

**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

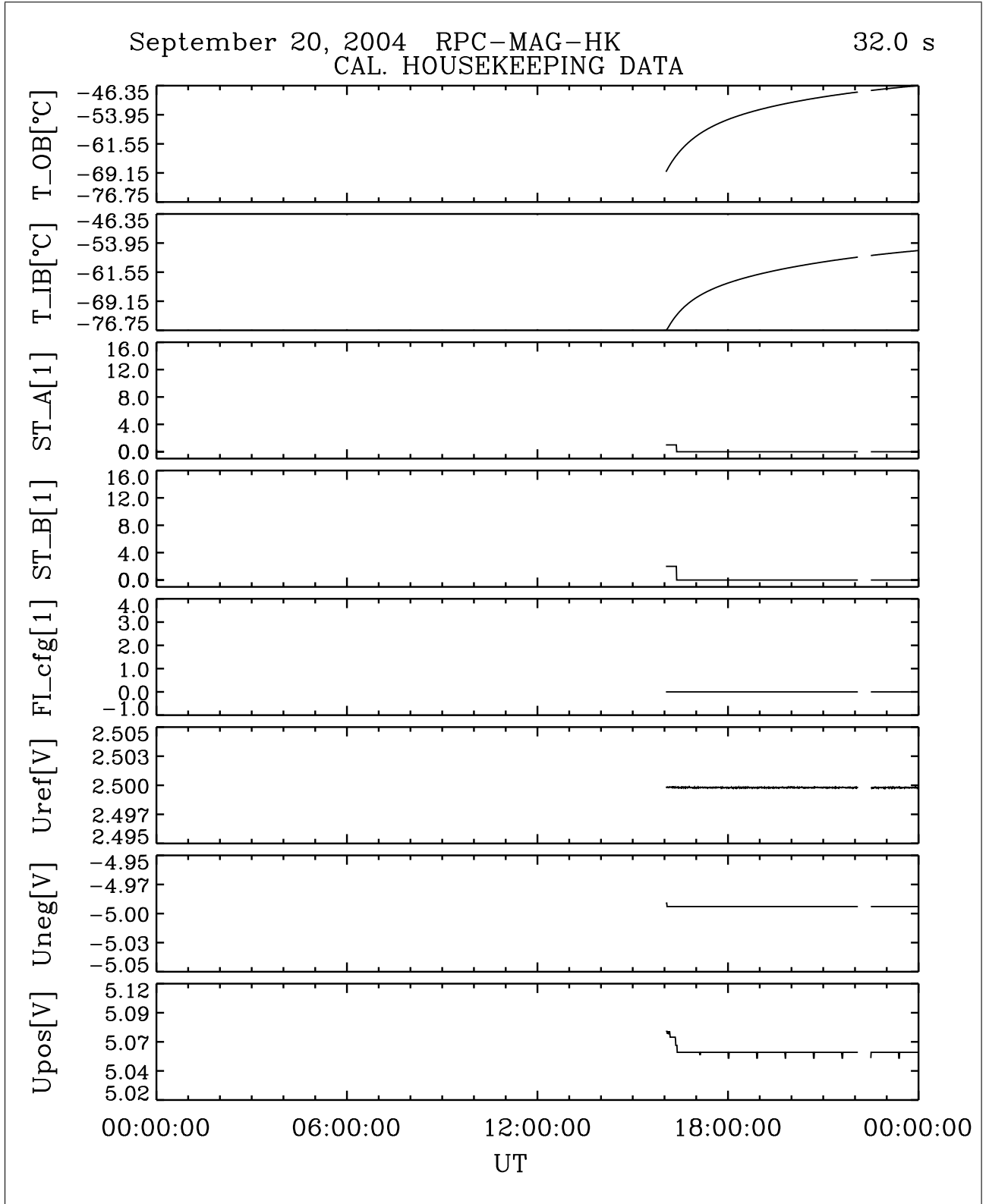


Figure 1: File: RPCMAG040920T1602\_CLA\_HK\_P0000\_2400

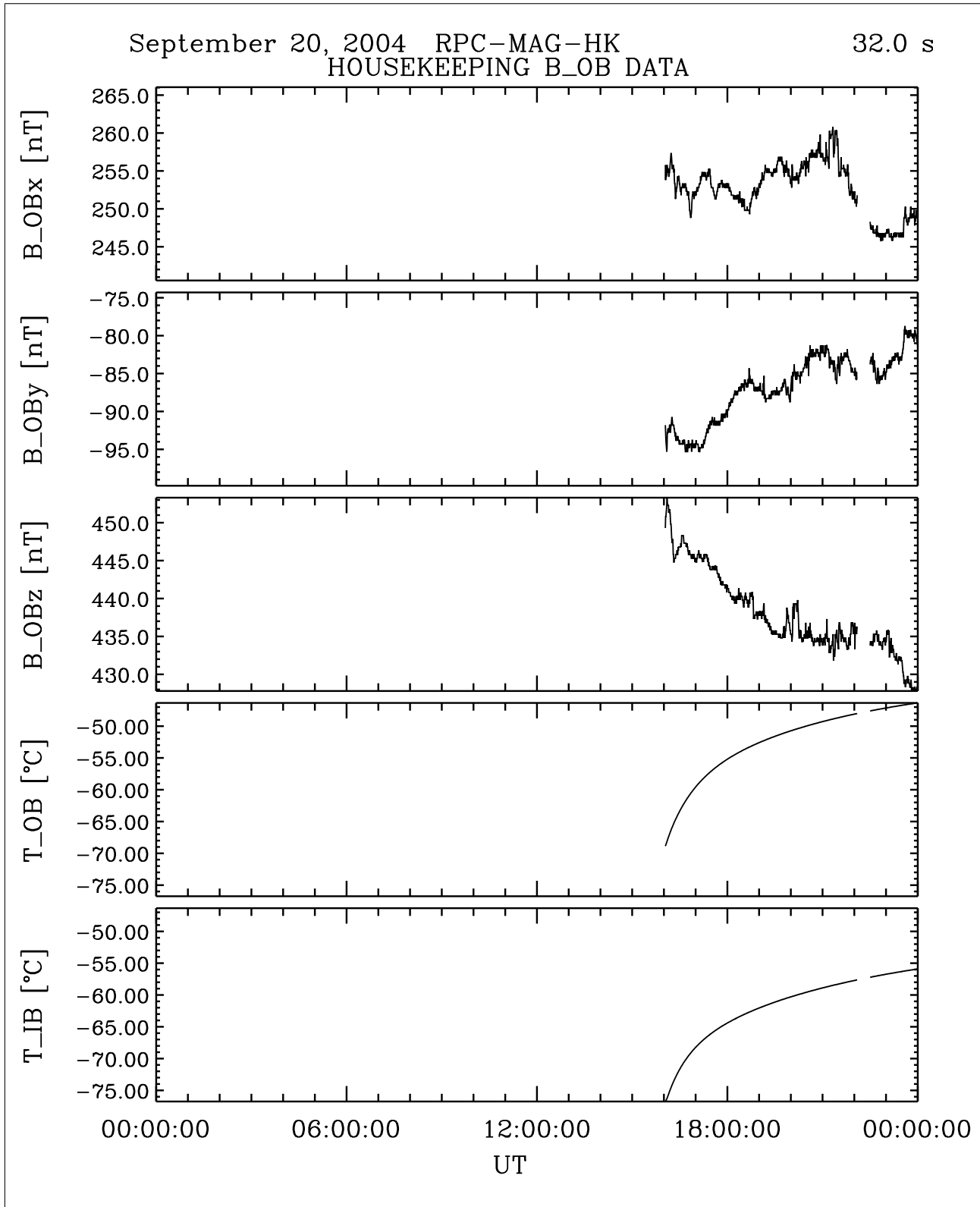


Figure 2: File: RPCMAG040920T1602\_CLA\_HK\_B.P0000\_2400

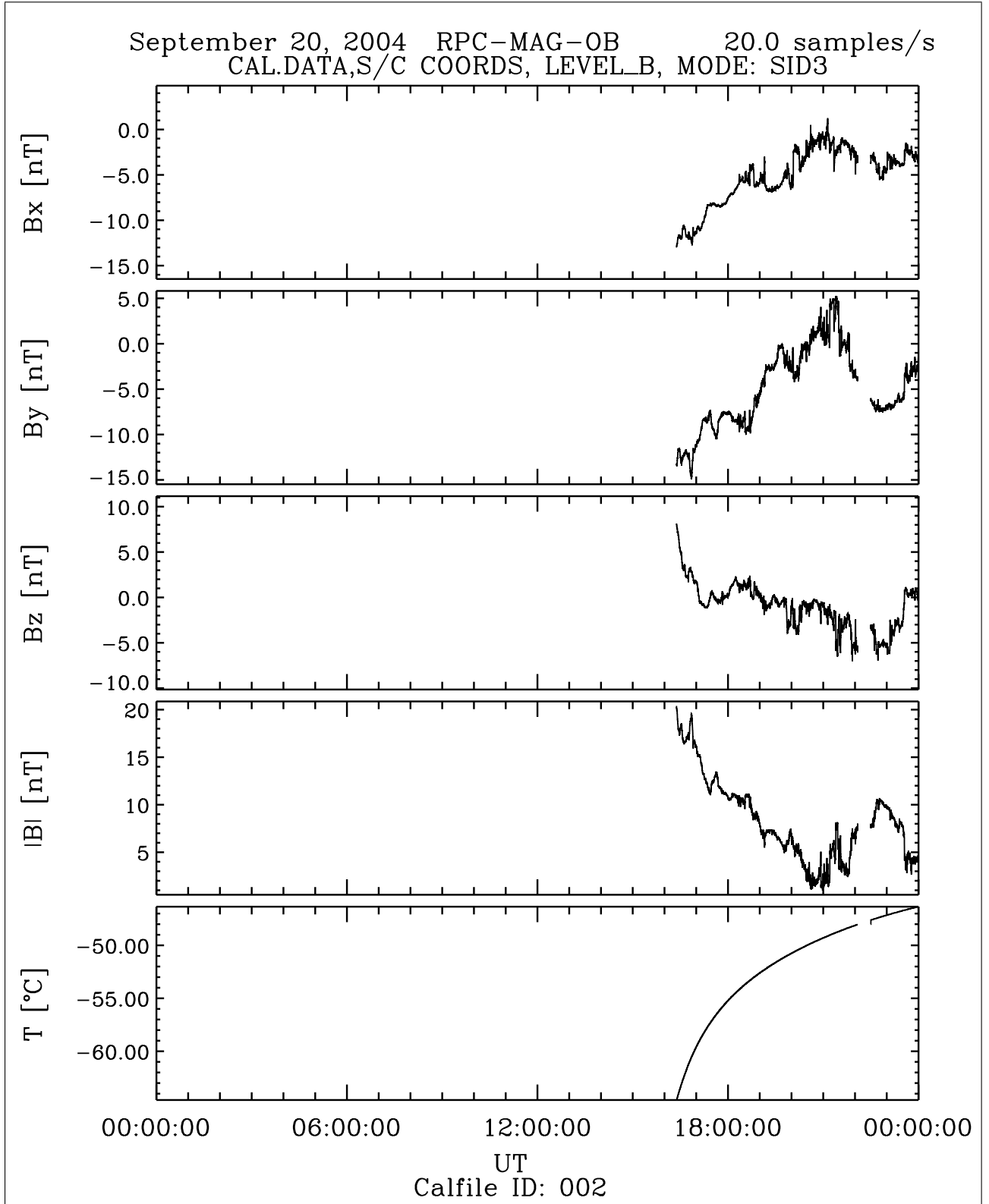


Figure 3: File: RPCMAG040920T1622\_CLB\_OB\_M3\_T0000\_2400\_002

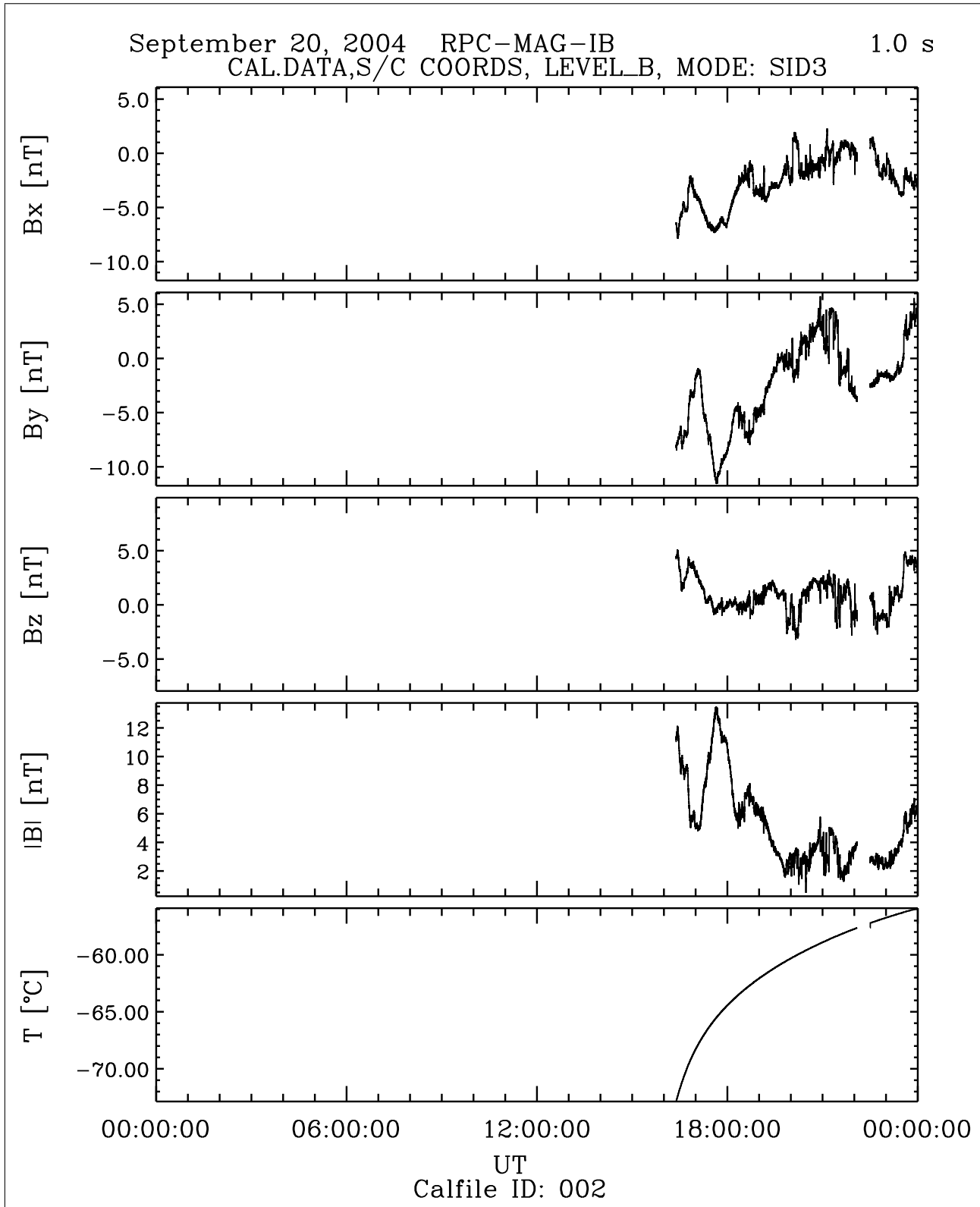


Figure 4: File: RPCMAG040920T1622\_CLB\_IB\_M3\_T0000\_2400\_002

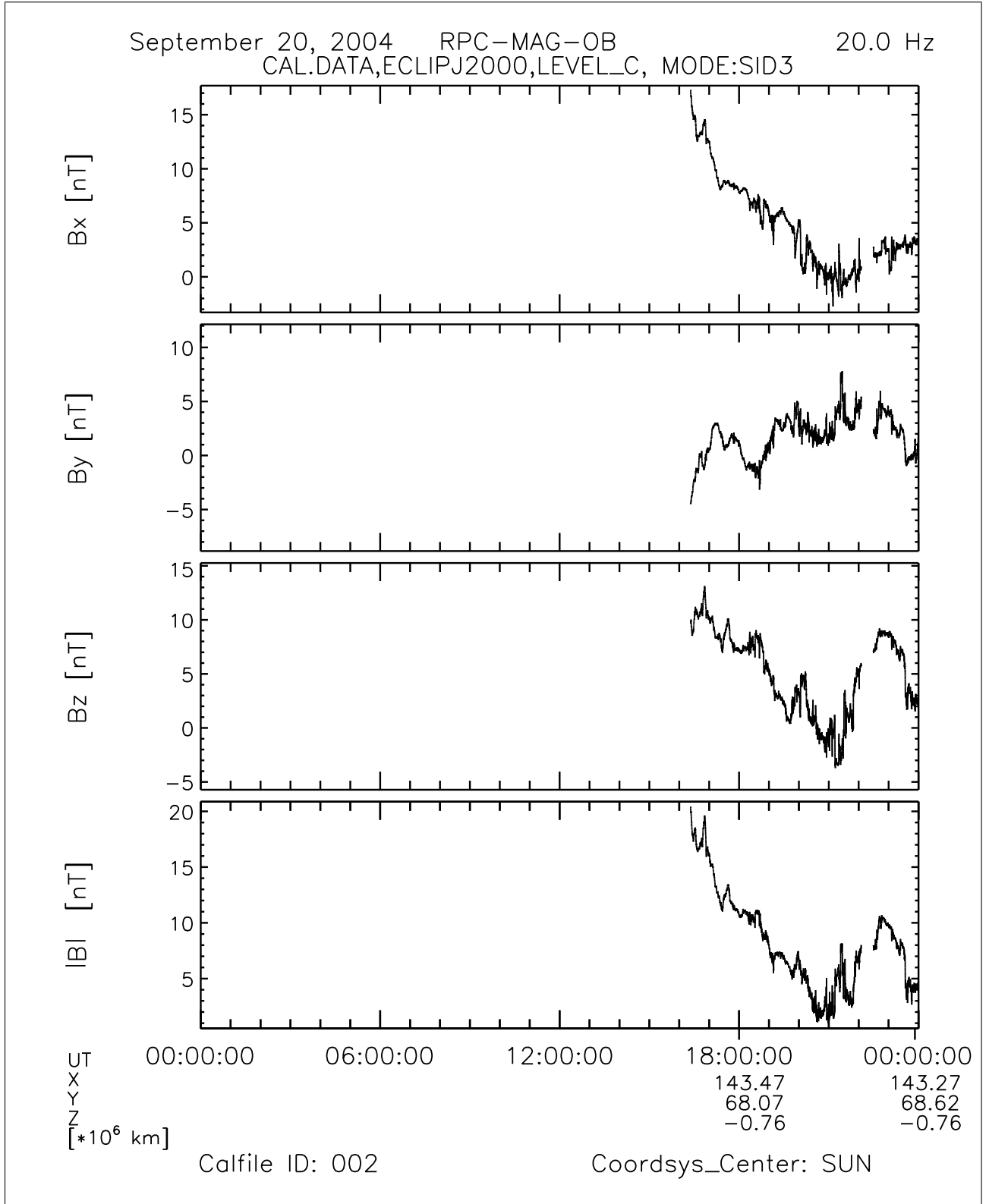


Figure 5: File: RPCMAG040920T1622\_CLC\_OB\_M3\_T0000\_2400\_002

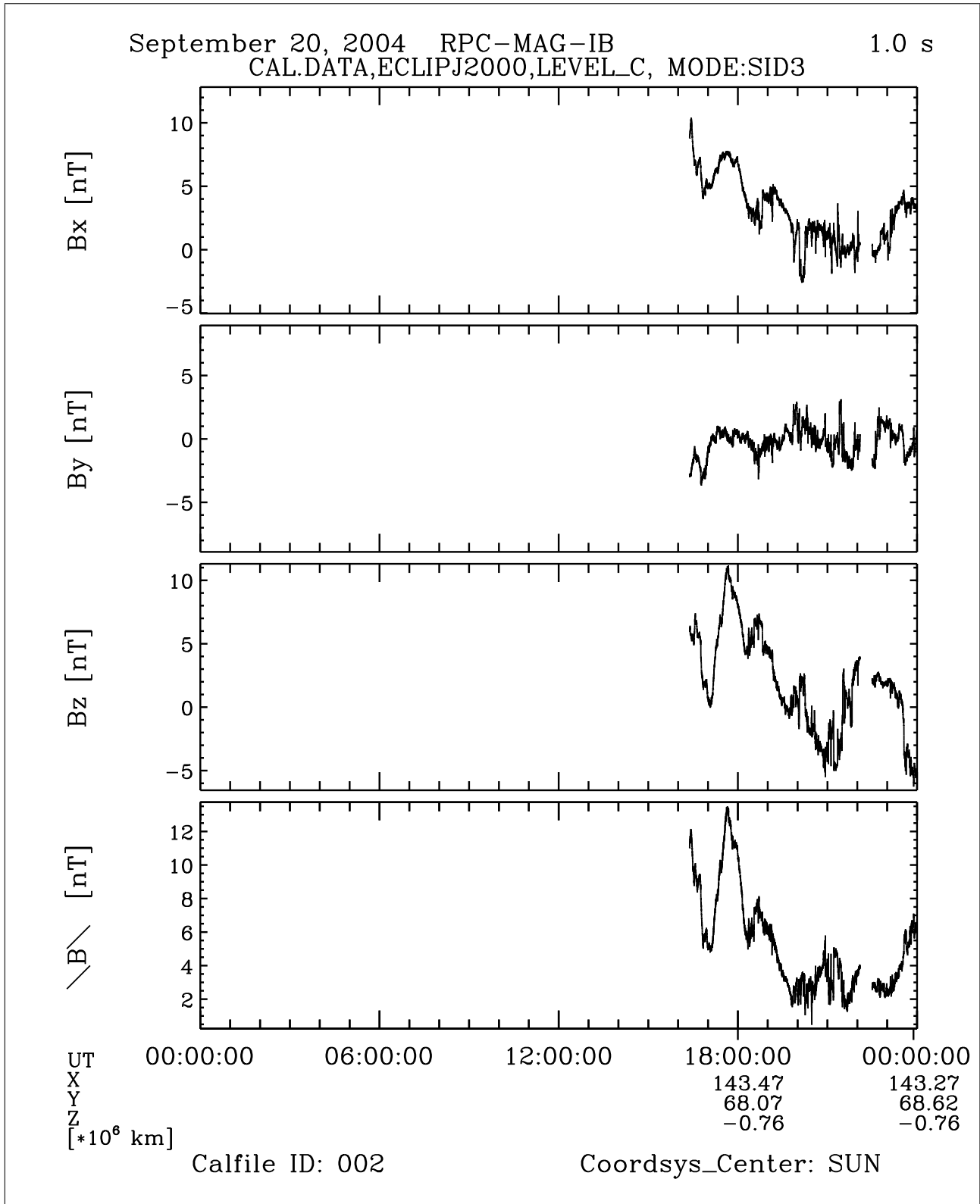


Figure 6: File: RPCMAG040920T1622\_CLC\_IB\_M3\_T0000\_2400\_002

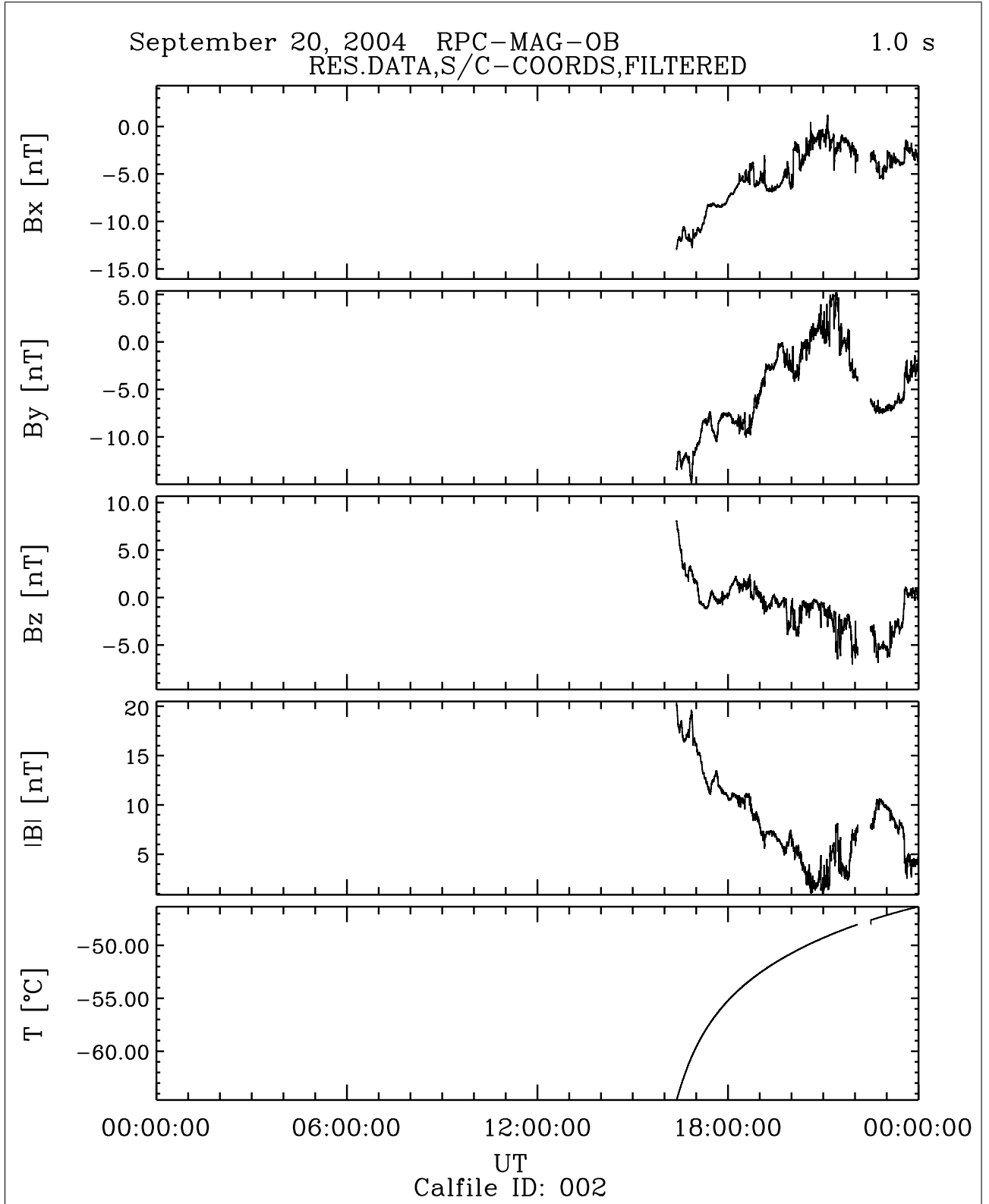


Figure 7: File: RPCMAG040920\_CLF\_OB\_A1\_T0000\_2400\_002



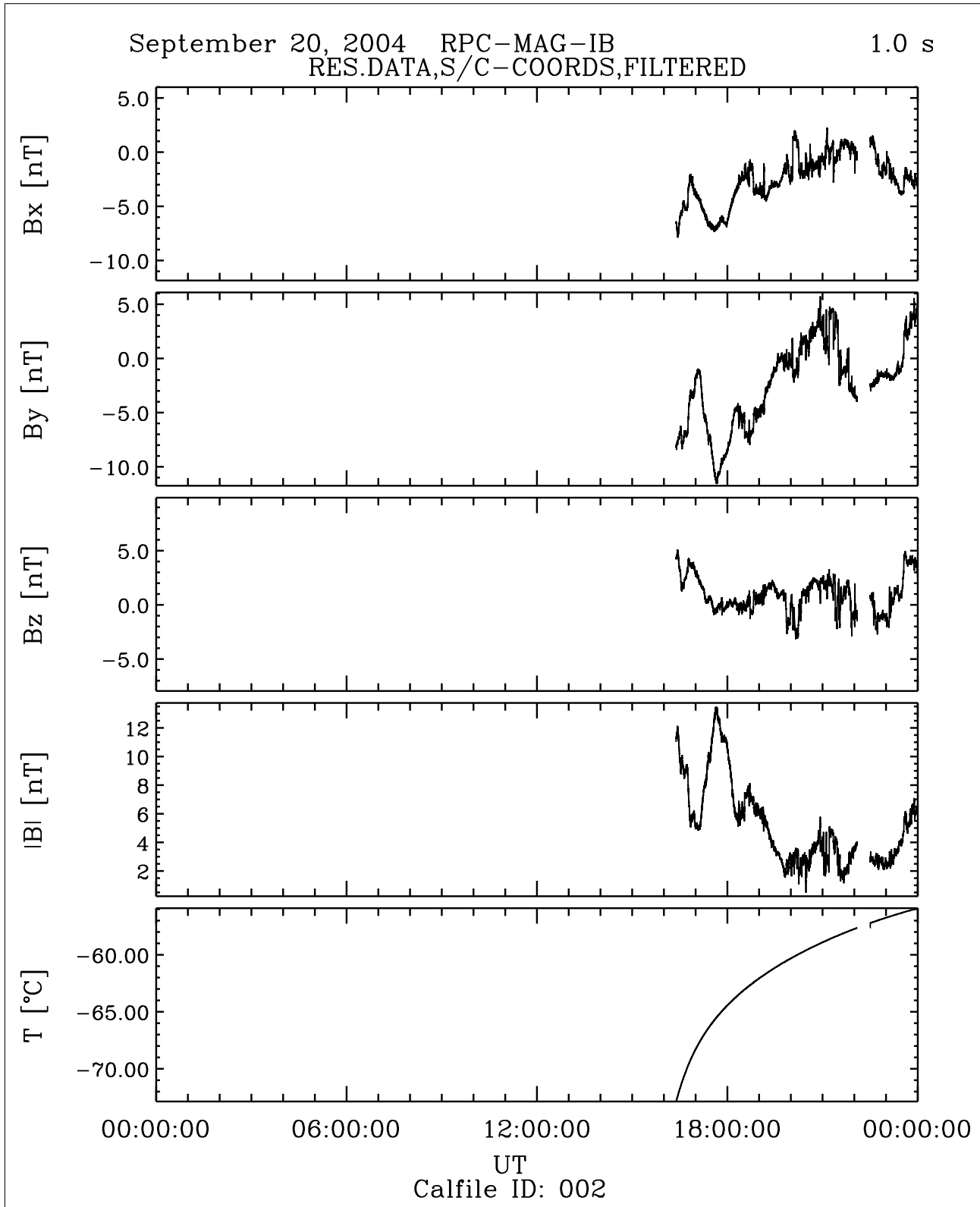


Figure 8: File: RPCMAG040920\_CLF\_IB\_A1.T0000\_2400\_002

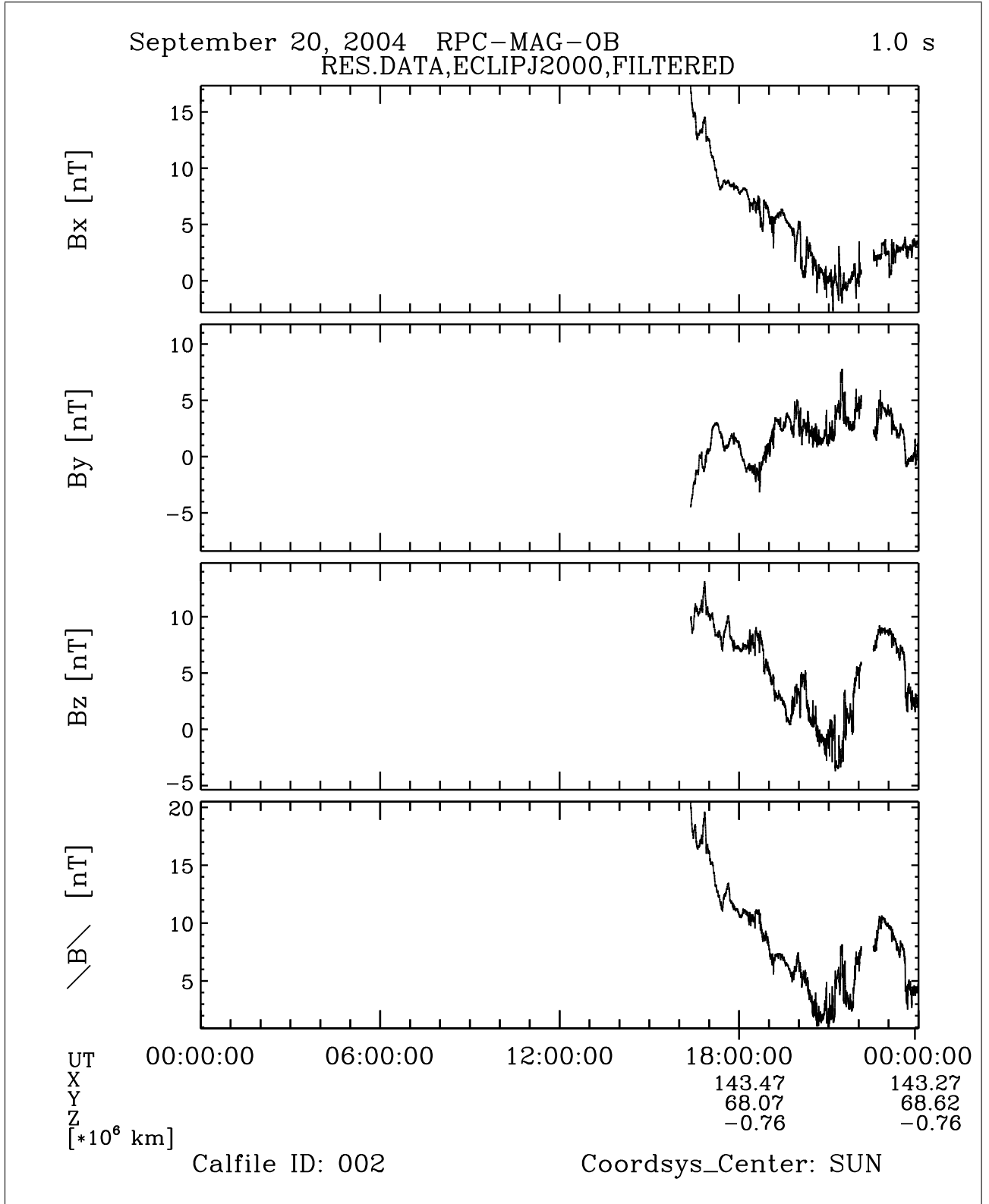


Figure 9: File: RPCMAG040920\_CLG\_OB\_A1\_T0000\_2400\_002

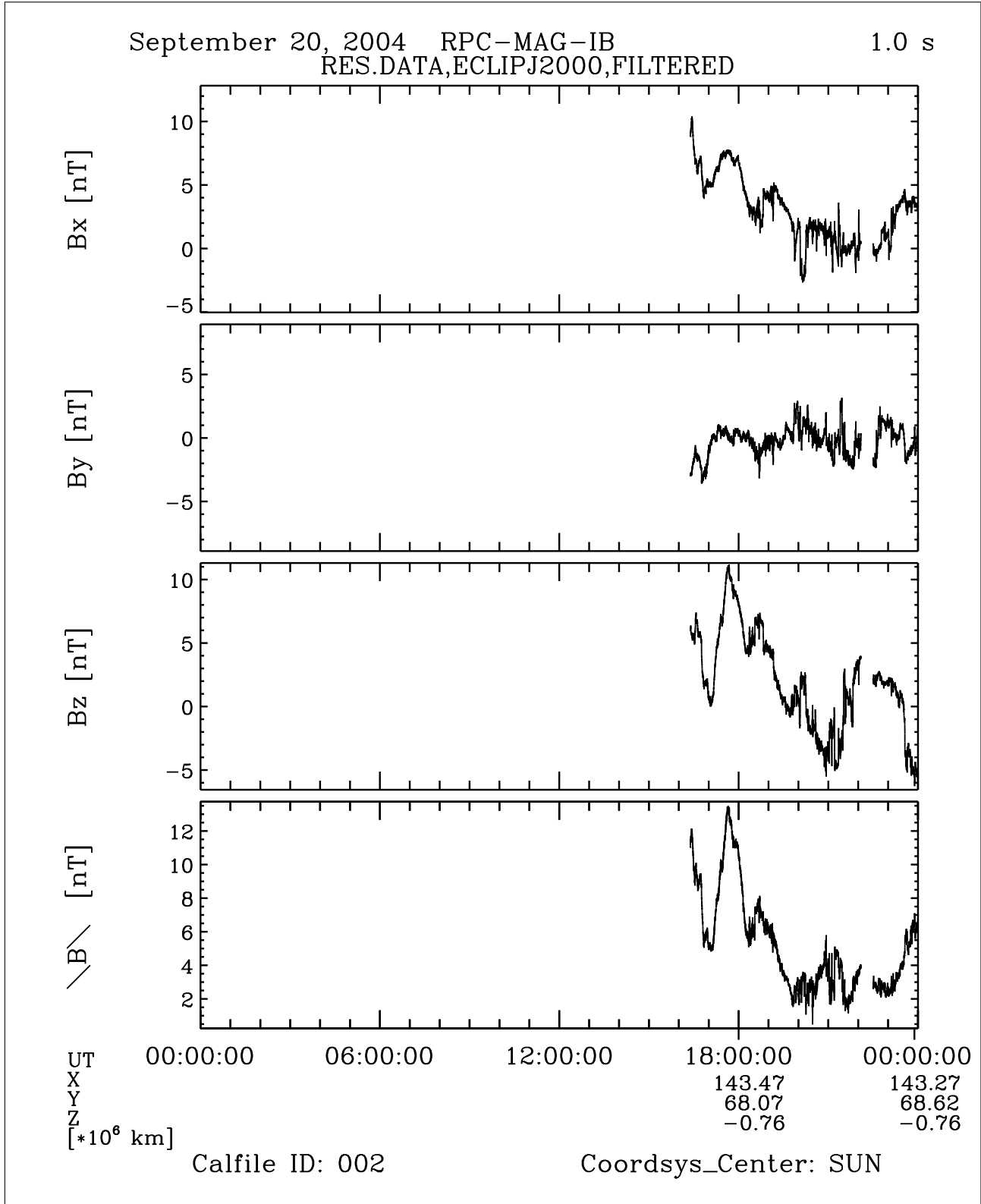


Figure 10: File: RPCMAG040920\_CLG\_IB\_A1\_T0000\_2400\_002

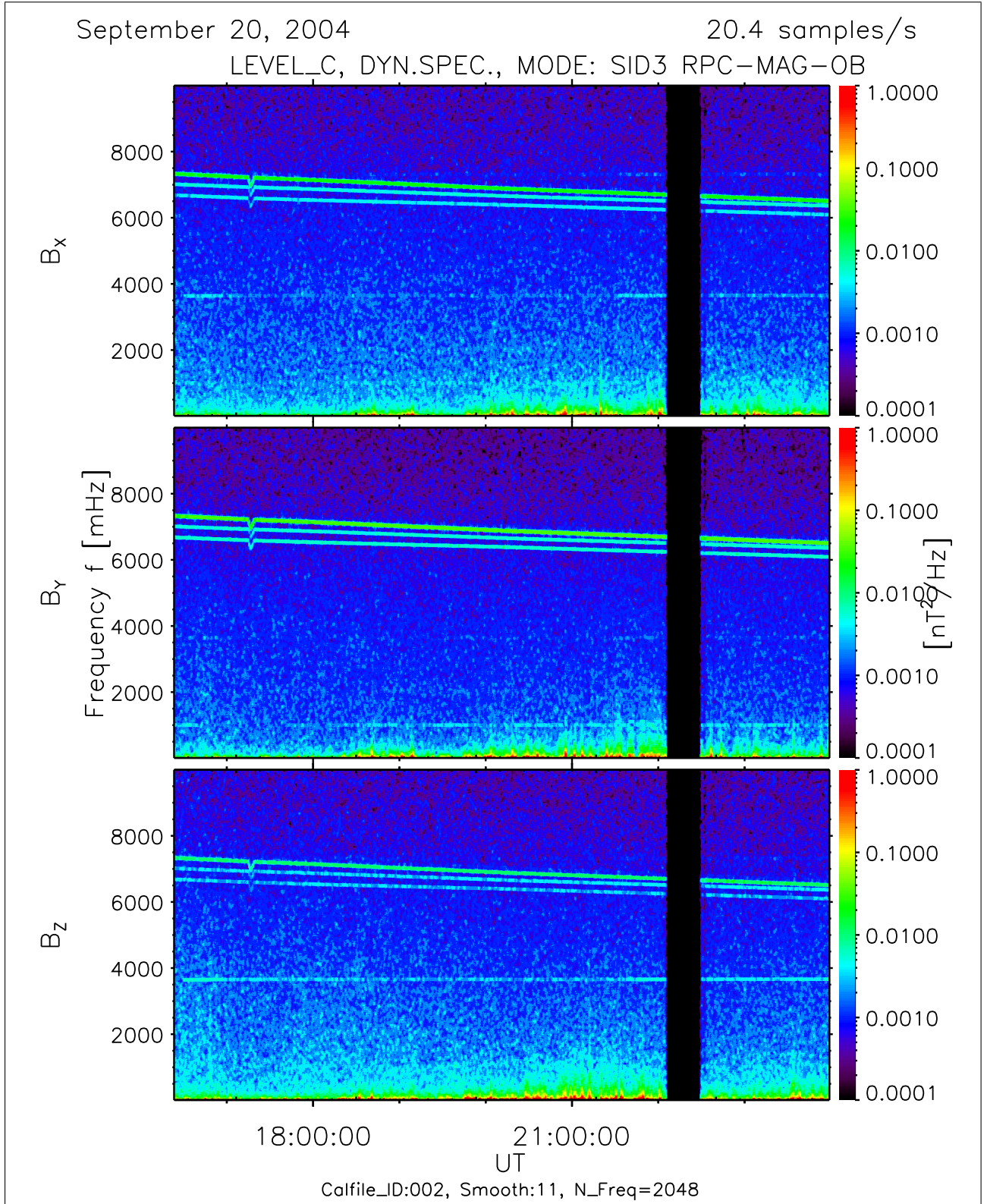


Figure 11: File: RPCMAG040920T1622\_CLC\_OB\_M3\_DS0\_10000\_002



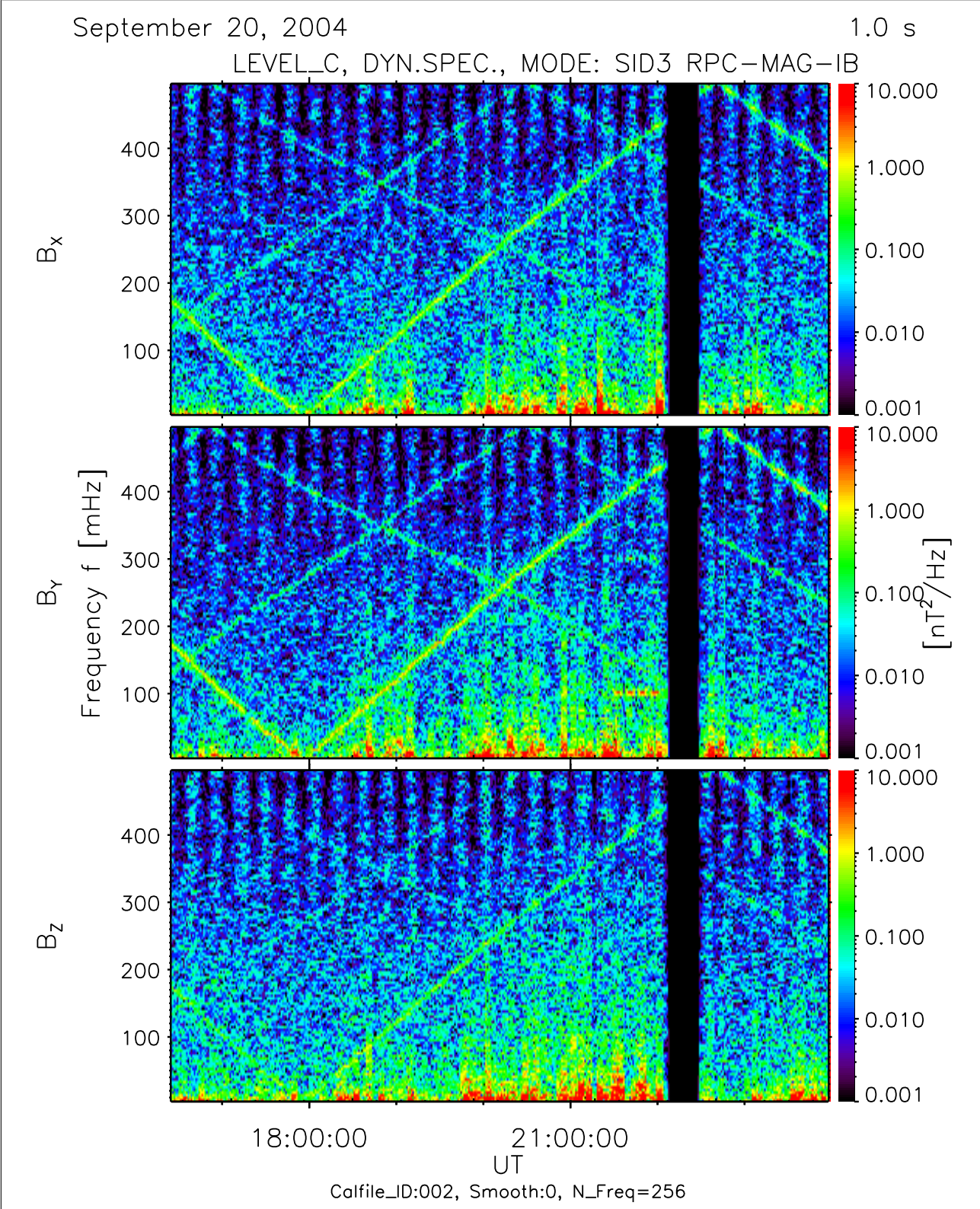


Figure 12: File: RPCMAG040920T1622\_CLC\_IB\_M3\_DS0\_500\_002

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### 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.

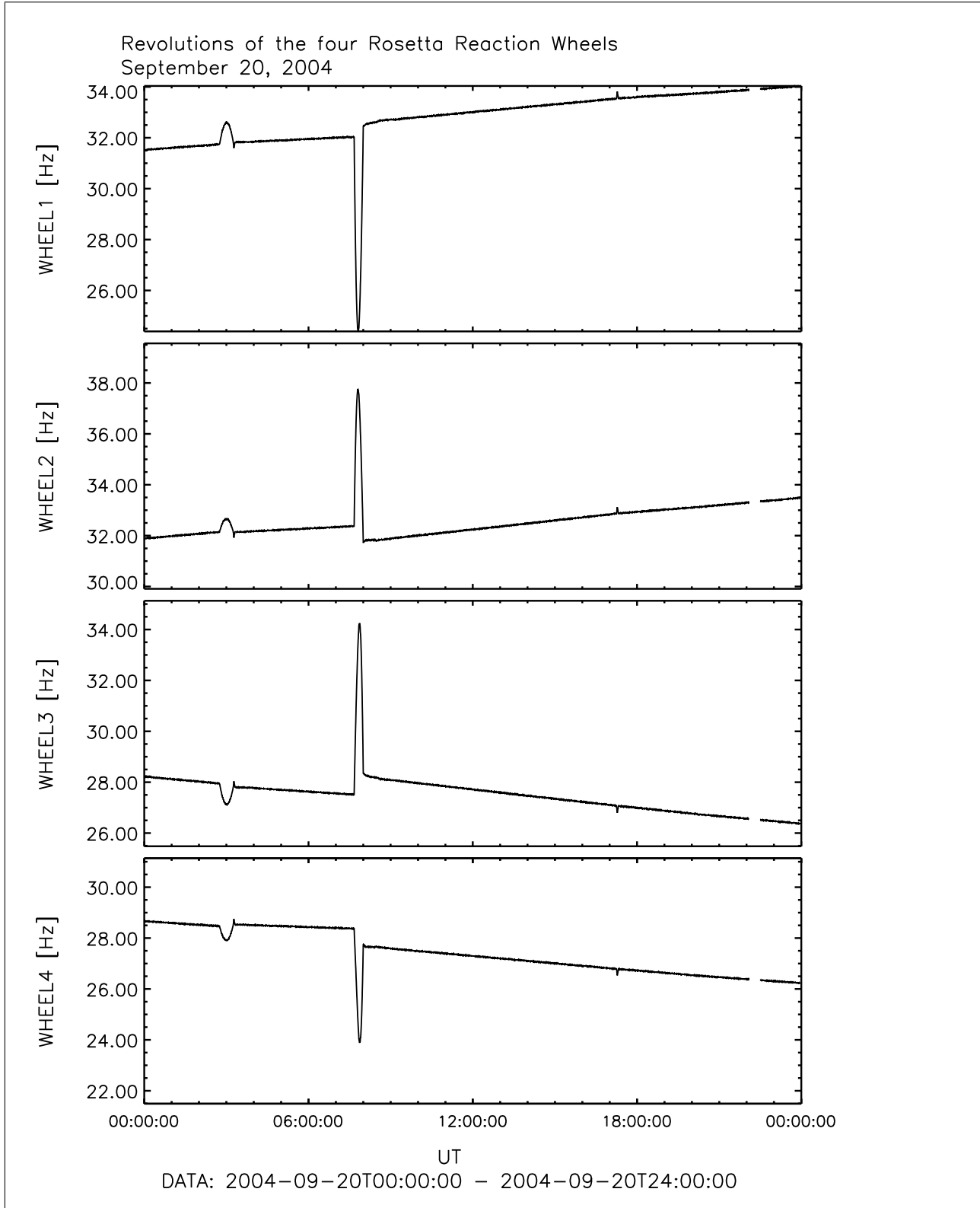


Figure 13: File: wheels\_Hz2004-09-20T00-00

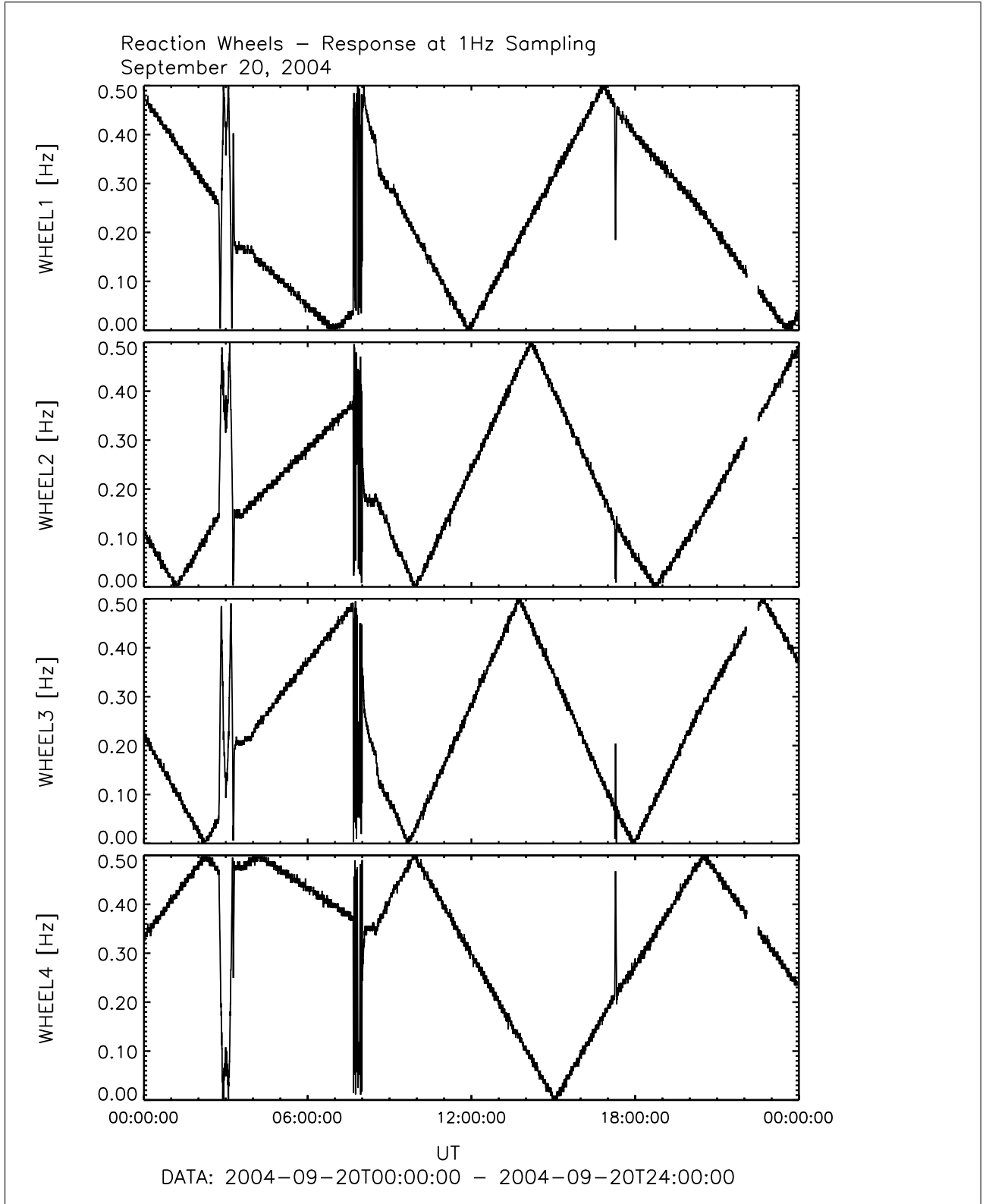


Figure 14: File: wheels\_1Hz\_Sampling2004-09-20T00-00



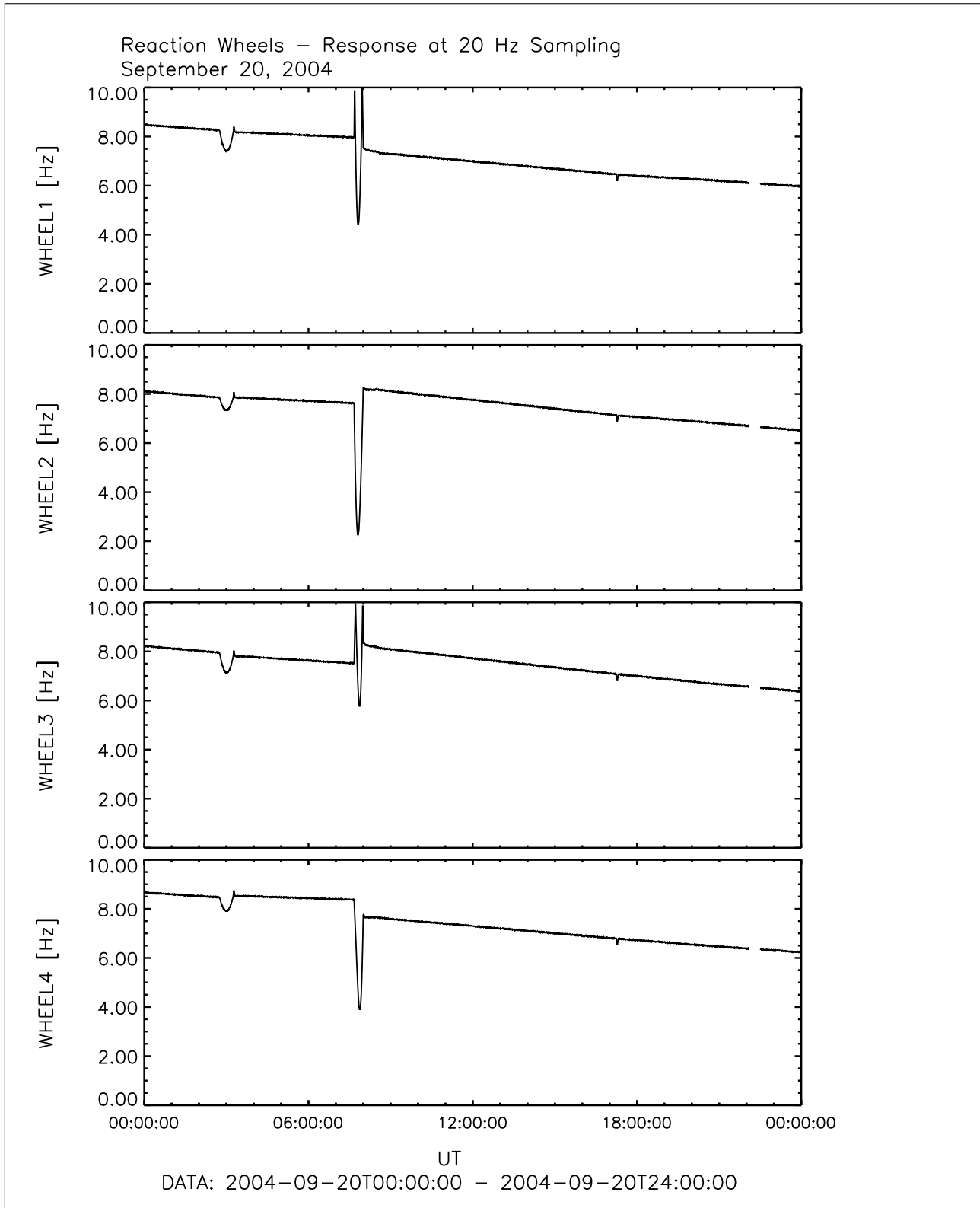


Figure 15: File: wheels\_20Hz\_Sampling2004-09-20T00-00

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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.

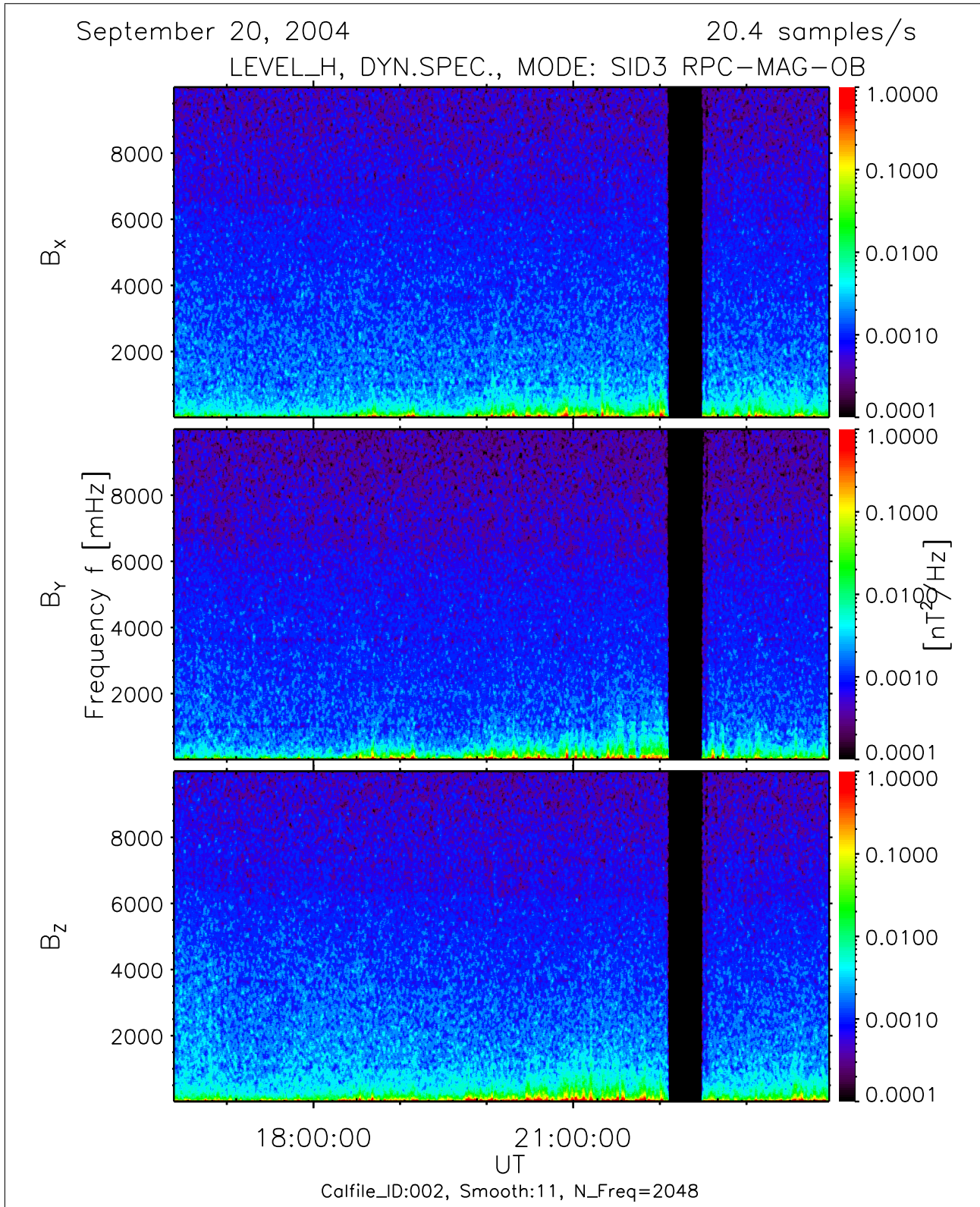


Figure 16: File: RPCMAG040920\_CLH\_OB\_M3\_DS0\_10000\_002

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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

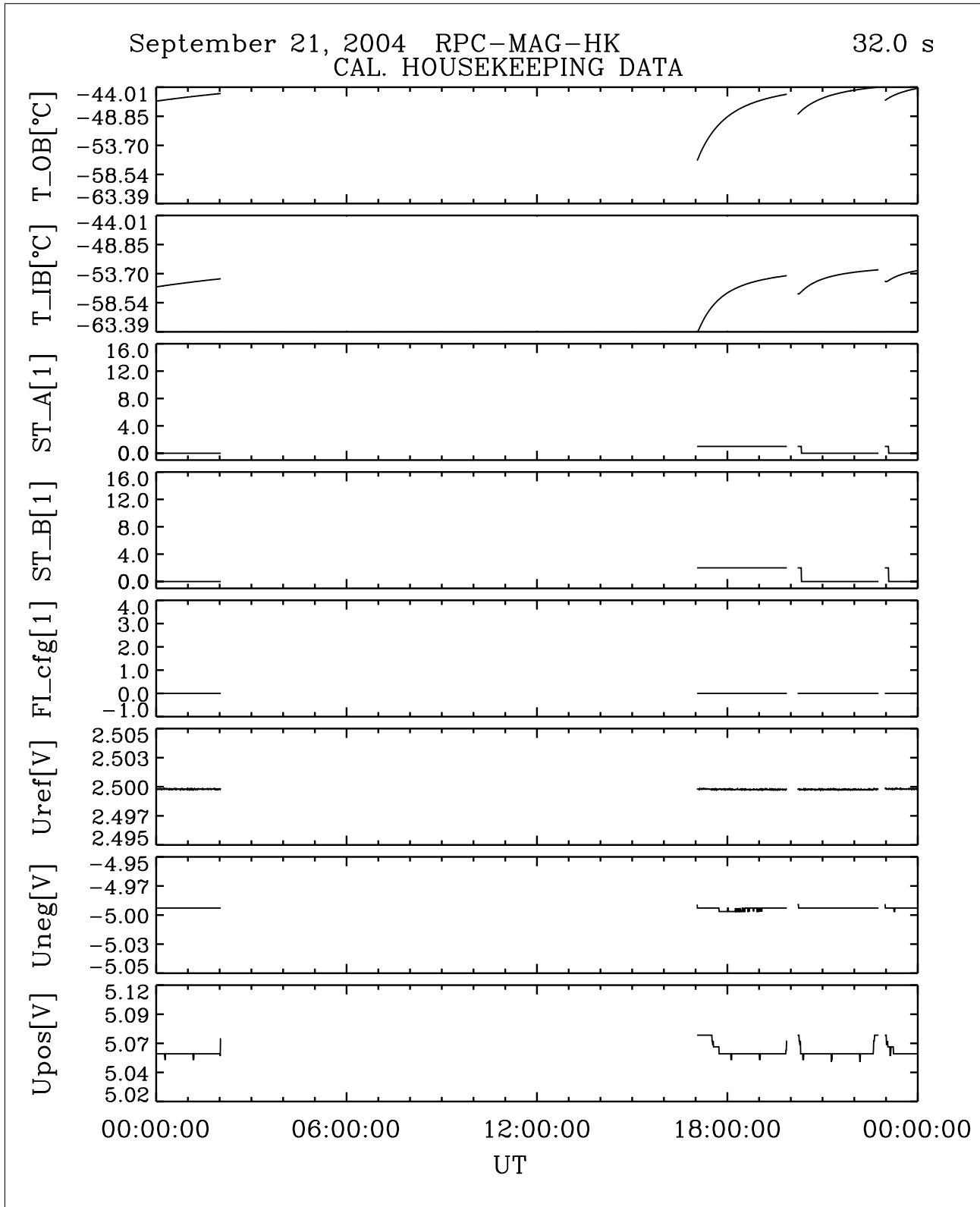


Figure 17: File: RPCMAG040921T0000\_CLA\_HK\_P0000\_2400

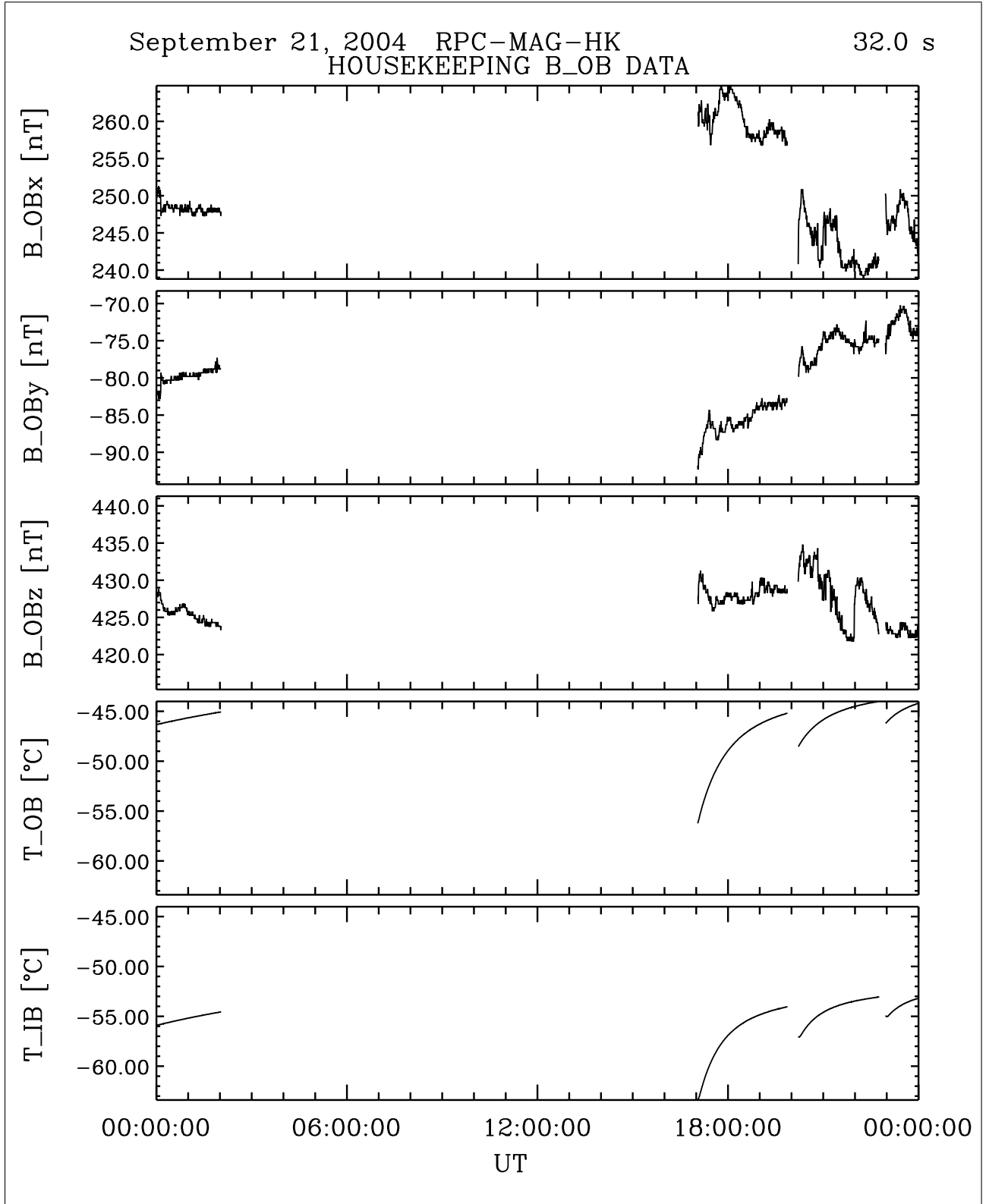


Figure 18: File: RPCMAG040921T0000\_CLA\_HK\_B\_P0000\_2400

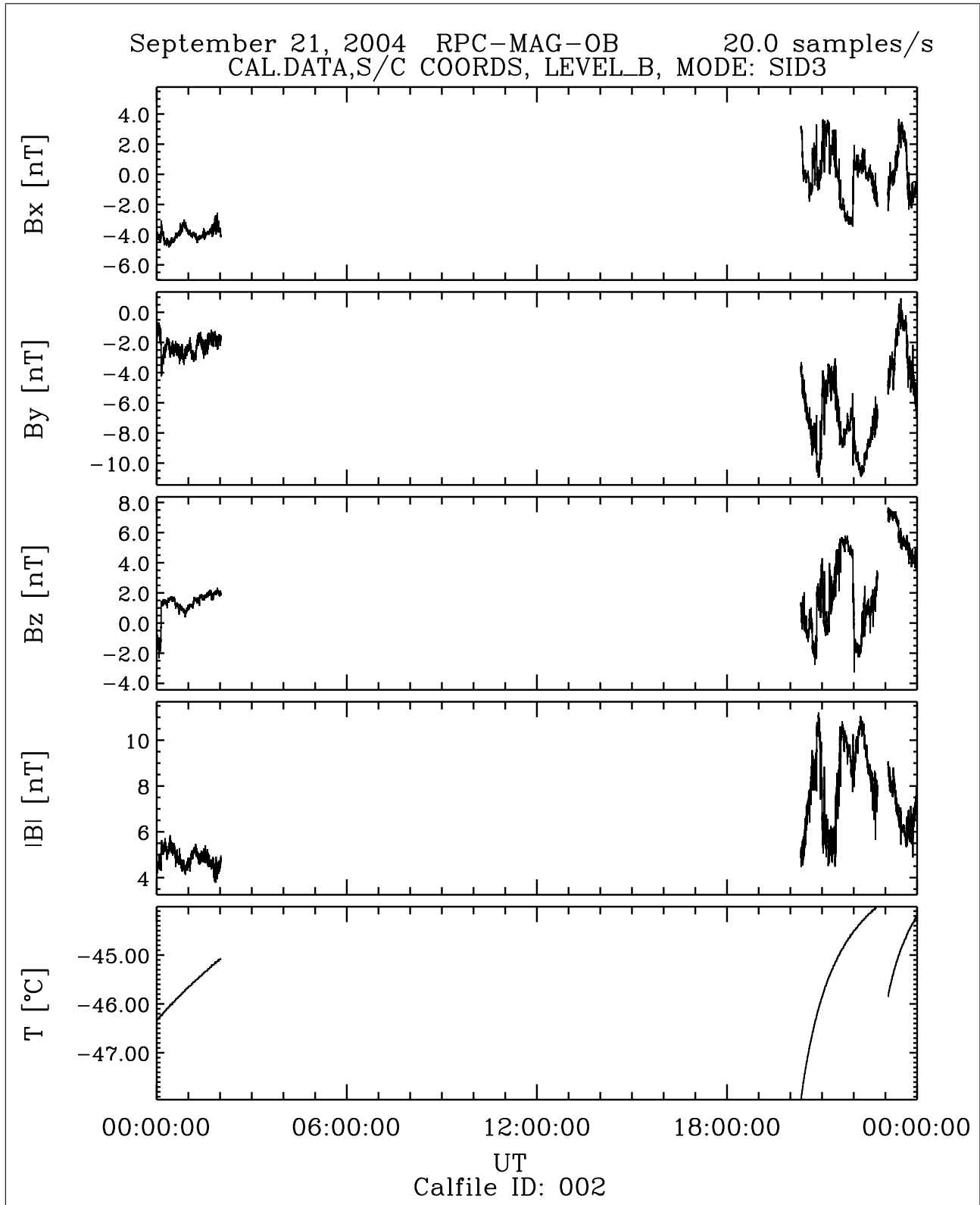


Figure 19: File: RPCMAG040921T0000\_CLB\_OB\_M3\_T0000\_2400\_002

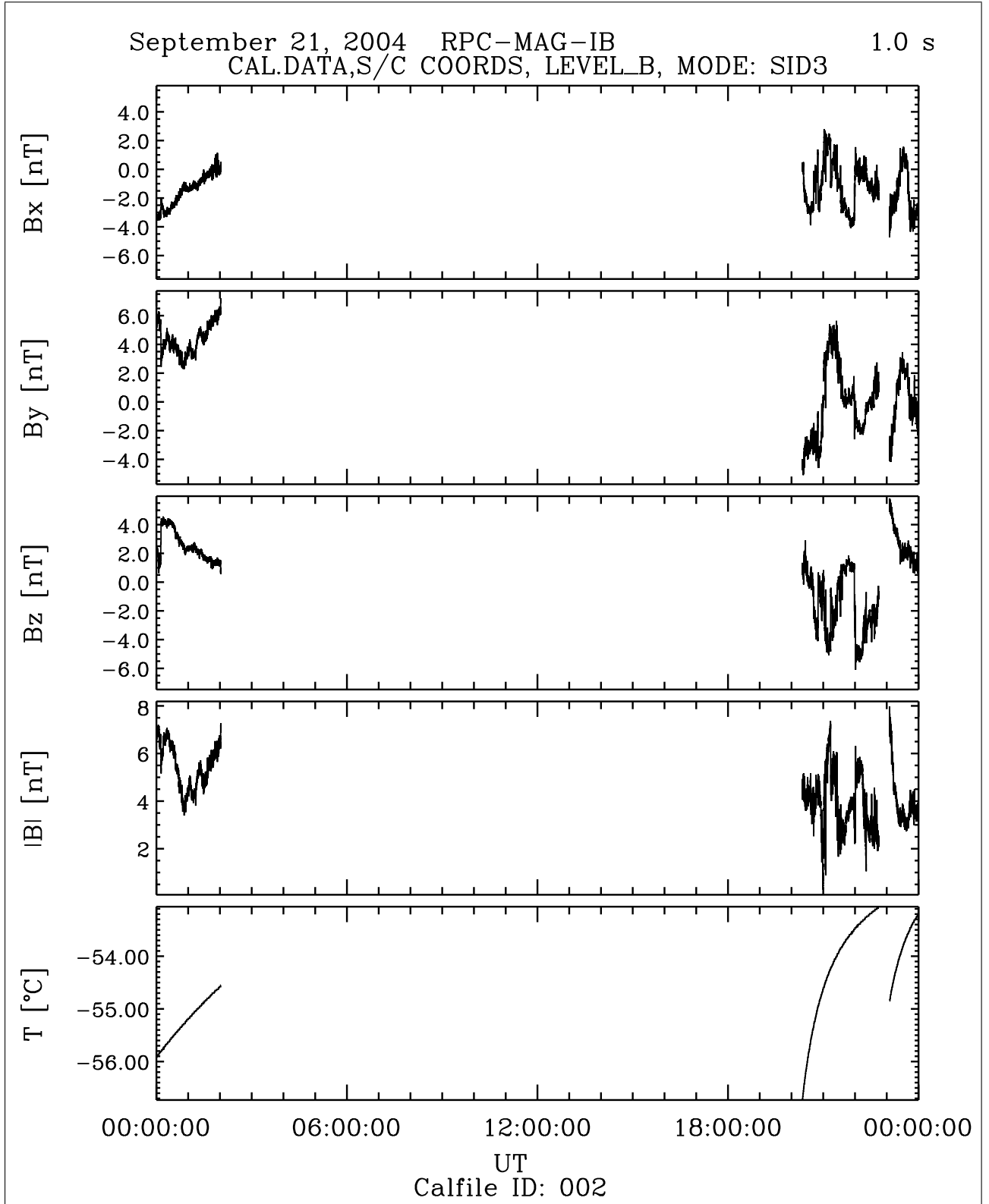


Figure 20: File: RPCMAG040921T0000\_CLB\_IB\_M3\_T0000\_2400\_002



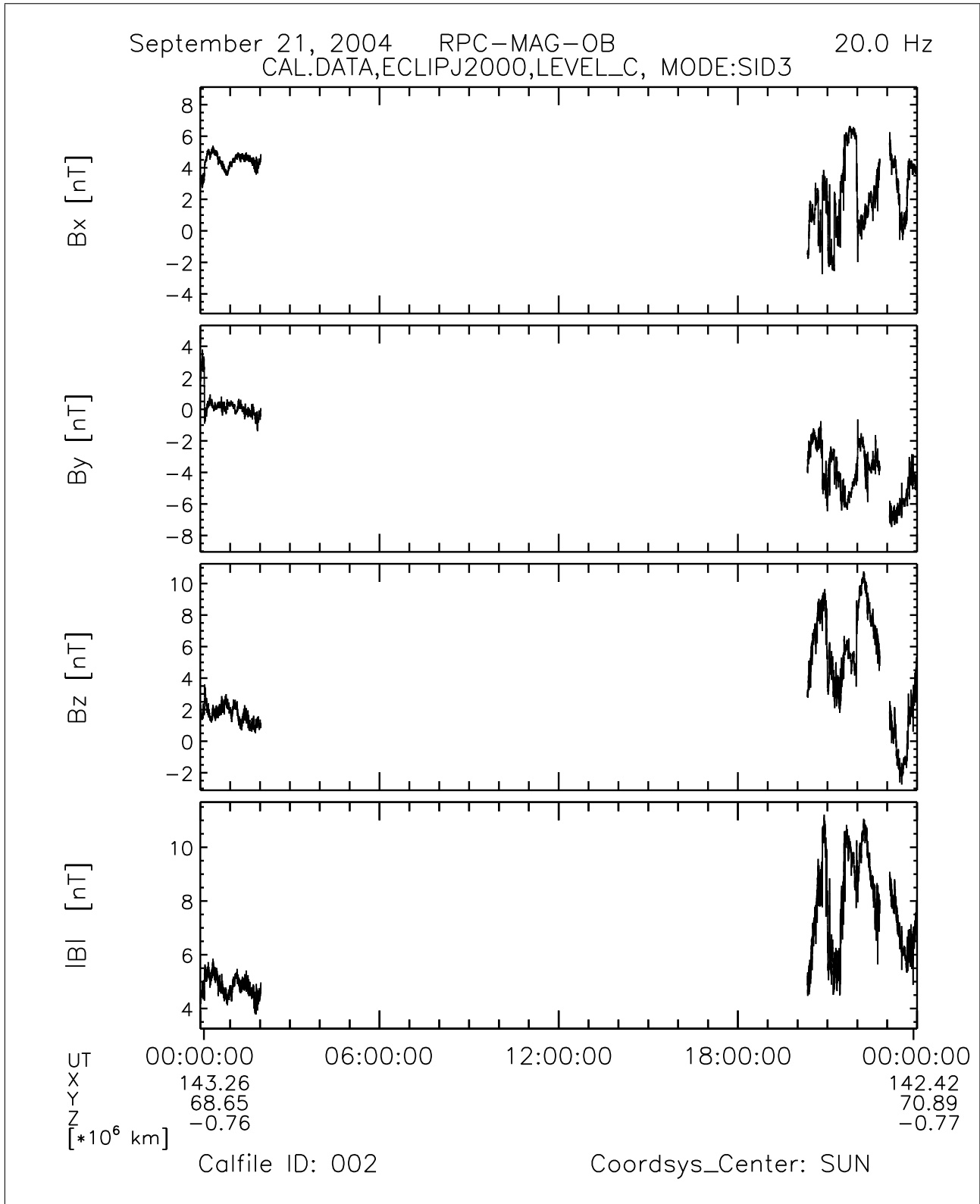


Figure 21: File: RPCMAG040921T0000\_CLC\_OB\_M3\_T0000\_2400\_002

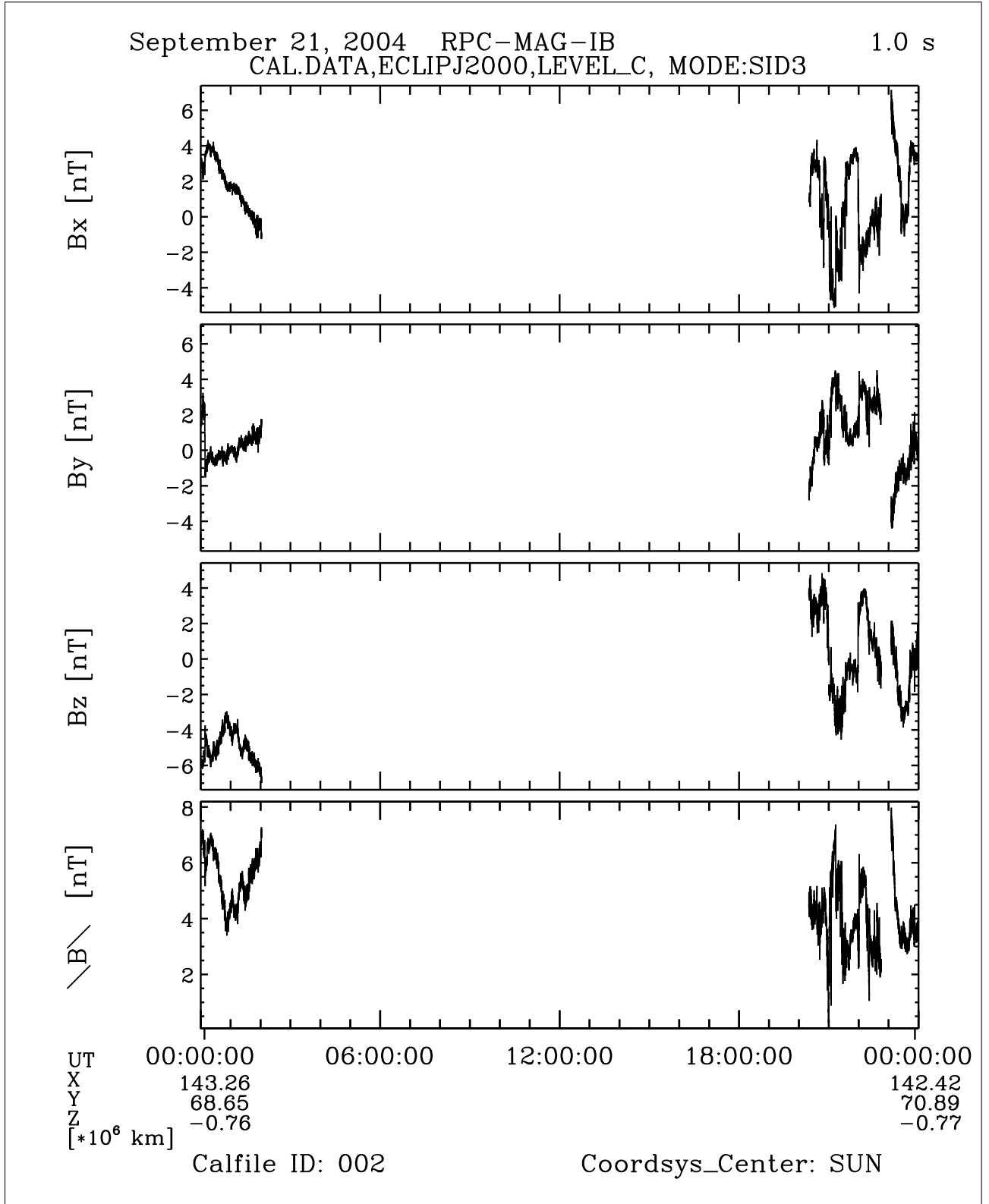


Figure 22: File: RPCMAG040921T0000\_CLC\_IB\_M3\_T0000\_2400\_002

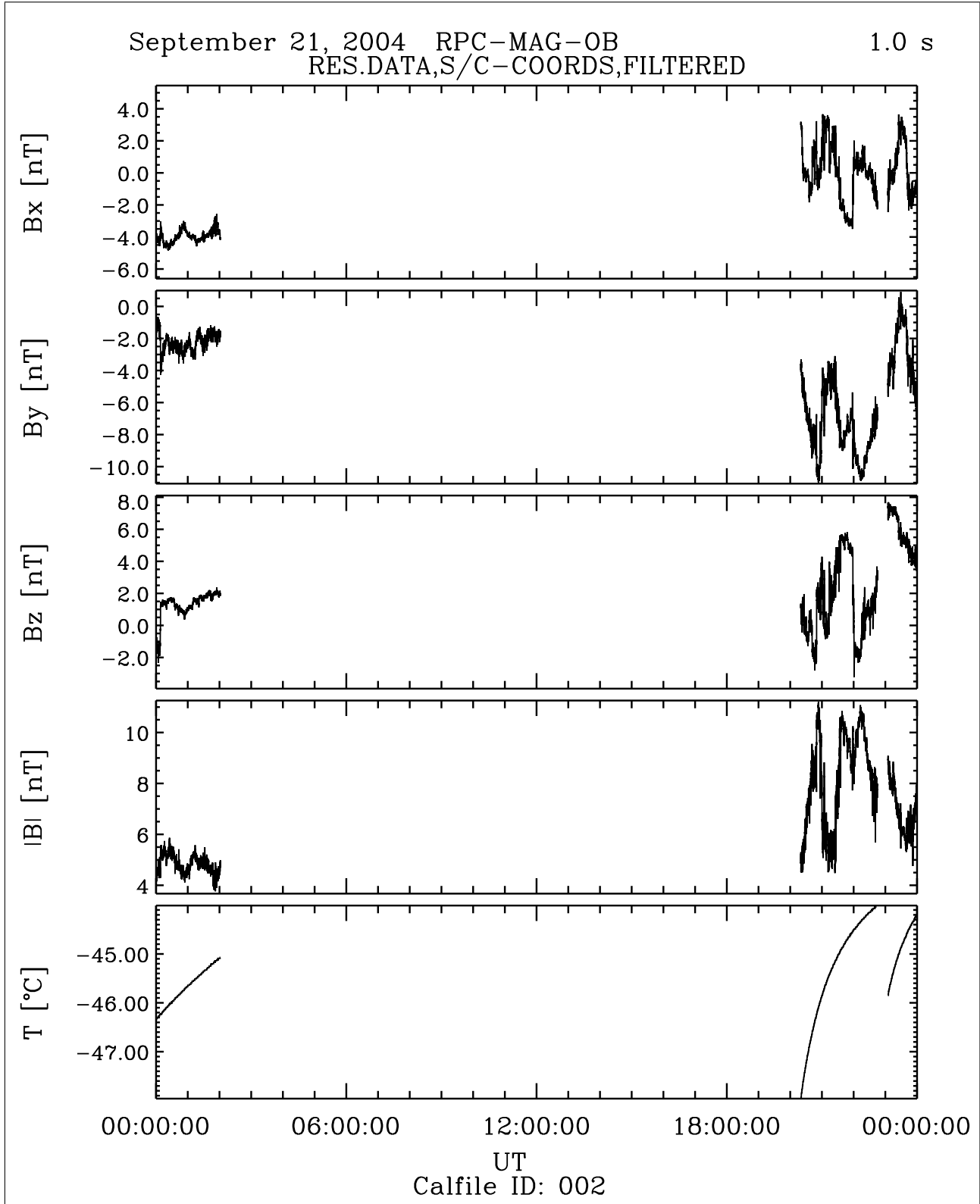


Figure 23: File: RPCMAG040921\_CLF\_OB\_A1\_T0000\_2400\_002

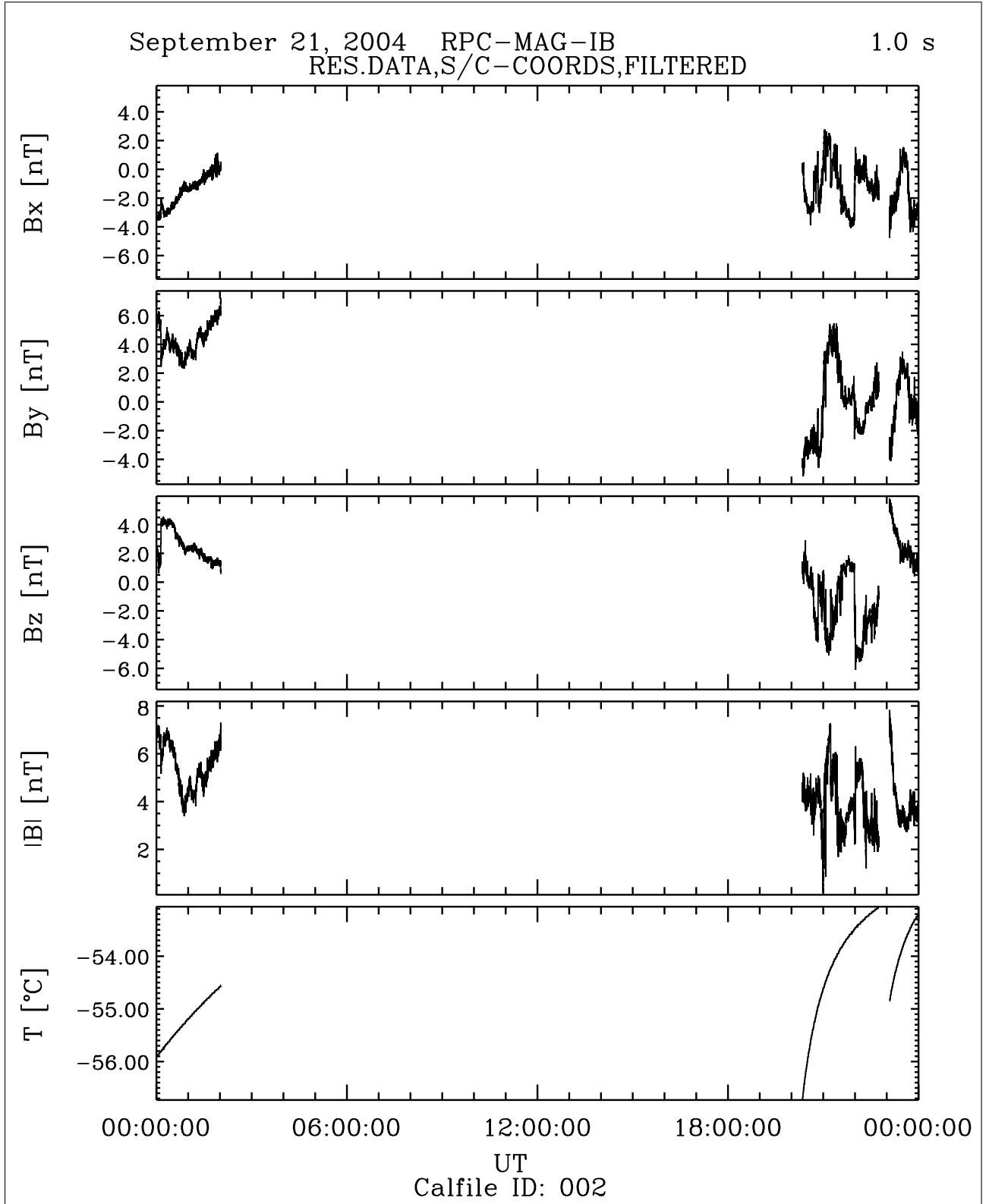


Figure 24: File: RPCMAG040921\_CLF\_IB\_A1\_T0000\_2400\_002

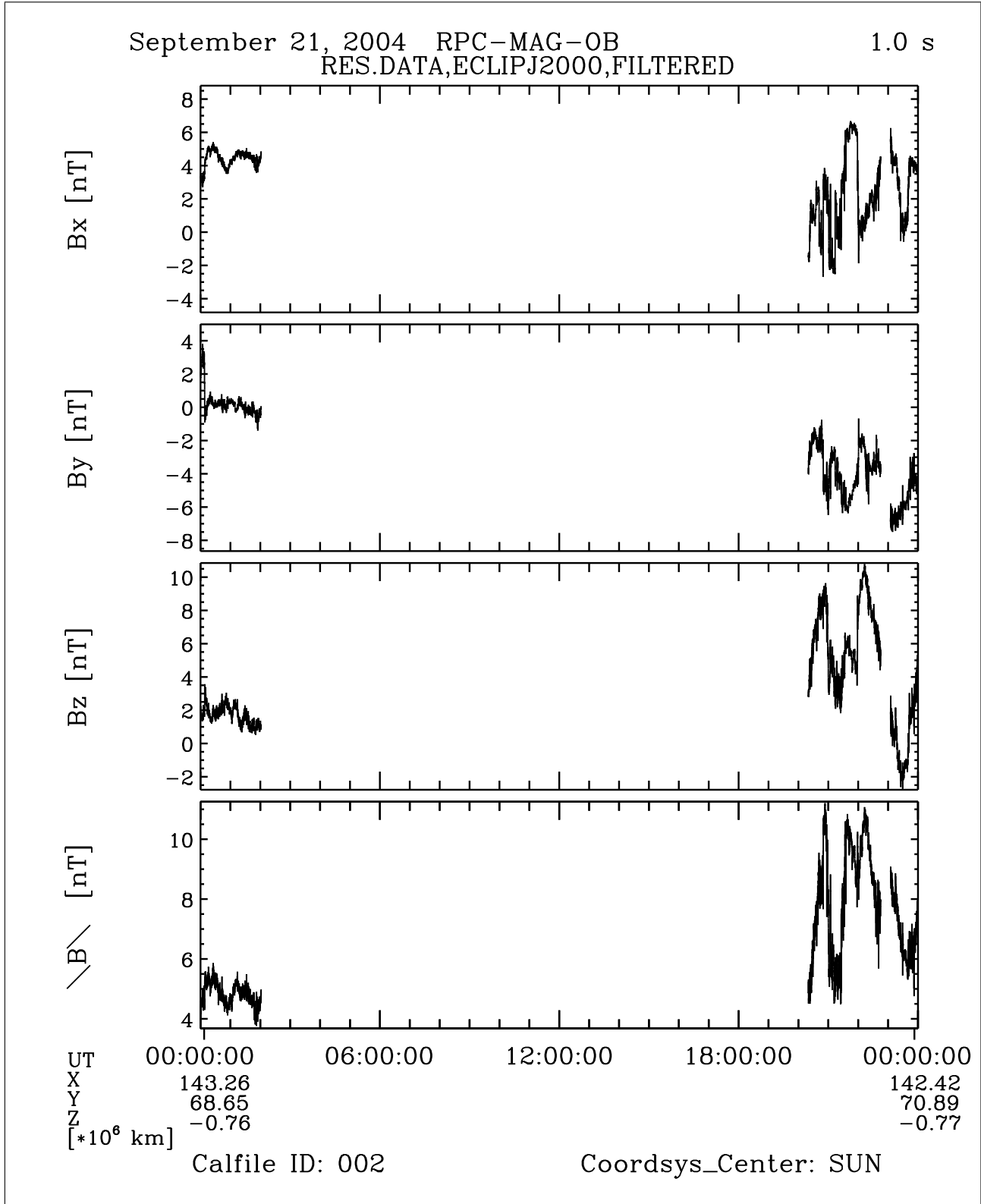


Figure 25: File: RPCMAG040921\_CLG\_OB\_A1\_T0000\_2400\_002

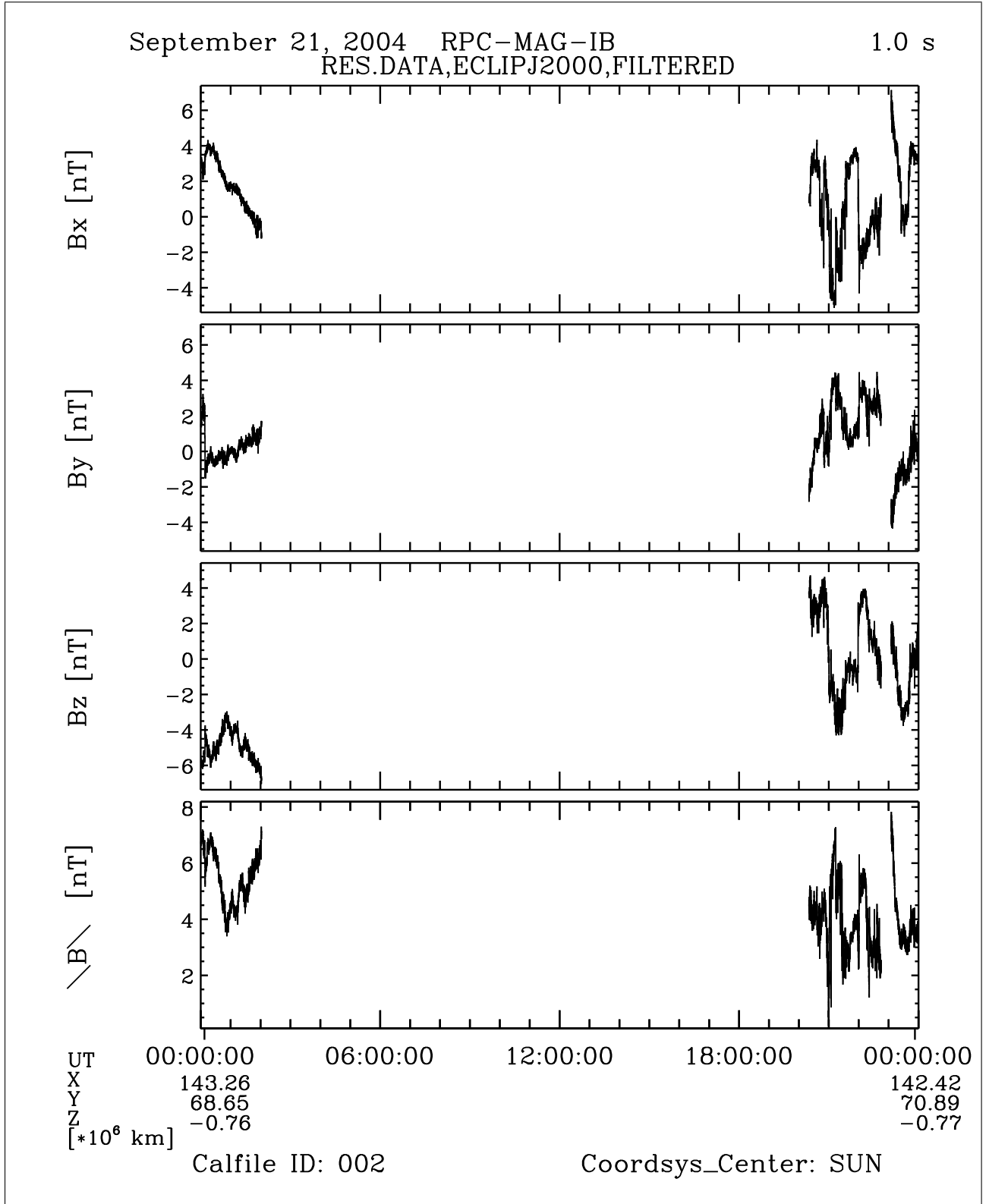


Figure 26: File: RPCMAG040921\_CLG\_IB\_A1\_T0000\_2400\_002

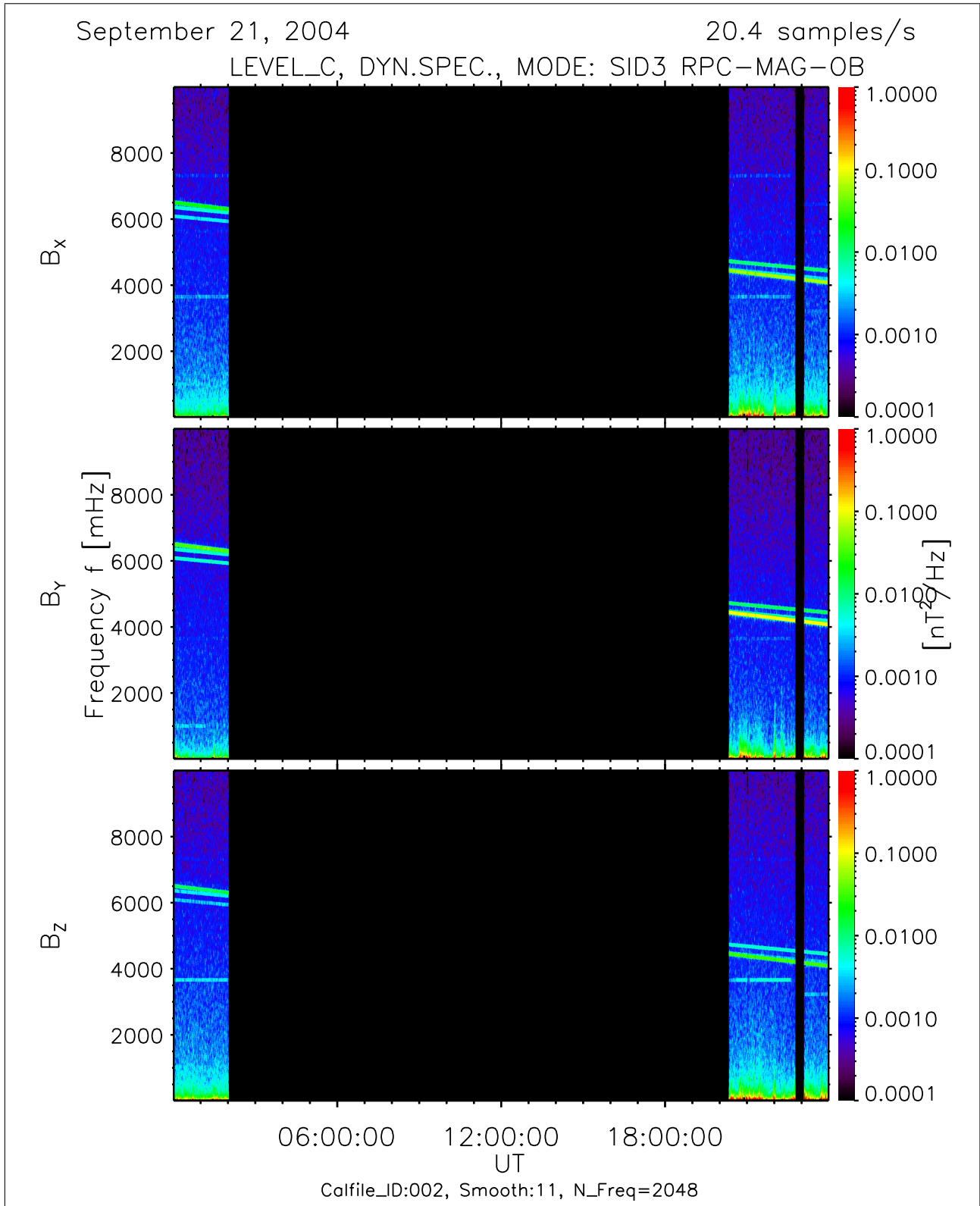


Figure 27: File: RPCMAG040921T0000\_CLC\_OB\_M3\_DS0.10000\_002

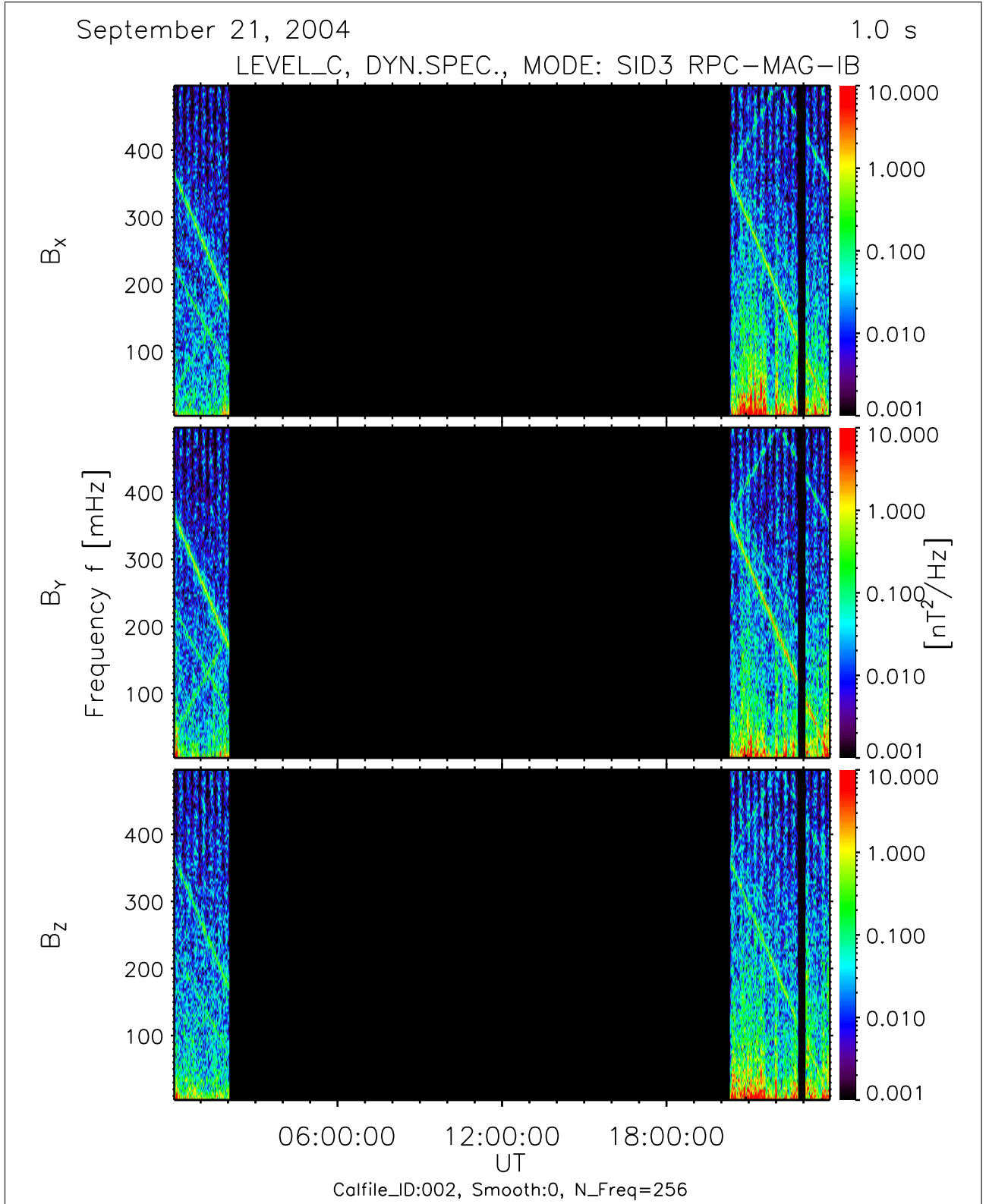


Figure 28: File: RPCMAG040921T0000\_CLC\_IB\_M3\_DS0\_500\_002



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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.

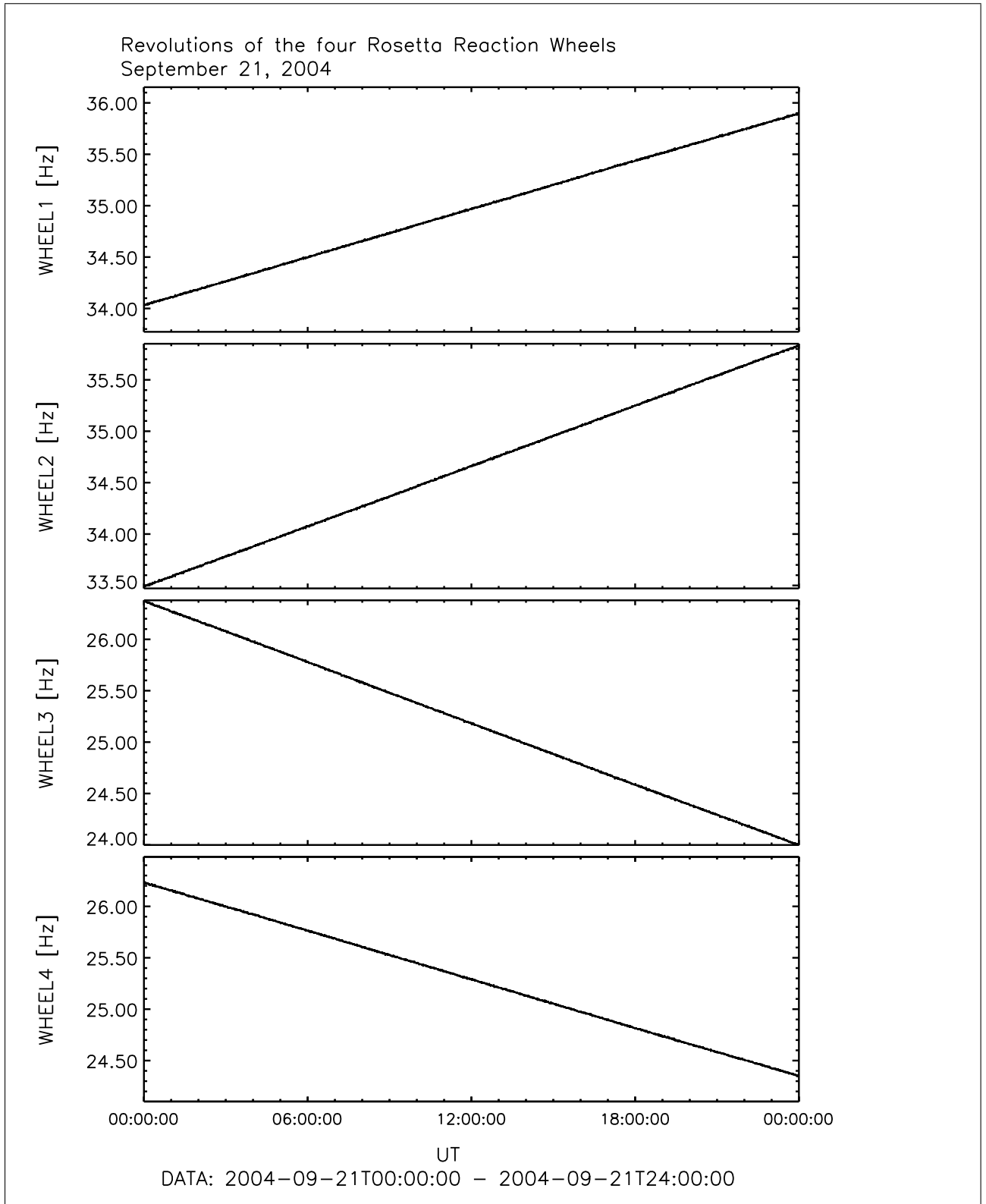


Figure 29: File: wheels\_Hz2004-09-21T00-00

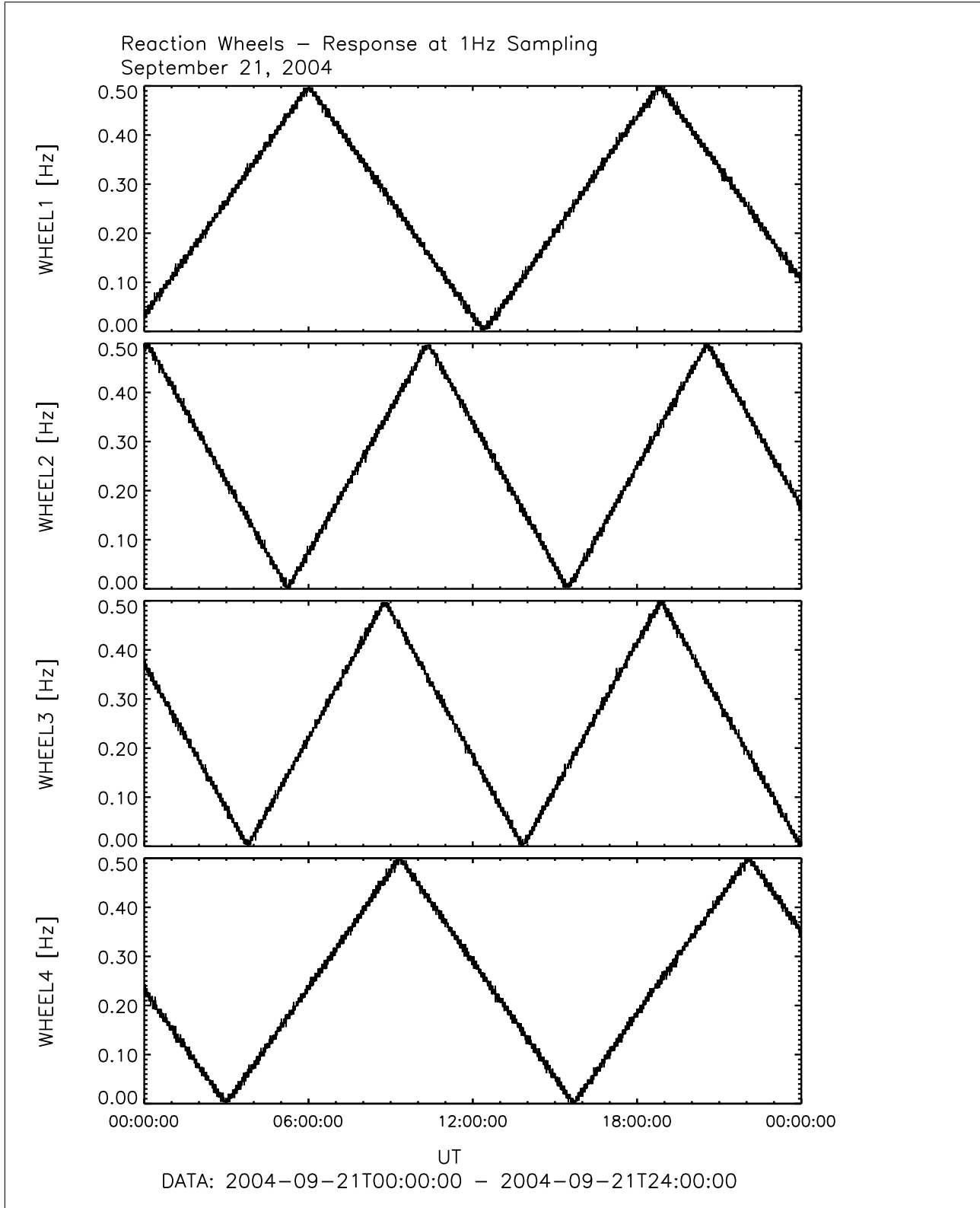


Figure 30: File: wheels\_1Hz\_Sampling2004-09-21T00-00

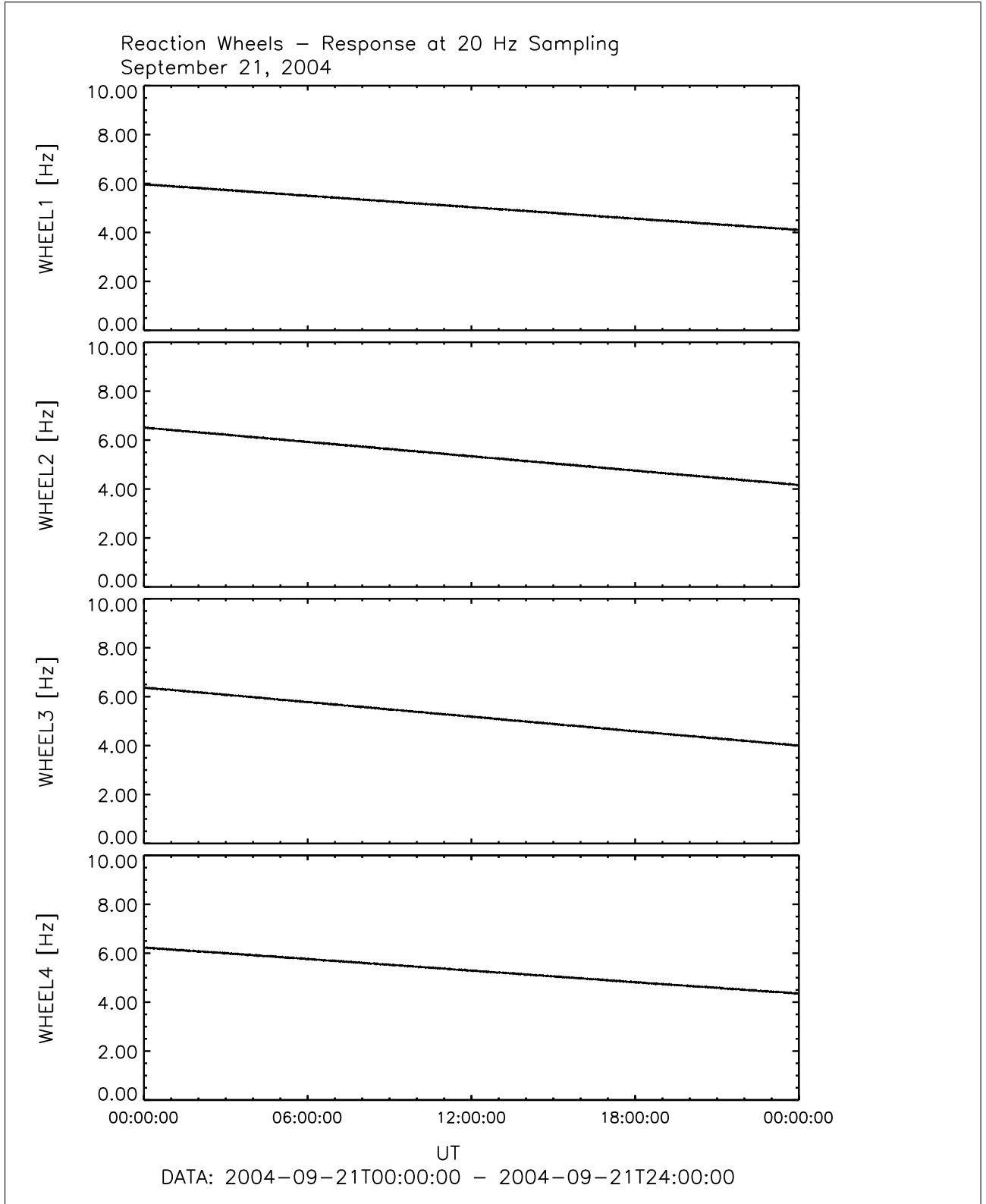


Figure 31: File: wheels\_20Hz\_Sampling2004-09-21T00-00

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### 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 ROSETTAs reaction wheel disturbance and also from the disturbance of the LAP instrument. Plots are only shown for the primary sensor.

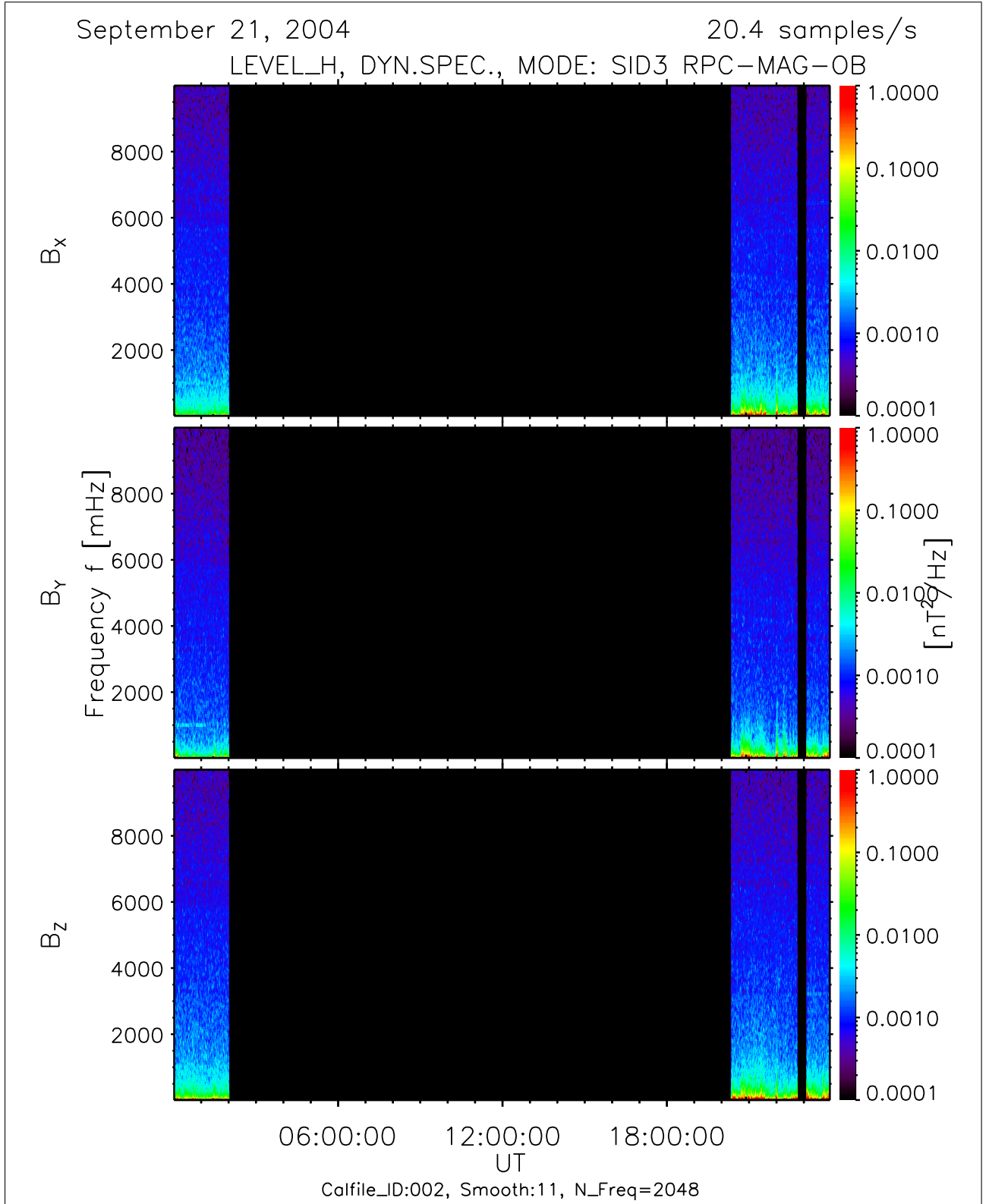


Figure 32: File: RPCMAG040921T0000\_CLH\_OB\_M3\_DS0\_10000\_002

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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

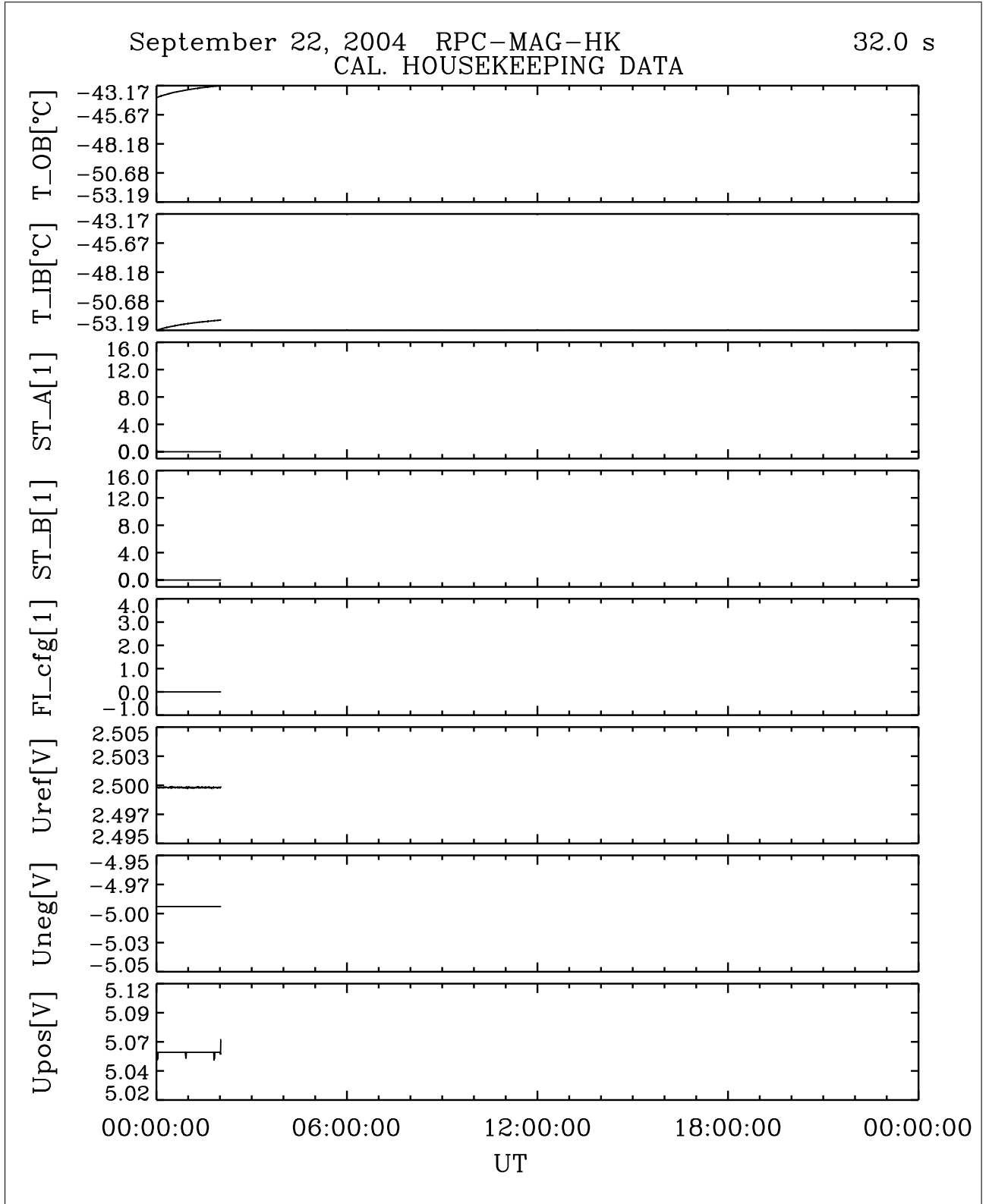


Figure 33: File: RPCMAG040922T0000\_CLA\_HK\_P0000\_2400



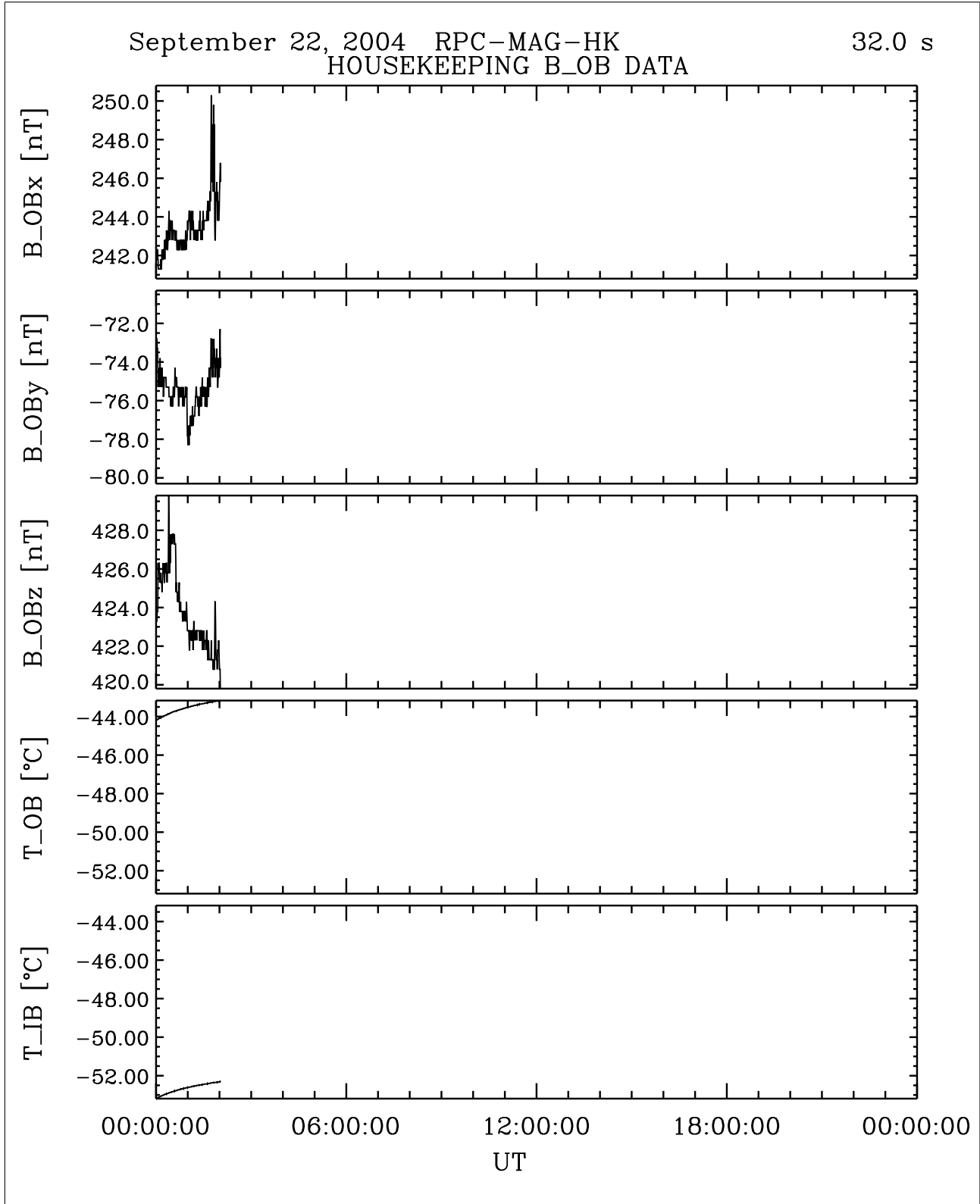


Figure 34: File: RPCMAG040922T0000\_CLA\_HK\_B\_P0000\_2400

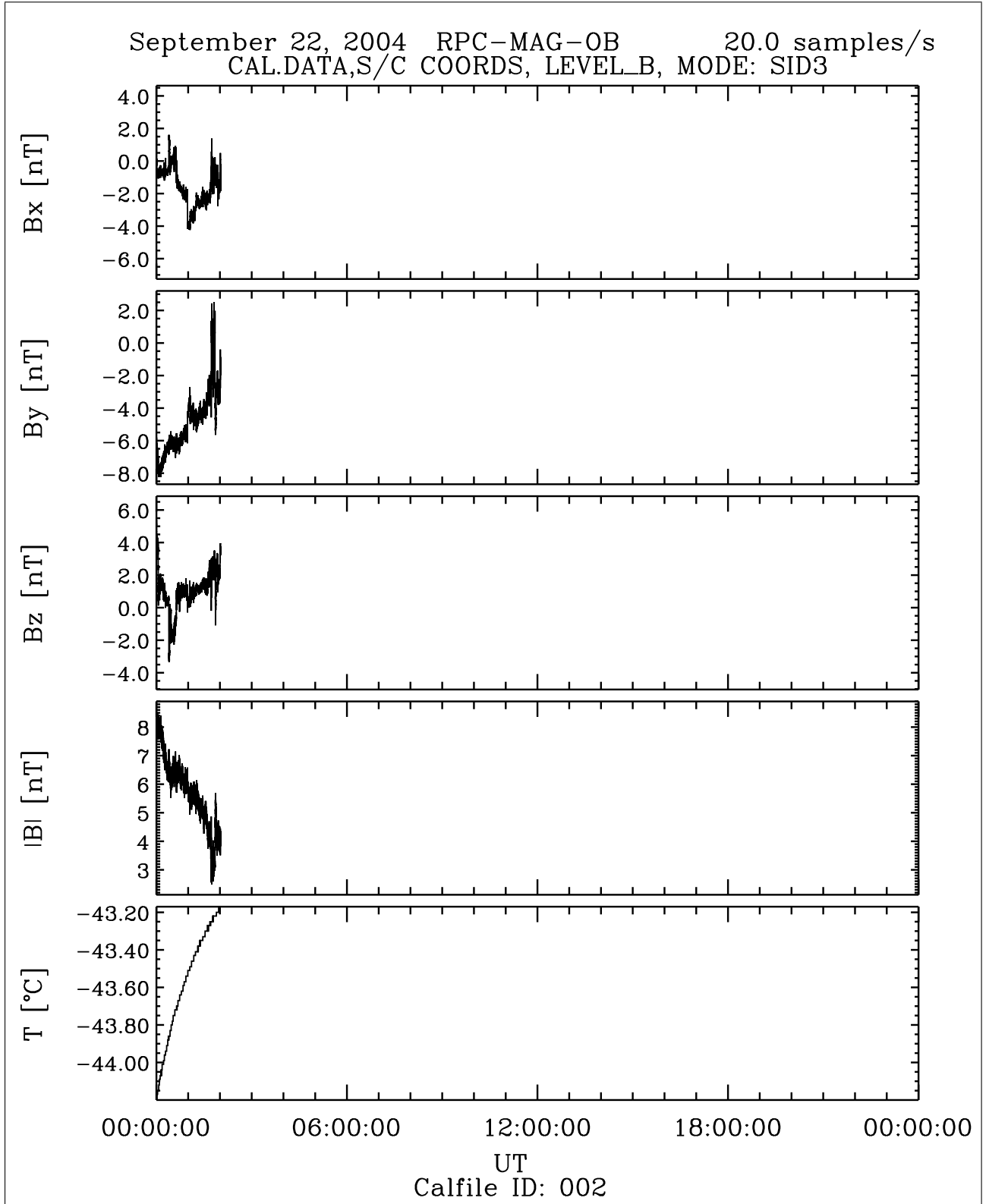


Figure 35: File: RPCMAG040922T0000\_CLB\_OB\_M3\_T0000\_2400\_002

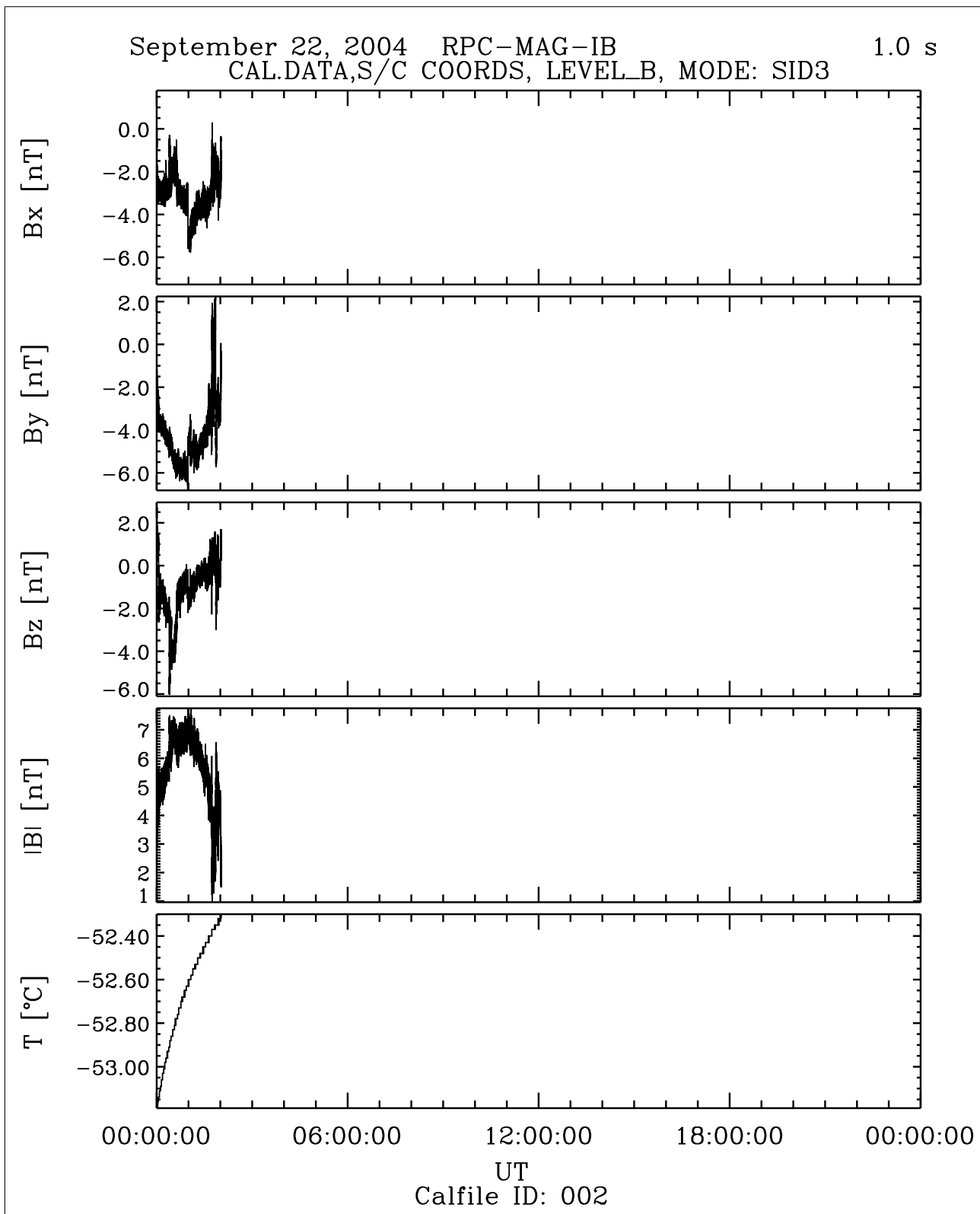


Figure 36: File: RPCMAG040922T0000\_CLB\_IB\_M3\_T0000\_2400\_002

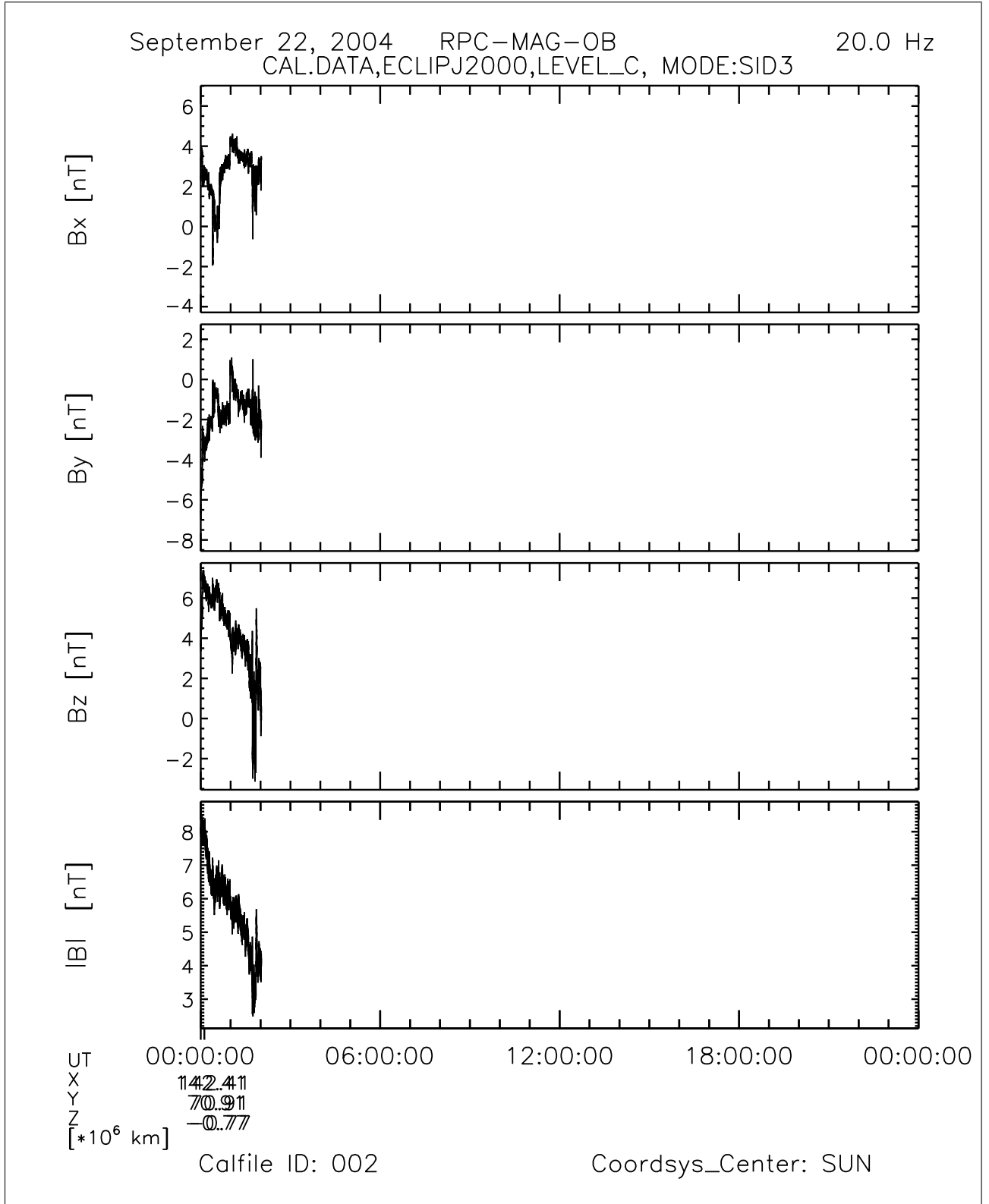


Figure 37: File: RPCMAG040922T0000\_CLC\_OB\_M3\_T0000\_2400\_002

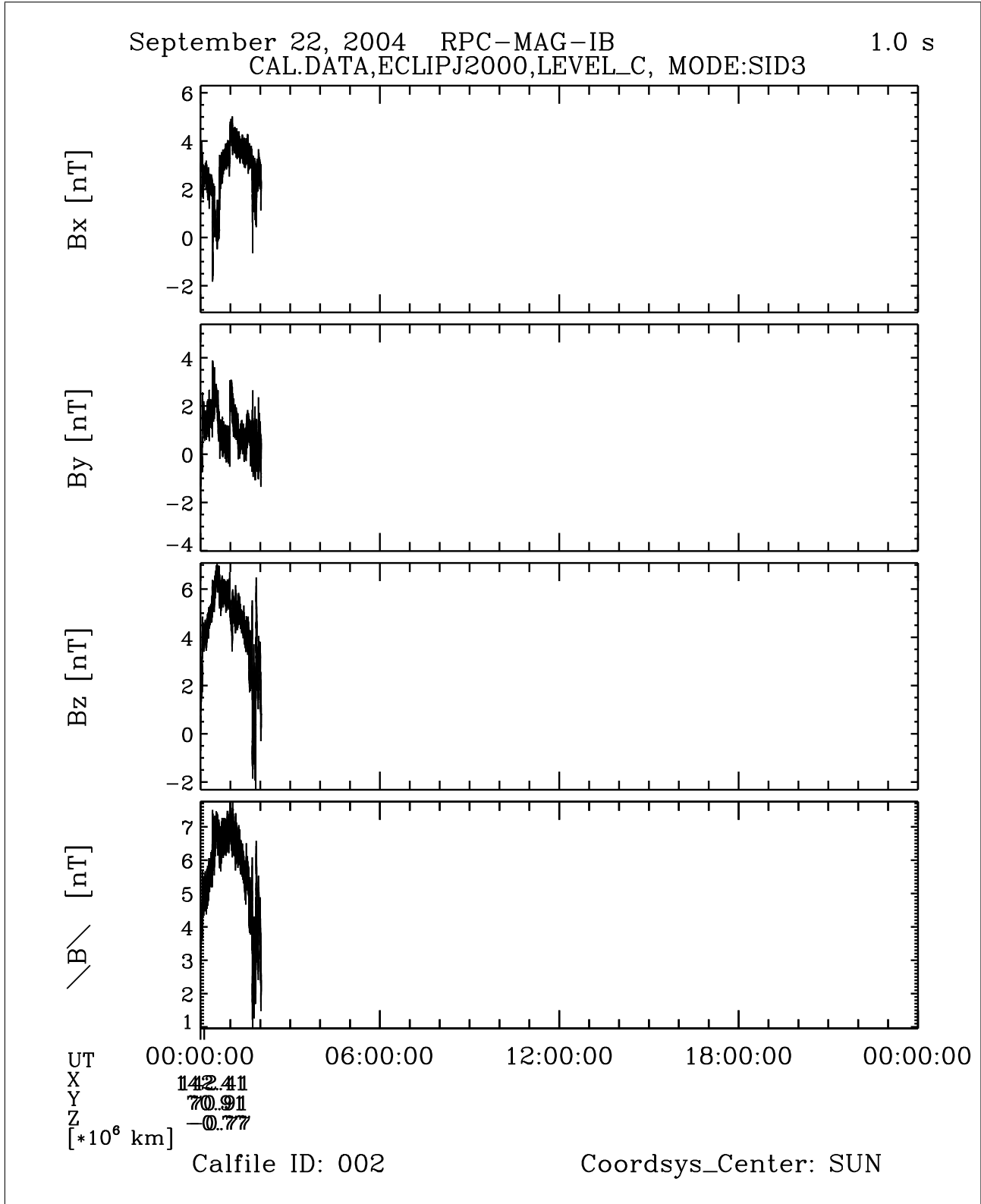


Figure 38: File: RPCMAG040922T0000\_CLC\_IB\_M3\_T0000\_2400\_002

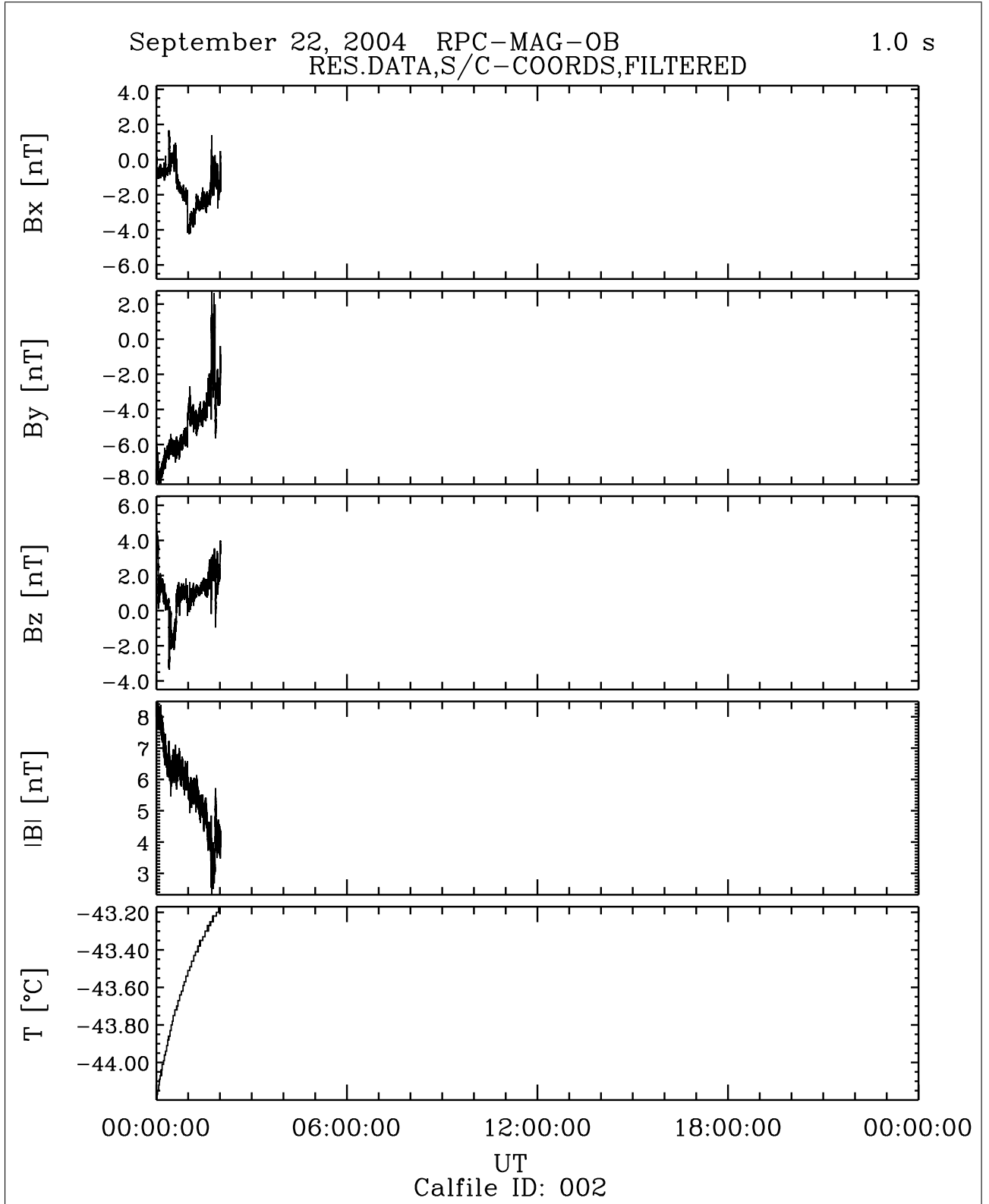


Figure 39: File: RPCMAG040922\_CLF\_OB\_A1\_T0000\_2400\_002

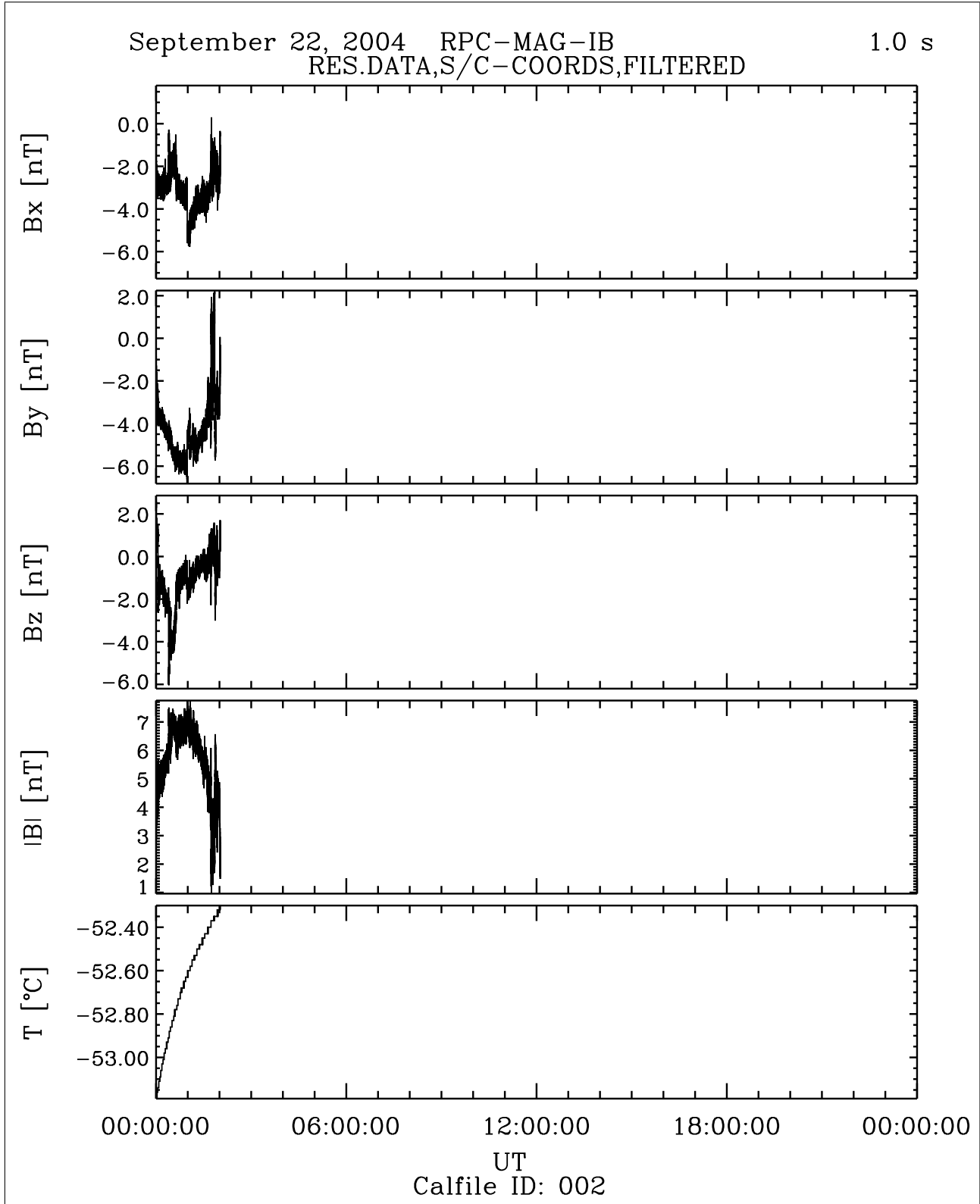


Figure 40: File: RPCMAG040922\_CLF\_IB\_A1\_T0000\_2400\_002

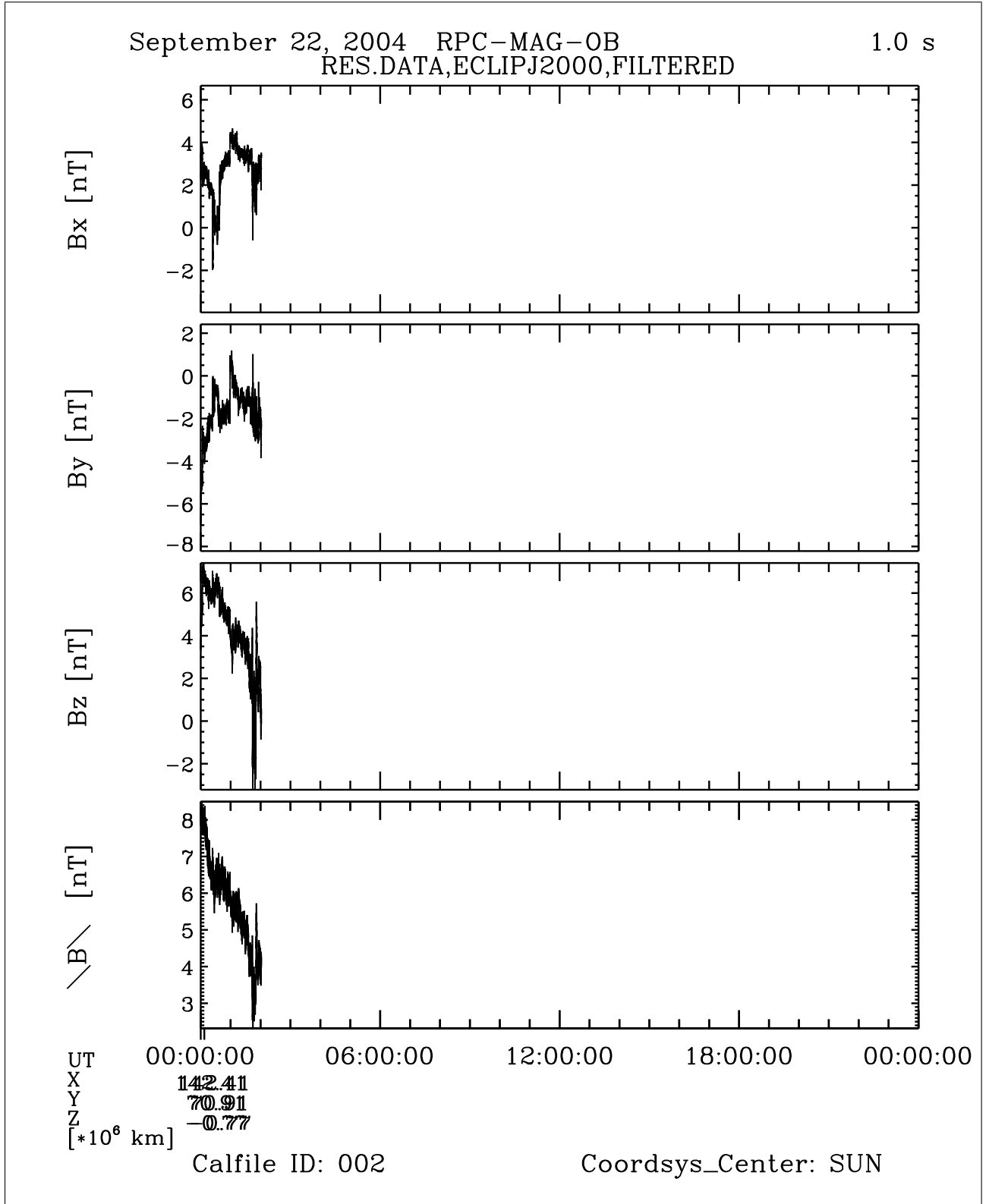


Figure 41: File: RPCMAG040922\_CLG\_OB\_A1\_T0000\_2400\_002



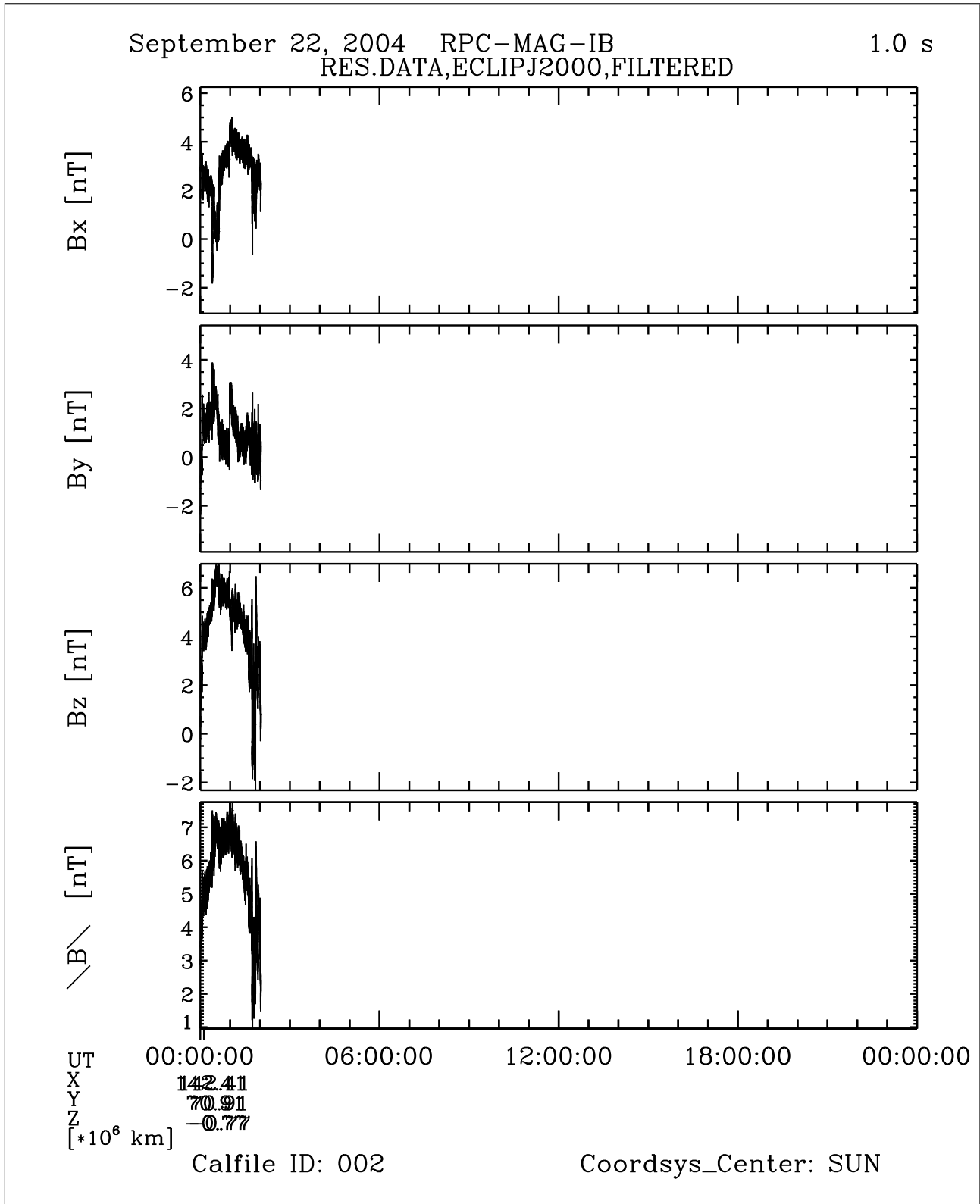


Figure 42: File: RPCMAG040922-CLG-IB-A1-T0000-2400-002

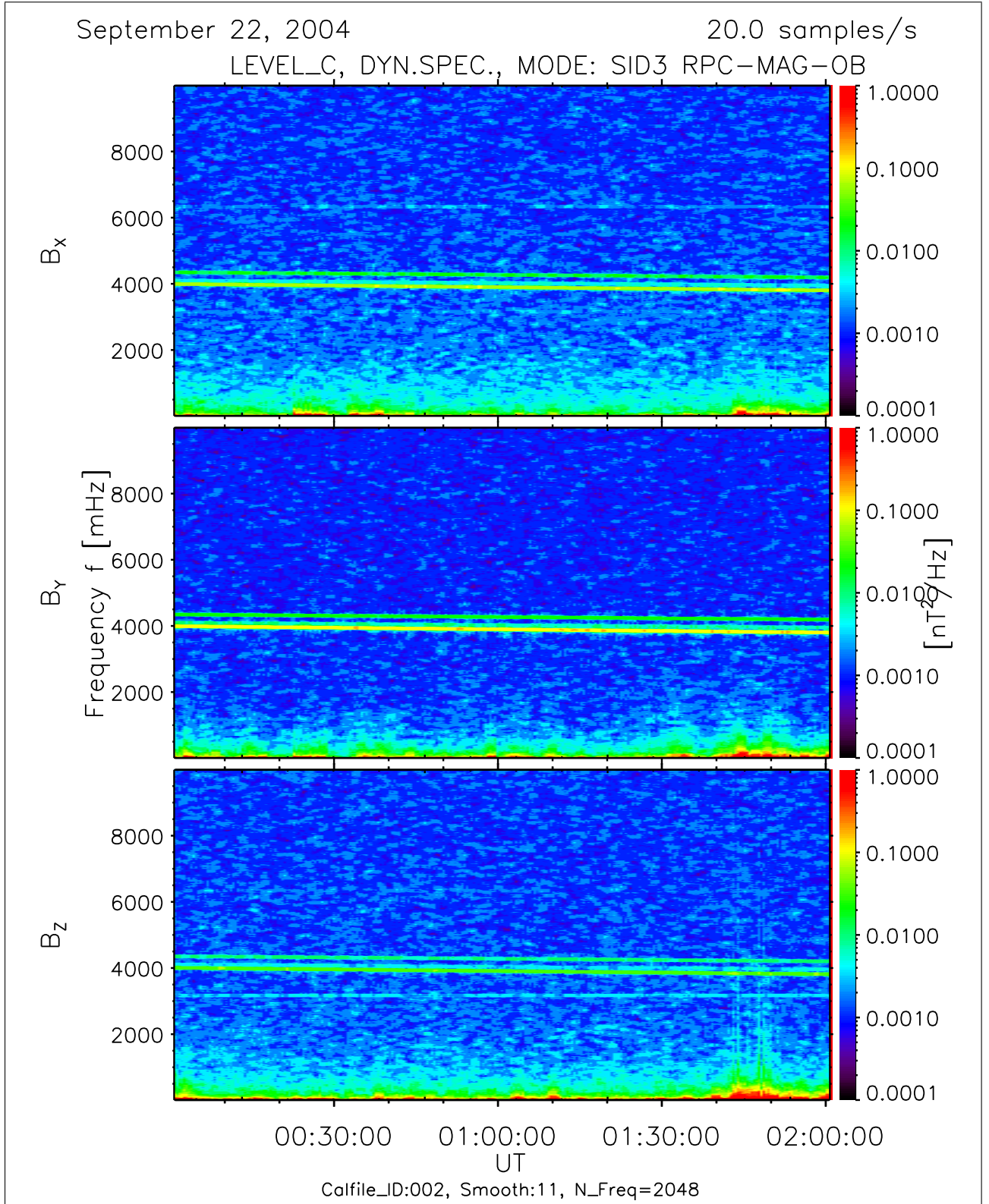


Figure 43: File: RPCMAG040922T0000\_CLC\_OB\_M3\_DS0\_10000\_002

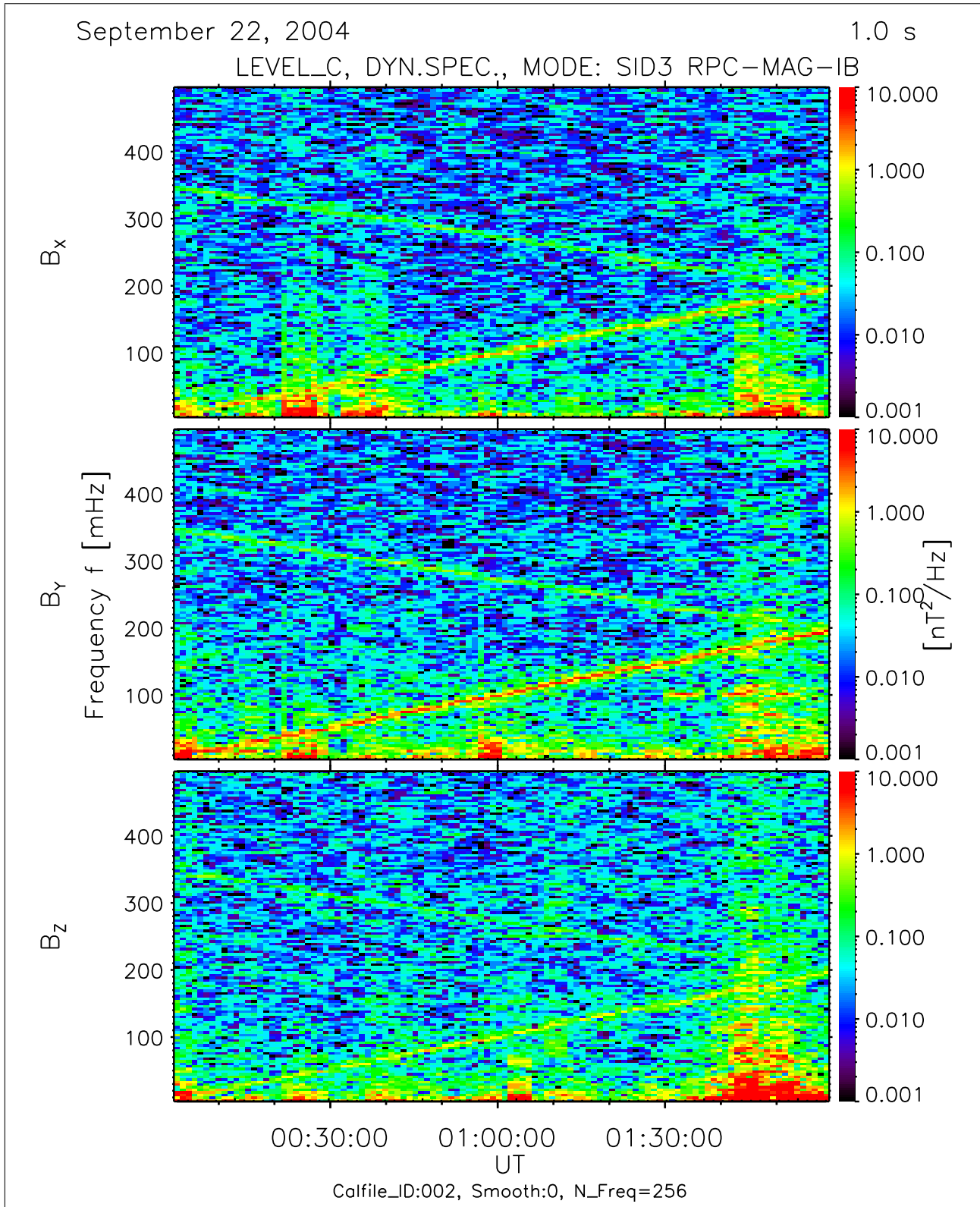


Figure 44: File: RPCMAG040922T0000\_CLC\_IB\_M3\_DS0\_500\_002

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### 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.
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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.

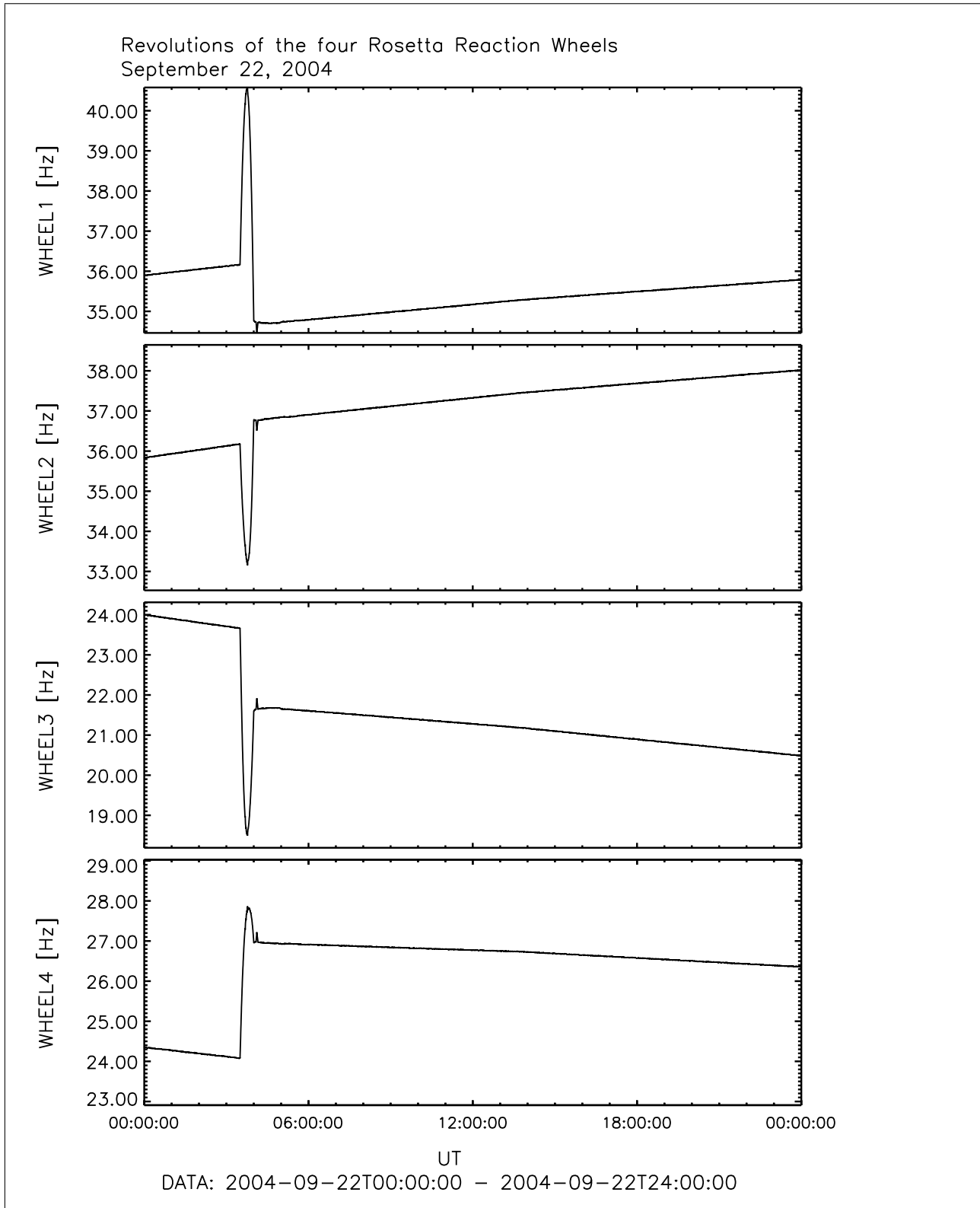


Figure 45: File: wheels\_Hz2004-09-22T00-00

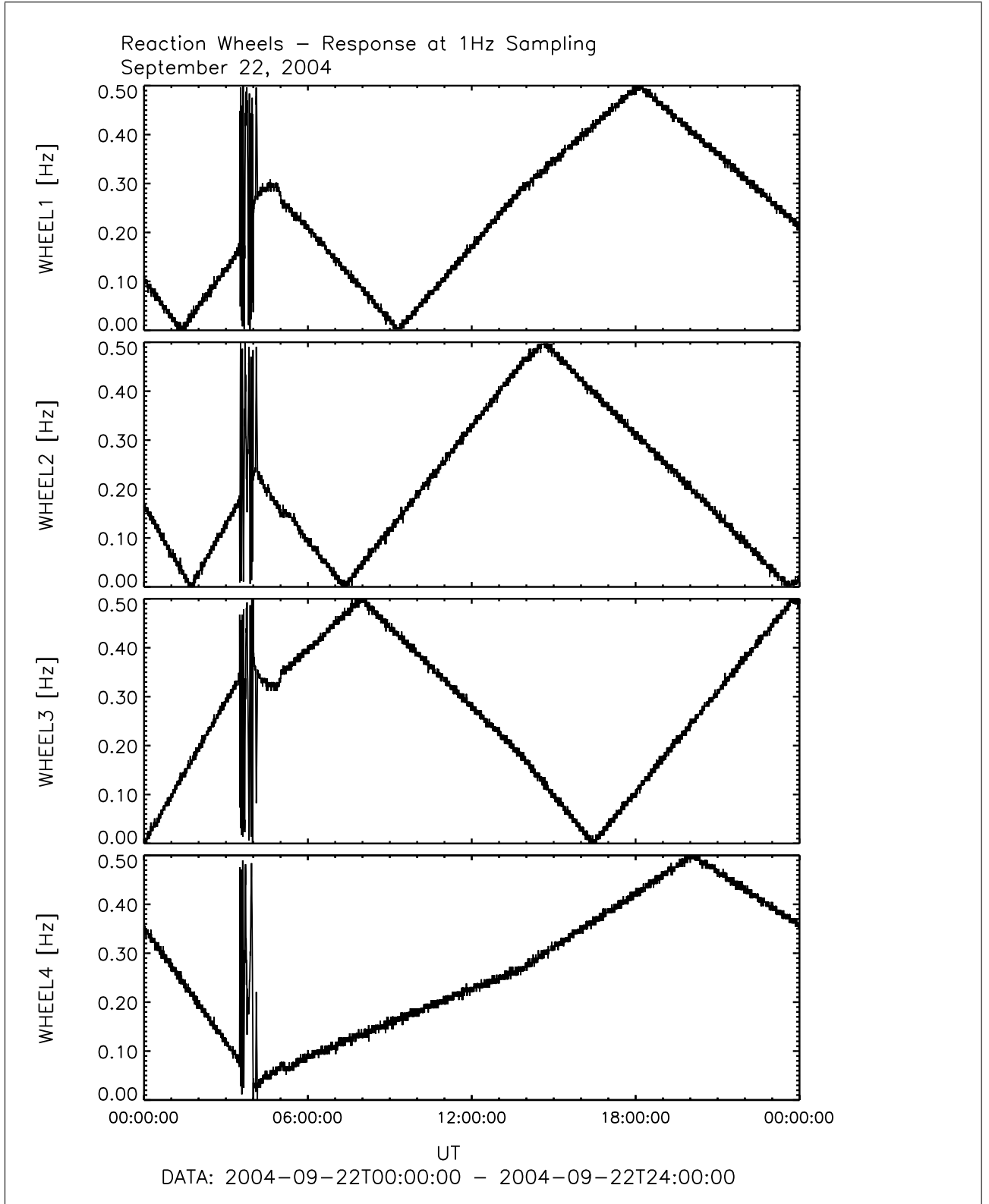


Figure 46: File: wheels\_1Hz\_Sampling2004-09-22T00-00

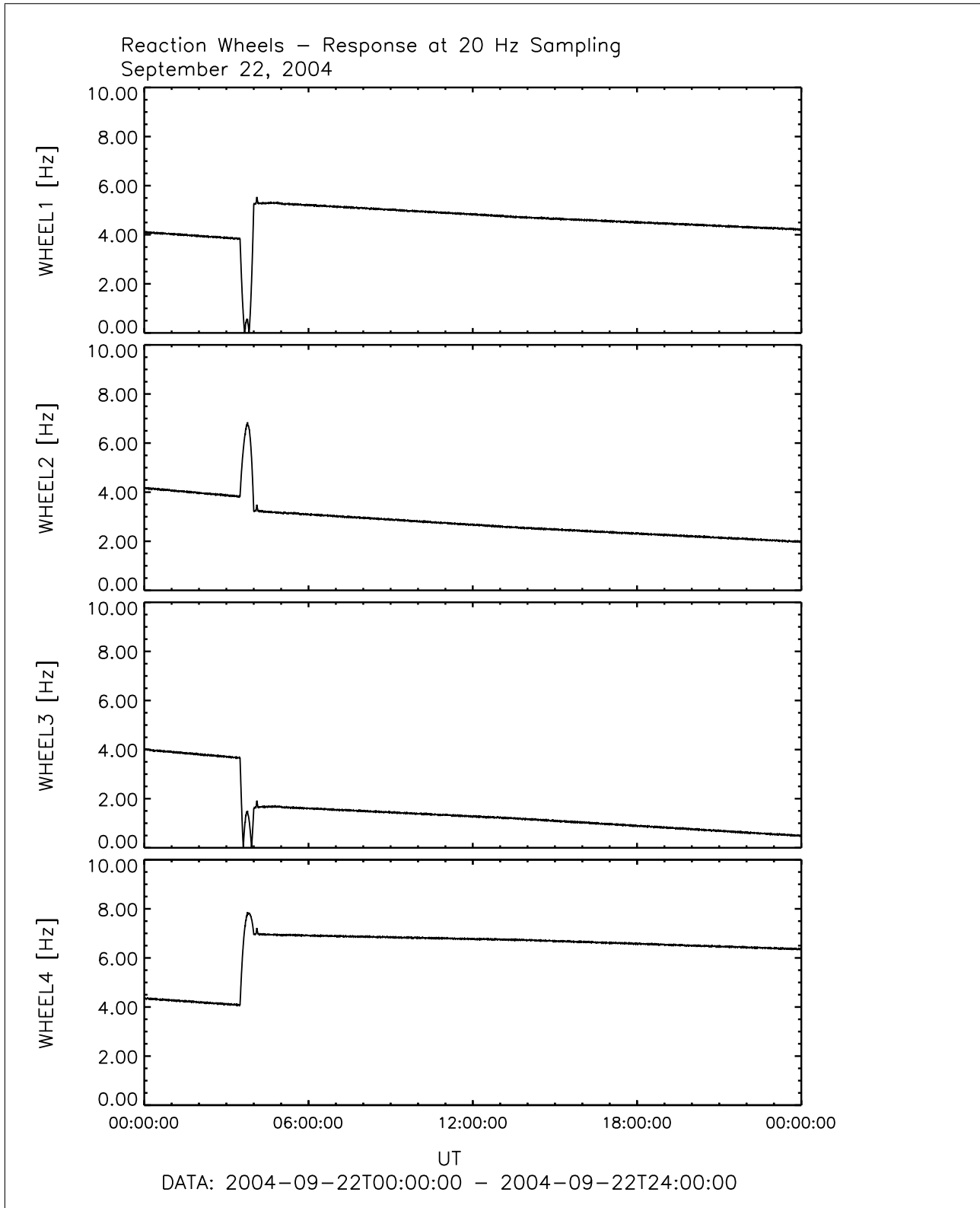


Figure 47: File: wheels\_20Hz\_Sampling2004-09-22T00-00

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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.



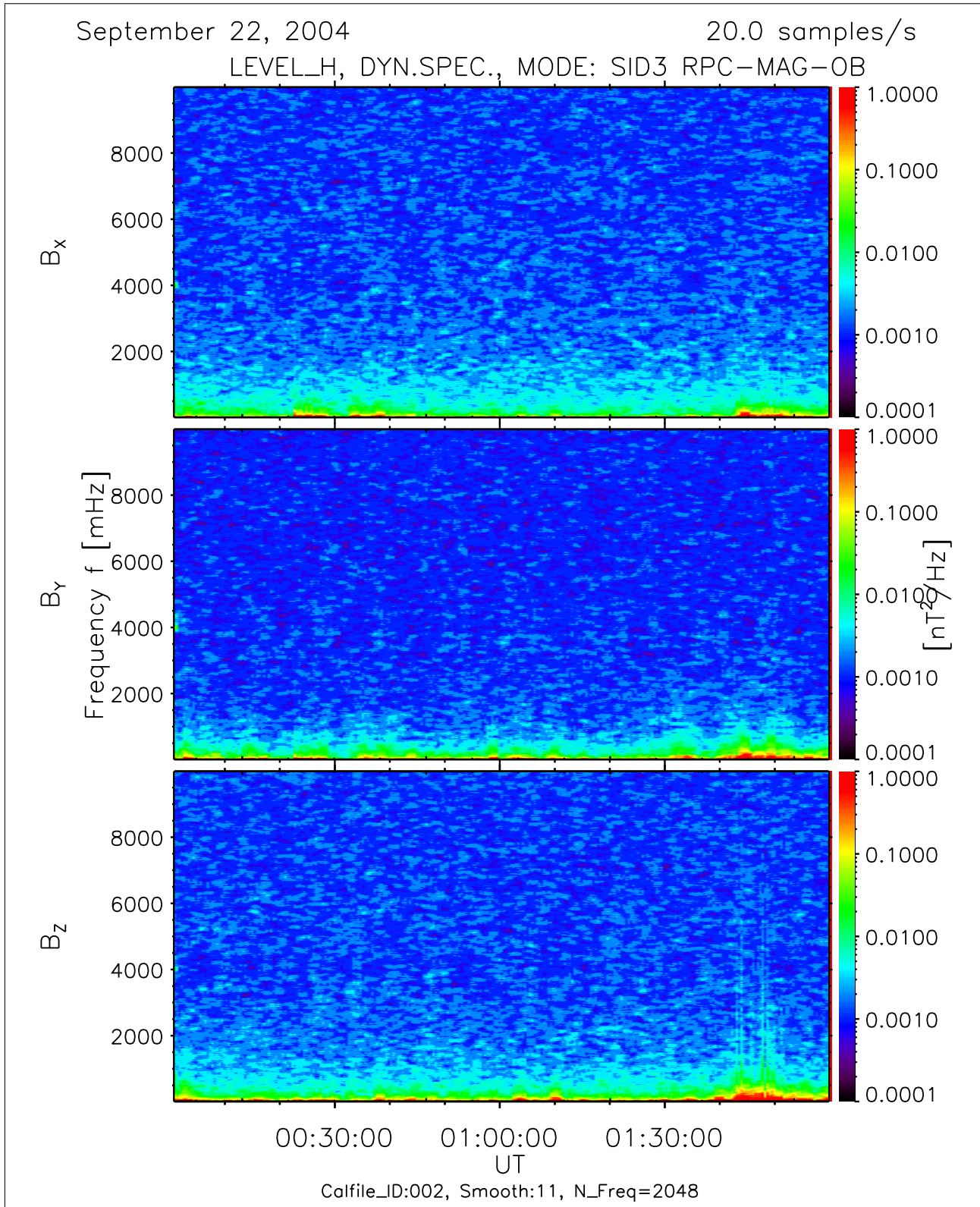


Figure 48: File: RPCMAG040922T0000\_CLH\_OB\_M3\_DS0.10000\_002

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## 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

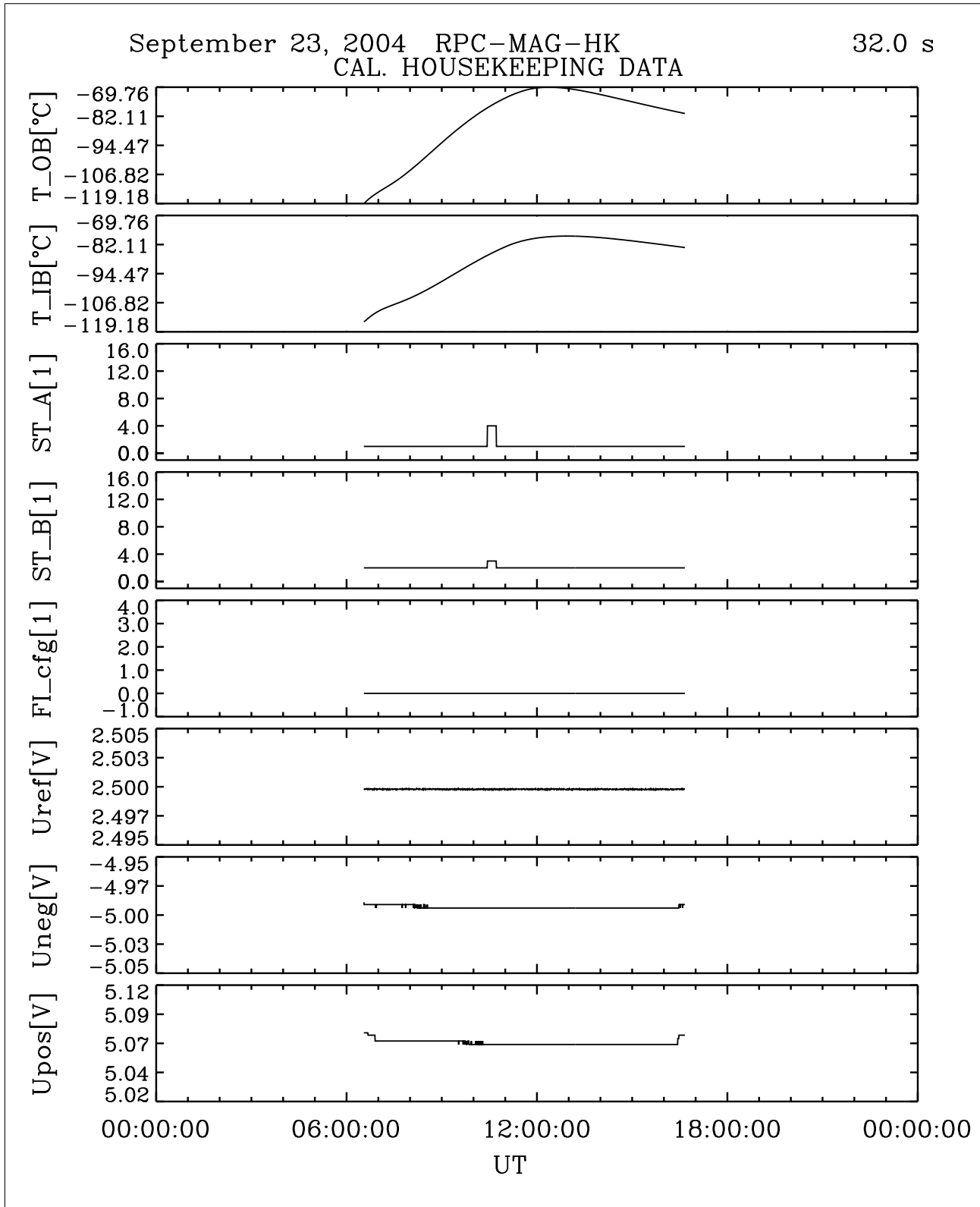


Figure 49: File: RPCMAG040923T0632\_CLA\_HK\_P0000\_2400

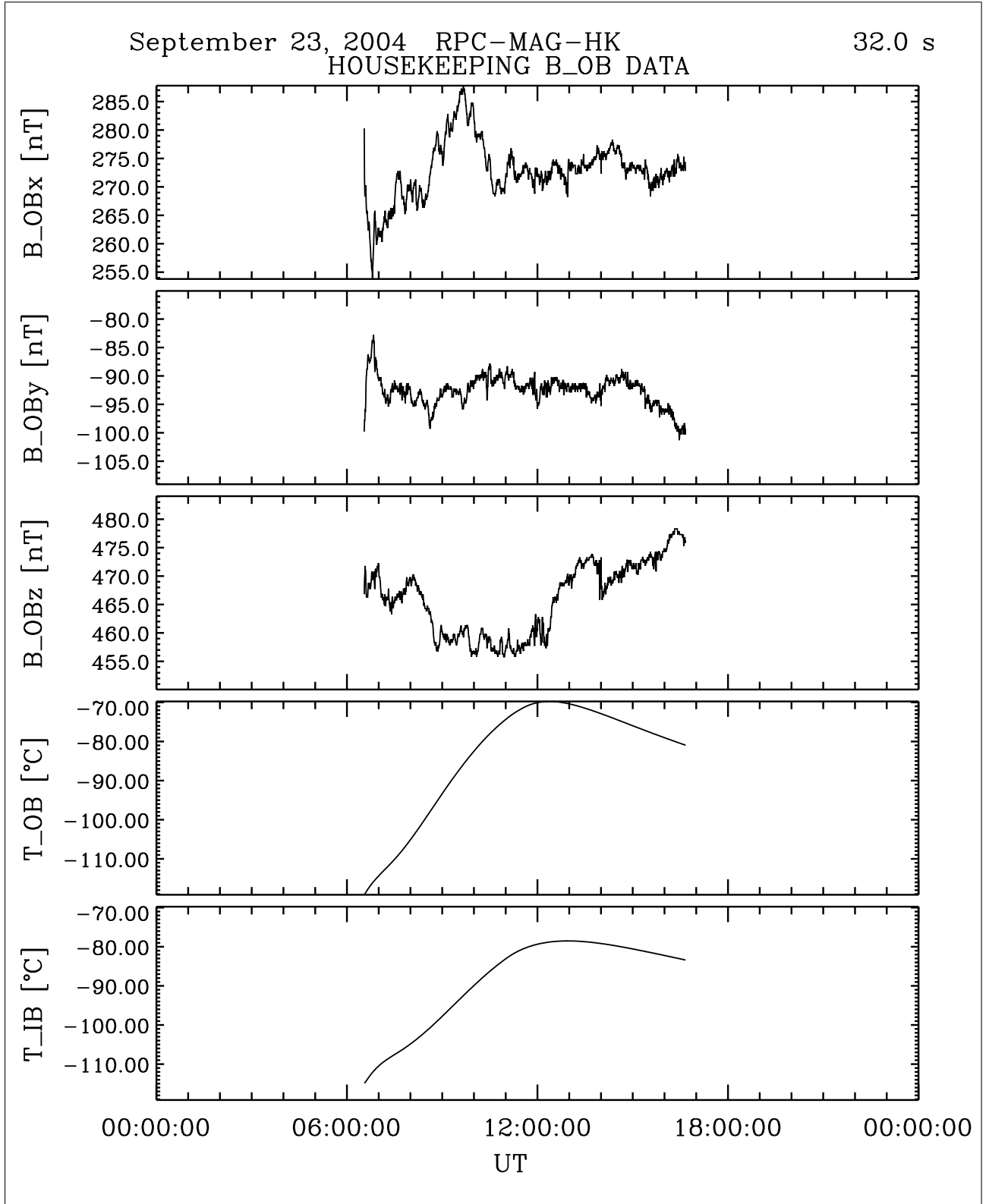


Figure 50: File: RPCMAG040923T0632\_CLA\_HK\_B\_P0000\_2400

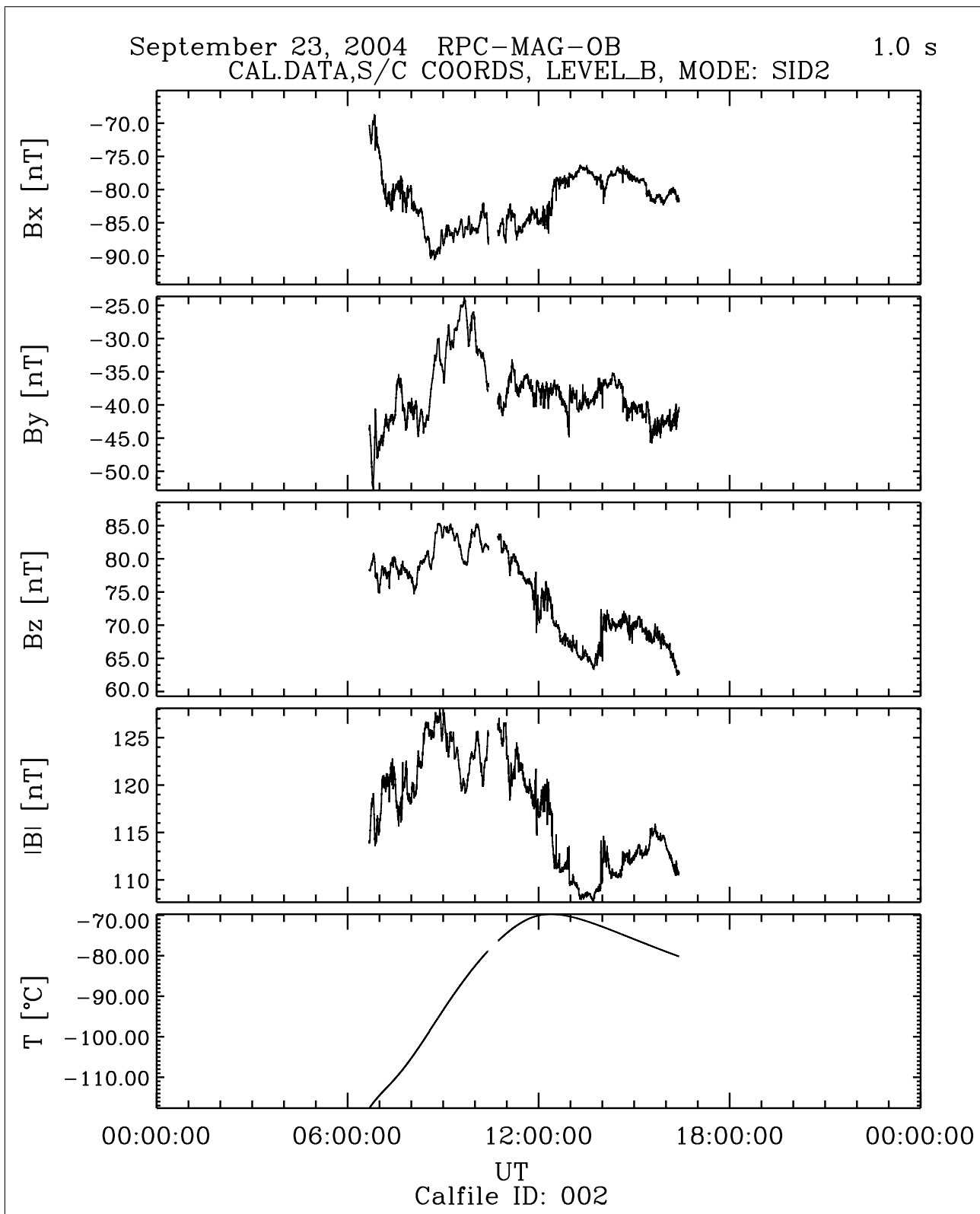


Figure 51: File: RPCMAG040923T0640\_CLB\_OB\_M2\_T0000\_2400\_002

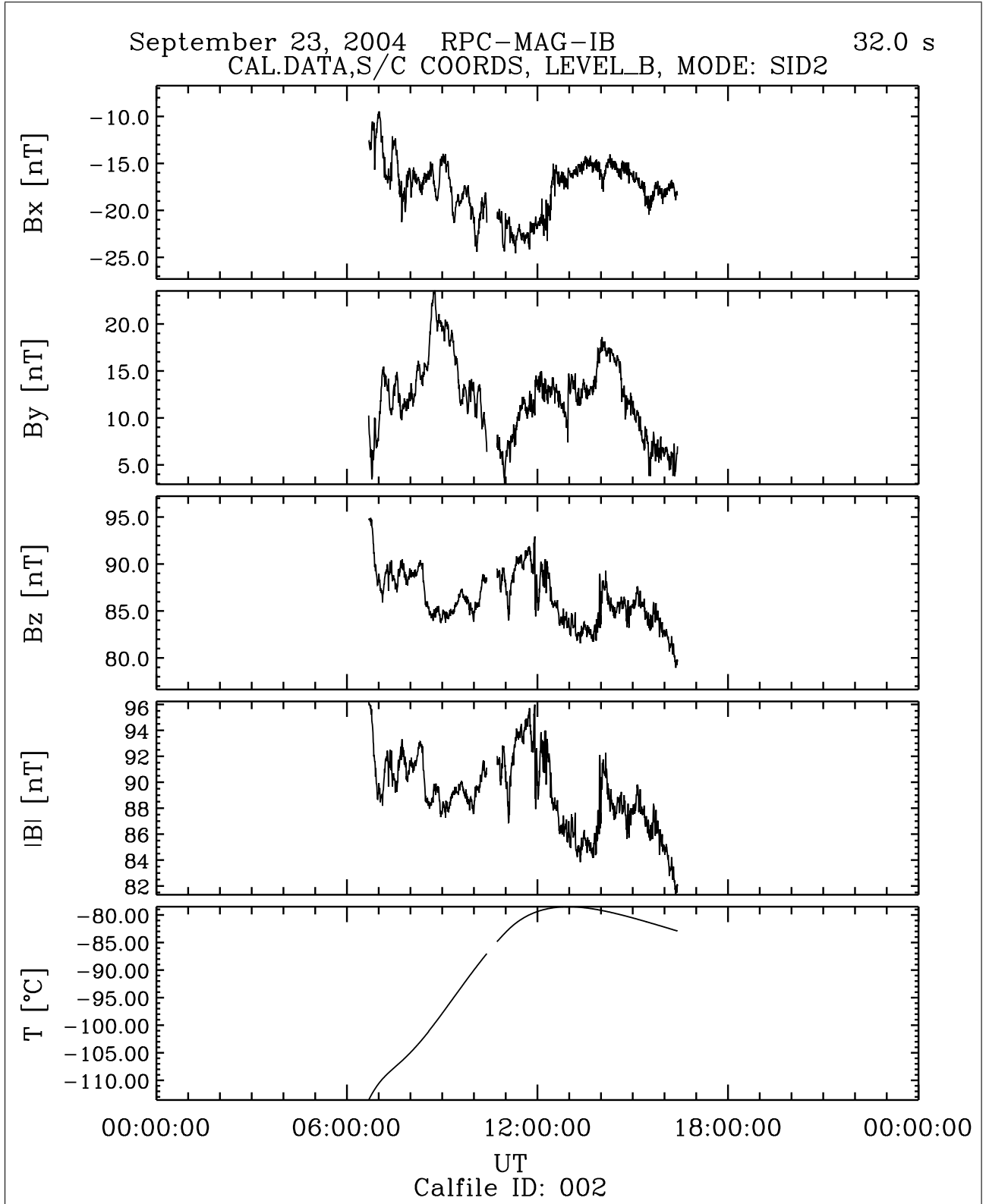


Figure 52: File: RPCMAG040923T0640\_CLB\_IB\_M2\_T0000\_2400\_002

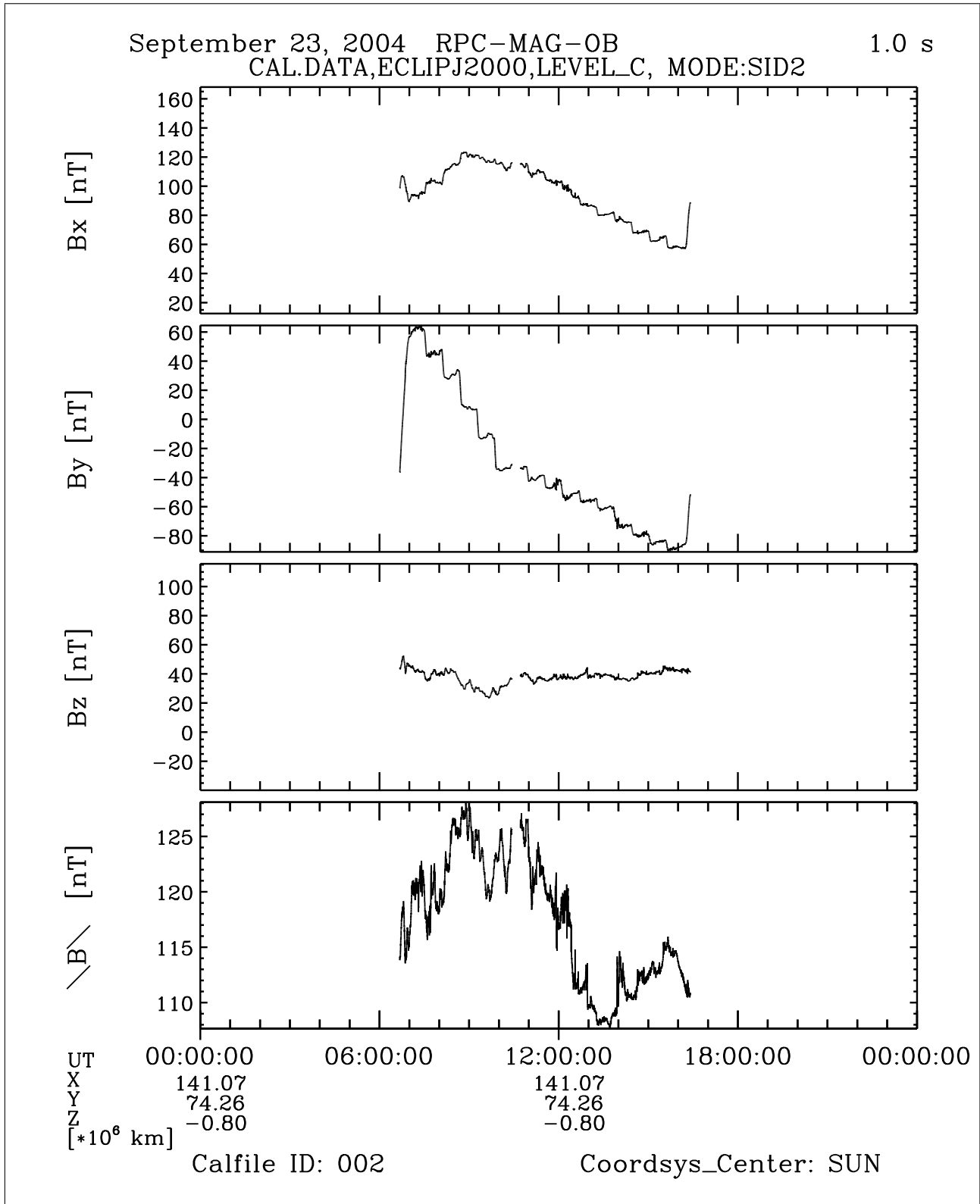


Figure 53: File: RPCMAG040923T0640\_CLC\_OB\_M2\_T0000\_2400\_002

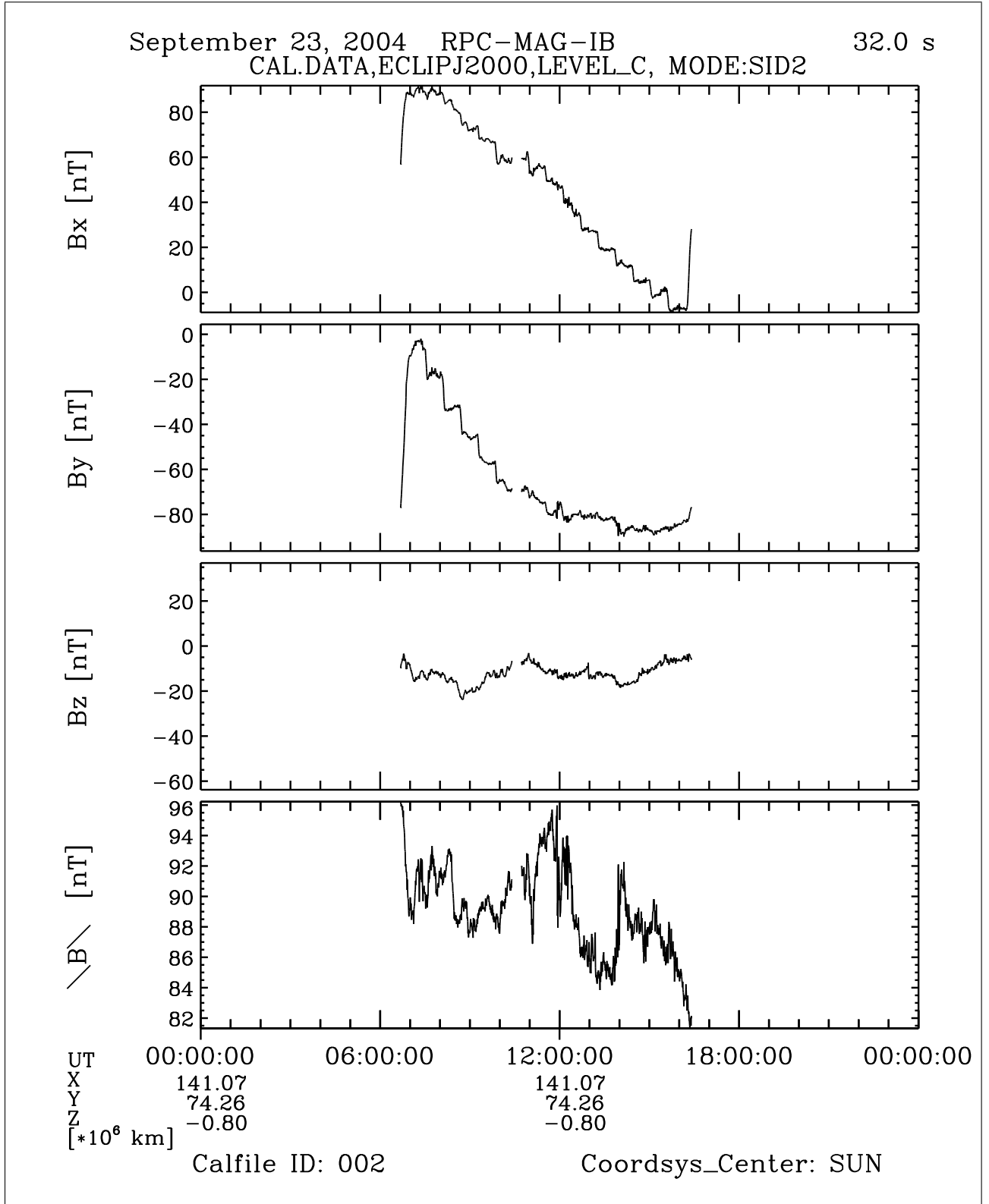


Figure 54: File: RPCMAG040923T0640\_CLC\_IB\_M2\_T0000\_2400\_002



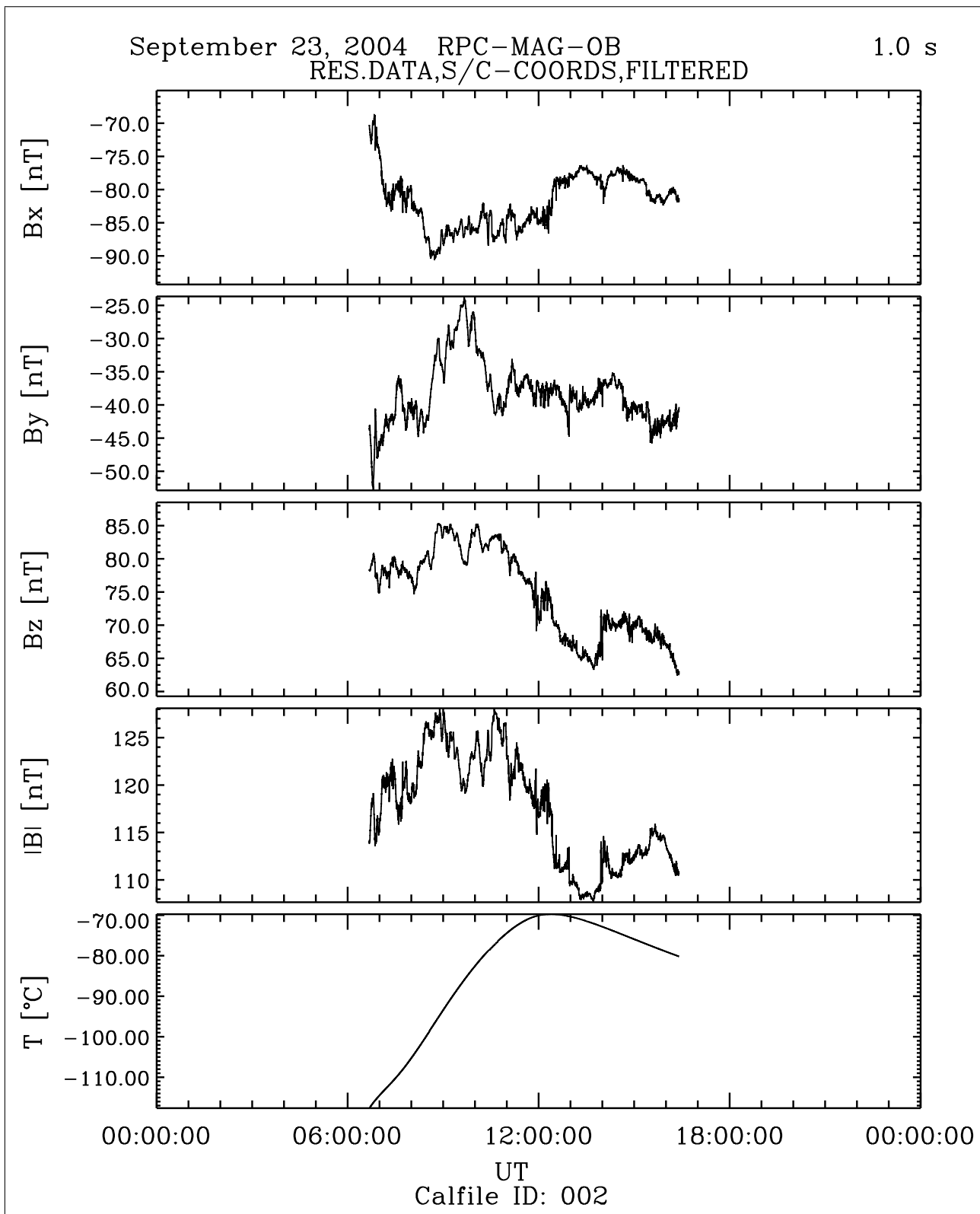


Figure 55: File: RPCMAG040923\_CLF\_OB\_A1\_T0000\_2400\_002

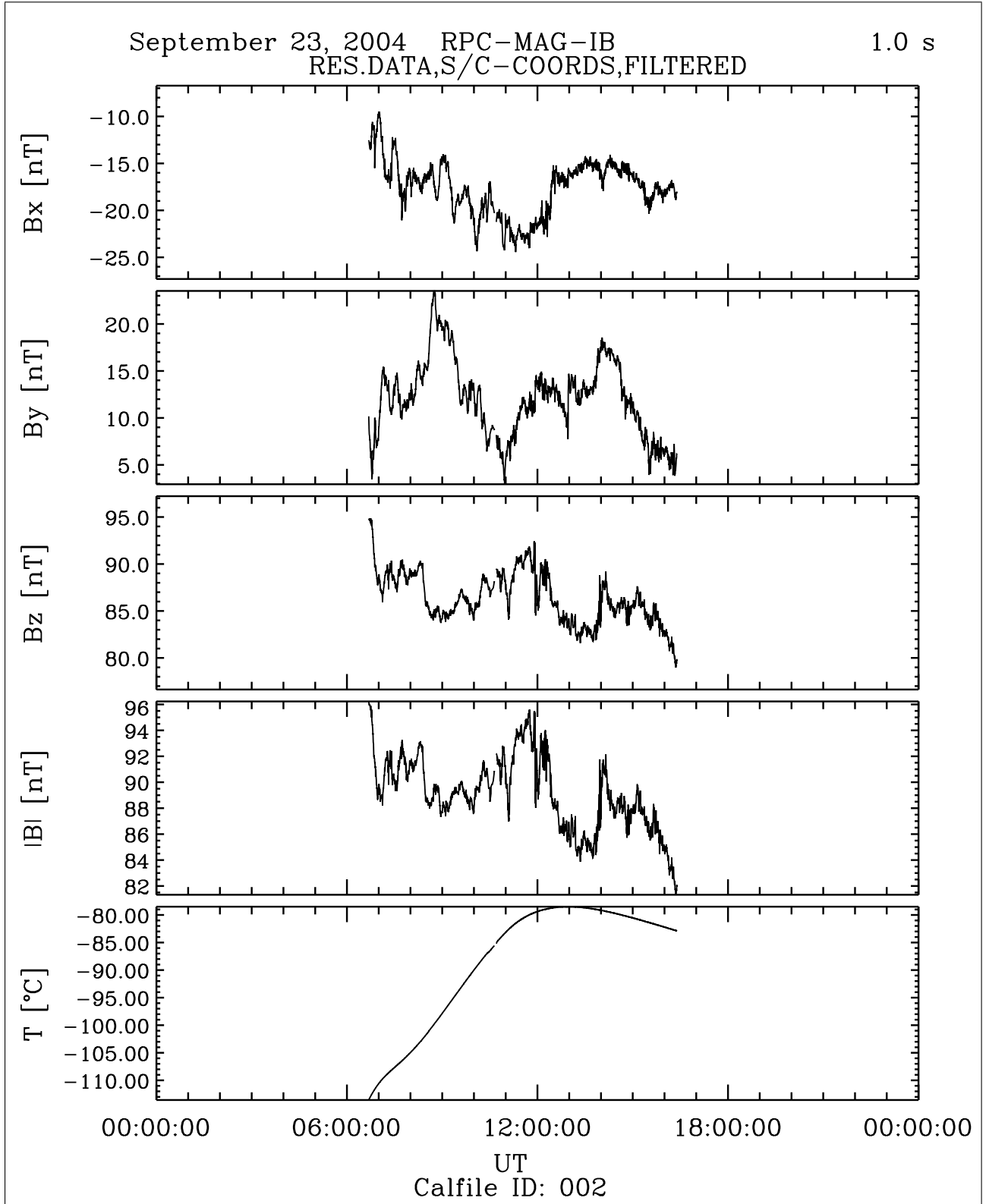


Figure 56: File: RPCMAG040923\_CLF\_IB\_A1\_T0000\_2400\_002

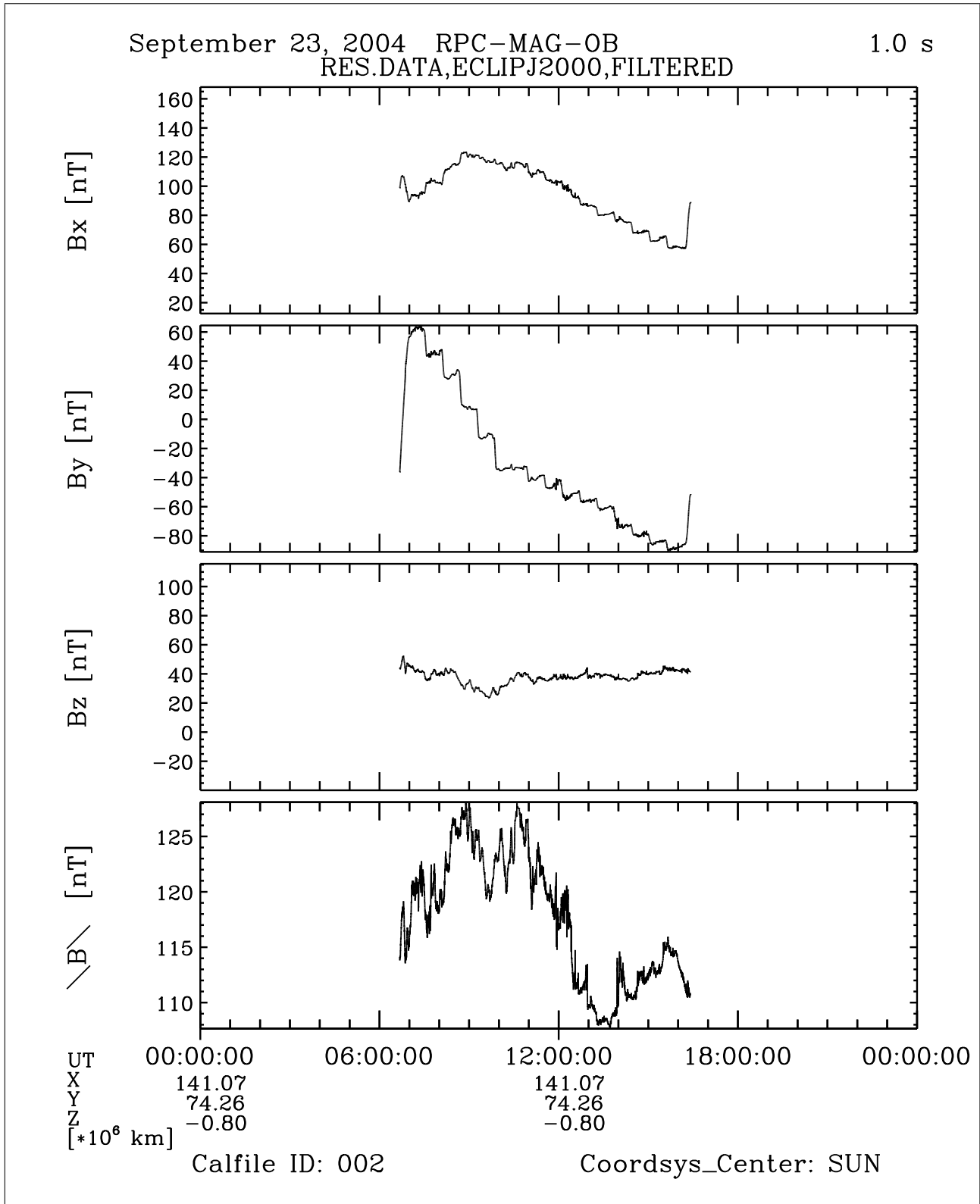


Figure 57: File: RPCMAG040923\_CLG\_OB\_A1.T0000\_2400\_002

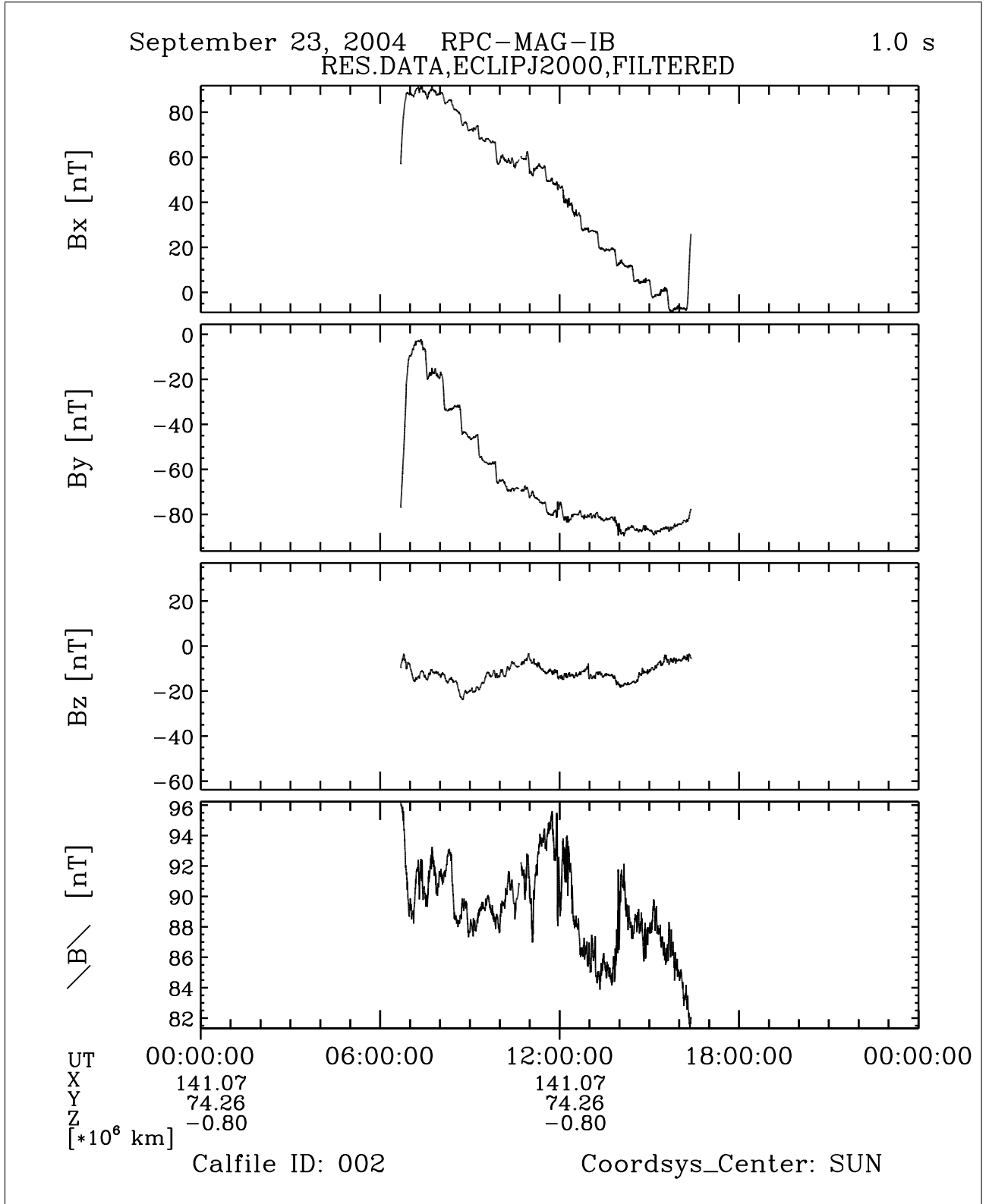


Figure 58: File: RPCMAG040923\_CLG\_IB\_A1\_T0000\_2400\_002

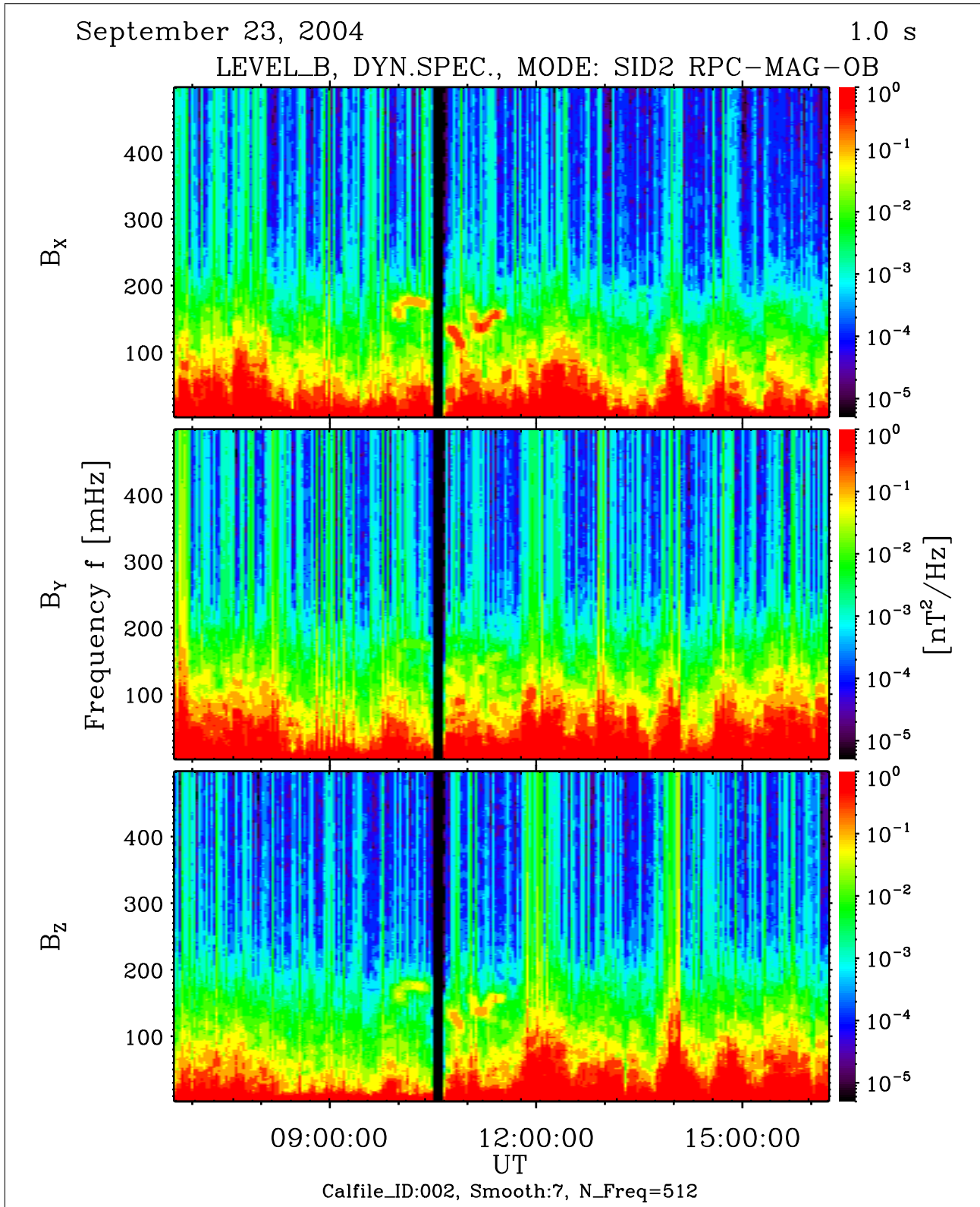


Figure 59: File: RPCMAG040923T0640\_CLB\_OB\_M2\_DS0\_500\_002

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### 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.

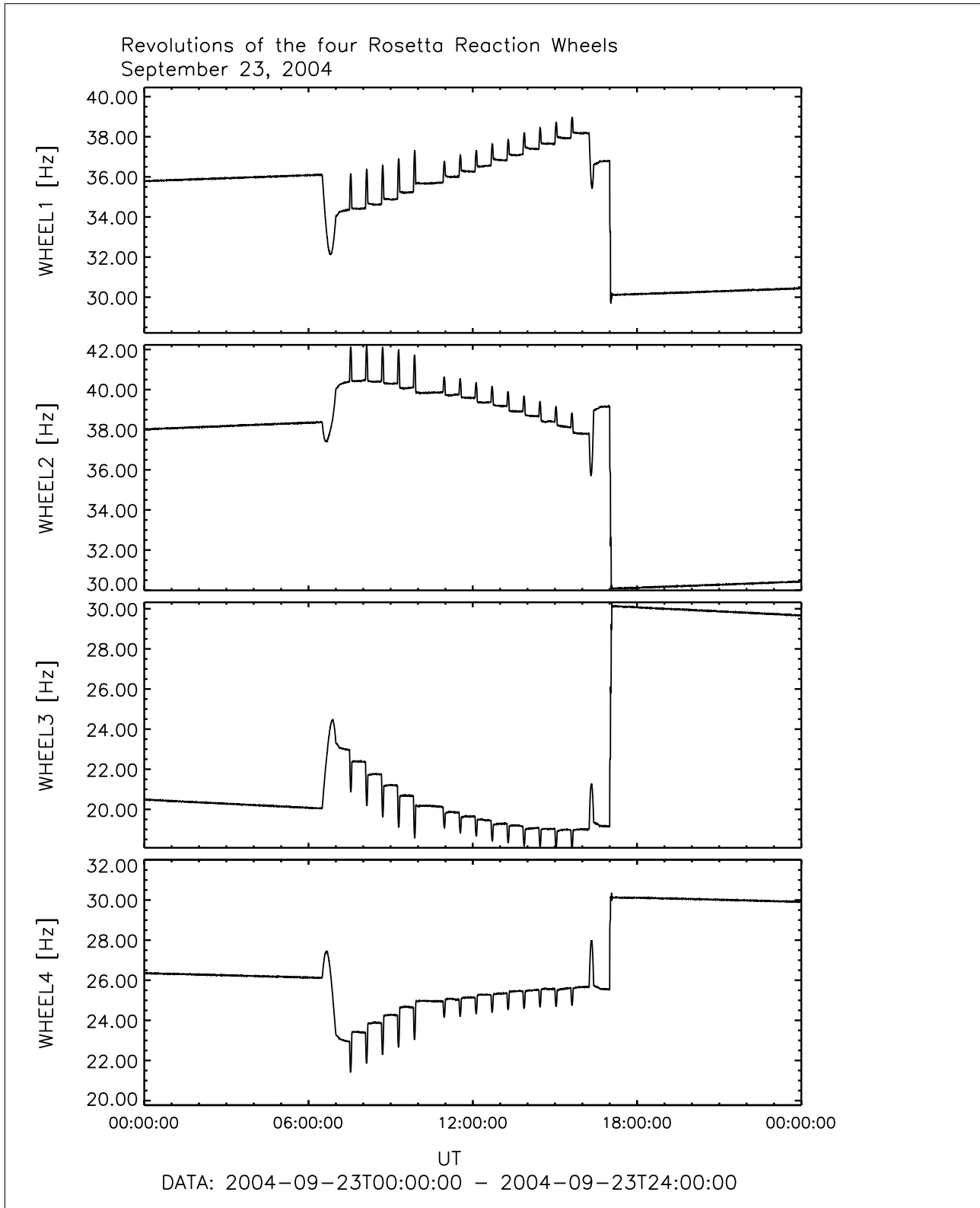


Figure 60: File: wheels\_Hz2004-09-23T00-00

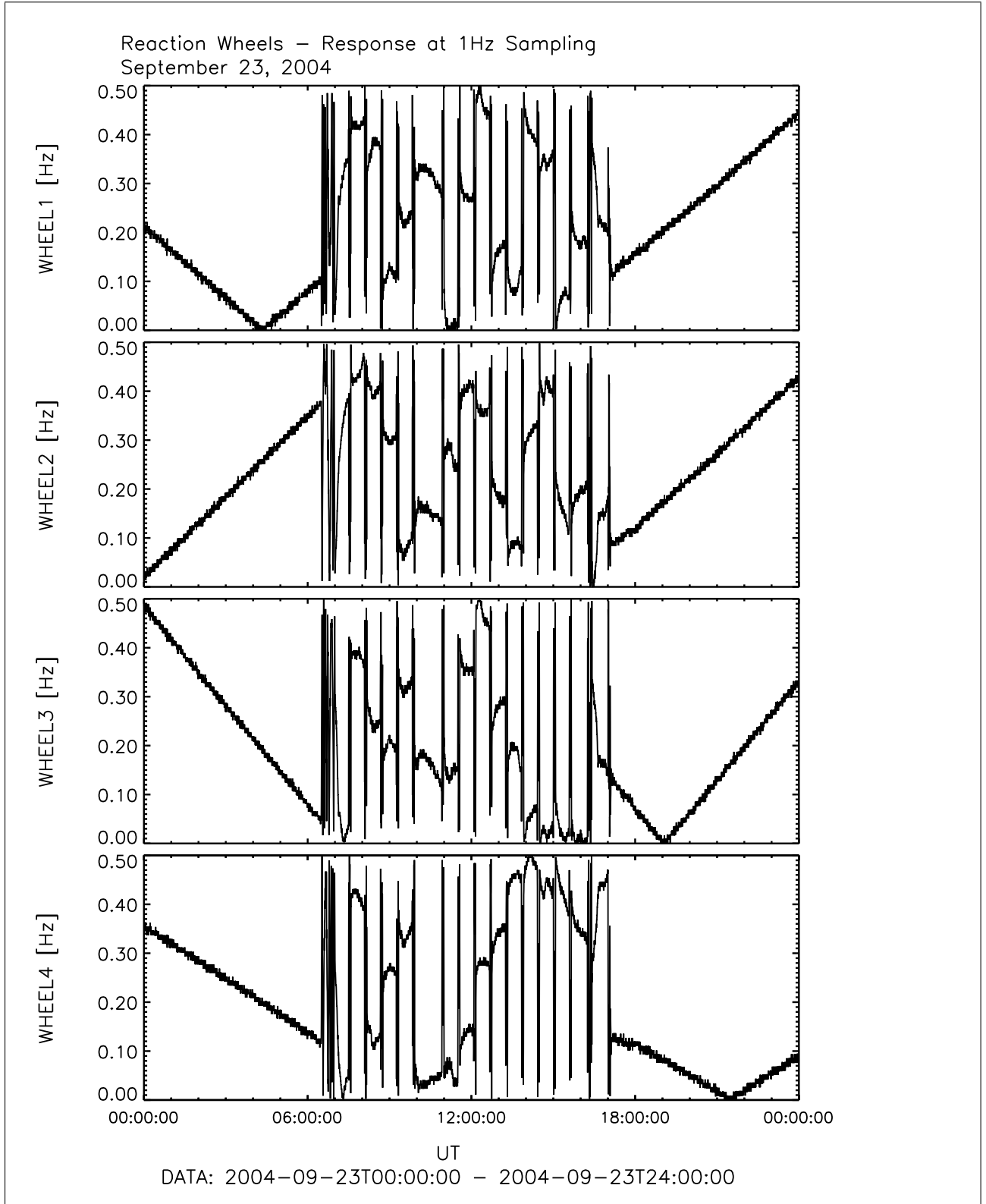


Figure 61: File: wheels\_1Hz\_Sampling2004-09-23T00-00



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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

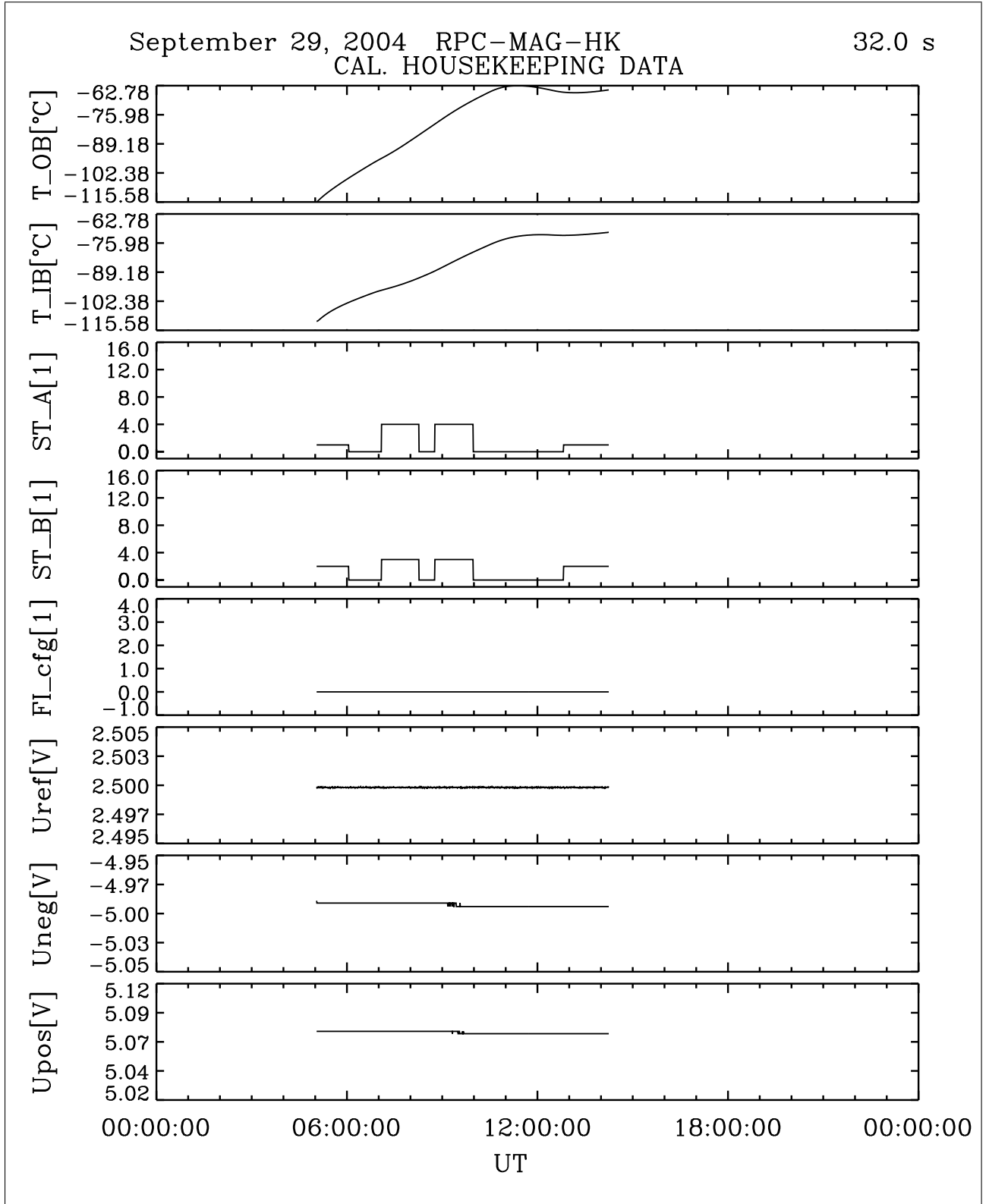


Figure 62: File: RPCMAG040929T0502\_CLA\_HK\_P0000\_2400

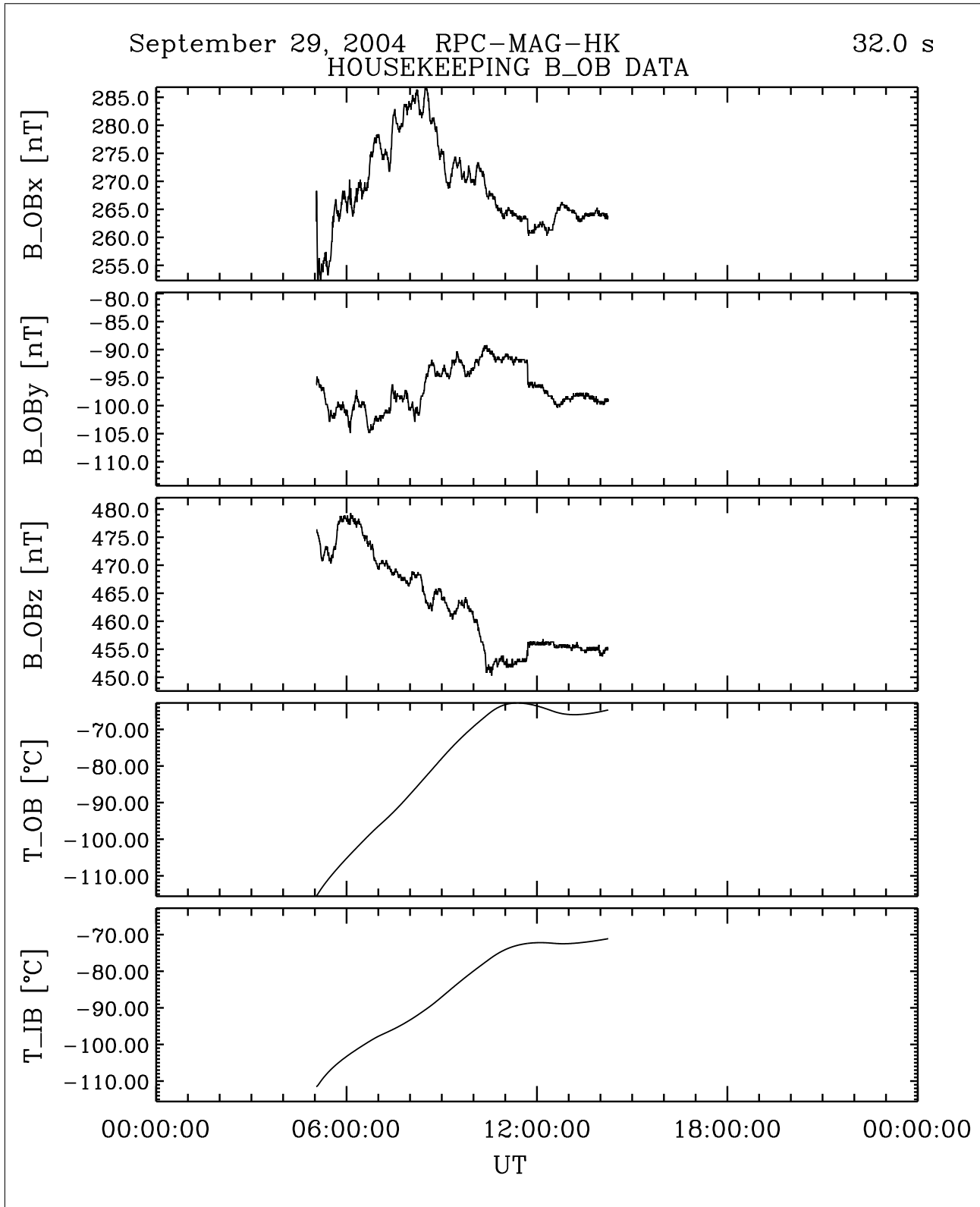


Figure 63: File: RPCMAG040929T0502\_CLA\_HK\_B\_P0000\_2400

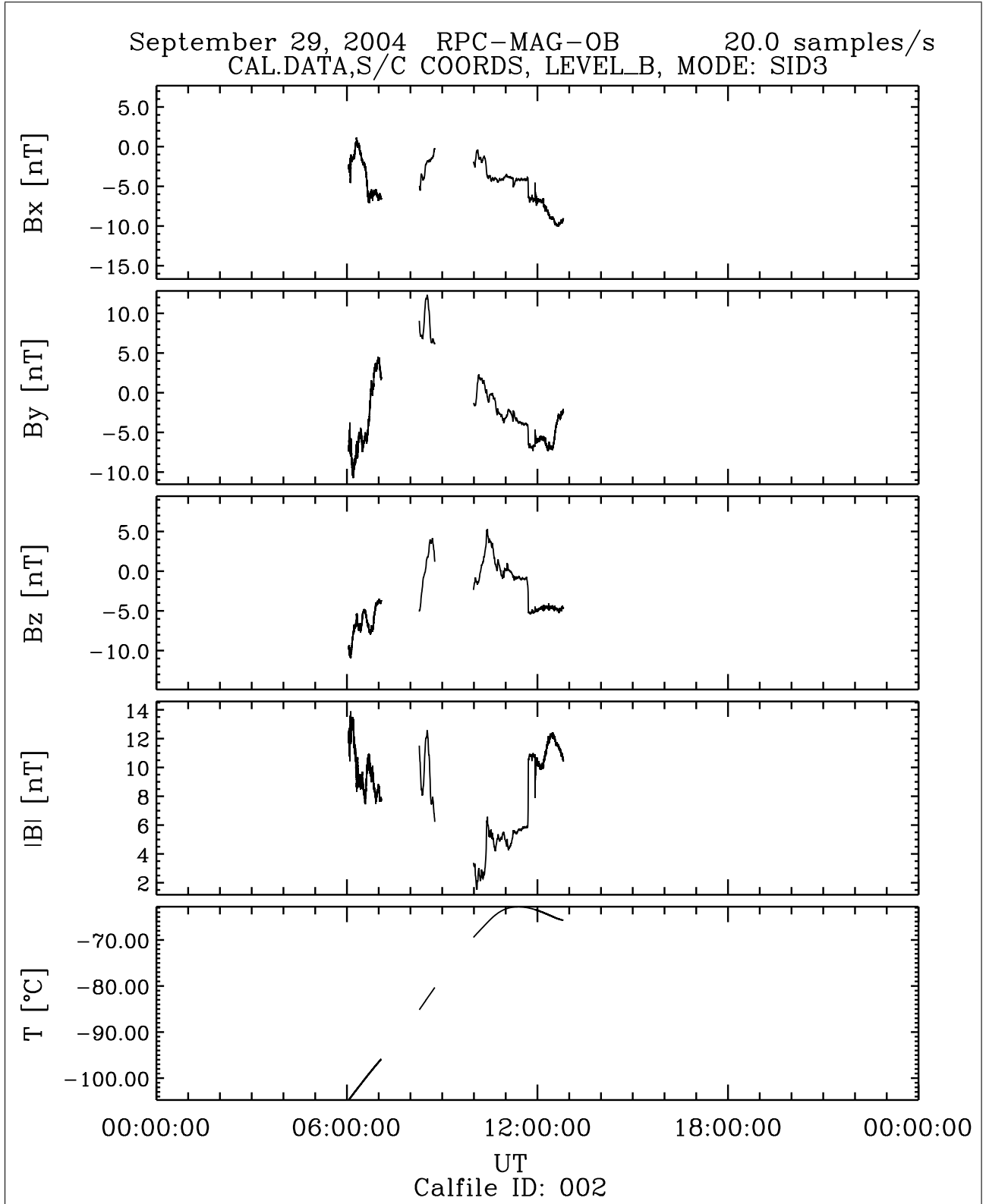


Figure 64: File: RPCMAG040929T0603\_CLB\_OB\_M3\_T0000\_2400\_002

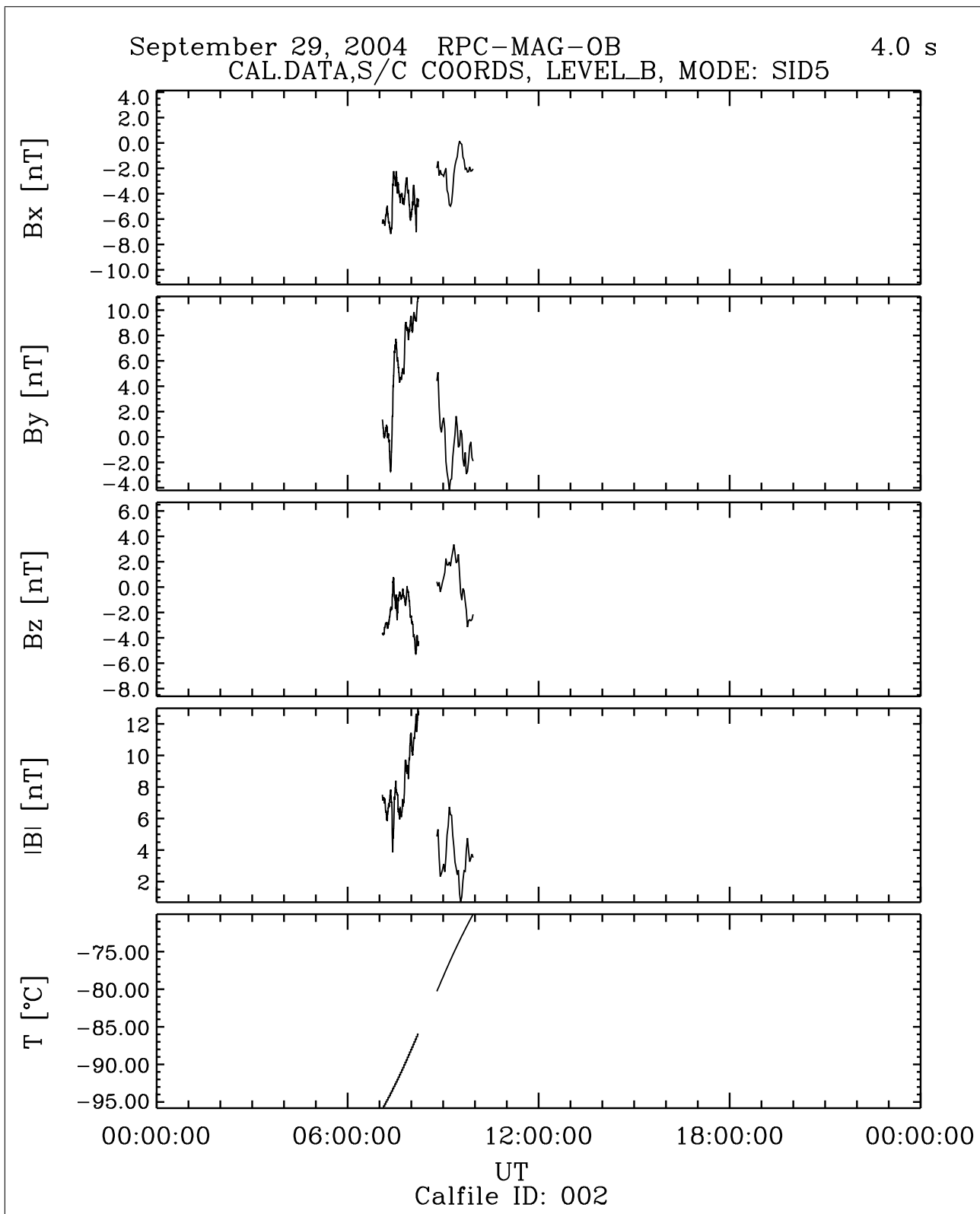


Figure 65: File: RPCMAG040929T0705\_CLB\_OB\_M5\_T0000\_2400\_002

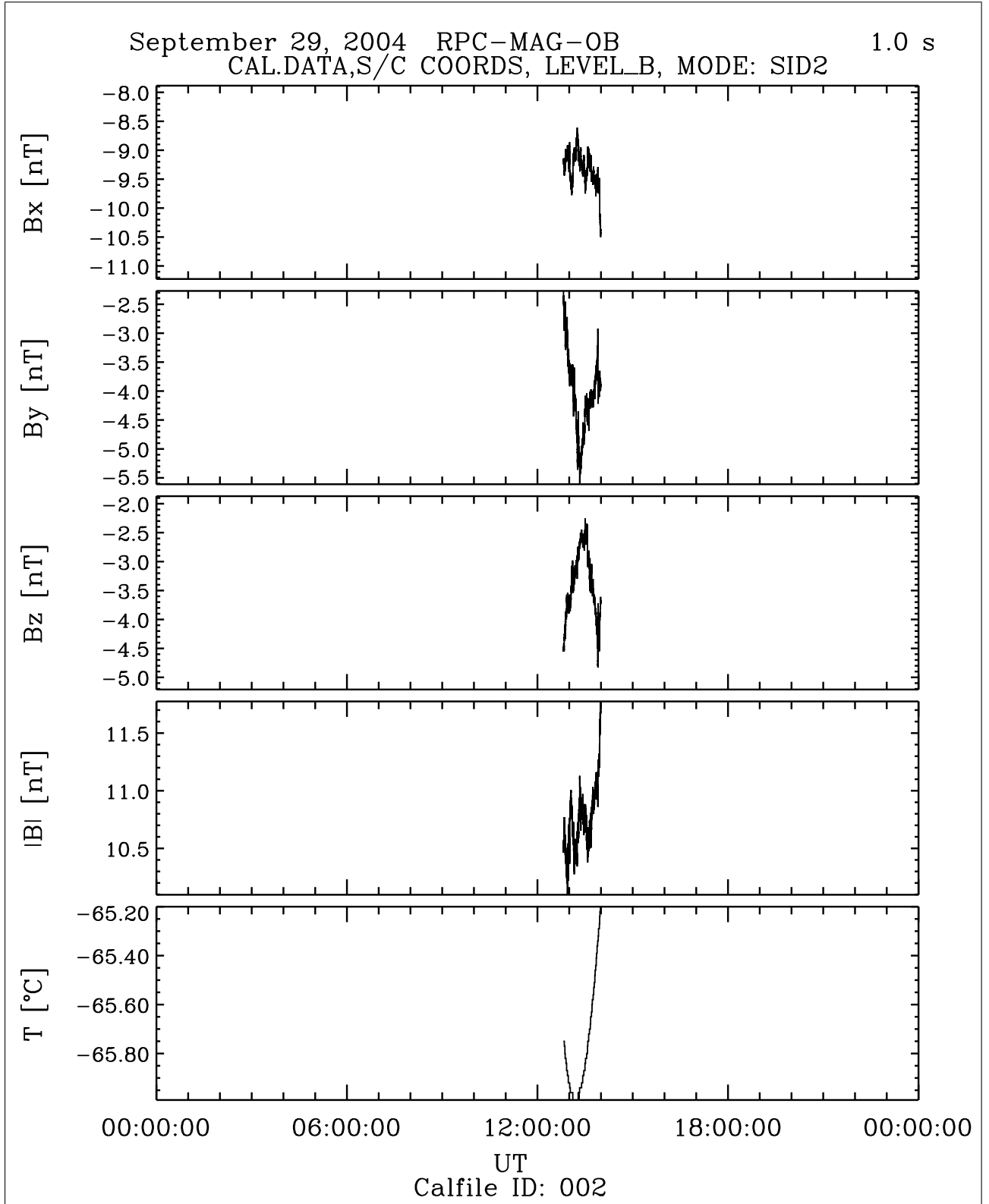


Figure 66: File: RPCMAG040929T1249\_CLB\_OB\_M2\_T0000\_2400\_002

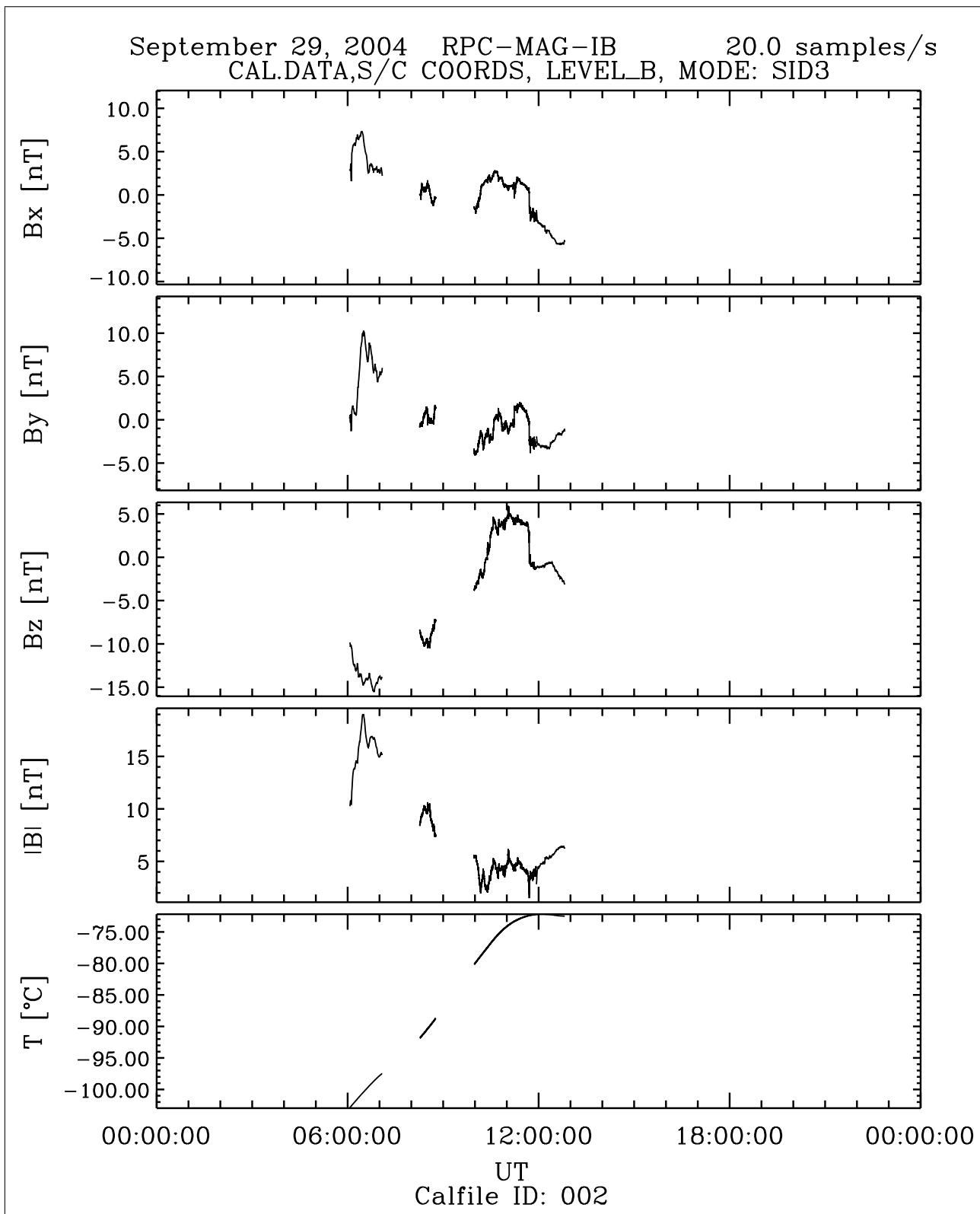


Figure 67: File: RPCMAG040929T0603\_CLB\_IB\_M3\_T0000\_2400\_002

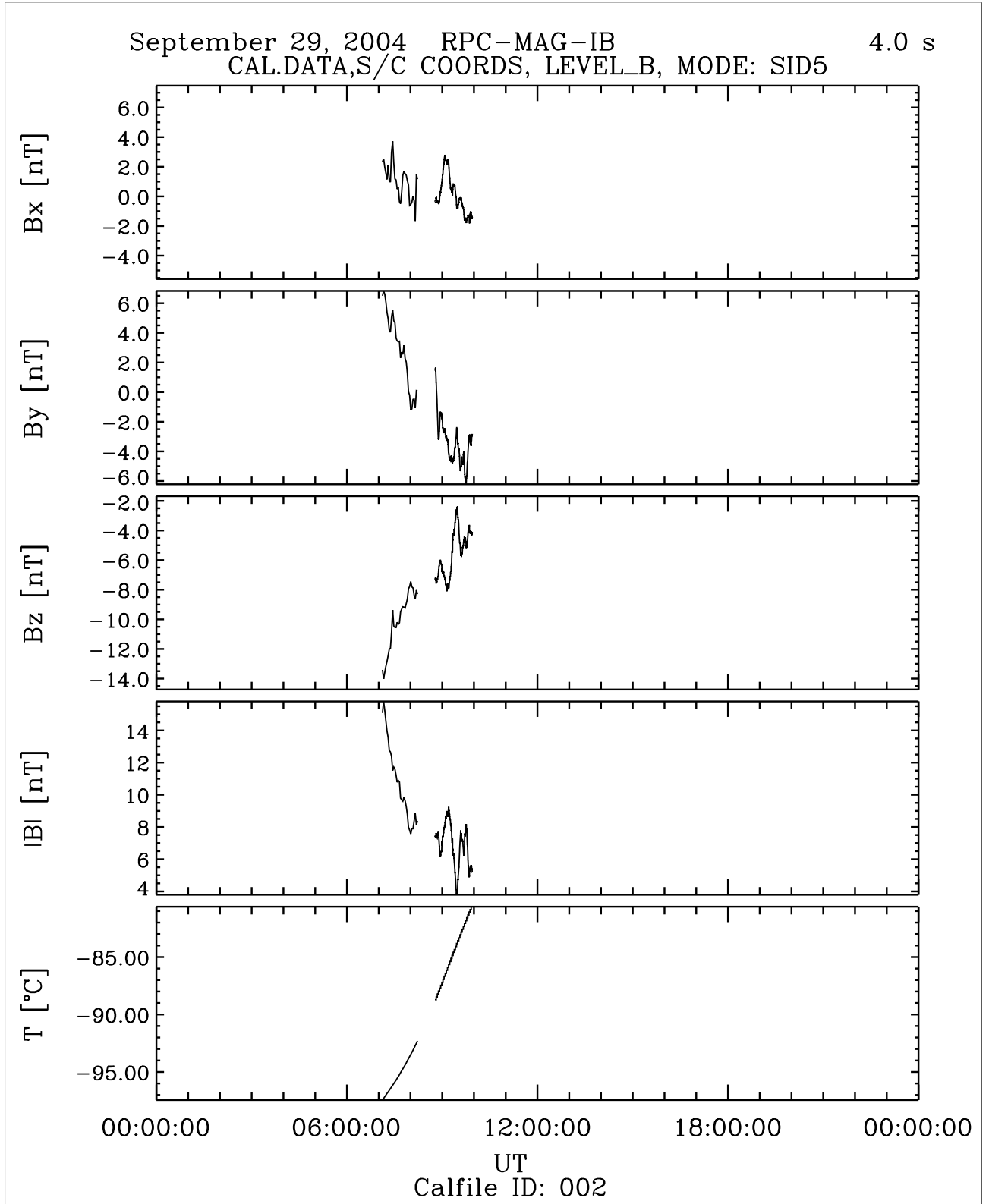


Figure 68: File: RPCMAG040929T0705\_CLB\_IB\_M5\_T0000\_2400\_002



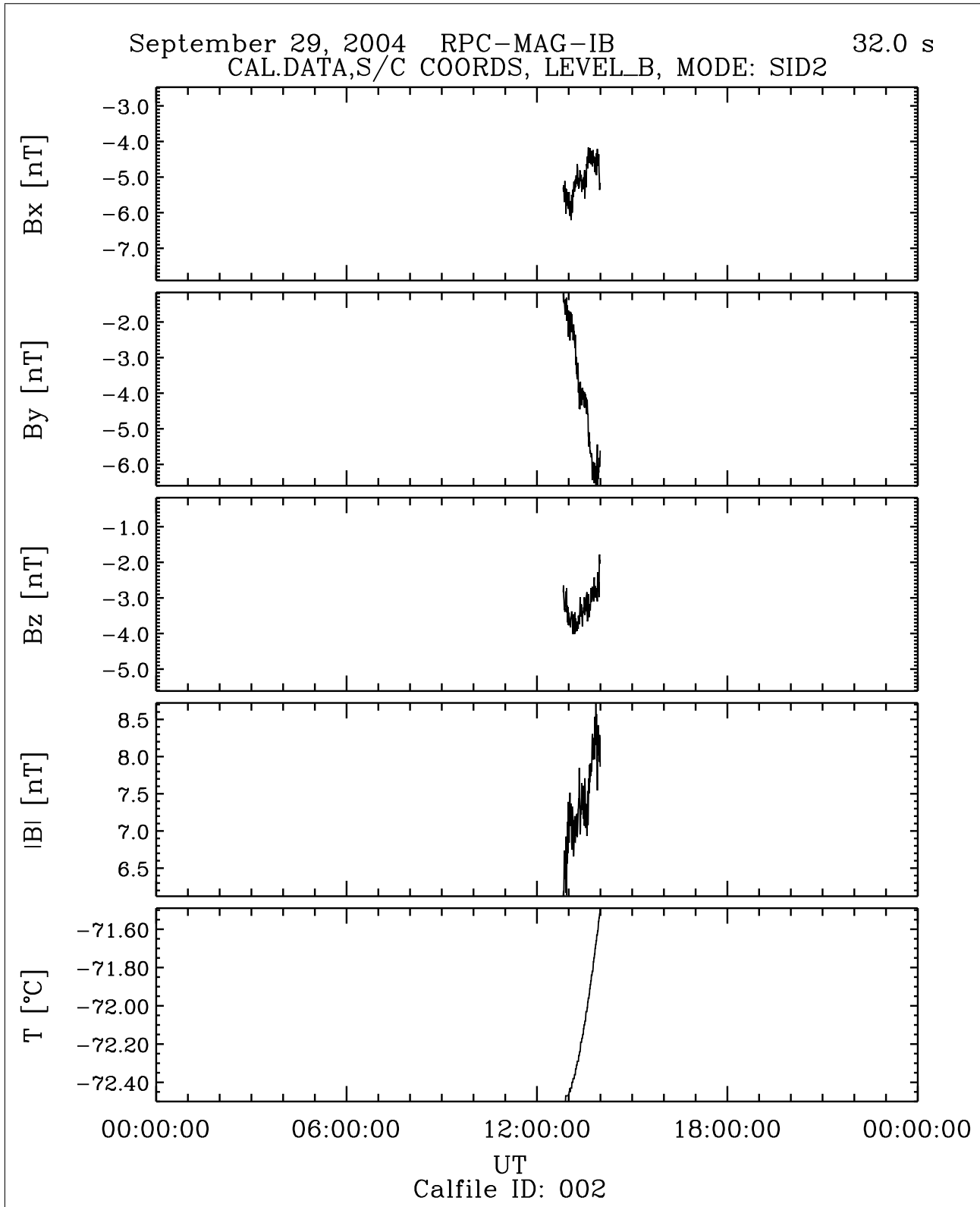


Figure 69: File: RPCMAG040929T1249\_CLB\_IB\_M2\_T0000\_2400\_002

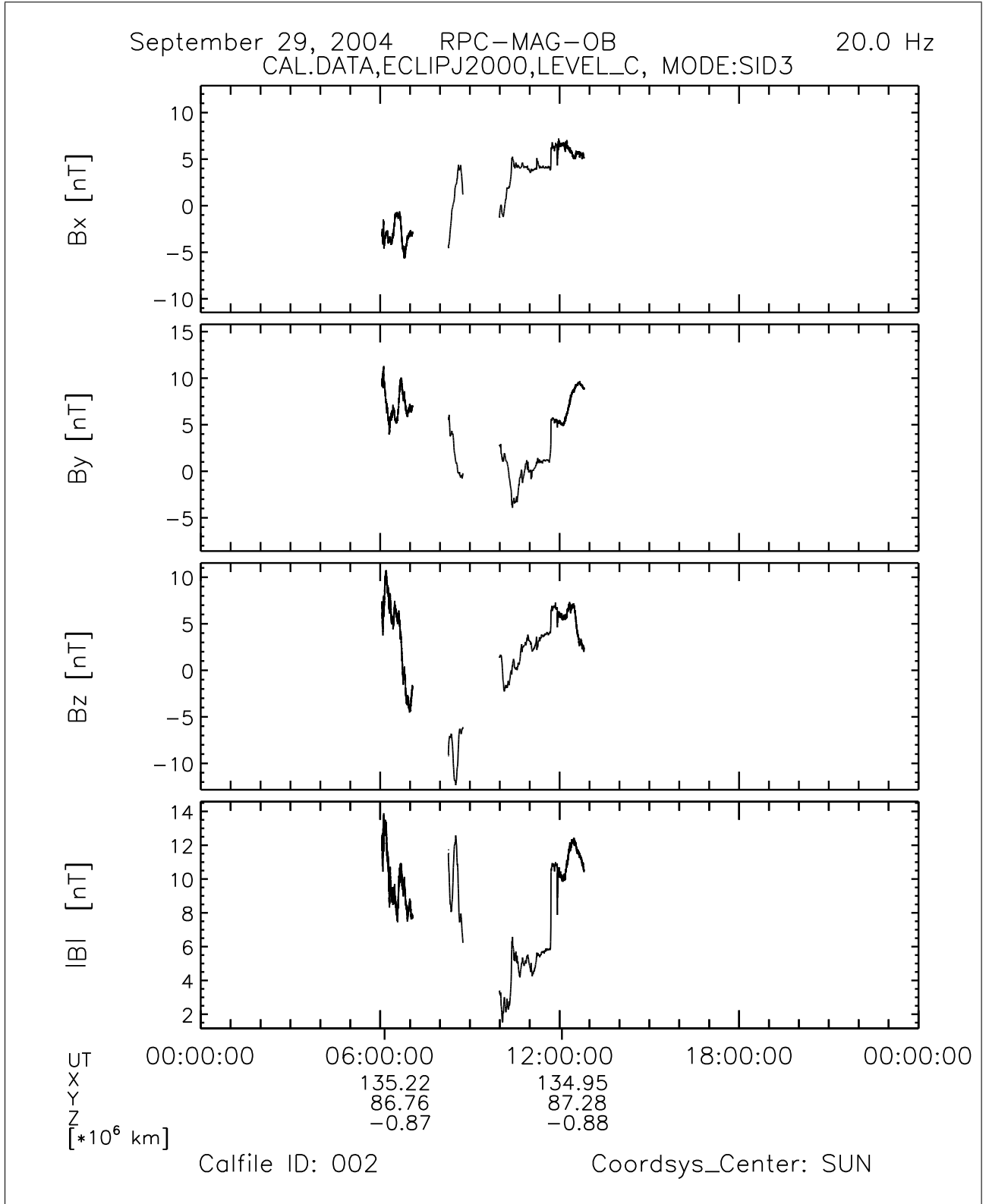


Figure 70: File: RPCMAG040929T0603\_CLC\_OB\_M3\_T0000\_2400\_002

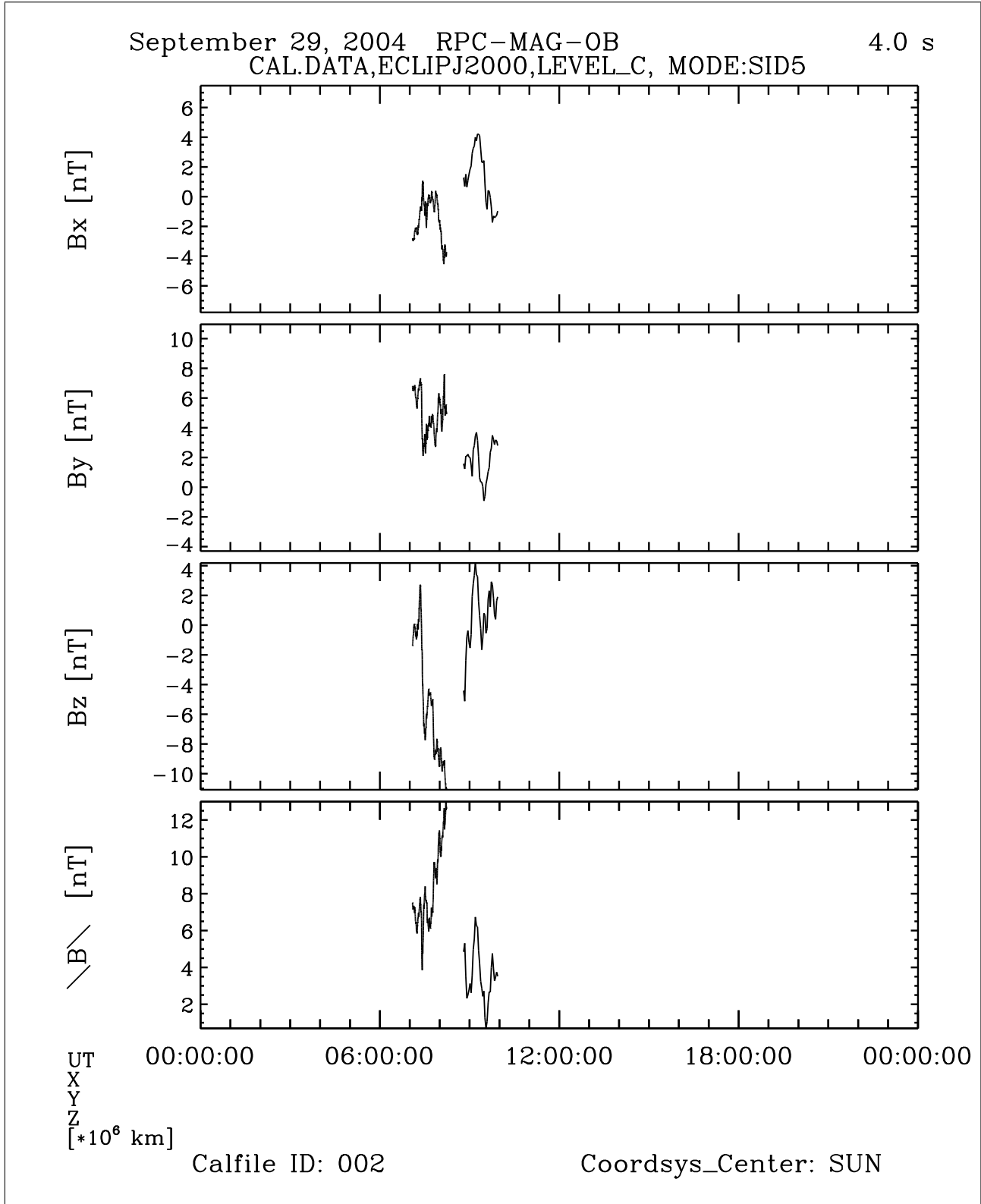


Figure 71: File: RPCMAG040929T0705\_CLC\_OB\_M5\_T0000\_2400\_002

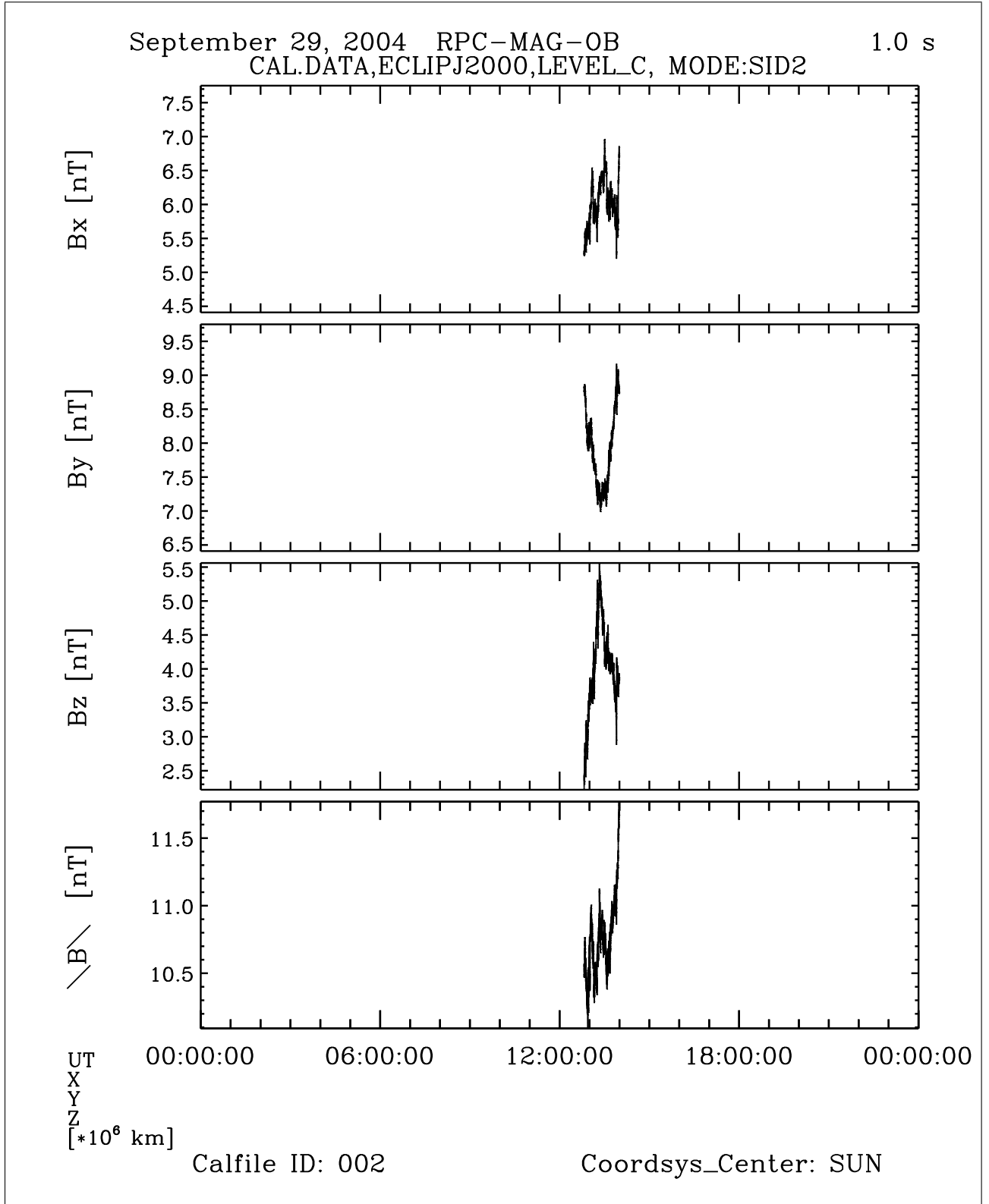


Figure 72: File: RPCMAG040929T1249\_CLC\_OB\_M2\_T0000\_2400\_002

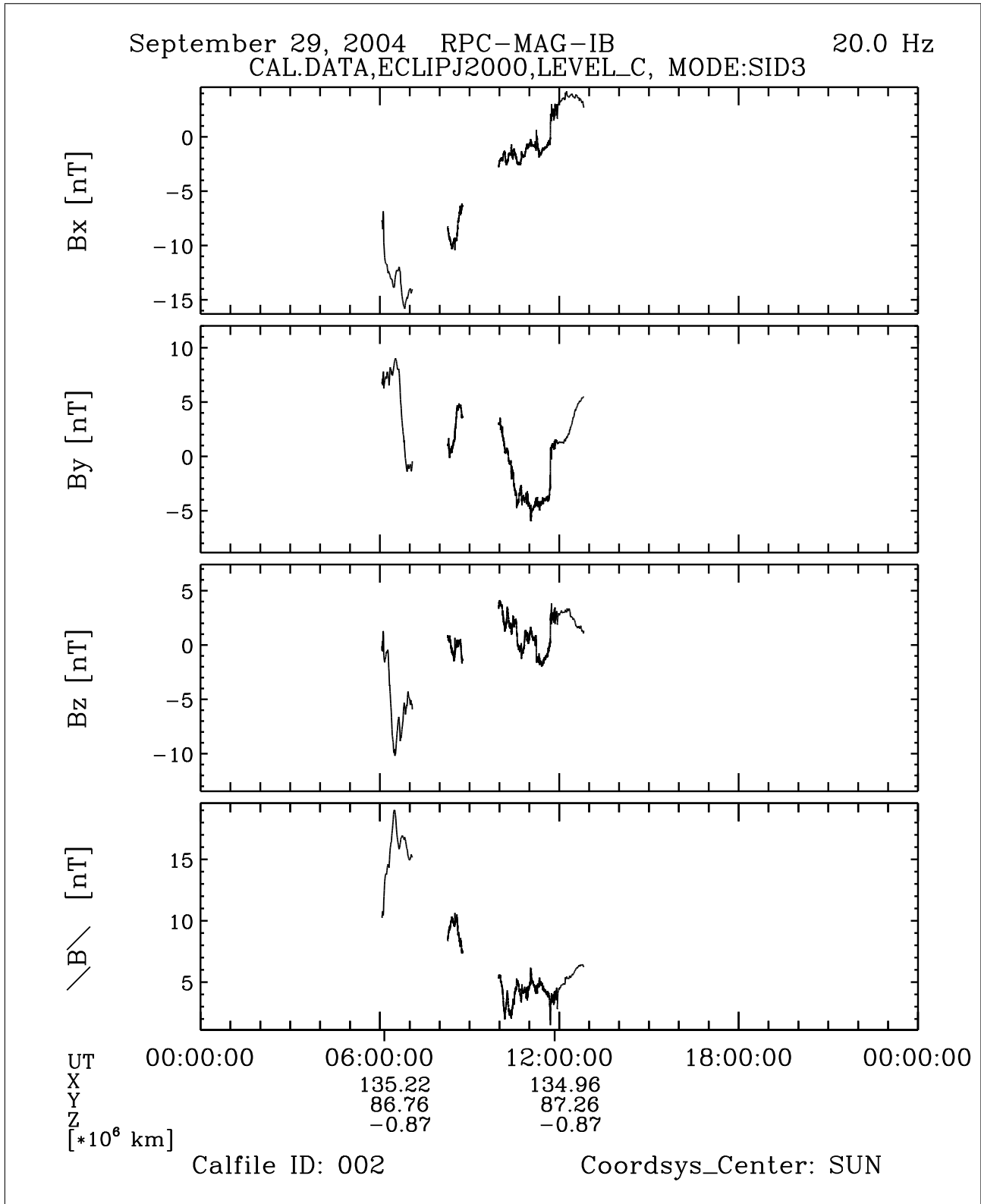


Figure 73: File: RPCMAG040929T0603\_CLC\_IB\_M3\_T0000\_2400\_002

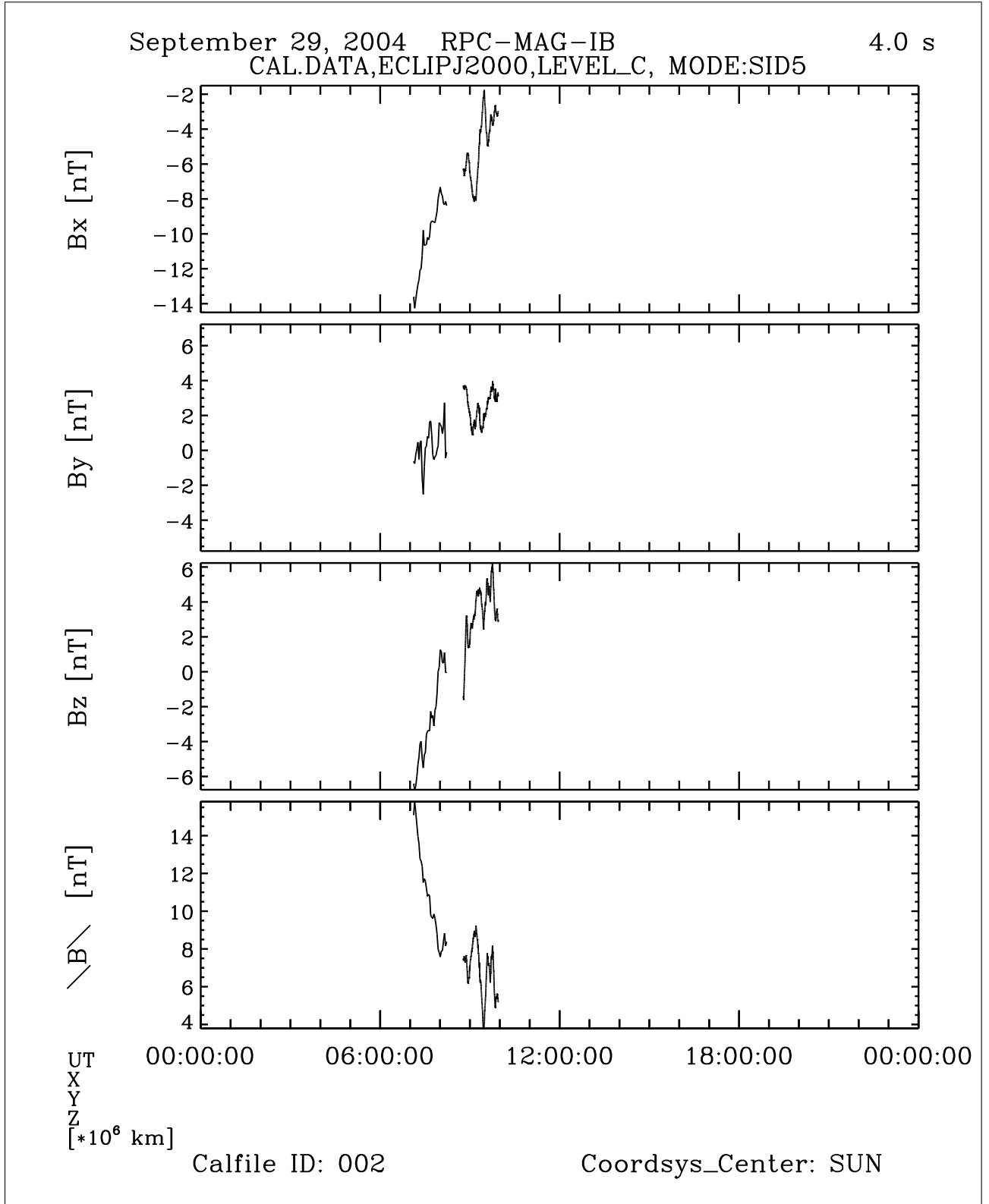


Figure 74: File: RPCMAG040929T0705\_CLC\_IB\_M5\_T0000\_2400\_002

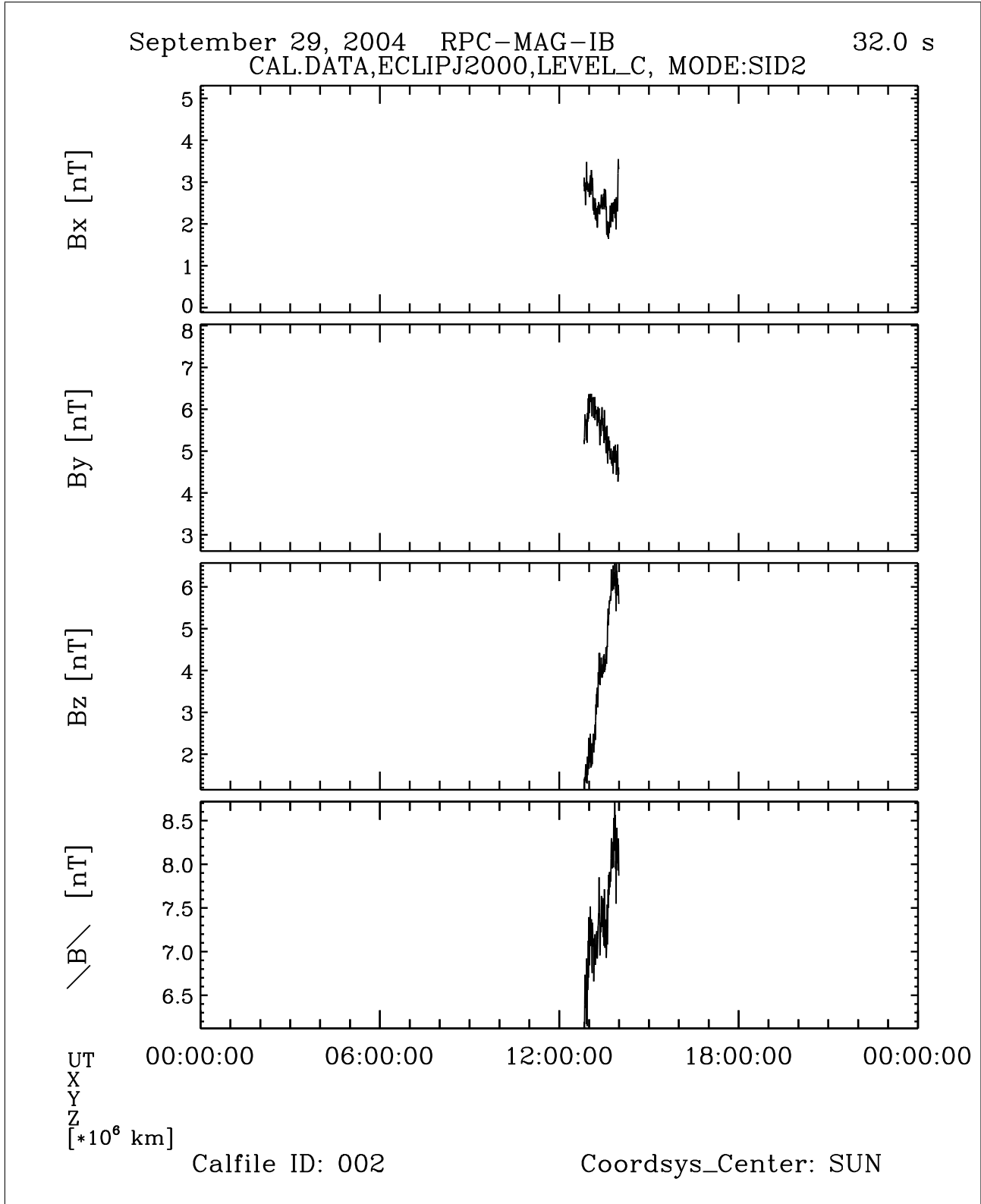


Figure 75: File: RPCMAG040929T1249\_CLC\_IB\_M2\_T0000\_2400\_002

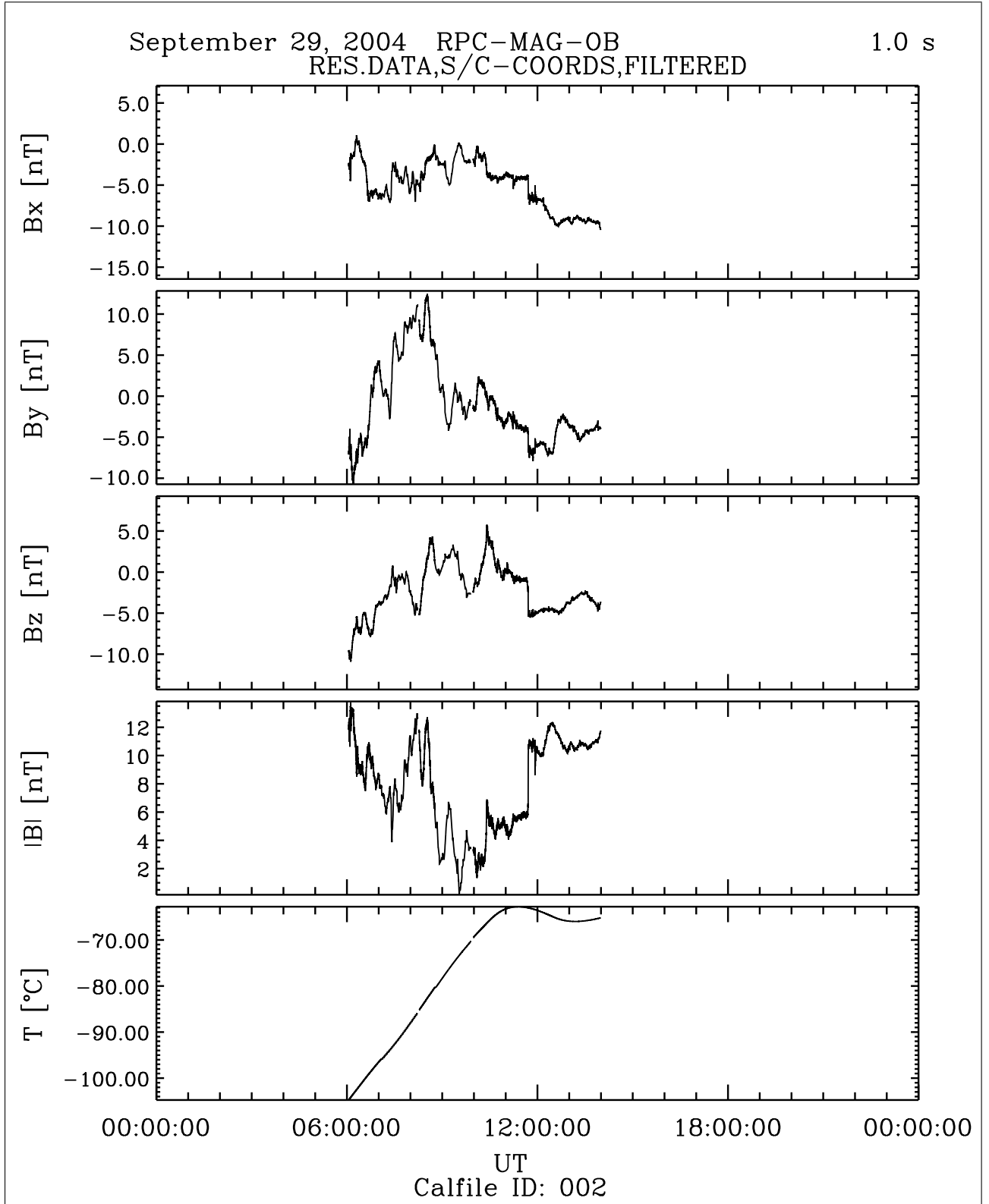


Figure 76: File: RPCMAG040929\_CLF\_OB\_A1.T0000\_2400\_002



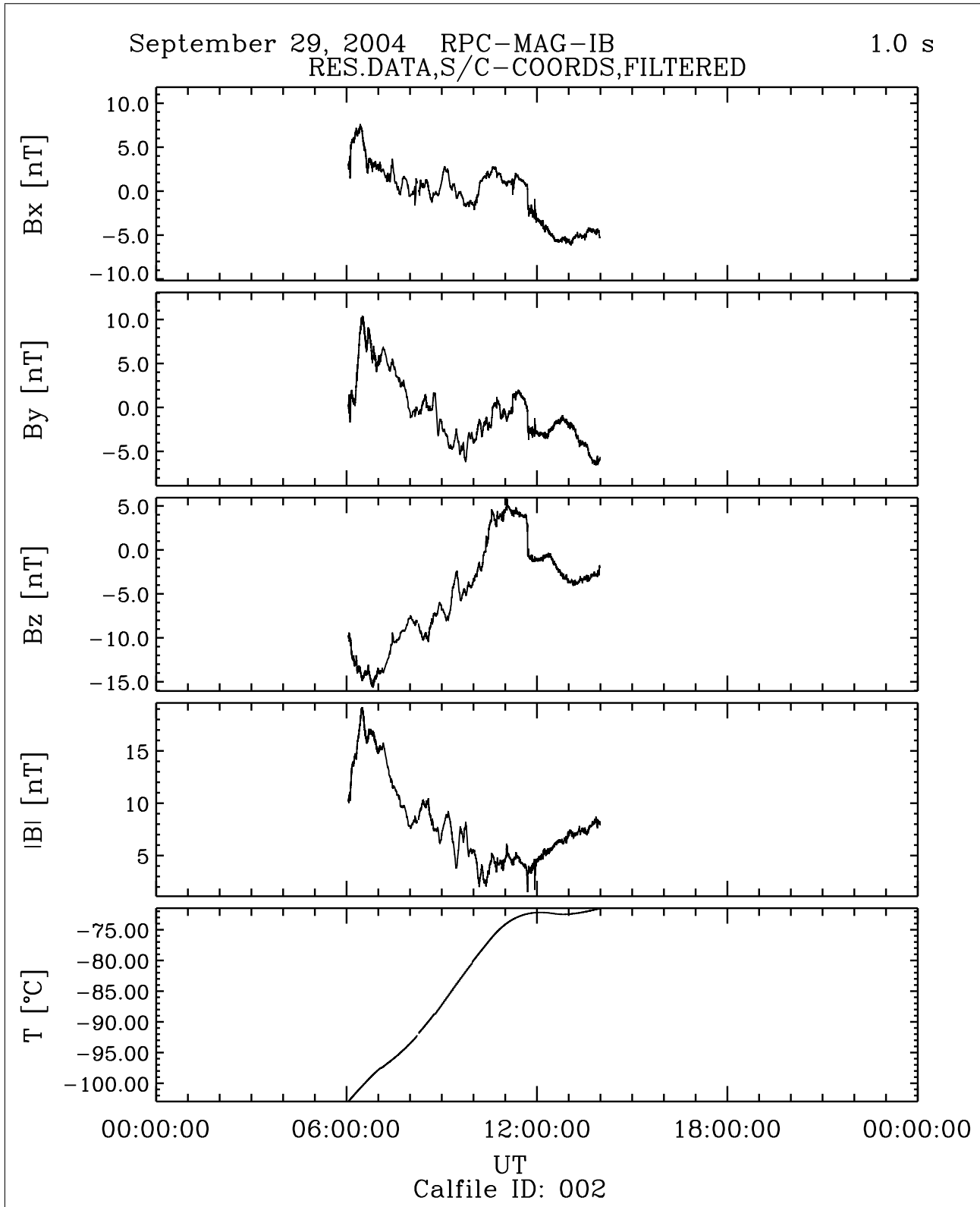


Figure 77: File: RPCMAG040929\_CLF\_IB\_A1\_T0000\_2400\_002

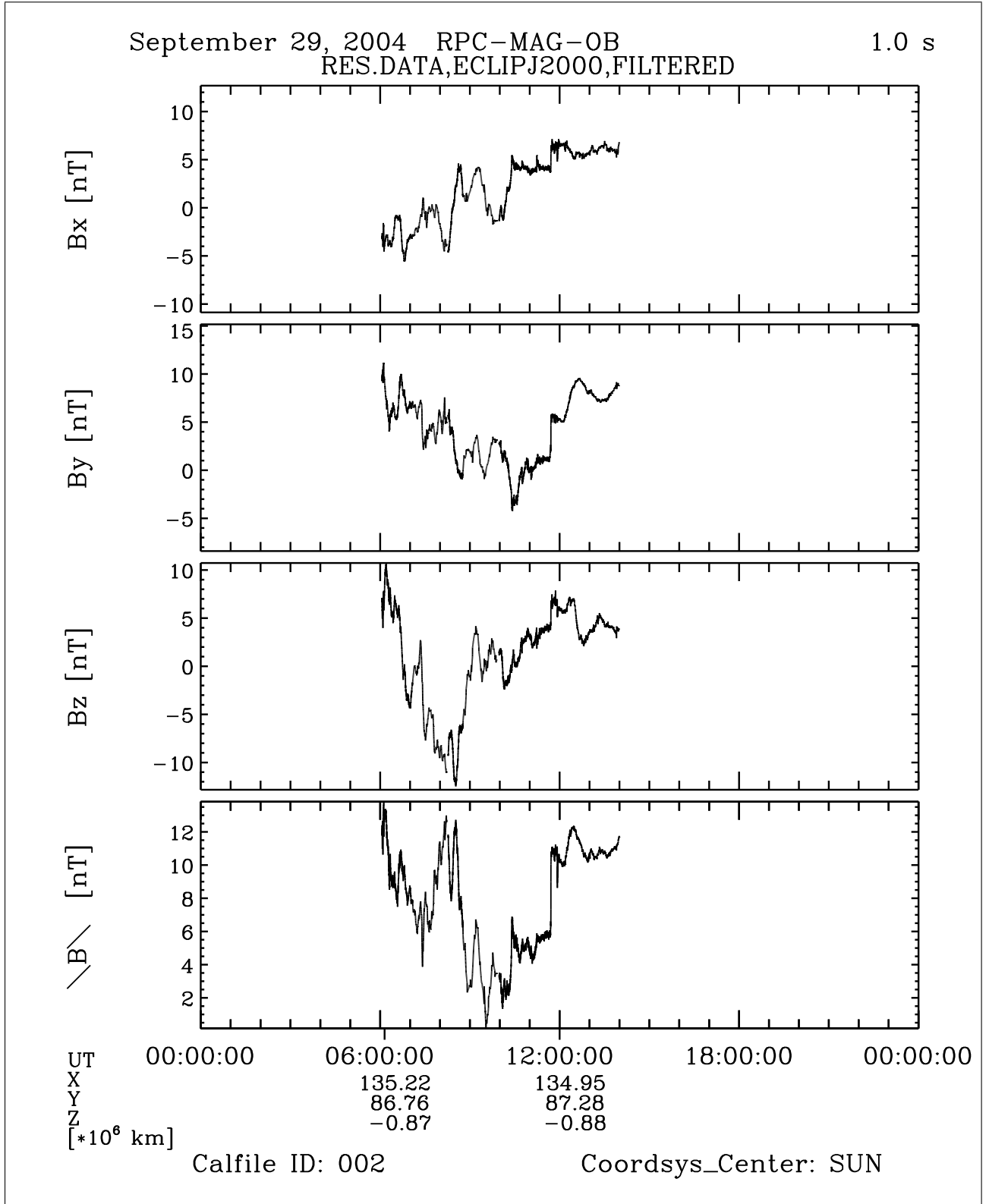


Figure 78: File: RPCMAG040929\_CLG\_OB\_A1\_T0000\_2400\_002

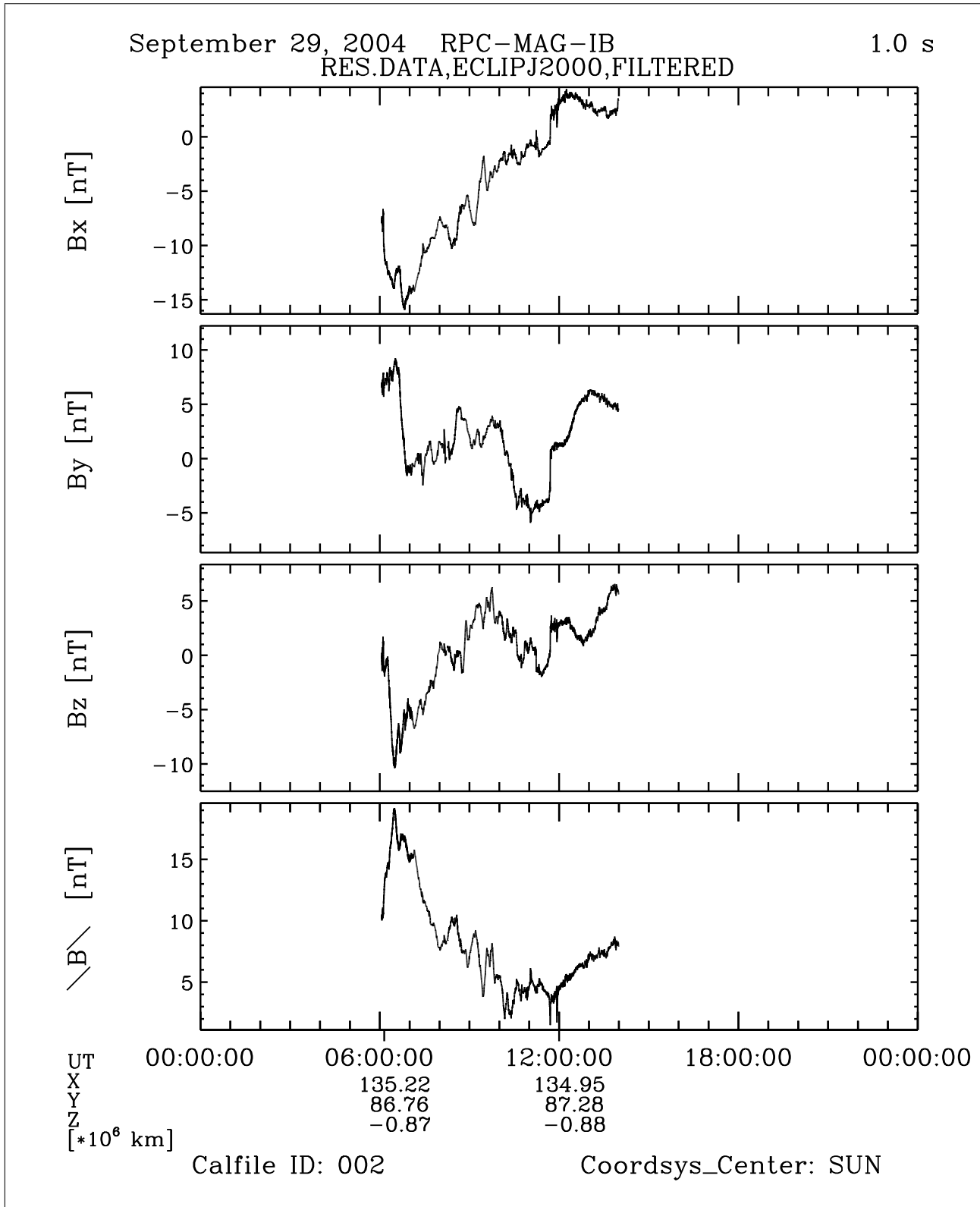


Figure 79: File: RPCMAG040929\_CLG\_IB\_A1\_T0000\_2400\_002

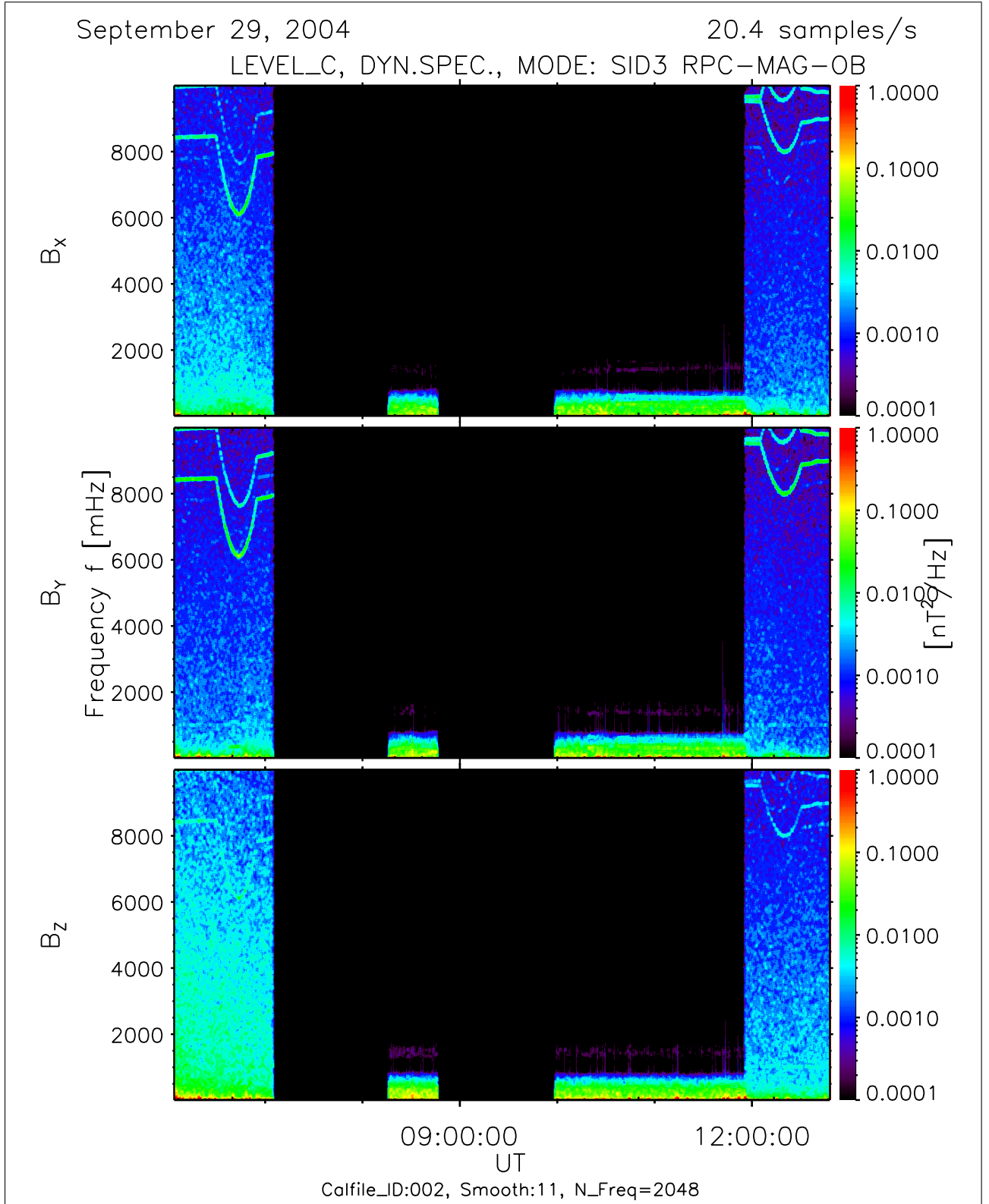


Figure 80: File: RPCMAG040929T0603\_CLC\_OB\_M3\_DS0\_10000\_002

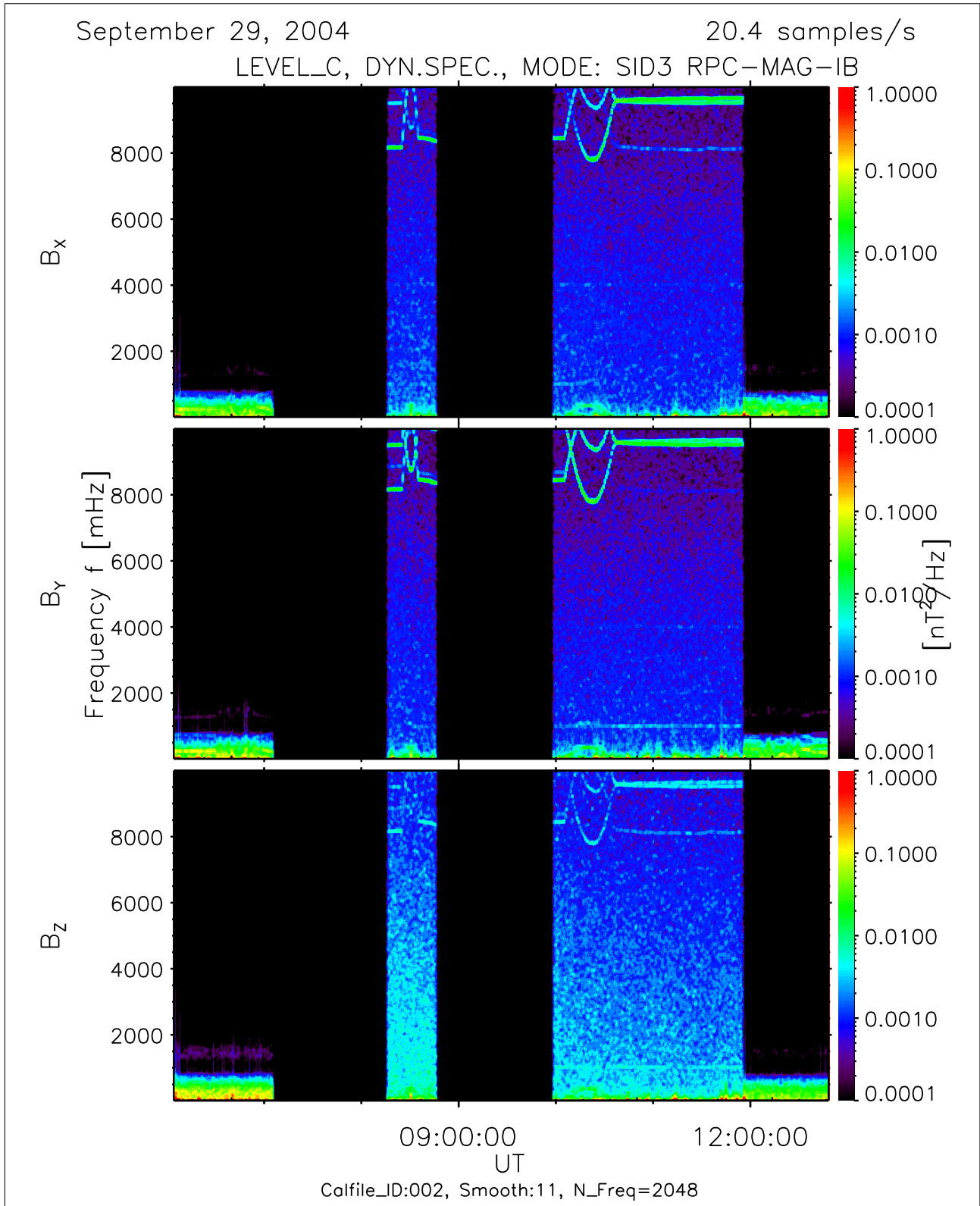


Figure 81: File: RPCMAG040929T0603\_CLC\_IB\_M3\_DS0\_10000\_002

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### 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.

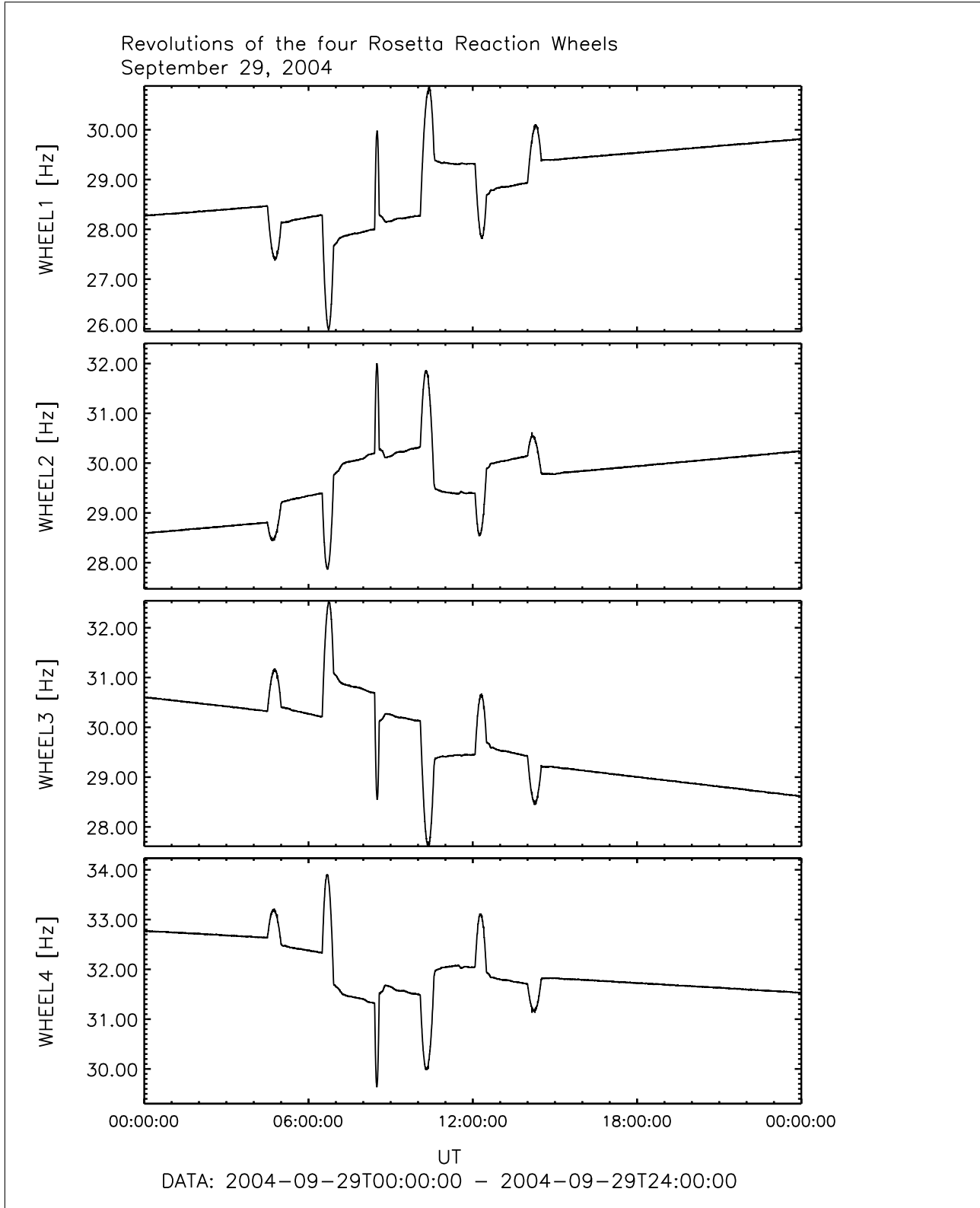


Figure 82: File: wheels\_Hz2004-09-29T00-00

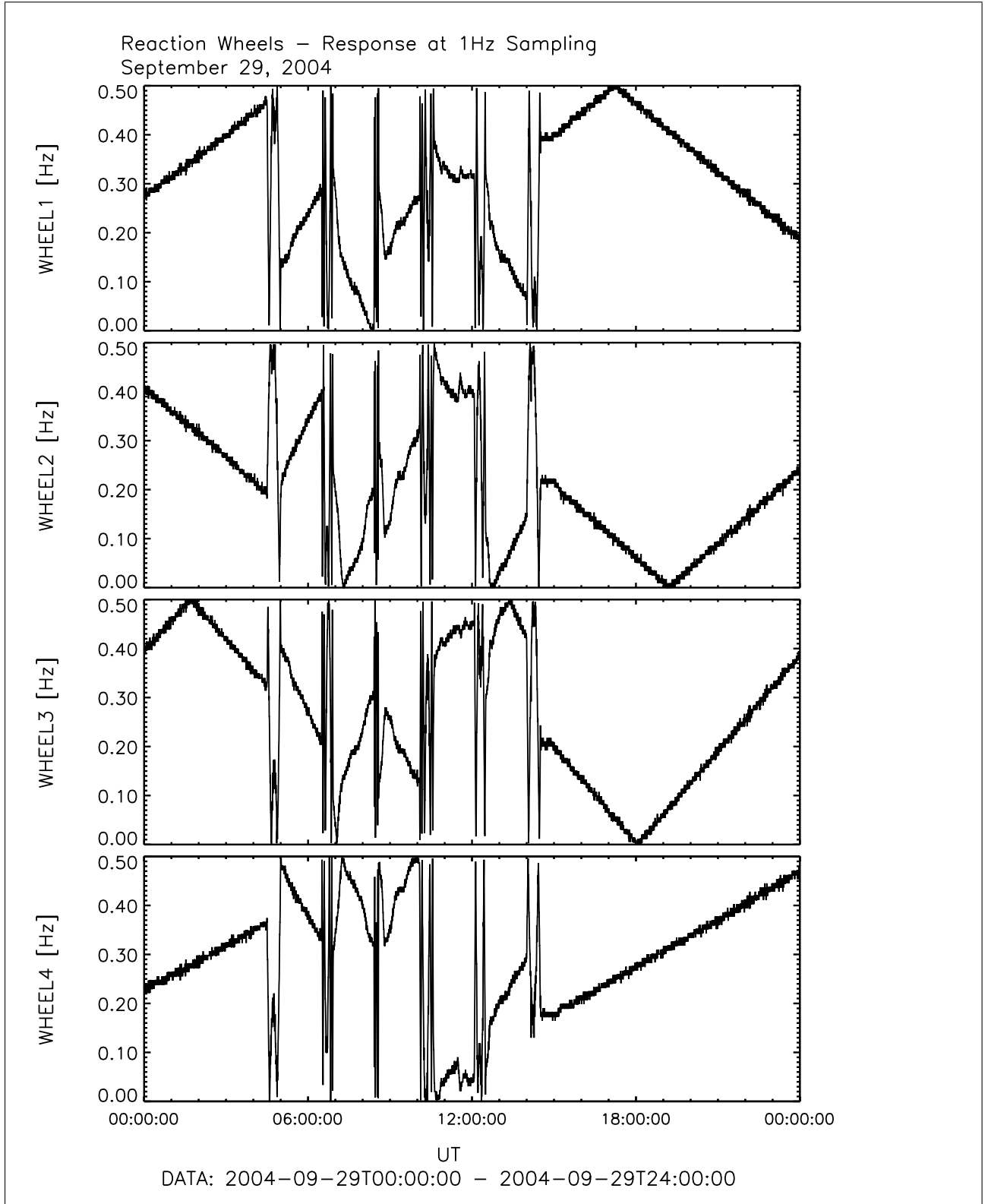


Figure 83: File: wheels\_1Hz\_Sampling2004-09-29T00-00



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## 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.

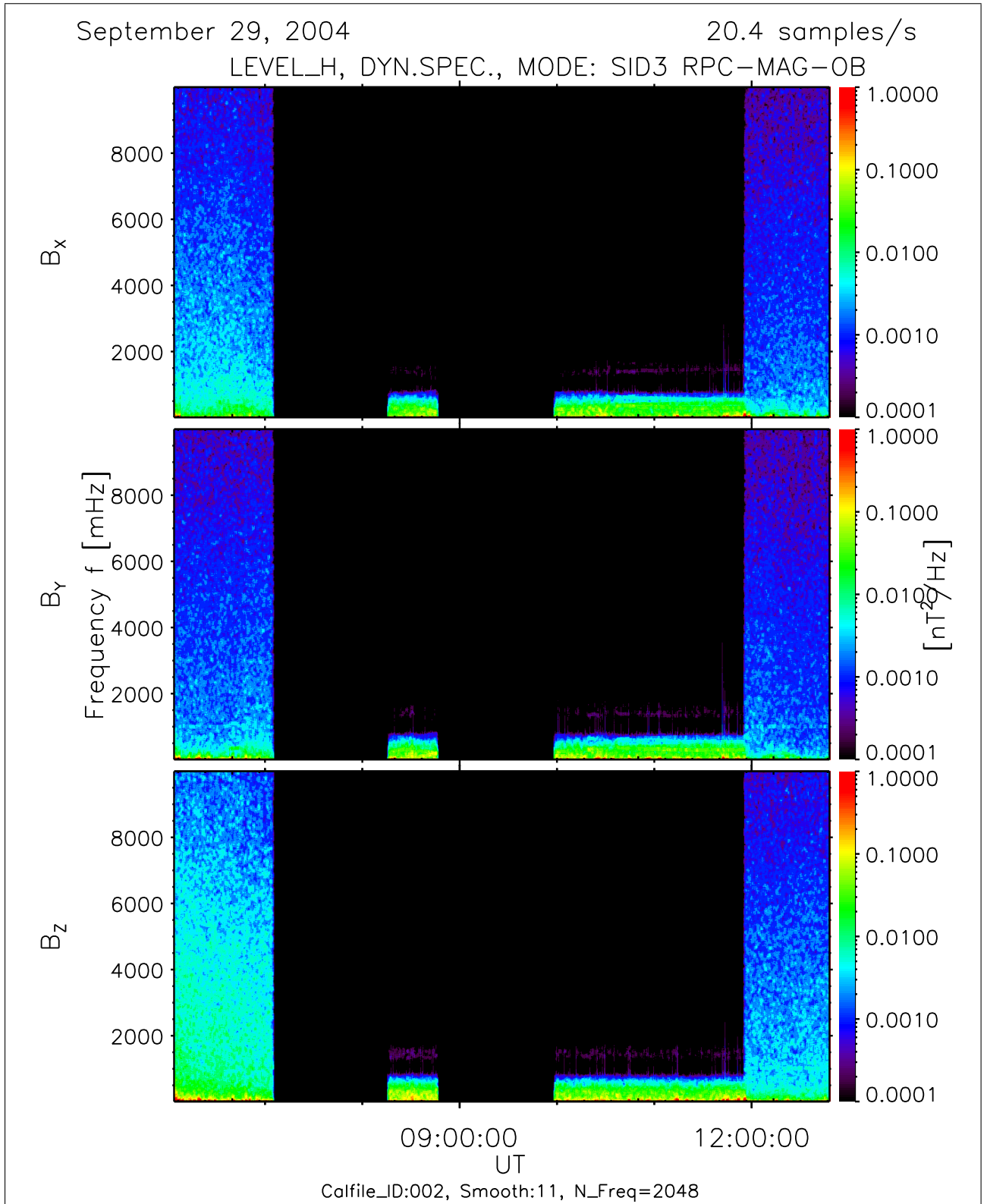


Figure 84: File: RPCMAG040929T0603\_CLH\_OB\_M3\_DS0\_10000\_002

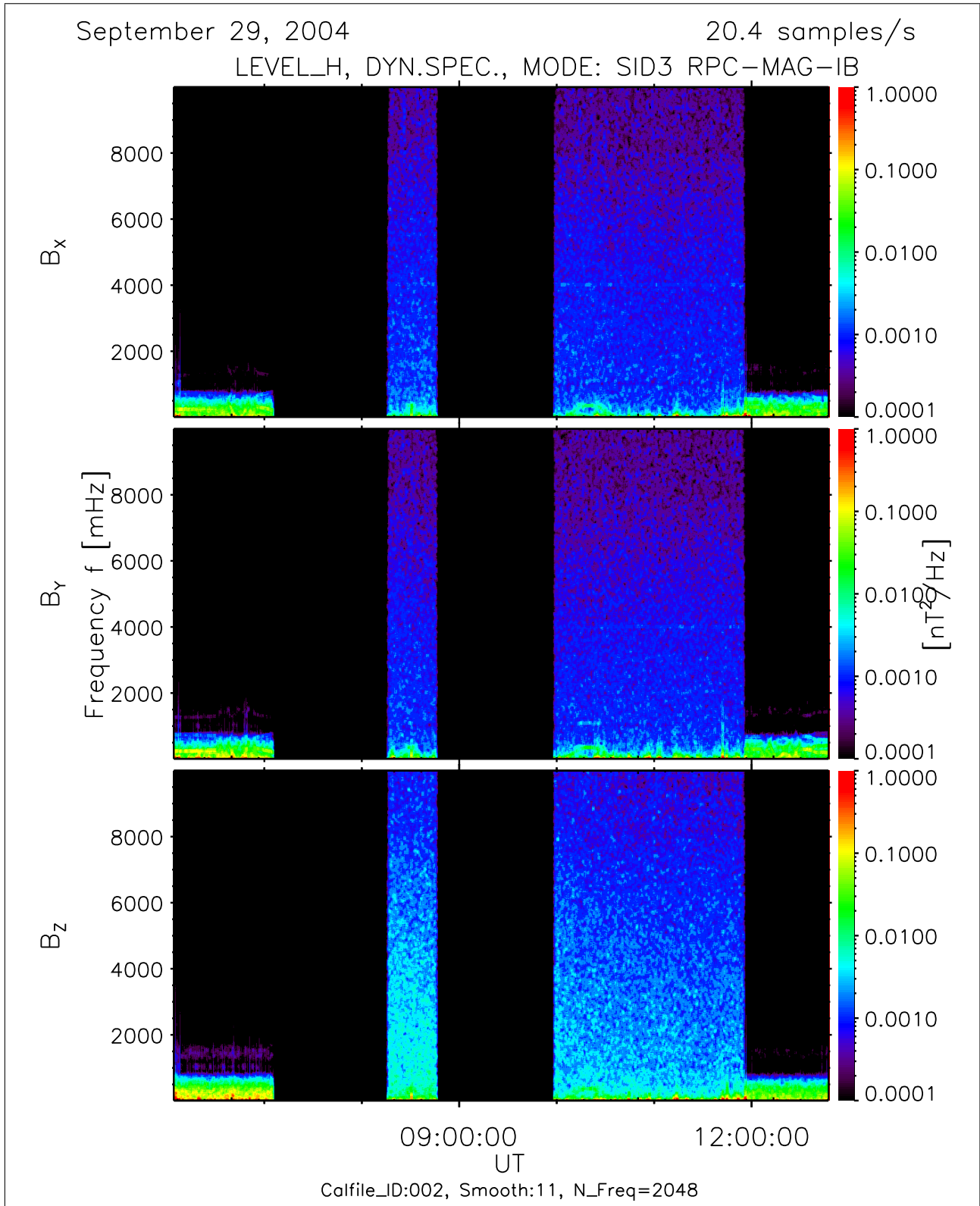


Figure 85: File: RPCMAG040929T0603\_CLH\_IB\_M3\_DS0\_10000\_002

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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

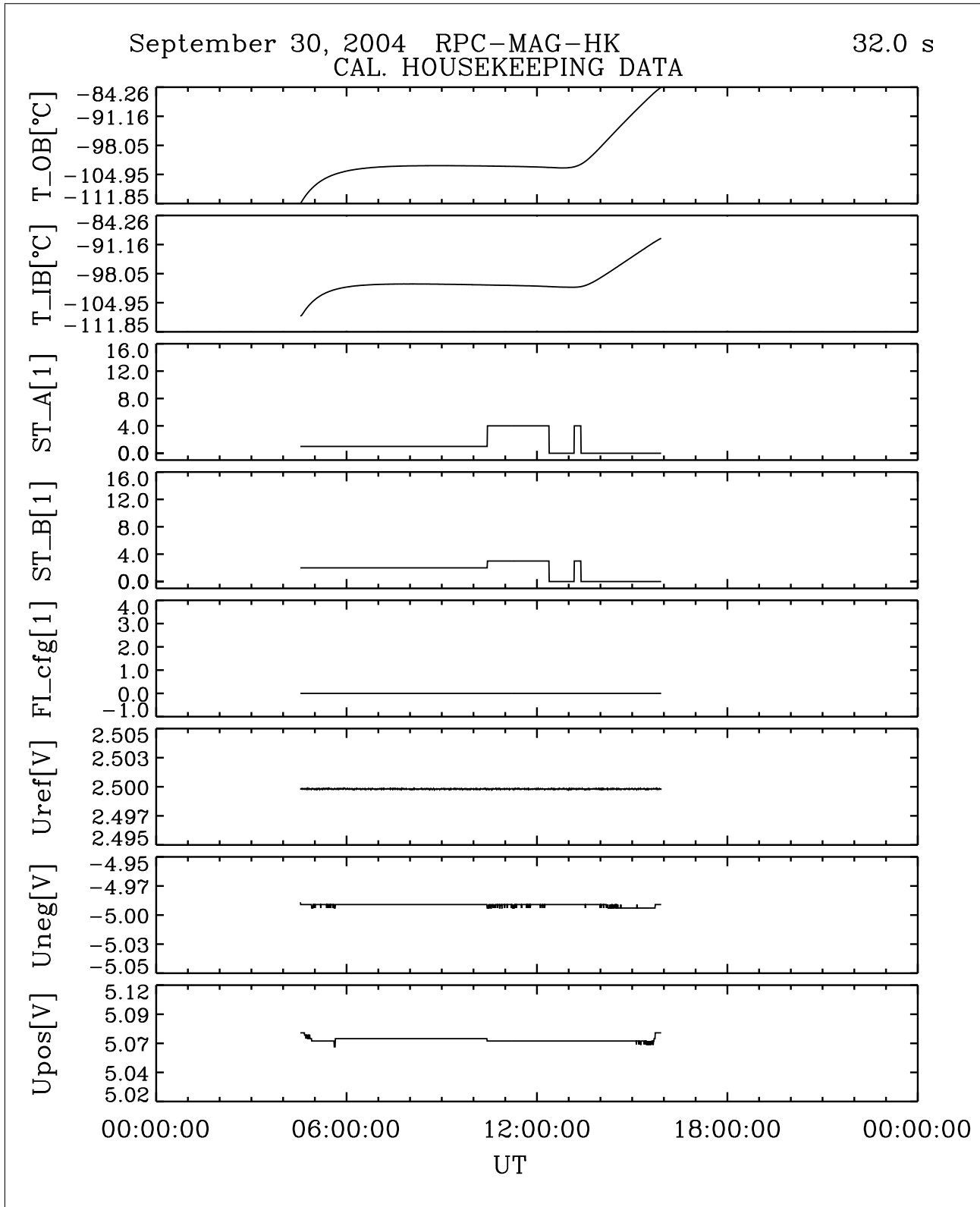


Figure 86: File: RPCMAG040930T0432\_CLA\_HK\_P0000\_2400

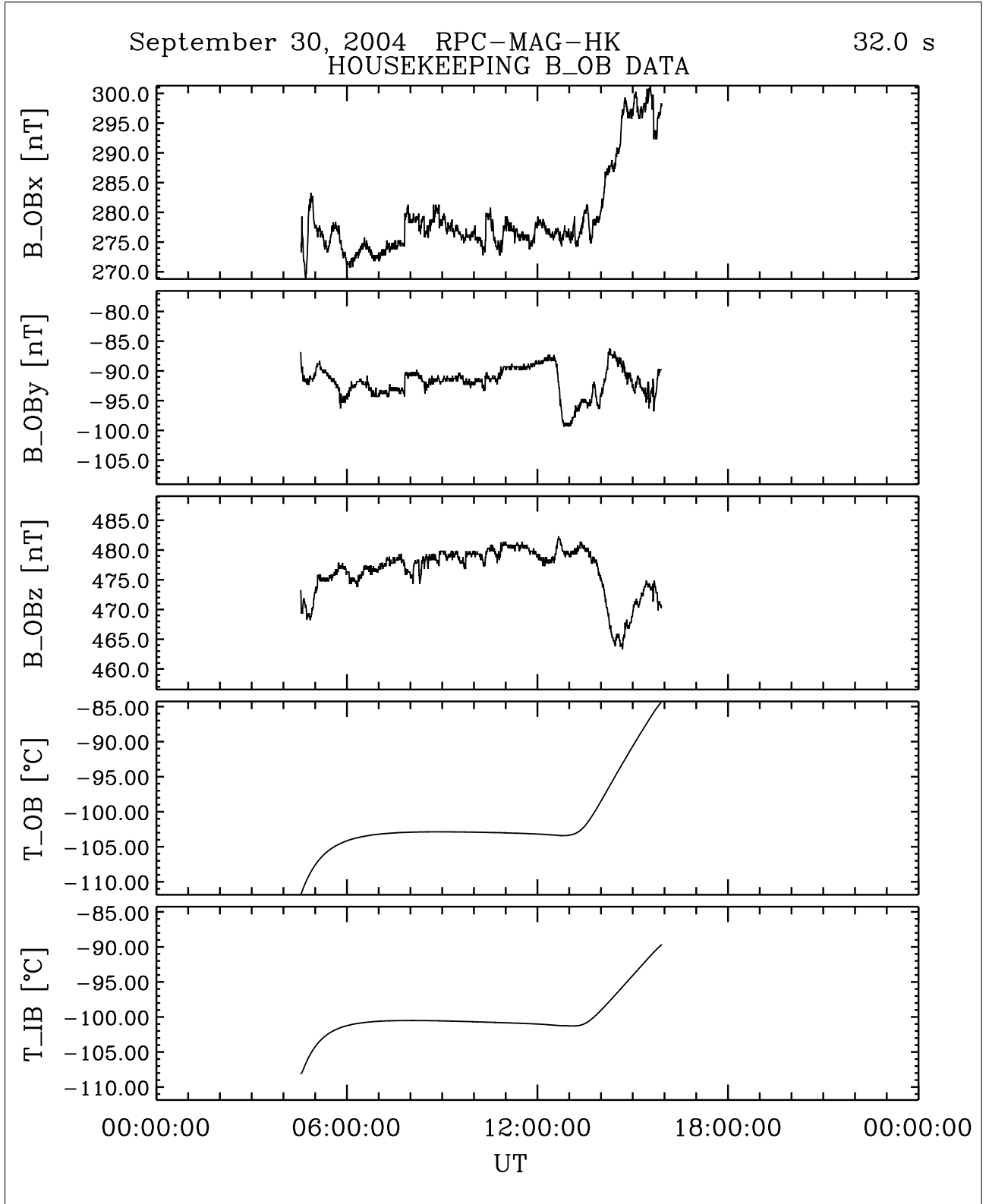


Figure 87: File: RPCMAG040930T0432\_CLA\_HK\_B\_P0000\_2400

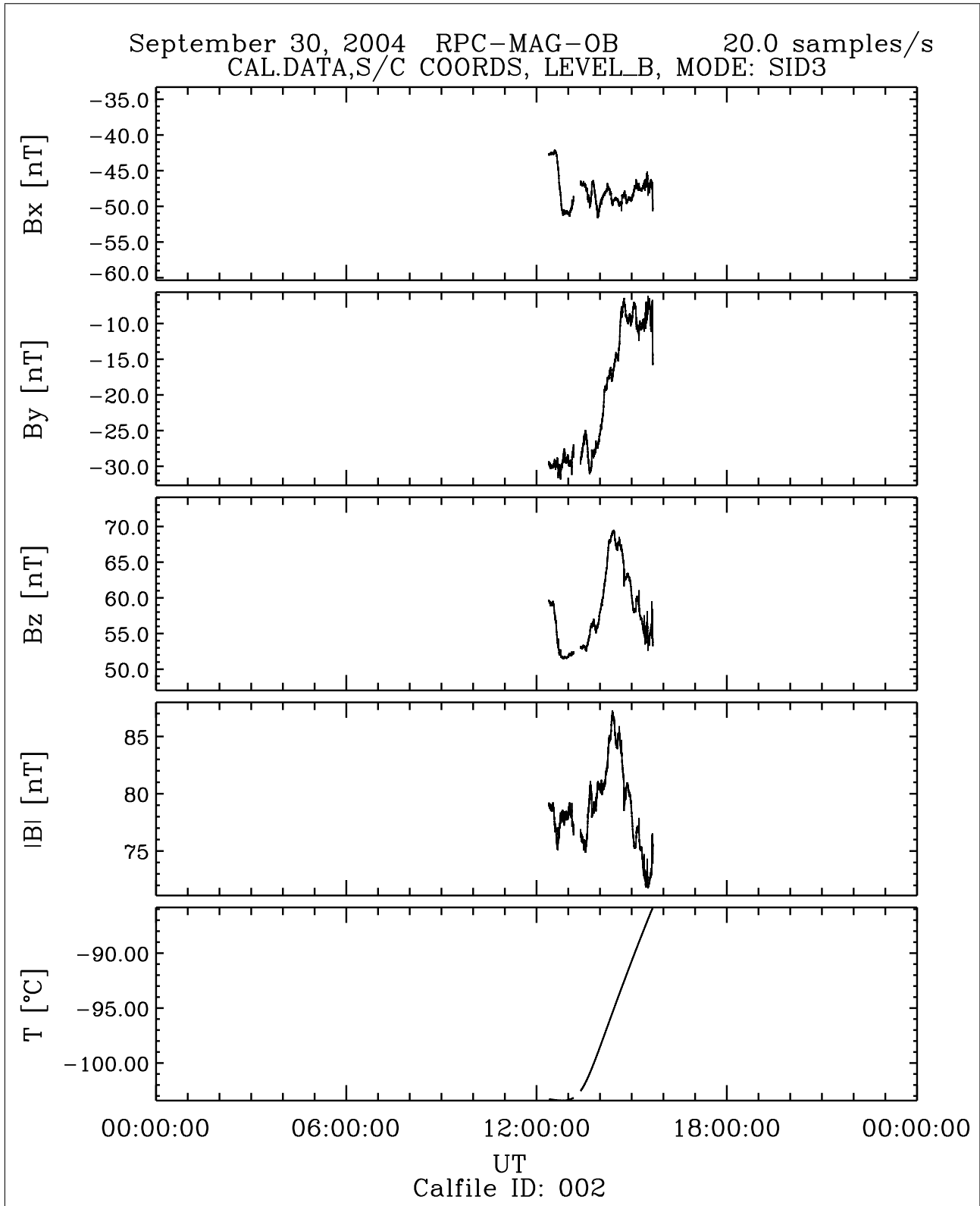


Figure 88: File: RPCMAG040930T1223\_CLB\_OB\_M3\_T0000\_2400\_002

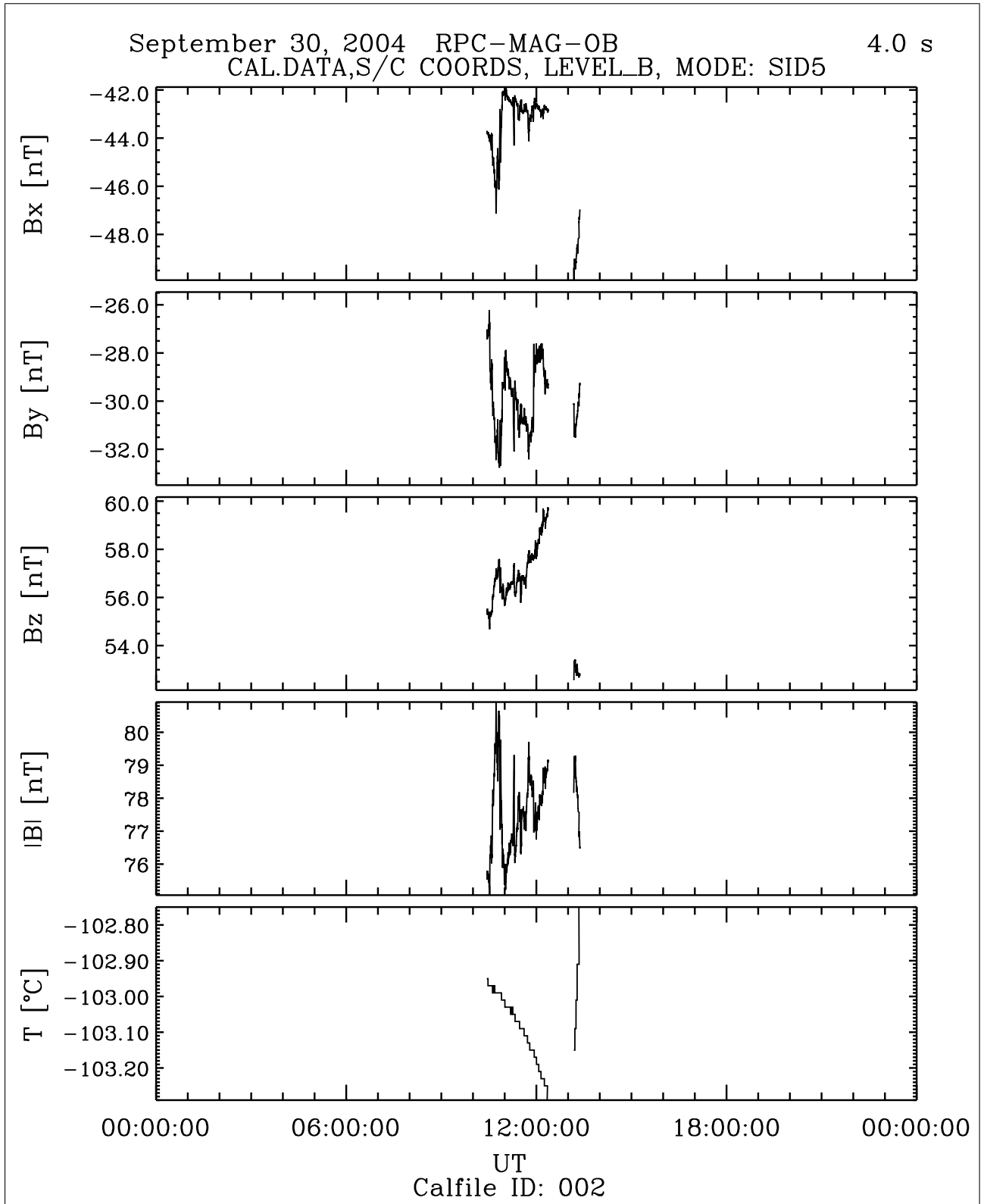


Figure 89: File: RPCMAG040930T1025\_CLB\_OB\_M5\_T0000\_2400\_002



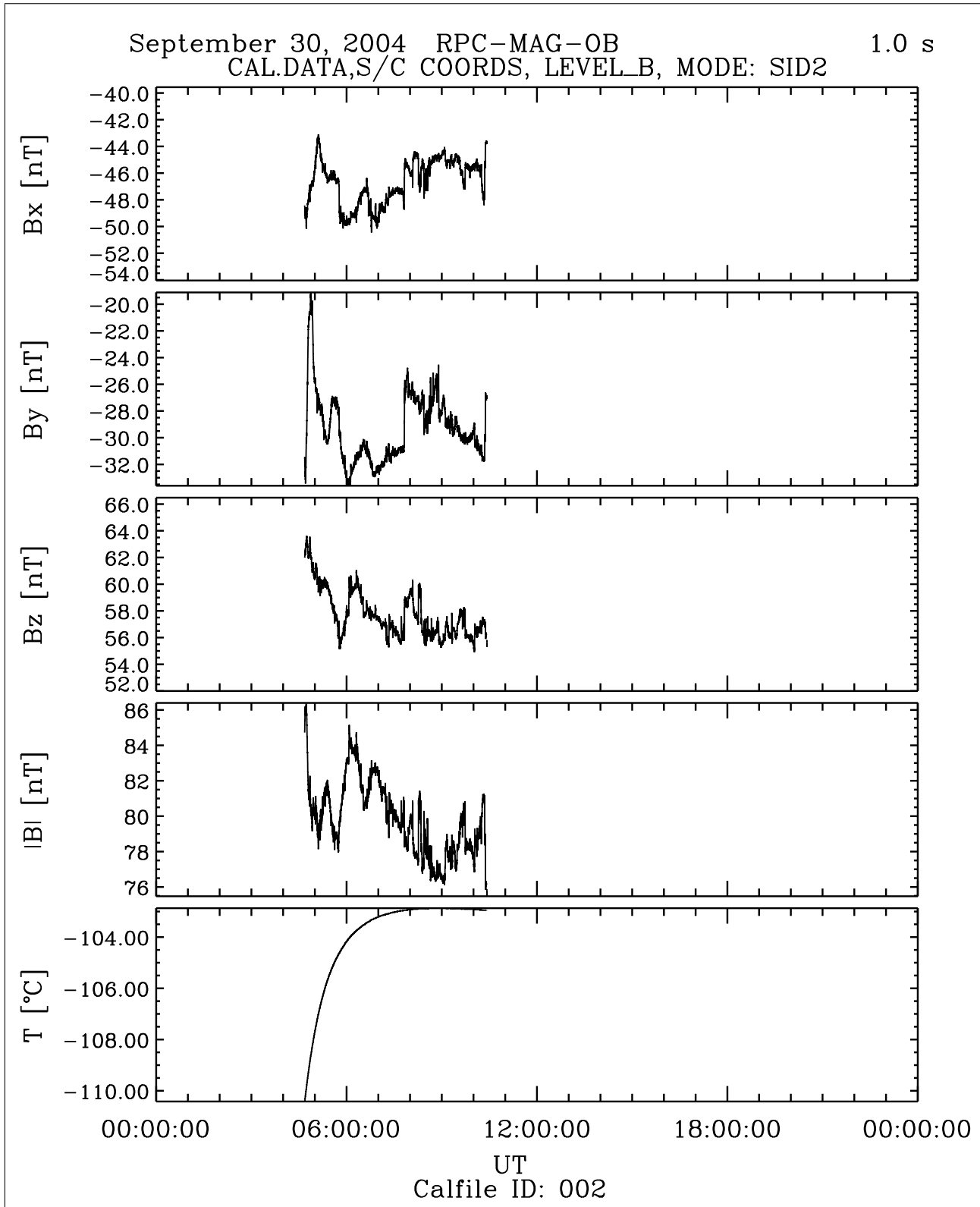


Figure 90: File: RPCMAG040930T0440\_CLB\_OB\_M2\_T0000\_2400\_002

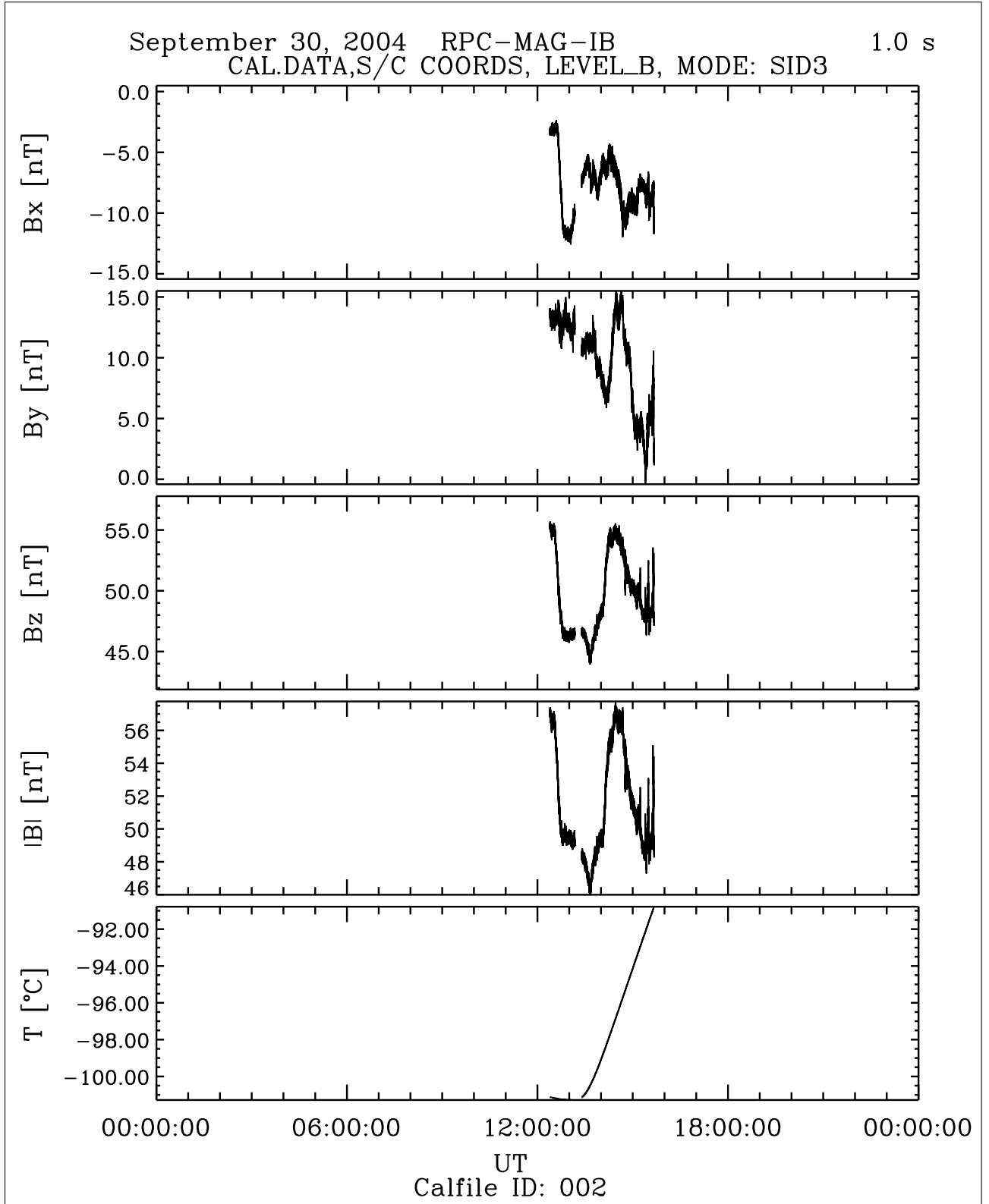


Figure 91: File: RPCMAG040930T1223\_CLB\_IB\_M3\_T0000\_2400\_002

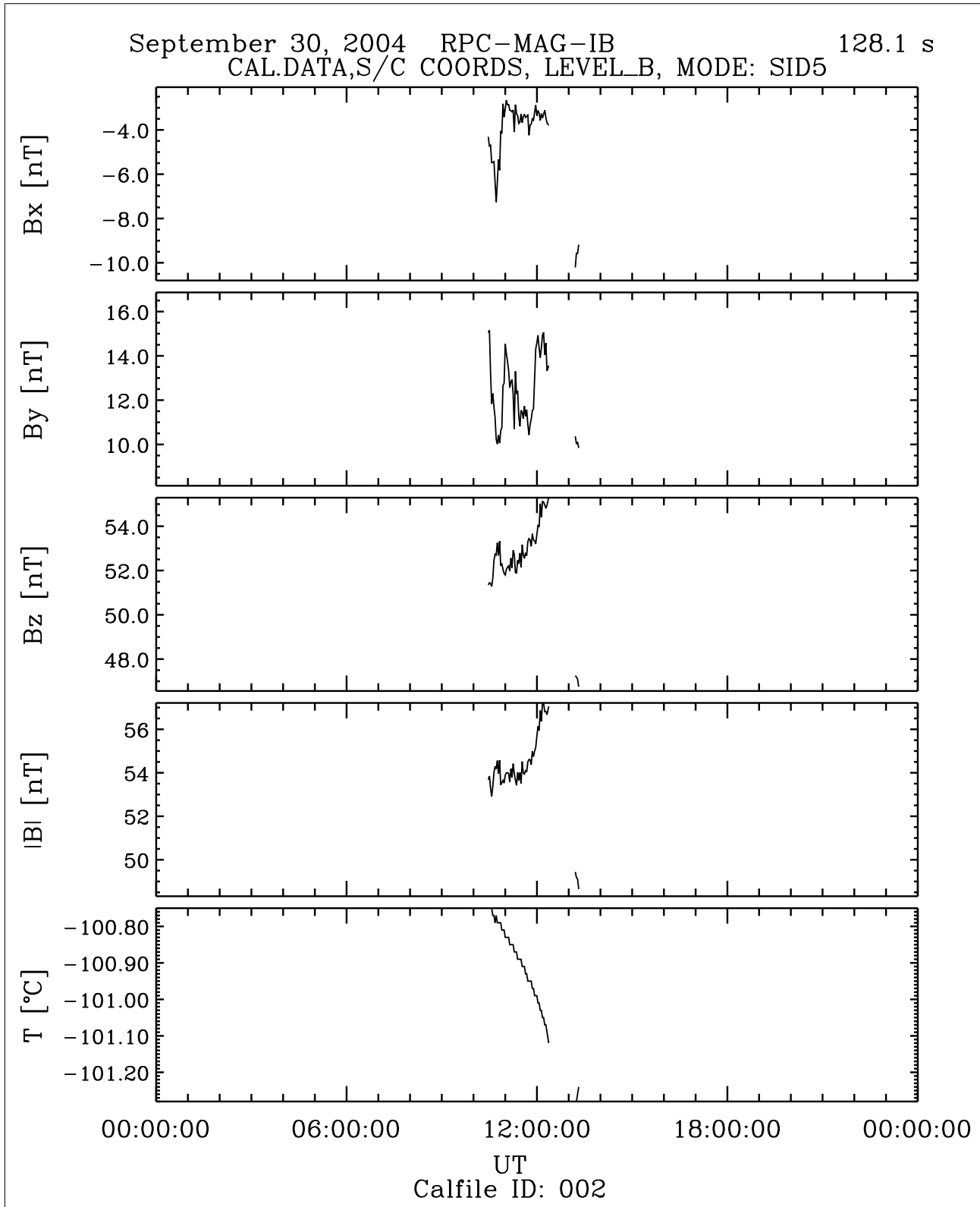


Figure 92: File: RPCMAG040930T1025\_CLB\_IB\_M5\_T0000\_2400\_002

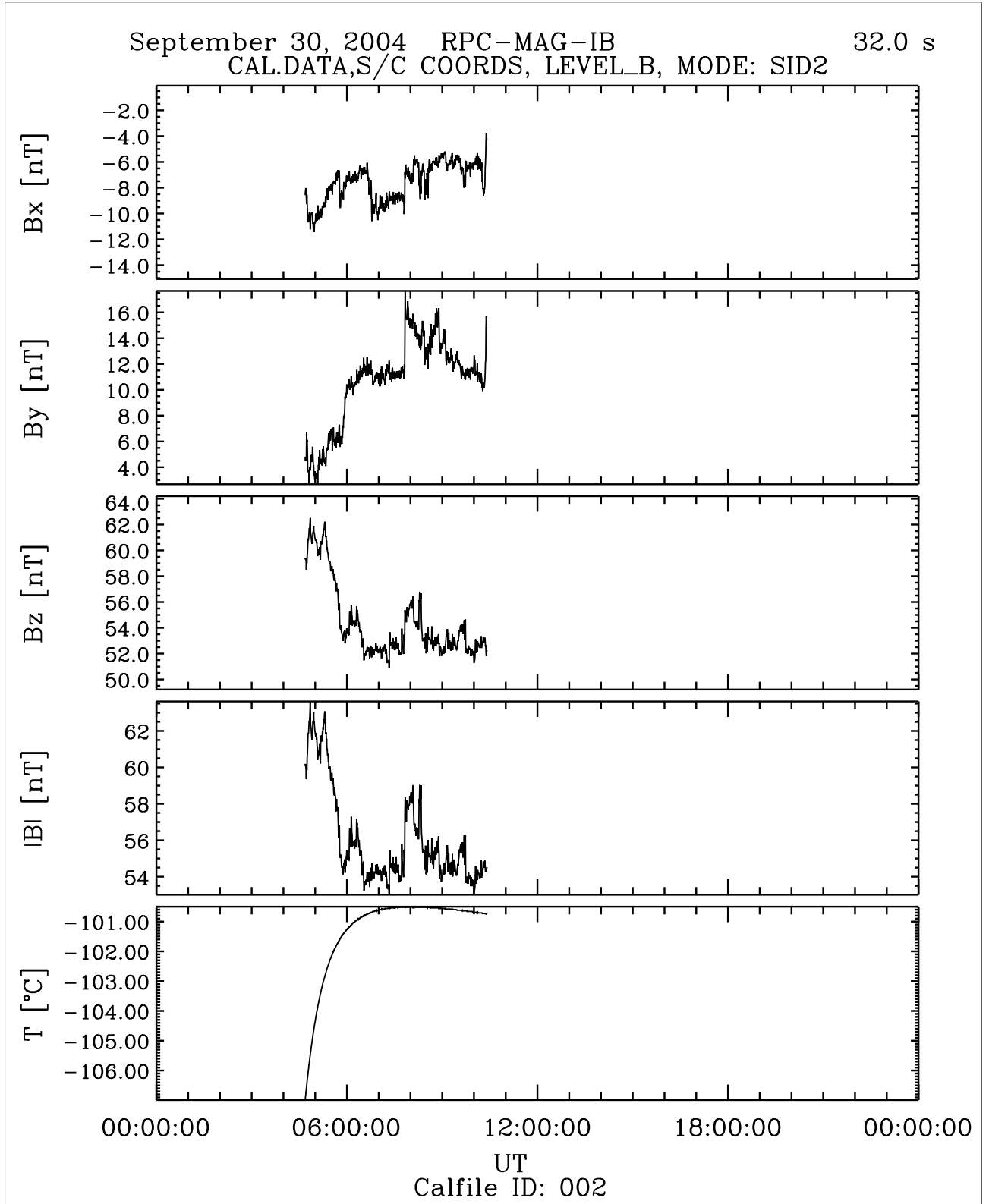


Figure 93: File: RPCMAG040930T0440\_CLB\_IB\_M2\_T0000\_2400\_002

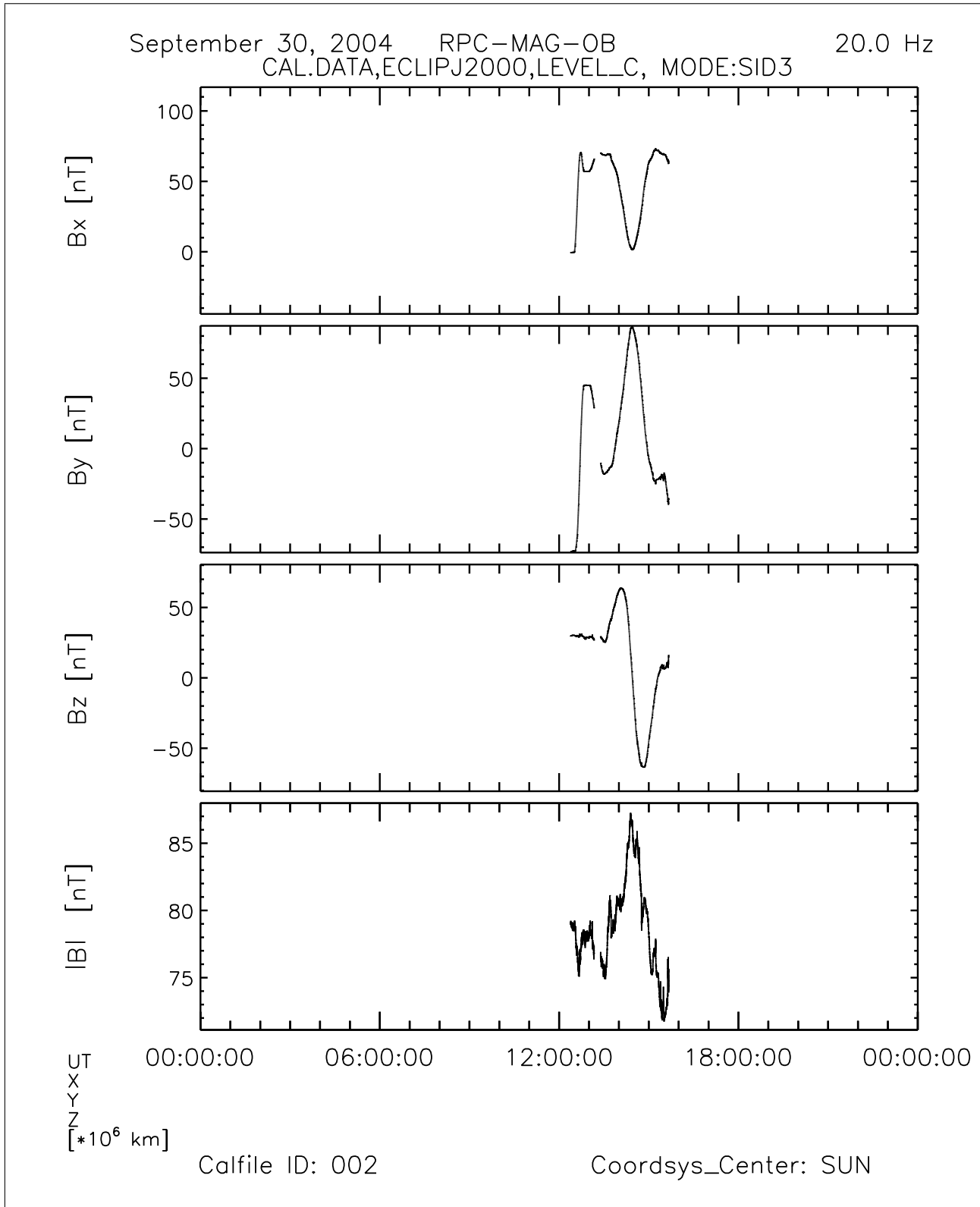


Figure 94: File: RPCMAG040930T1223\_CLC\_OB\_M3\_T0000\_2400\_002

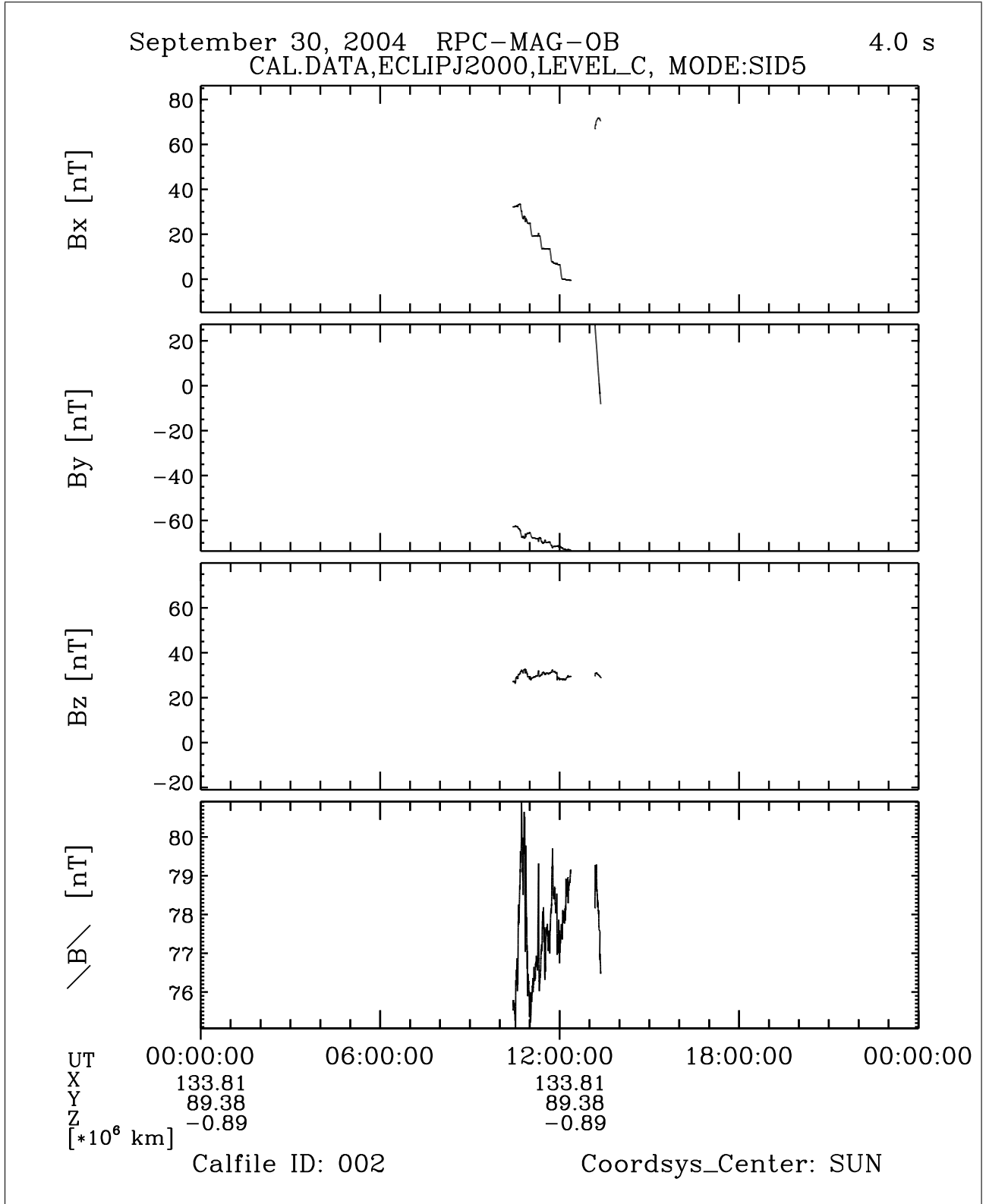


Figure 95: File: RPCMAG040930T1025\_CLC\_OB\_M5\_T0000\_2400\_002

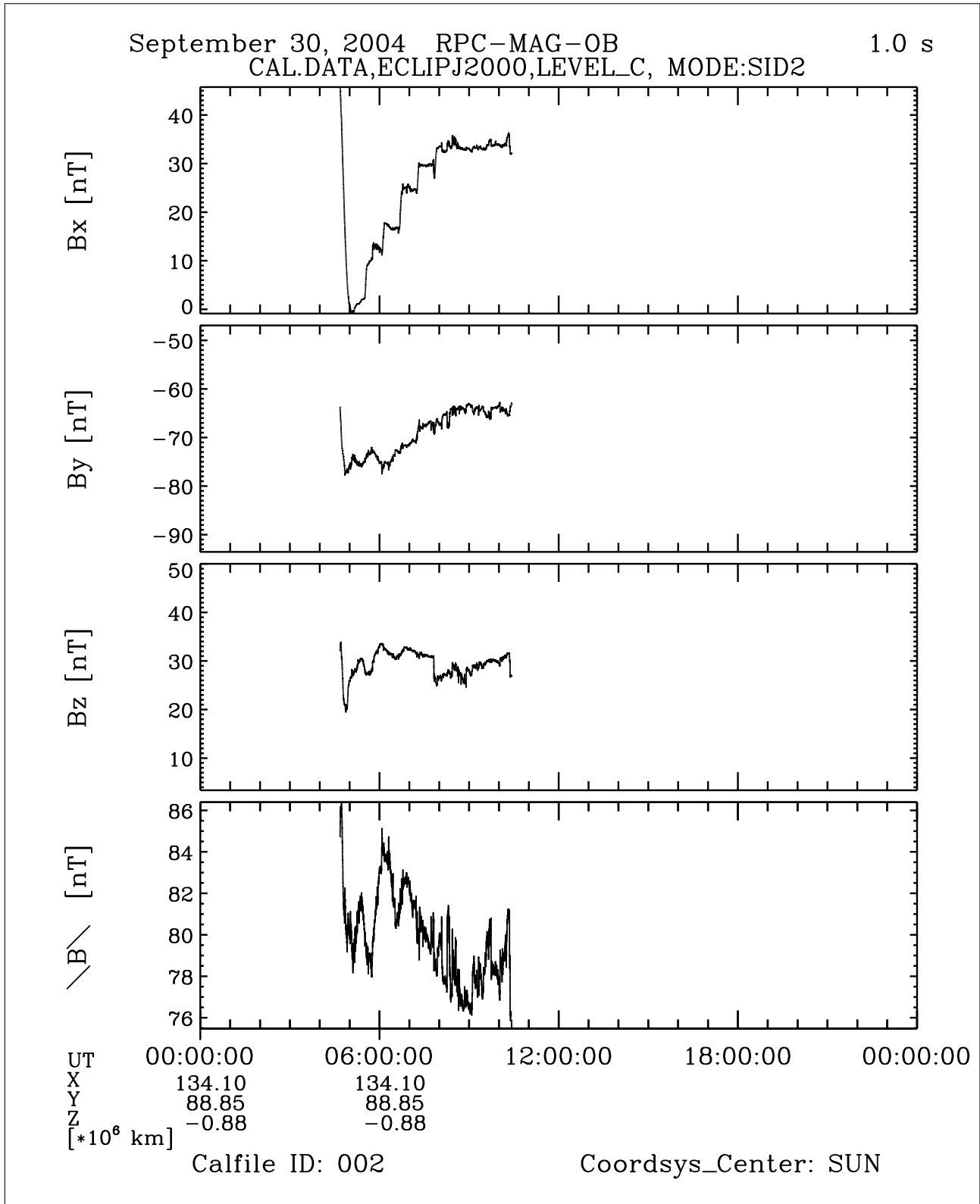


Figure 96: File: RPCMAG040930T0440\_CLC\_OB\_M2\_T0000\_2400\_002

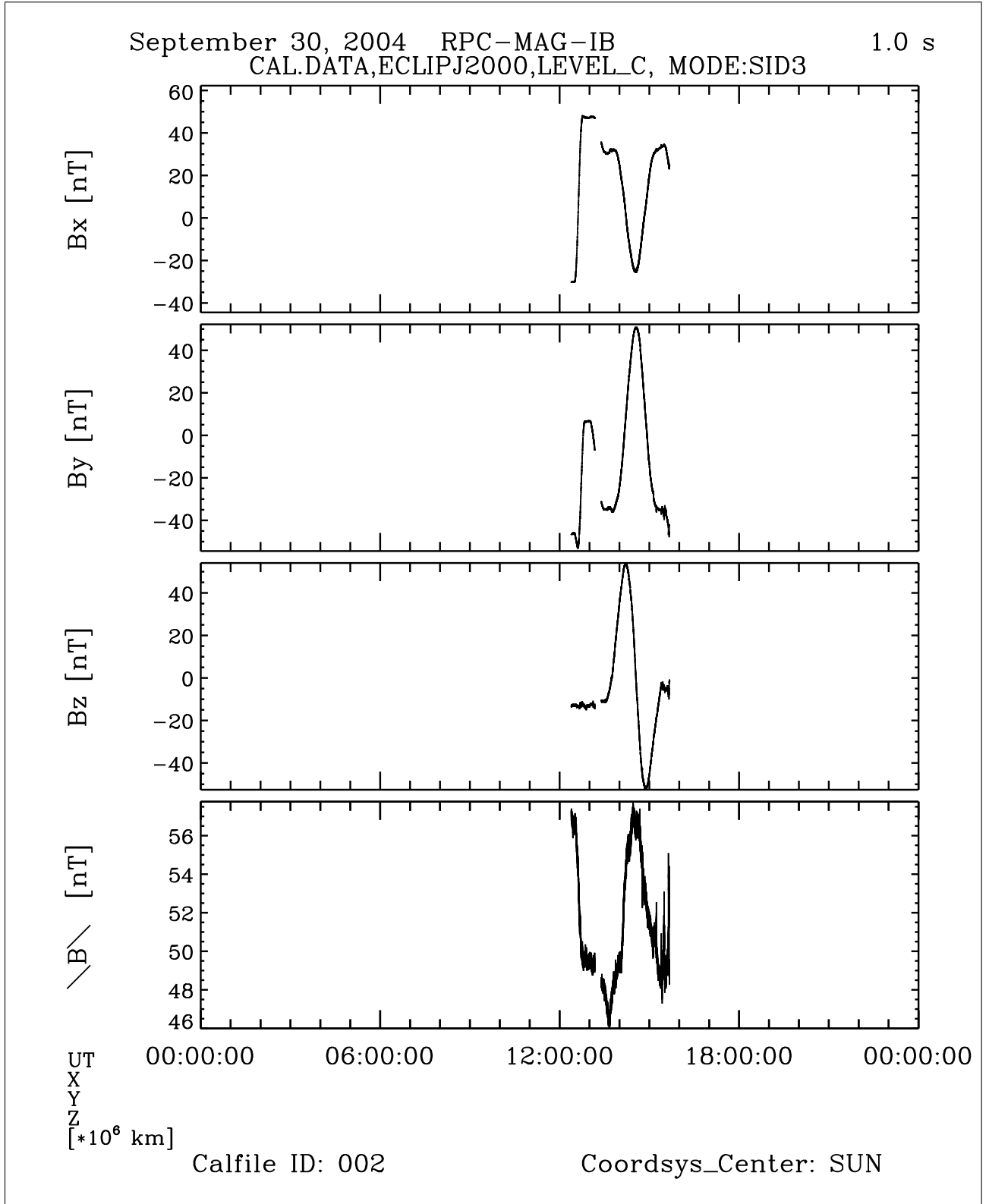


Figure 97: File: RPCMAG040930T1223\_CLC\_IB\_M3\_T0000\_2400\_002



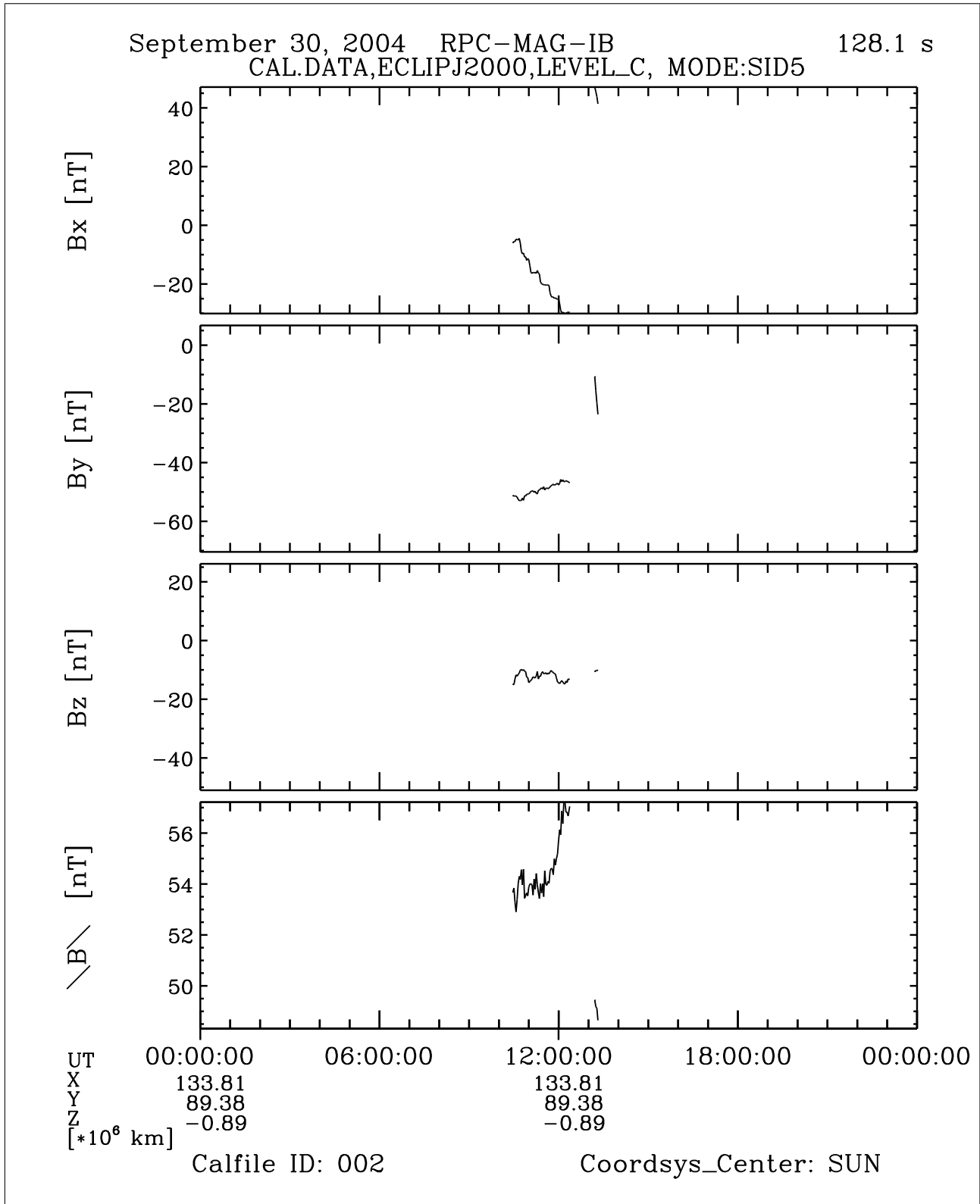


Figure 98: File: RPCMAG040930T1025\_CLC\_IB\_M5\_T0000\_2400\_002

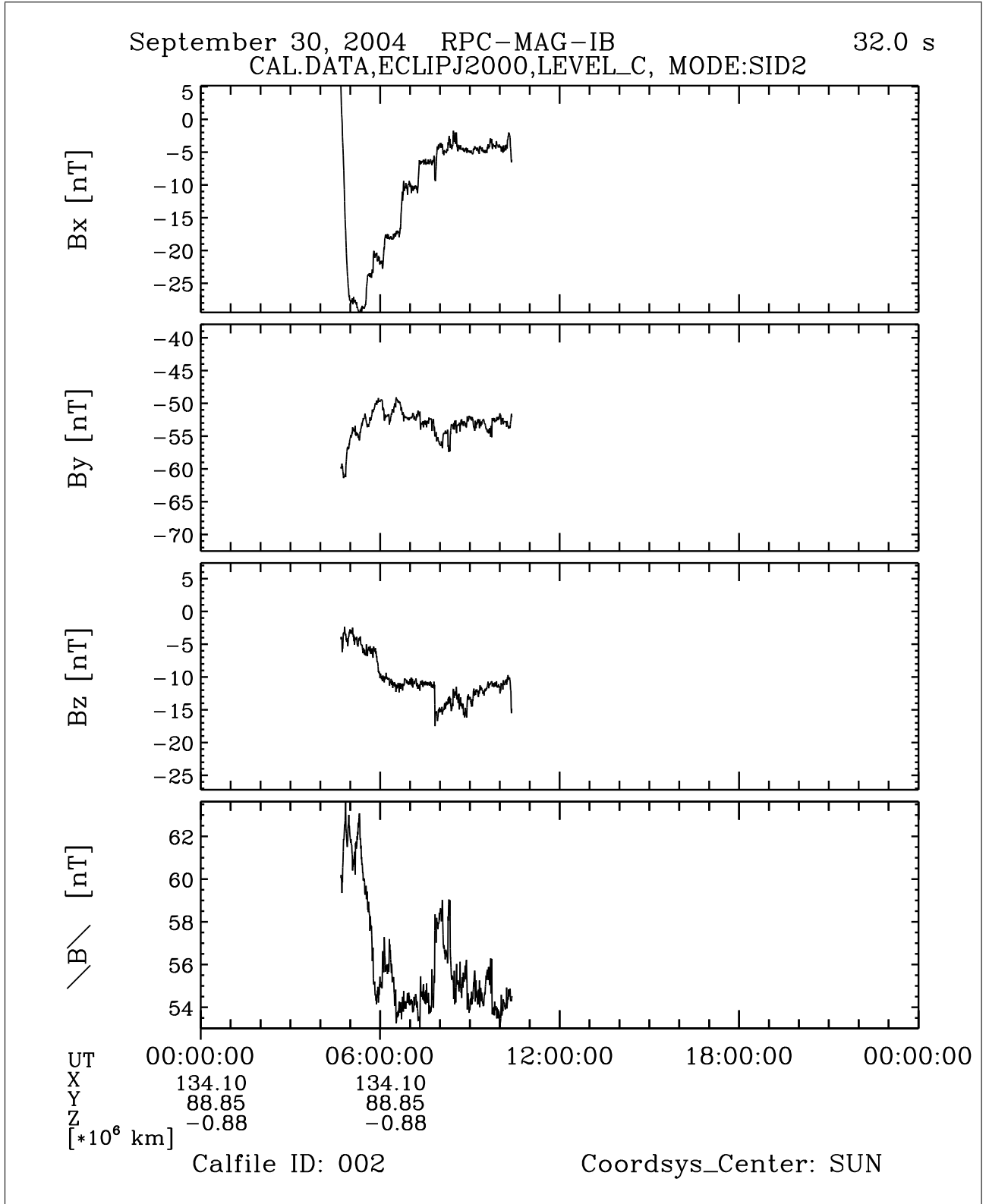


Figure 99: File: RPCMAG040930T0440\_CLC\_IB\_M2\_T0000\_2400\_002

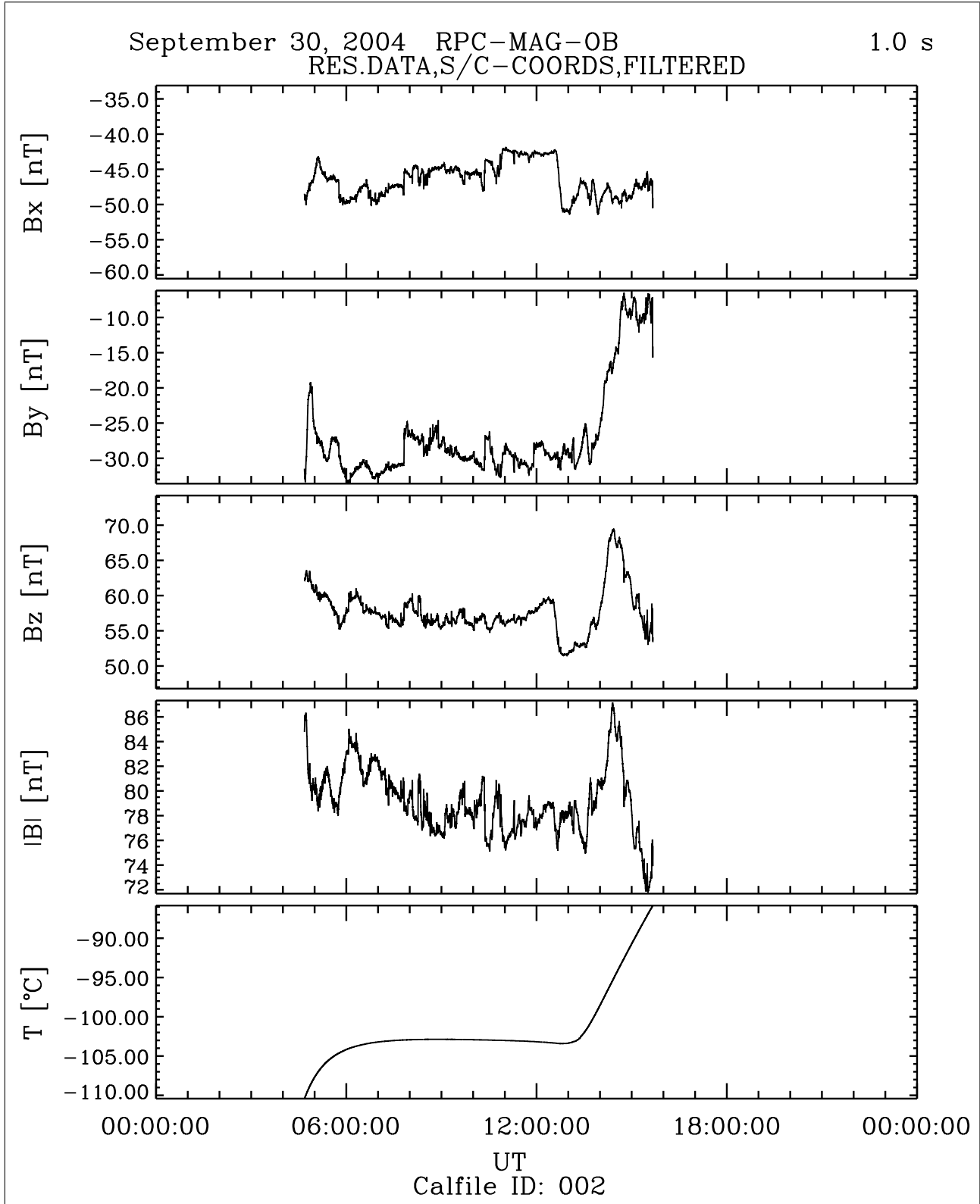


Figure 100: File: RPCMAG040930\_CLF\_OB\_A1\_T0000\_2400\_002

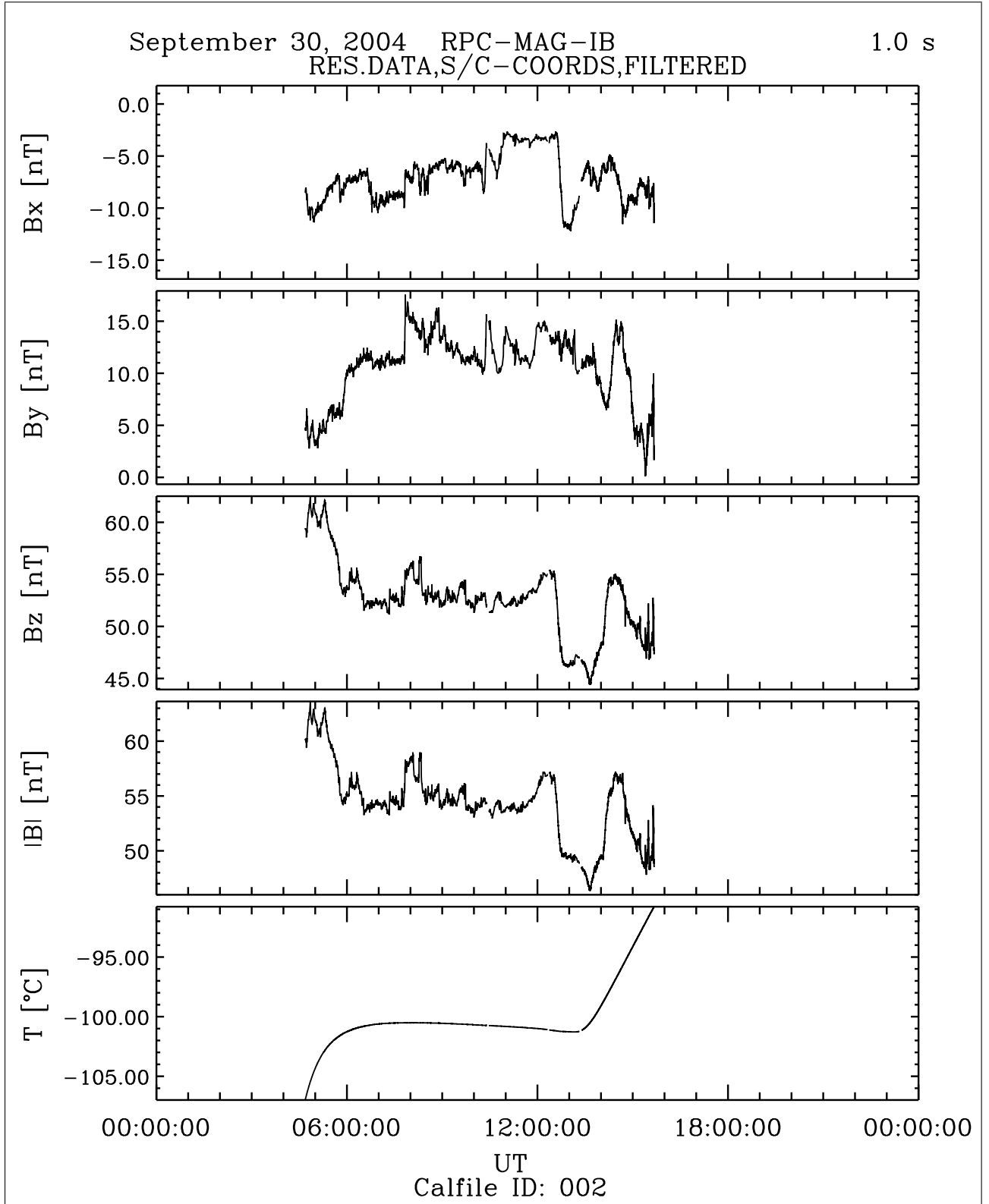


Figure 101: File: RPCMAG040930\_CLF\_IB\_A1\_T0000\_2400\_002

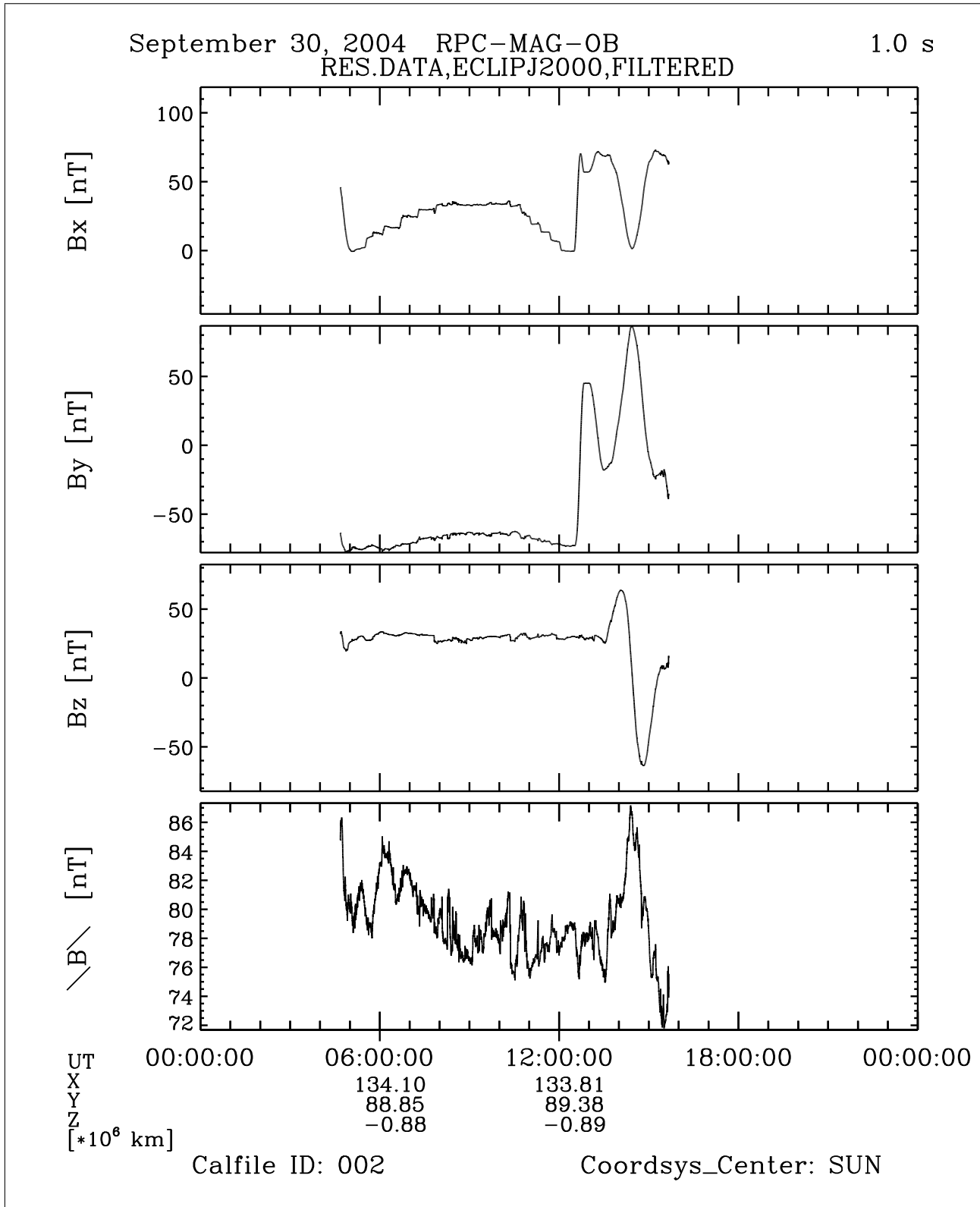


Figure 102: File: RPCMAG040930\_CLG\_OB\_A1\_T0000\_2400\_002

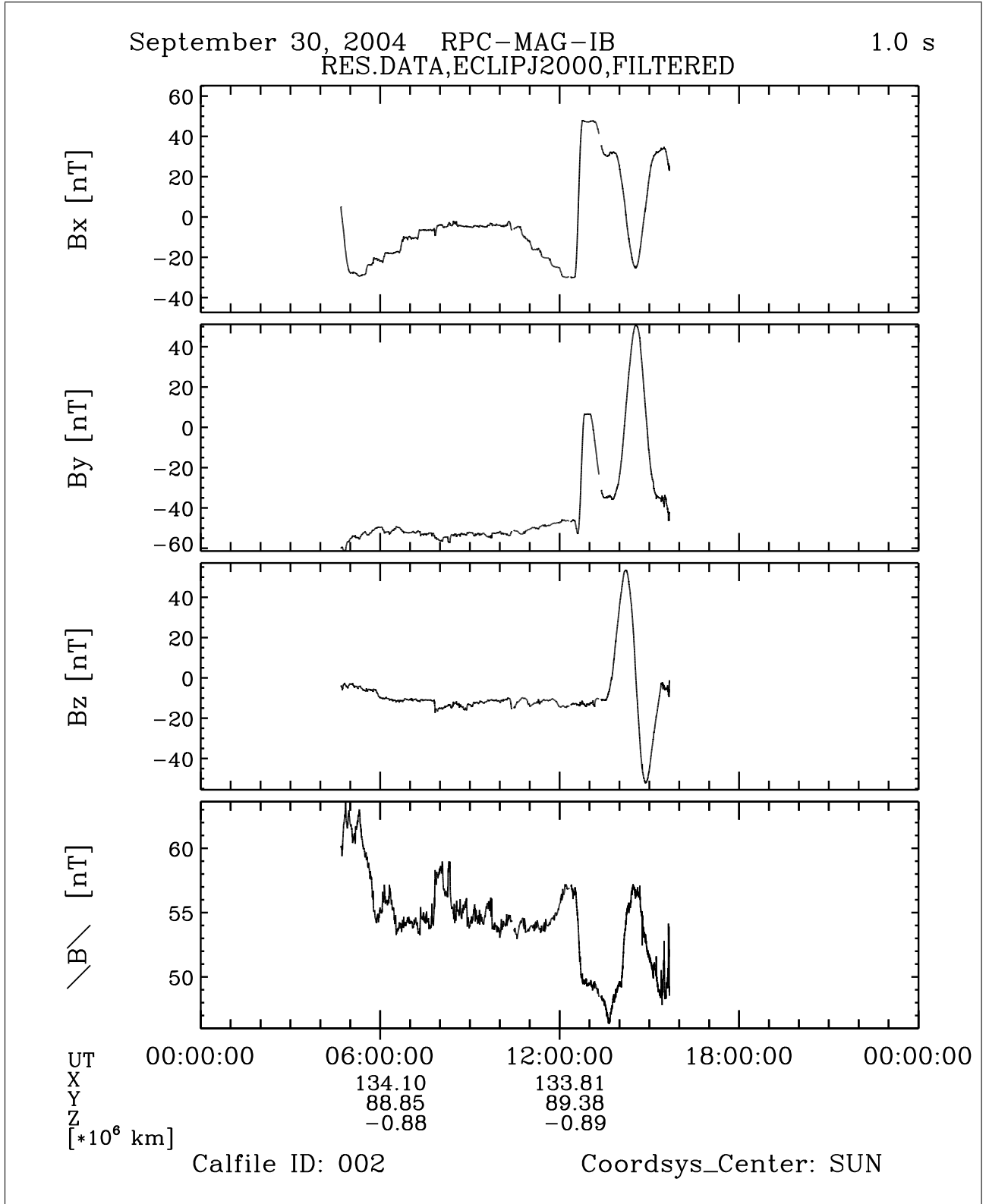


Figure 103: File: RPCMAG040930\_CLG\_IB\_A1\_T0000\_2400\_002

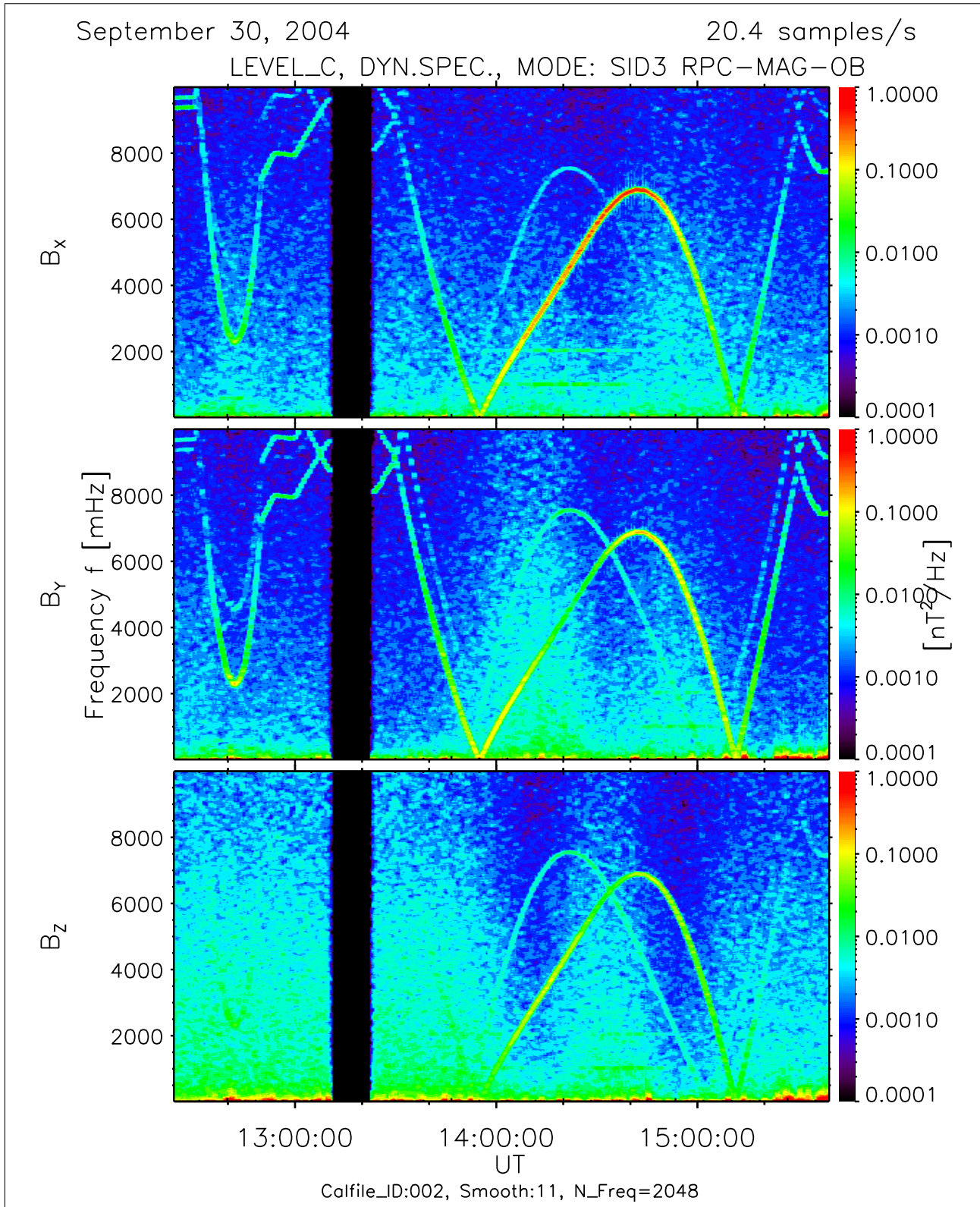


Figure 104: File: RPCMAG040930T1223\_CLC\_OB\_M3\_DS0\_10000\_002

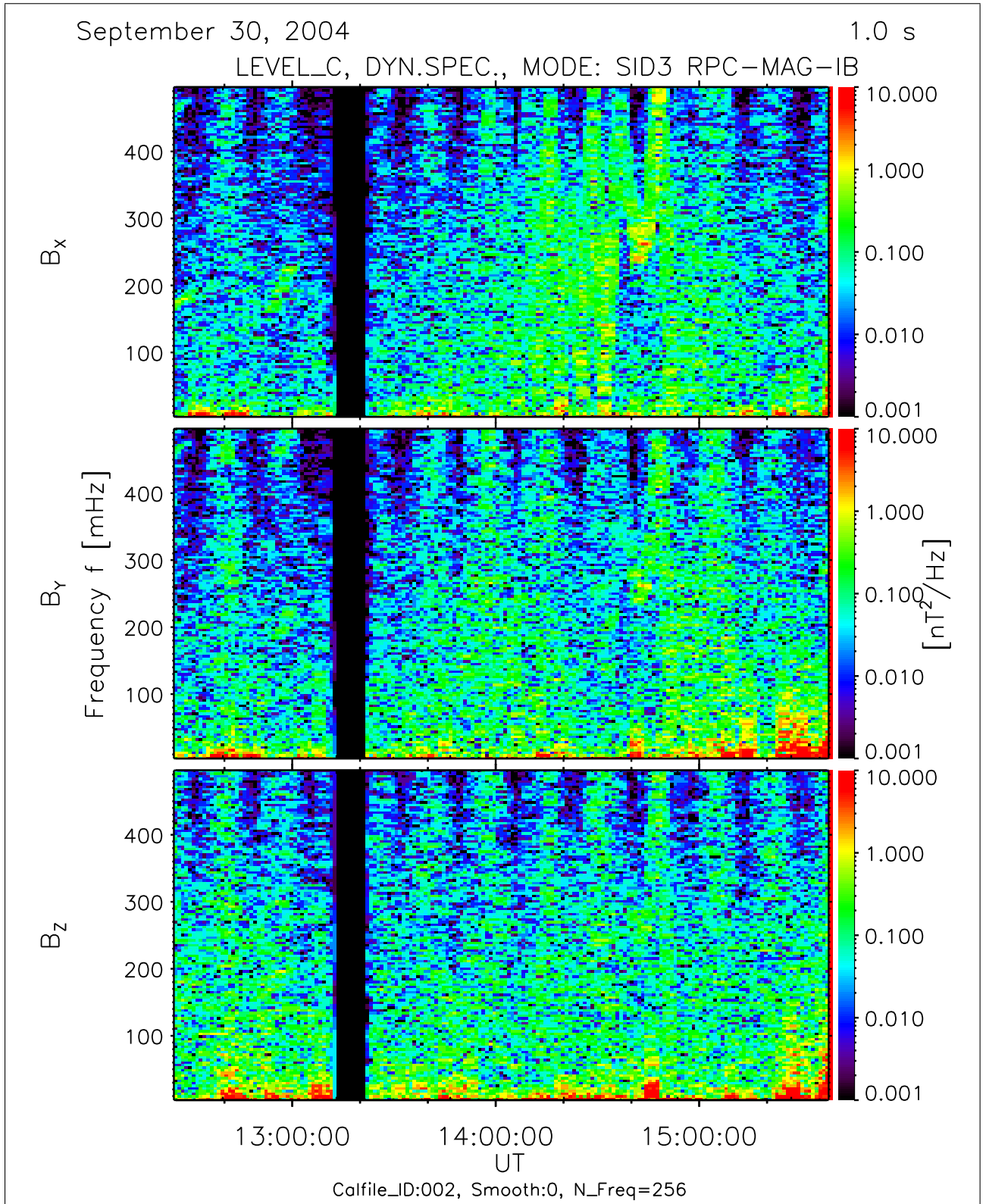


Figure 105: File: RPCMAG040930T1223\_CLC\_IB\_M3\_DS0\_500\_002



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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.

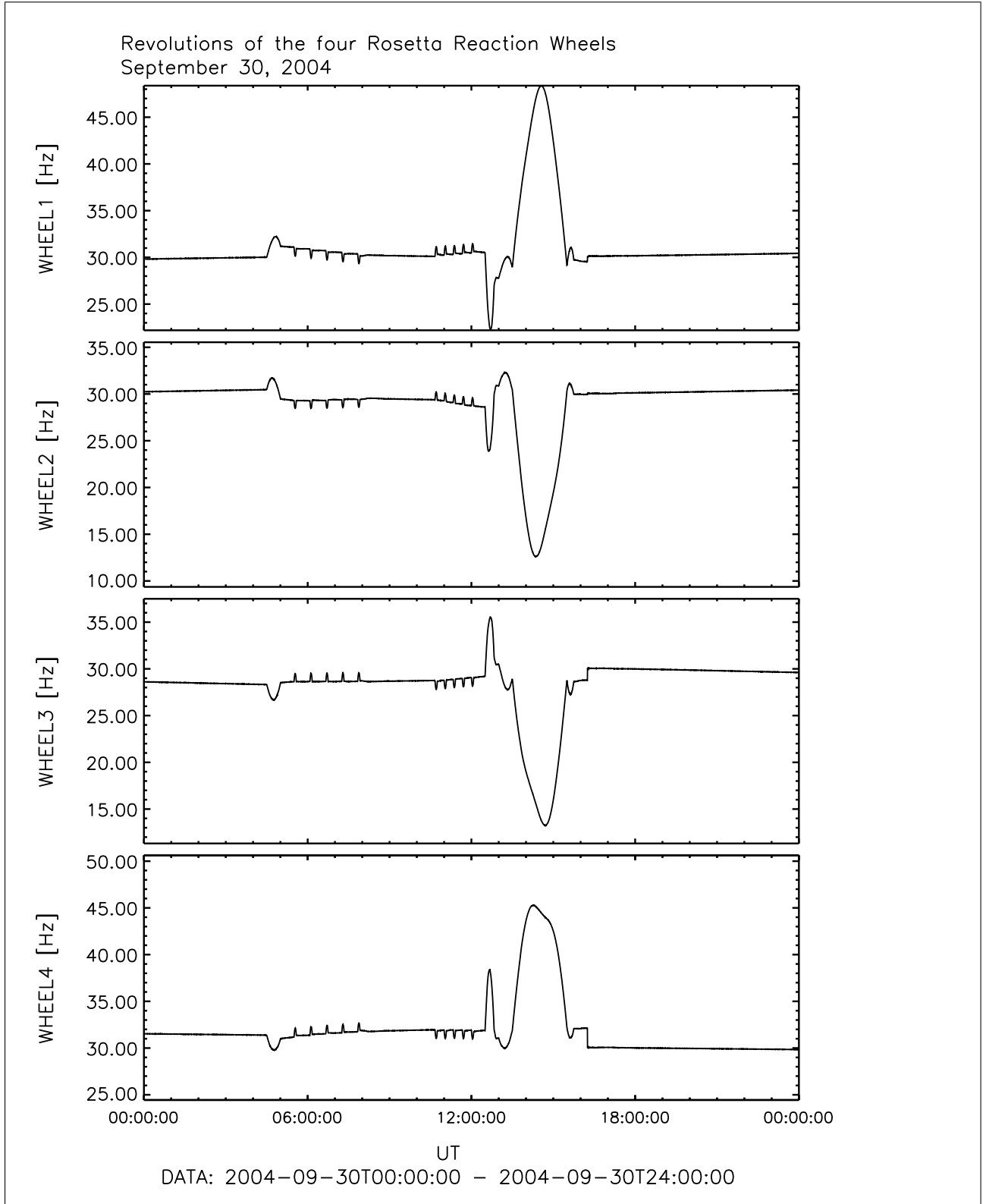


Figure 106: File: wheels\_Hz2004-09-30T00-00

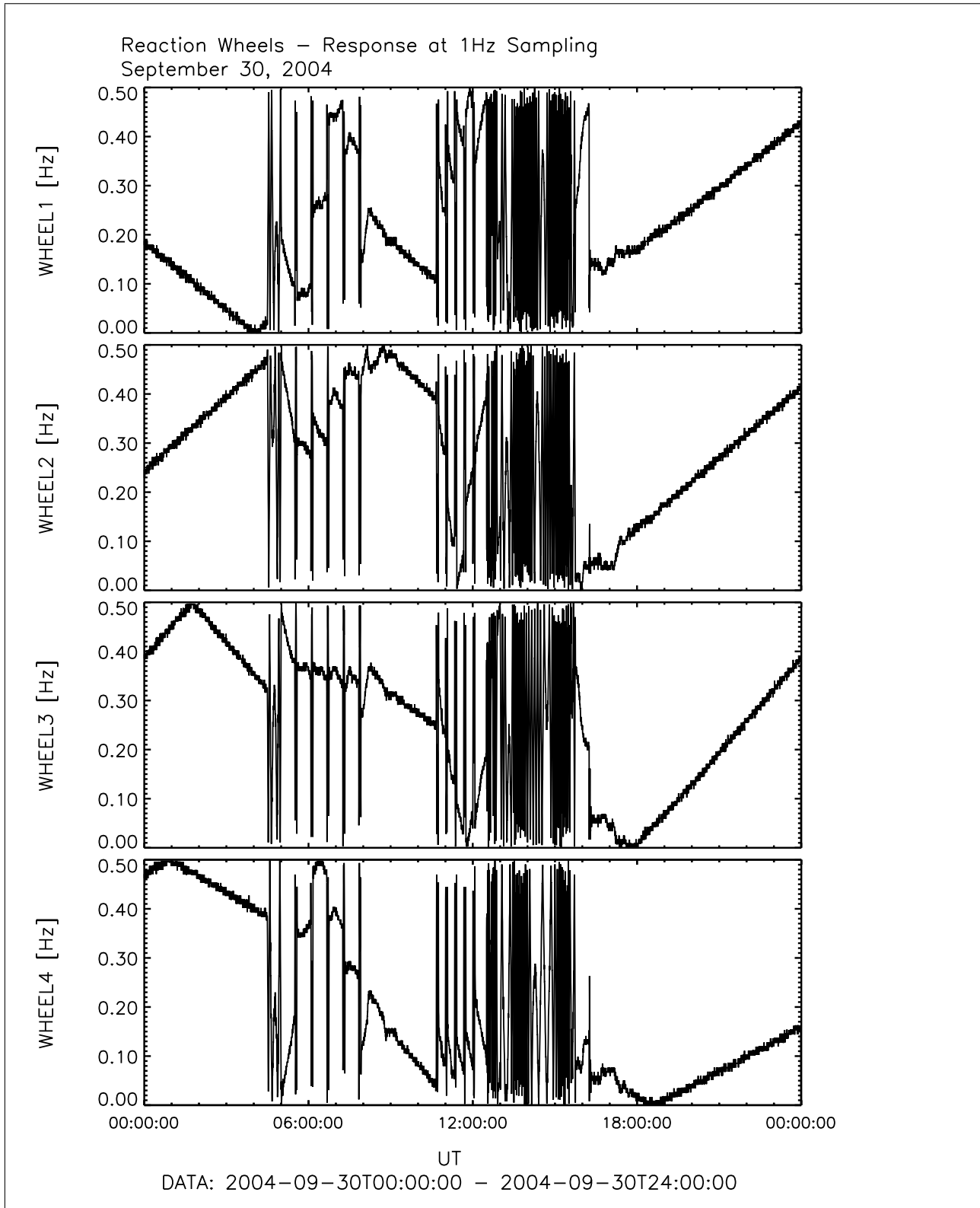


Figure 107: File: wheels\_1Hz\_Sampling2004-09-30T00-00

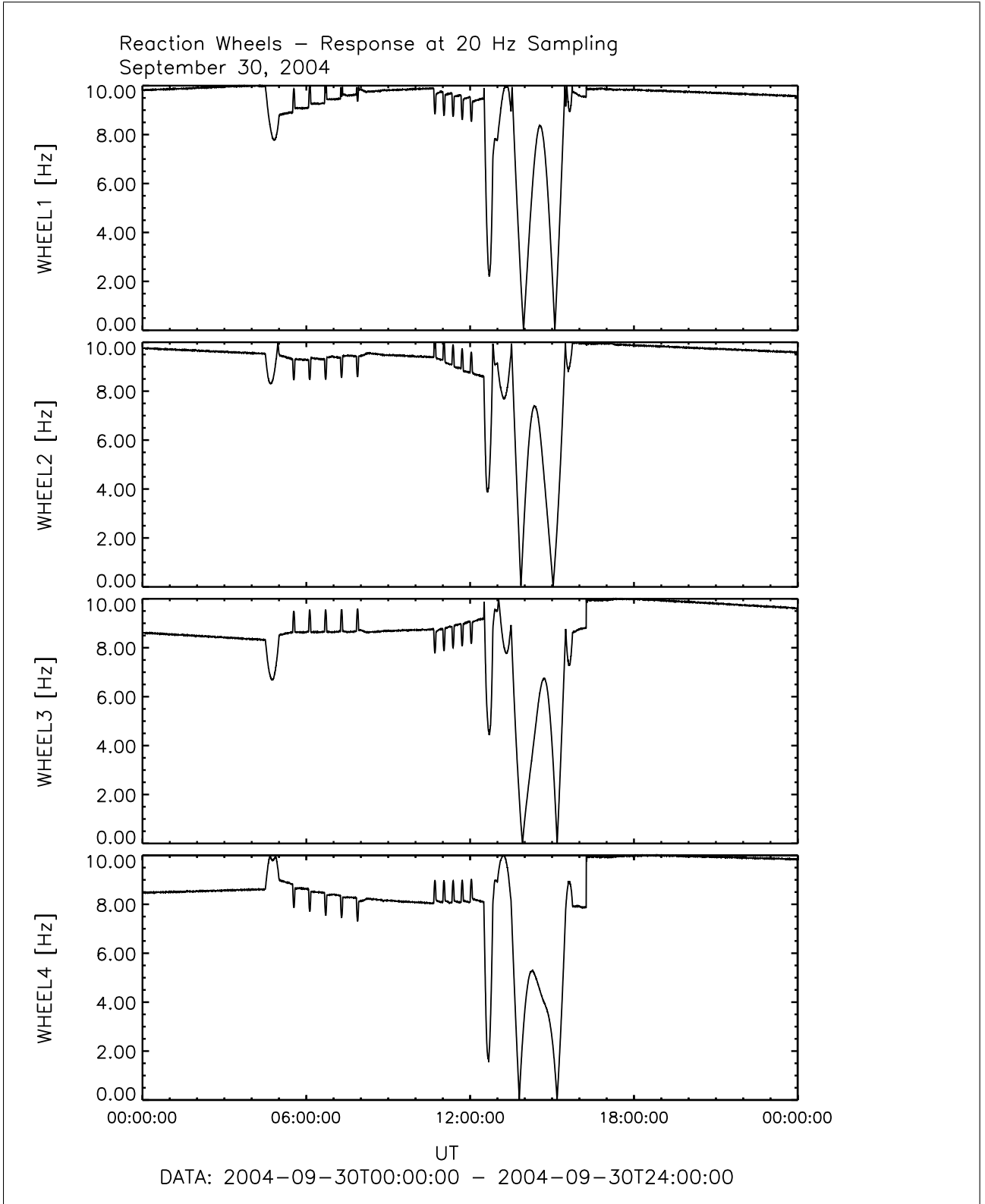


Figure 108: File: wheels\_20Hz\_Sampling2004-09-30T00-00

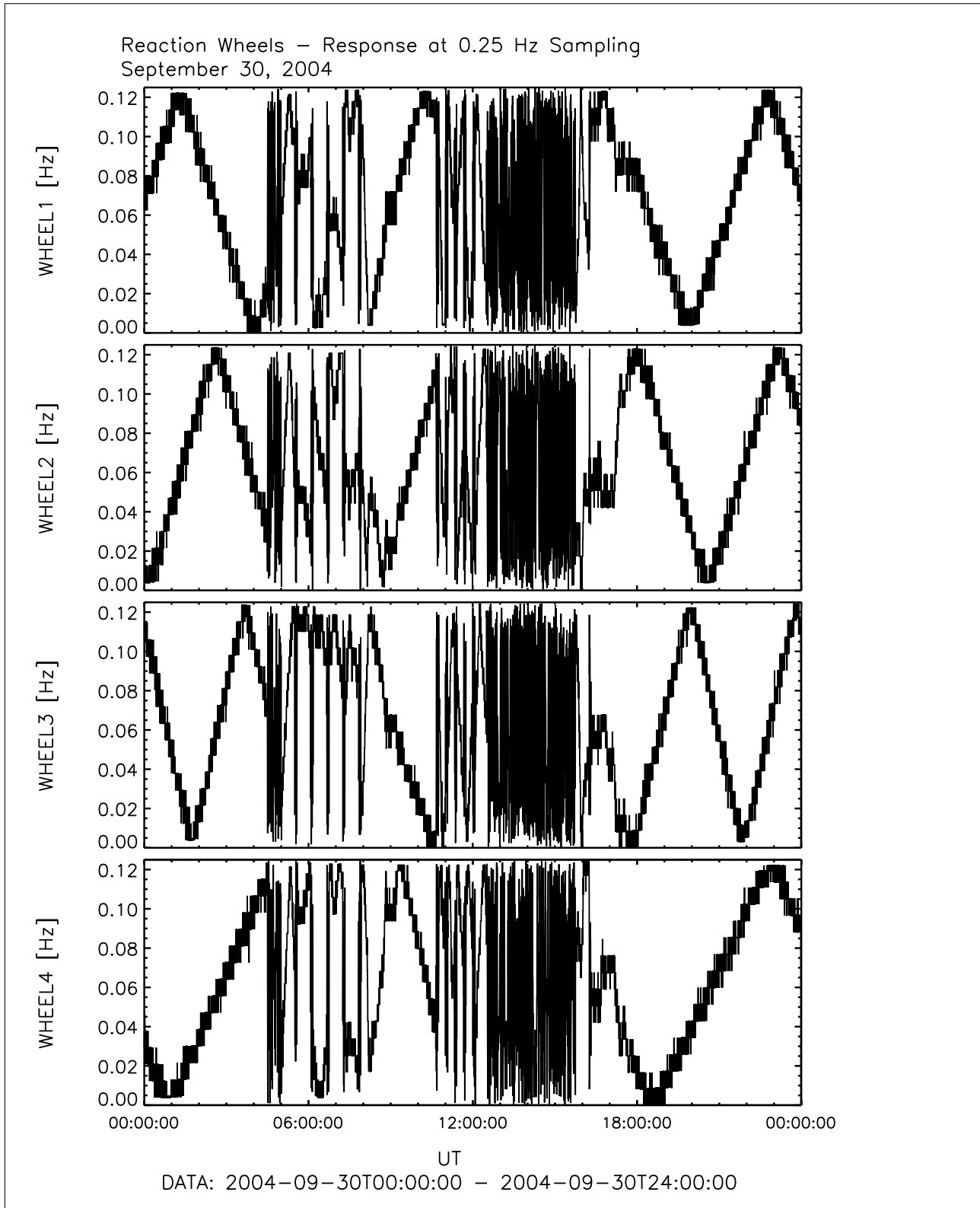


Figure 109: File: wheels\_025Hz\_Sampling2004-09-30T00-00

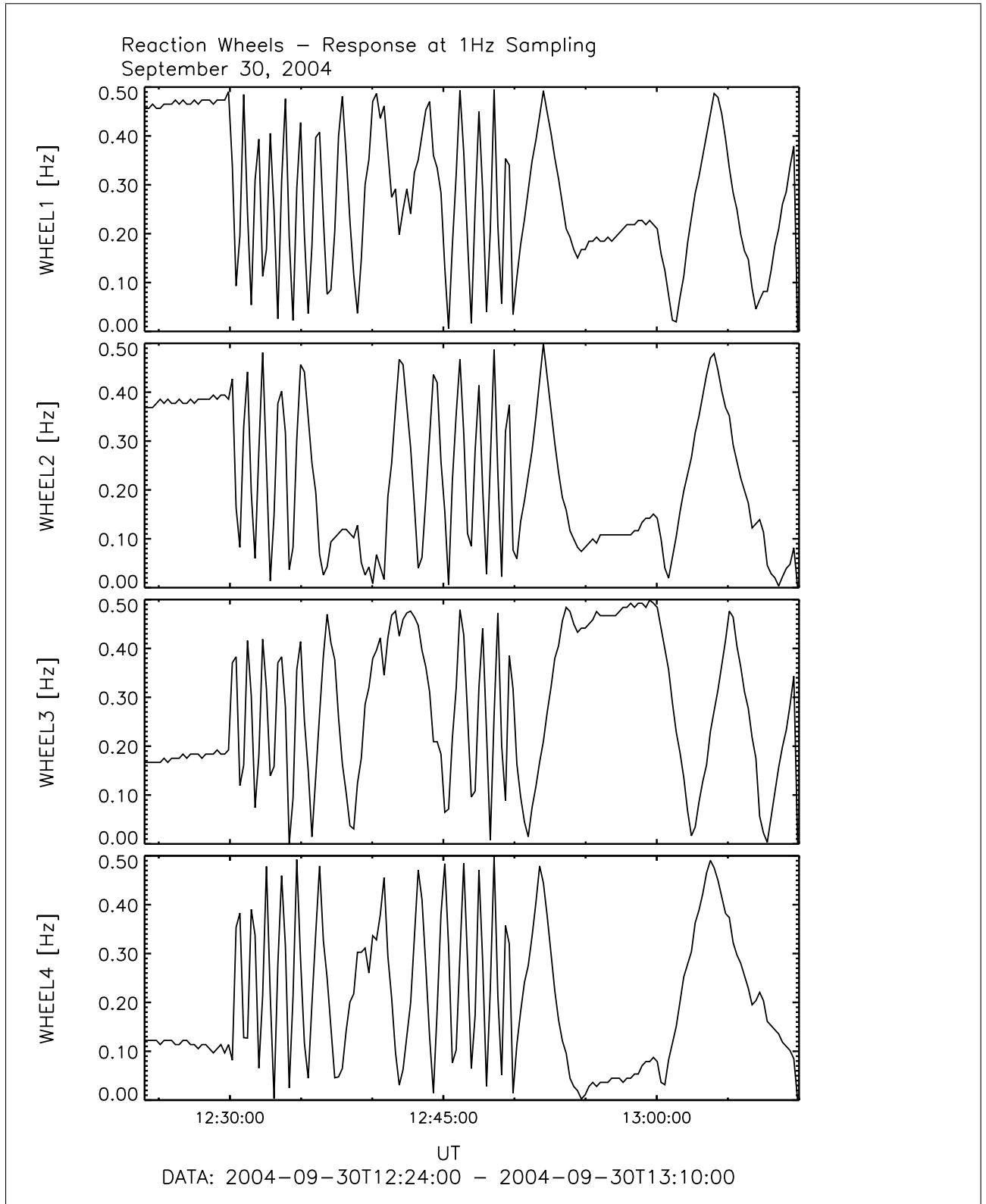


Figure 110: File: wheels\_1Hz\_Sampling2004-09-30T12-24

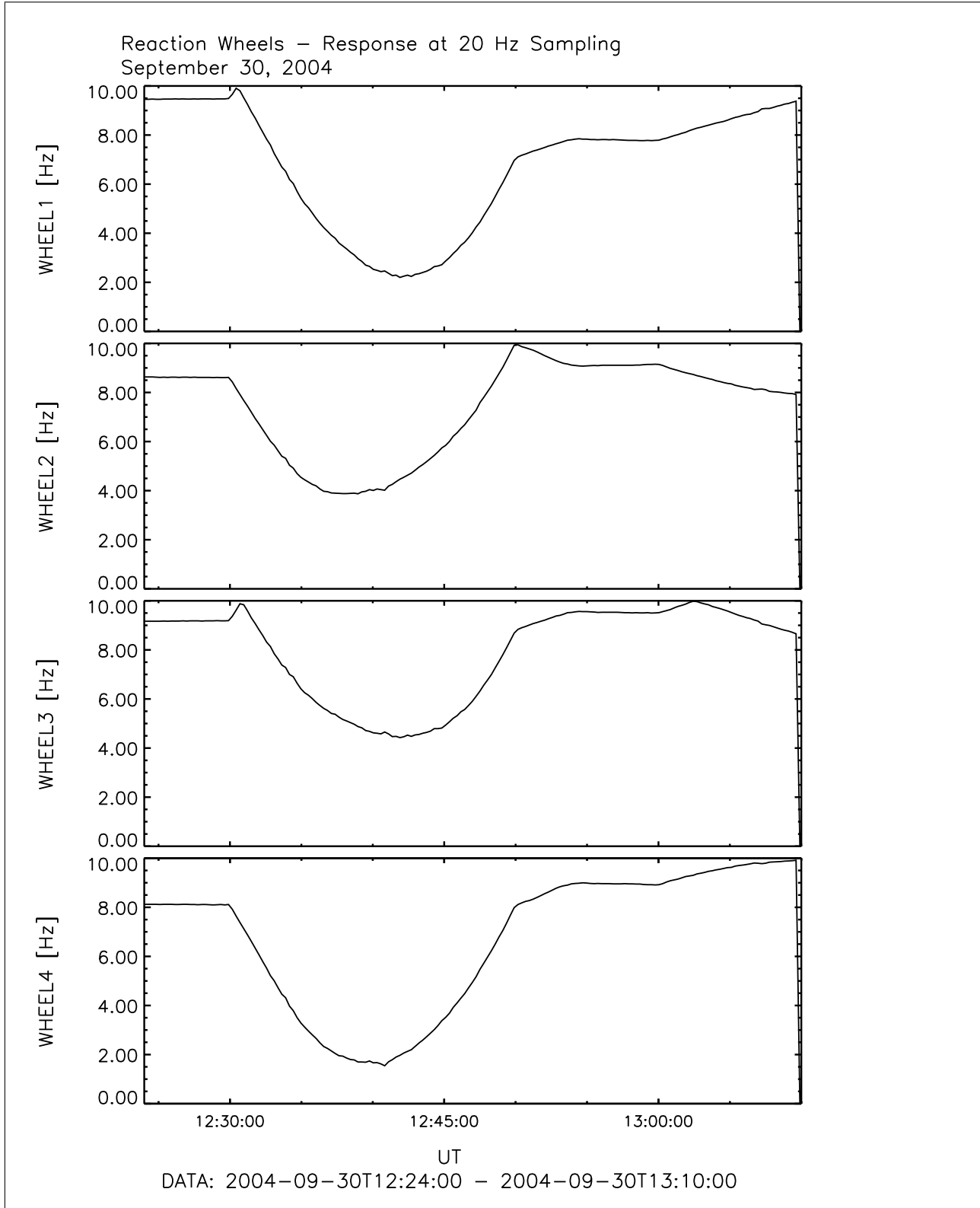


Figure 111: File: wheels\_20Hz\_Sampling2004-09-30T12-24

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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.



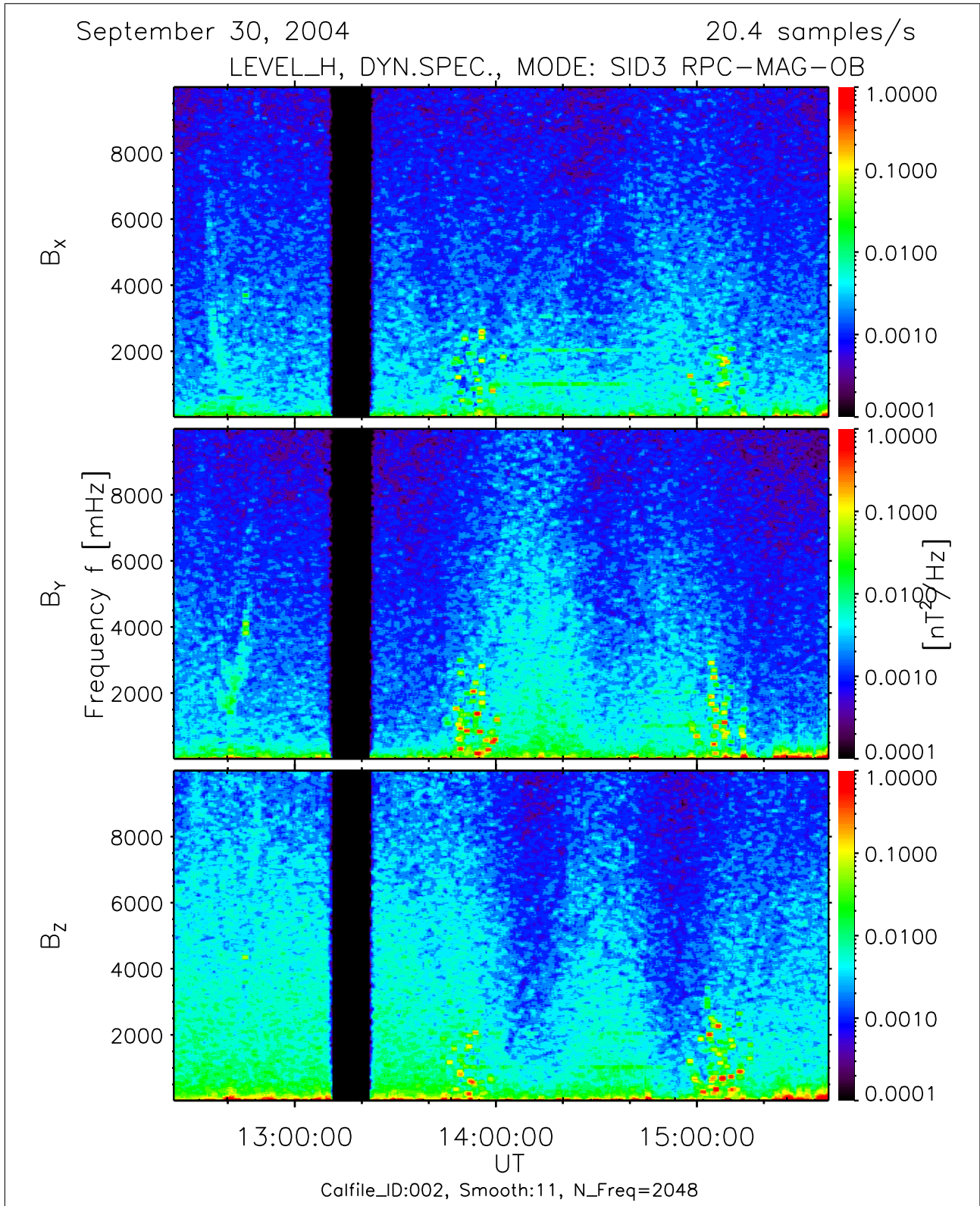


Figure 112: File: RPCMAG040930T1223\_CLH\_OB\_M3\_DS0\_10000\_002

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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

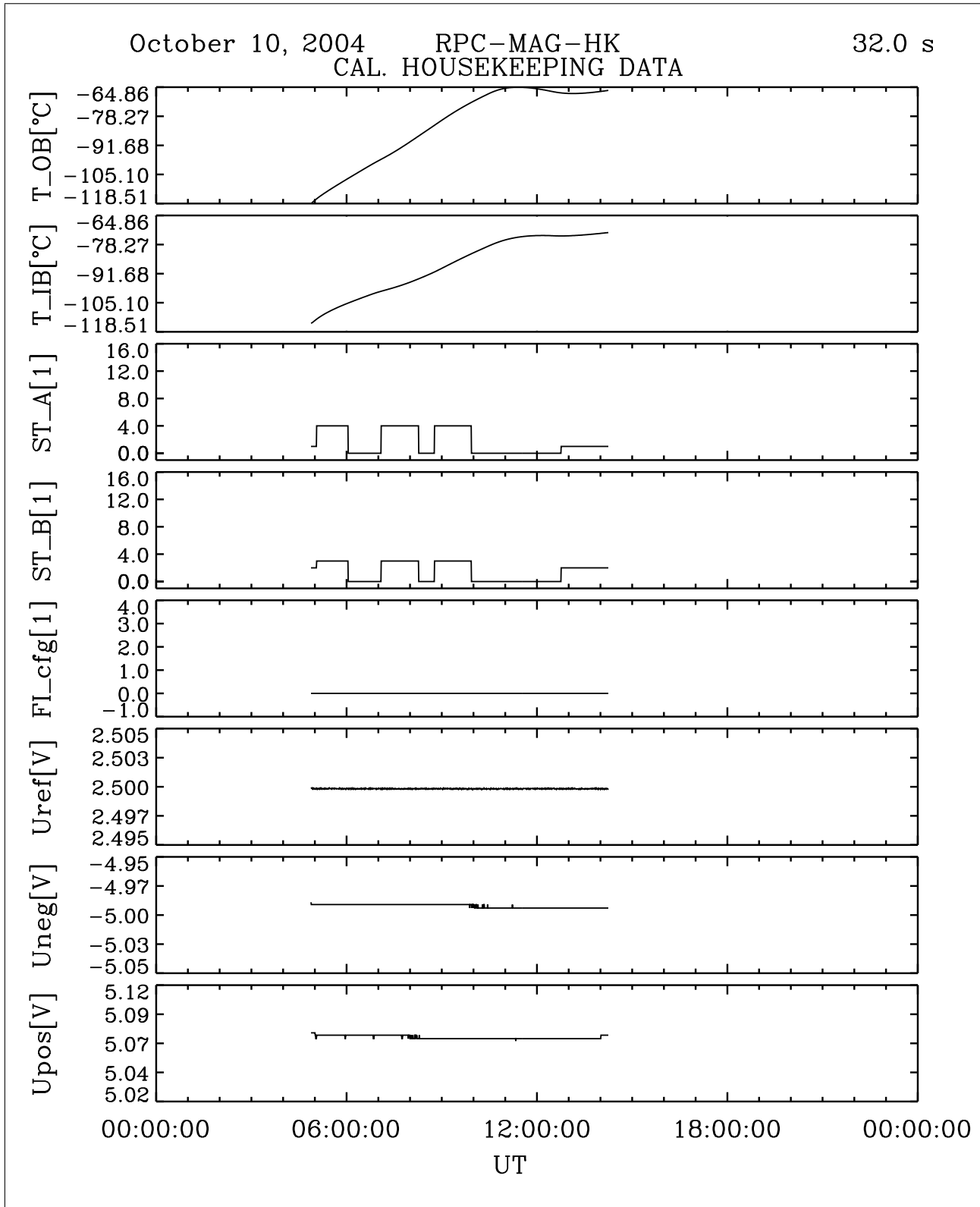


Figure 113: File: RPCMAG041010T0452\_CLA\_HK\_P0000\_2400

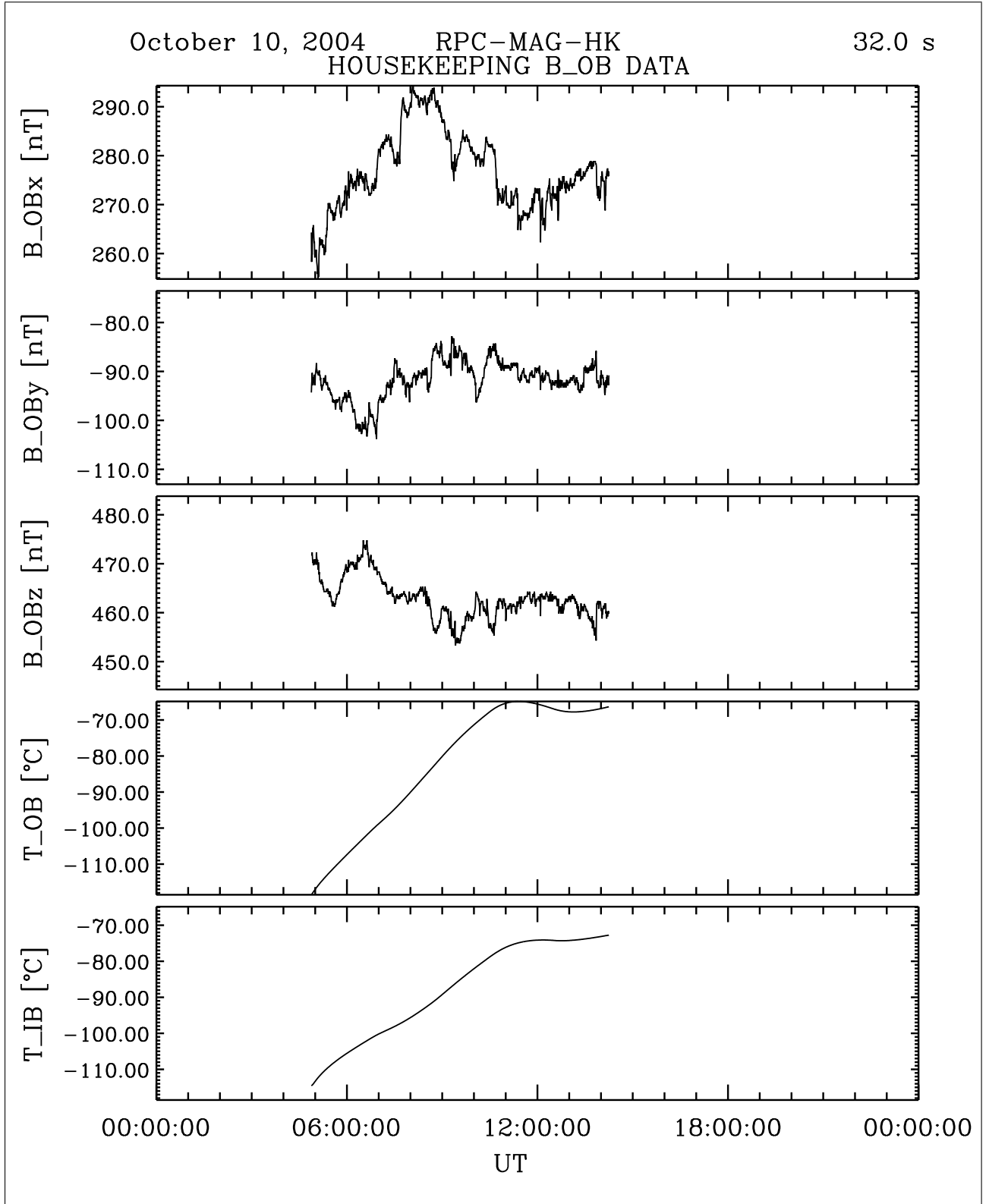


Figure 114: File: RPCMAG041010T0452\_CLA\_HK\_B\_P0000\_2400

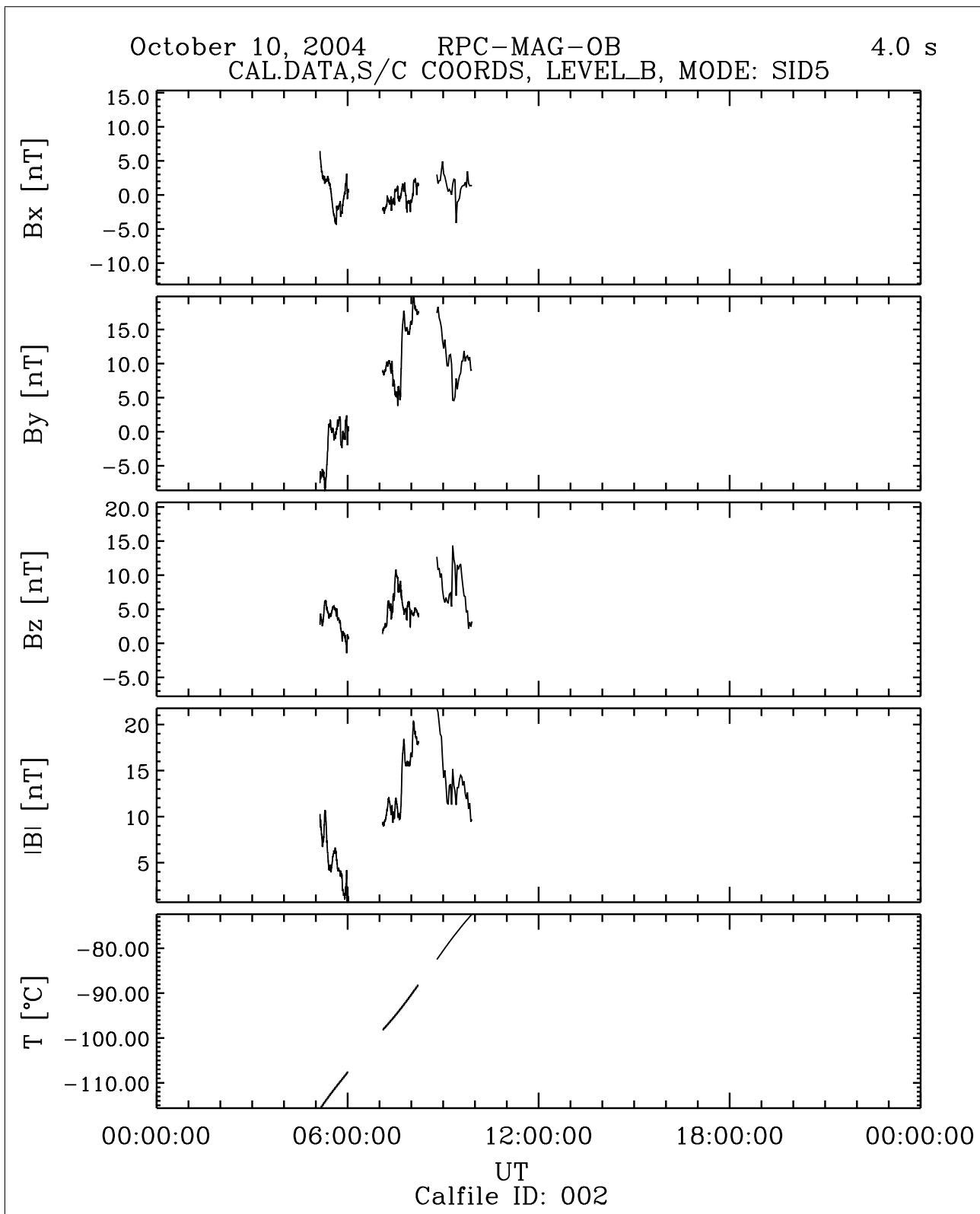


Figure 115: File: RPCMAG041010T0507\_CLB\_OB\_M5\_T0000\_2400\_002

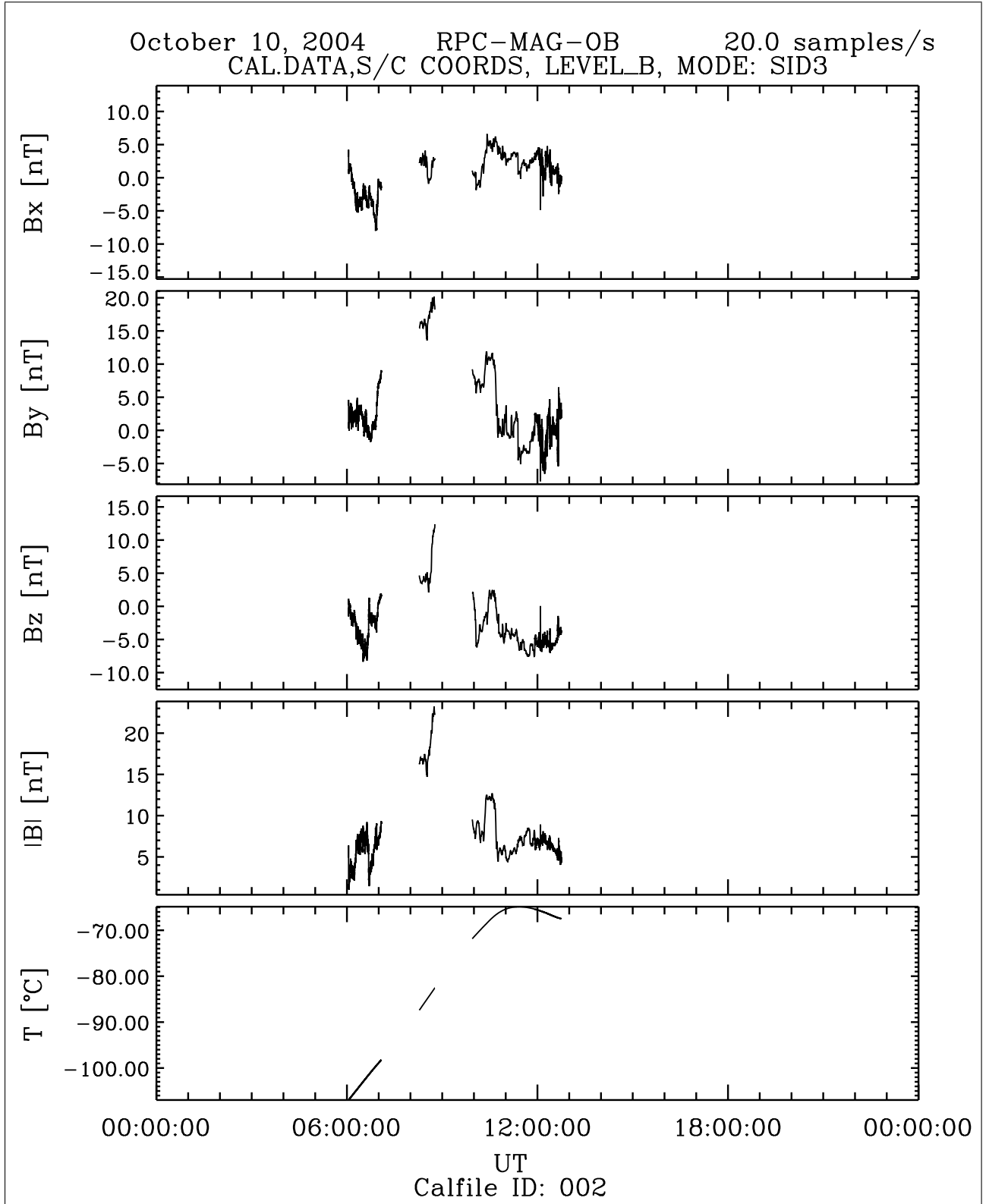


Figure 116: File: RPCMAG041010T0603\_CLB\_OB\_M3\_T0000\_2400\_002

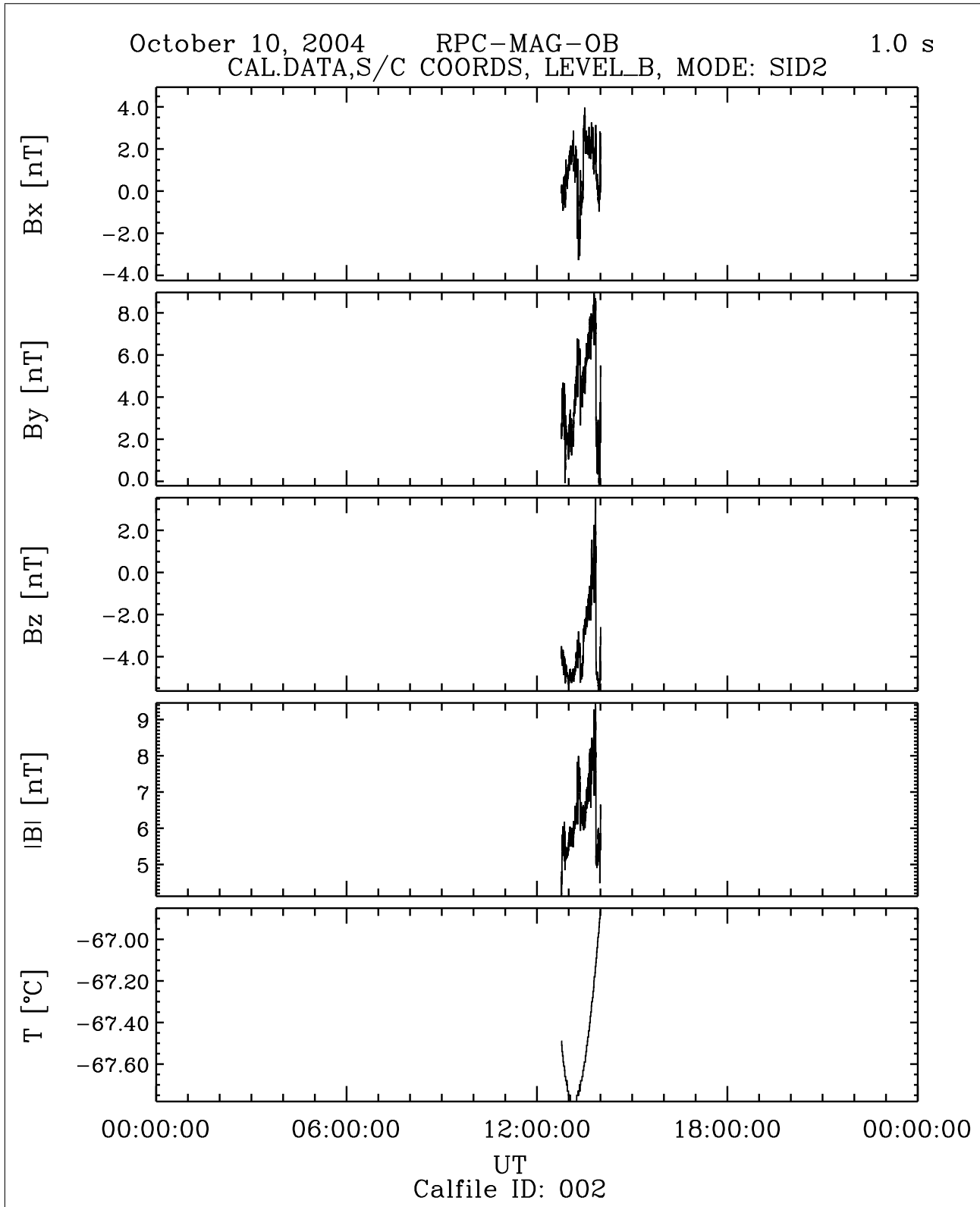


Figure 117: File: RPCMAG041010T1245\_CLB\_OB\_M2\_T0000\_2400\_002

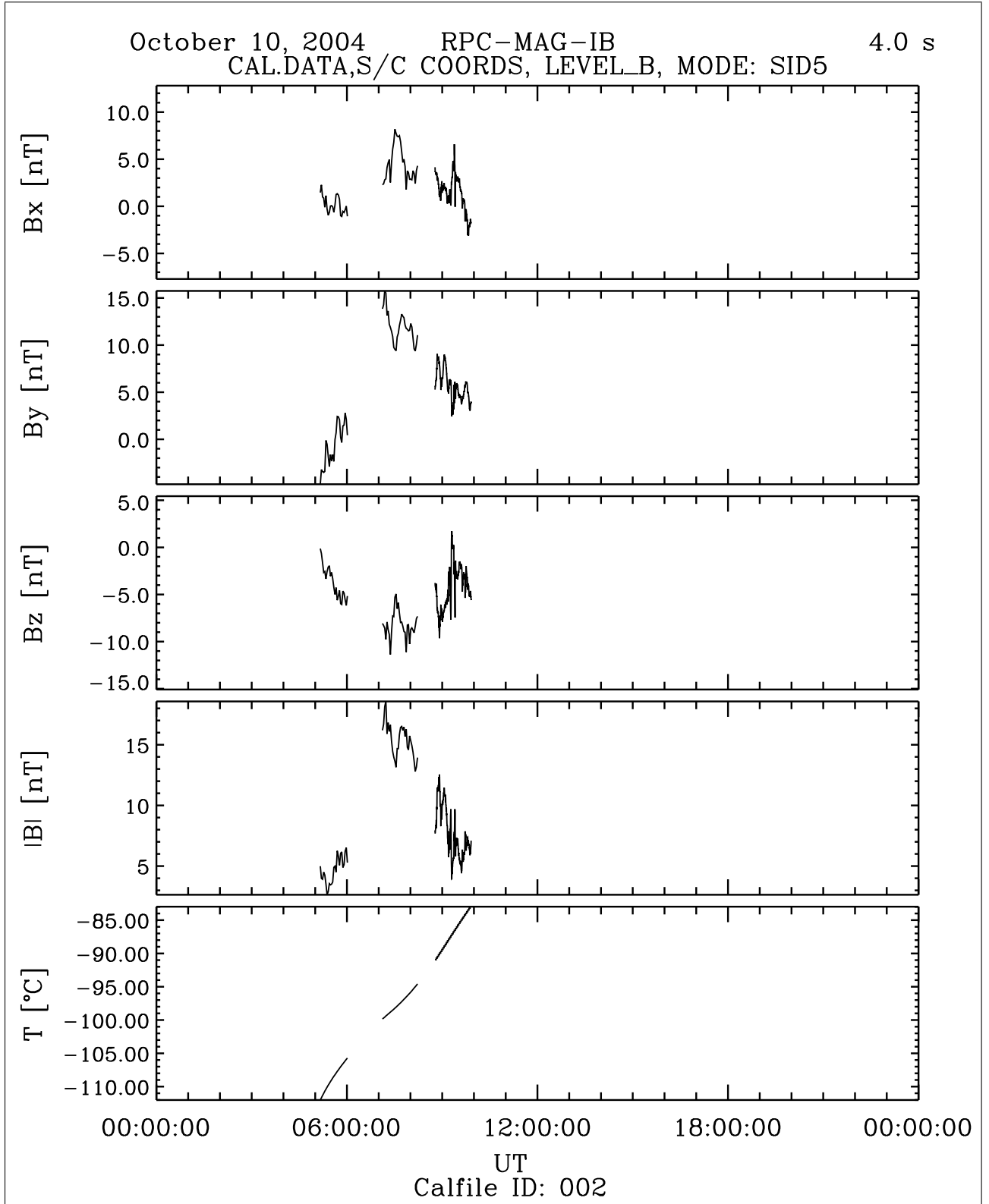


Figure 118: File: RPCMAG041010T0507\_CLB\_IB\_M5\_T0000\_2400\_002



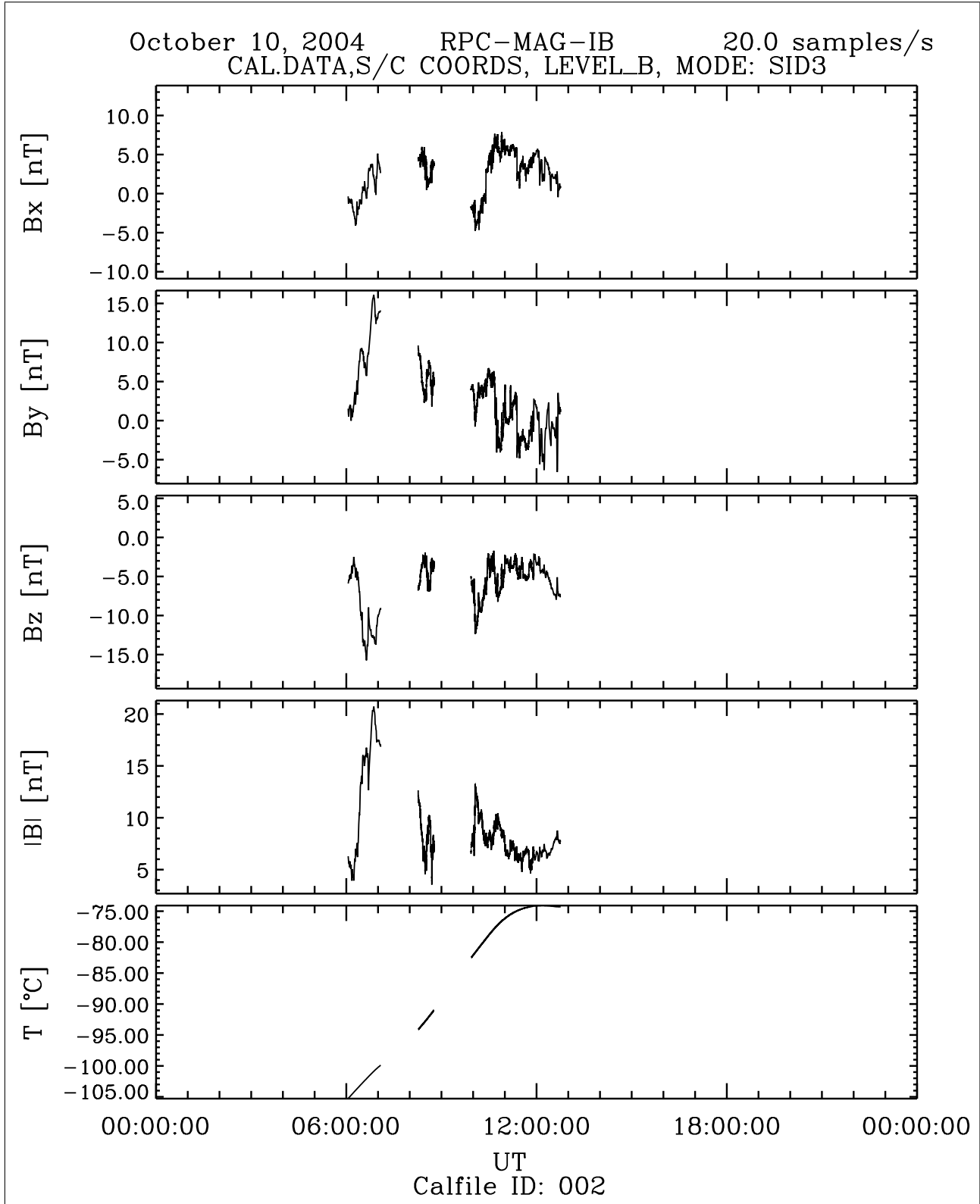


Figure 119: File: RPCMAG041010T0603\_CLB\_IB\_M3\_T0000\_2400\_002

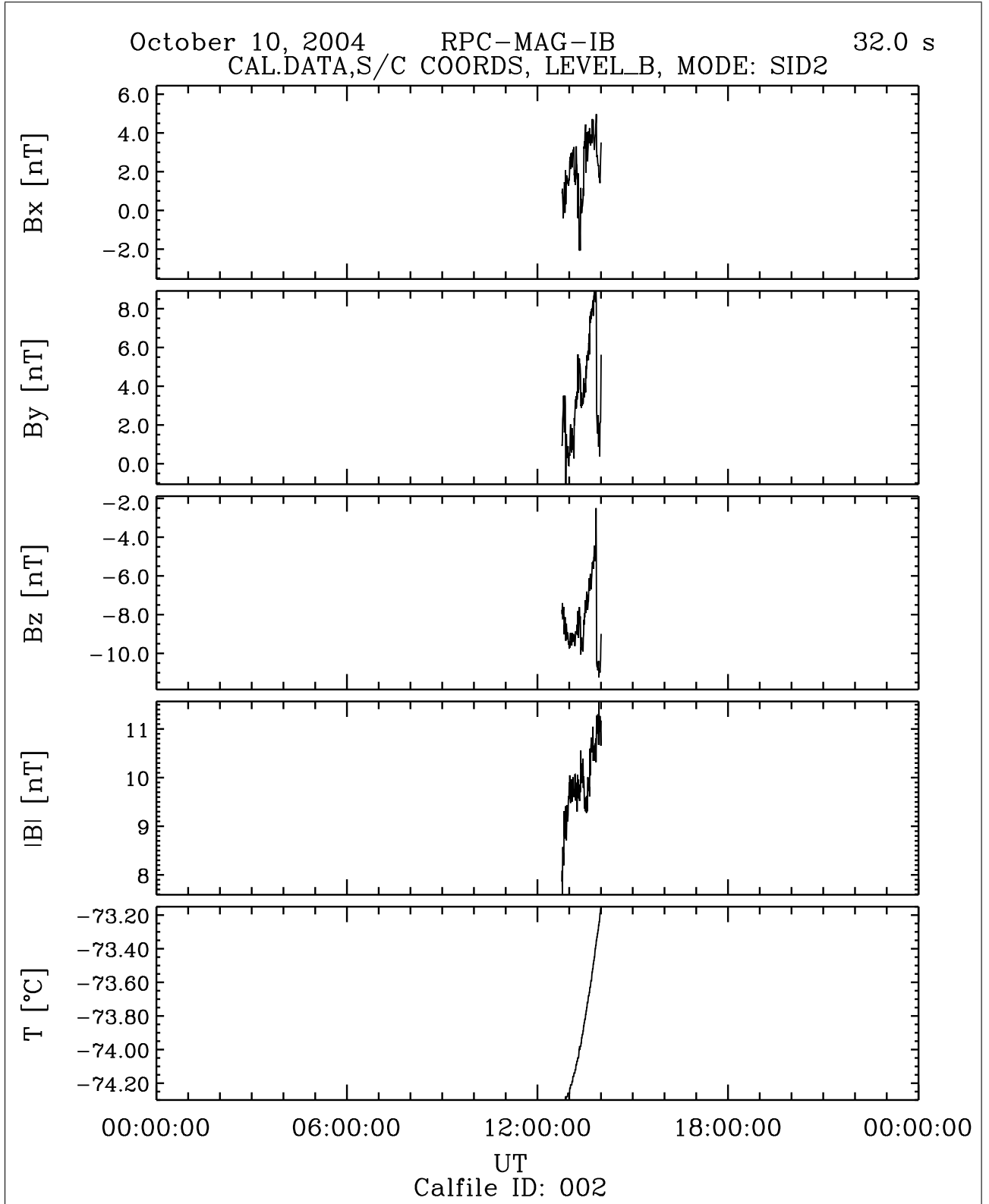


Figure 120: File: RPCMAG041010T1245\_CLB\_IB\_M2\_T0000\_2400\_002

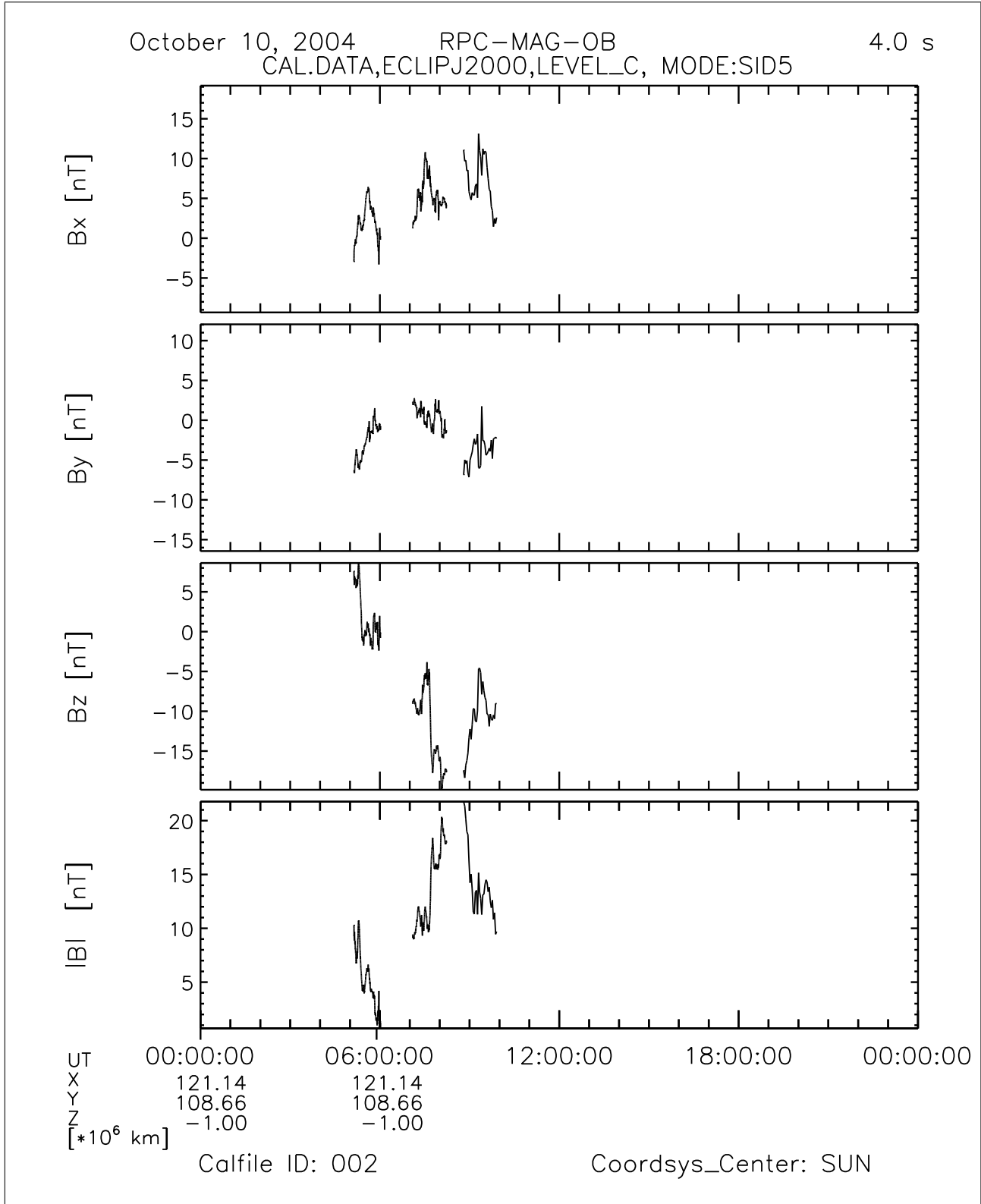


Figure 121: File: RPCMAG041010T0507\_CLC\_OB\_M5\_T0000\_2400\_002

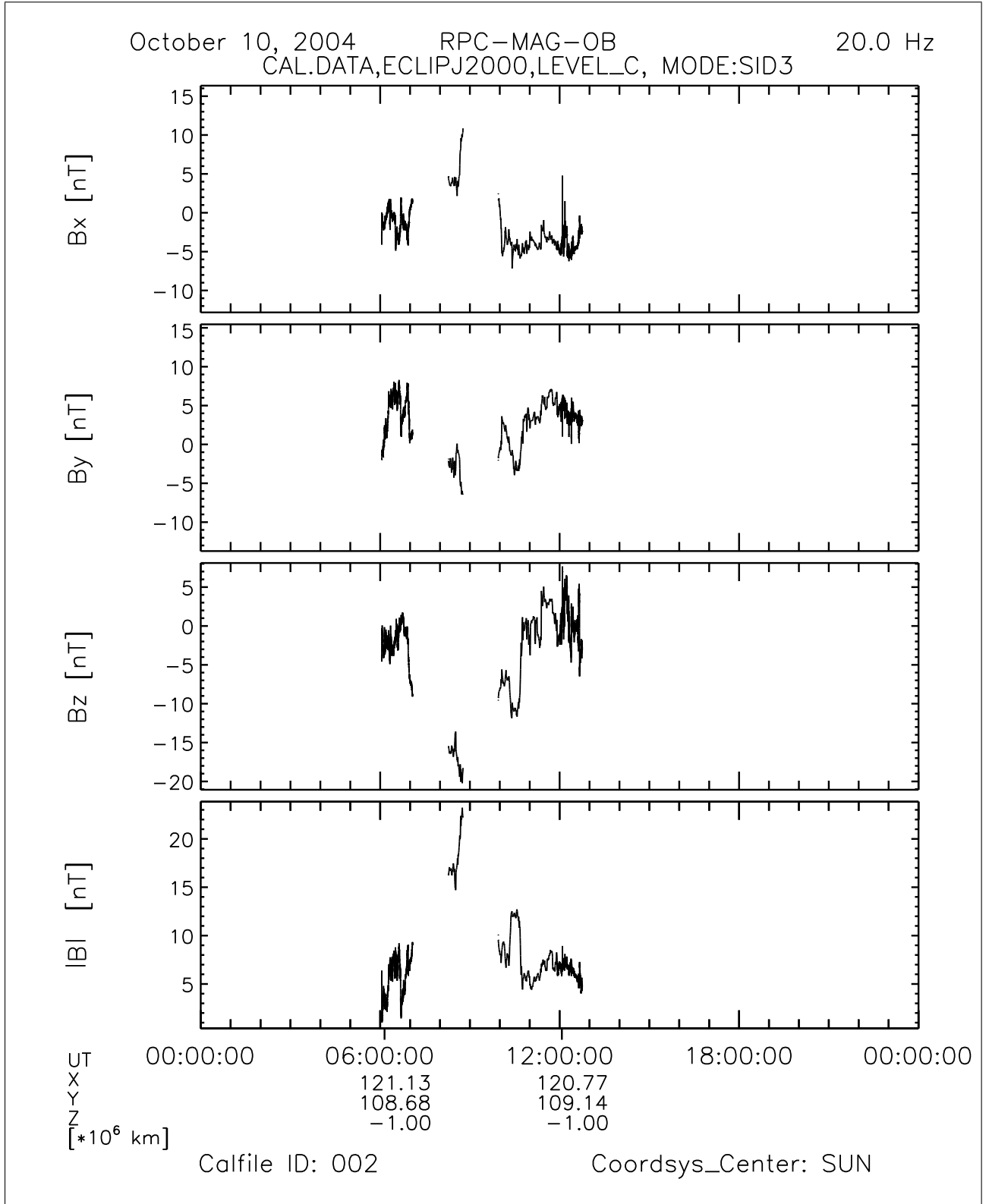


Figure 122: File: RPCMAG041010T0603\_CLC\_OB\_M3\_T0000\_2400\_002

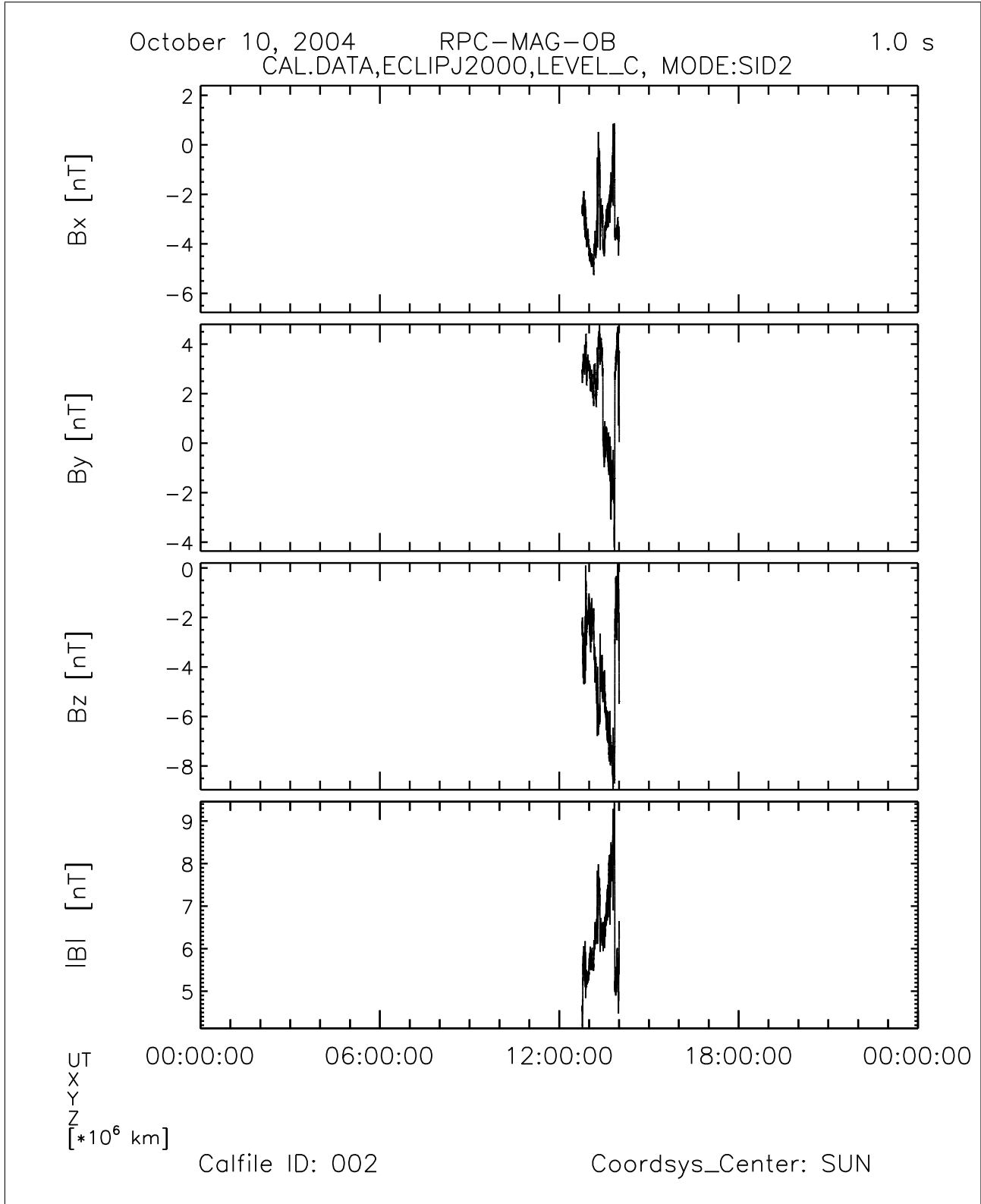


Figure 123: File: RPCMAG041010T1245\_CLC\_OB\_M2\_T0000\_2400\_002

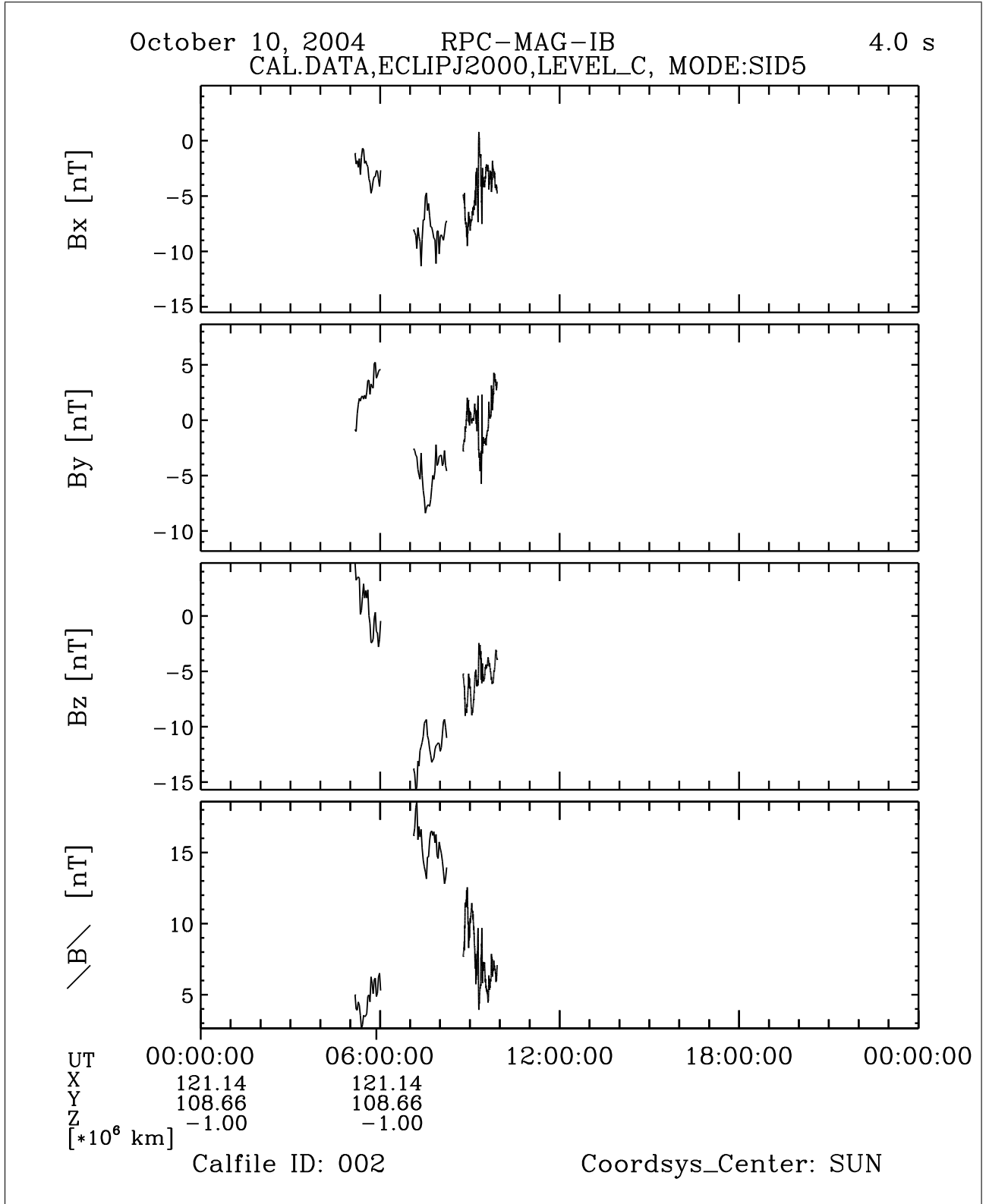


Figure 124: File: RPCMAG041010T0507\_CLC\_IB\_M5\_T0000\_2400\_002

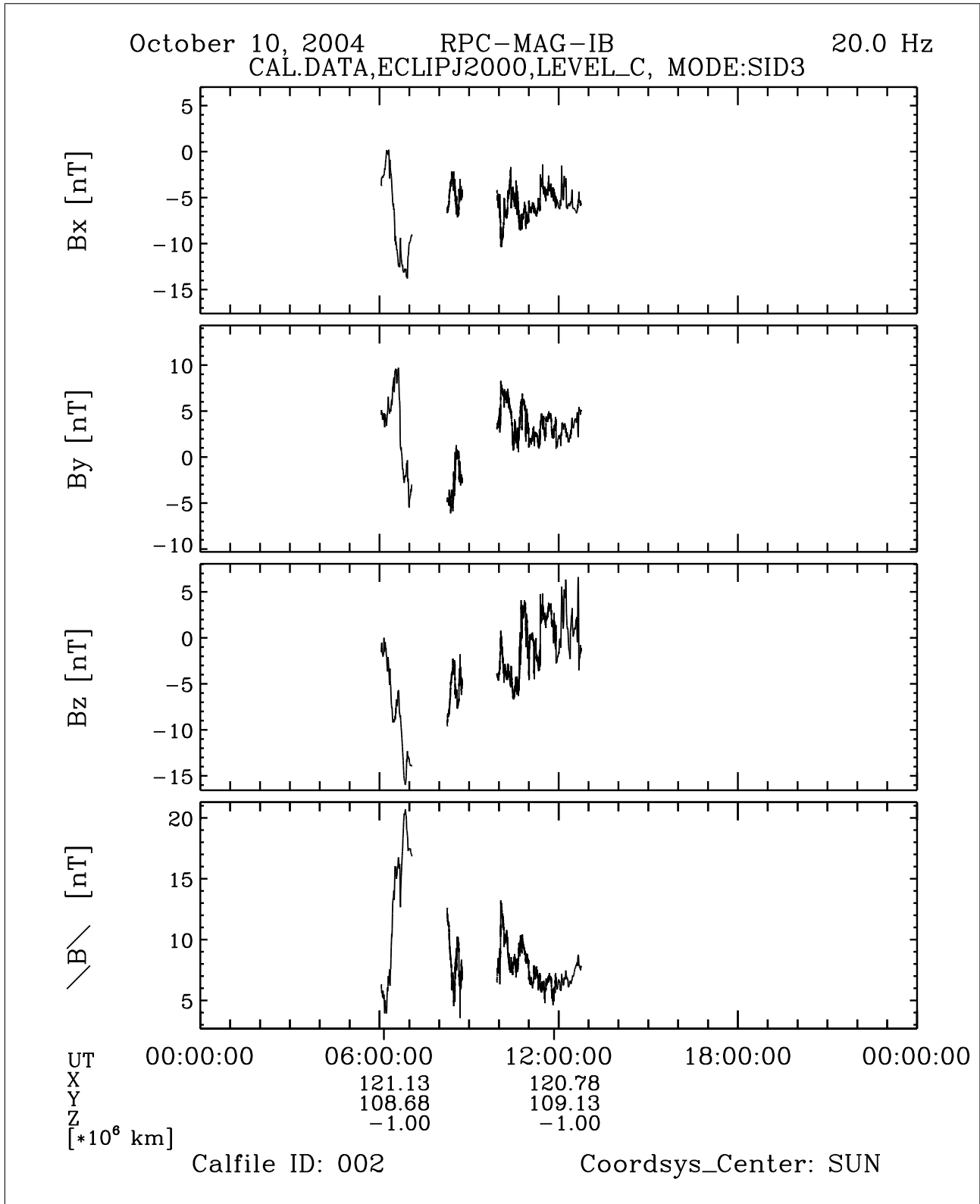


Figure 125: File: RPCMAG041010T0603\_CLC\_IB\_M3\_T0000\_2400\_002

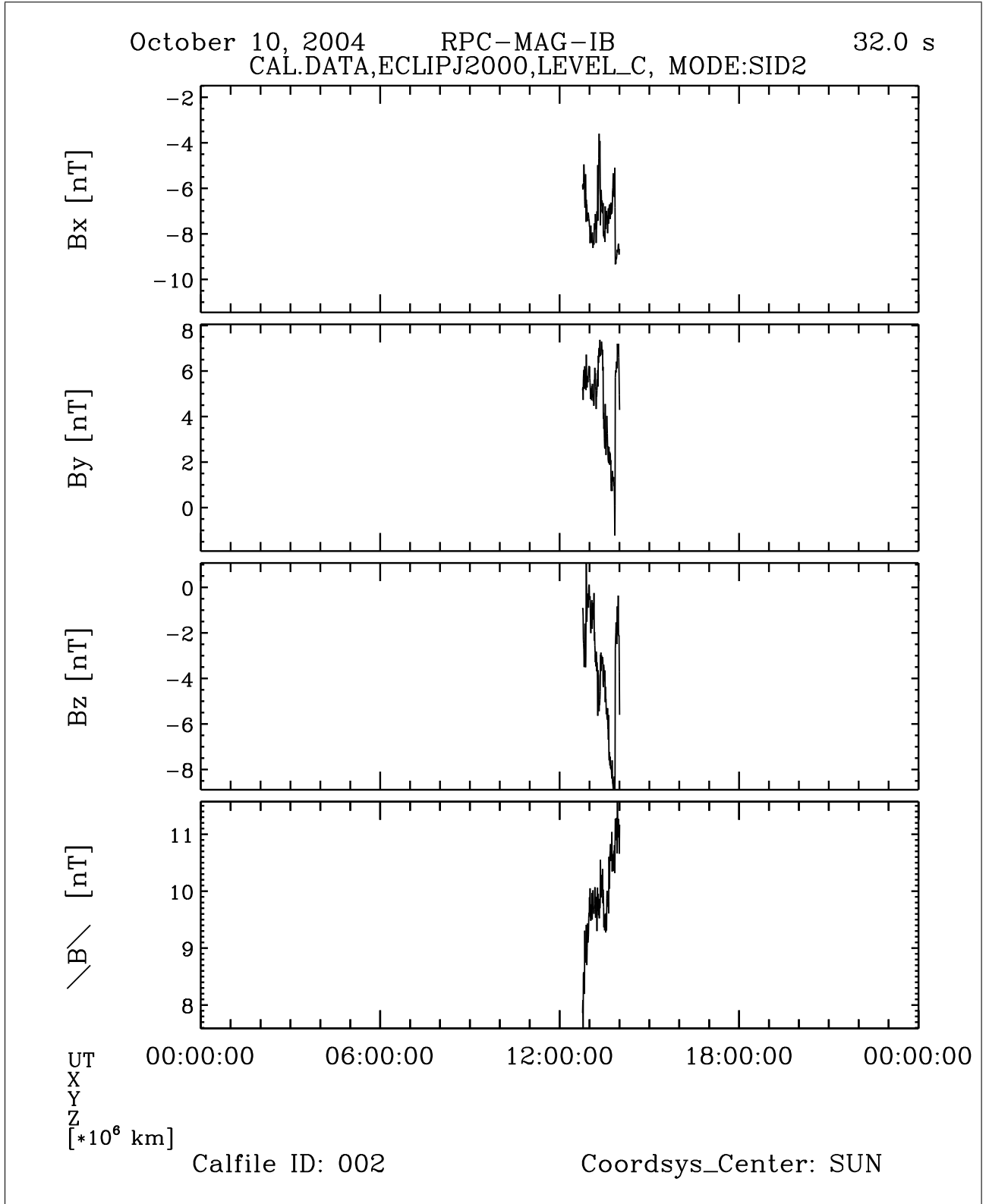


Figure 126: File: RPCMAG041010T1245\_CLC\_IB\_M2\_T0000\_2400\_002



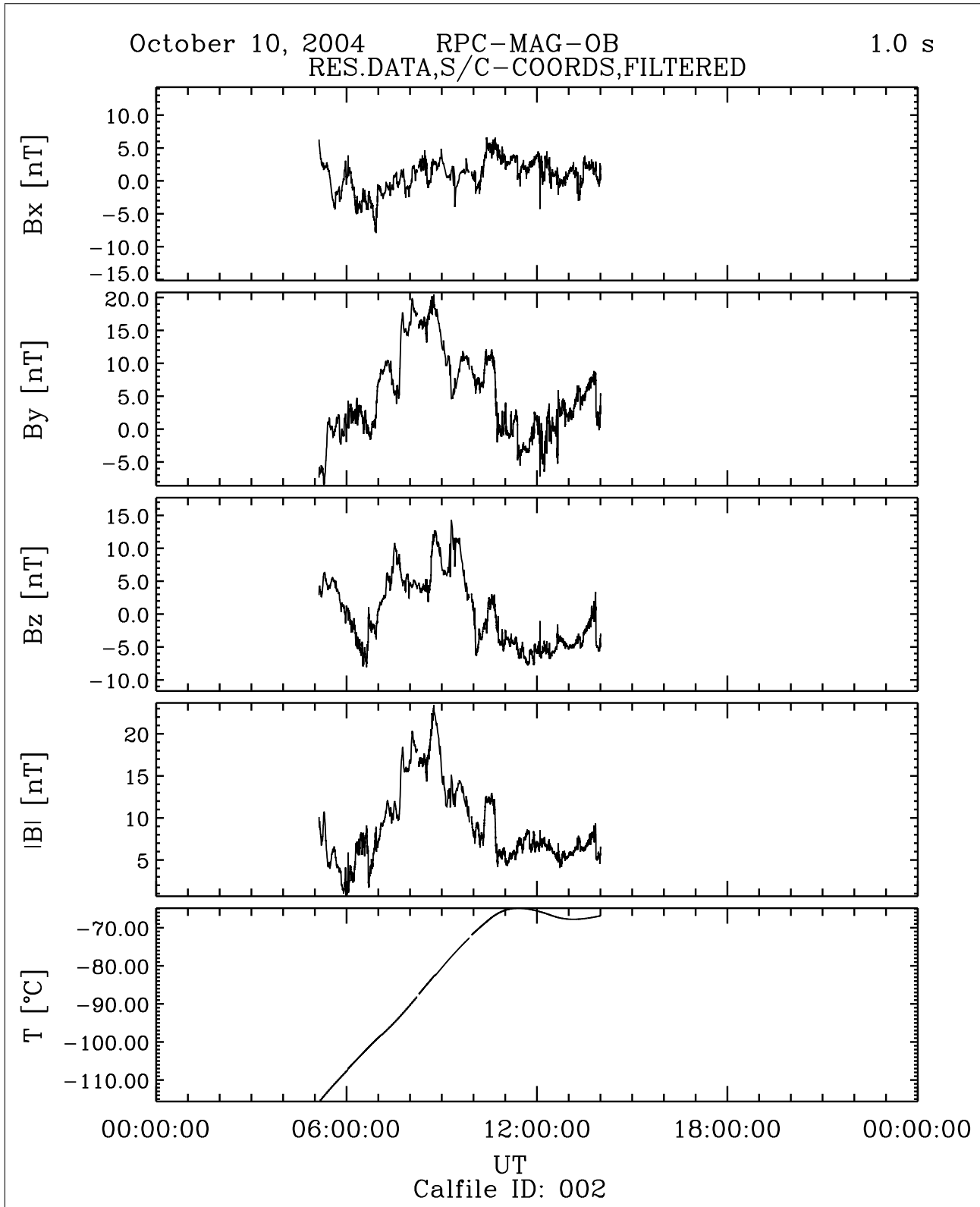


Figure 127: File: RPCMAG041010\_CLF\_OB\_A1\_T0000\_2400\_002

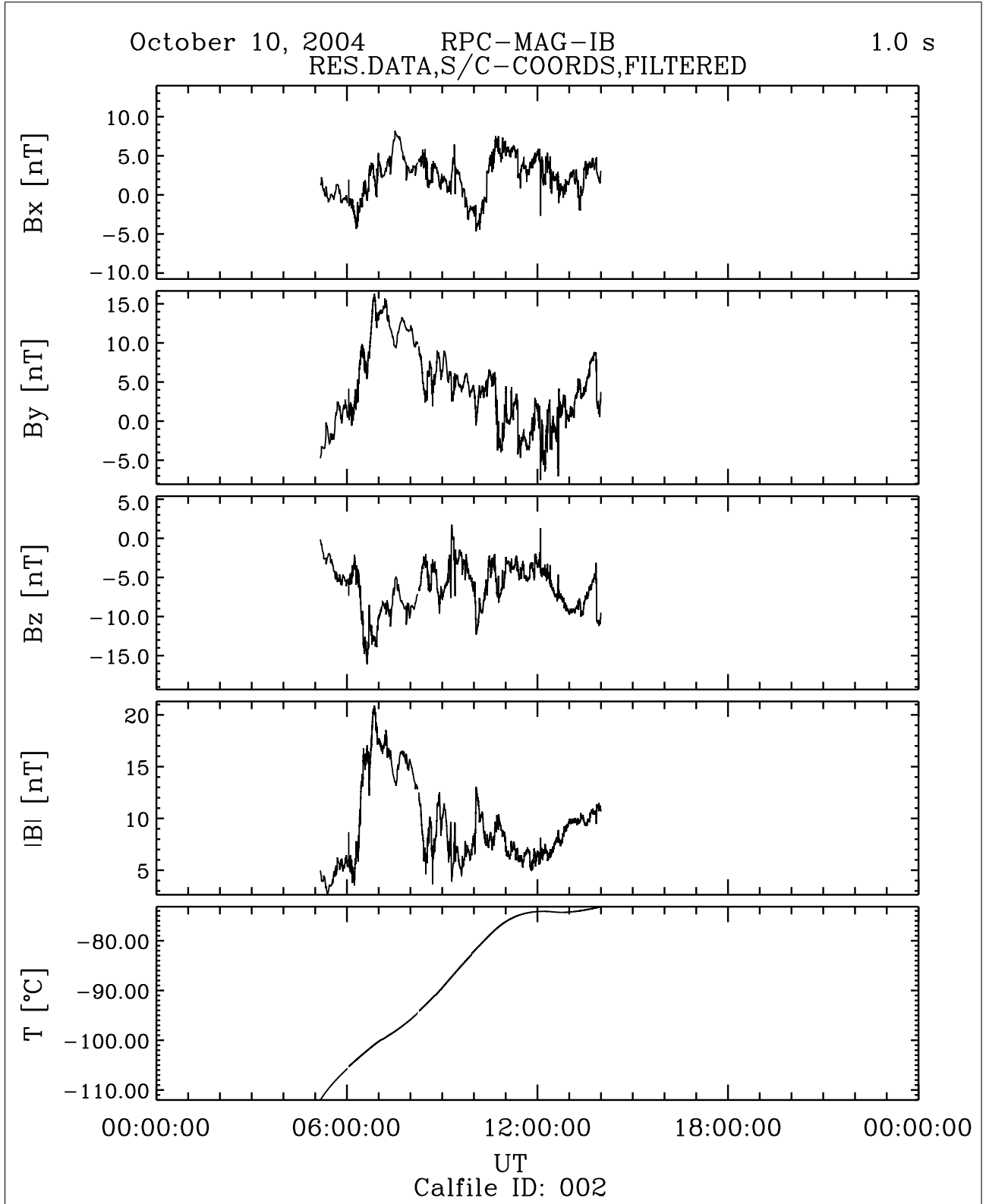


Figure 128: File: RPCMAG041010\_CLF\_IB\_A1\_T0000\_2400\_002

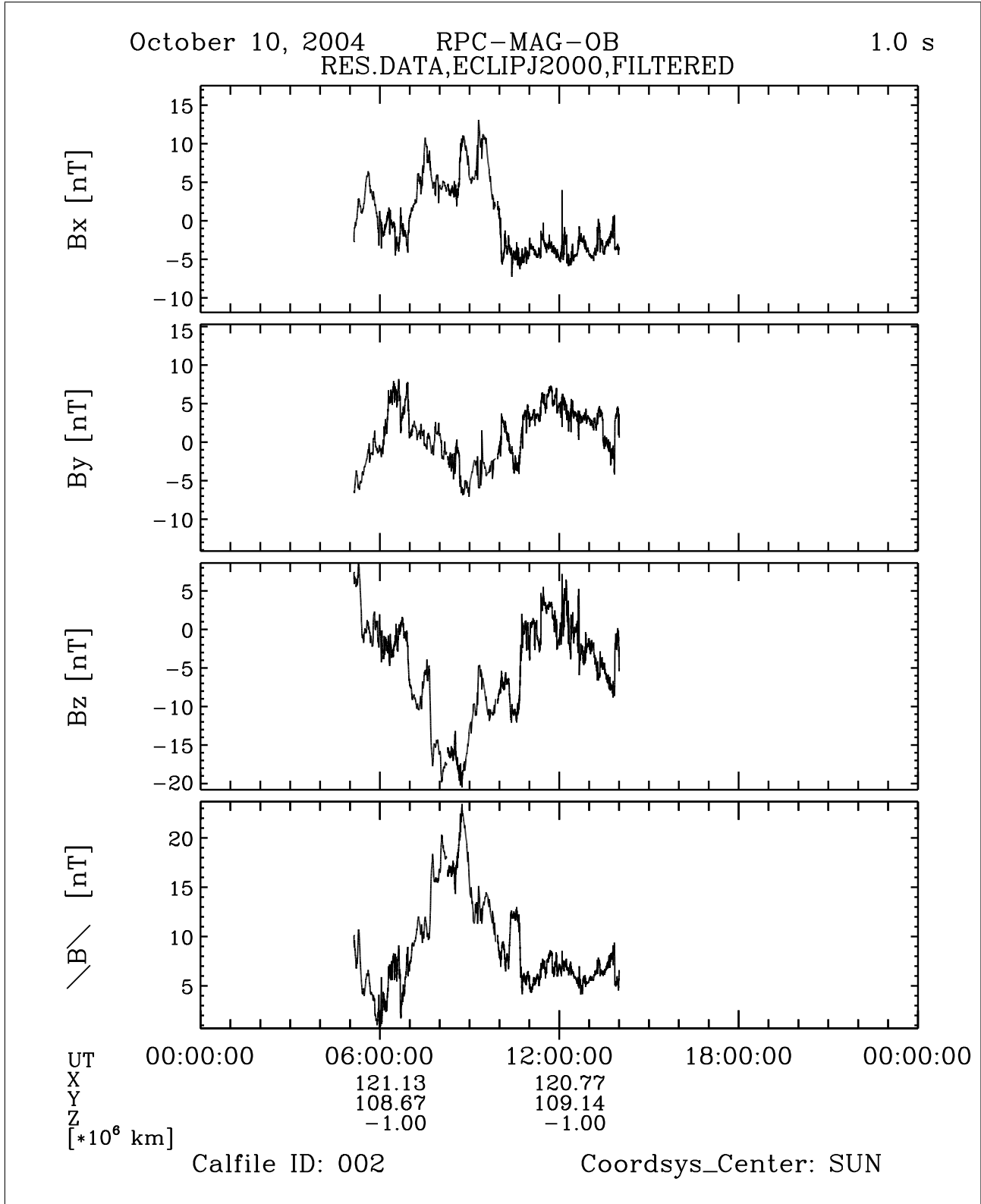


Figure 129: File: RPCMAG041010\_CLG\_OB\_A1\_T0000\_2400\_002

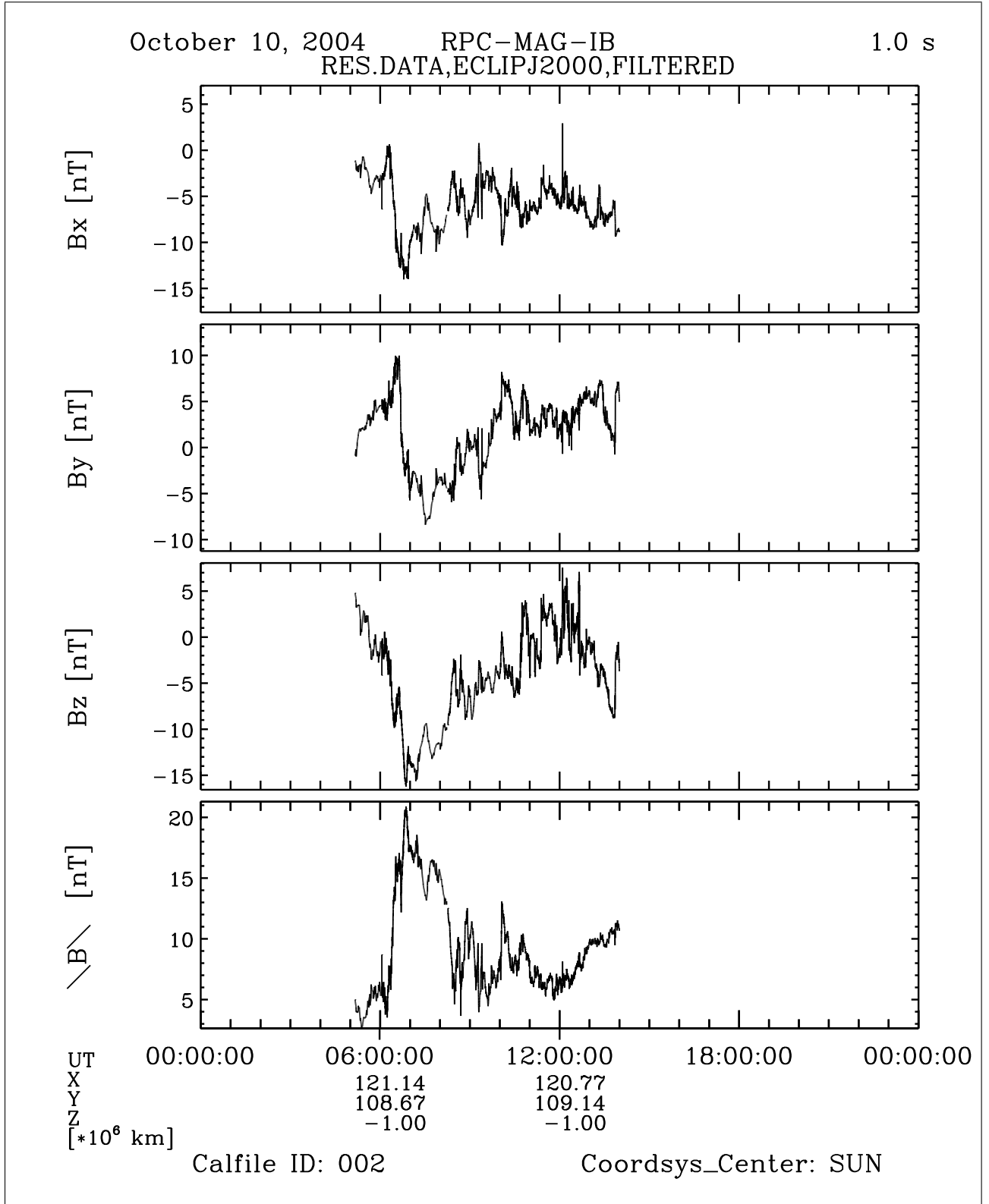


Figure 130: File: RPCMAG041010\_CLG\_IB\_A1\_T0000\_2400\_002

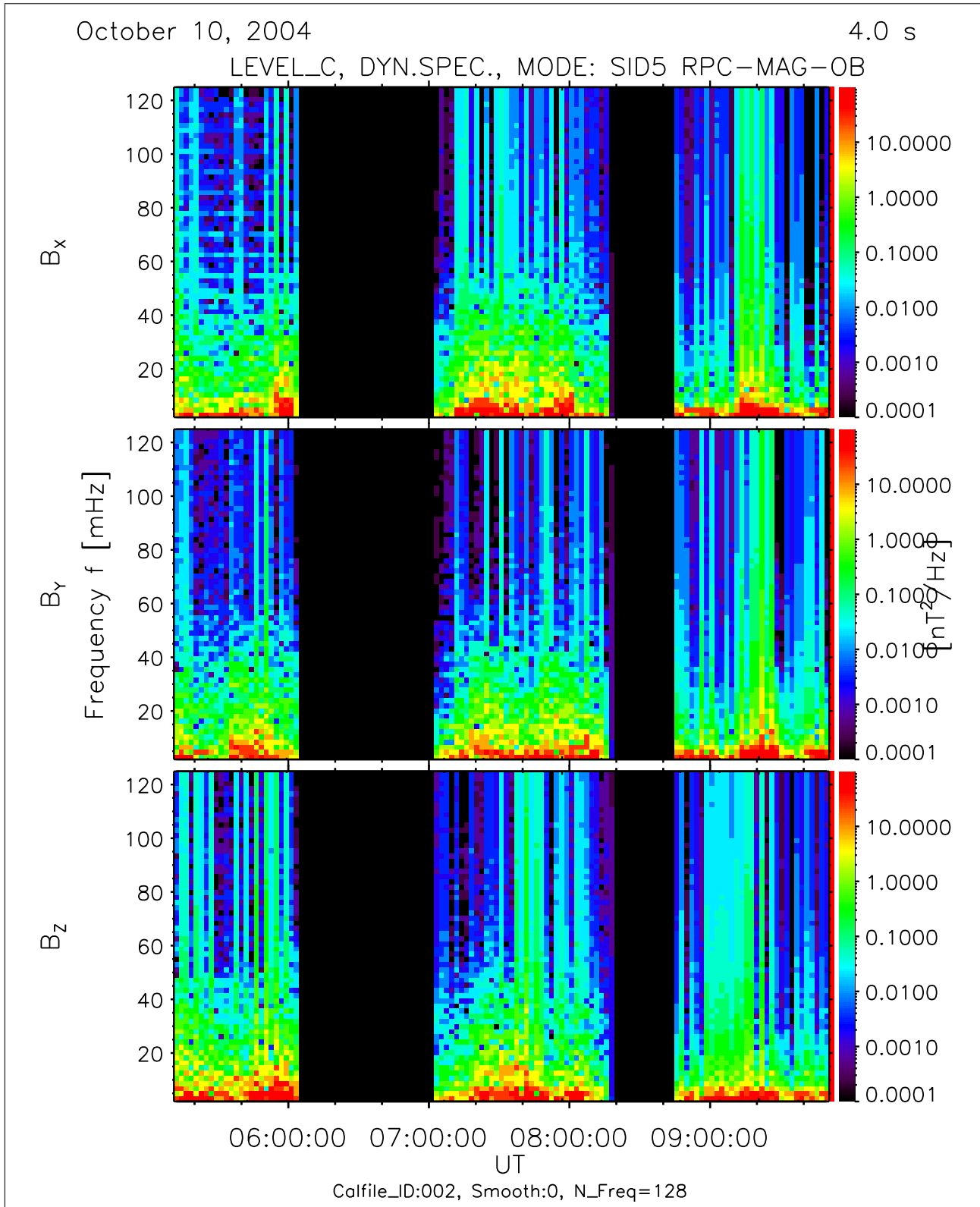


Figure 131: File: RPCMAG041010T0507\_CLC\_OB\_M5\_DS0\_10000\_002

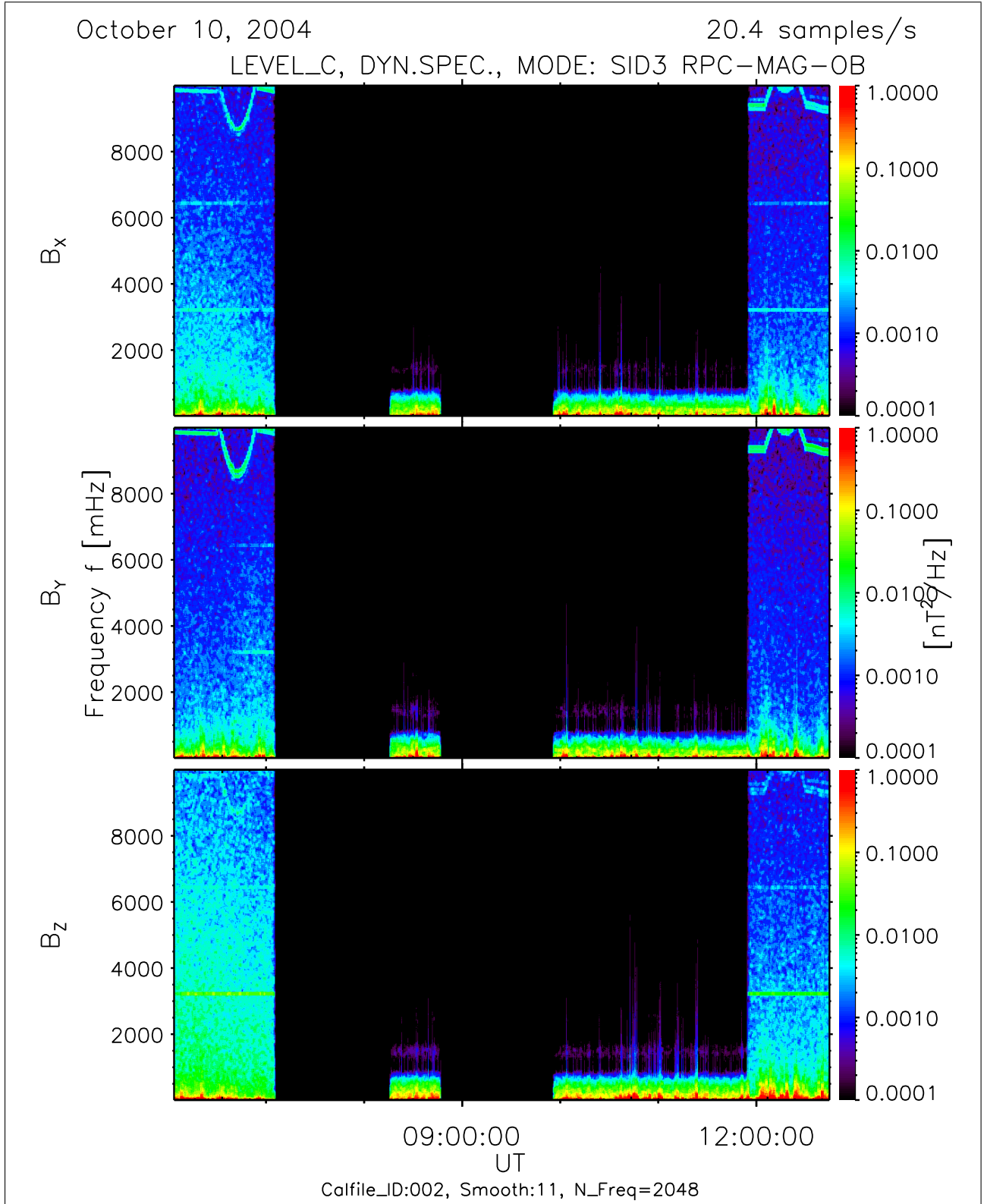


Figure 132: File: RPCMAG041010T0603\_CLC\_OB\_M3\_DS0\_10000\_002

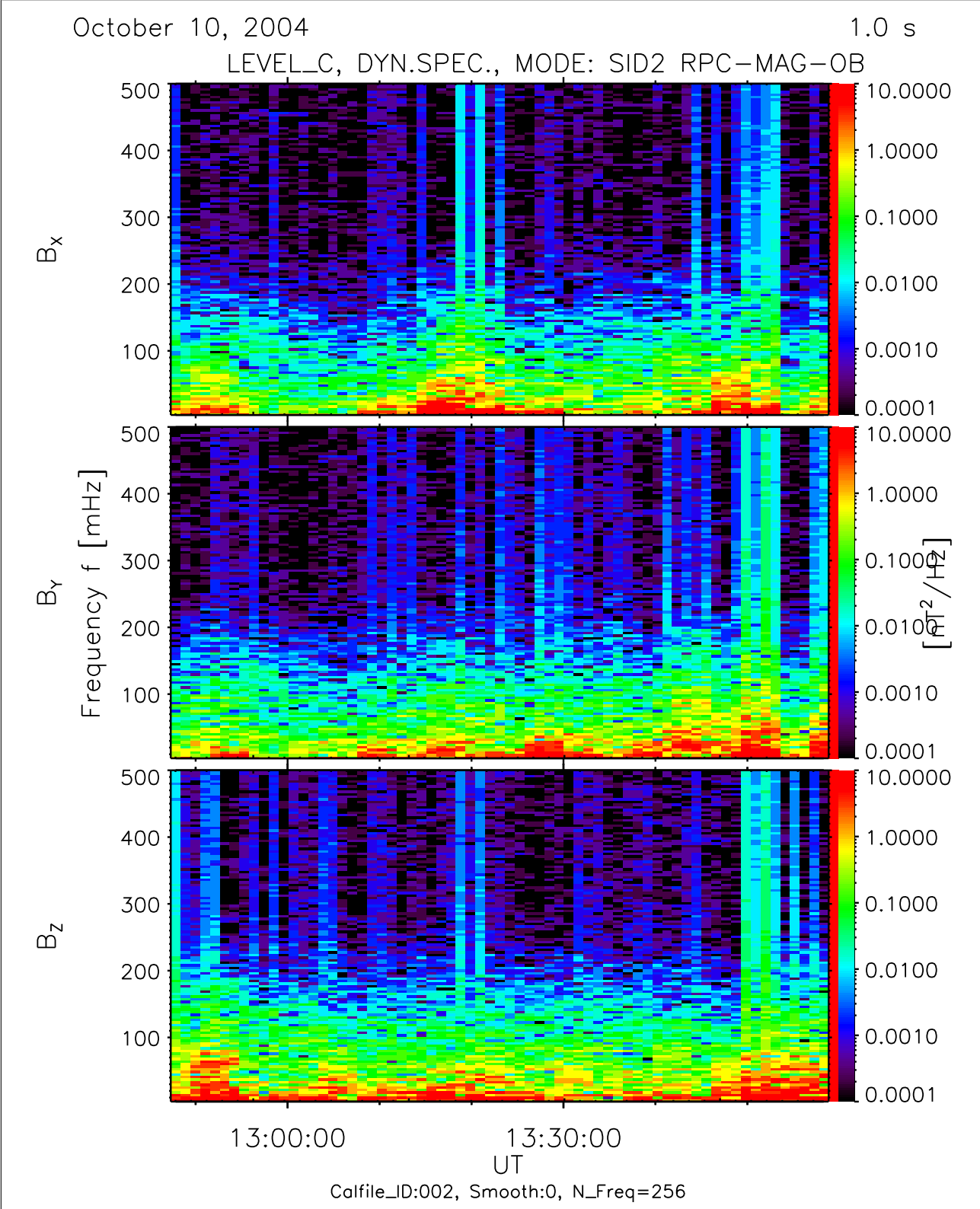


Figure 133: File: RPCMAG041010T1245\_CLC\_OB\_M2\_DS0\_10000\_002

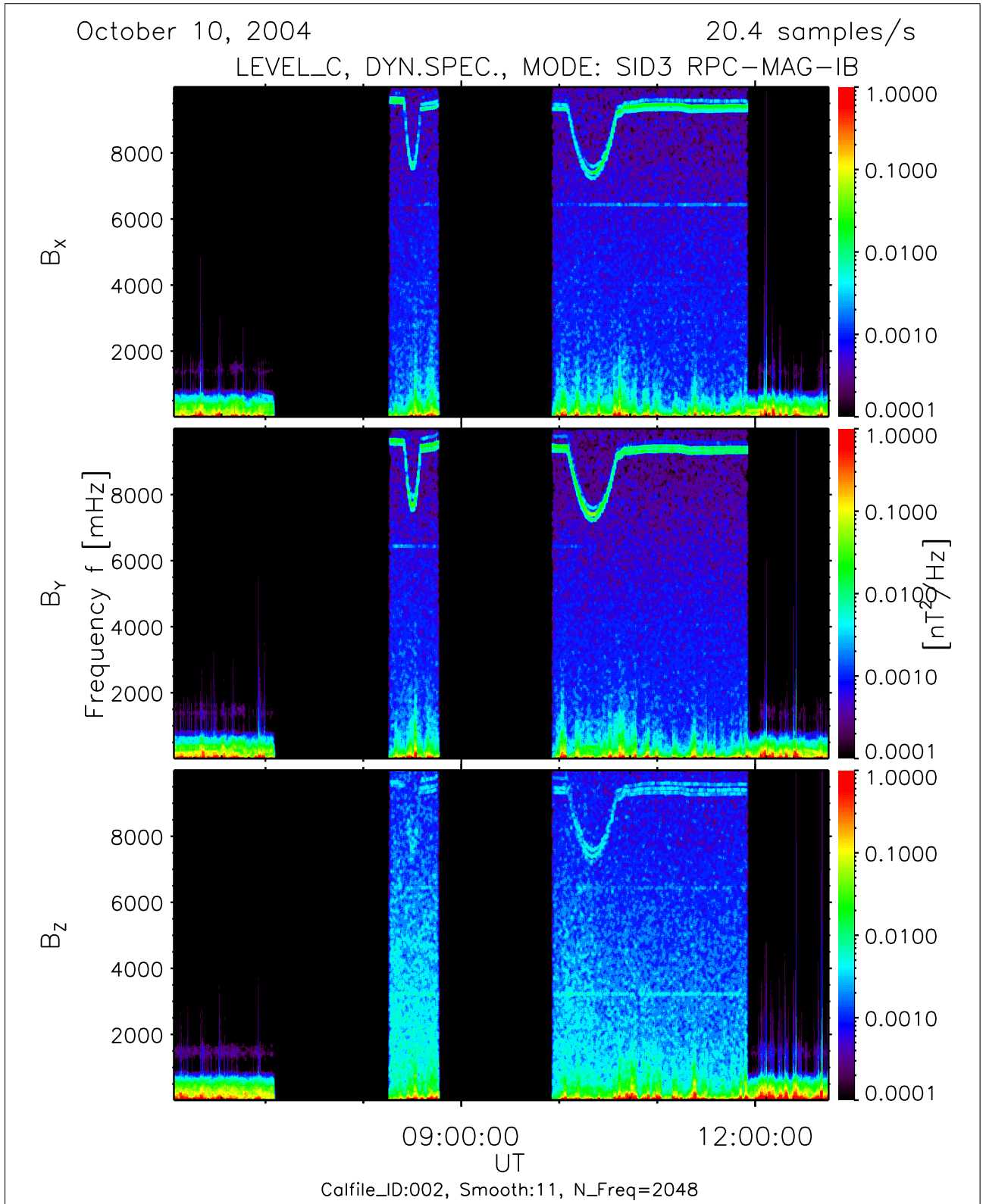


Figure 134: File: RPCMAG041010T0603\_CLC\_IB\_M3\_DS0\_10000\_002



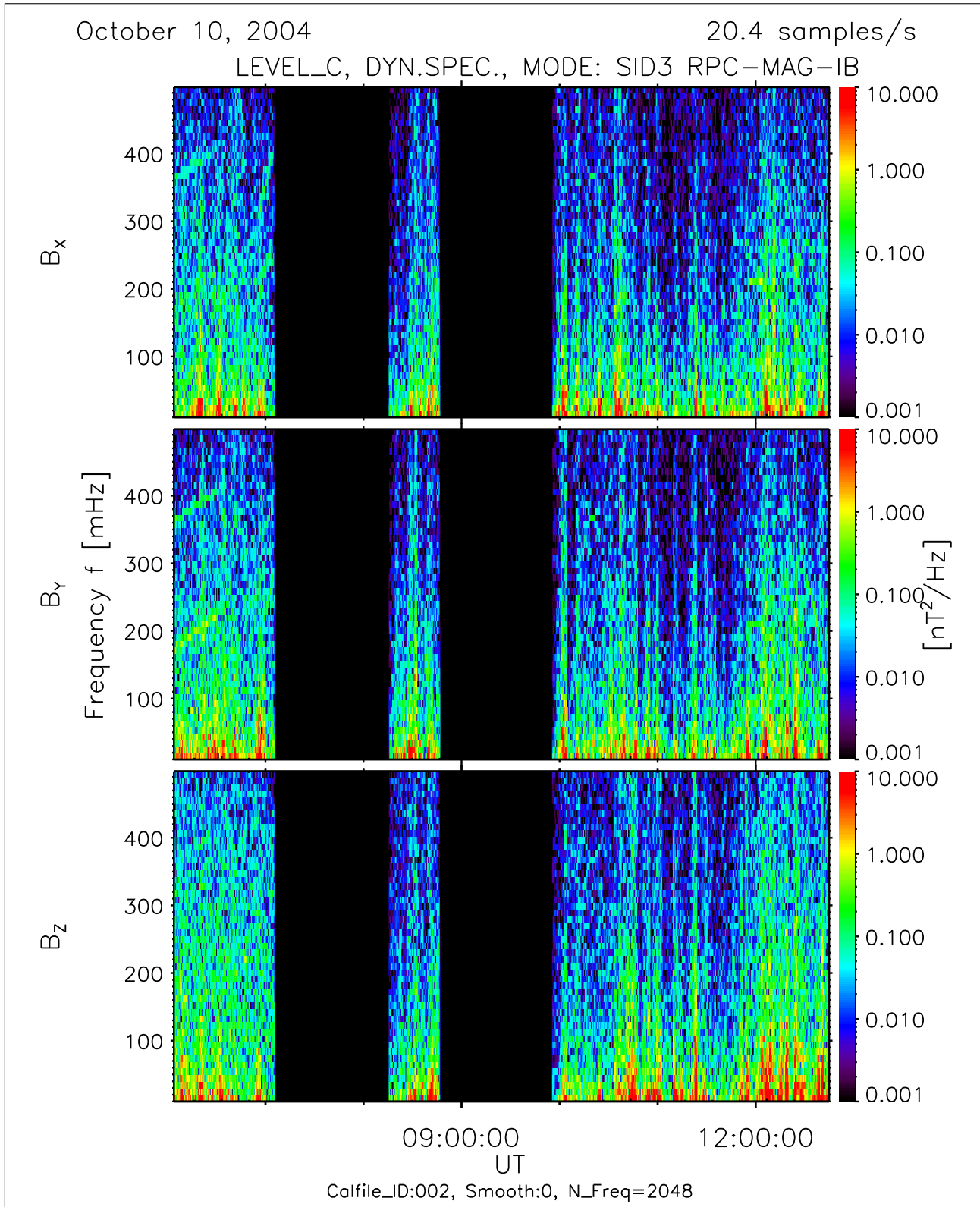


Figure 135: File: RPCMAG041010T0603\_CLC\_IB\_M3\_DS0\_500\_002

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### 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.

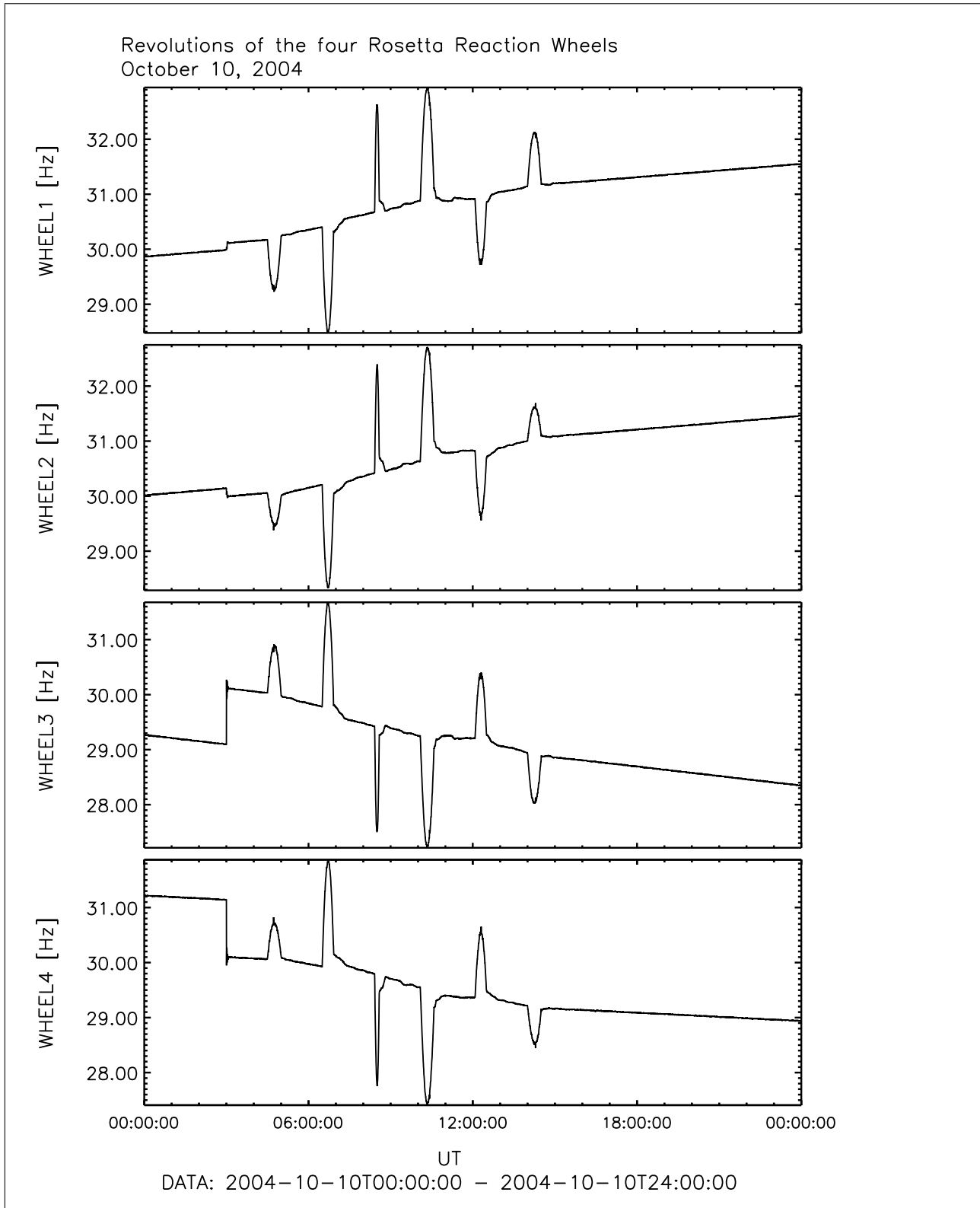


Figure 136: File: wheels\_Hz2004-10-10T00-00

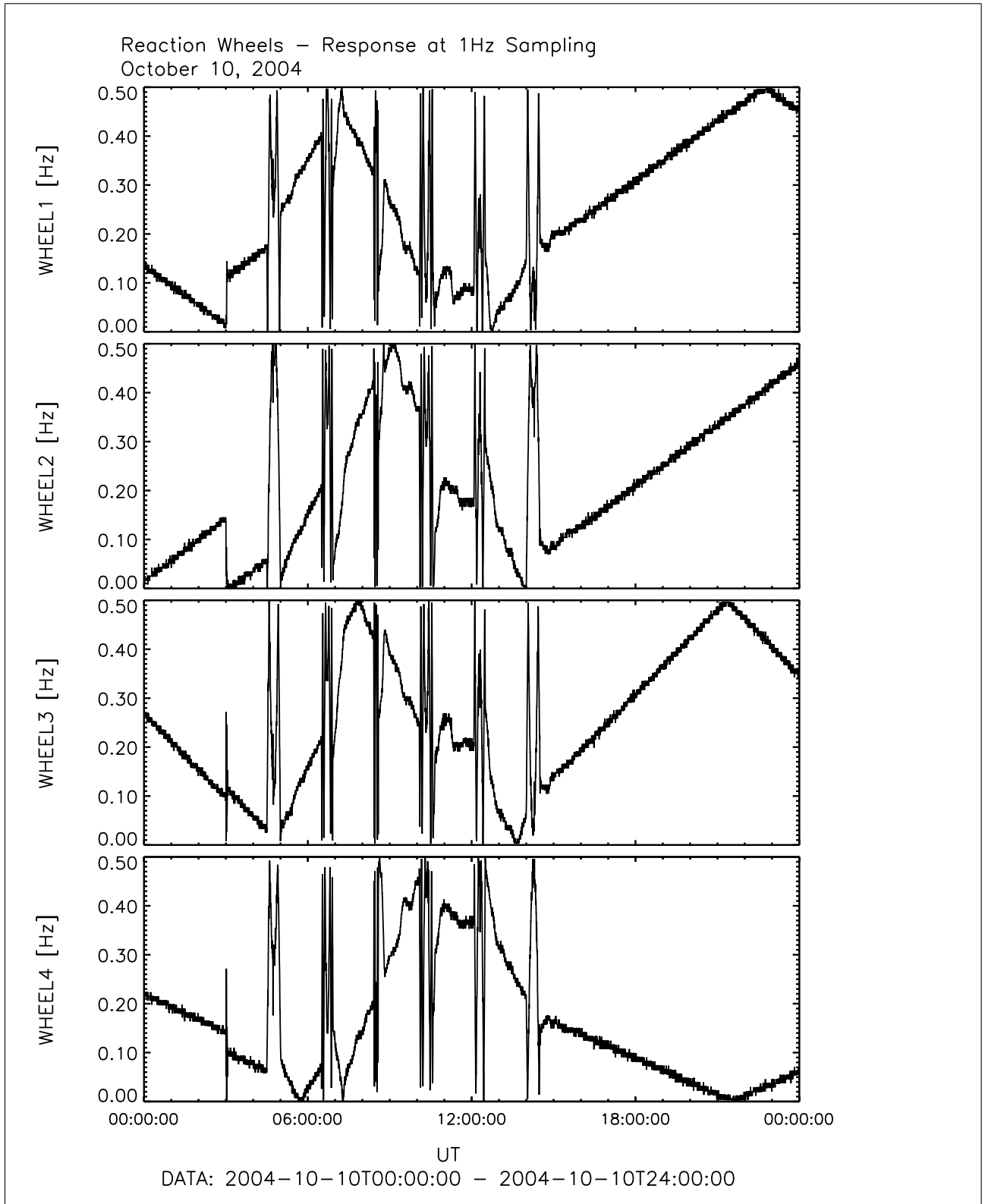


Figure 137: File: wheels\_1Hz\_Sampling2004-10-10T00-00

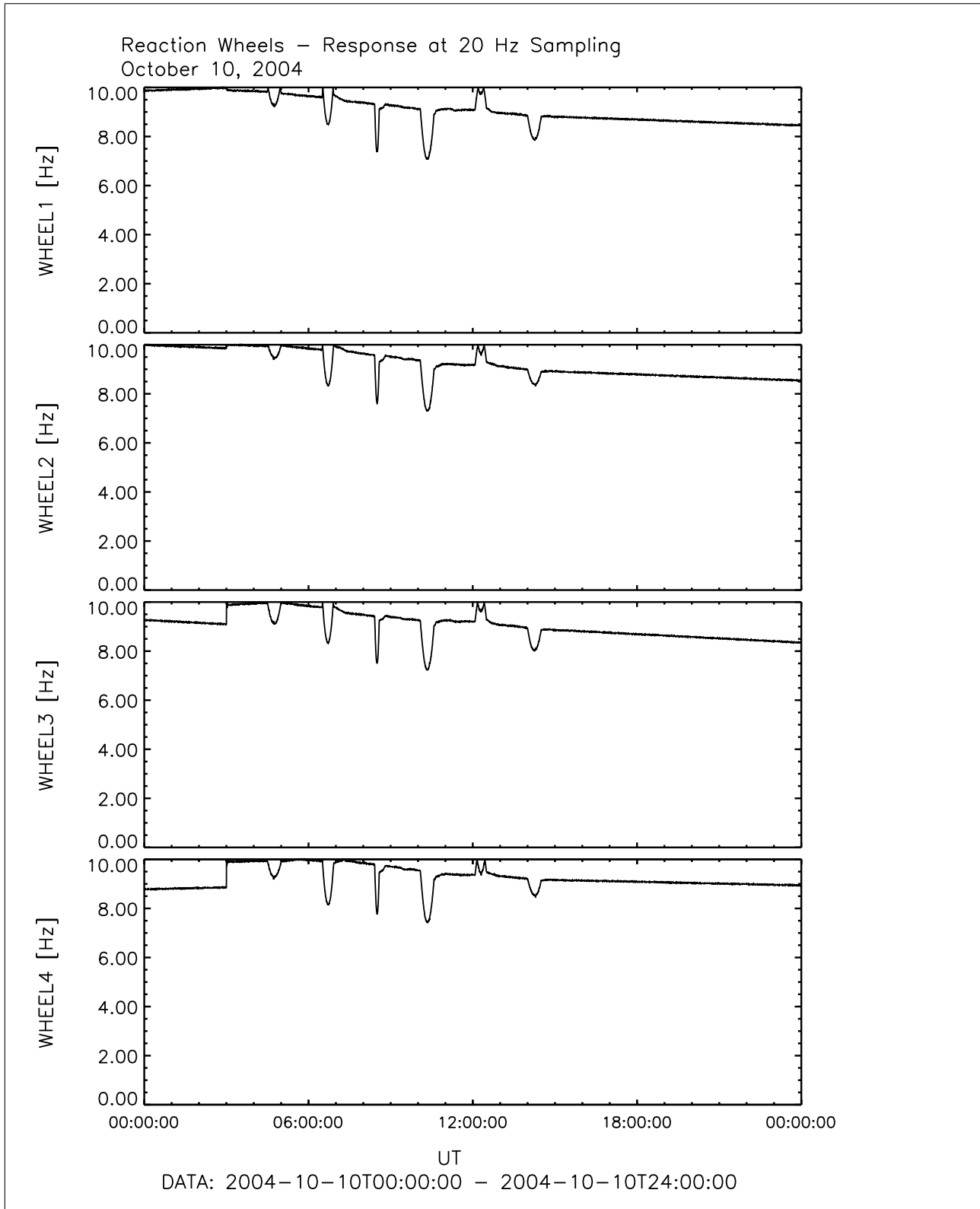


Figure 138: File: wheels\_20Hz\_Sampling2004-10-10T00-00

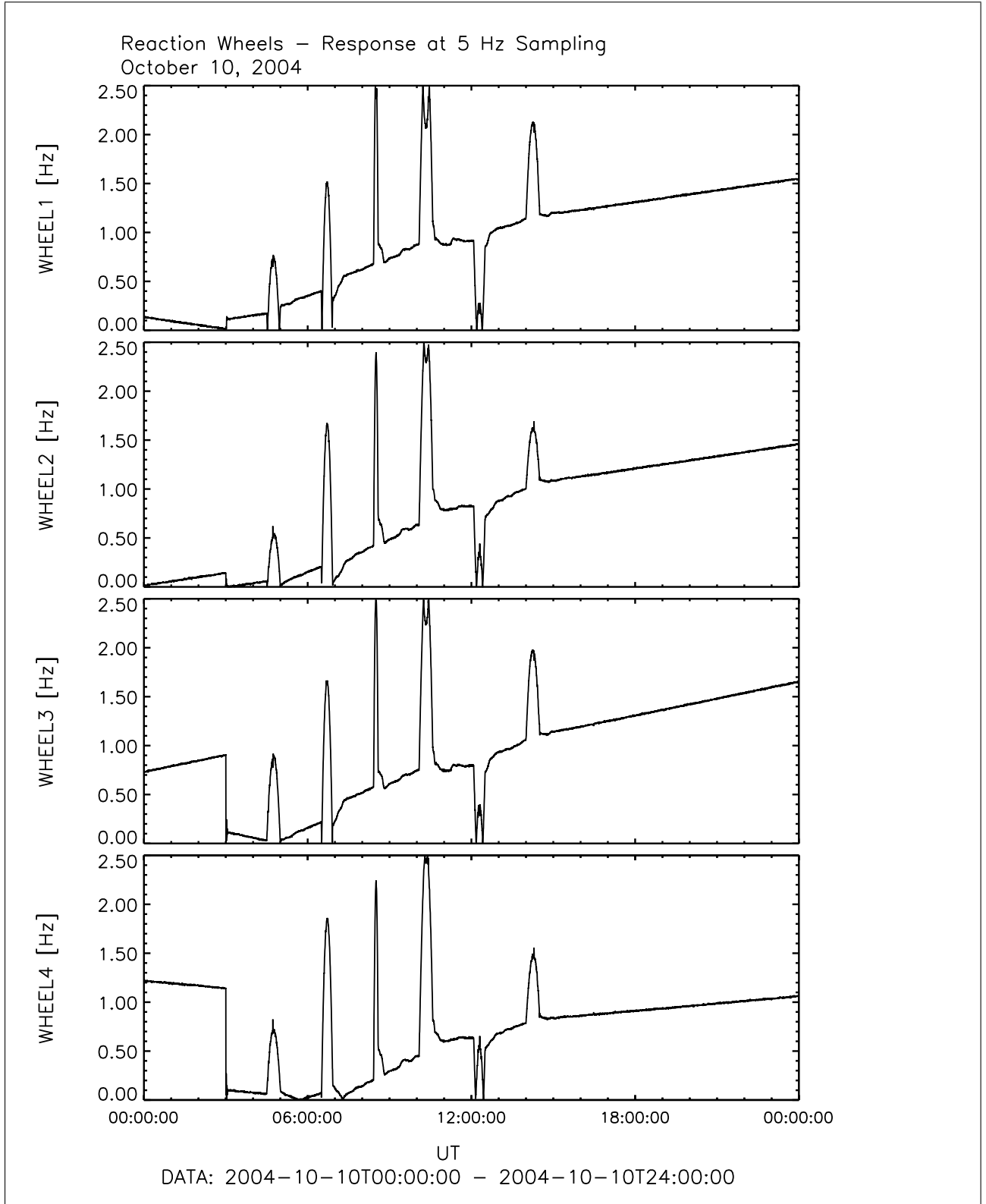


Figure 139: File: wheels\_5Hz\_Sampling2004-10-10T00-00

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#### 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.

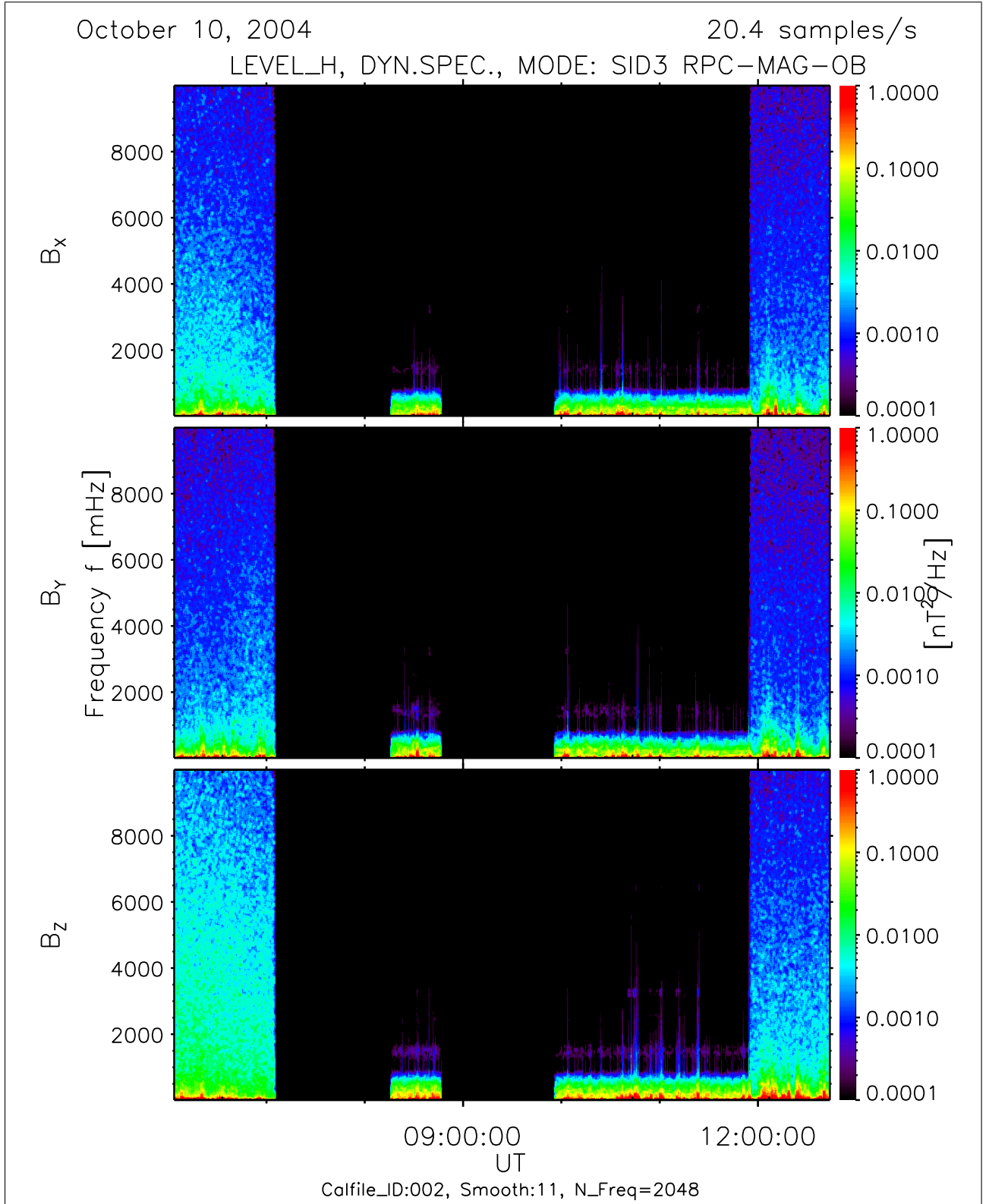


Figure 140: File: RPCMAG041010T0603\_CLH\_OB\_M3\_DS0\_10000\_002



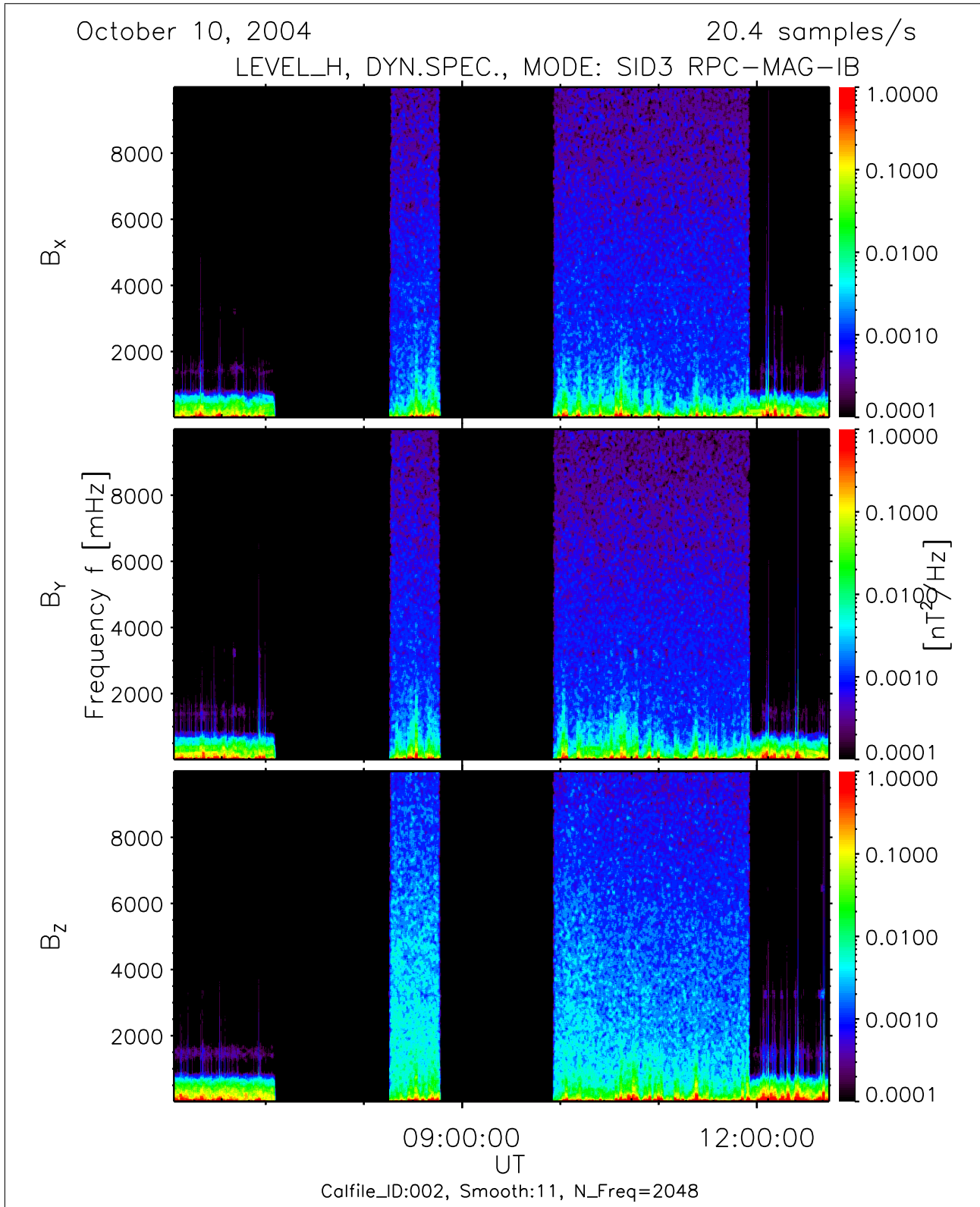


Figure 141: File: RPCMAG041010T0603\_CLH\_IB\_M3\_DS0.10000.002

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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

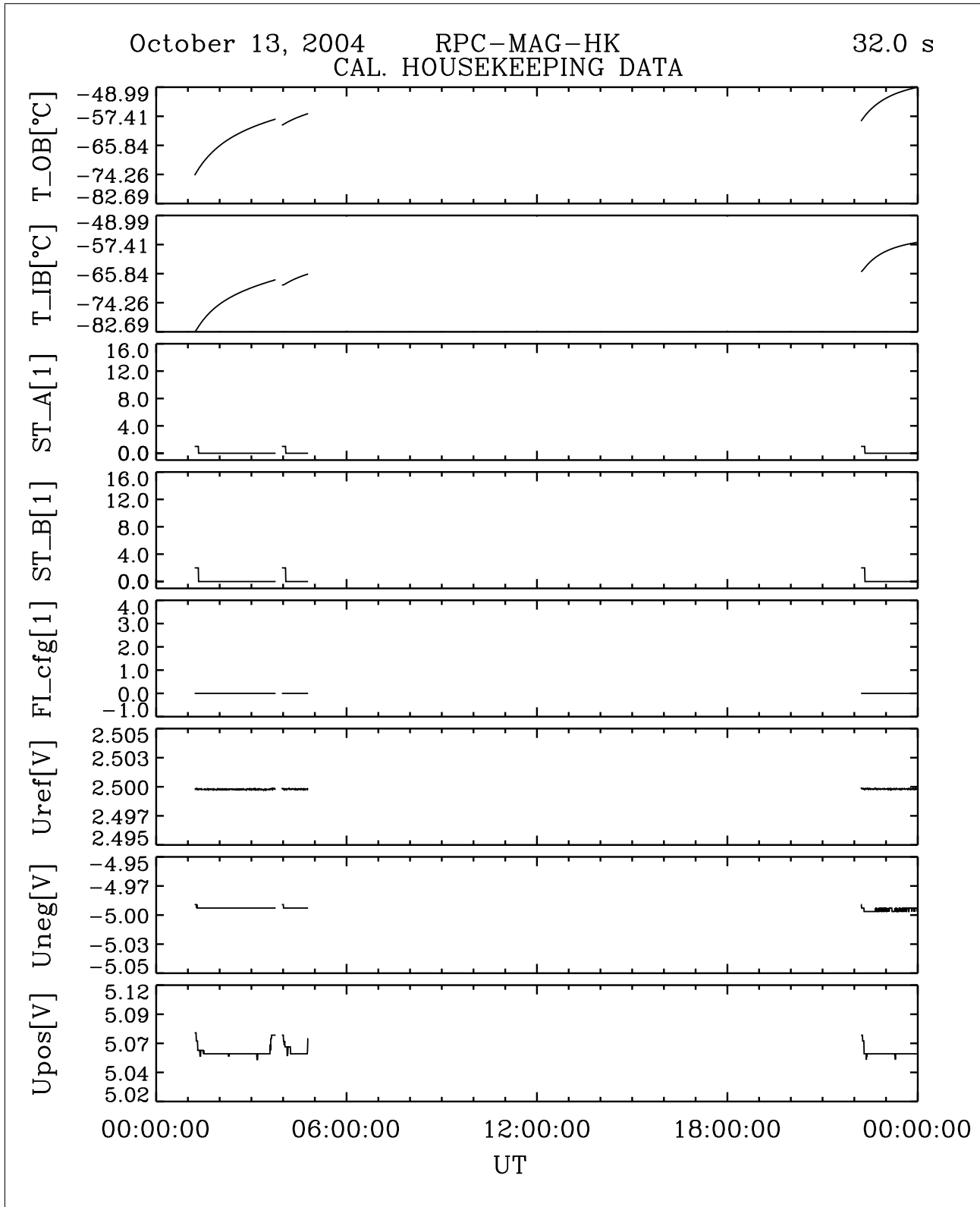


Figure 142: File: RPCMAG041013T0112\_CLA\_HK\_P0000\_2400

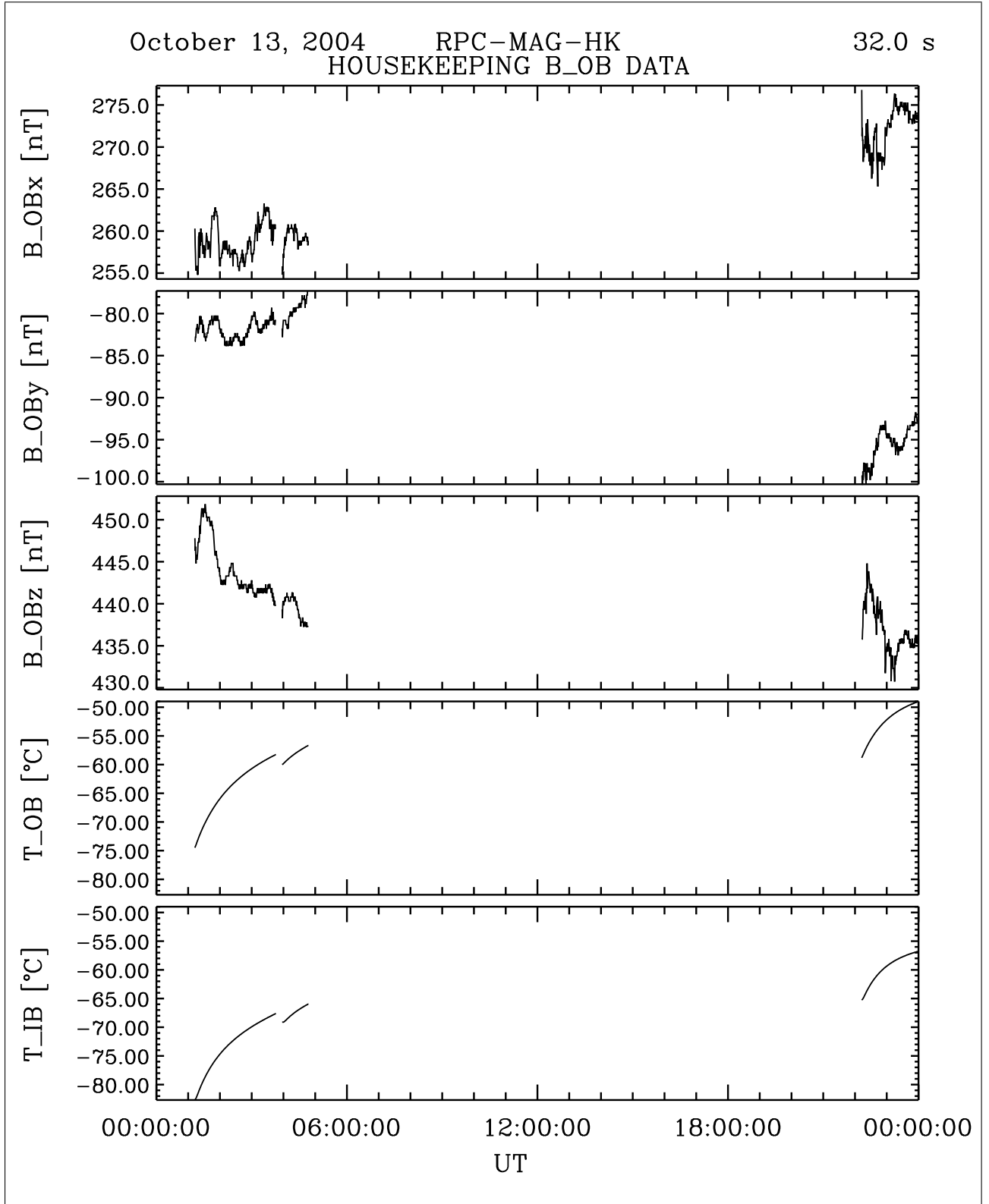


Figure 143: File: RPCMAG041013T0112\_CLA\_HK\_B\_P0000\_2400

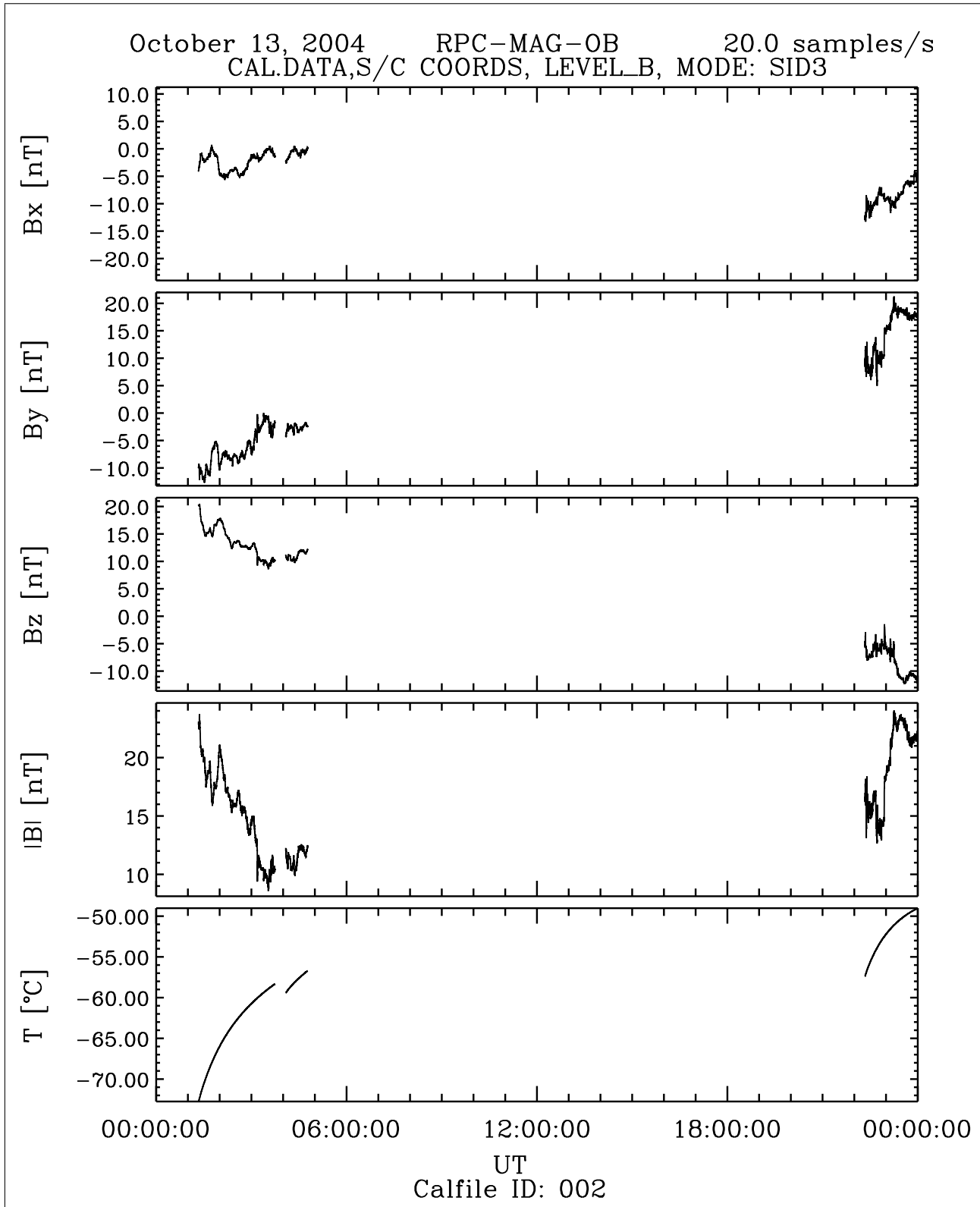


Figure 144: File: RPCMAG041013T0119\_CLB\_OB\_M3\_T0000\_2400\_002

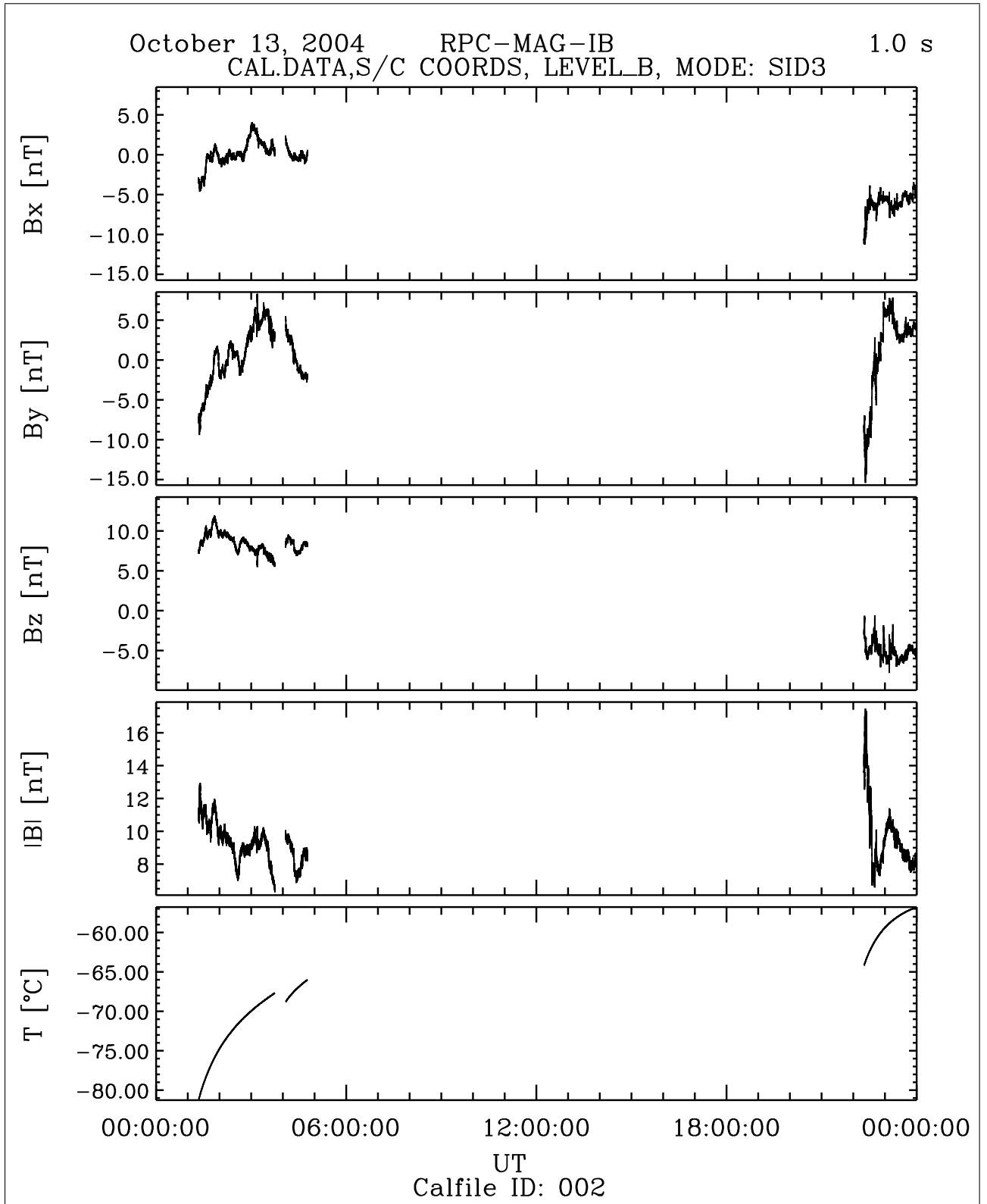


Figure 145: File: RPCMAG041013T0119\_CLB\_IB\_M3\_T0000\_2400\_002

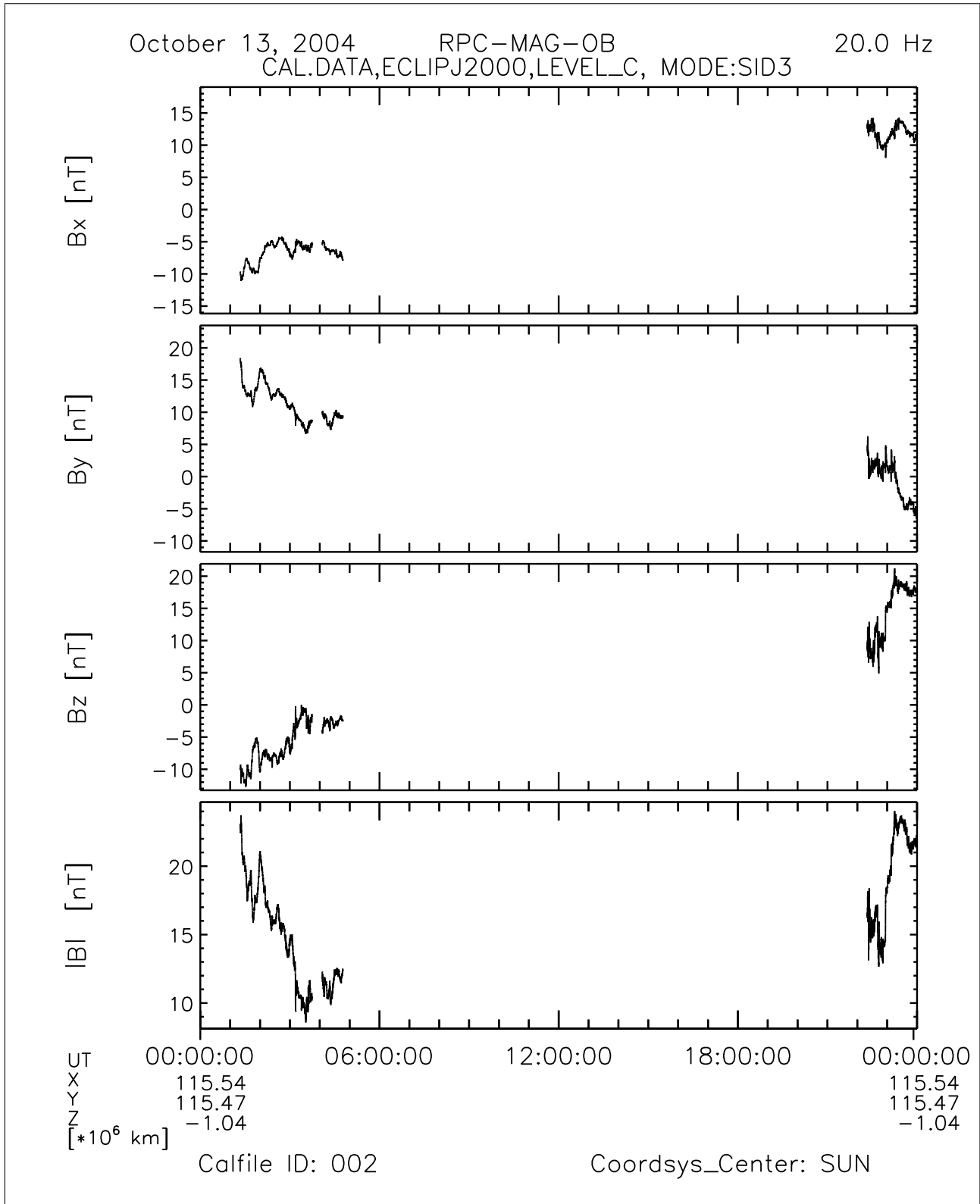


Figure 146: File: RPCMAG041013T0119\_CLC\_OB\_M3\_T0000\_2400\_002

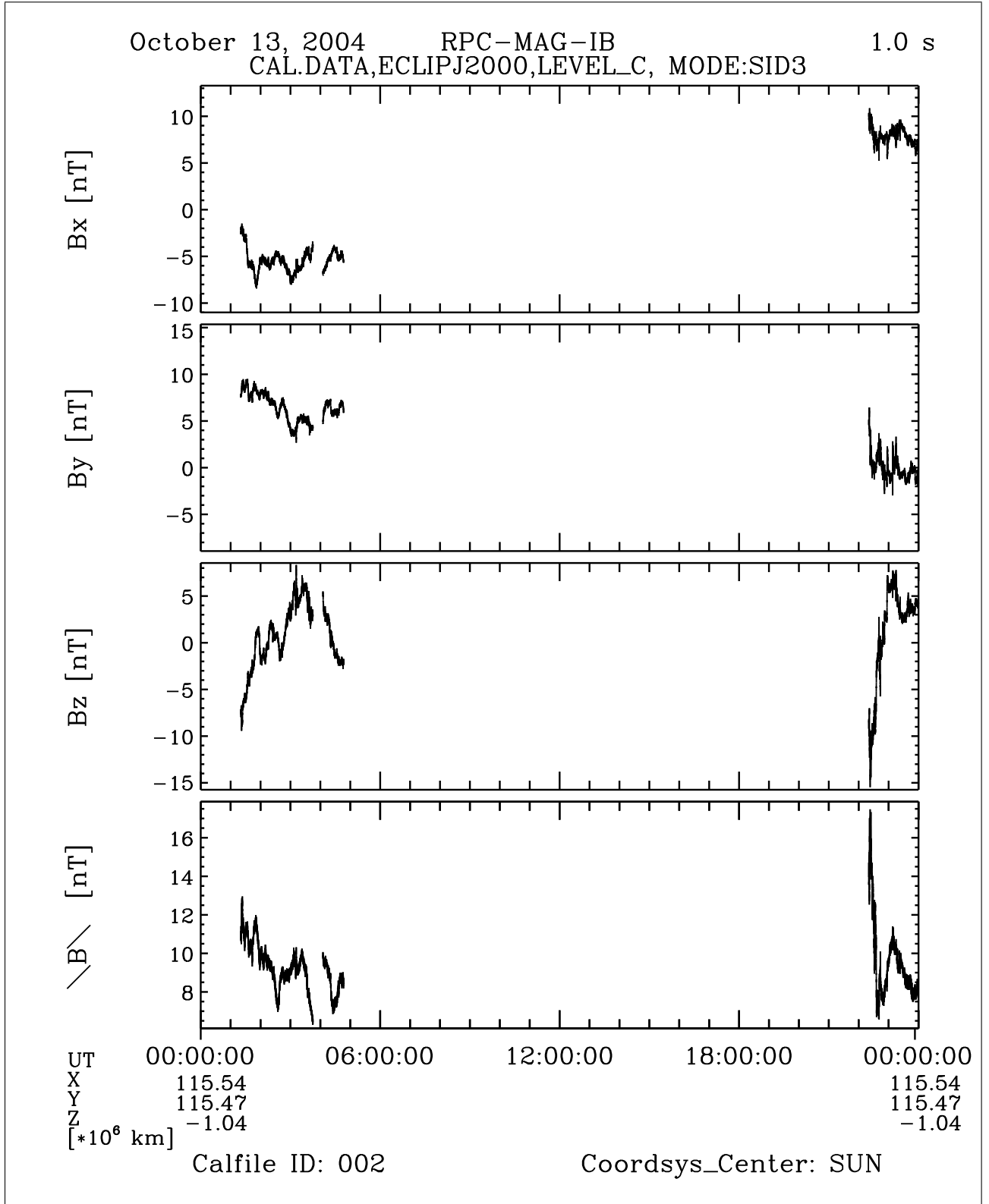


Figure 147: File: RPCMAG041013T0119\_CLC\_IB\_M3\_T0000\_2400\_002



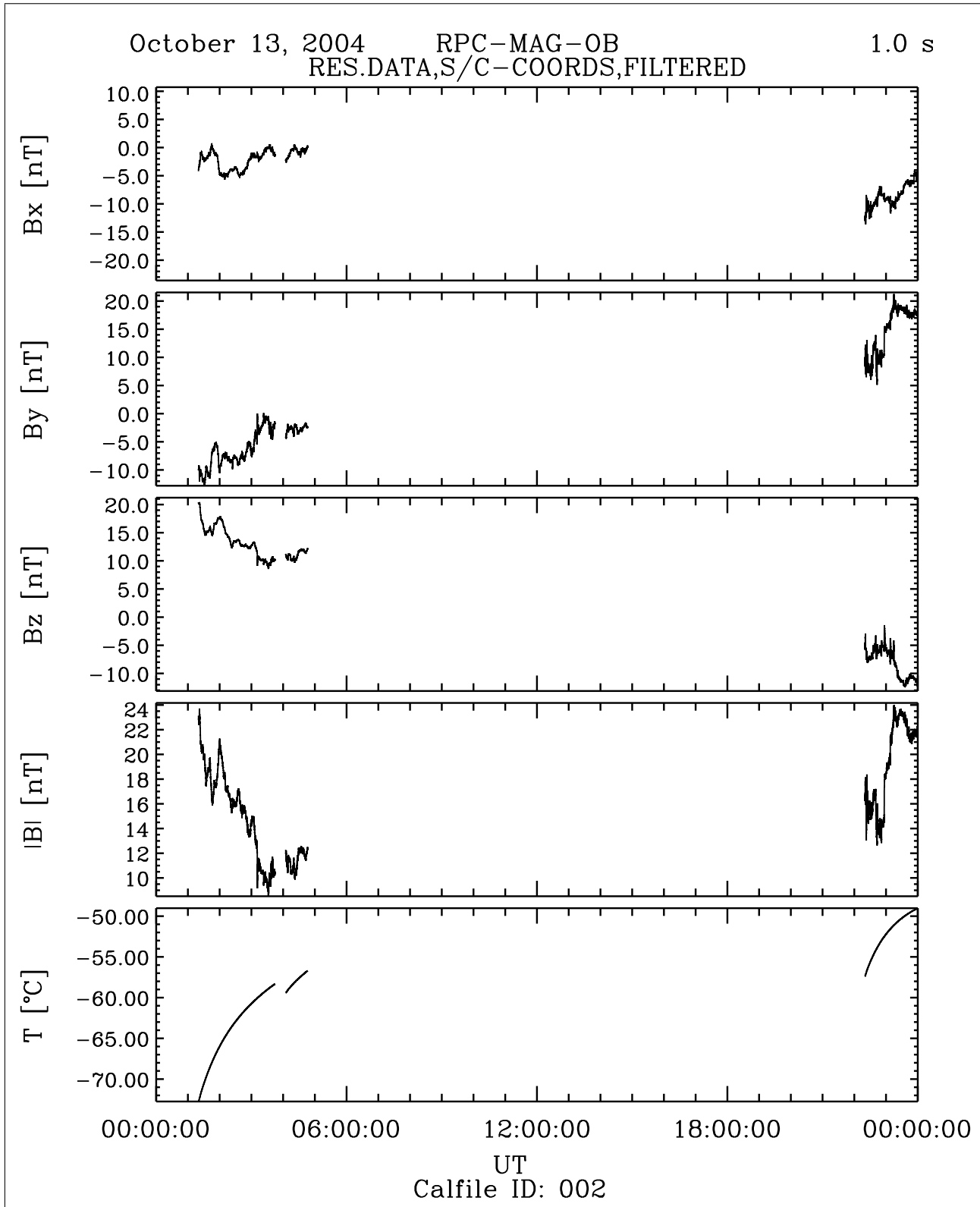


Figure 148: File: RPCMAG041013\_CLF\_OB\_A1\_T0000\_2400\_002

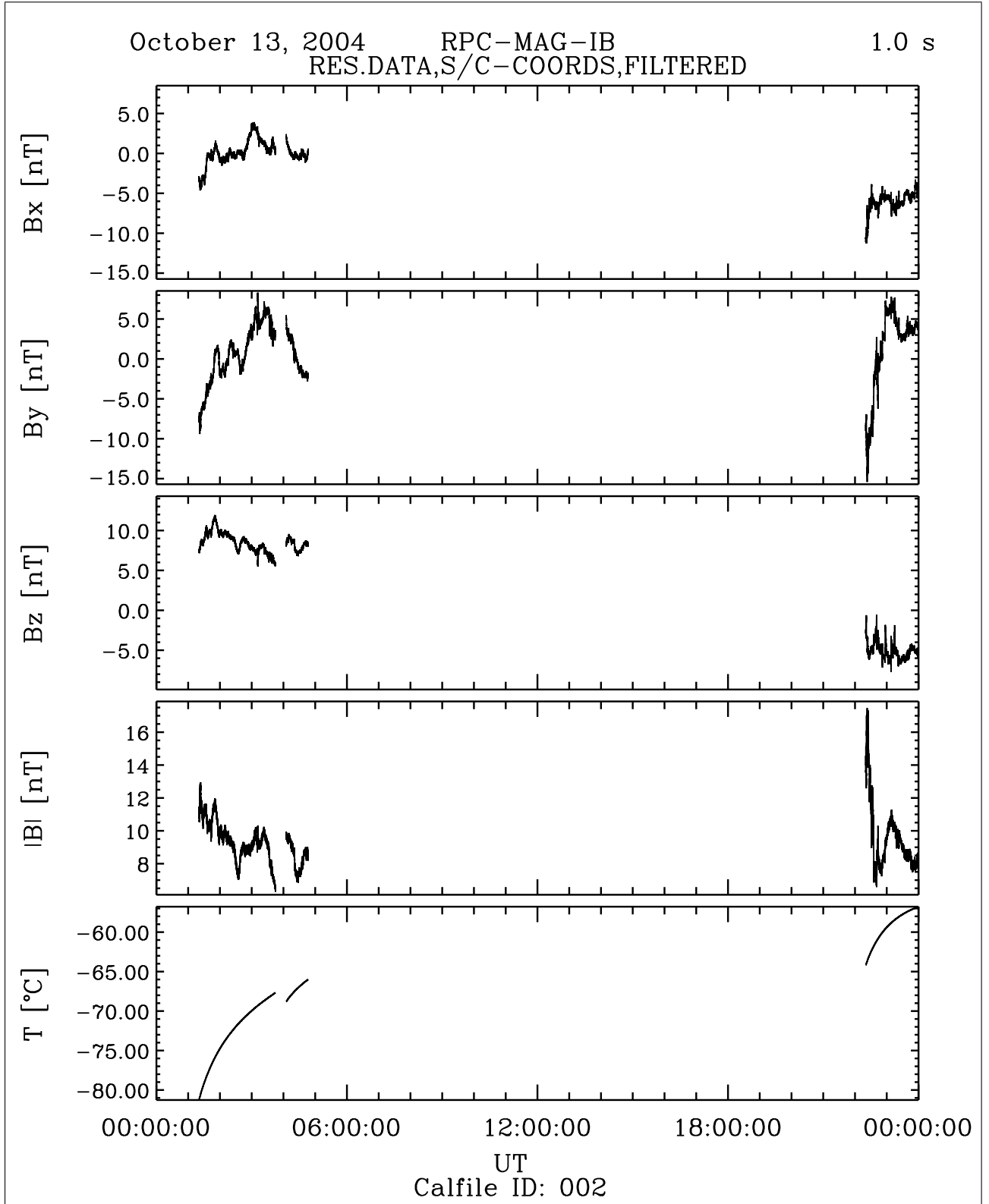


Figure 149: File: RPCMAG041013\_CLF\_IB\_A1\_T0000\_2400\_002

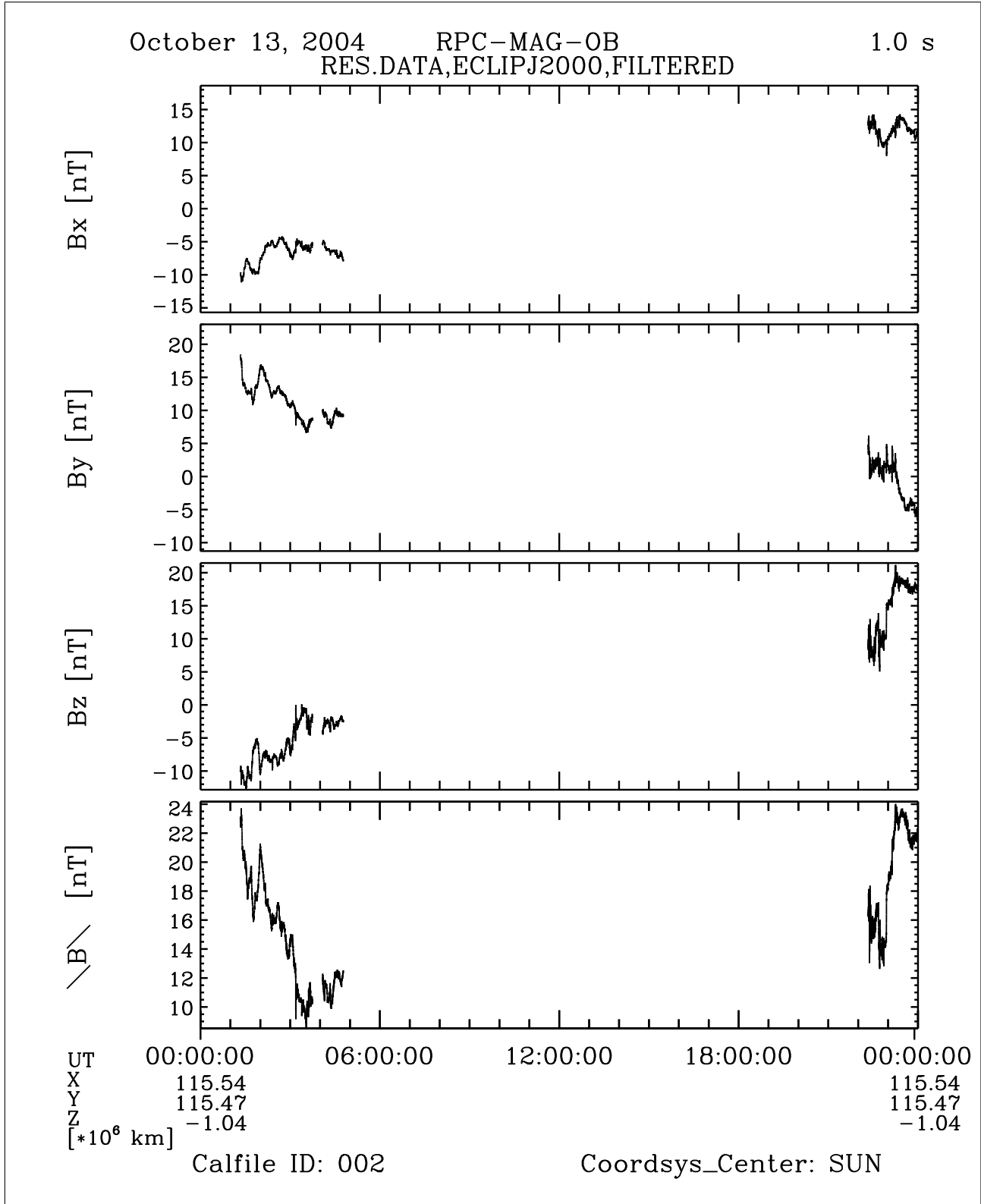


Figure 150: File: RPCMAG041013\_CLG\_OB\_A1\_T0000\_2400\_002

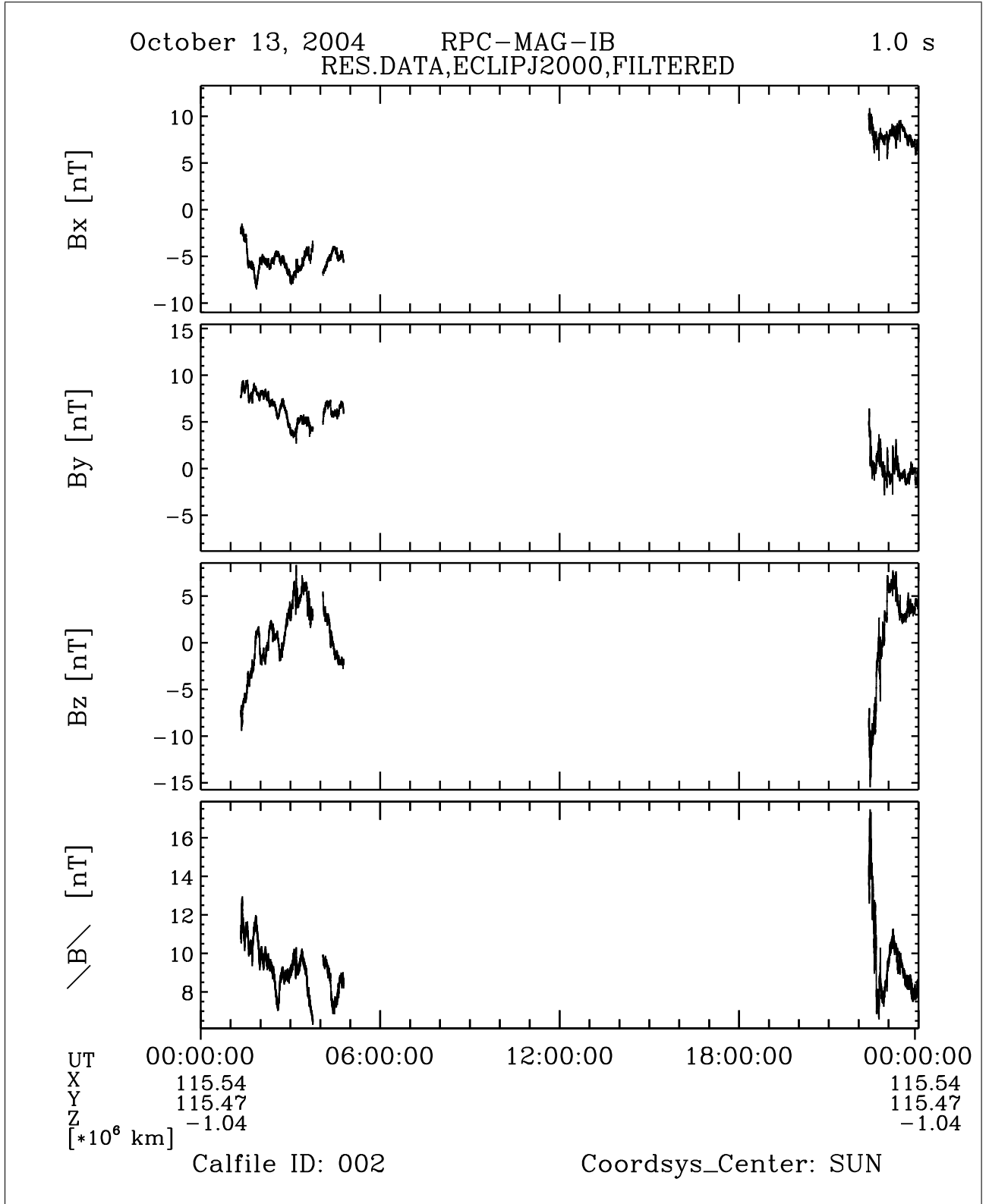


Figure 151: File: RPCMAG041013\_CLG\_IB\_A1\_T0000\_2400\_002

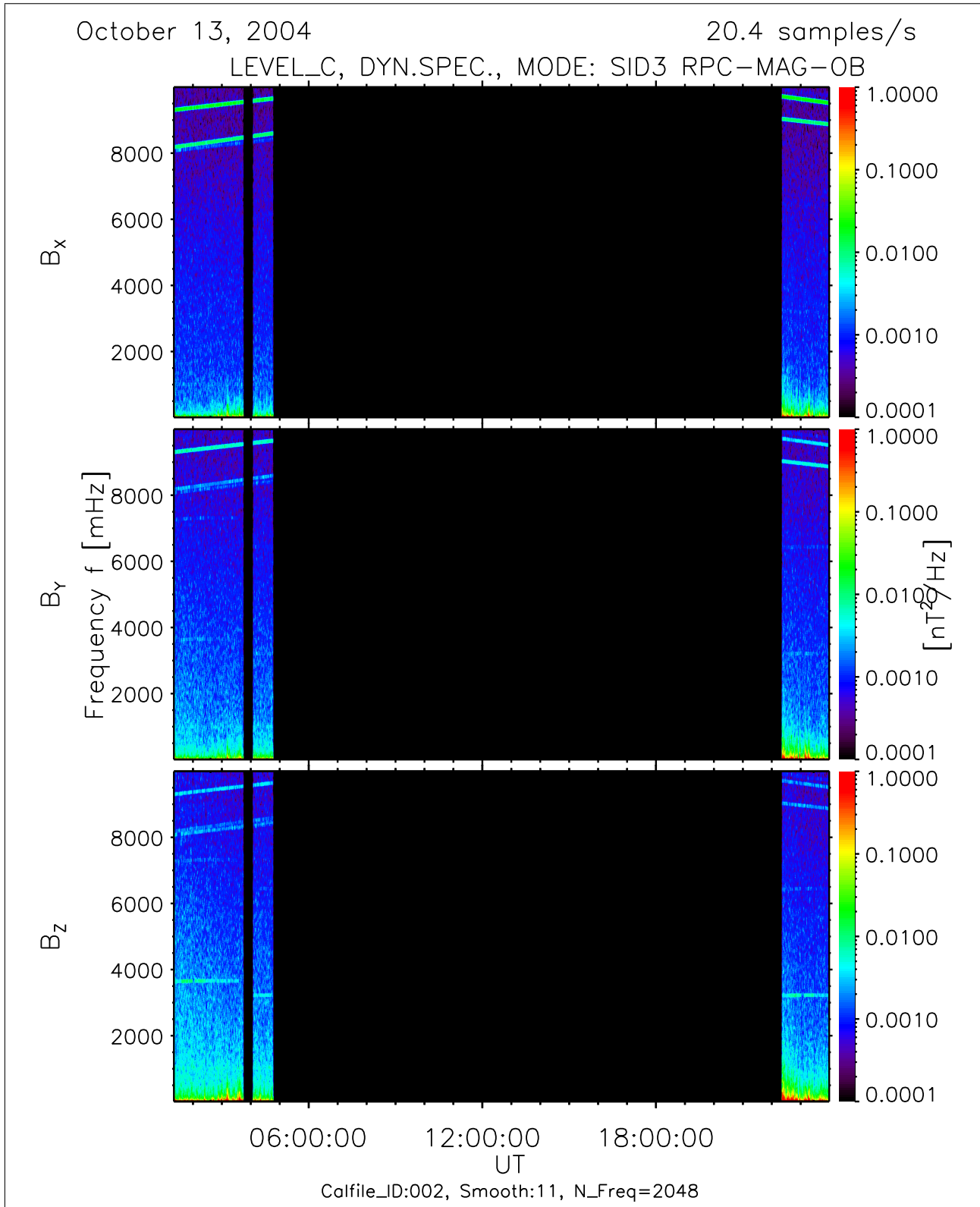


Figure 152: File: RPCMAG041013T0119\_CLC\_OB\_M3\_DS0\_10000\_002

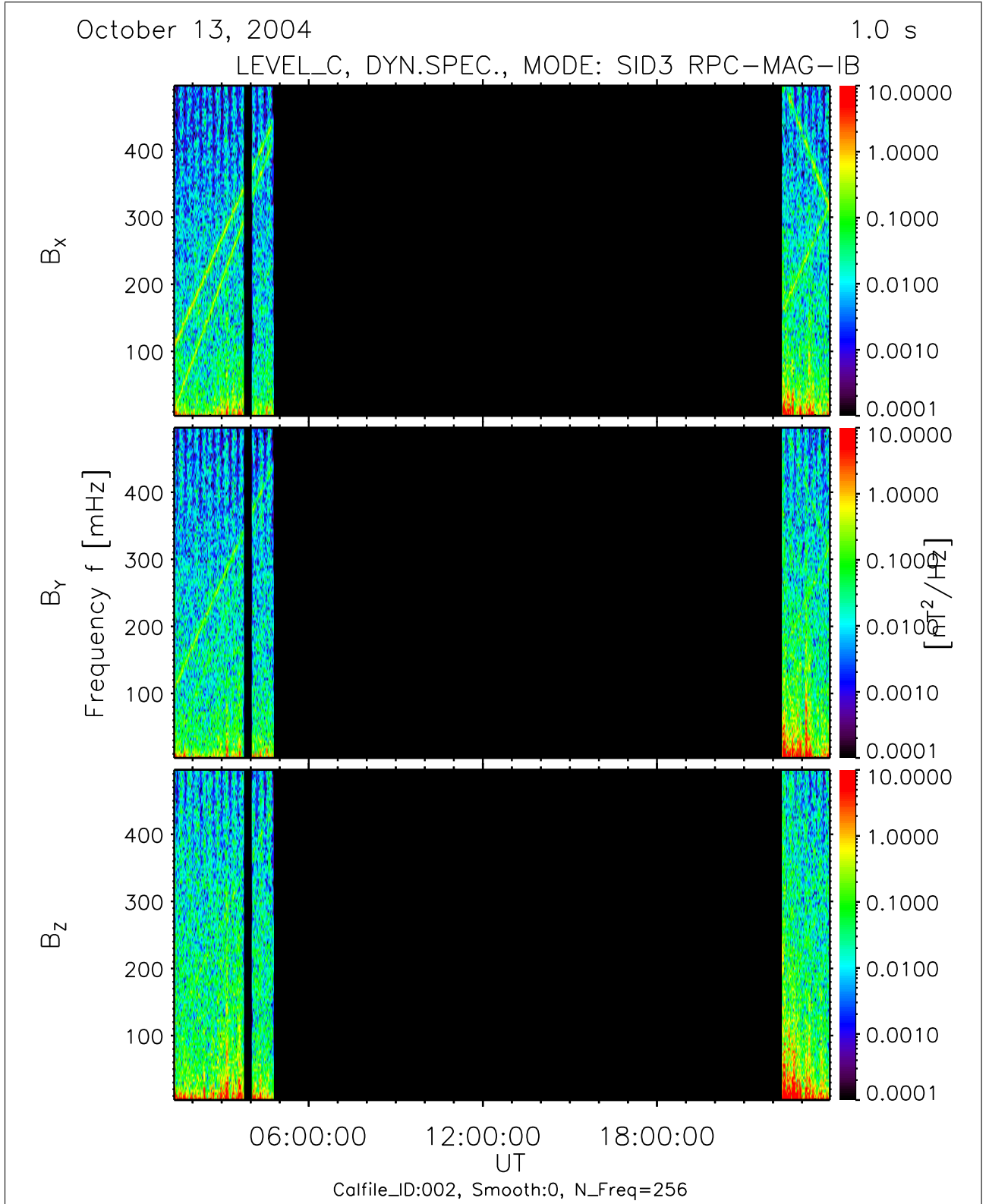


Figure 153: File: RPCMAG041013T0119\_CLC\_IB\_M3\_DS0\_10000\_002

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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.

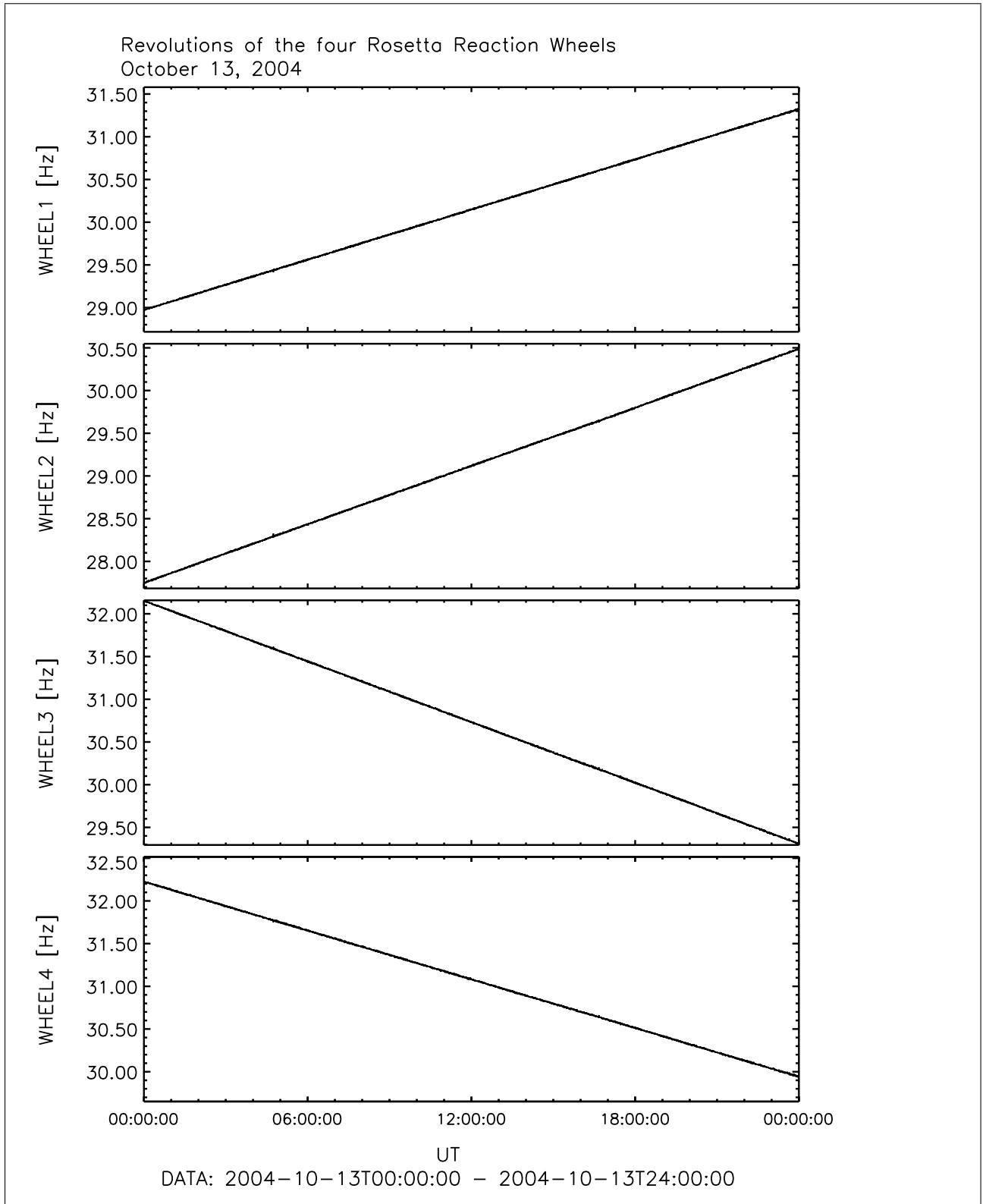


Figure 154: File: wheels\_Hz2004-10-13T00-00



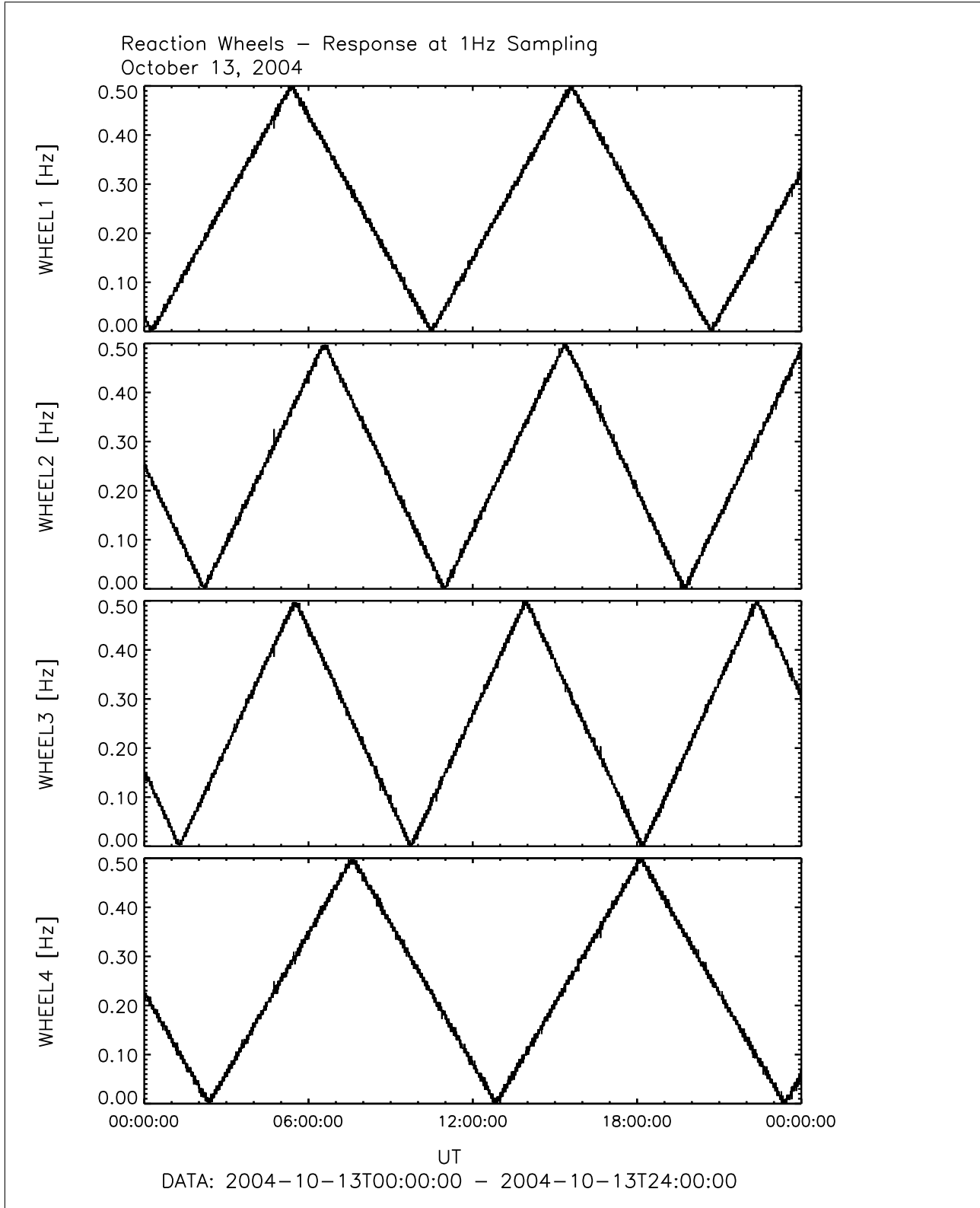


Figure 155: File: wheels\_1Hz\_Sampling2004-10-13T00-00

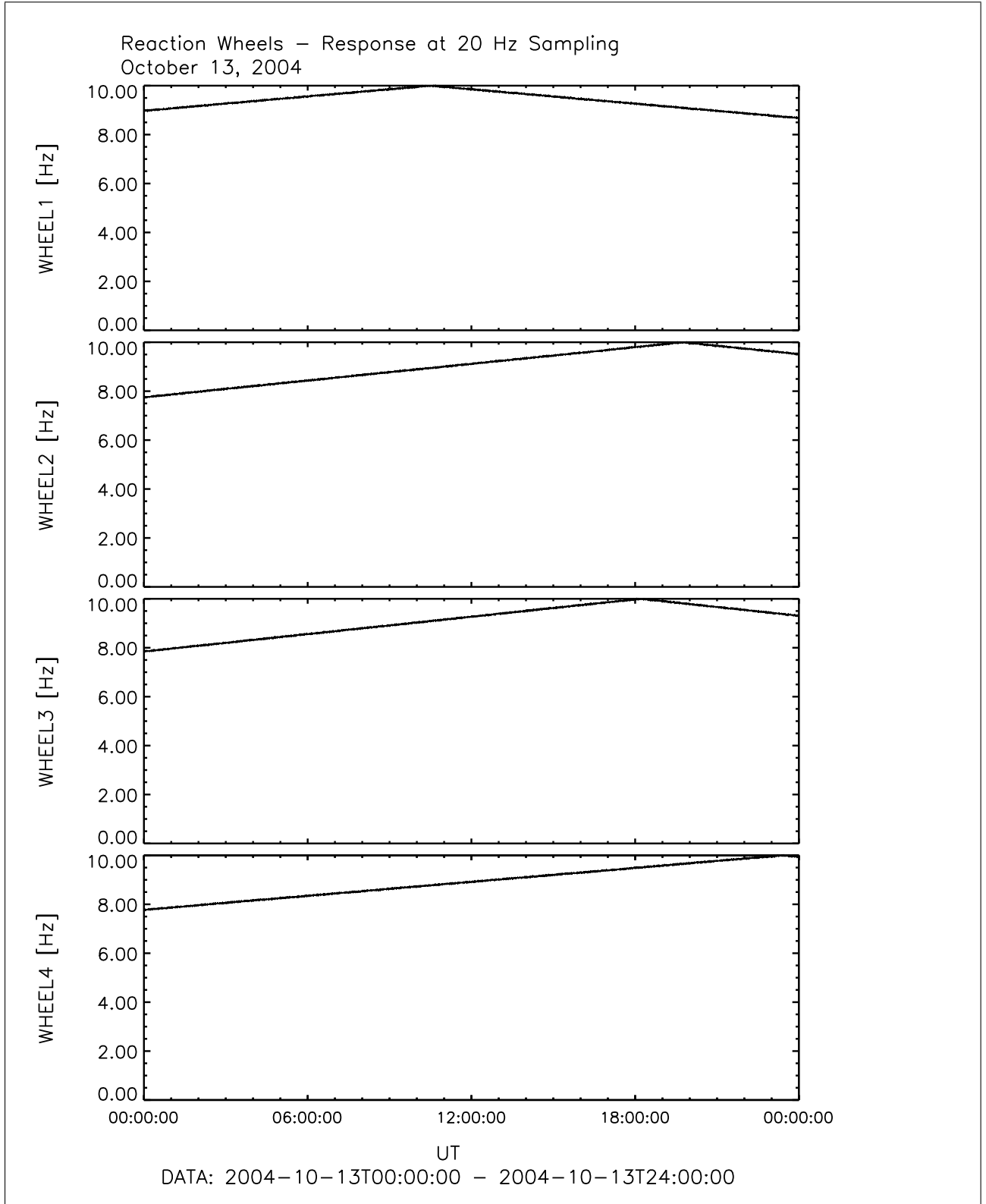


Figure 156: File: wheels\_20Hz\_Sampling2004-10-13T00-00

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#### 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.

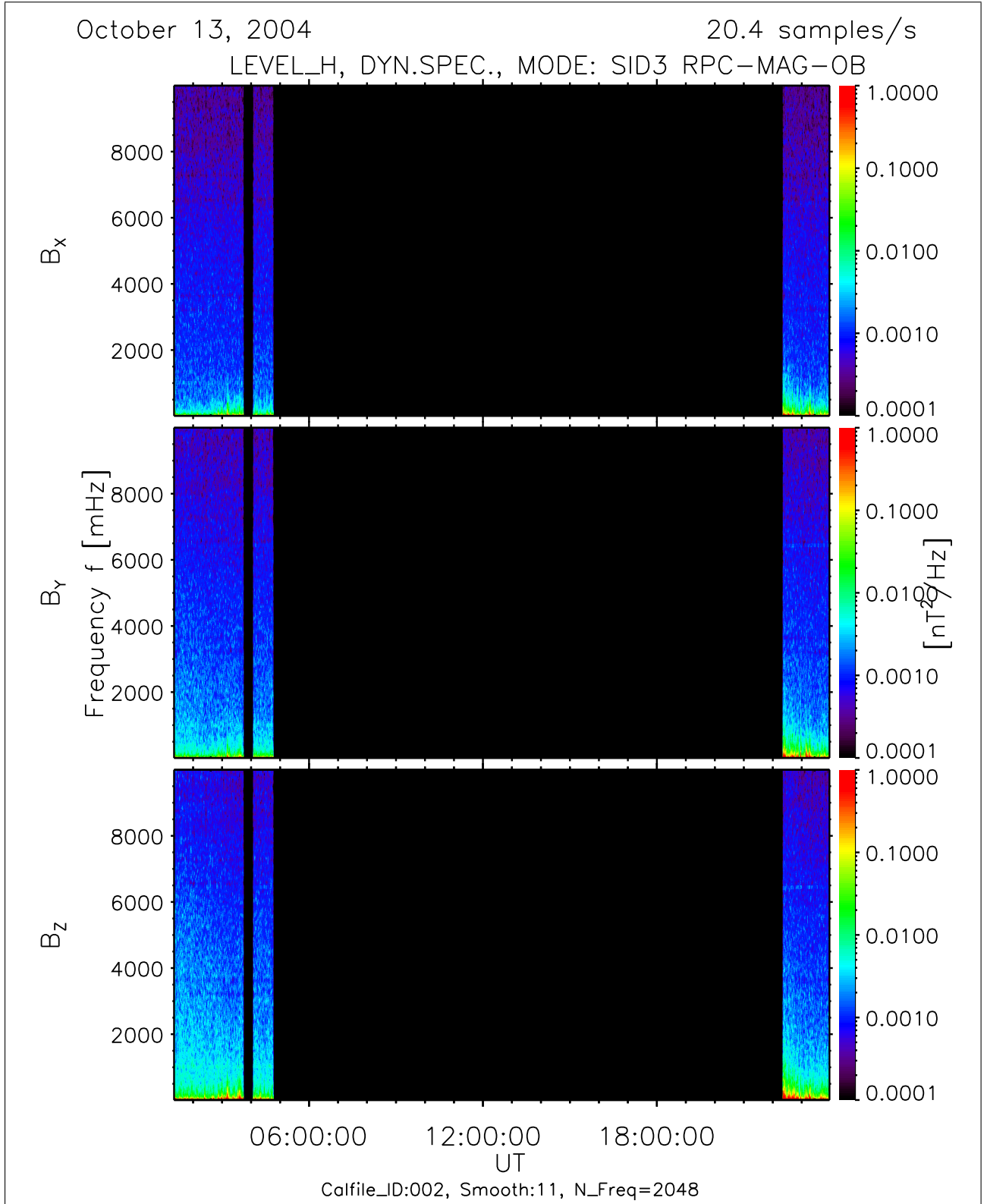


Figure 157: File: RPCMAG041013T0119\_CLH.OB\_M3\_DS0\_10000\_002

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<h1 style="margin: 0;">IGEP</h1>	Institut für Geophysik u. extraterr. Physik Technische Universität Braunschweig Date: January 25, 2010 Page: 182

## 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

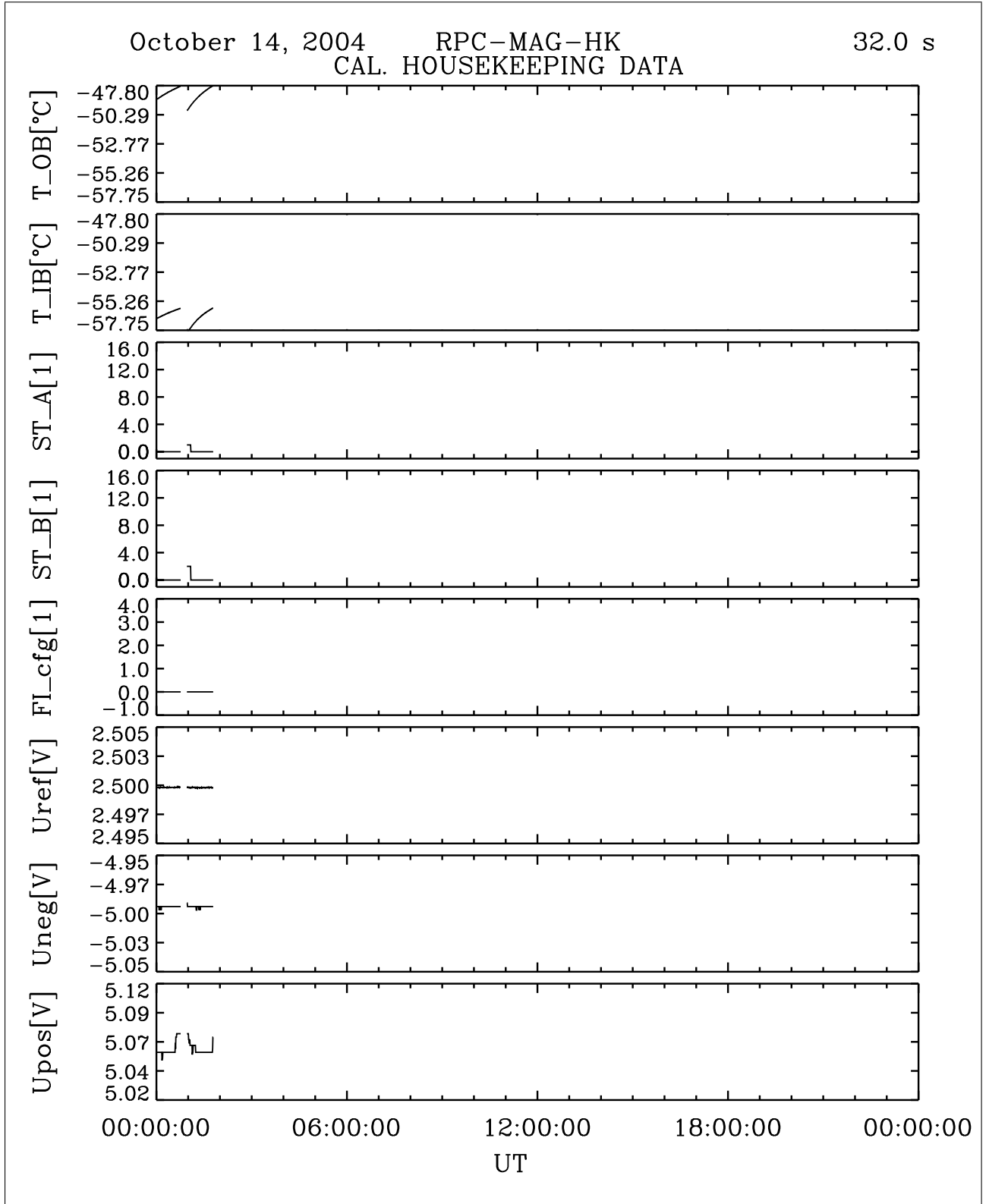


Figure 158: File: RPCMAG041014T0000\_CLA\_HK\_P0000\_2400

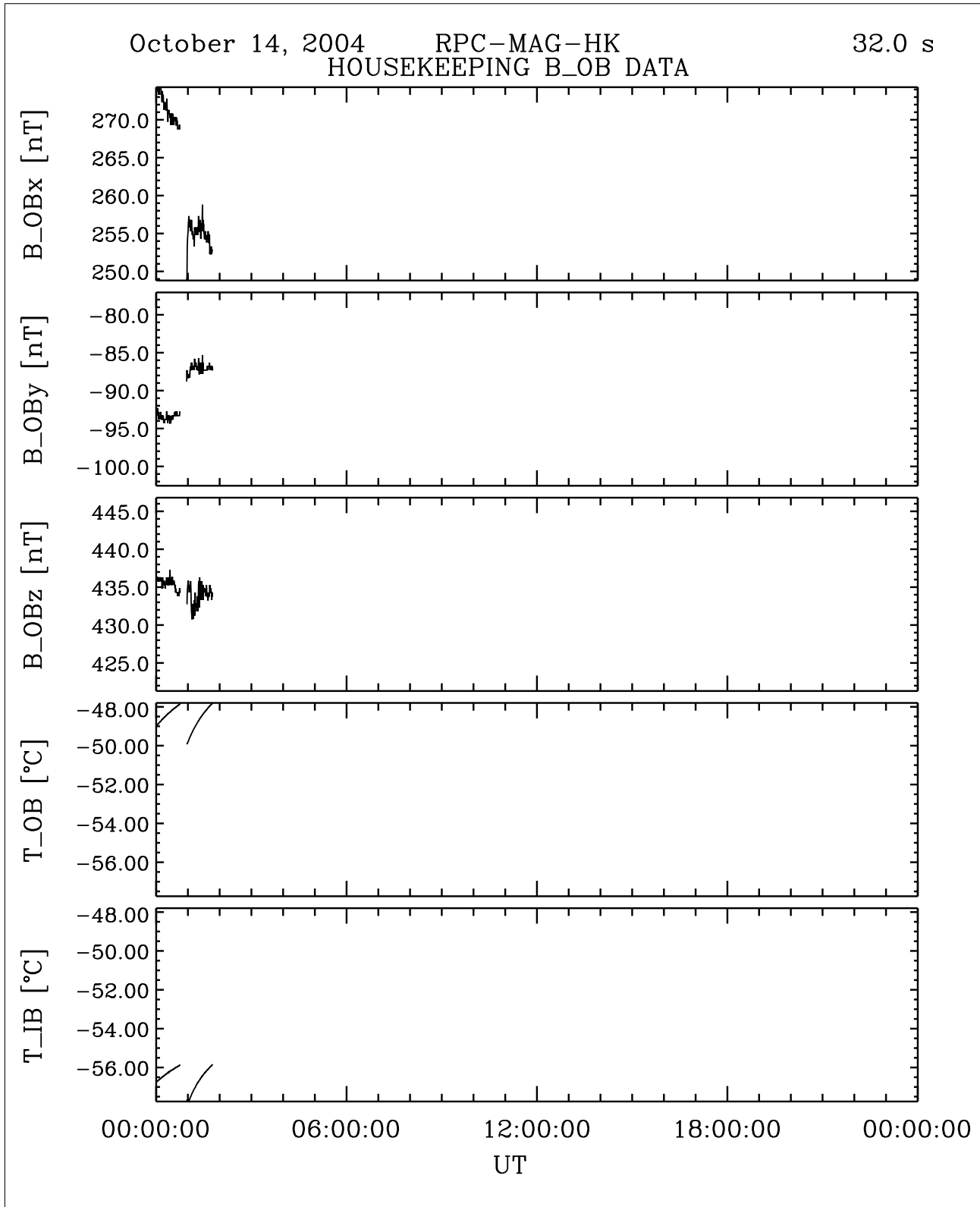


Figure 159: File: RPCMAG041014T0000\_CLA\_HK\_B.P0000\_2400

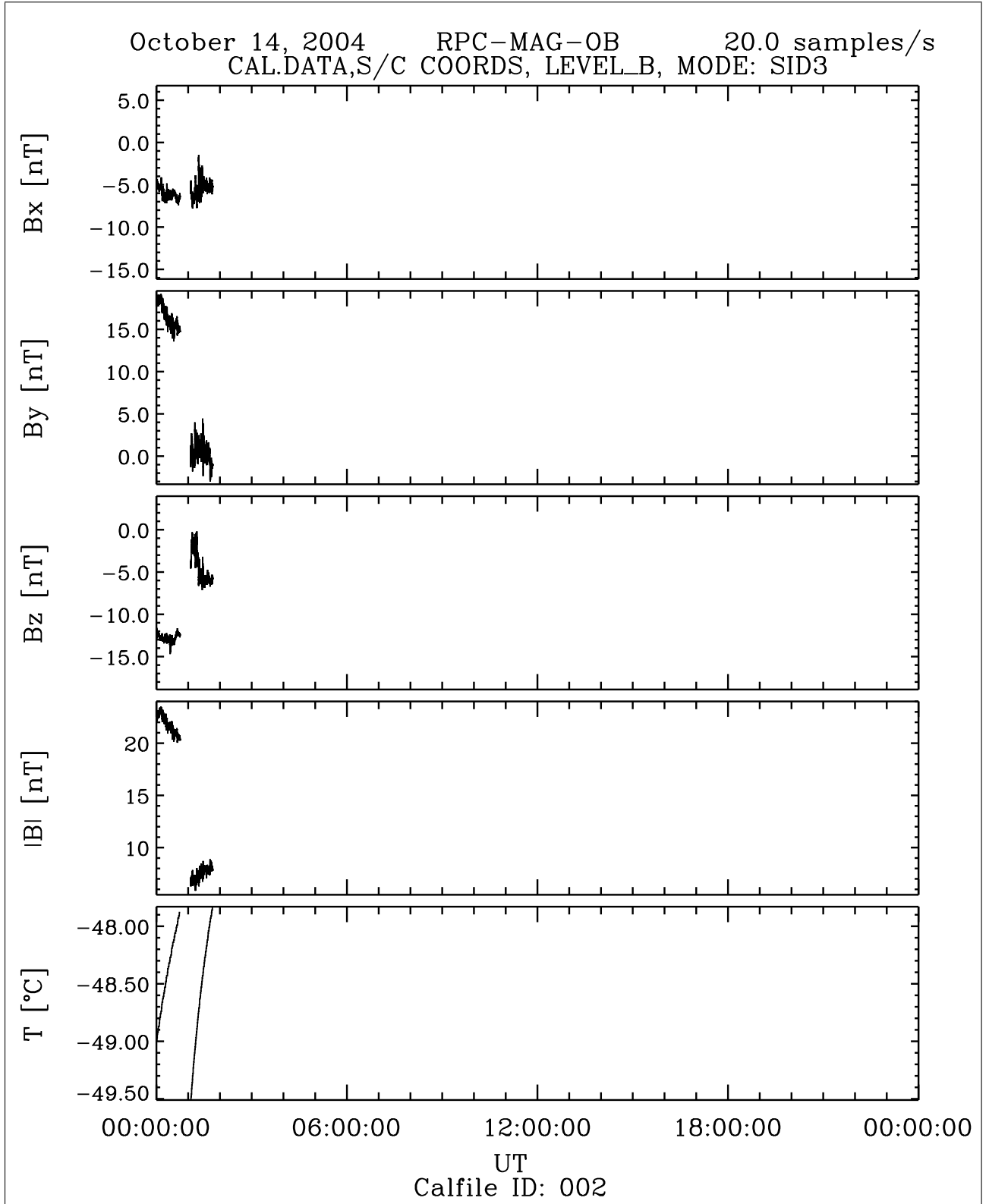


Figure 160: File: RPCMAG041014T0000\_CLB\_OB\_M3\_T0000\_2400\_002



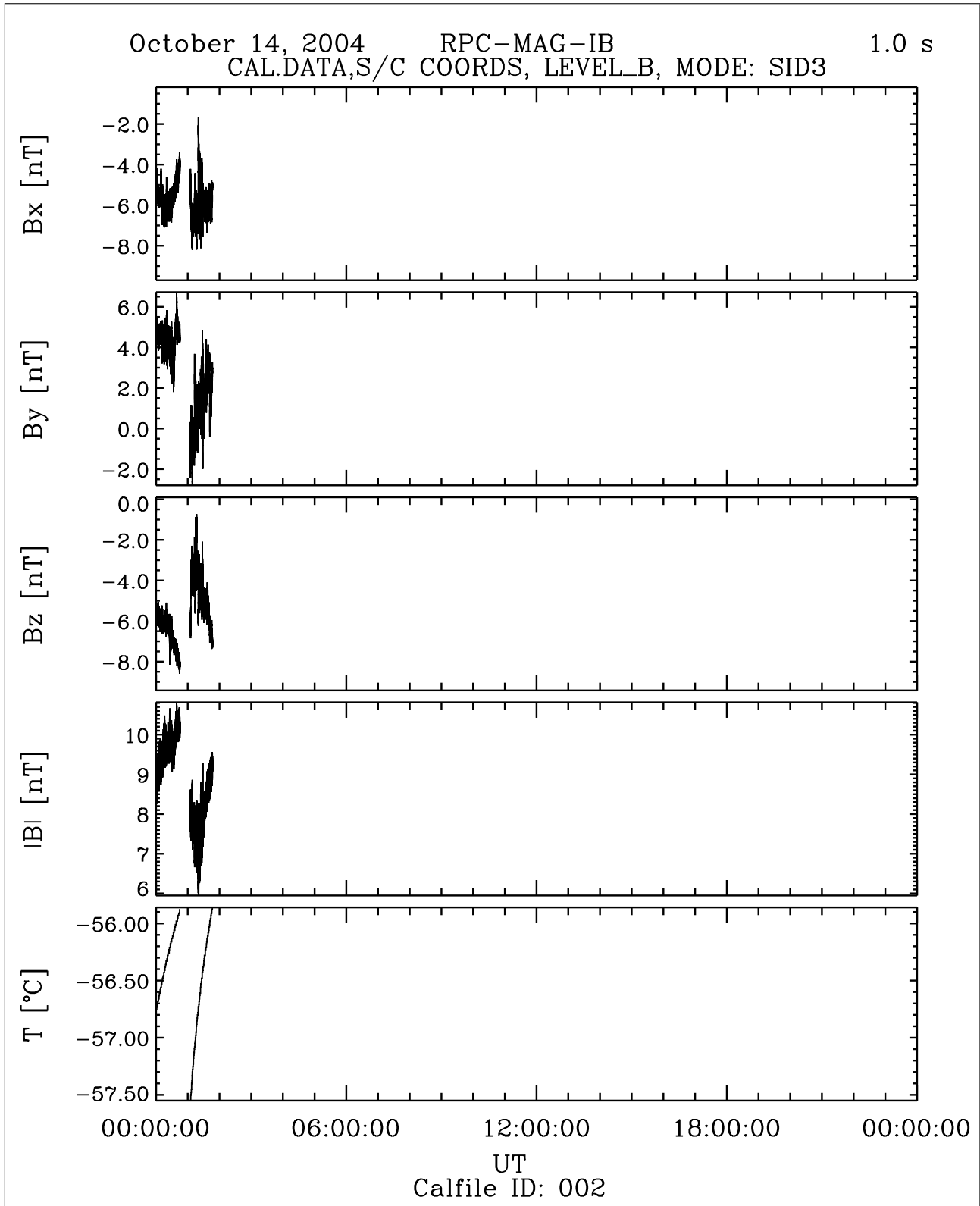


Figure 161: File: RPCMAG041014T0000\_CLB\_IB\_M3\_T0000\_2400\_002

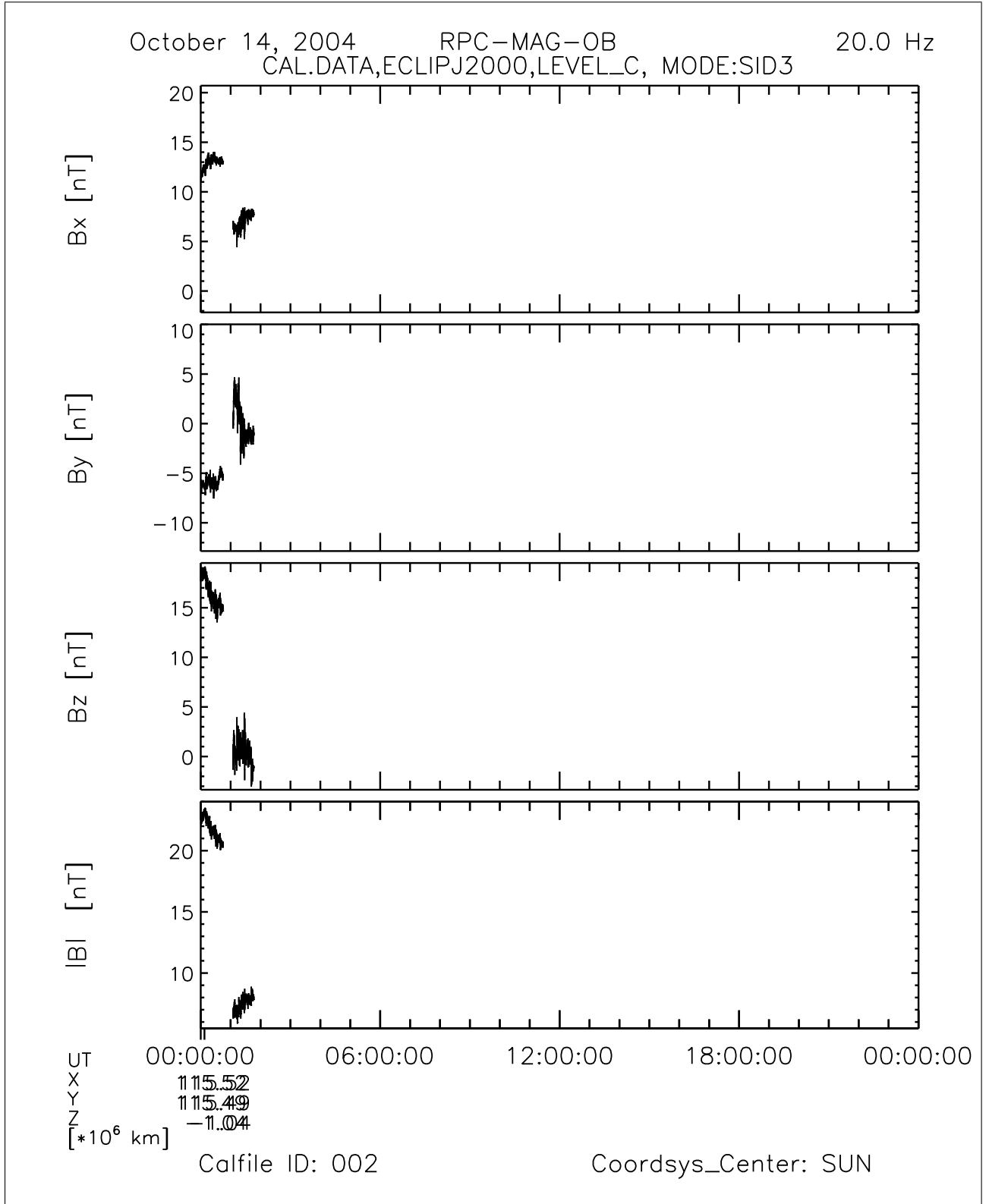


Figure 162: File: RPCMAG041014T0000\_CLC\_OB\_M3\_T0000\_2400\_002

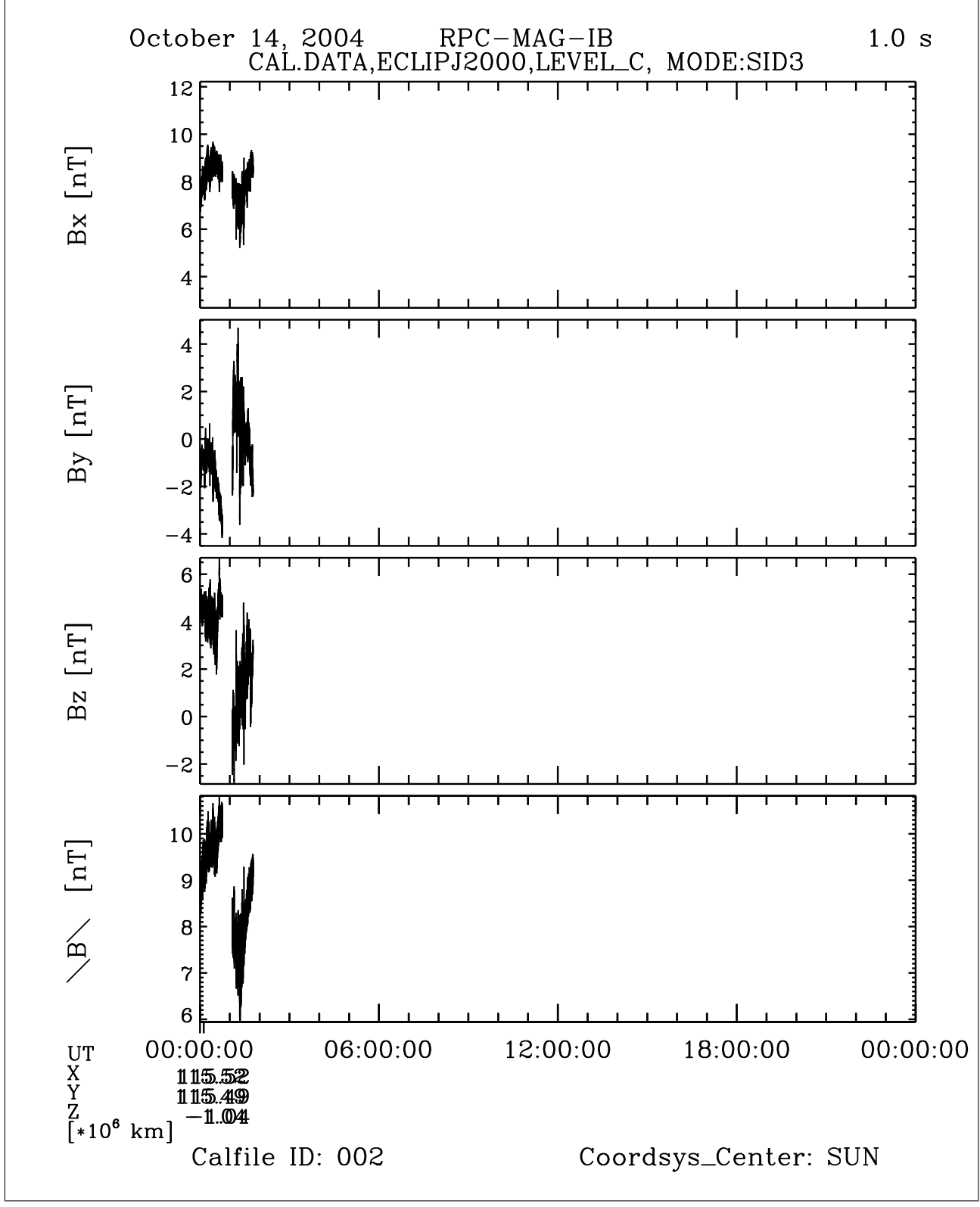


Figure 163: File: RPCMAG041014T0000\_CLC\_IB\_M3\_T0000\_2400\_002

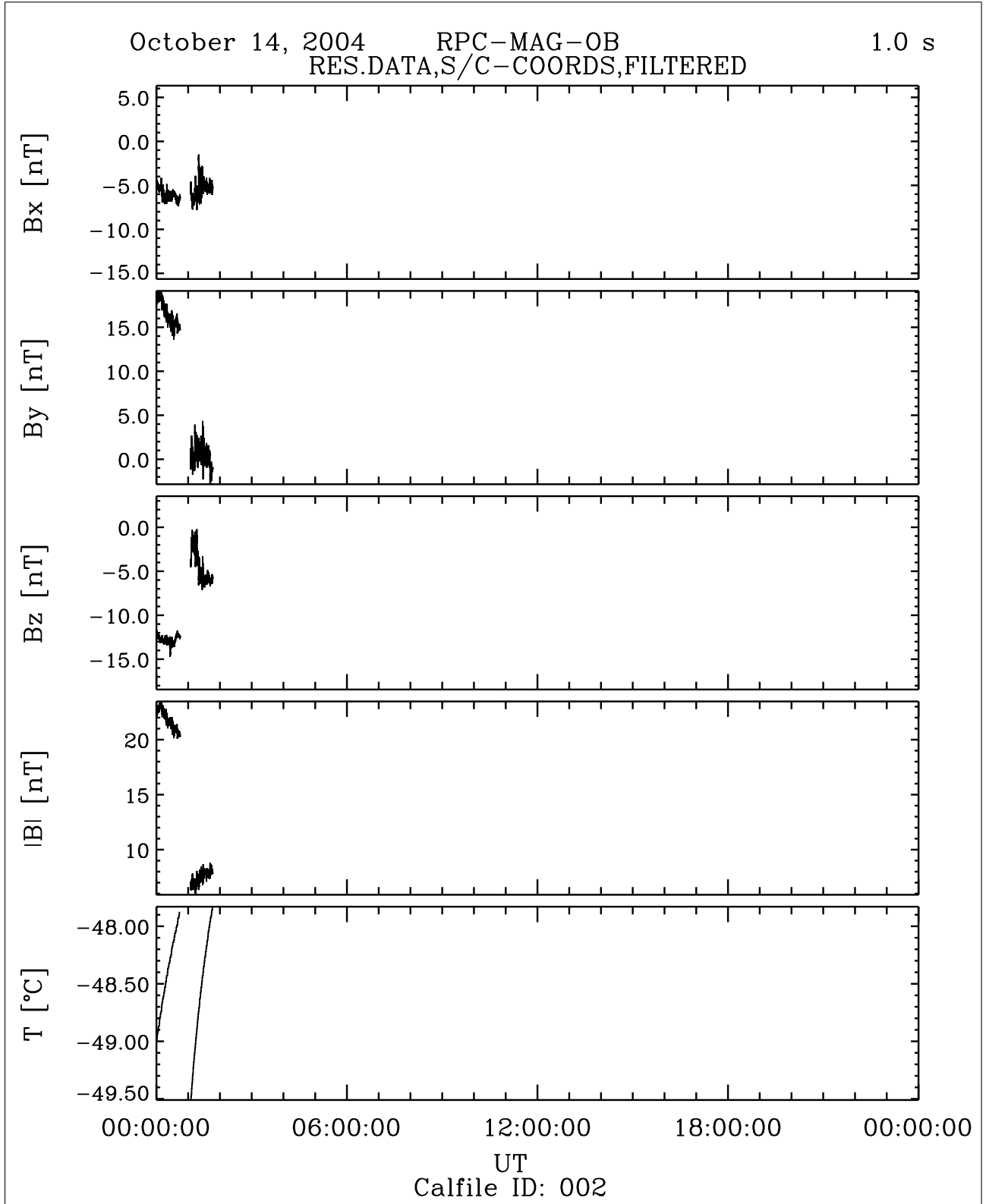


Figure 164: File: RPCMAG041014\_CLF\_OB\_A1\_T0000\_2400\_002

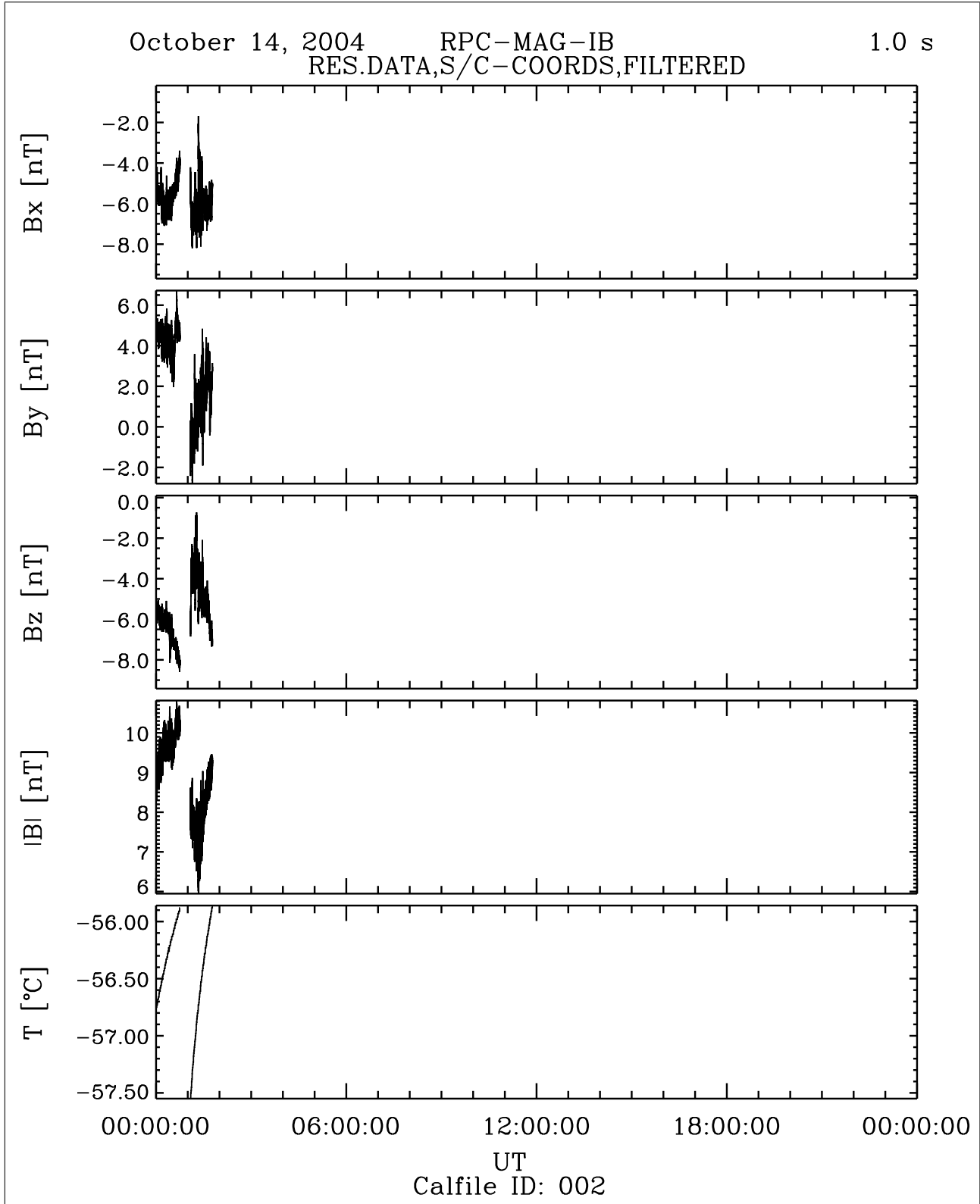


Figure 165: File: RPCMAG041014\_CLF\_IB\_A1\_T0000\_2400\_002

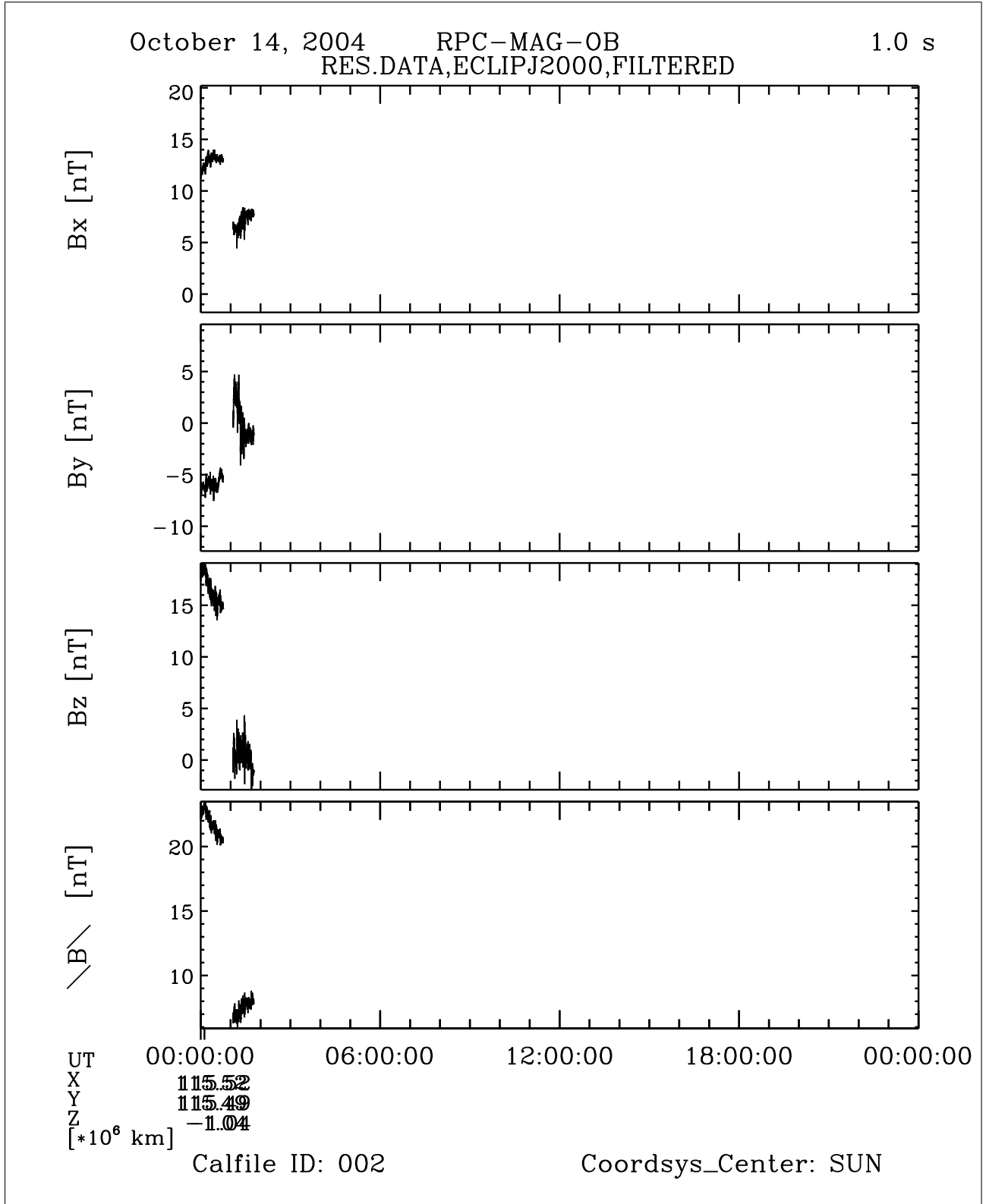


Figure 166: File: RPCMAG041014\_CLG\_OB\_A1\_T0000\_2400\_002

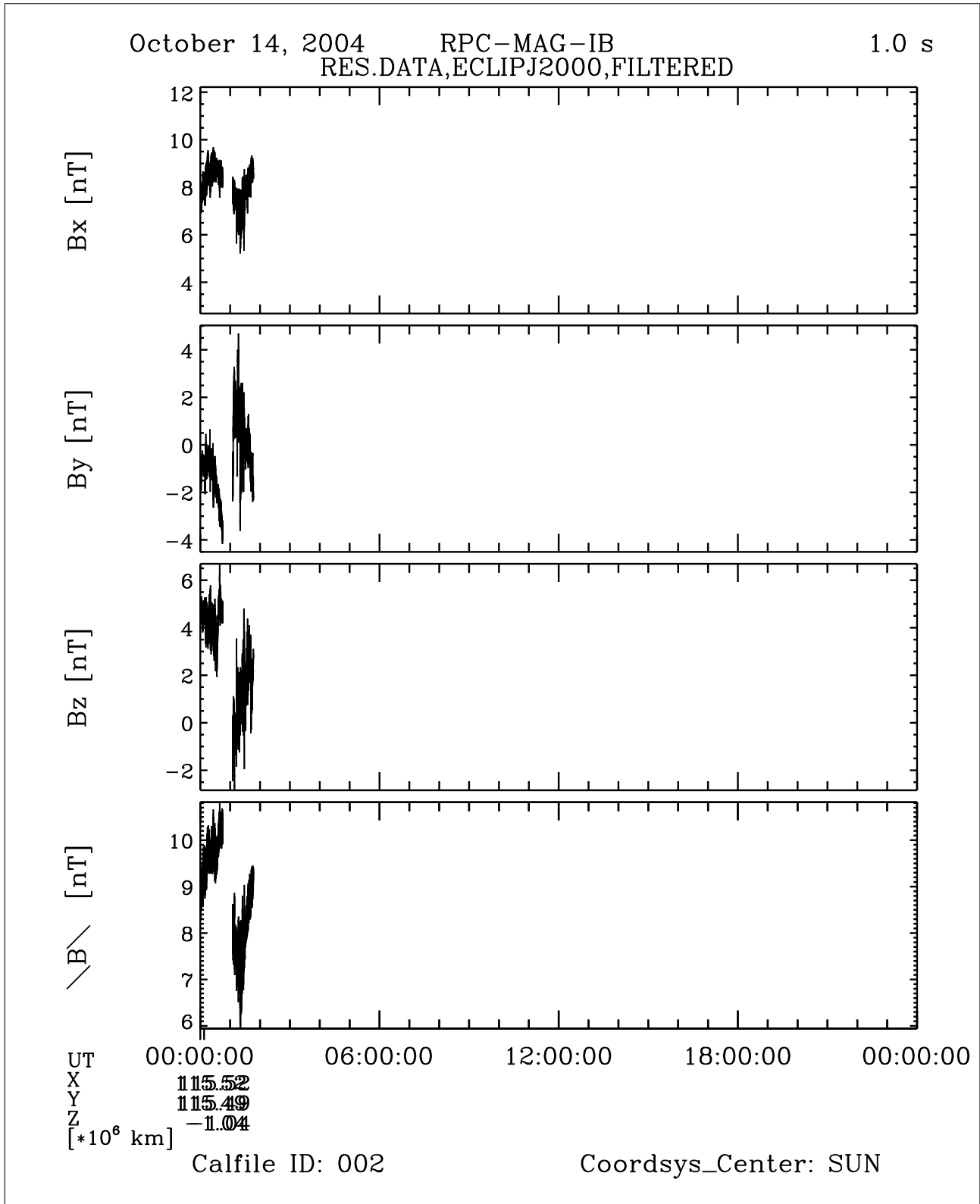


Figure 167: File: RPCMAG041014.CLG\_IB\_A1.T0000\_2400\_002

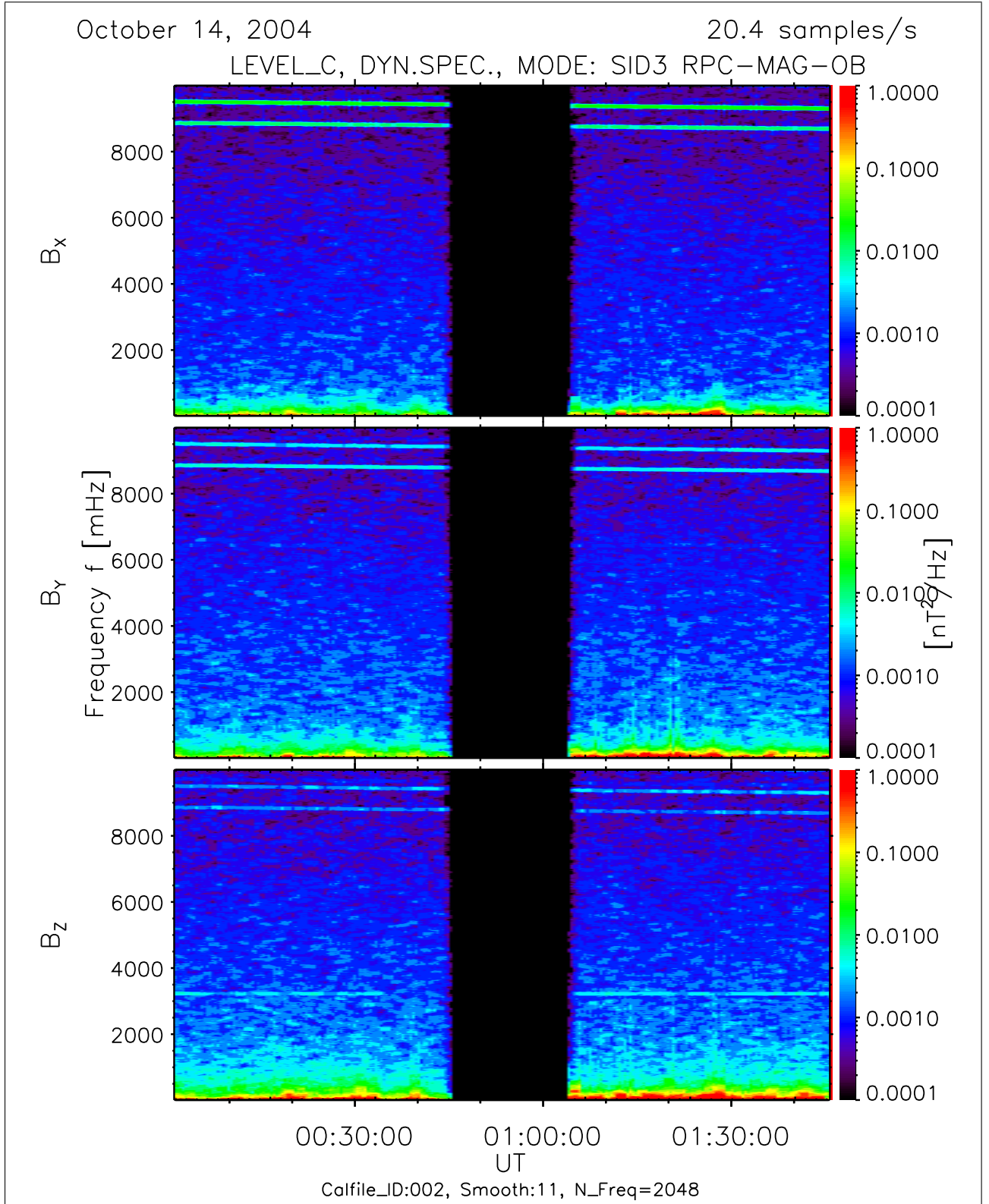


Figure 168: File: RPCMAG041014T0000\_CLC\_OB\_M3\_DS0\_10000\_002



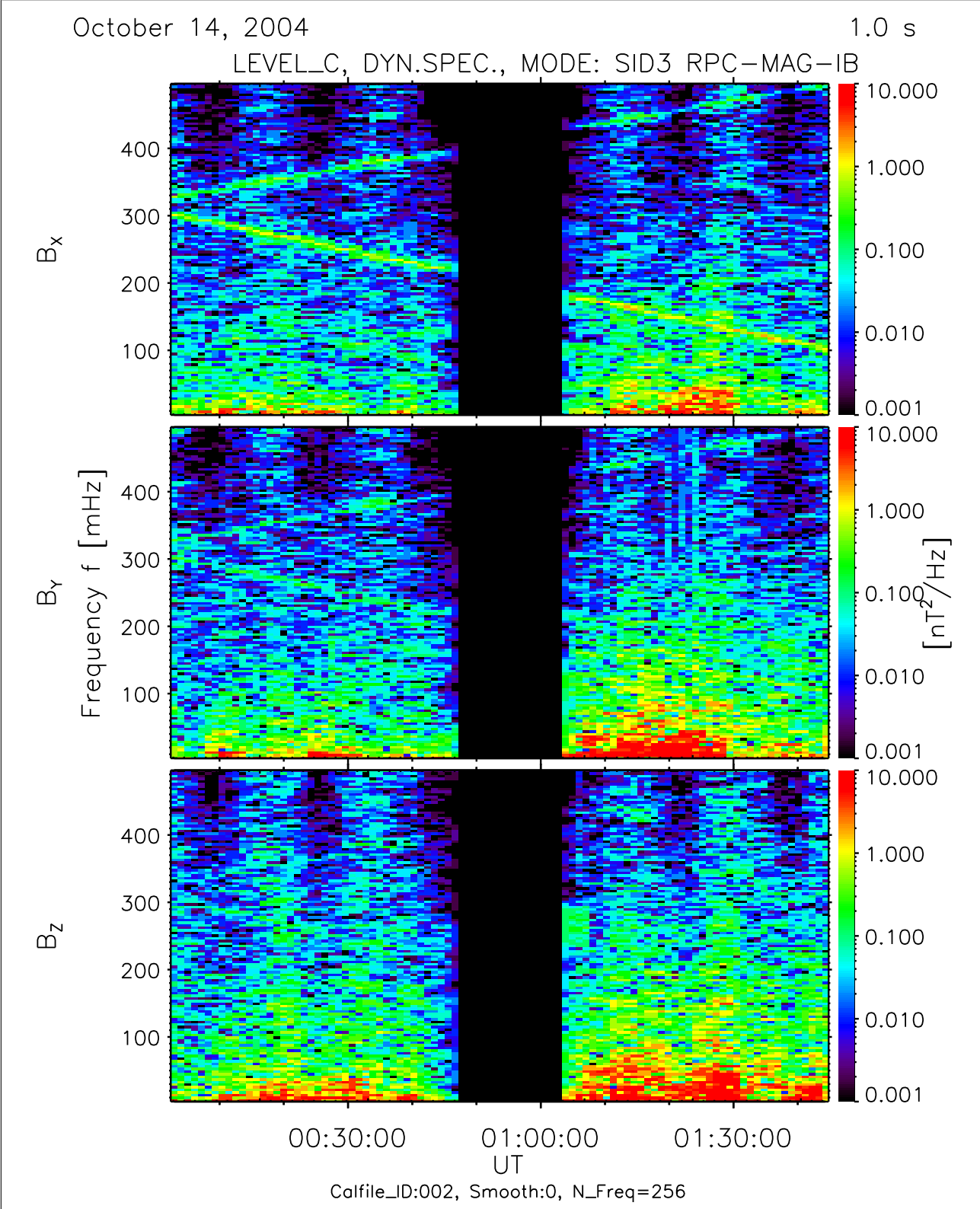


Figure 169: File: RPCMAG041014T0000\_CLC\_IB\_M3\_DS0\_500\_002

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### 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.

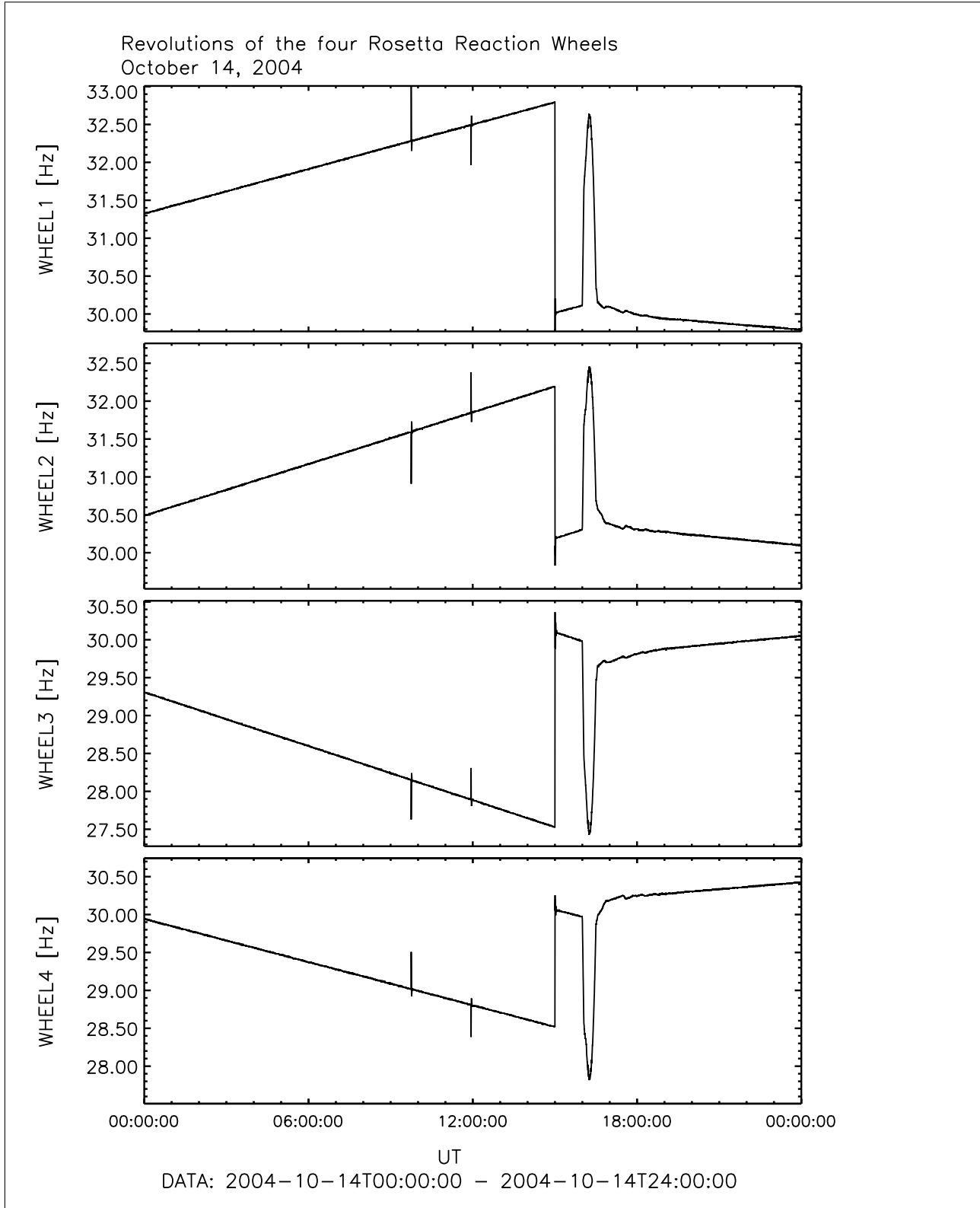


Figure 170: File: wheels\_Hz2004-10-14T00-00

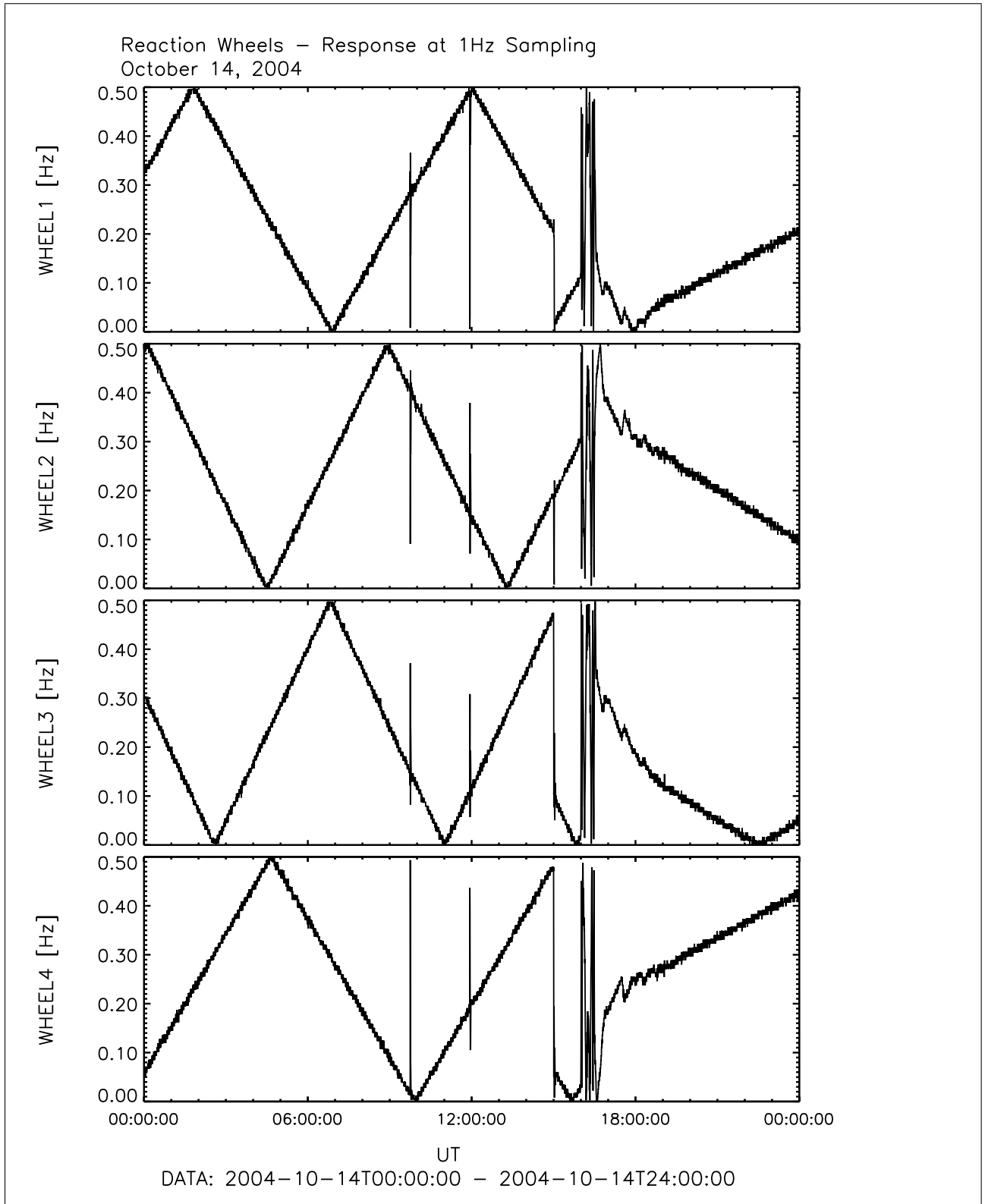


Figure 171: File: wheels\_1Hz\_Sampling2004-10-14T00-00

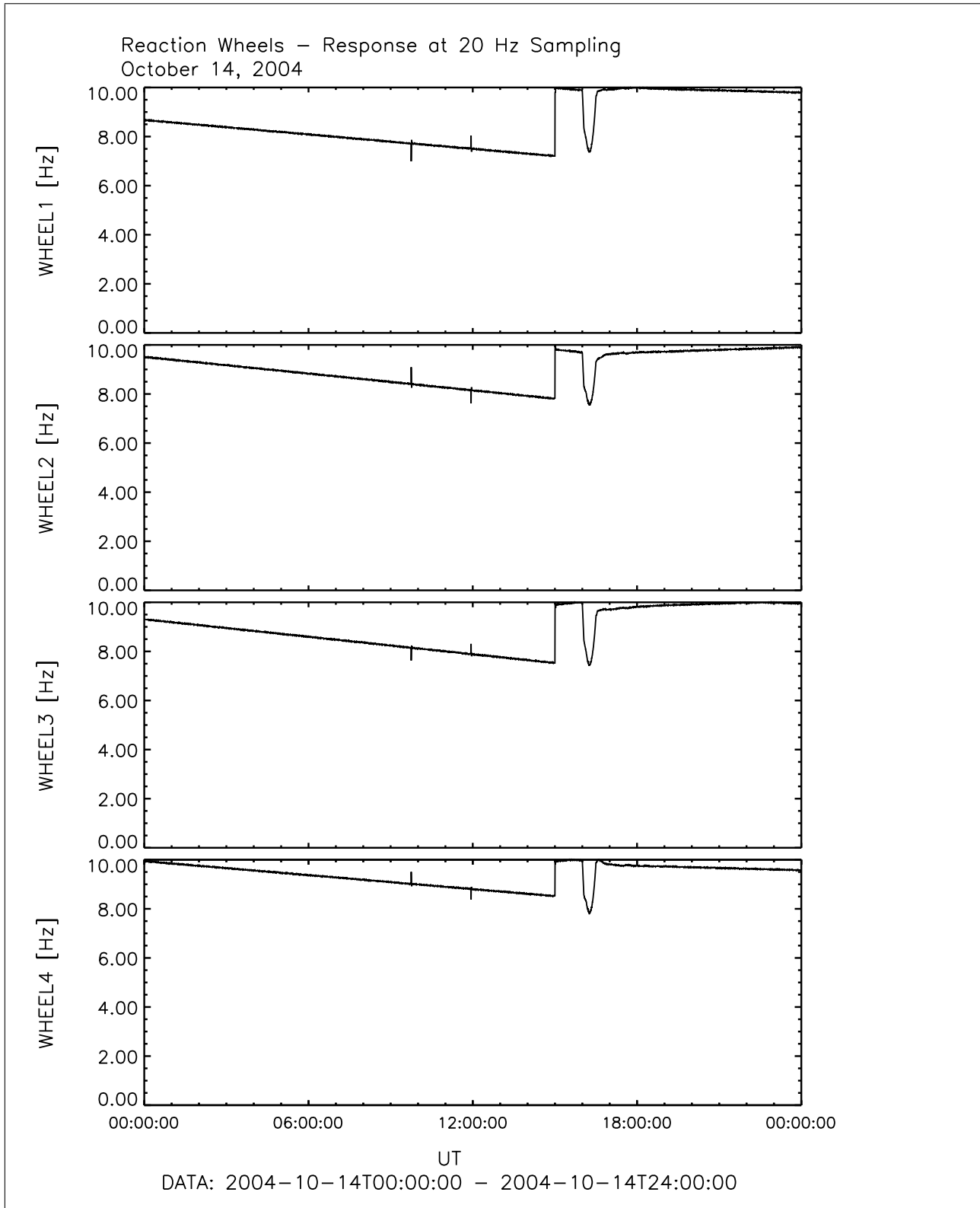


Figure 172: File: wheels\_20Hz\_Sampling2004-10-14T00-00

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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.

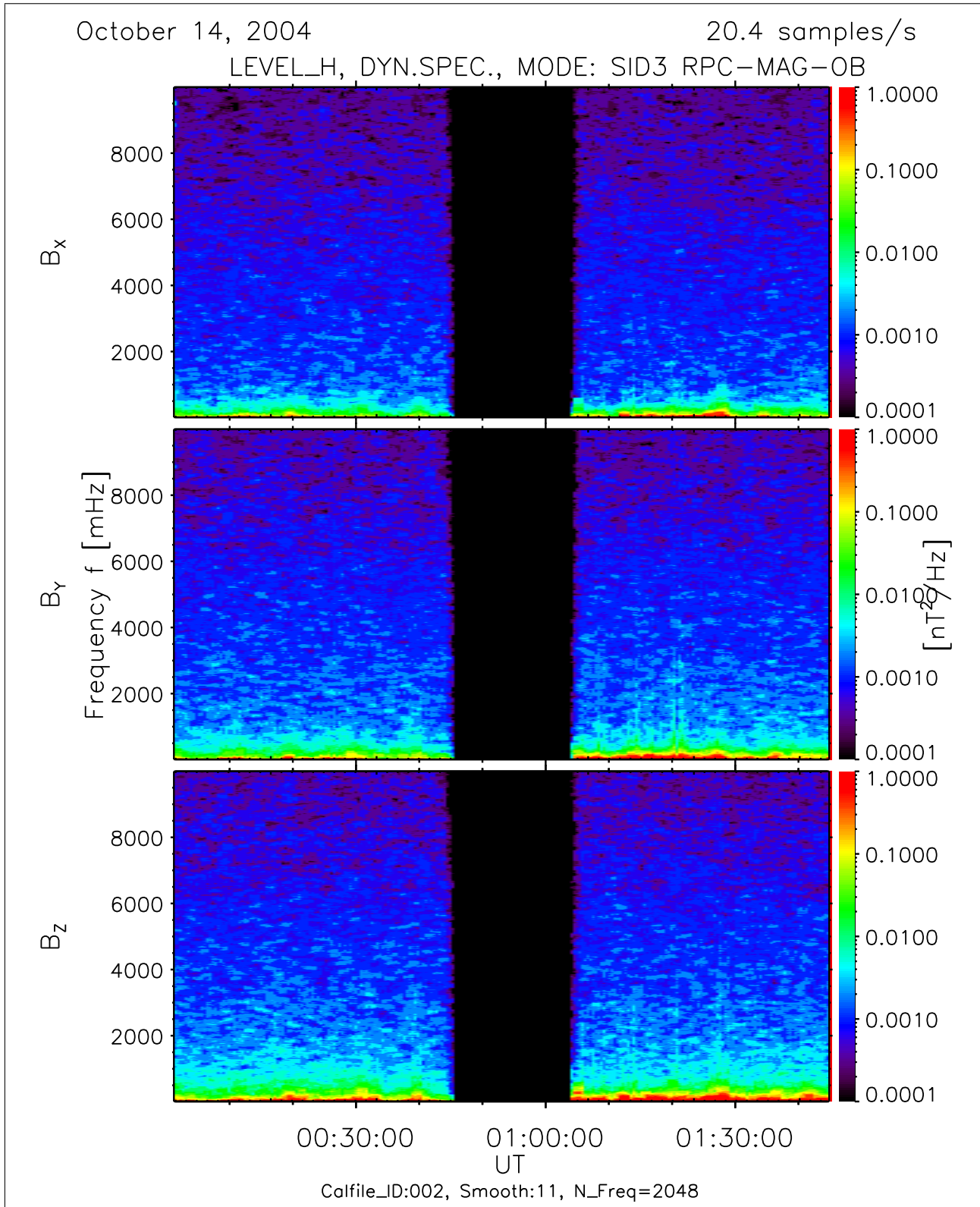


Figure 173: File: RPCMAG041014T0000\_CLH\_OB\_M3\_DS0\_10000\_002