS0_500_002

8.3 Plots of ROSETTA's Reaction Wheels Speeds

The following plots show the time series of the revolutions of the 4 reaction wheels. Two kinds of data are shown:

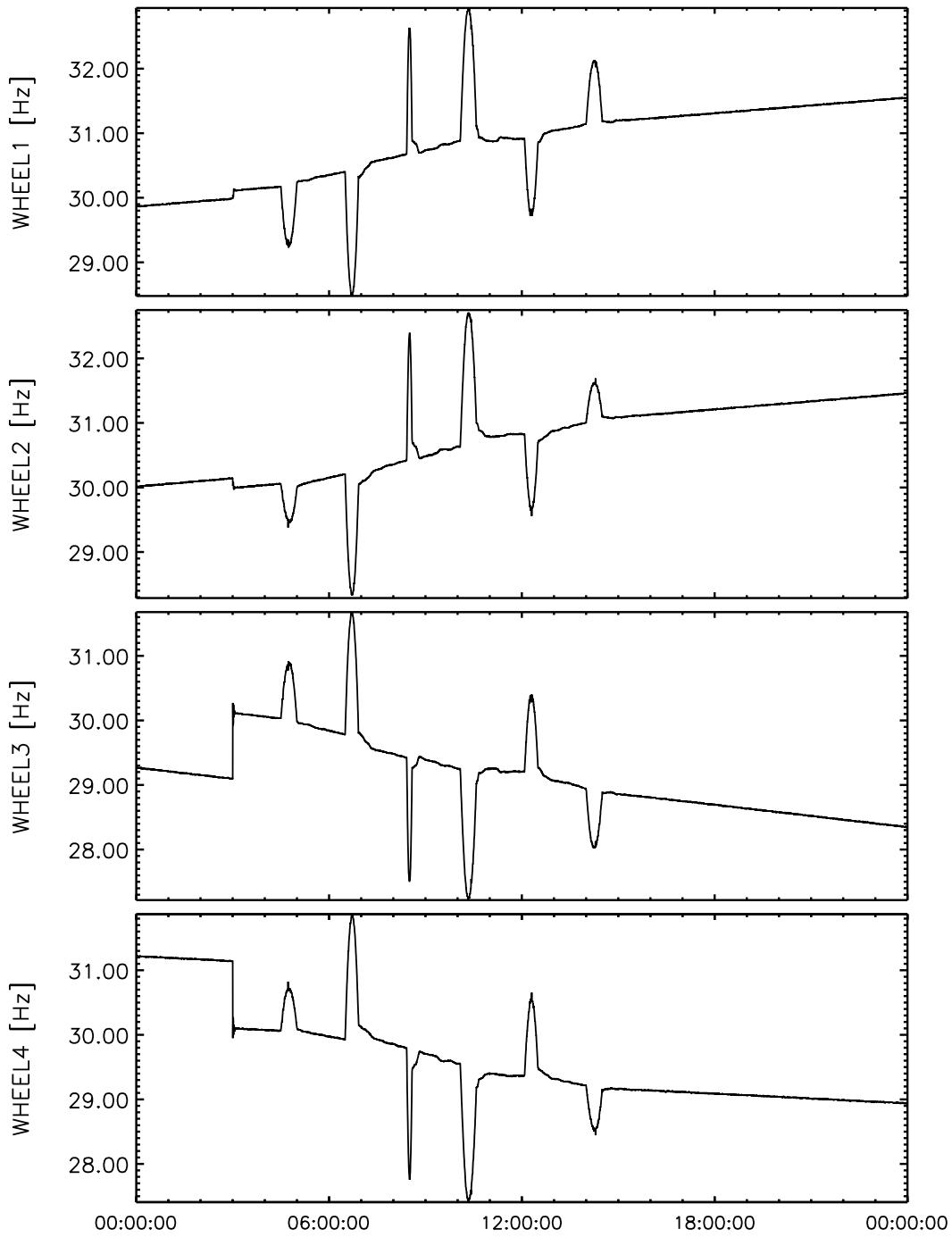
- The original reaction wheel data as they are stored in the DDS.
- The theoretical response of the wheels impact seen by an instrument sampling with different frequencies. Here the response at 20 Hz, 1 Hz and 0.25 Hz sampling frequency is plotted.

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Revolutions of the four Rosetta Reaction Wheels
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DATA: 2004-10-10T00:00:00 – 2004-10-10T24:00:00

Figure 136: File: wheels_Hz2004-10-10T00-00

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Reaction Wheels – Response at 1Hz Sampling
 October 10, 2004

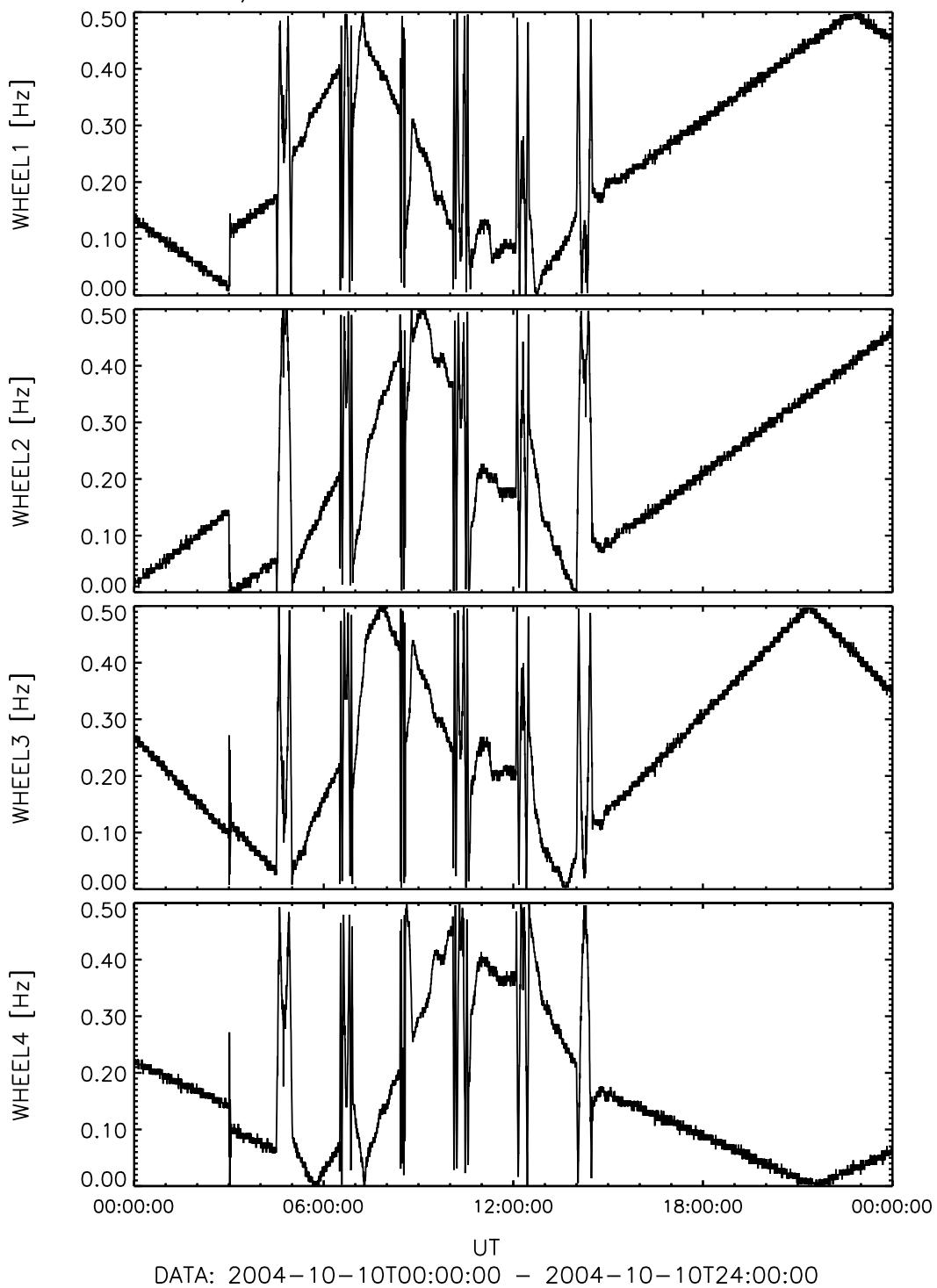


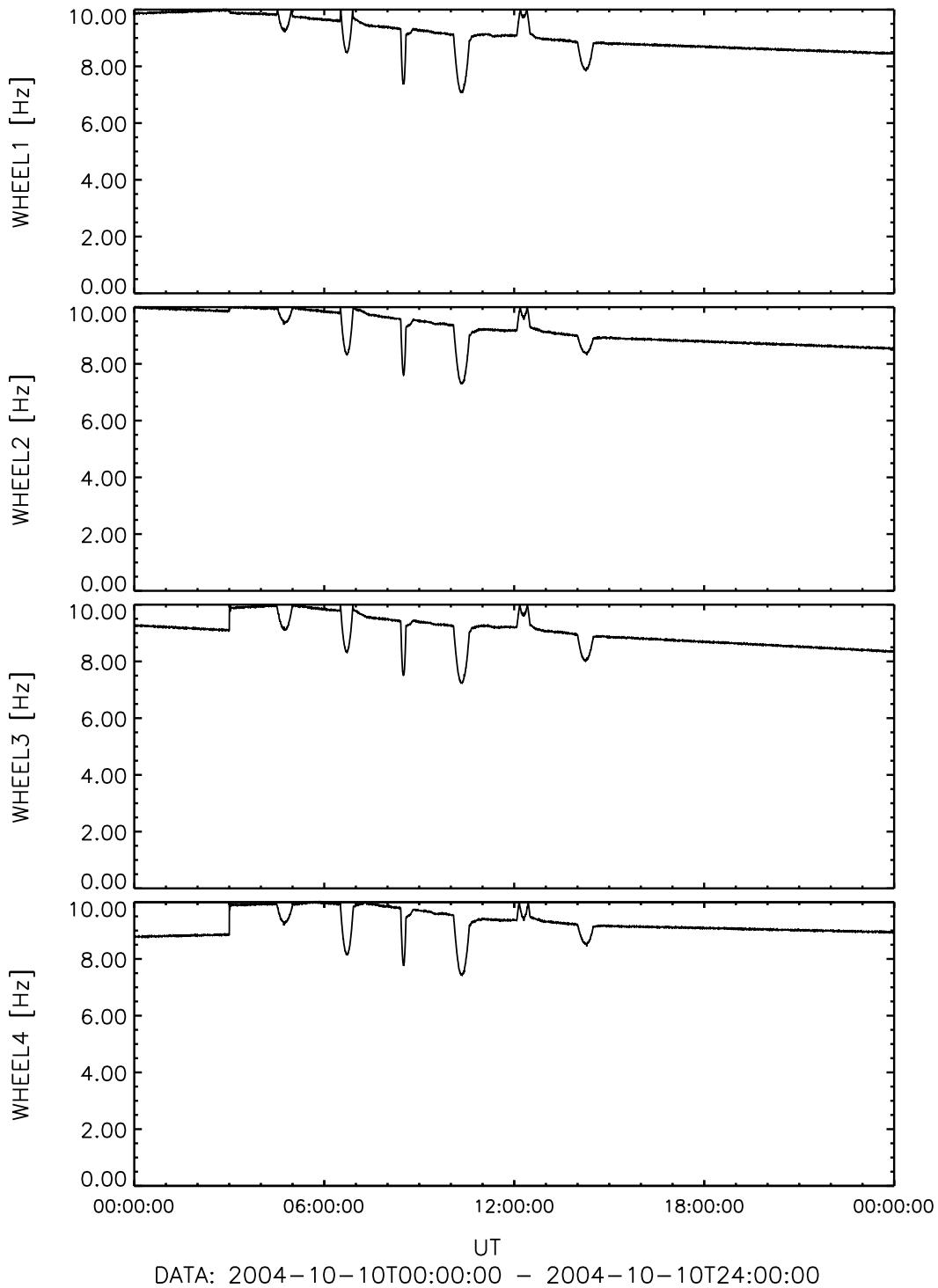
Figure 137: File: wheels_1Hz_Sampling2004-10-10T00-00

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Reaction Wheels – Response at 20 Hz Sampling
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DATA: 2004-10-10T00:00:00 – 2004-10-10T24:00:00

Figure 138: File: wheels_20Hz_Sampling2004-10-10T00-00

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Reaction Wheels – Response at 5 Hz Sampling
 October 10, 2004

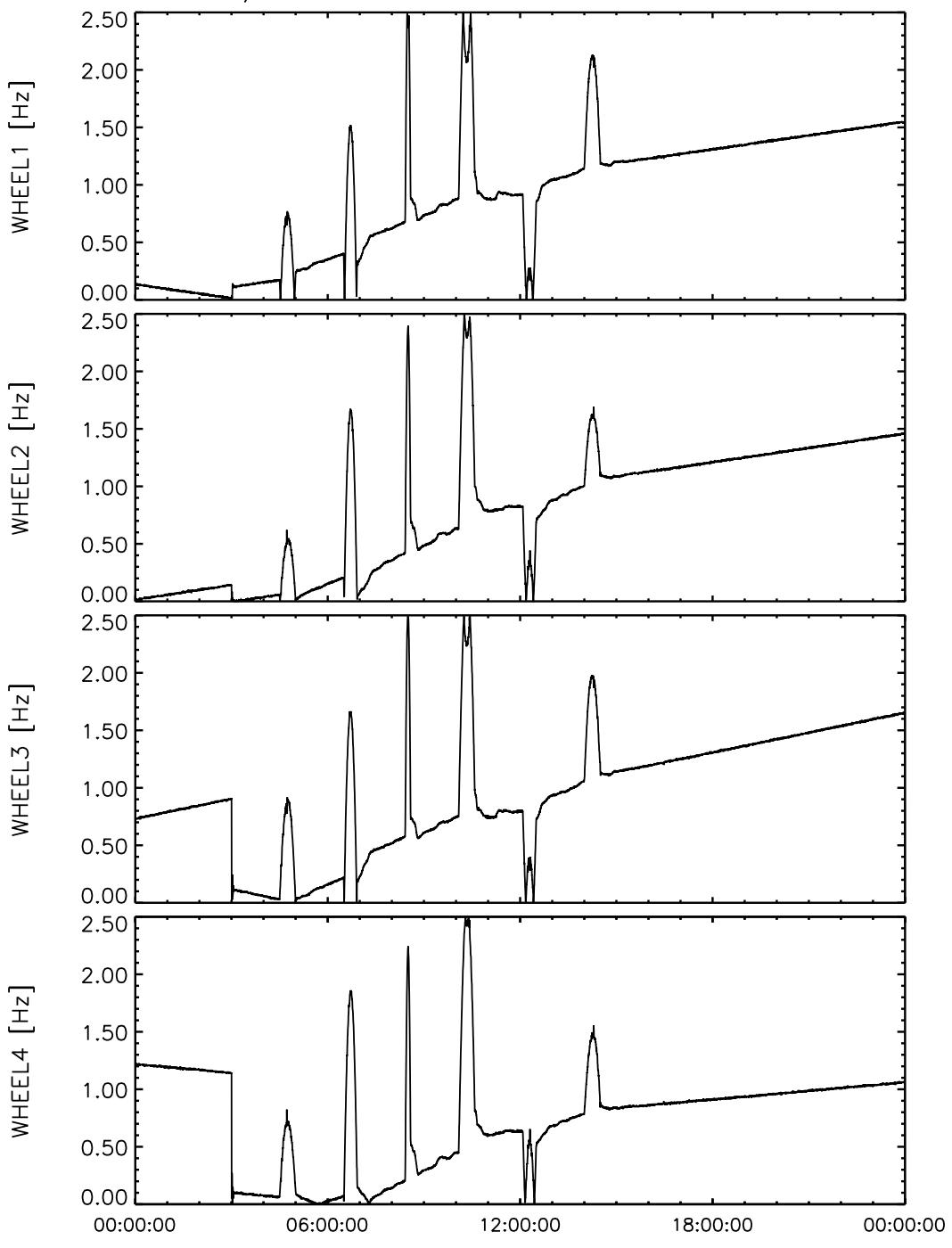


Figure 139: File: wheels_5Hz_Sampling2004-10-10T00-00

8.4 Plots of Reaction Wheel and LAP Disturbance corrected Data

The following plots show the dynamic spectra of the LEVEL_H data. These data have been purged from ROSETTAs reaction wheel disturbance and also from the disturbance of the LAP instrument. Plots are only shown for the primary sensor.

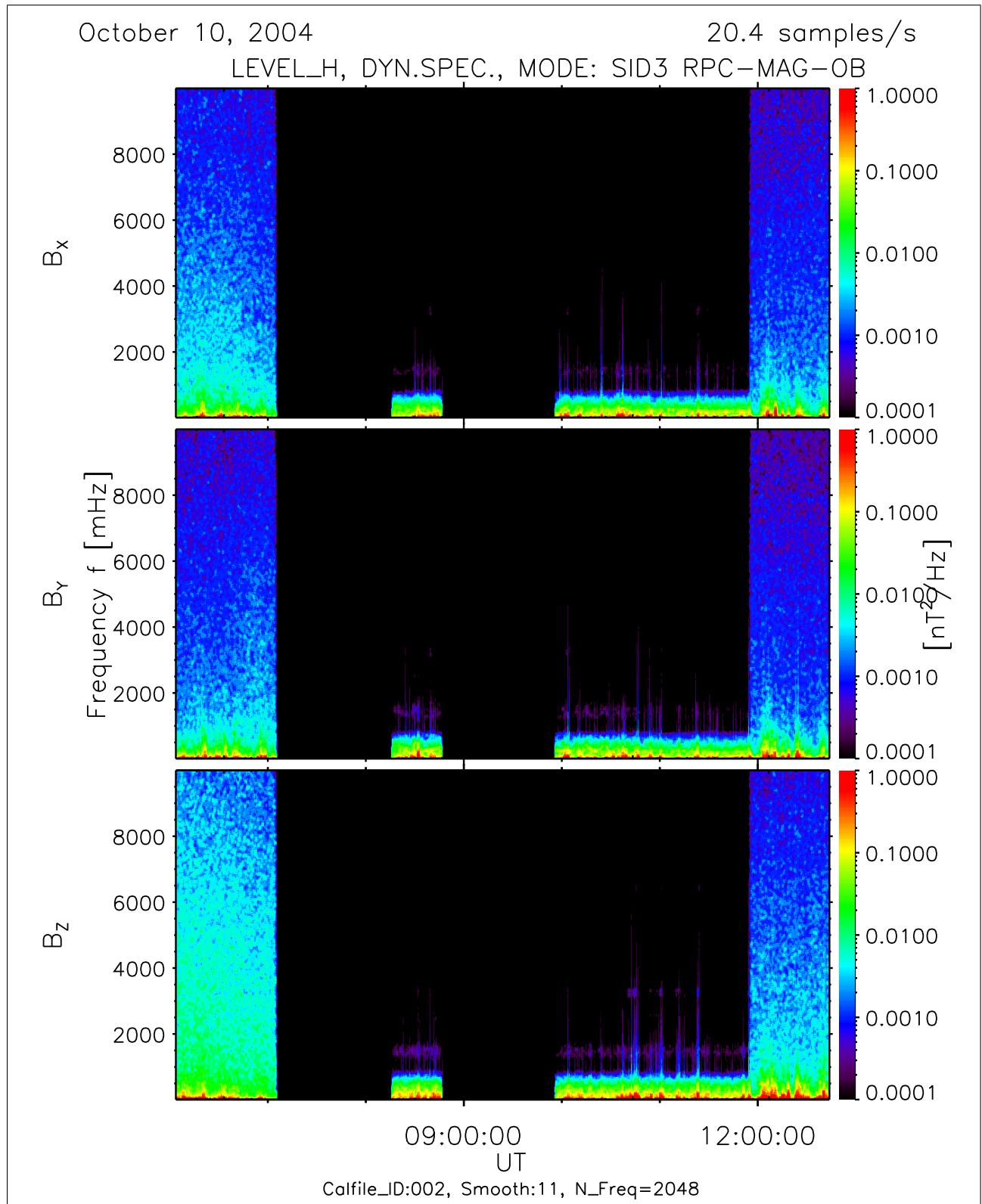


Figure 140: File: RPCMAG041010T0603_CLH_OB_M3_DS0_10000_002

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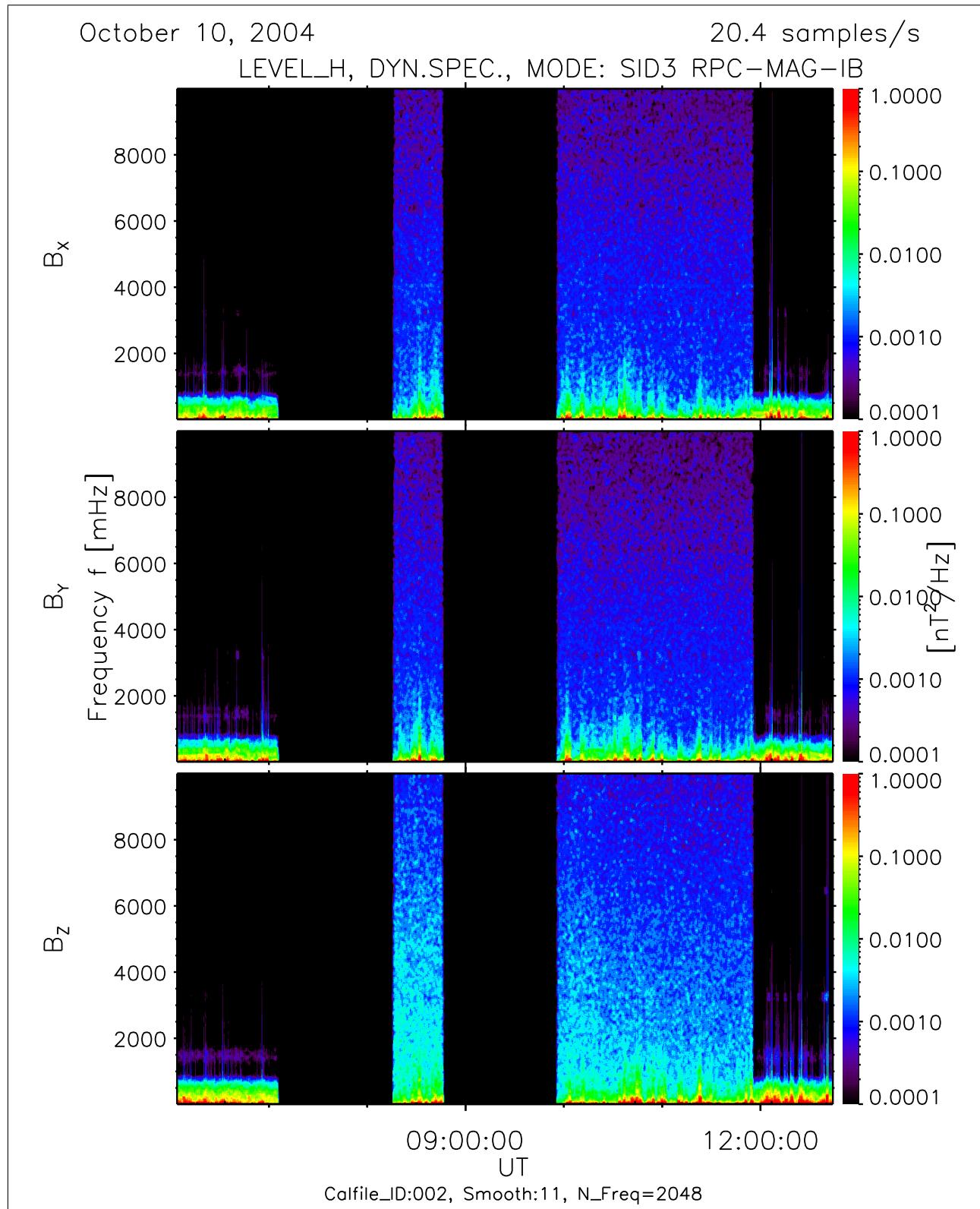


Figure 141: File: RPCMAG041010T0603_CLH_IB_M3_DS0_10000_002

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9 October 13, 2004:

9.1 Actions

The Instrument was switched on at 01:02 and switched off at 04:47.

The second operation interval on this day started at 22:12.

Time	Stage A, Stage B, Filter cfg	Stage 1, Stage 2, Stage3	Mode
01:19 – 04:46	0 0 0	0 0 0	SID3
22:19 – 24:00	0 0 0	0 0 0	SID3

9.2 Plots of Calibrated Data using the new Temperature Model

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October 13, 2004 RPC-MAG-HK
 CAL. HOUSEKEEPING DATA 32.0 s

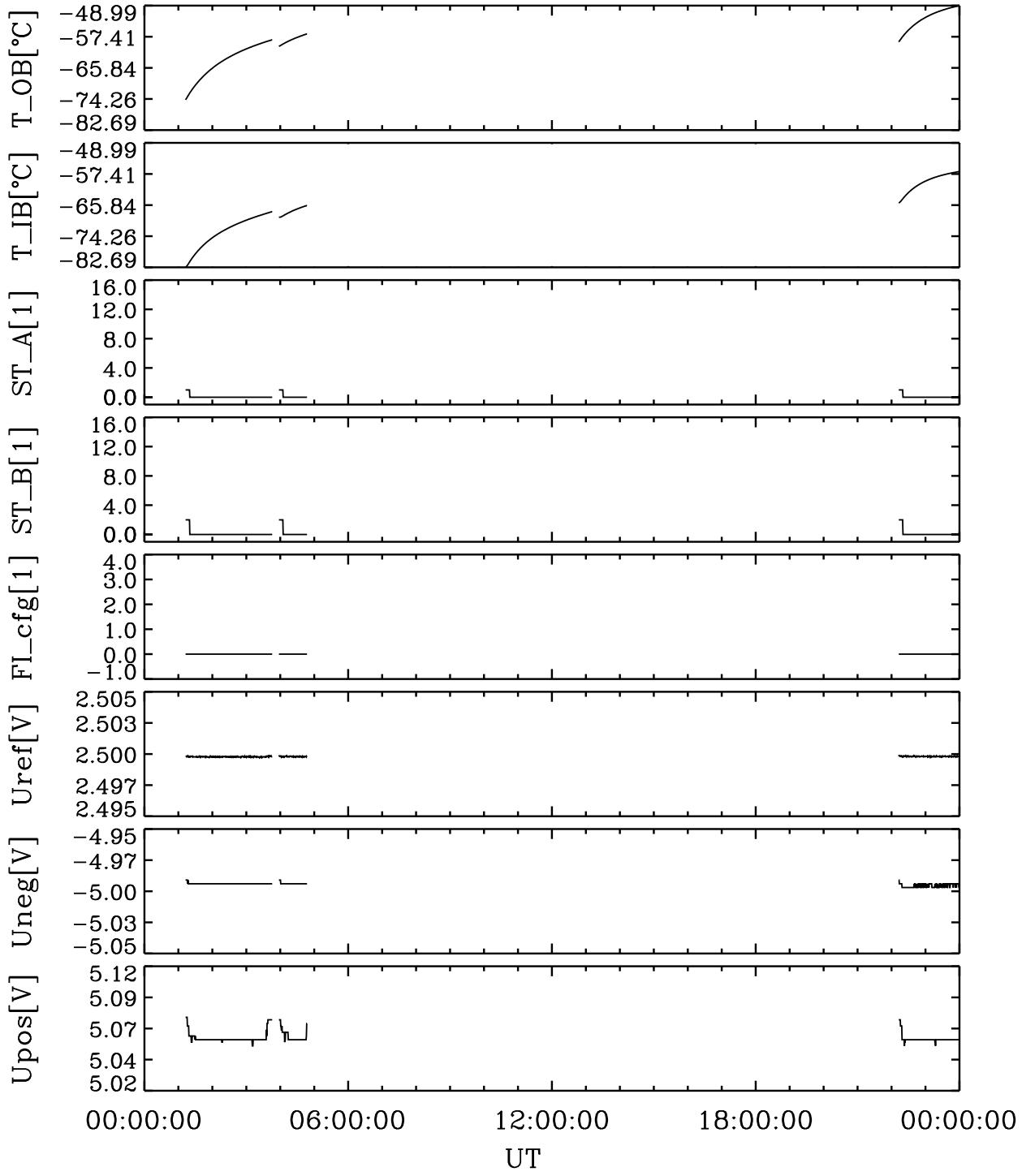


Figure 142: File: RPCMAG041013T0112_CLA_HK_P0000_2400

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October 13, 2004 RPC-MAG-HK
 HOUSEKEEPING B_OB DATA

32.0 s

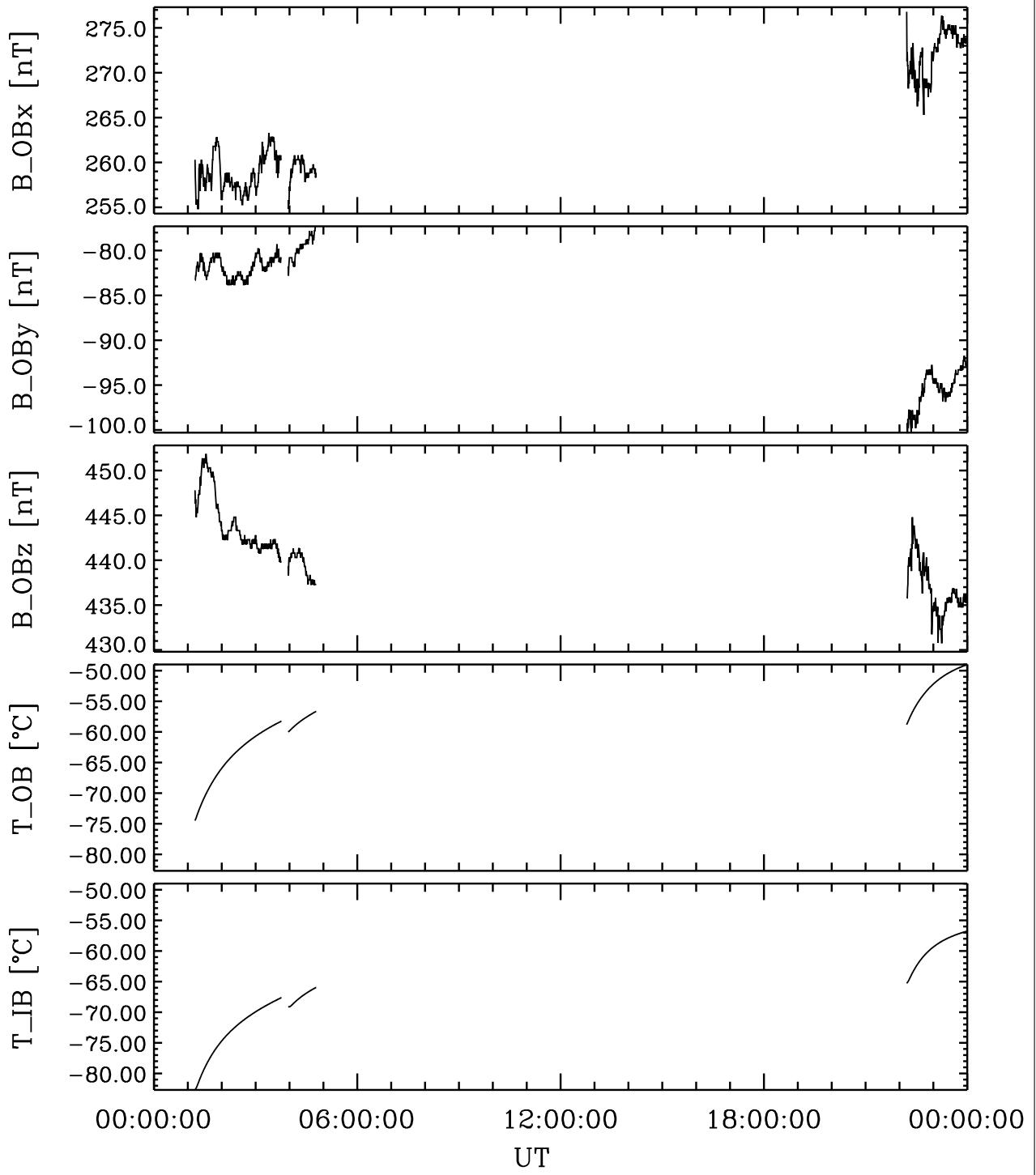


Figure 143: File: RPCMAG041013T0112.CLA.HK.B.P0000_2400

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October 13, 2004 RPC-MAG-OB 20.0 samples/s
CAL.DATA,S/C COORDS, LEVEL_B, MODE: SID3

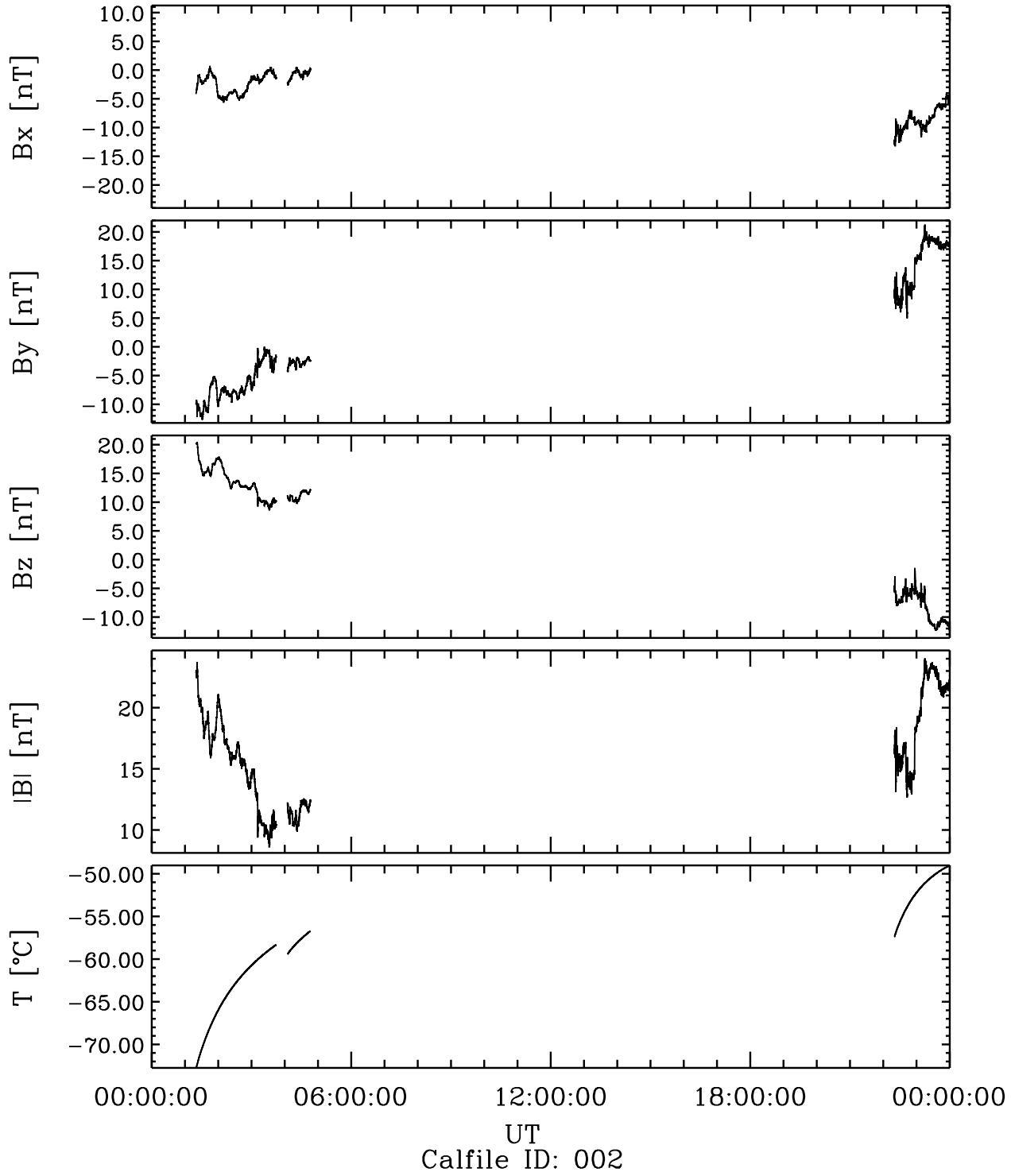


Figure 144: File: RPCMAG041013T0119_CLB_OB_M3_T0000_2400_002

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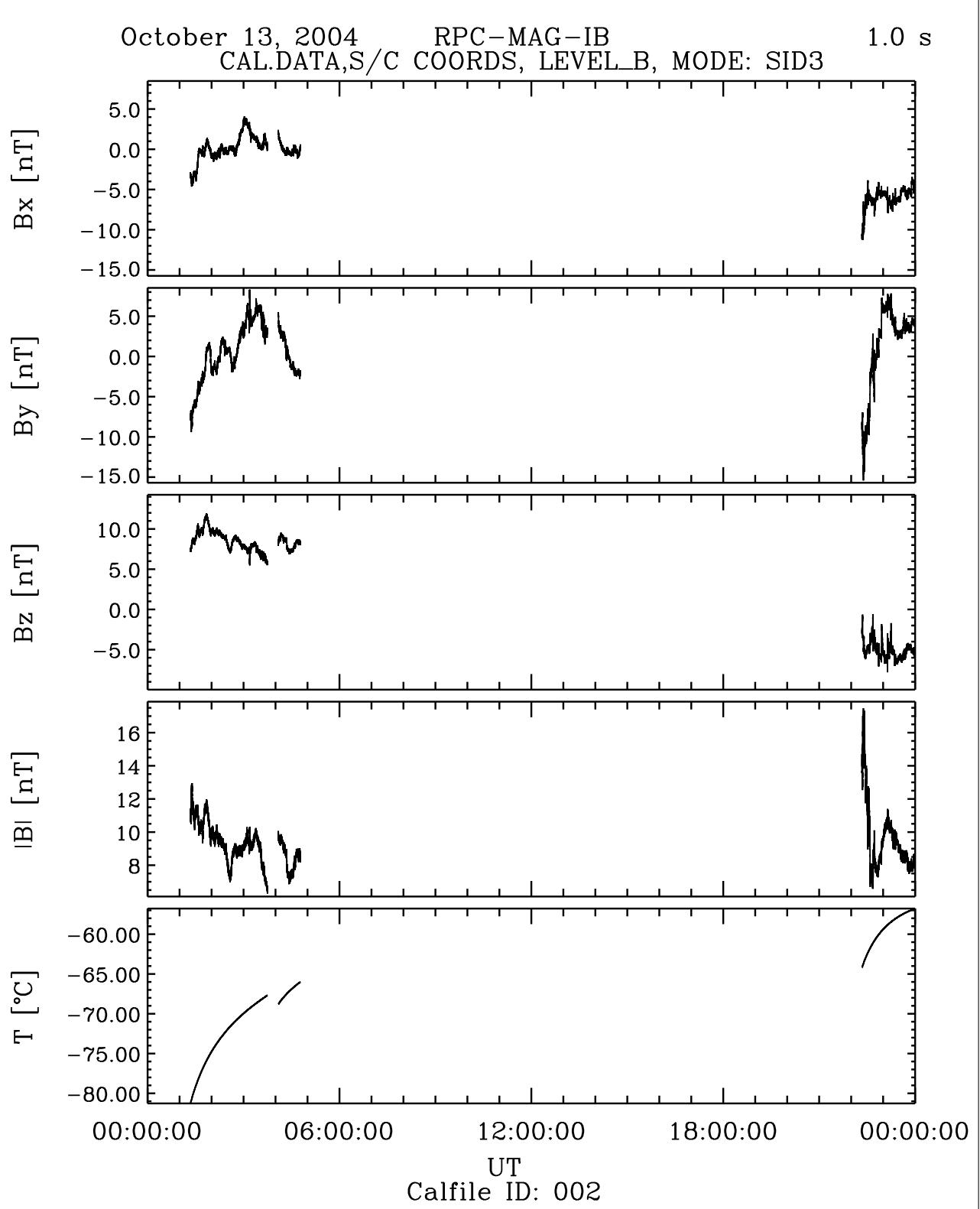


Figure 145: File: RPCMAG041013T0119_CLB_IB_M3_T0000_2400_002

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October 13, 2004 RPC-MAG-OB
 CAL.DATA,ECLIPJ2000,LEVEL_C, MODE:SID3 20.0 Hz

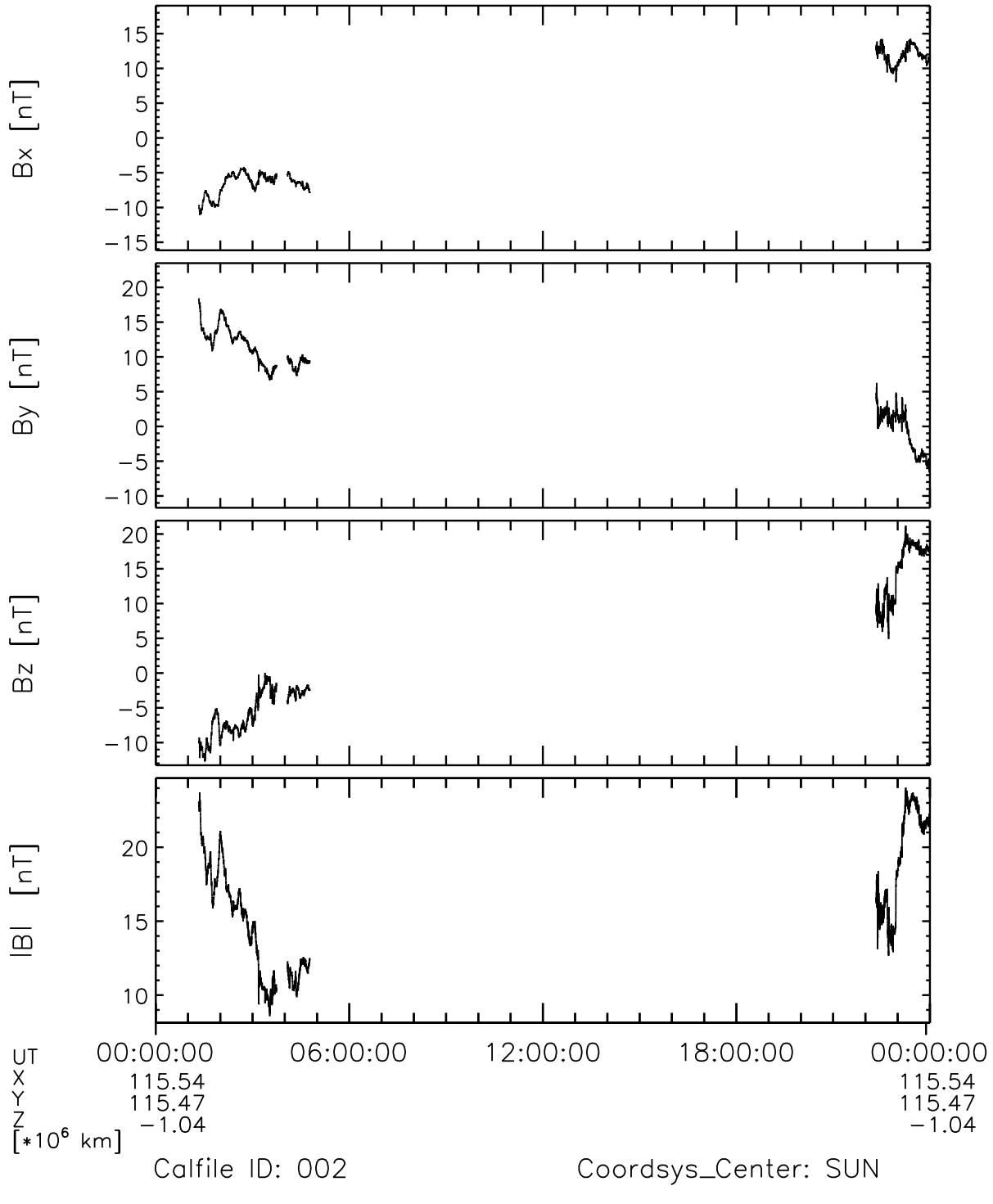


Figure 146: File: RPCMAG041013T0119_CLC_OB_M3_T0000_2400_002

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October 13, 2004 RPC-MAG-IB
CAL.DATA,ECLIPJ2000,LEVEL_C, MODE:SID3 1.0 s

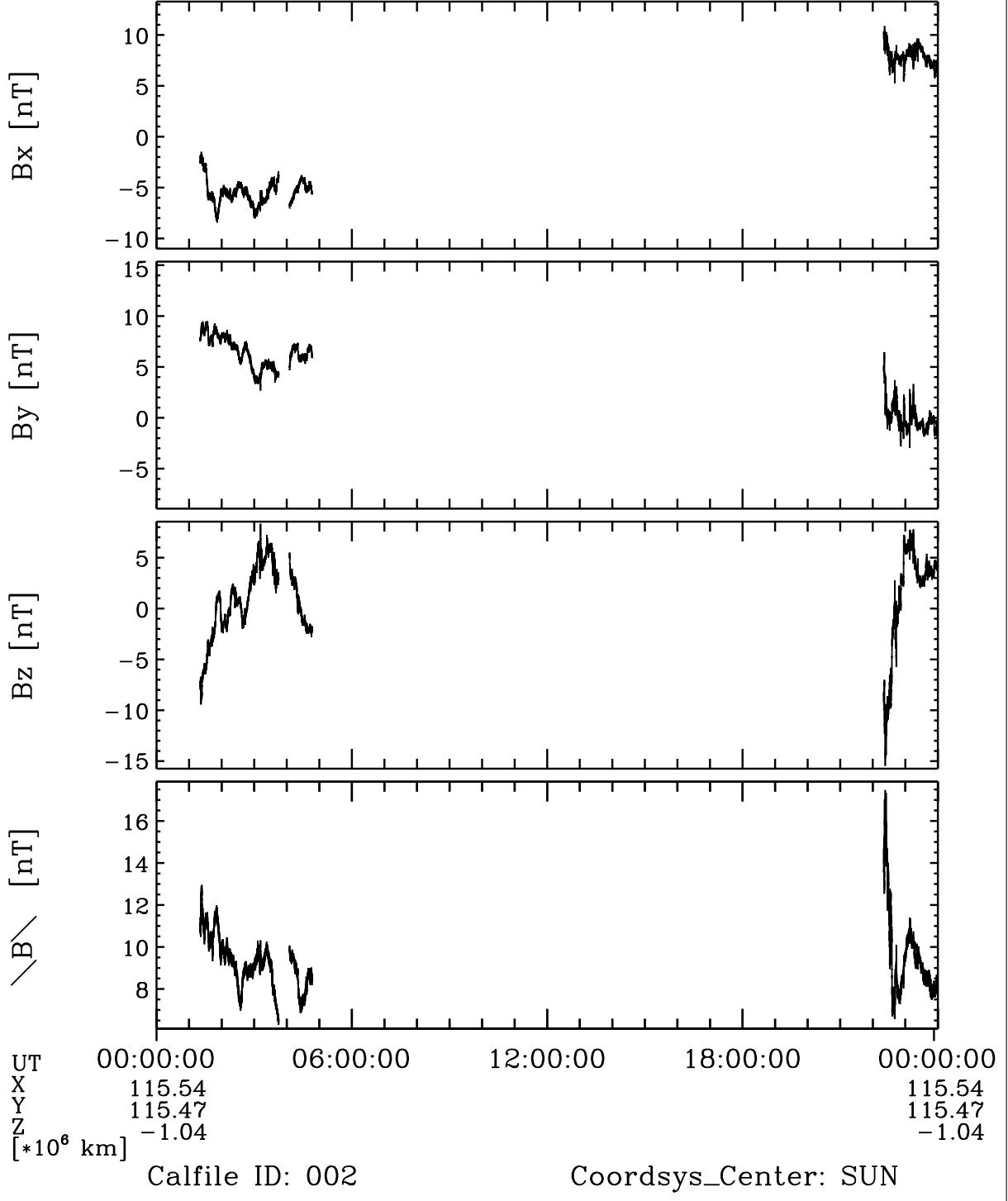


Figure 147: File: RPCMAG041013T0119_CLC_IB_M3_T0000_2400_002

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October 13, 2004 RPC-MAG-OB
RES.DATA,S/C-COORDS,FILTERED 1.0 s

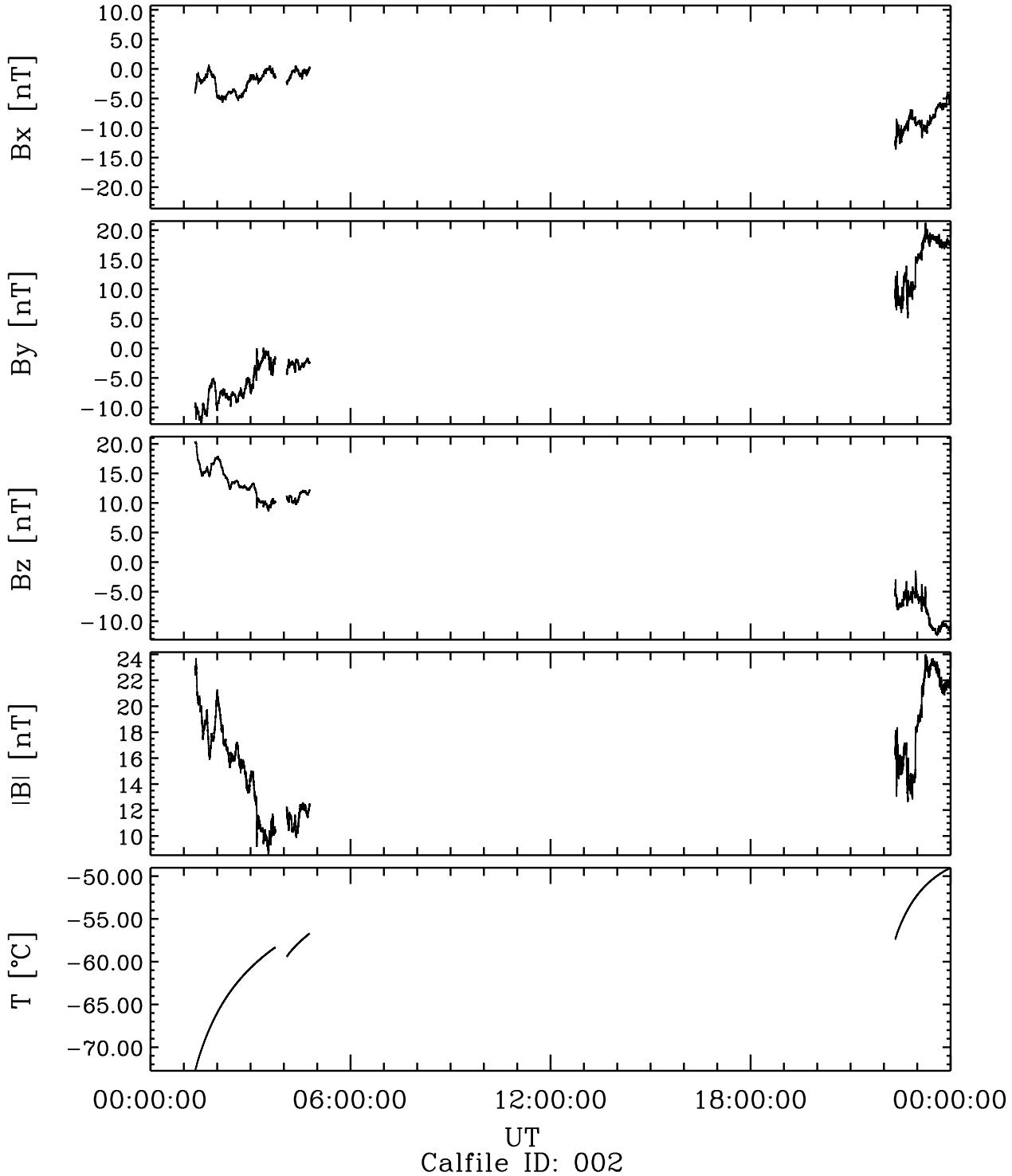


Figure 148: File: RPCMAG041013_CLF_OB_A1_T0000_2400_002

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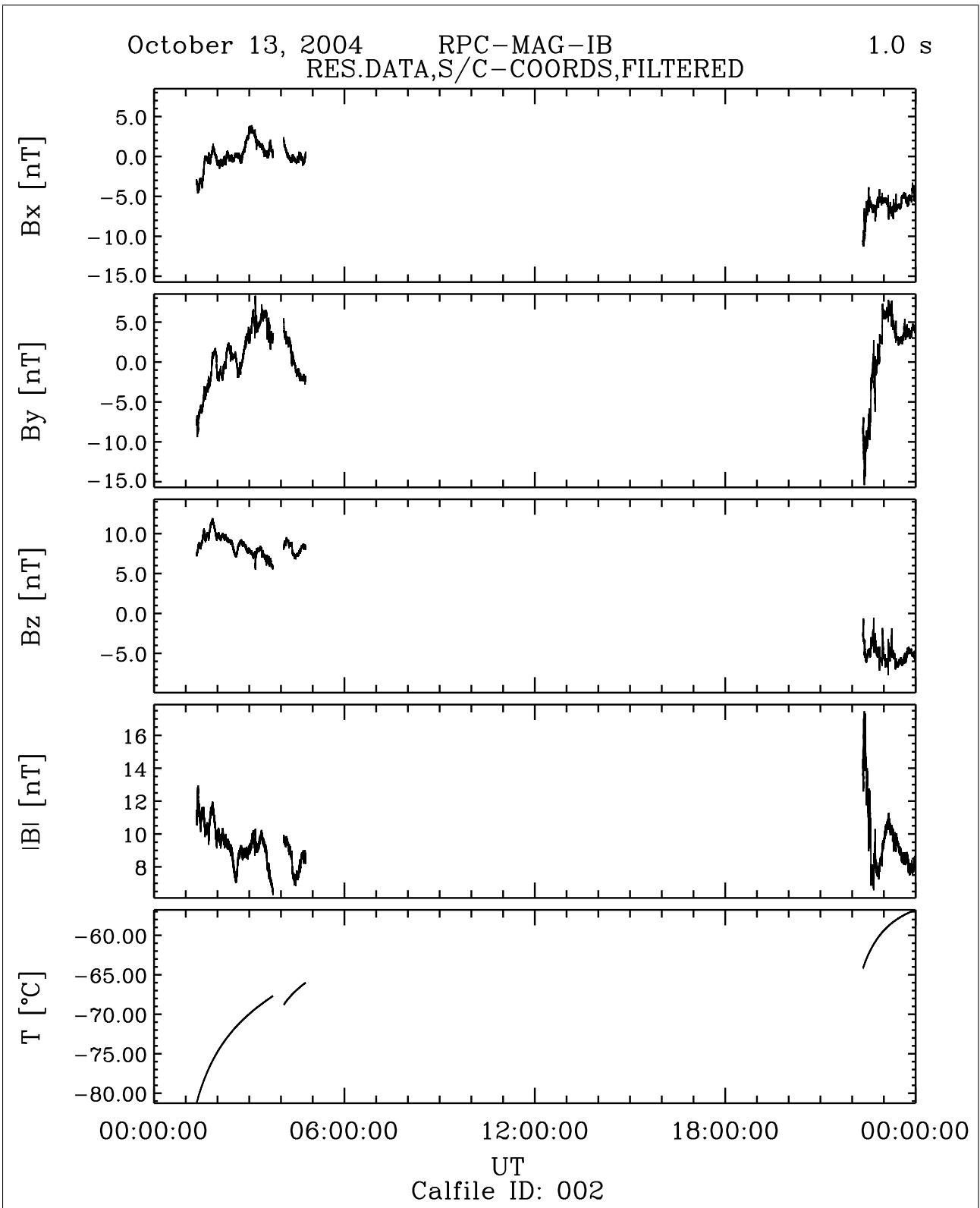


Figure 149: File: RPCMAG041013_CLF_IB_A1_T0000_2400_002

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October 13, 2004 RPC-MAG-OB
 RES.DATA,ECLIPJ2000,FILTERED 1.0 s

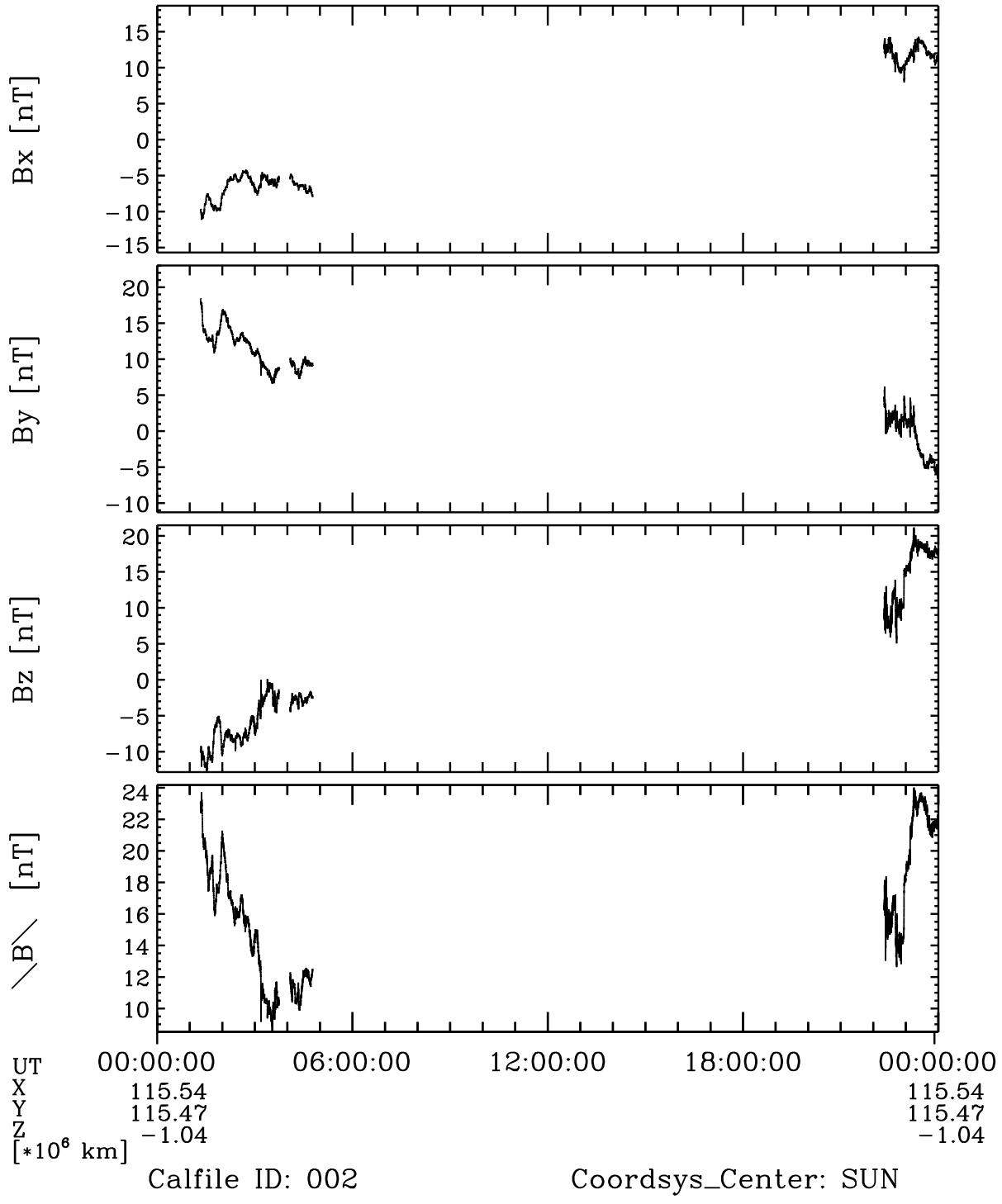


Figure 150: File: RPCMAG041013_CLG_OB_A1_T0000_2400_002

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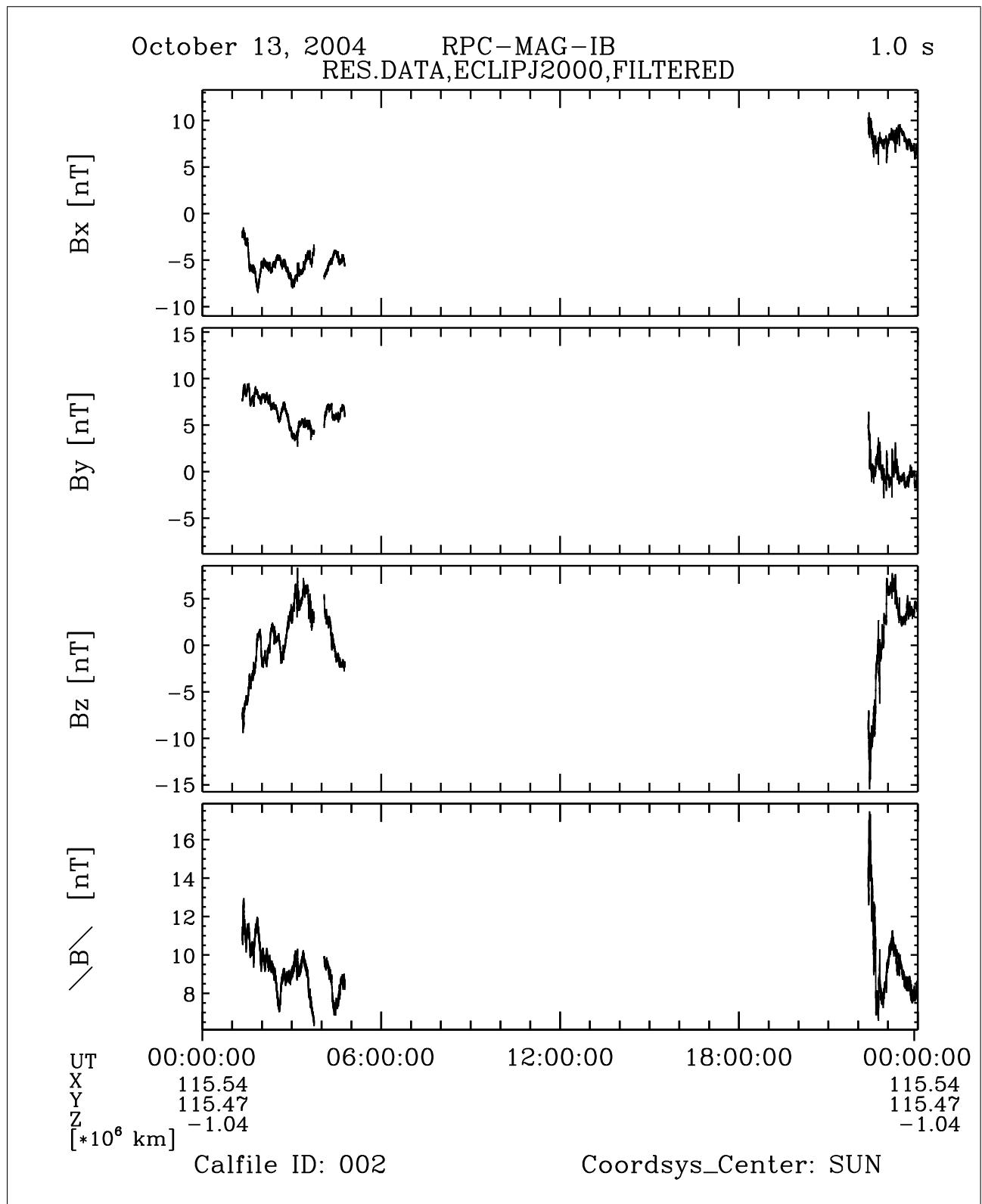


Figure 151: File: RPCMAG041013_CLG_IB_A1_T0000_2400_002

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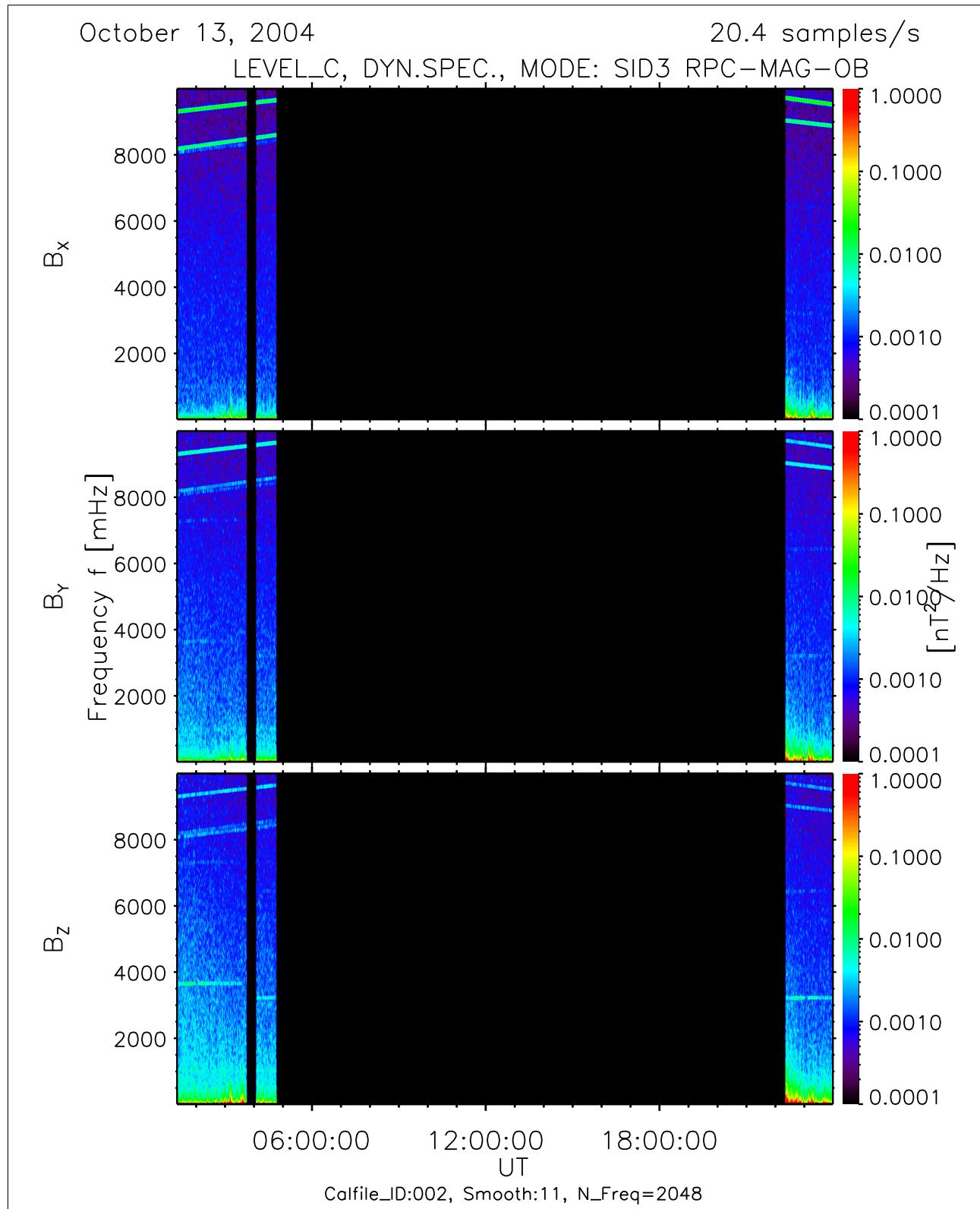


Figure 152: File: RPCMAG041013T0119_CLC_OB_M3_DS0_10000_002

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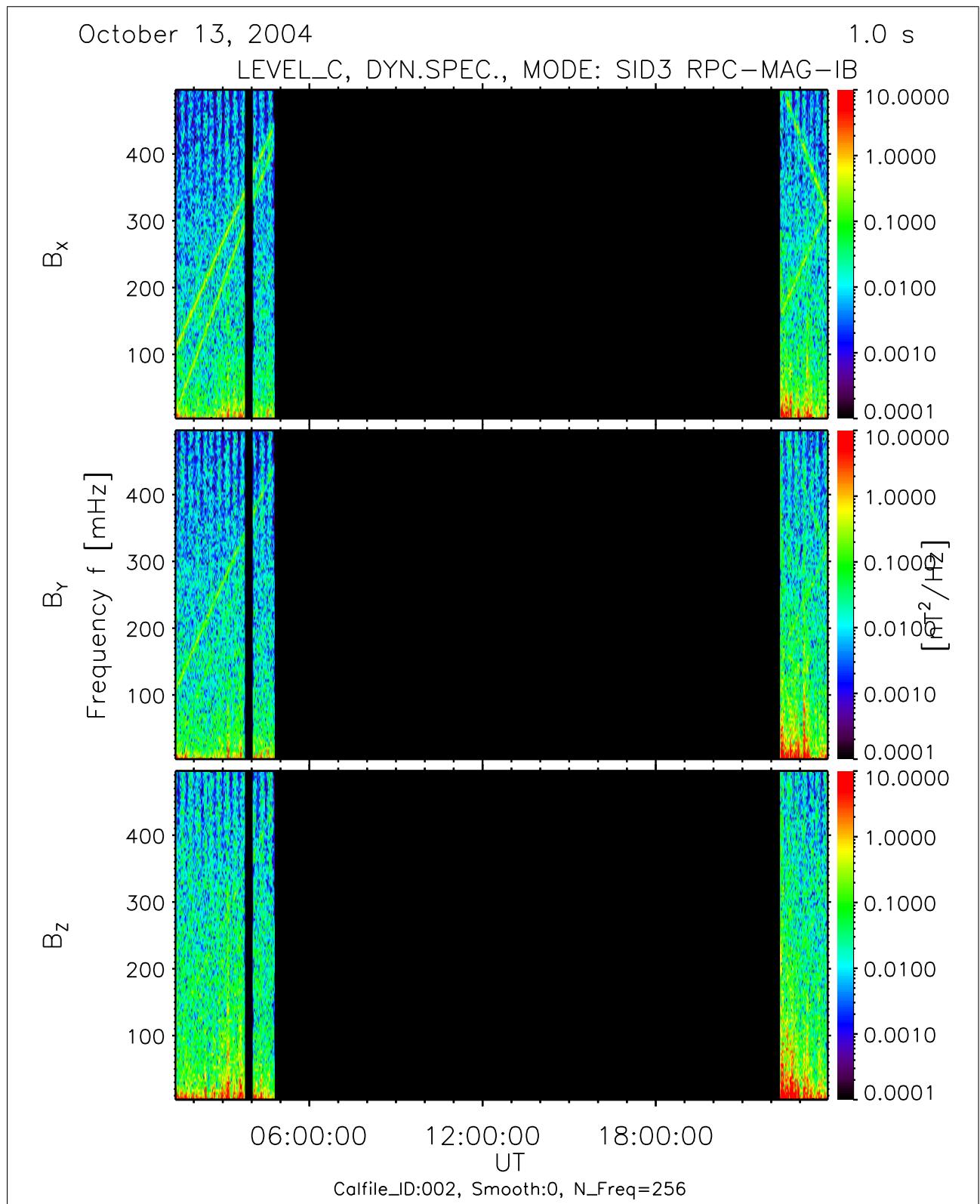


Figure 153: File: RPCMAG041013T0119_CLC_IB_M3_DS0_10000_002

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9.3 Plots of ROSETTA's Reaction Wheels Speeds

The following plots show the time series of the revolutions of the 4 reaction wheels. Two kinds of data are shown:

- The original reaction wheel data as they are stored in the DDS.
- The theoretical response of the wheels impact seen by an instrument sampling with different frequencies. Here the response at 20 Hz, and 1 Hz sampling frequency is plotted.

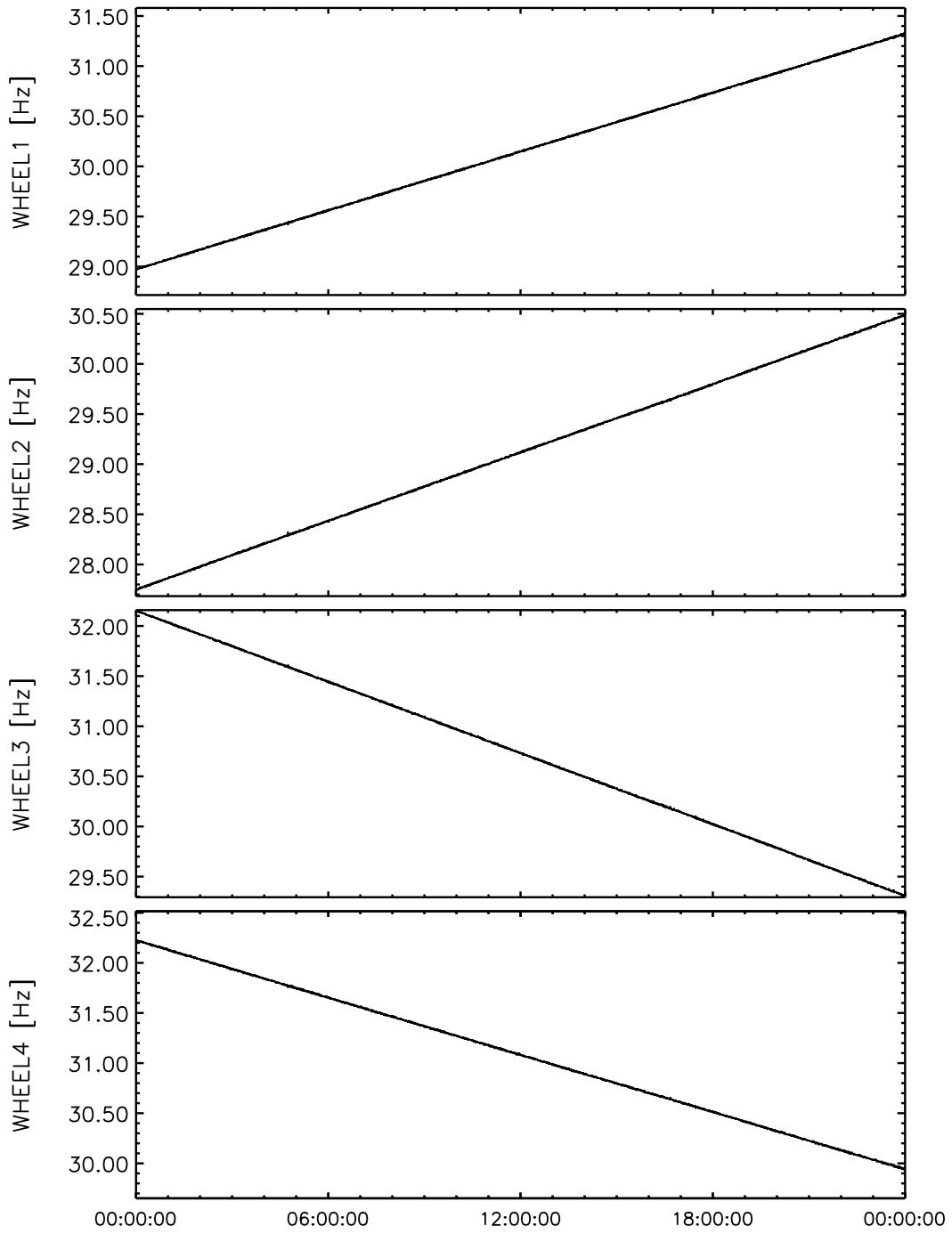
A comparison with the dynamic spectra of the MAG data gives an impressive accordance between the reaction wheel frequencies and the spectral lines observed in the dynamic MAG spectra.

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Revolutions of the four Rosetta Reaction Wheels
October 13, 2004



DATA: 2004-10-13T00:00:00 – 2004-10-13T24:00:00

Figure 154: File: wheels_Hz2004-10-13T00-00

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Reaction Wheels – Response at 1Hz Sampling
October 13, 2004

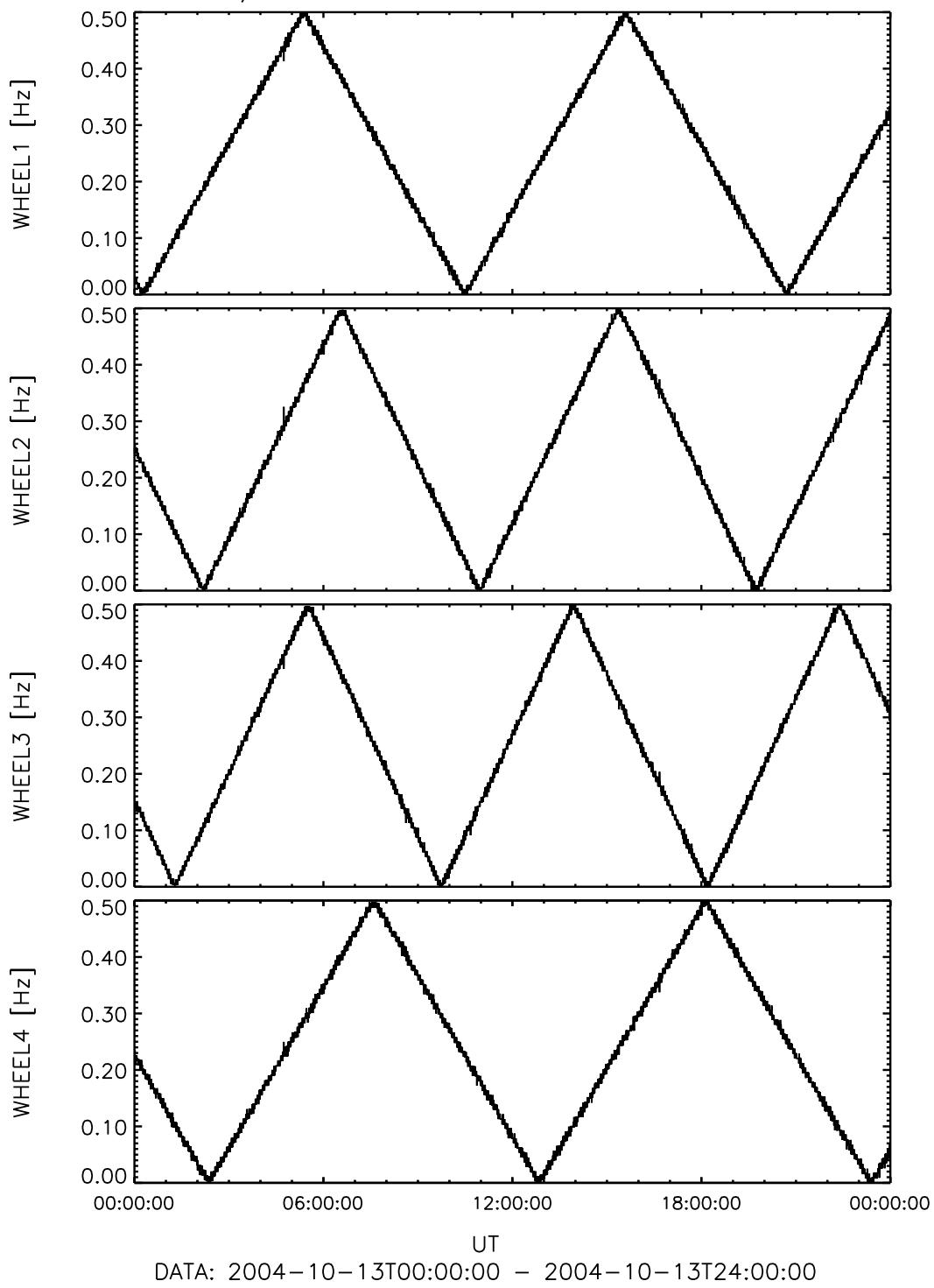


Figure 155: File: wheels_1Hz_Sampling2004-10-13T00-00

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Reaction Wheels – Response at 20 Hz Sampling
October 13, 2004

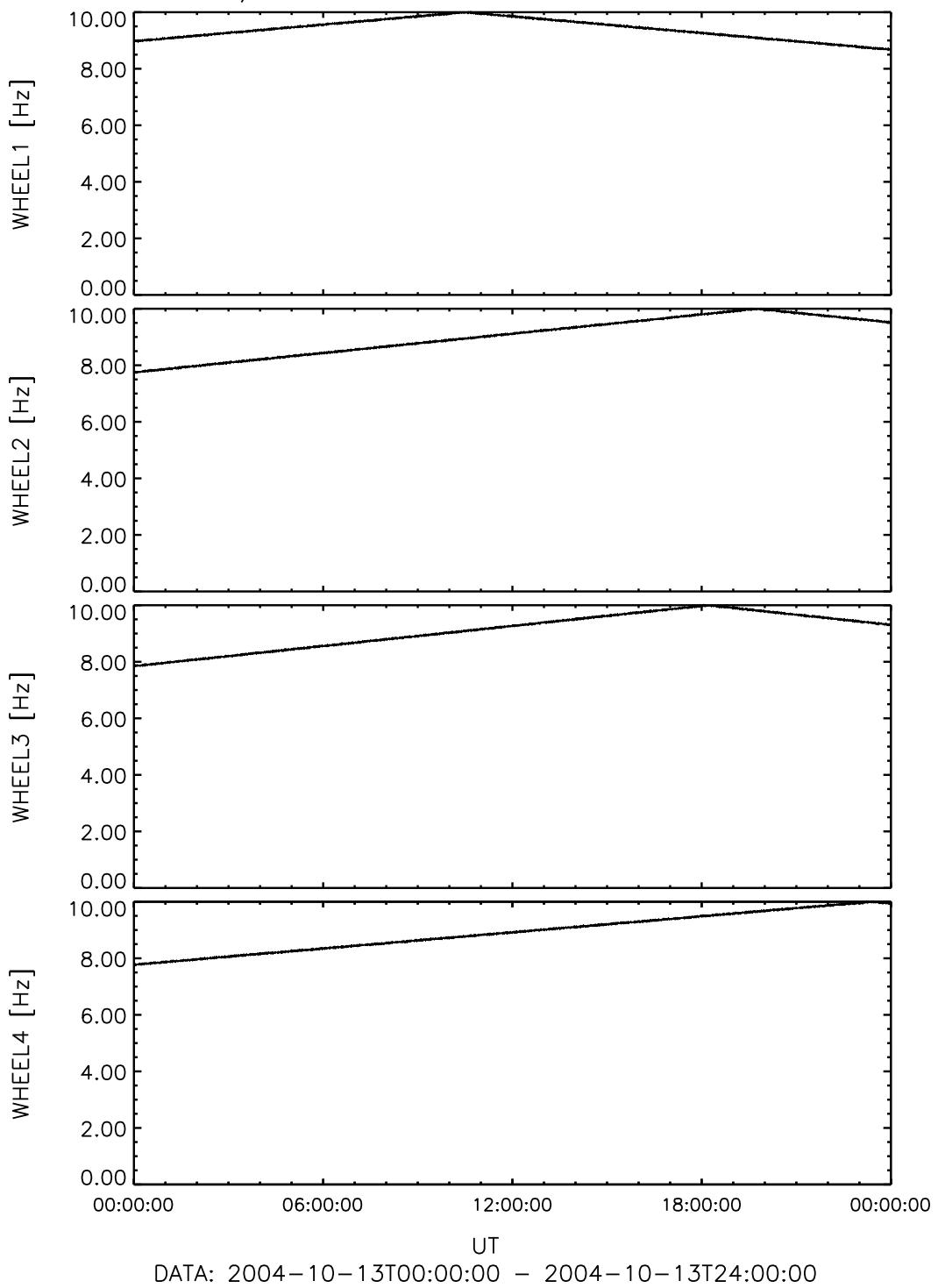


Figure 156: File: wheels_20Hz_Sampling2004-10-13T00-00

9.4 Plots of Reaction Wheel and LAP Disturbance corrected Data

The following plots show the dynamic spectra of the LEVEL_H data. These data have been purged from ROSETTAs reaction wheel disturbance and also from the disturbance of the LAP instrument. Plots are only shown for the primary sensor.

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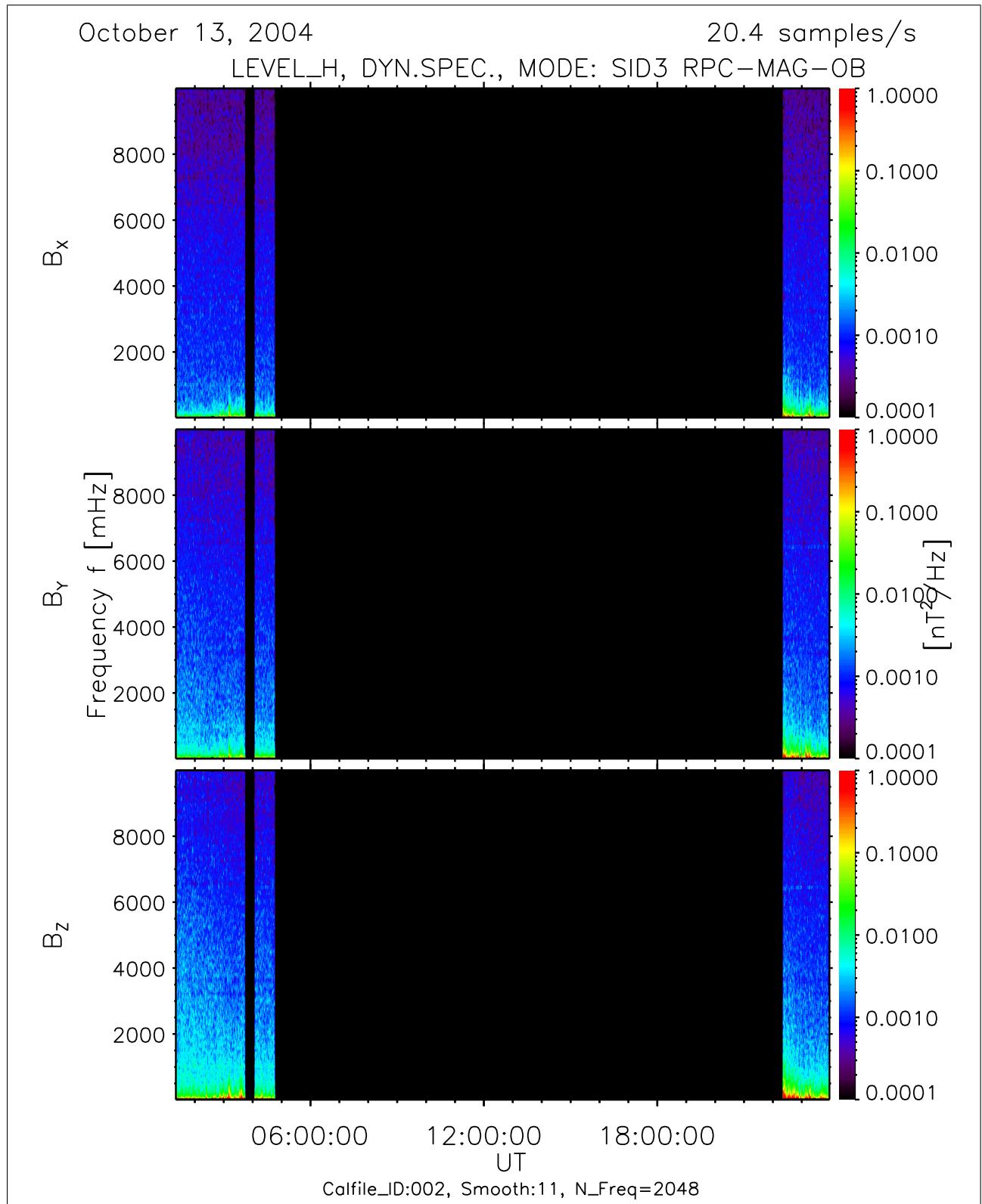


Figure 157: File: RPCMAG041013T0119_CLH_OB_M3_DS0_10000_002

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10 October 14, 2004:

10.1 Actions

The Instrument was switched off at 01:47.

Time	Stage A, Stage B, Filter cfg	Stage 1, Stage 2, Stage3	Mode
00:00 – 01:46	0 0 0	0 0 0	SID3

10.2 Plots of Calibrated Data using the new Temperature Model

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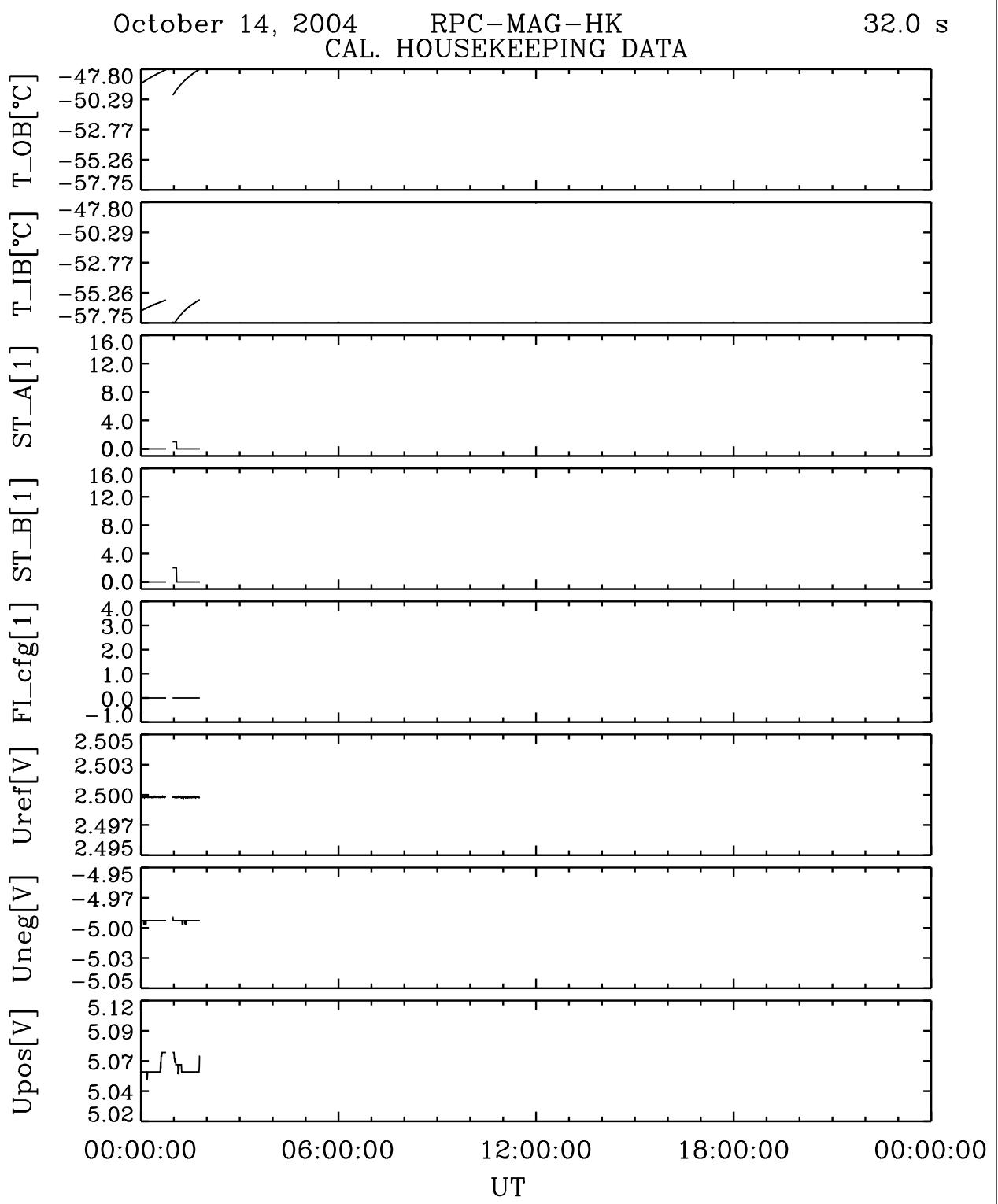


Figure 158: File: RPCMAG041014T0000_CLA_HK_P0000_2400

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October 14, 2004 RPC-MAG-HK
HOUSEKEEPING B_OB DATA 32.0 s

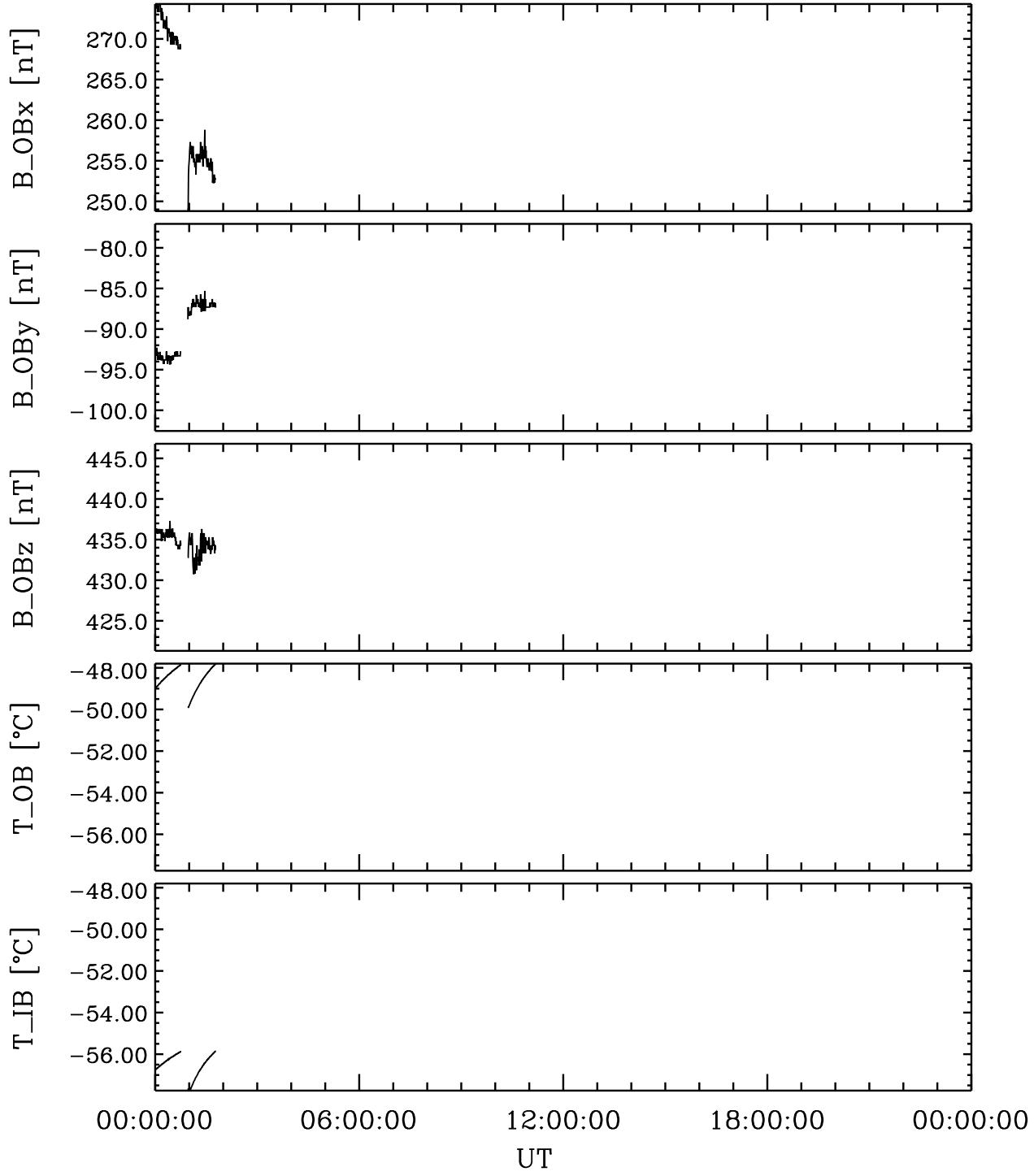


Figure 159: File: RPCMAG041014T0000_CLA_HK_B_P0000_2400

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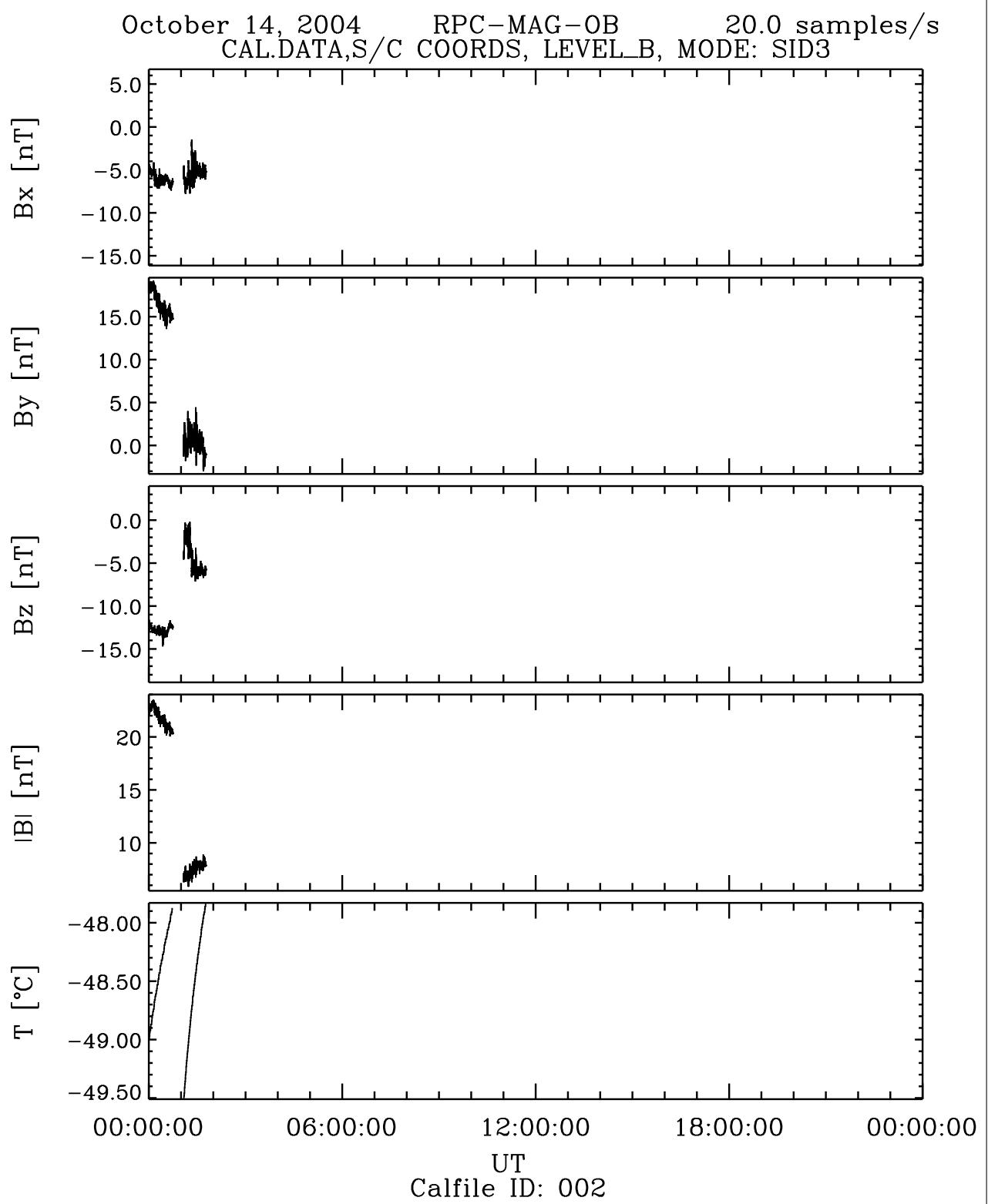


Figure 160: File: RPCMAG041014T0000_CLB_OB_M3_T0000_2400_002

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October 14, 2004 RPC-MAG-IB
CAL.DATA,S/C COORDS, LEVEL_B, MODE: SID3 1.0 s

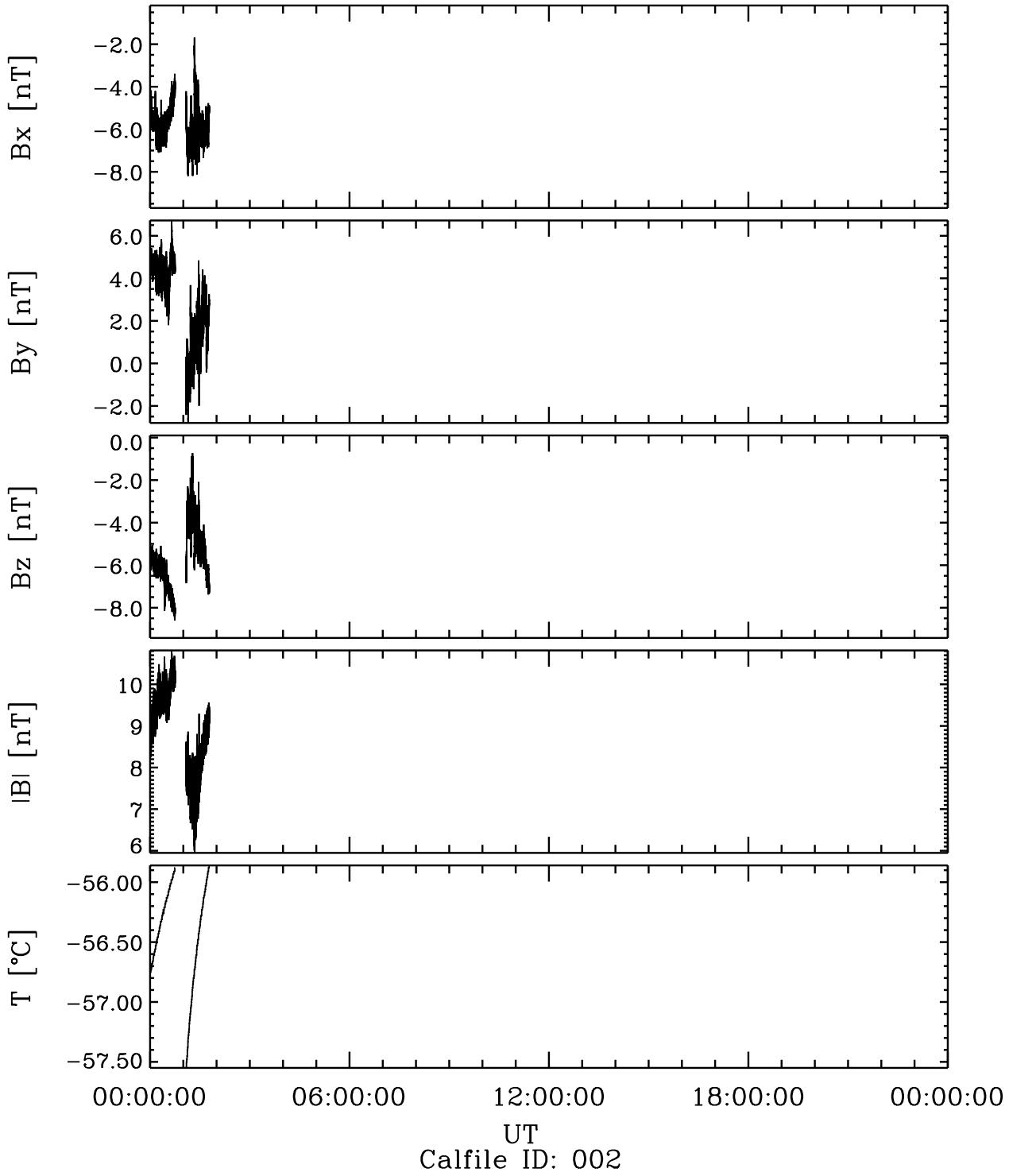


Figure 161: File: RPCMAG041014T0000_CLB_IB_M3_T0000_2400_002

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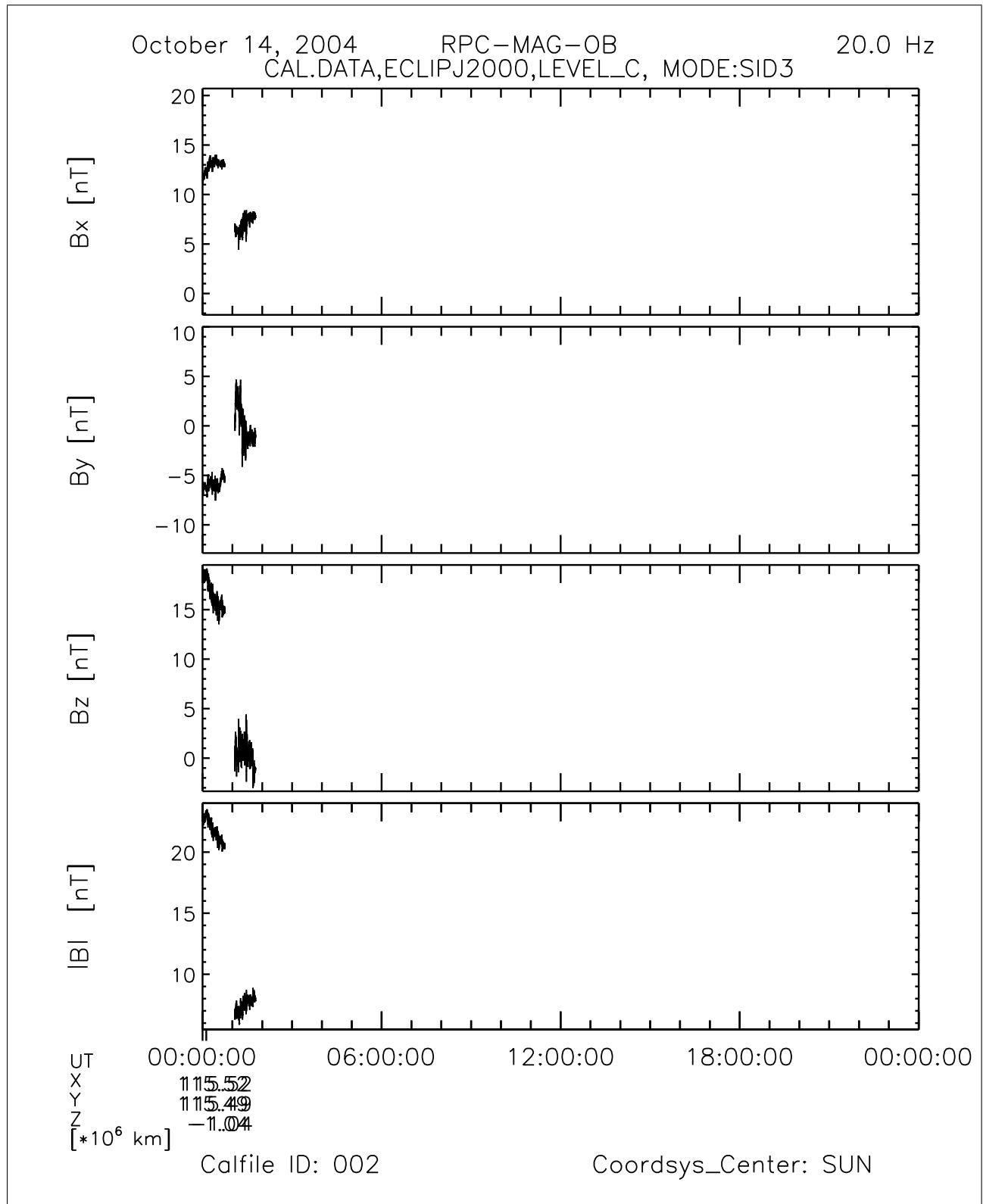


Figure 162: File: RPCMAG041014T0000_CLC_OB_M3_T0000_2400_002

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October 14, 2004 RPC-MAG-IB
 CAL.DATA,ECLIPJ2000,LEVEL_C, MODE:SID3 1.0 s

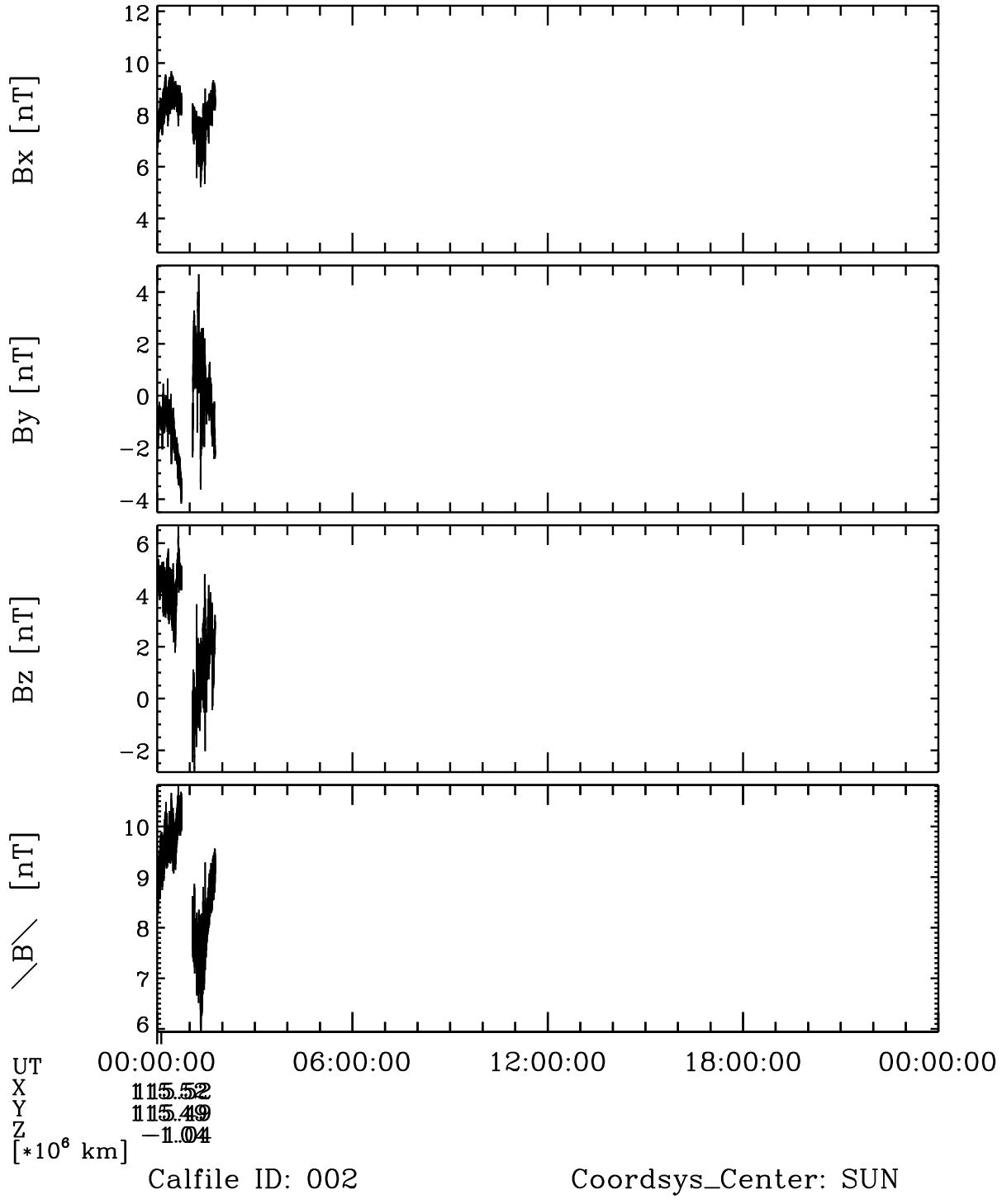


Figure 163: File: RPCMAG041014T0000_CLC_IB_M3_T0000_2400_002

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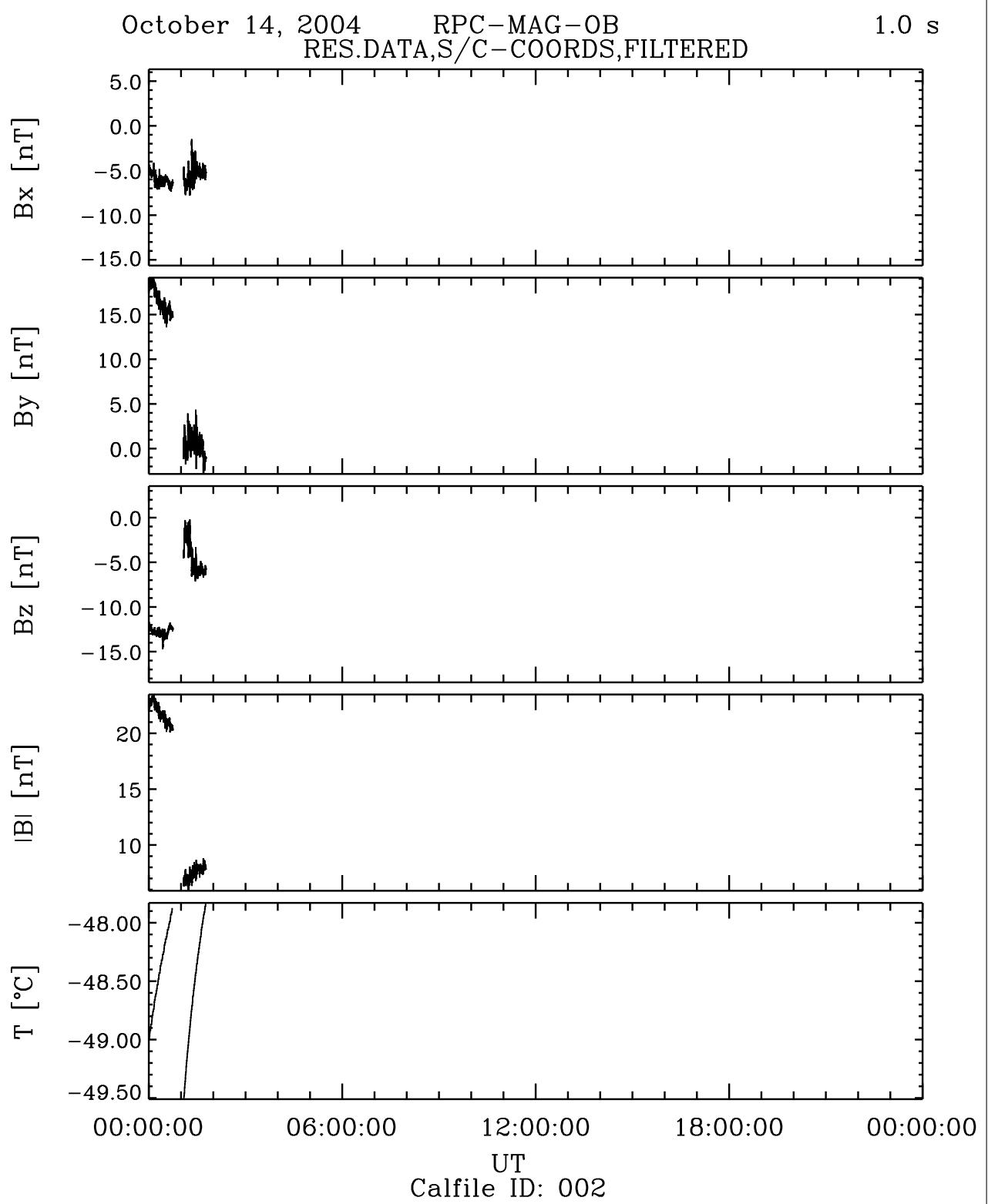


Figure 164: File: RPCMAG041014_CLF_OB_A1_T0000_2400_002

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October 14, 2004 RPC-MAG-IB
RES.DATA,S/C-COORDS,FILTERED 1.0 s

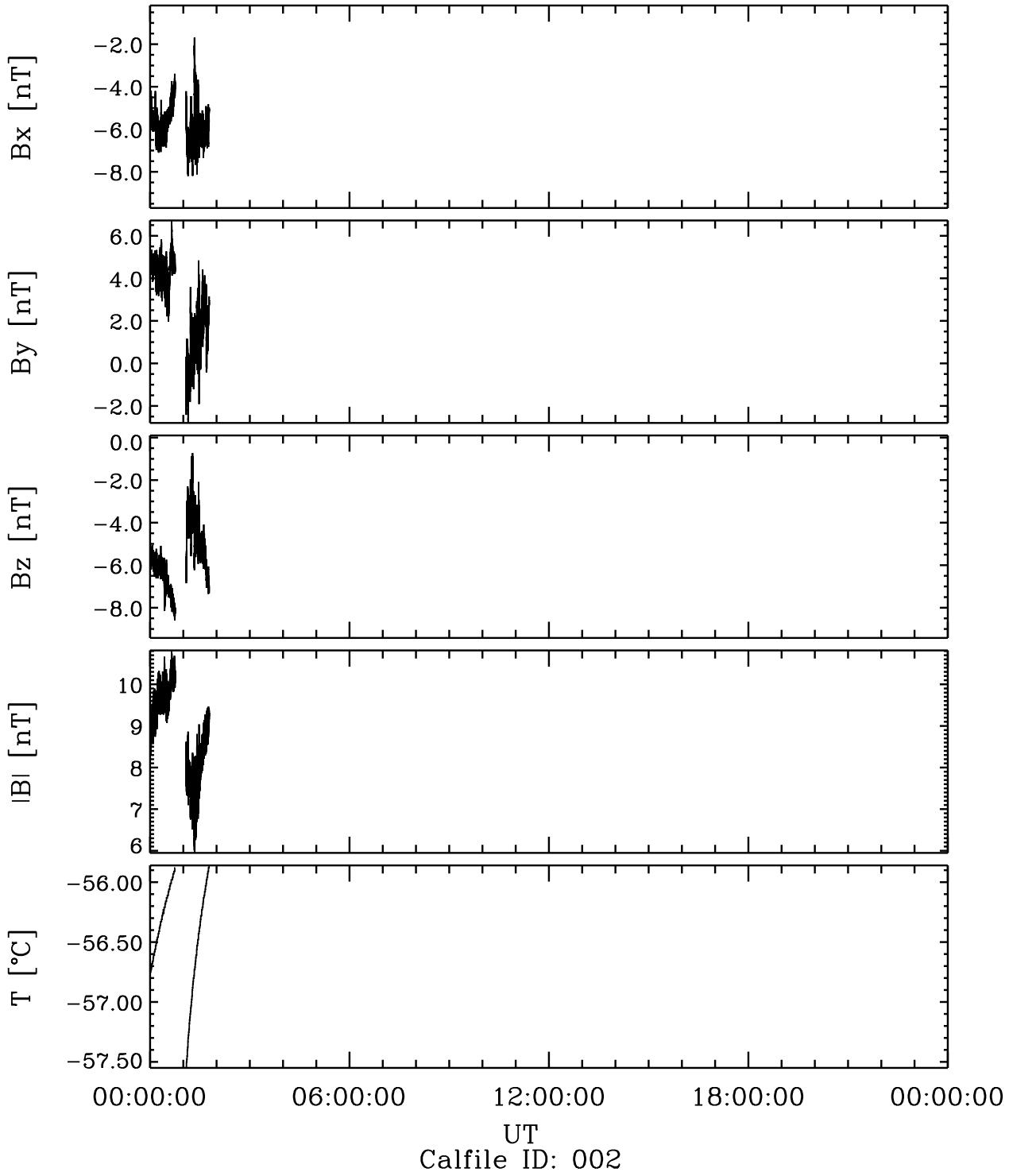


Figure 165: File: RPCMAG041014_CLF_IB_A1_T0000_2400_002

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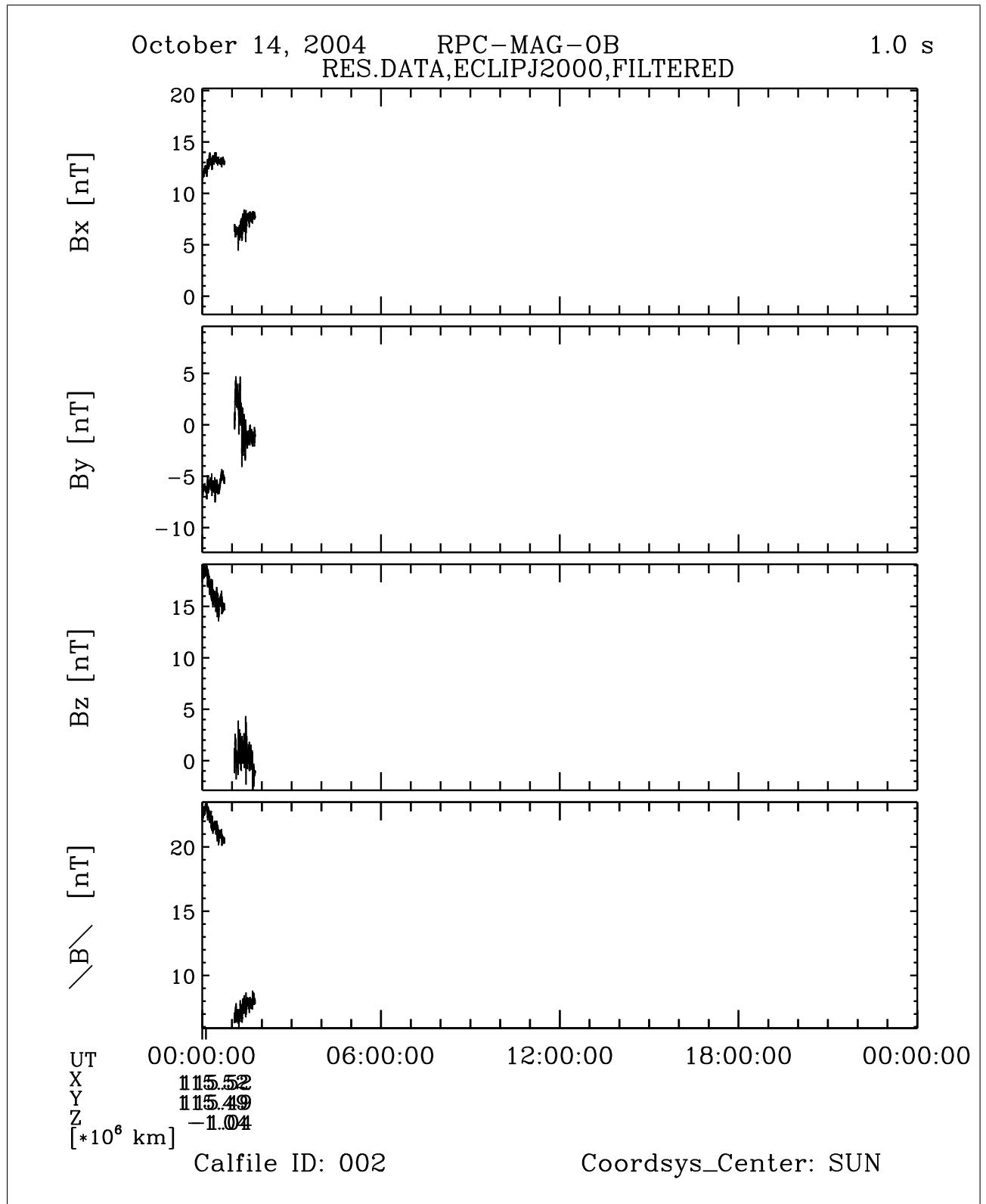


Figure 166: File: RPCMAG041014_CLG_OB_A1_T0000_2400_002

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October 14, 2004 RPC-MAG-IB
RES.DATA,ECLIPJ2000,FILTERED 1.0 s

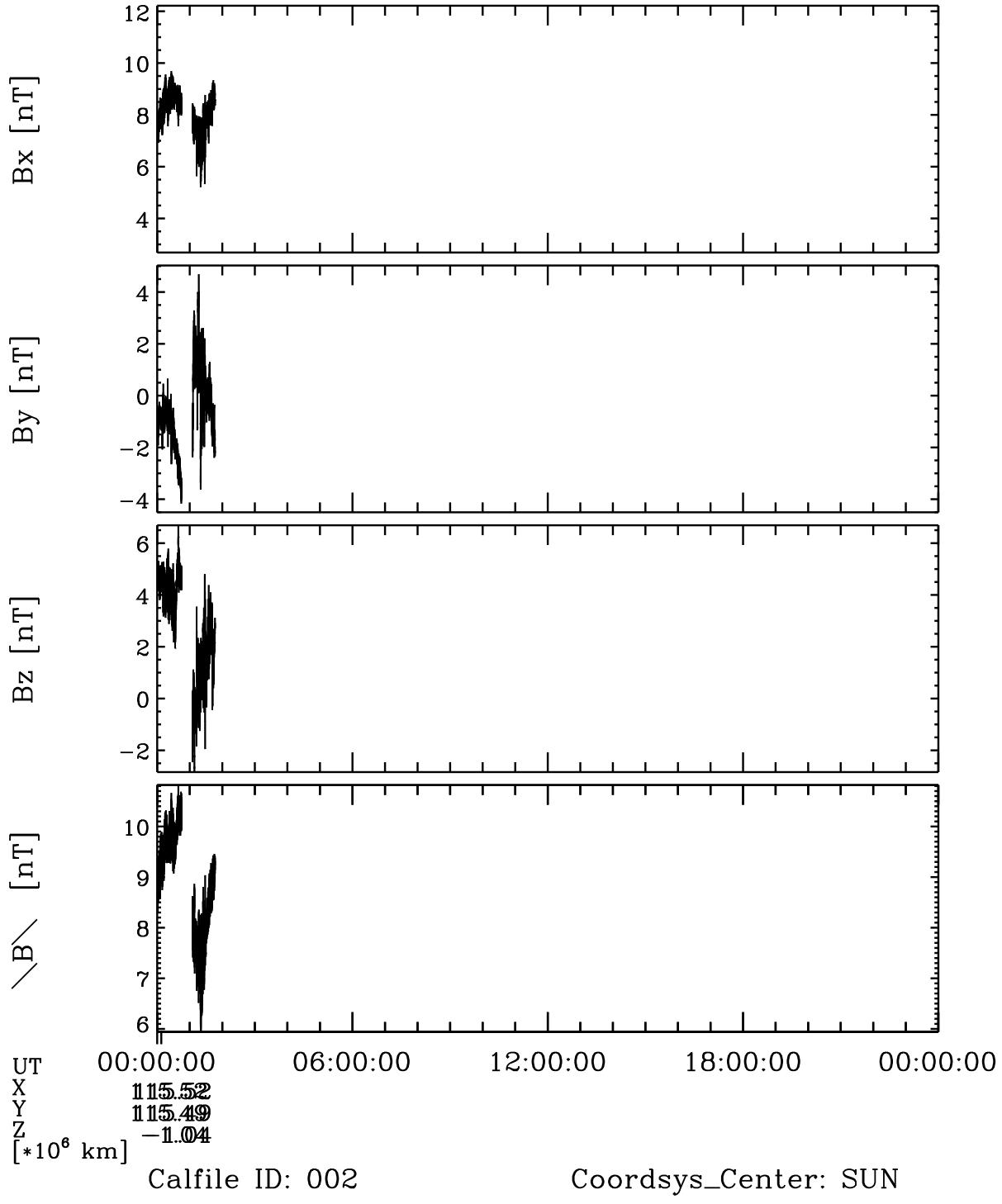


Figure 167: File: RPCMAG041014_CLG_IB_A1_T0000_2400_002

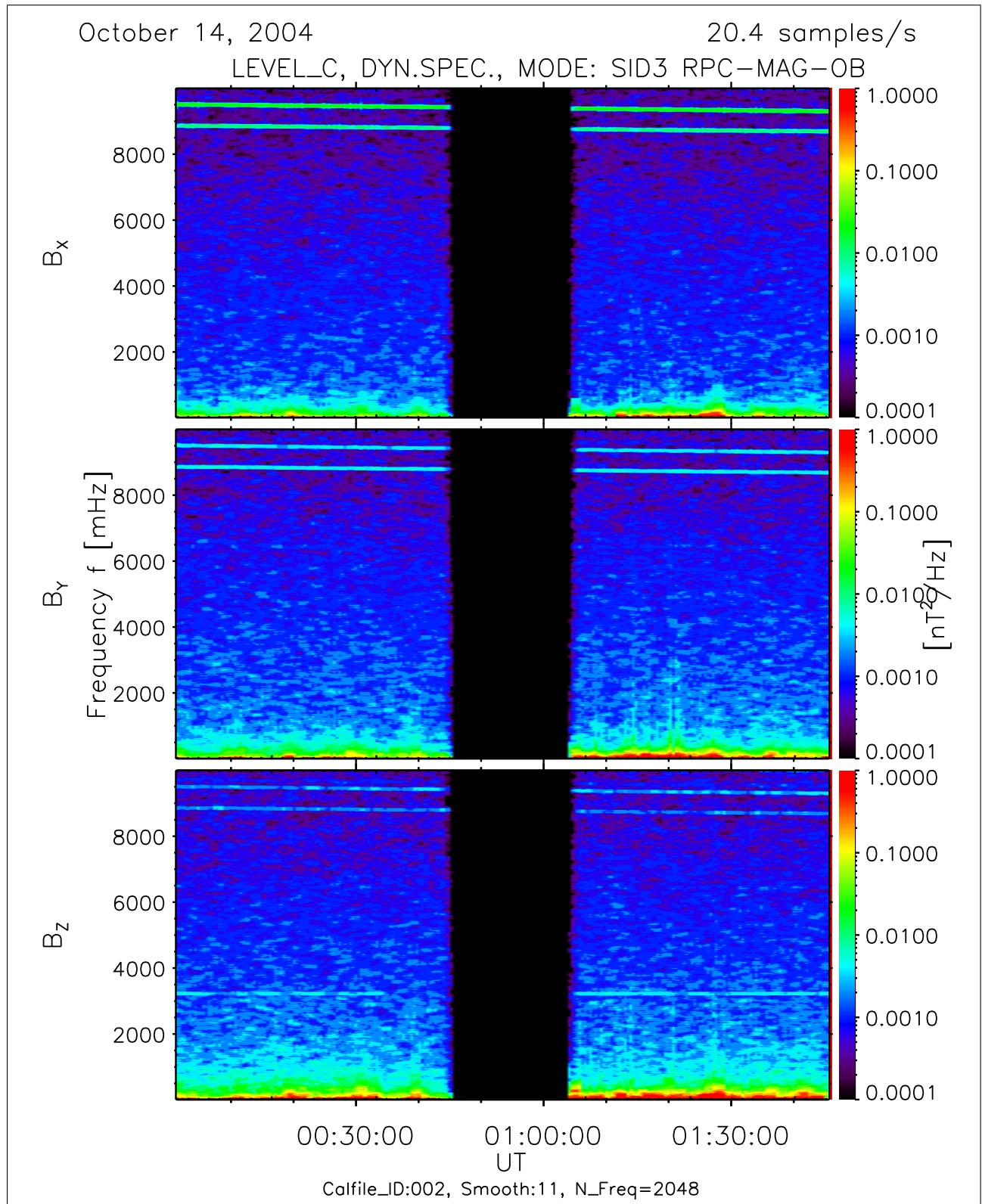


Figure 168: File: RPCMAG041014T0000_CLC_OB_M3_DS0_10000_002

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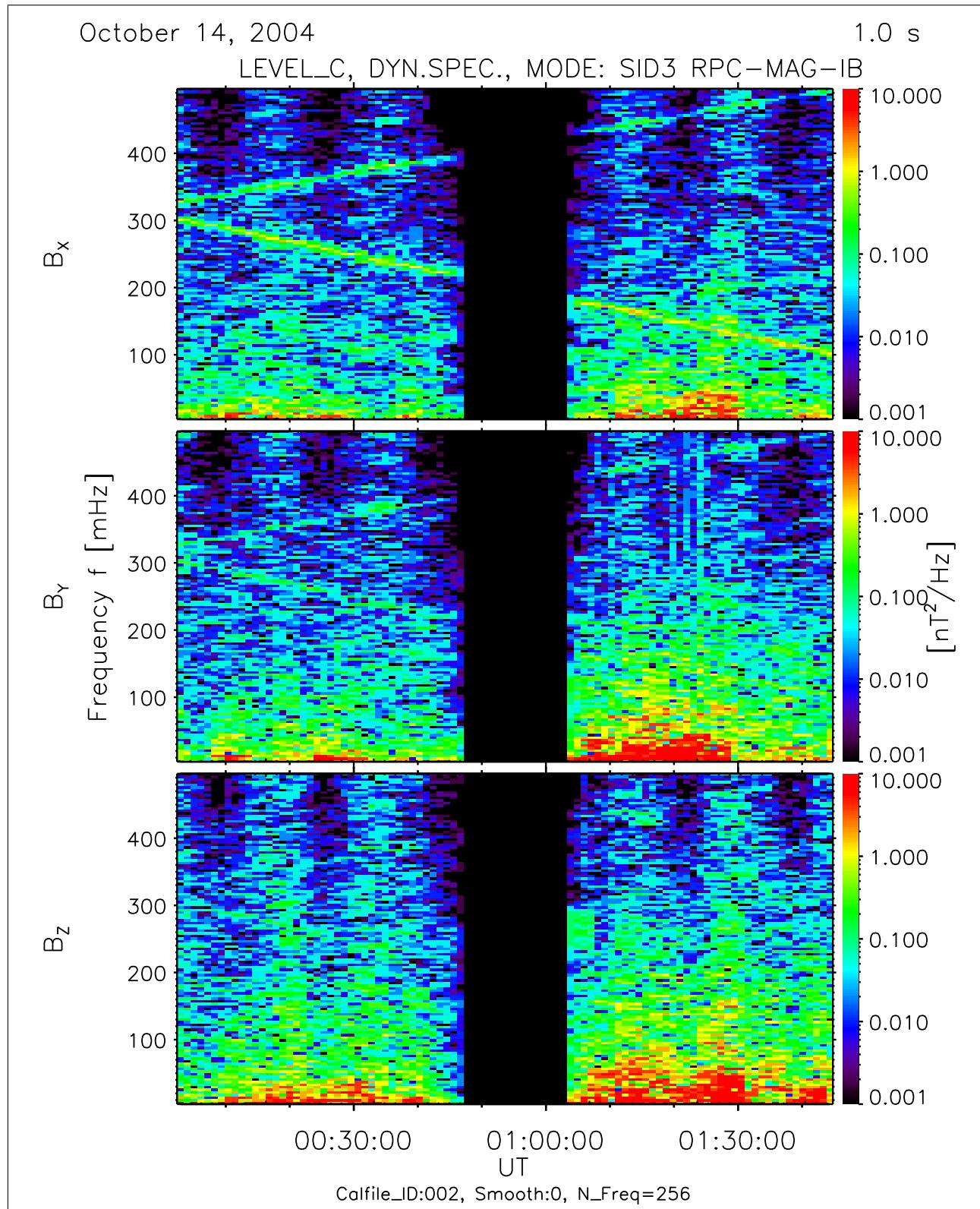


Figure 169: File: RPCMAG041014T0000_CLC_IB_M3_DS0_500_002

10.3 Plots of ROSETTA's Reaction Wheels Speeds

The following plots show the time series of the revolutions of the 4 reaction wheels. Two kinds of data are shown:

- The original reaction wheel data as they are stored in the DDS.
- The theoretical response of the wheels impact seen by an instrument sampling with different frequencies. Here the response at 20 Hz, and 1 Hz sampling frequency is plotted.

A comparison with the dynamic spectra of the MAG data gives an impressive accordance between the reaction wheel frequencies and the spectral lines observed in the dynamic MAG spectra.

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October 14, 2004

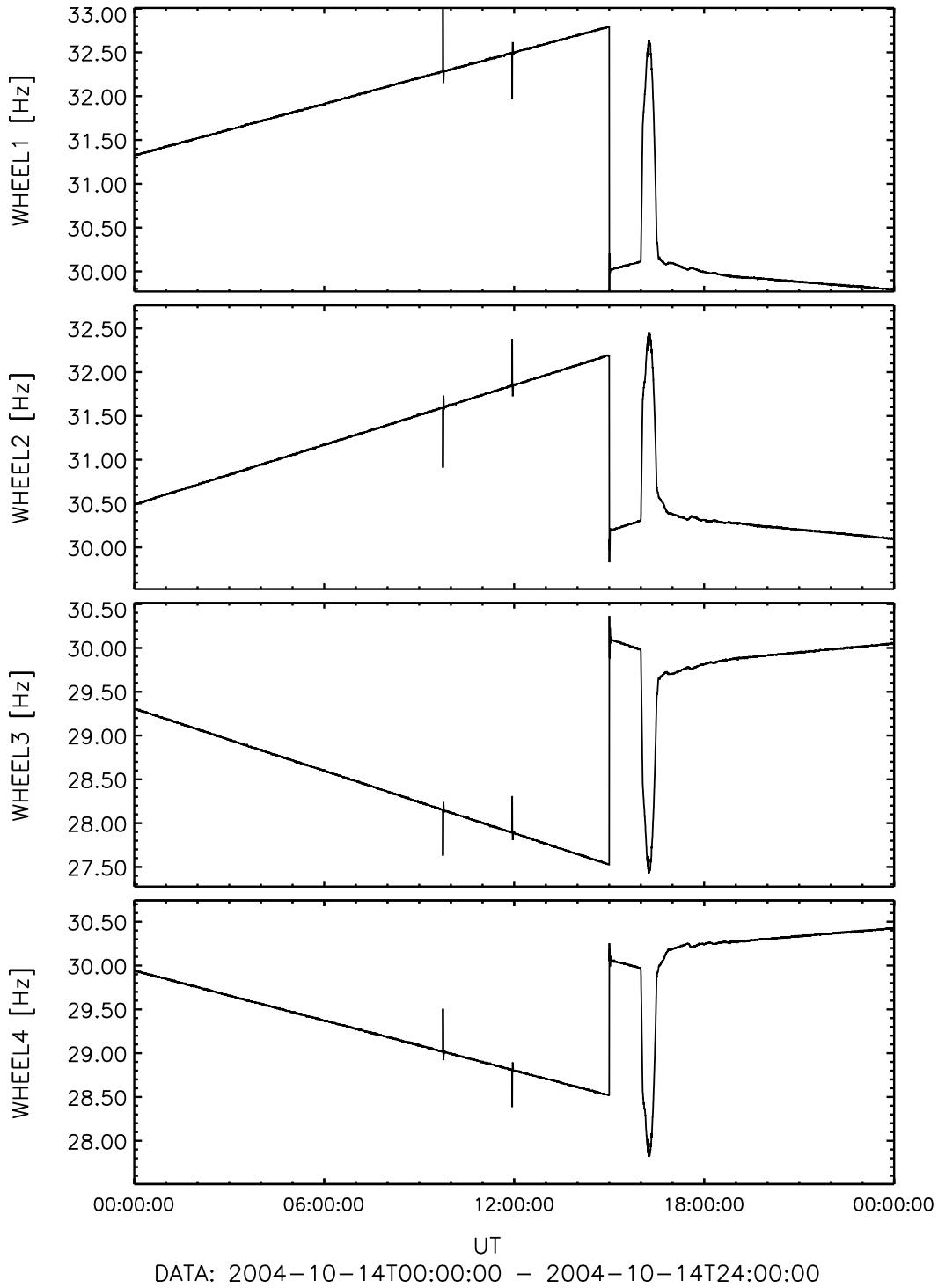


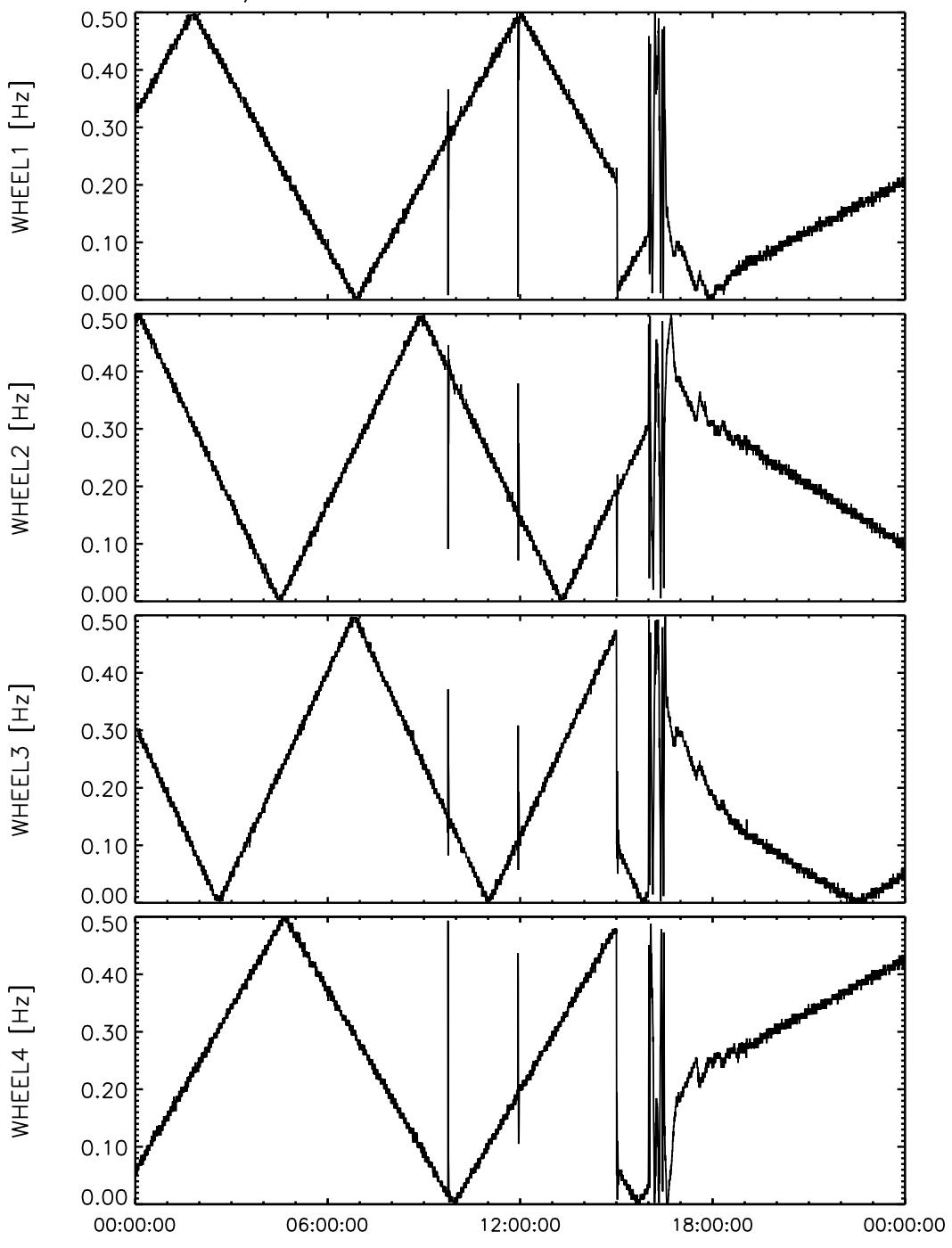
Figure 170: File: wheels_Hz2004-10-14T00-00

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Reaction Wheels – Response at 1Hz Sampling
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DATA: 2004-10-14T00:00:00 – 2004-10-14T24:00:00

Figure 171: File: wheels_1Hz_Sampling2004-10-14T00-00

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Reaction Wheels – Response at 20 Hz Sampling
October 14, 2004

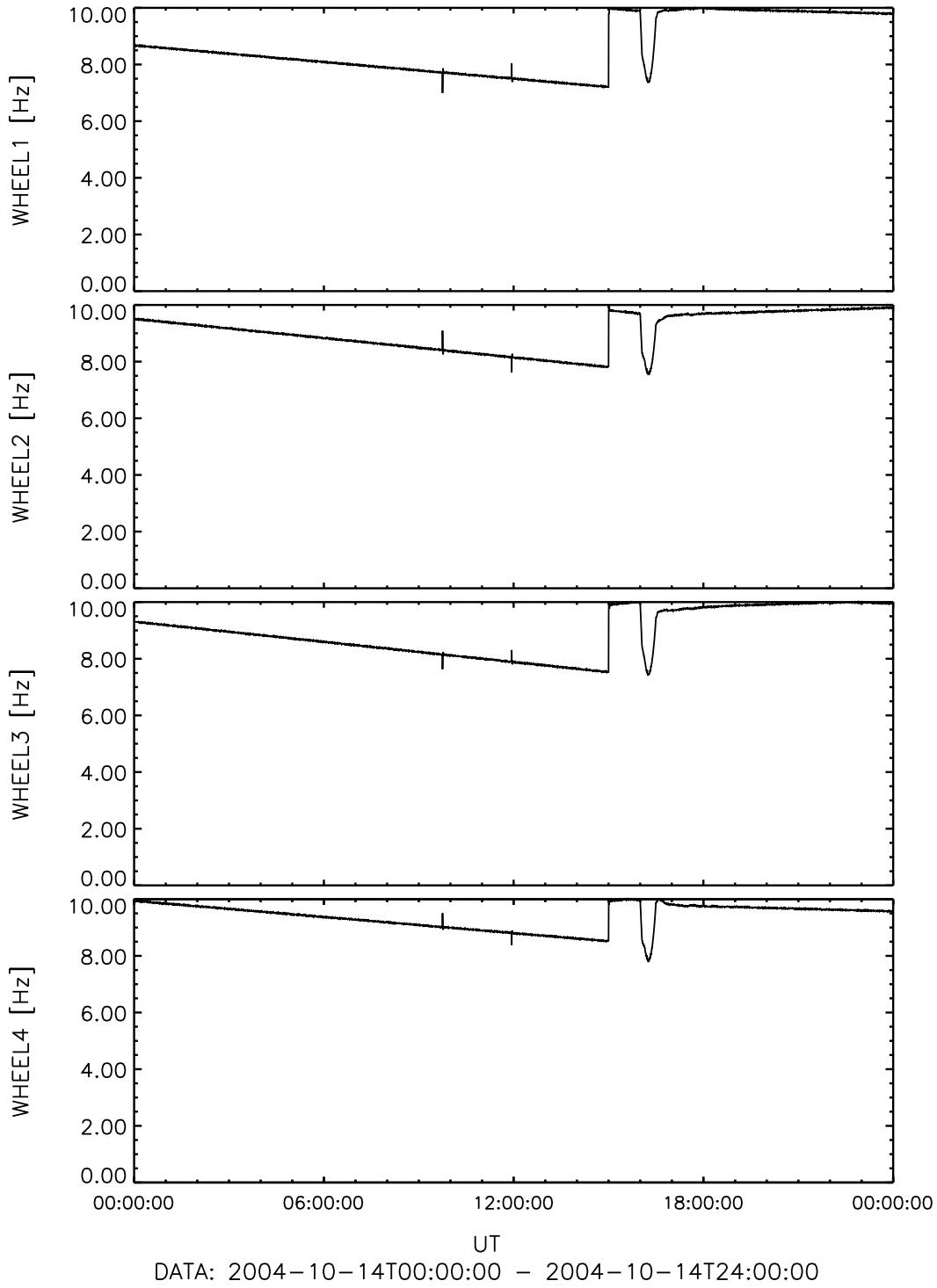


Figure 172: File: wheels_20Hz_Sampling2004-10-14T00-00

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10.4 Plots of Reaction Wheel and LAP Disturbance corrected Data

The following plots show the dynamic spectra of the LEVEL_H data. These data have been purged from ROSETTAs reaction wheel disturbance and also from the disturbance of the LAP instrument. Plots are only shown for the primary sensor.

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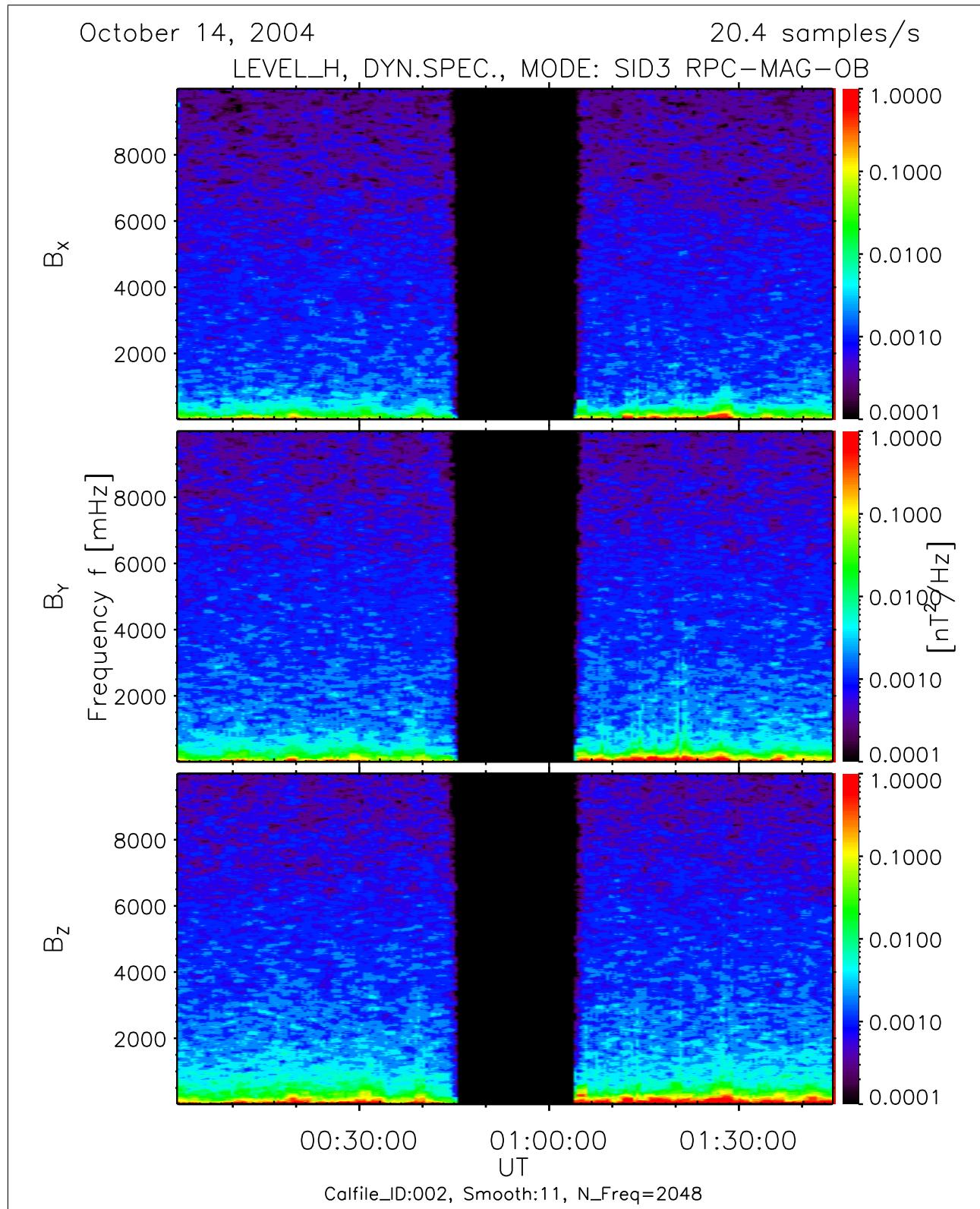


Figure 173: File: RPCMAG041014T0000_CLH_OB_M3_DS0_10000_002