

**R O S E T T A**  
**FLIGHT REPORTS**  
**of RPC-MAG**

**RO-IGEP-TR-0011**

**Issue: 3    Revision: 1**

**April 13, 2007**

**Report of the**  
**INTERFERENCE CAMPAIGN**

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

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ROSETTA	Document: RO-IGEP-TR-0011
	Issue: 3
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IGEP Institut für Geophysik u. extraterr. Physik Technische Universität Braunschweig	Date: April 13, 2007
	Page: I

## Contents

<b>1 Summary</b>	<b>1</b>
<b>2 September 20, 2004:</b>	<b>1</b>
2.1 Actions . . . . .	1
2.2 Plots of Calibrated Data using the new Temperature Model . . . . .	1
2.3 Plots of ROSETTA's Reaction Wheels Speeds . . . . .	14
<b>3 September 21, 2004:</b>	<b>18</b>
3.1 Actions . . . . .	18
3.2 Plots of Calibrated Data using the new Temperature Model . . . . .	18
3.3 Plots of ROSETTA's Reaction Wheels Speeds . . . . .	31
<b>4 September 22, 2004:</b>	<b>35</b>
4.1 Actions . . . . .	35
4.2 Plots of Calibrated Data using the new Temperature Model . . . . .	35
4.3 Plots of ROSETTA's Reaction Wheels Speeds . . . . .	48
<b>5 September 23, 2004:</b>	<b>52</b>
5.1 Actions . . . . .	52
5.2 Plots of Calibrated Data using the new Temperature Model . . . . .	52
5.3 Plots of ROSETTA's Reaction Wheels Speeds . . . . .	64
<b>6 September 29, 2004:</b>	<b>67</b>
6.1 Actions . . . . .	67
6.2 Plots of Calibrated Data using the new Temperature Model . . . . .	67
6.3 Plots of ROSETTA's Reaction Wheels Speeds . . . . .	88
<b>7 September 30, 2004:</b>	<b>91</b>
7.1 Actions . . . . .	91
7.2 Plots of Calibrated Data using the new Temperature Model . . . . .	91
7.3 Plots of ROSETTA's Reaction Wheels Speeds . . . . .	114
<b>8 October 10, 2004:</b>	<b>121</b>
8.1 Actions . . . . .	121
8.2 Plots of Calibrated Data using the new Temperature Model . . . . .	121
8.3 Plots of ROSETTA's Reaction Wheels Speeds . . . . .	144
<b>9 October 13, 2004:</b>	<b>149</b>
9.1 Actions . . . . .	149
9.2 Plots of Calibrated Data using the new Temperature Model . . . . .	149
9.3 Plots of ROSETTA's Reaction Wheels Speeds . . . . .	162
<b>10 October 14, 2004:</b>	<b>166</b>
10.1 Actions . . . . .	166
10.2 Plots of Calibrated Data using the new Temperature Model . . . . .	166
10.3 Plots of ROSETTA's Reaction Wheels Speeds . . . . .	179

R O S E T T A	Document: RO-IGEP-TR-0011
	Issue: 3
	Revision: 1
IGEP Institut für Geophysik u. extraterr. Physik Technische Universität Braunschweig	Date: April 13, 2007
	Page: 1

## 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.

## 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

### 2.2 Plots of Calibrated Data using the new Temperature Model

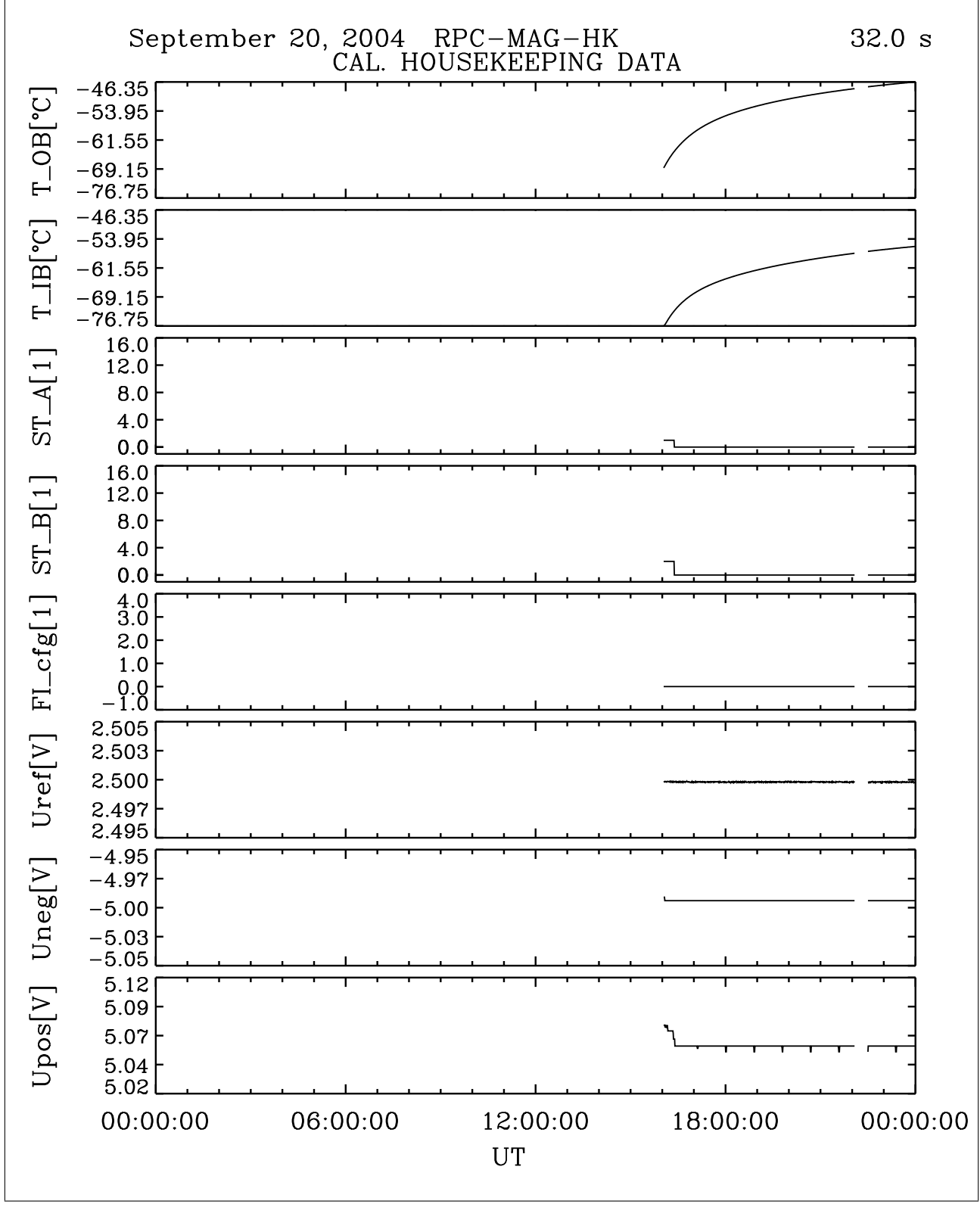


Figure 1: File: RPCMAG040920T1602\_CLA\_HK\_P0000\_2400



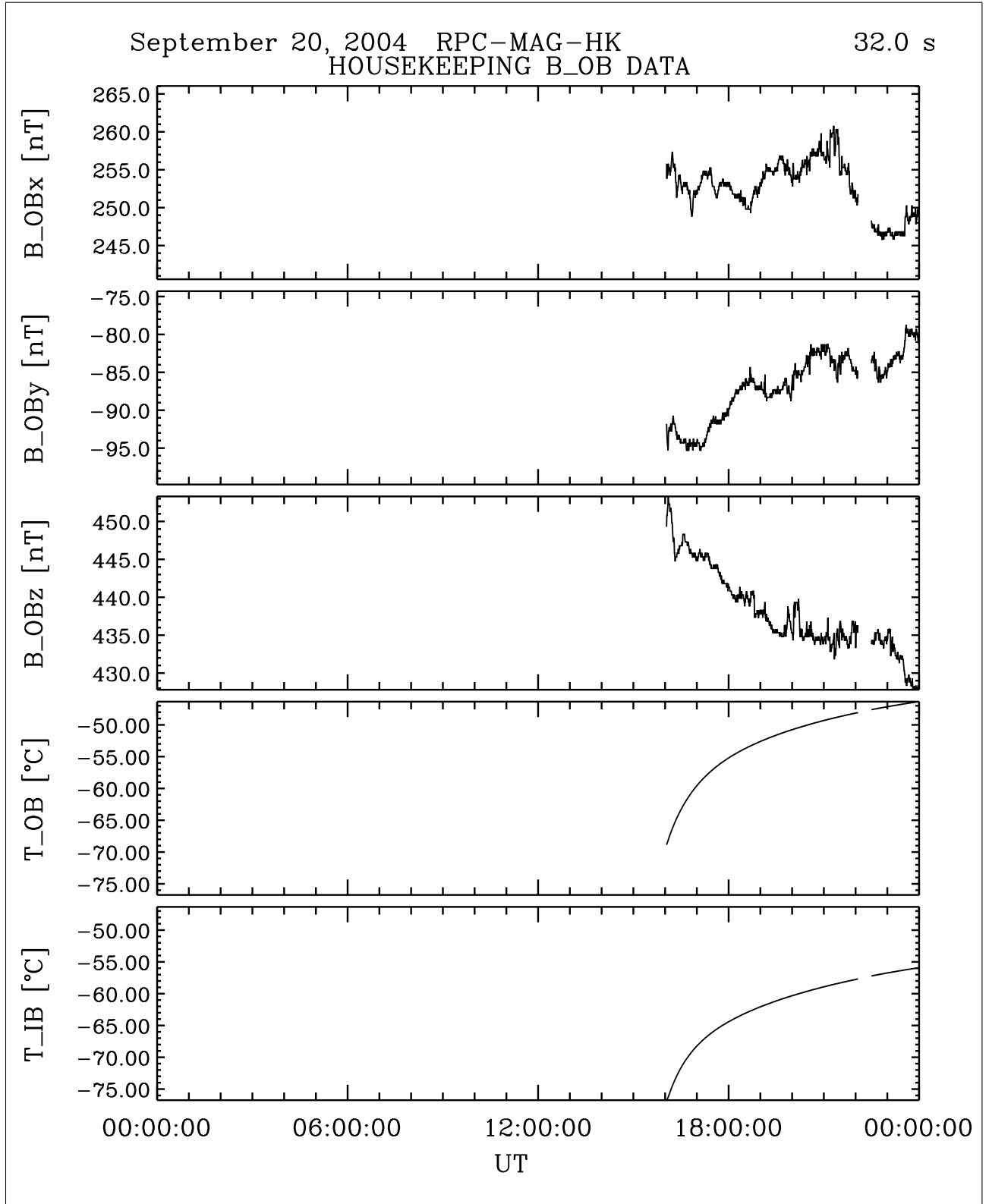


Figure 2: File: RPCMAG040920T1602\_CLA\_HK\_B\_P0000\_2400

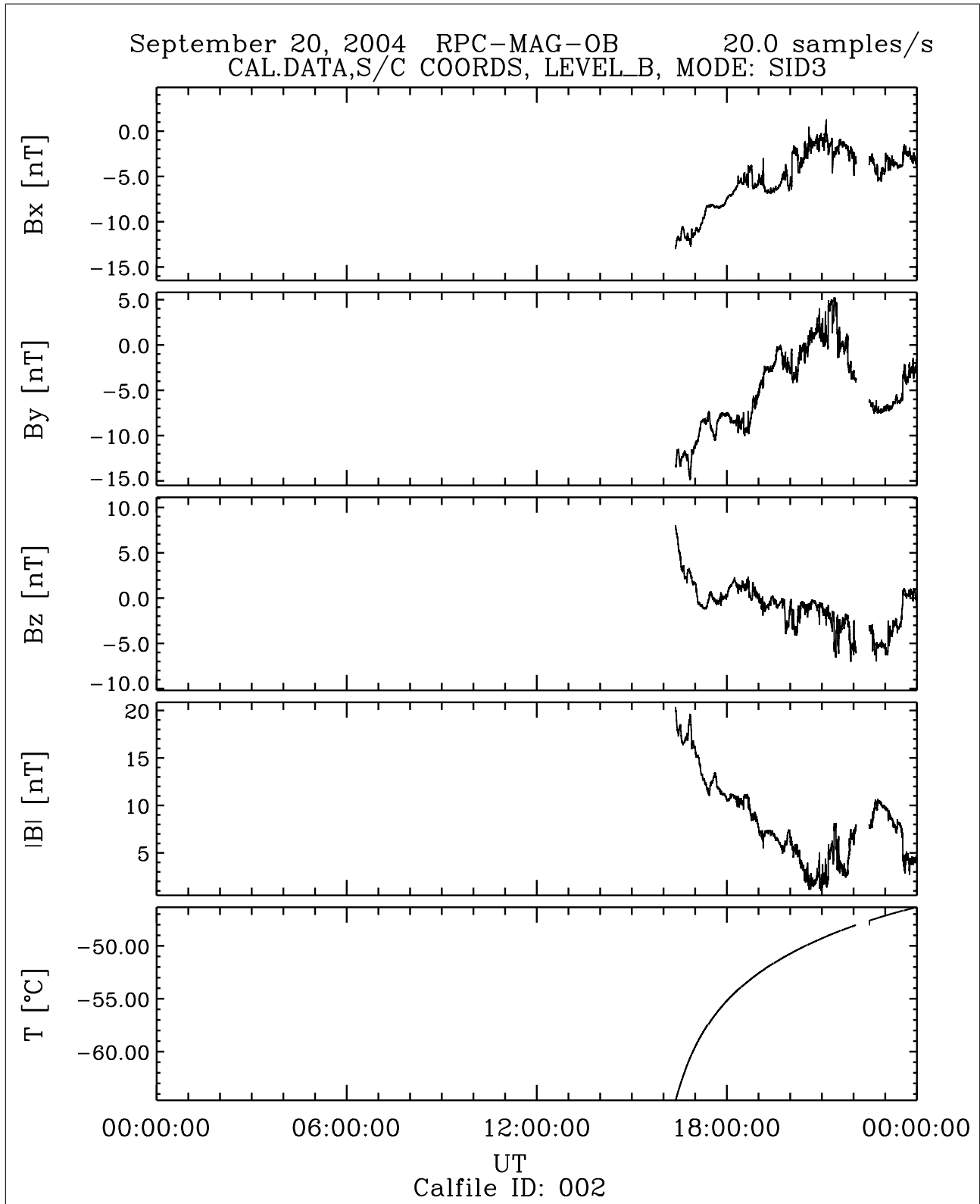


Figure 3: File: RPCMAG040920T1622\_CLB\_OB\_M3\_T0000\_2400\_002

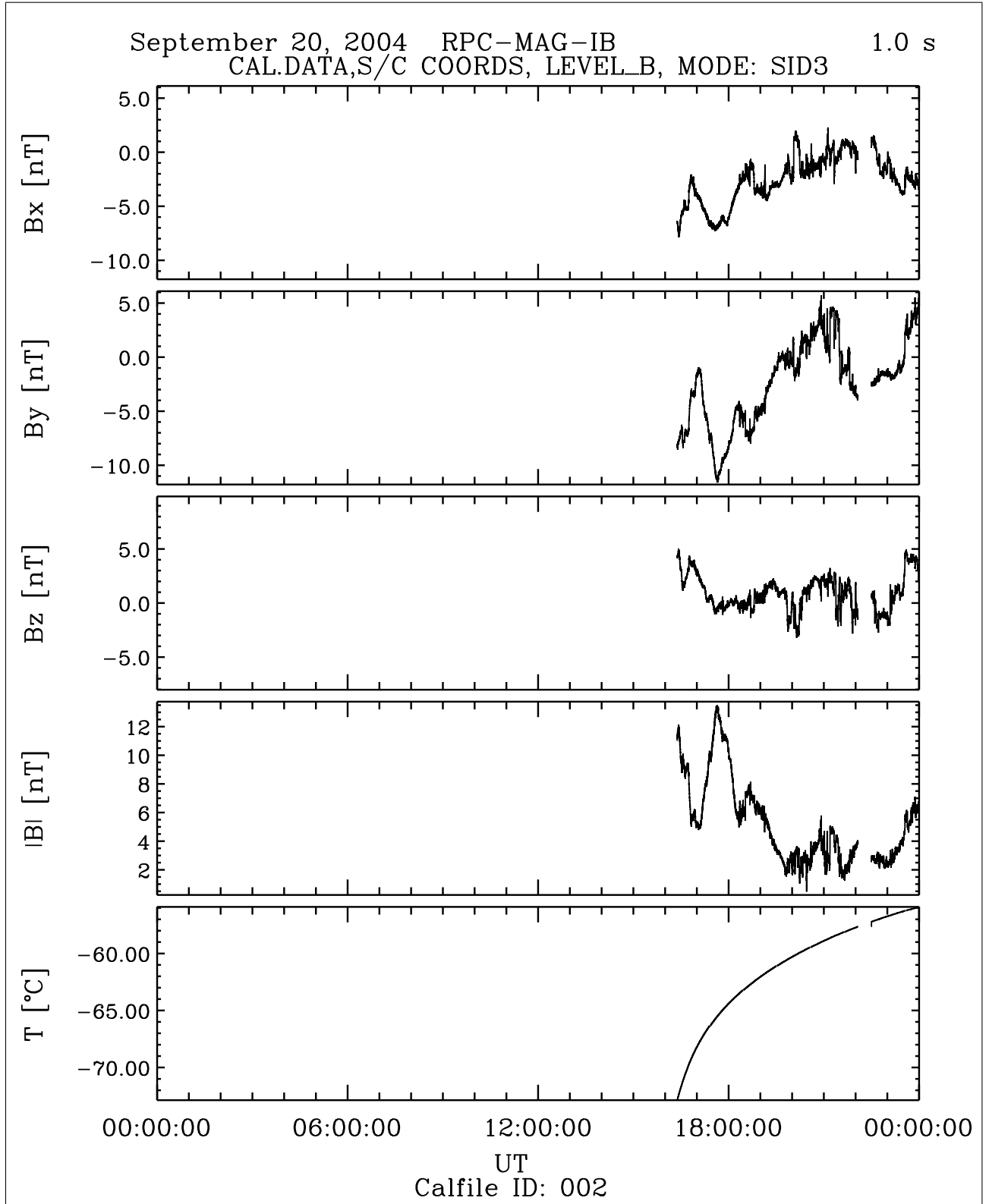


Figure 4: File: RPCMAG040920T1622\_CLB\_IB\_M3\_T0000\_2400\_002

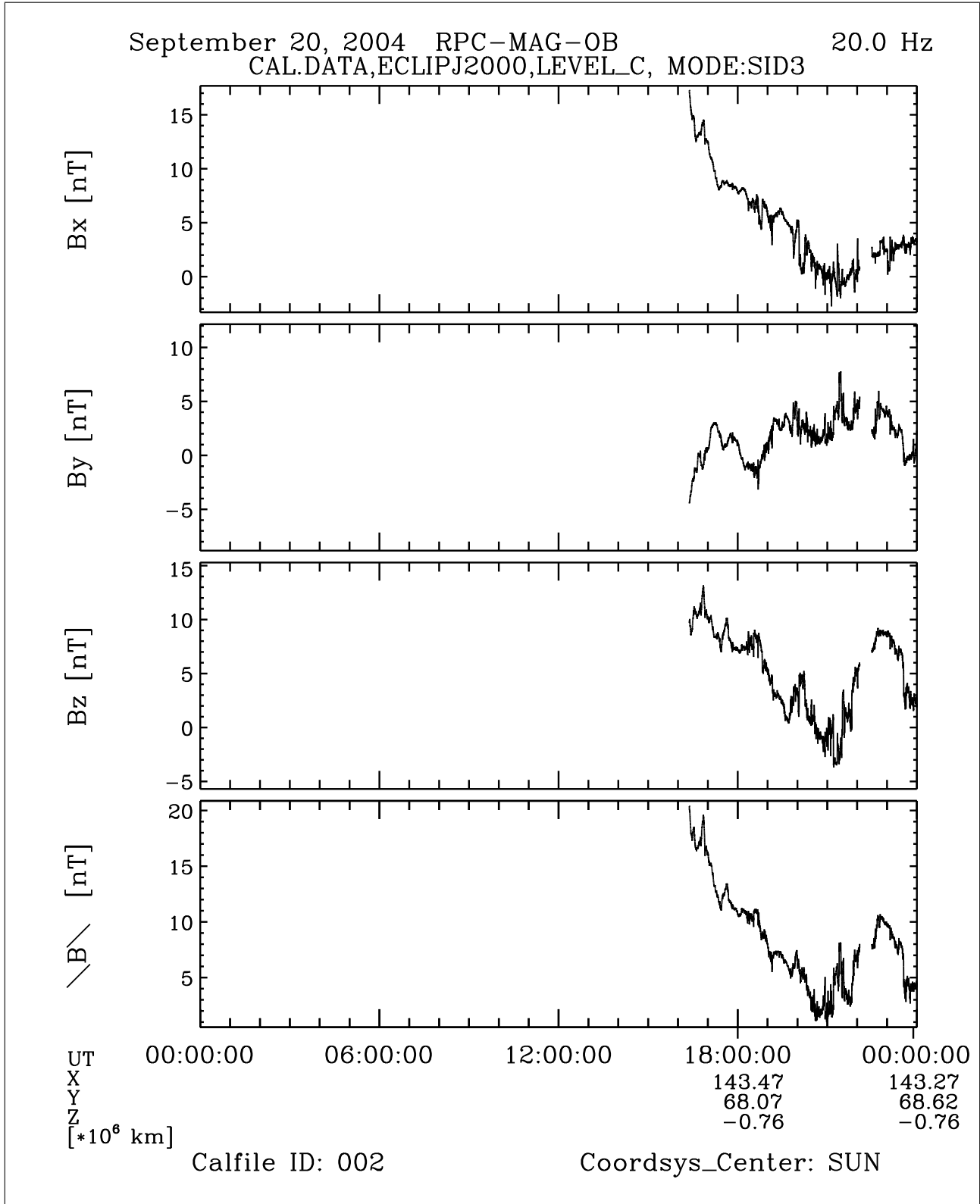


Figure 5: File: RPCMAG040920T1622\_CLC\_OB\_M3\_T0000\_2400\_002

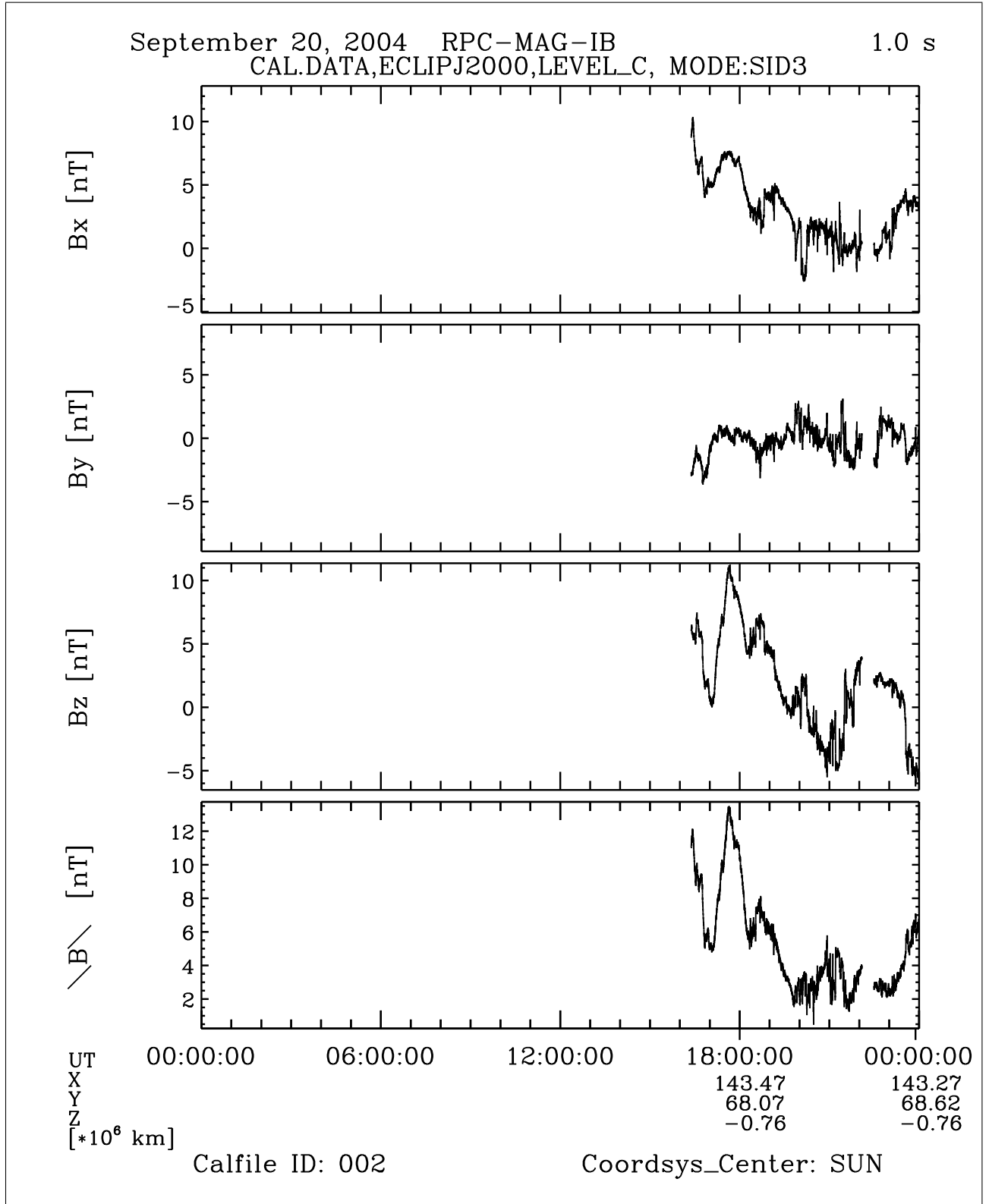


Figure 6: File: RPCMAG040920T1622\_CLC\_IB\_M3\_T0000\_2400\_002

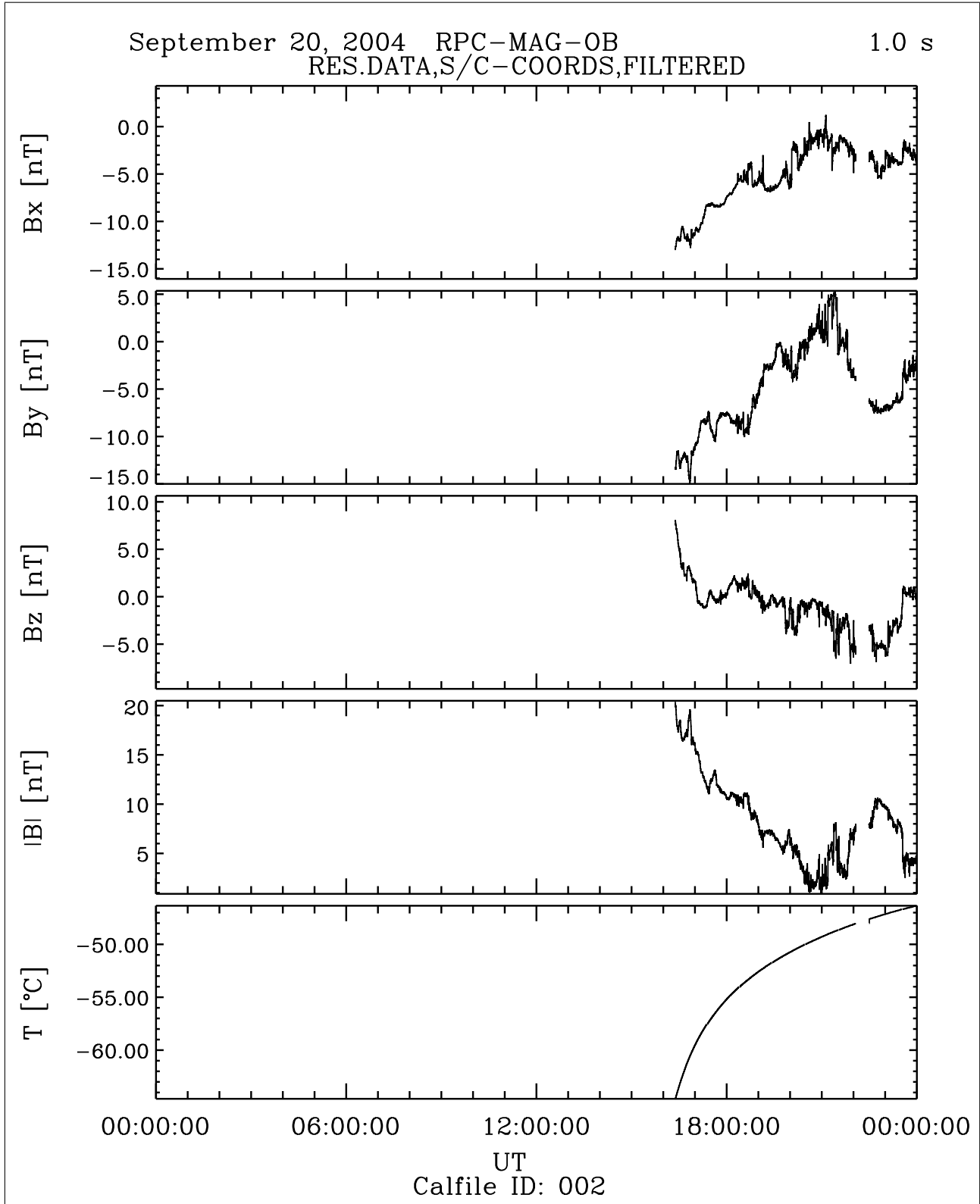


Figure 7: File: RPCMAG040920\_CLF\_OB\_A1\_T0000\_2400\_002

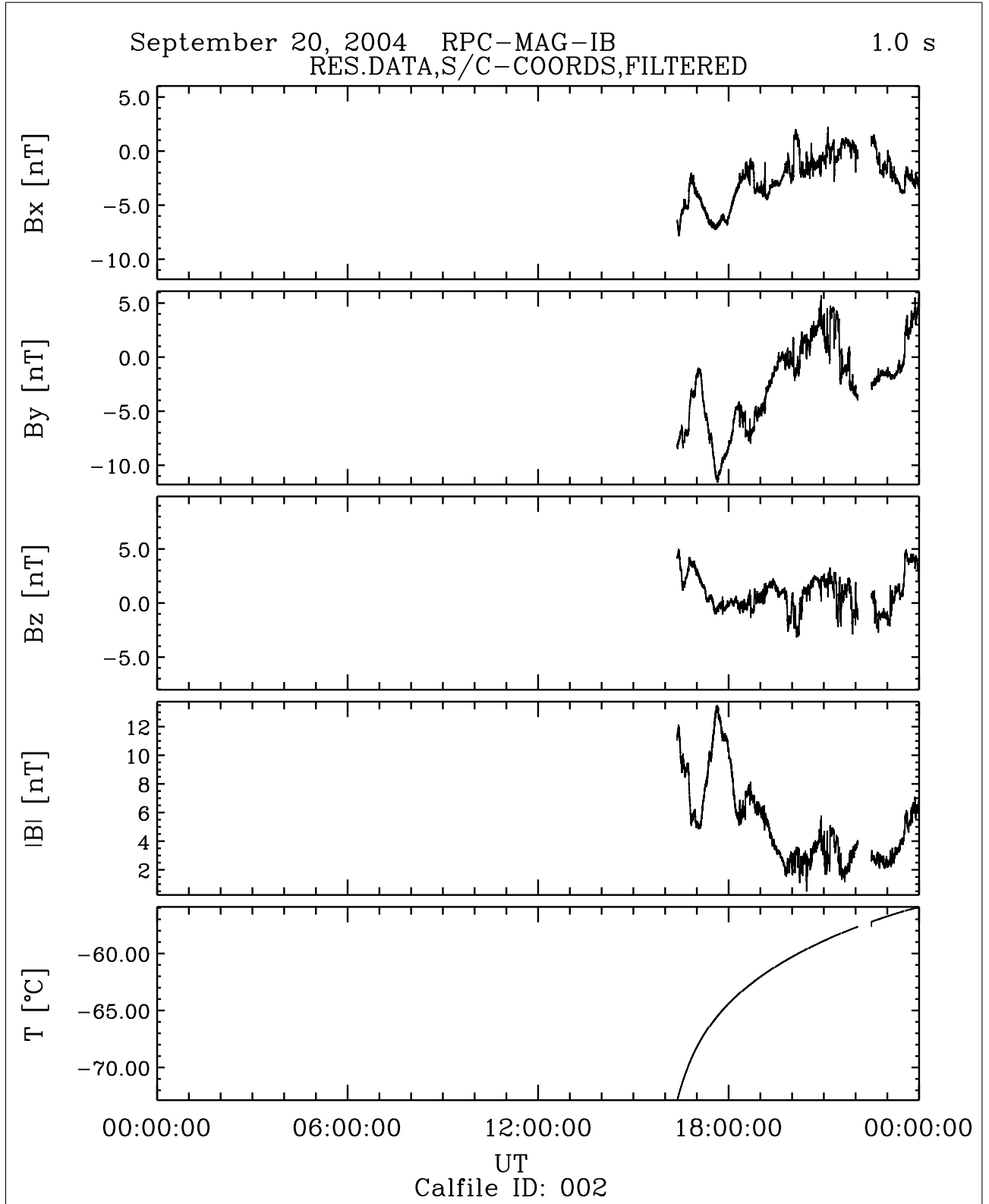


Figure 8: File: RPCMAG040920\_CLF\_IB\_A1\_T0000\_2400\_002

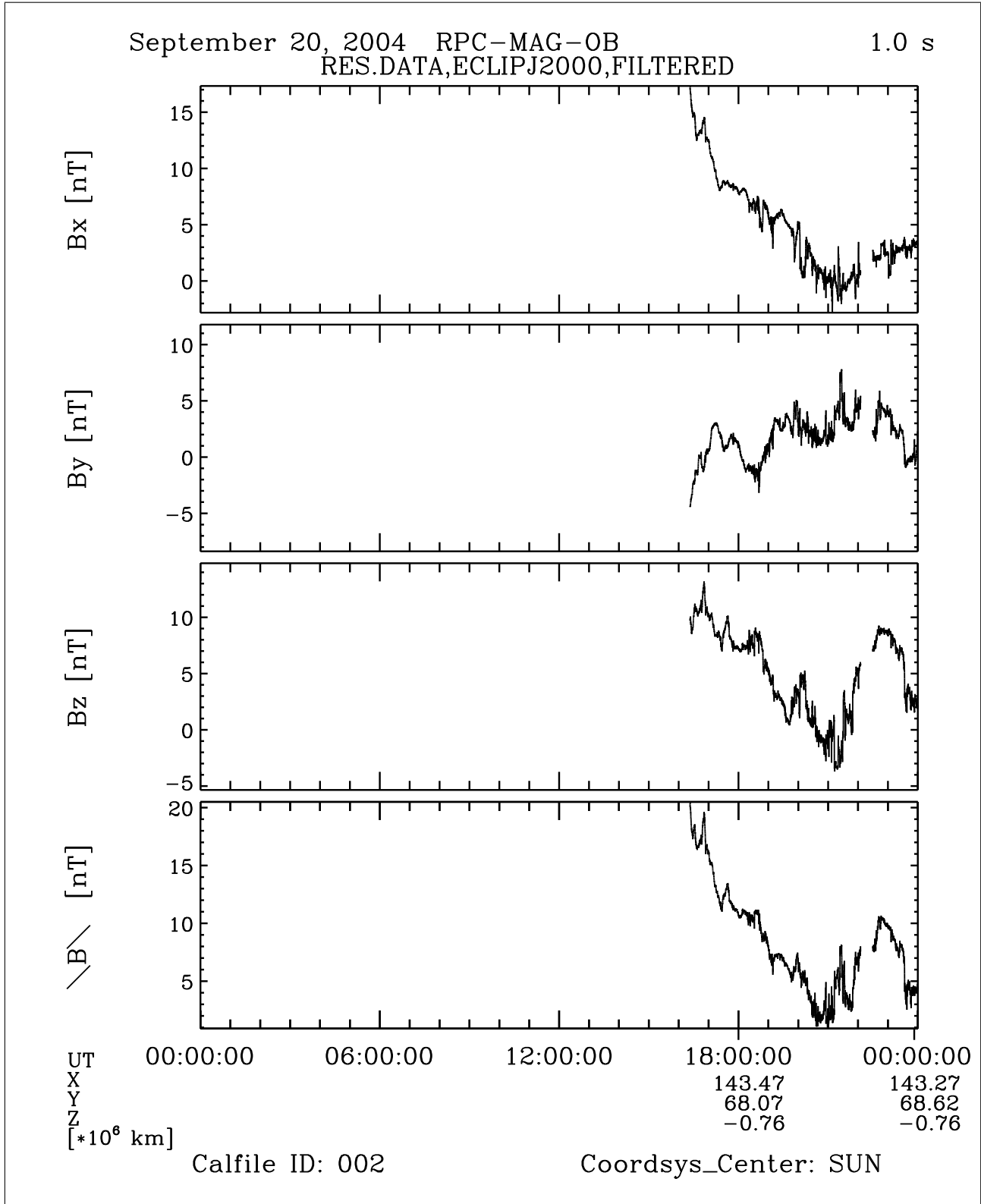


Figure 9: File: RPCMAG040920\_CLG\_OB\_A1\_T0000\_2400\_002



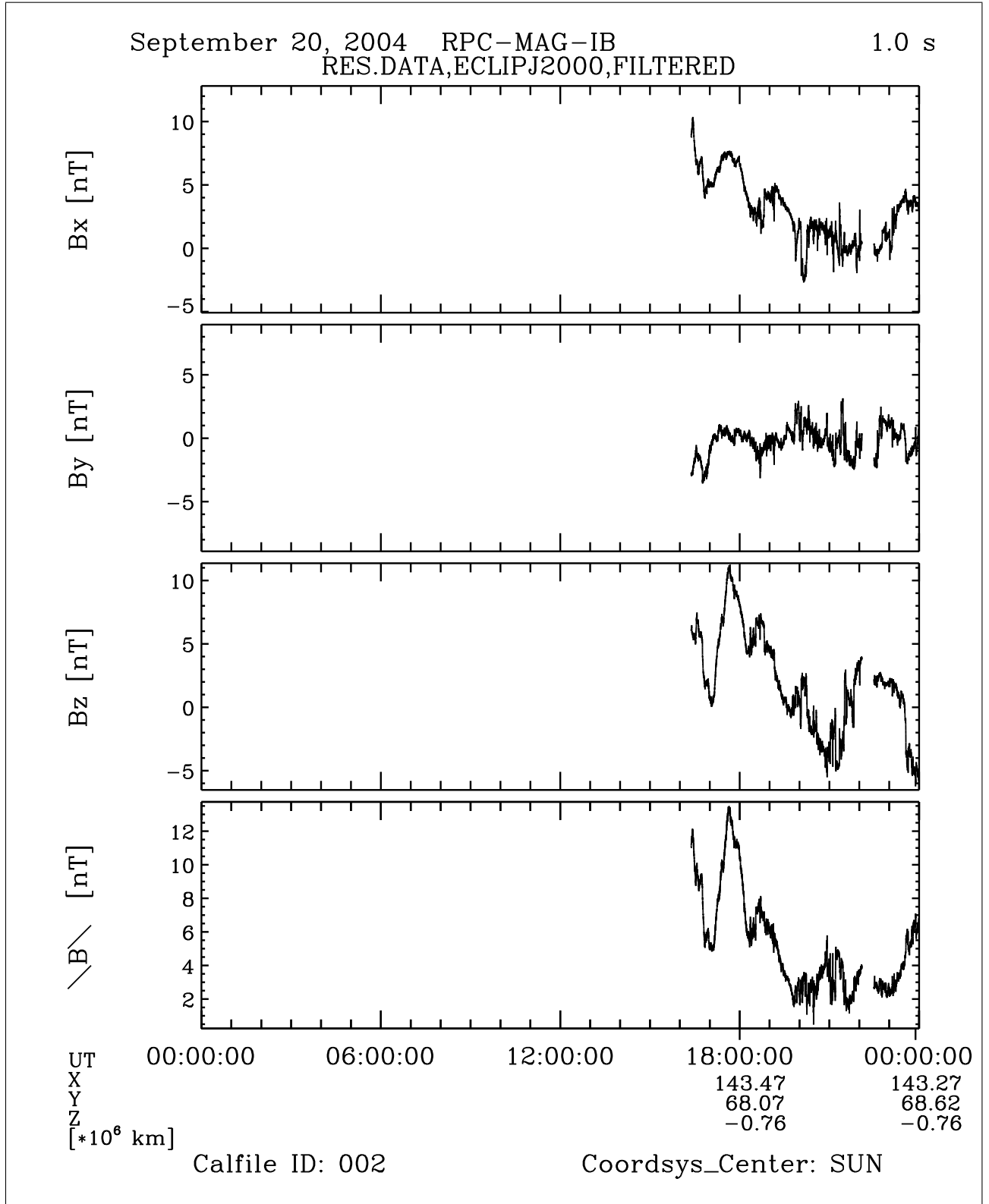


Figure 10: File: RPCMAG040920\_CLG\_IB\_A1\_T0000\_2400\_002

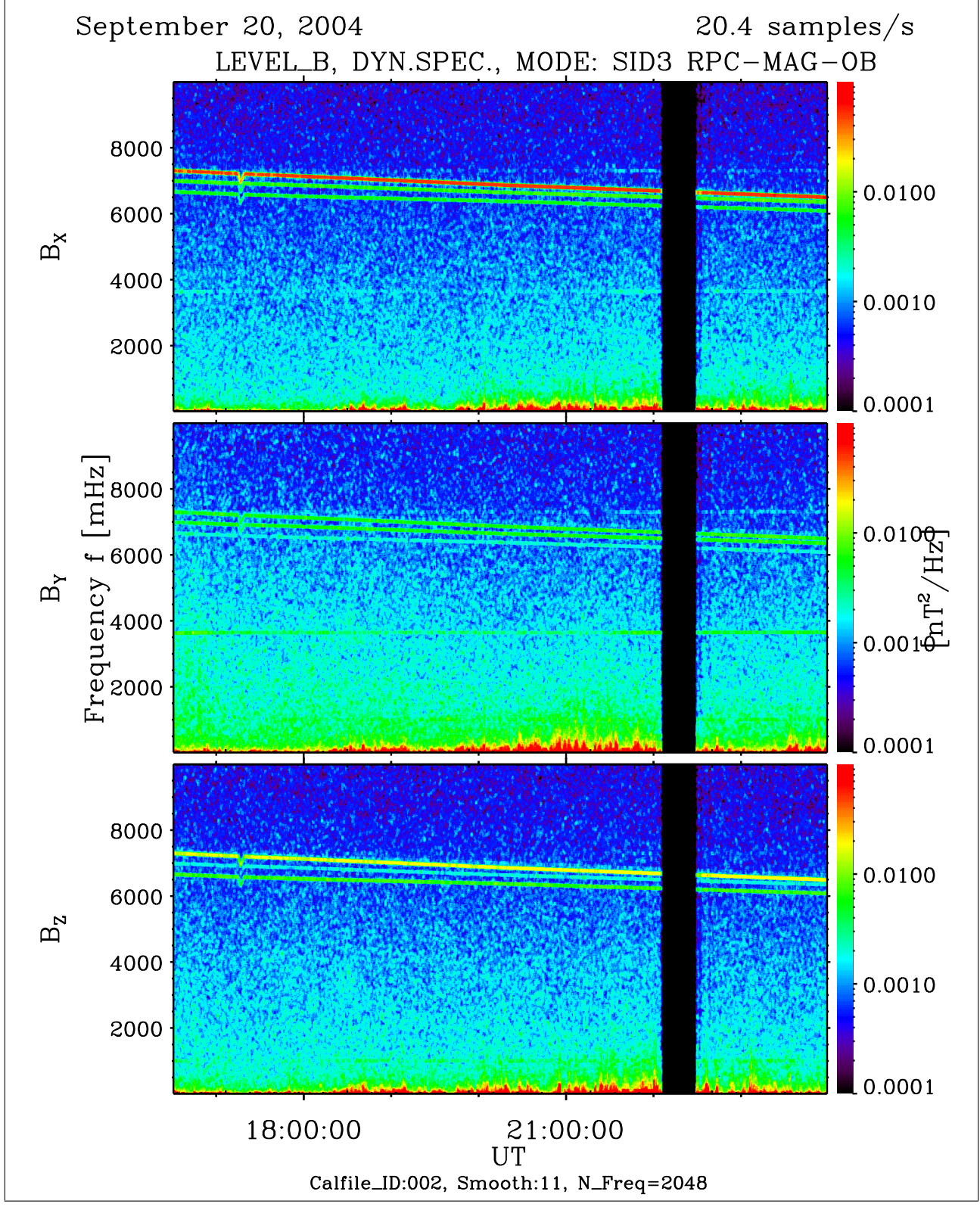


Figure 11: File: RPCMAG040920T1622\_CLB\_OB\_M3\_DS0\_10000\_002

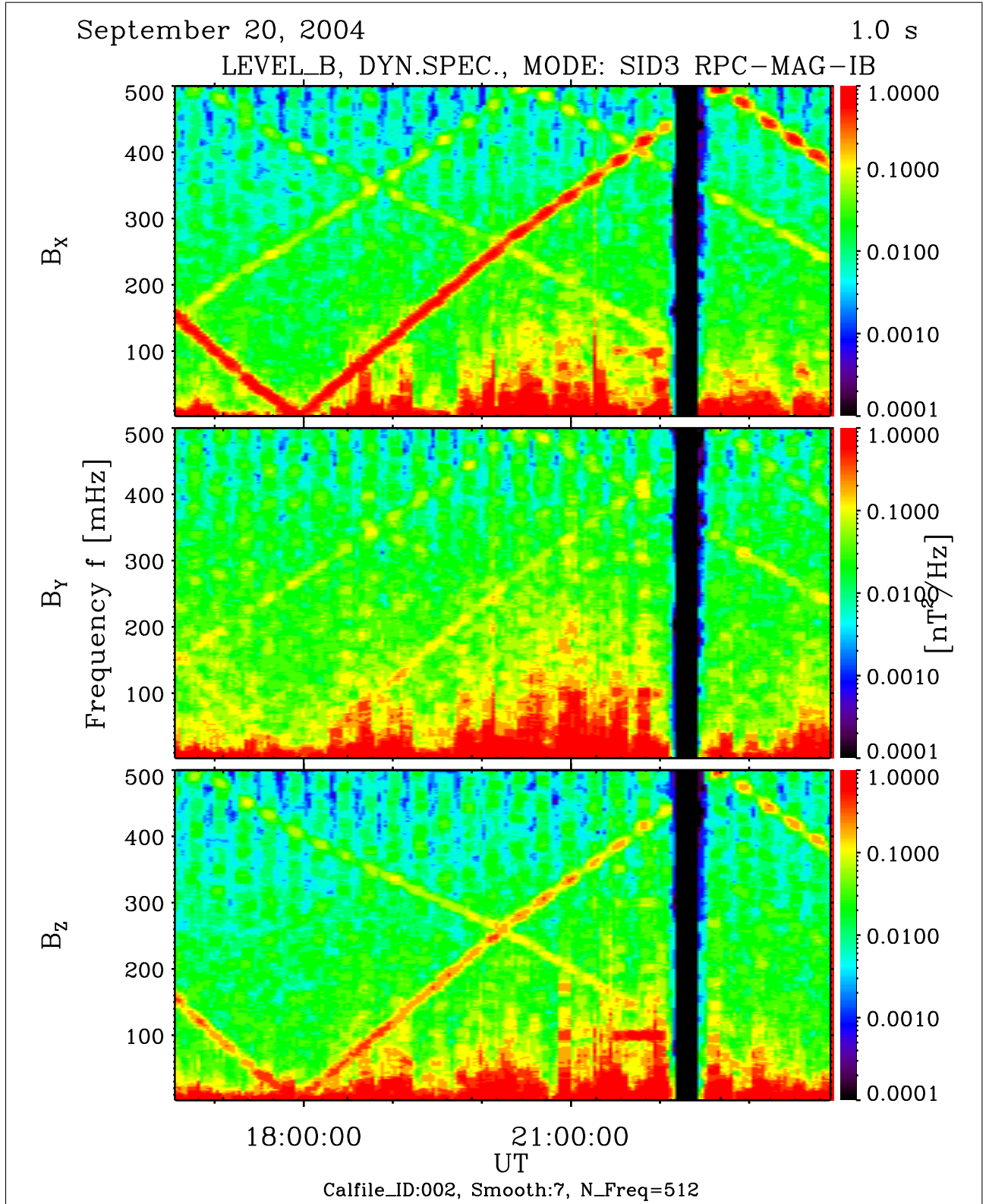


Figure 12: File: RPCMAG040920T1622\_CLB\_IB\_M3\_DS0\_10000\_002

R O S E T T A	Document: RO-IGEP-TR-0011
<b>IGEP</b> Institut für Geophysik u. extraterr. Physik Technische Universität Braunschweig	Issue: 3
	Revision: 1
	Date: April 13, 2007
	Page: 14

### 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.

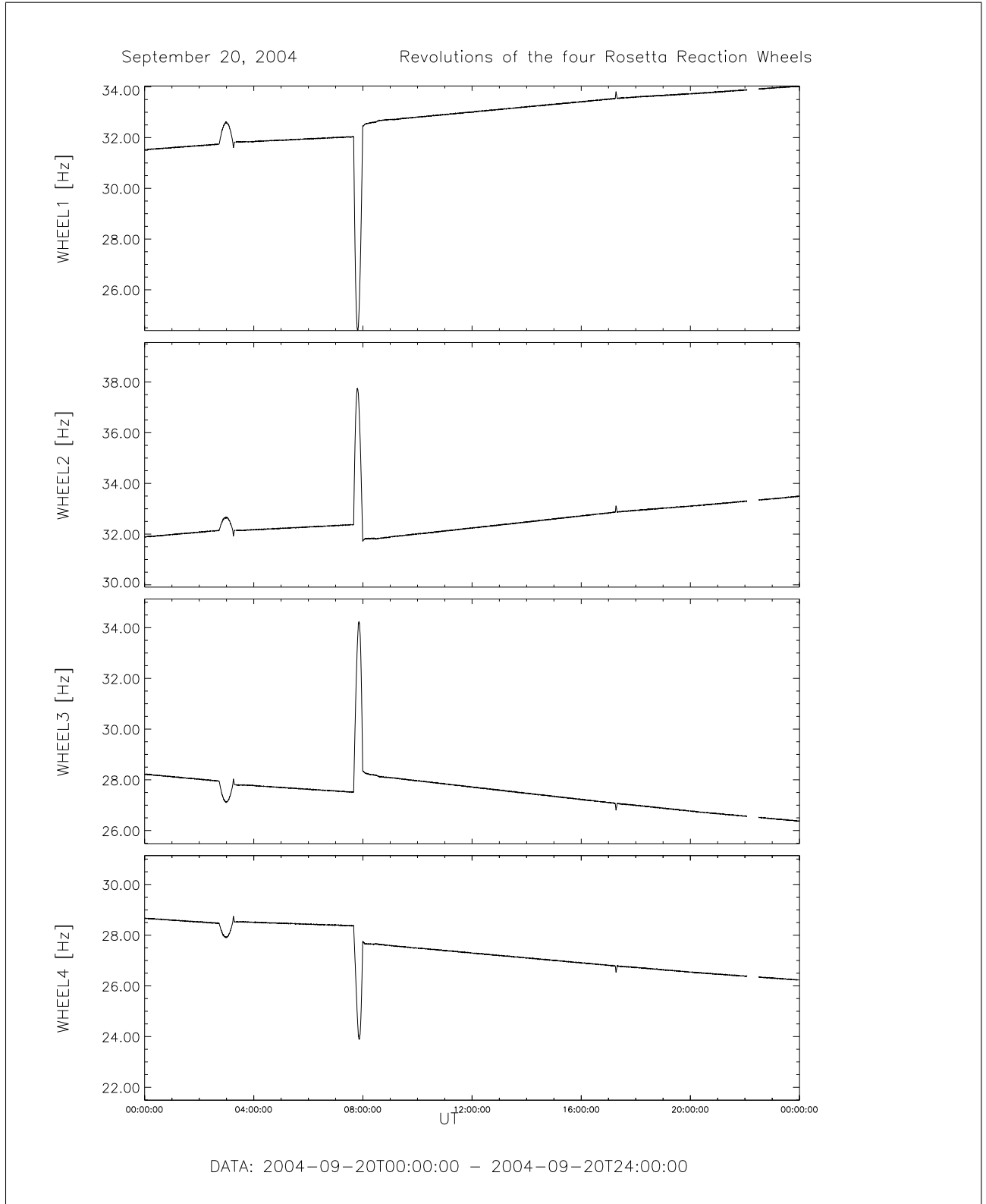


Figure 13: File: wheels\_Hz2004-09-20T00-00

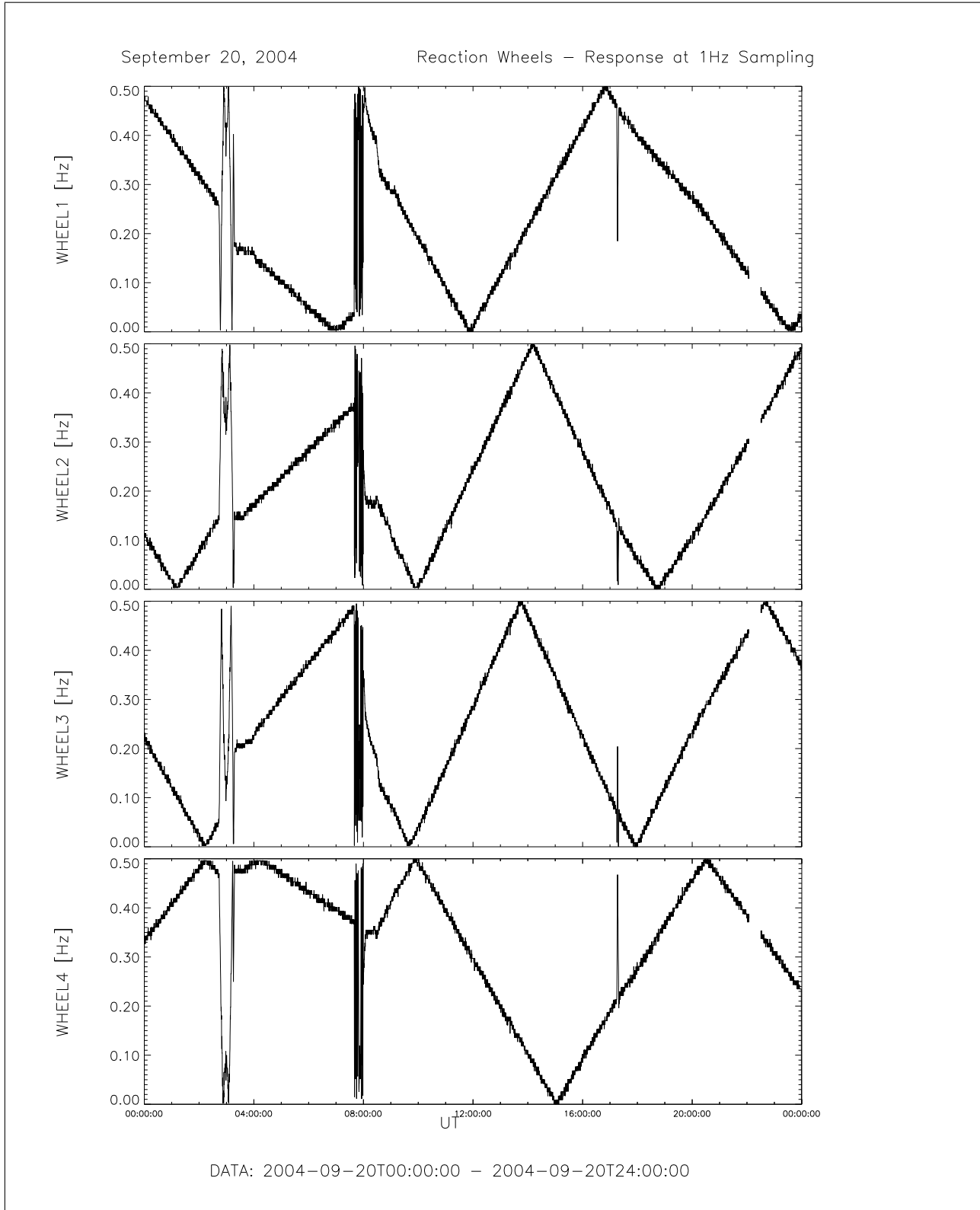


Figure 14: File: wheels\_1Hz\_Sampling2004-09-20T00-00

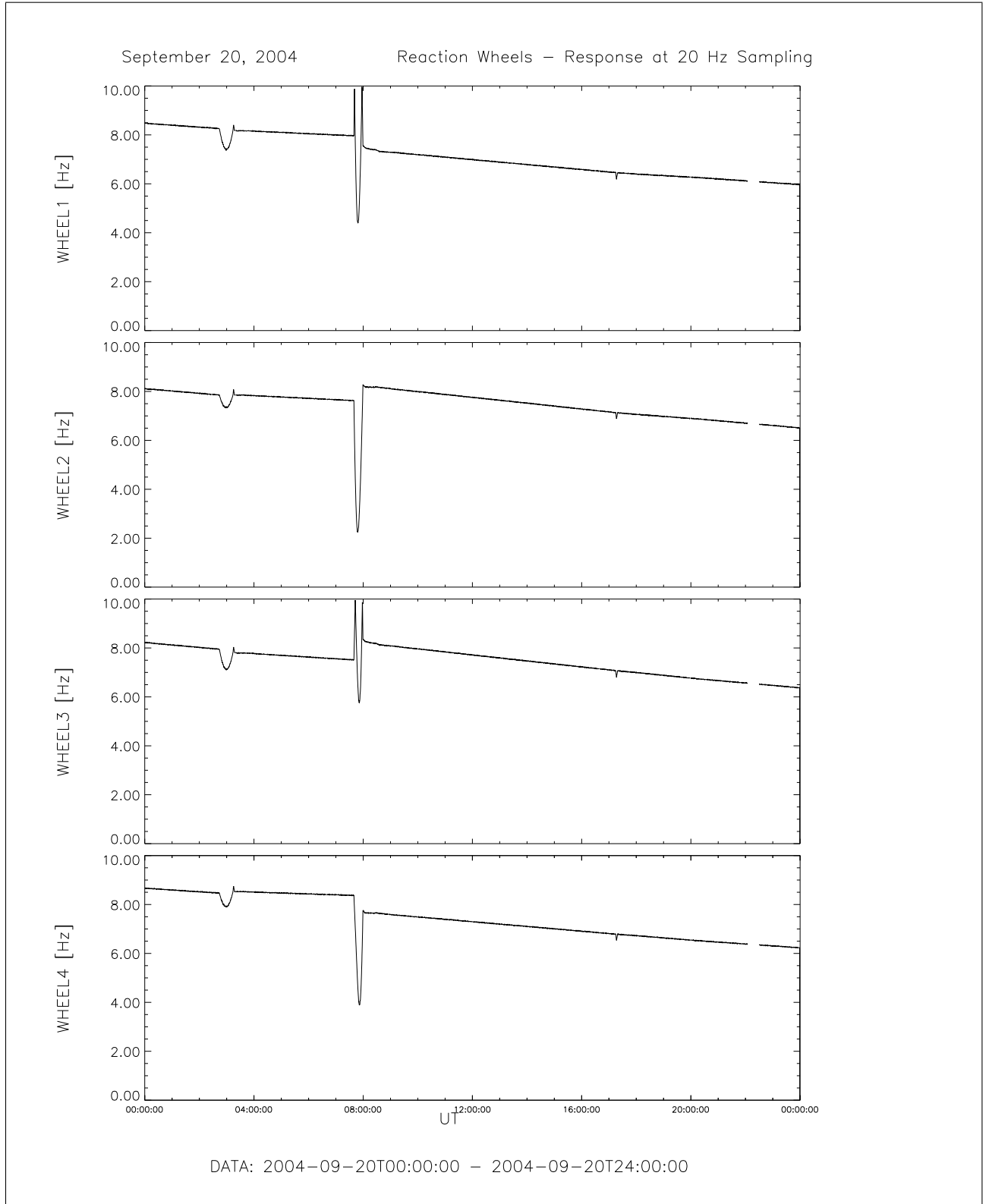


Figure 15: File: wheels\_20Hz\_Sampling2004-09-20T00-00

<h1 style="margin: 0;">R O S E T T A</h1>	Document: RO-IGEP-TR-0011 Issue: 3 Revision: 1 Date: April 13, 2007 Page: 18
<h2 style="margin: 0;">IGEP</h2>	Institut für Geophysik u. extraterr. Physik Technische Universität Braunschweig

### 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



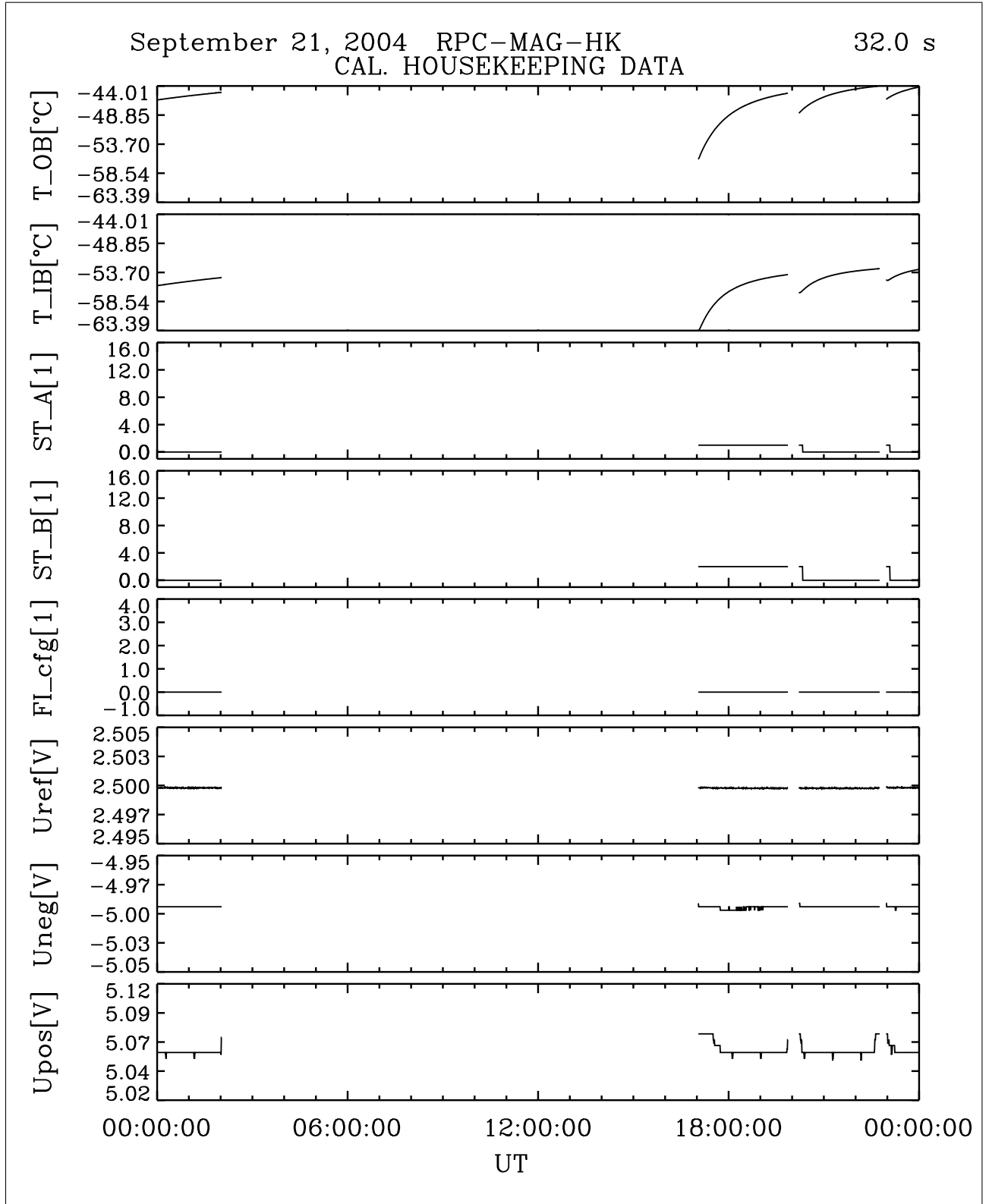


Figure 16: File: RPCMAG040921T0000\_CLA\_HK\_P0000\_2400

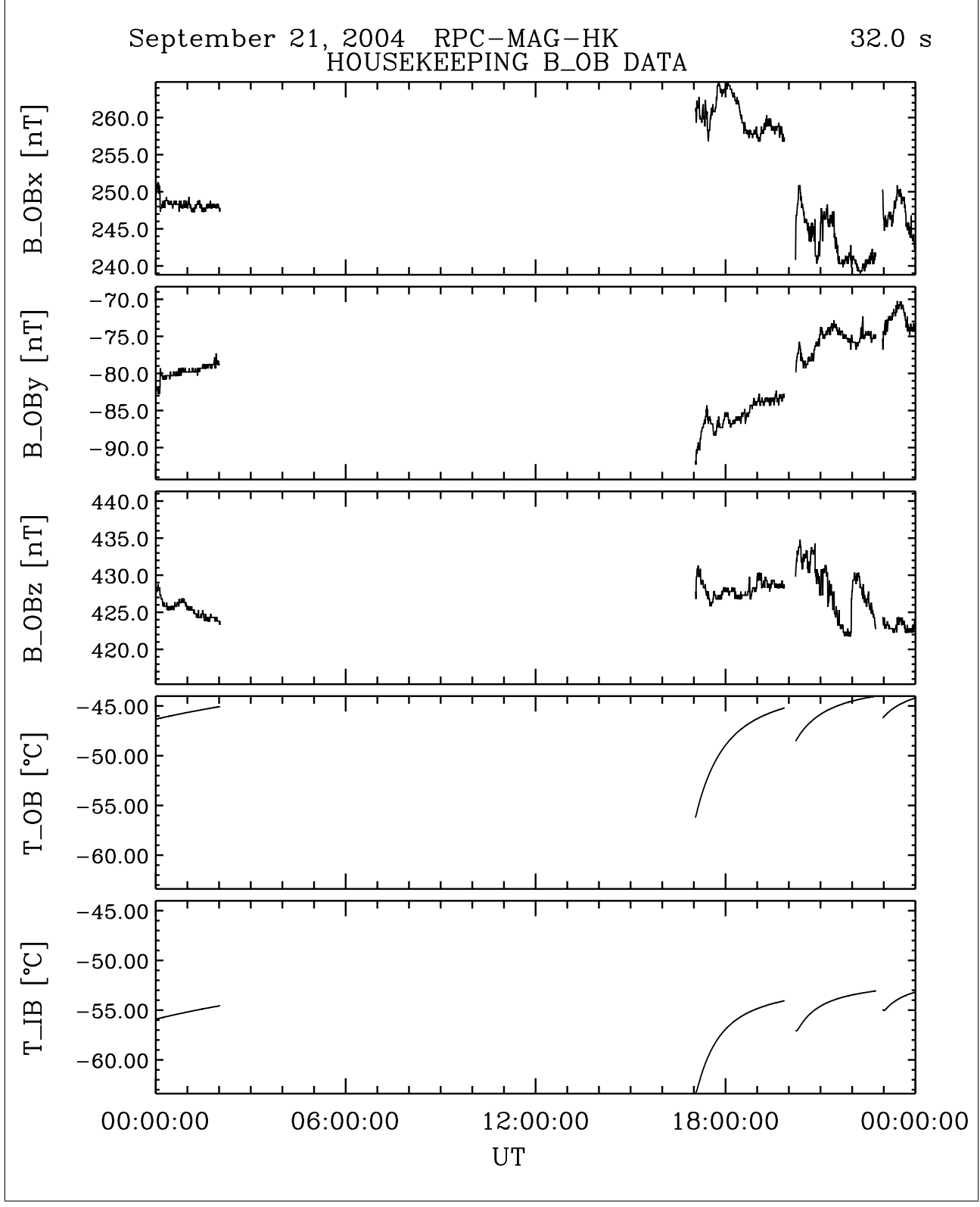


Figure 17: File: RPCMAG040921T0000\_CLA\_HK\_B\_P0000\_2400

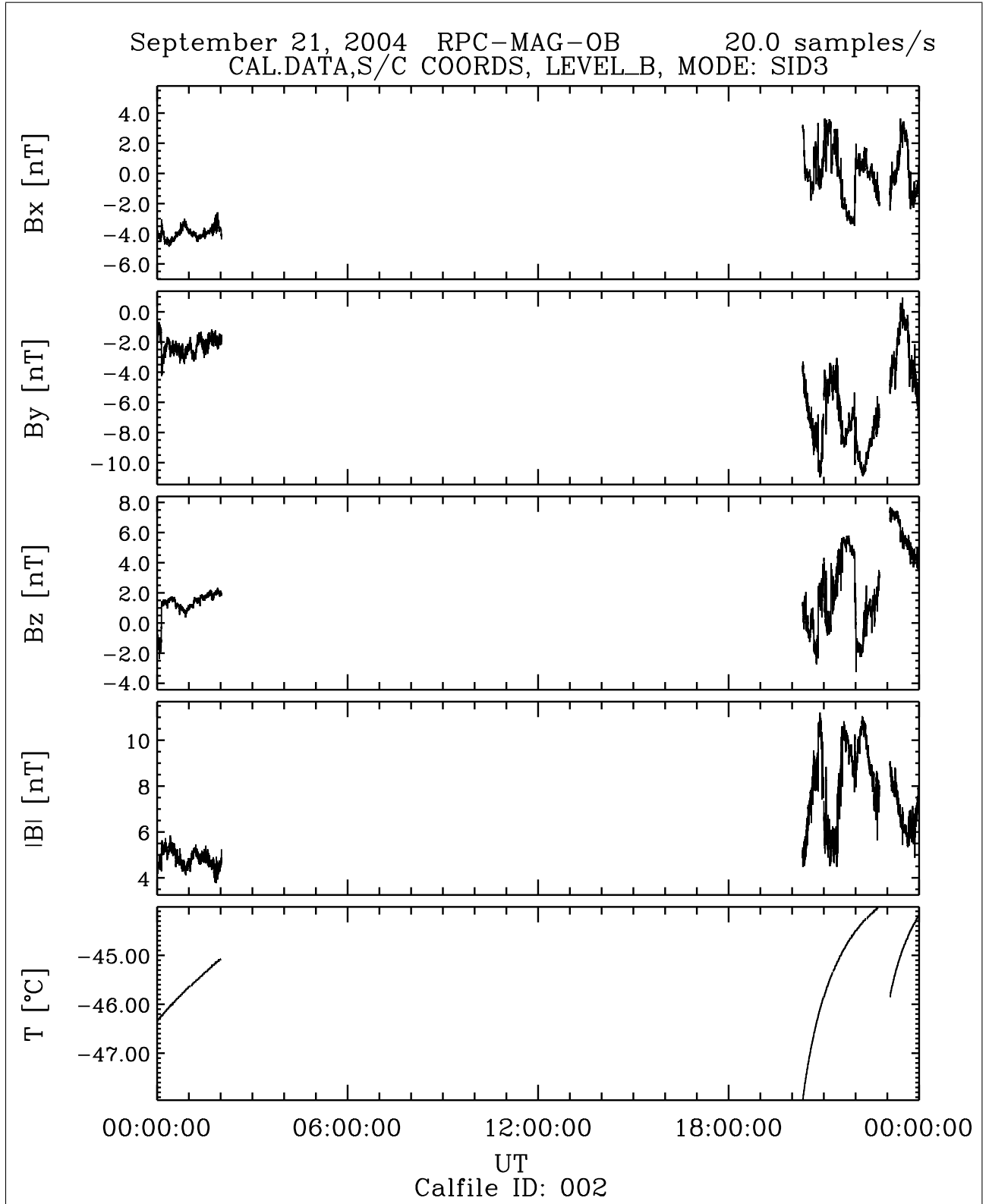


Figure 18: File: RPCMAG040921T0000\_CLB\_OB\_M3\_T0000\_2400\_002

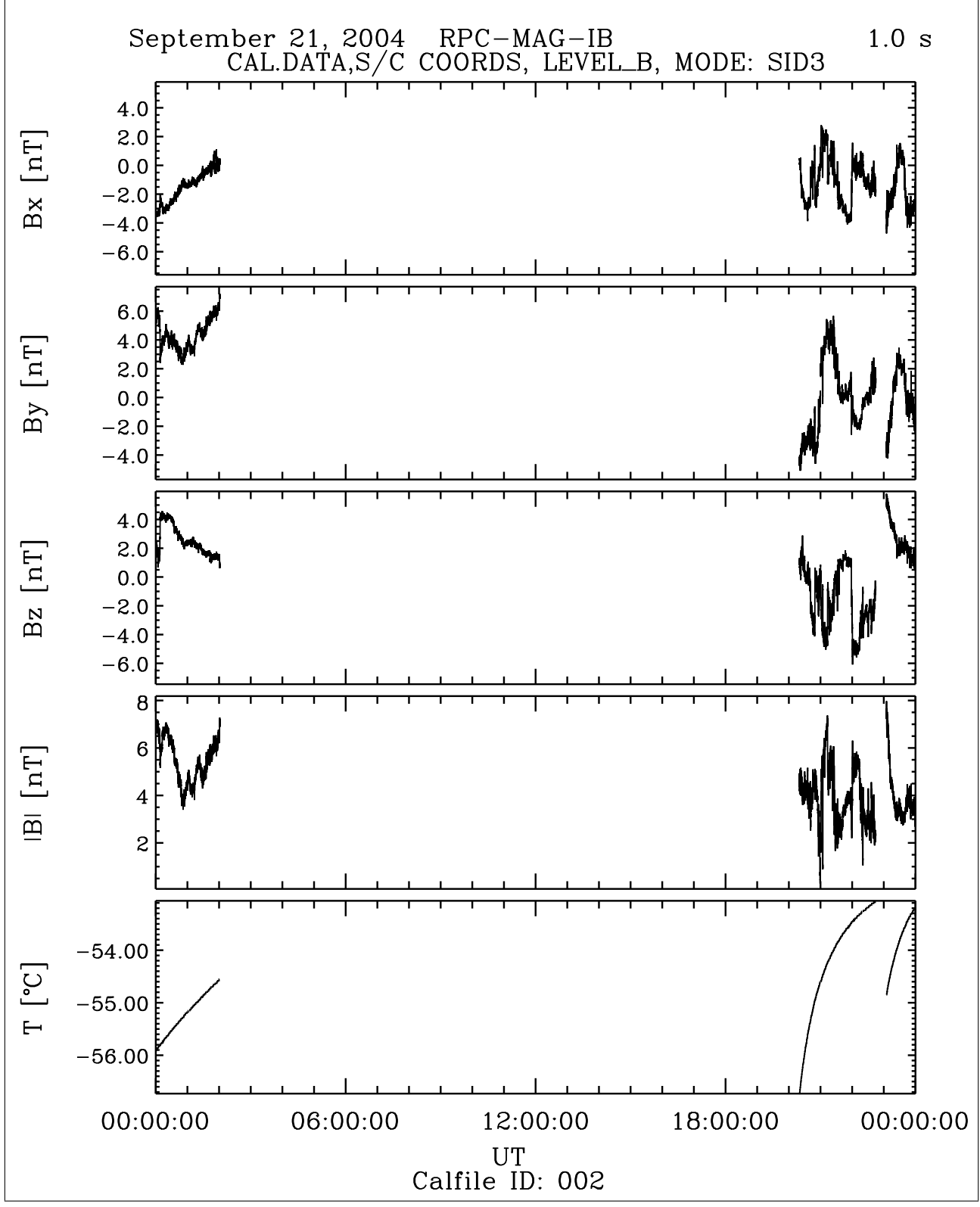


Figure 19: File: RPCMAG040921T0000\_CLB\_IB\_M3\_T0000\_2400\_002

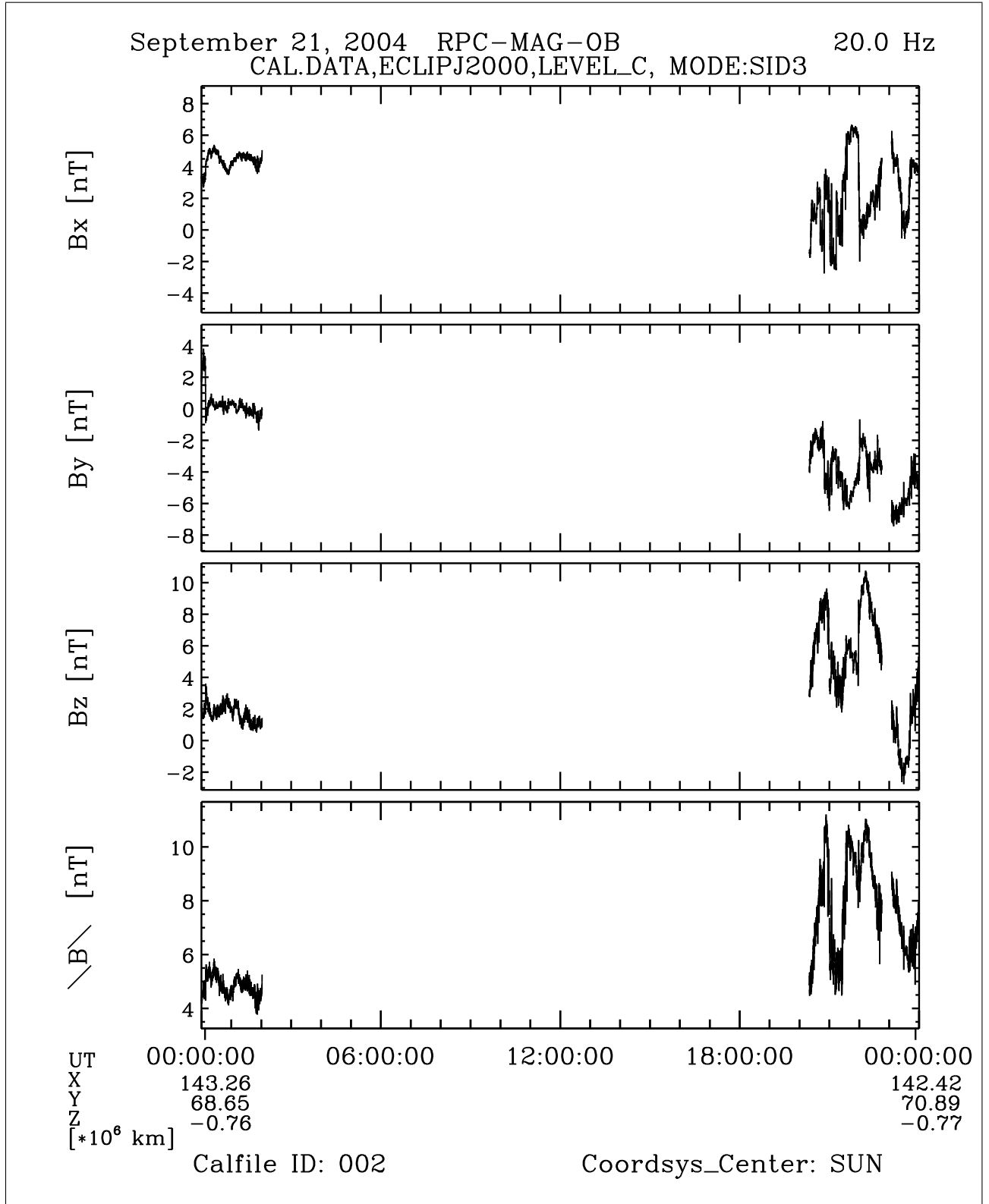


Figure 20: File: RPCMAG040921T0000\_CLC\_OB\_M3\_T0000\_2400\_002

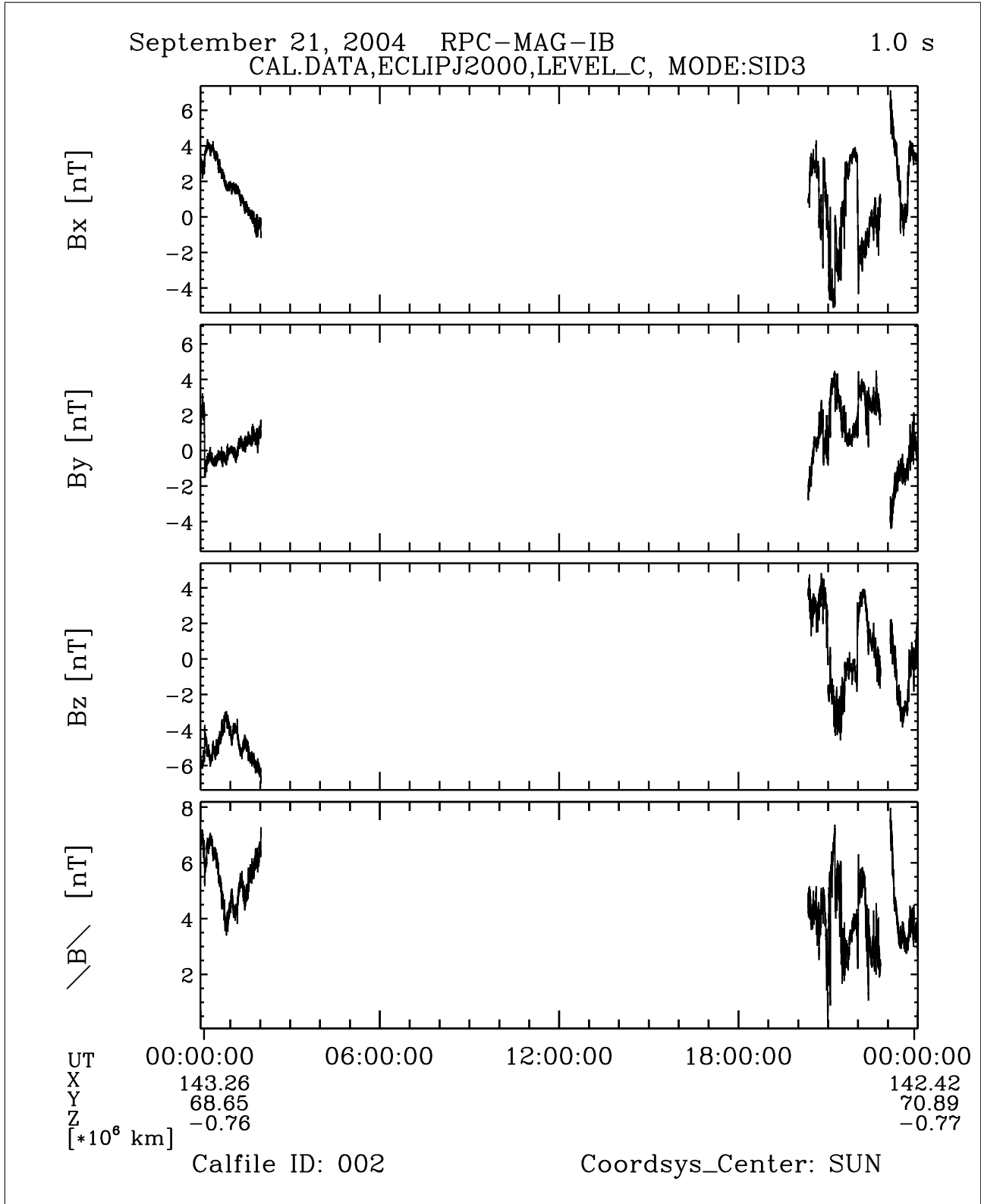


Figure 21: File: RPCMAG040921T0000\_CLC\_IB\_M3\_T0000\_2400\_002

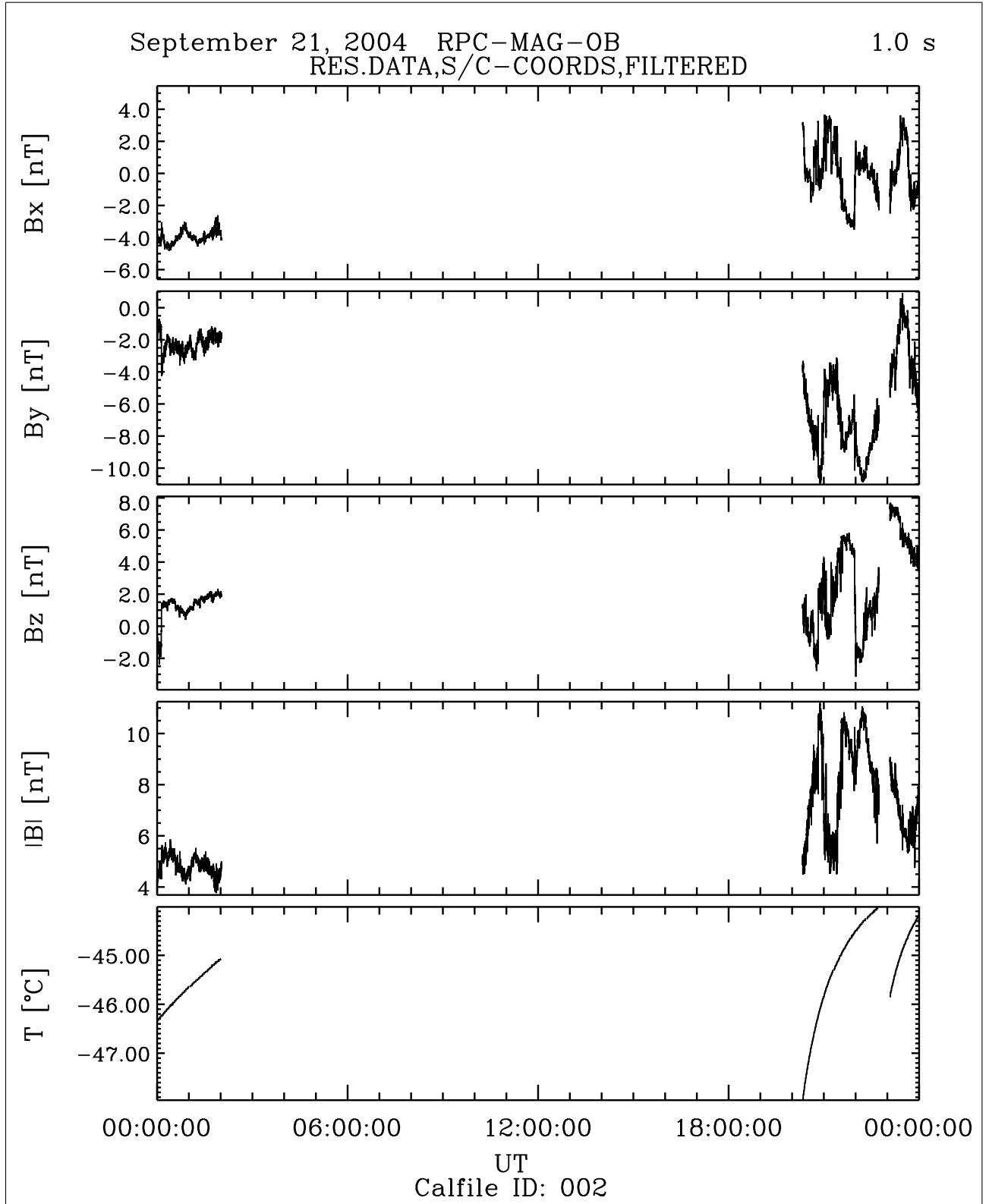


Figure 22: File: RPCMAG040921\_CLF\_OB\_A1\_T0000\_2400\_002

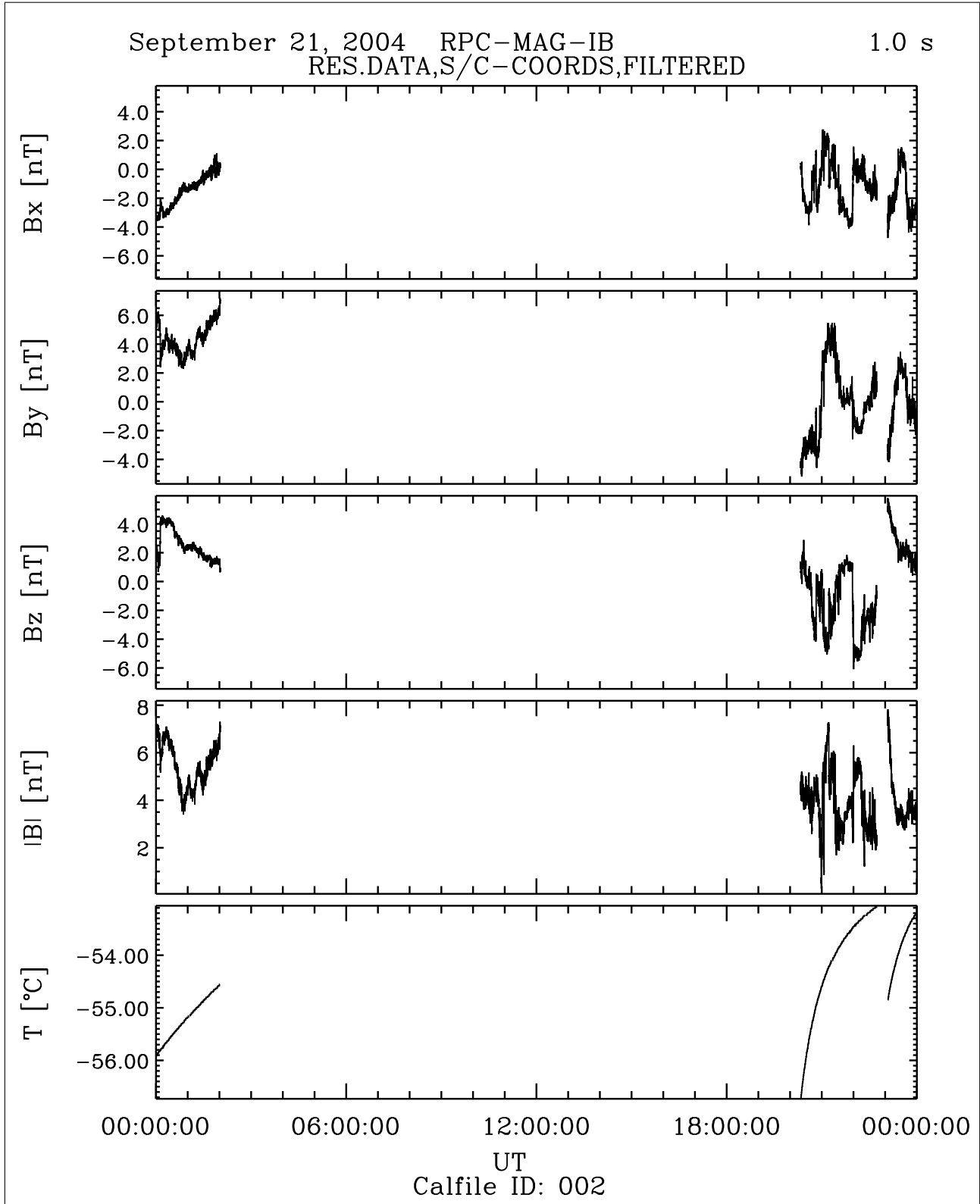


Figure 23: File: RPCMAG040921\_CLF\_IB\_A1\_T0000\_2400\_002



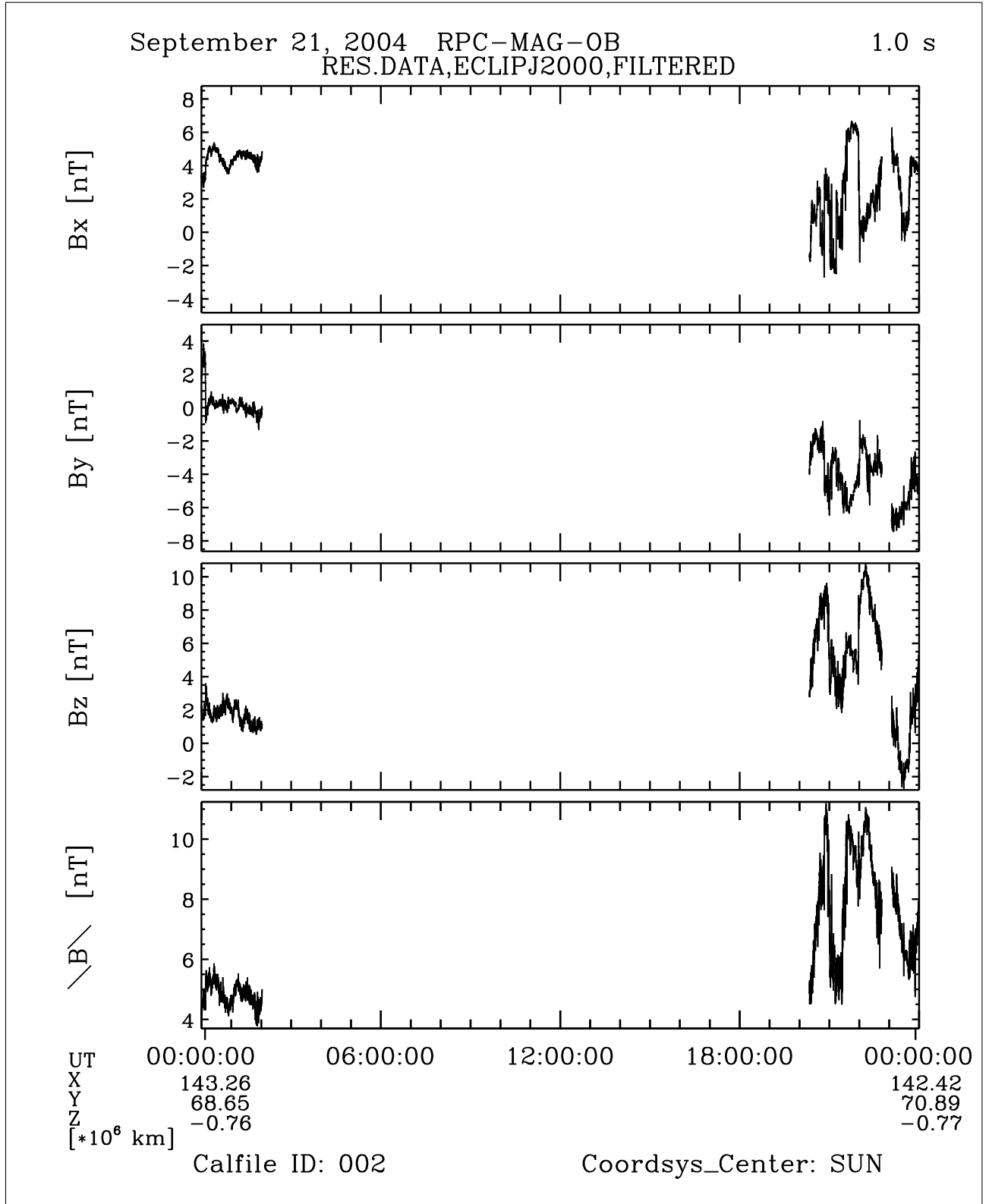


Figure 24: File: RPCMAG040921\_CLG\_OB\_A1\_T0000\_2400\_002

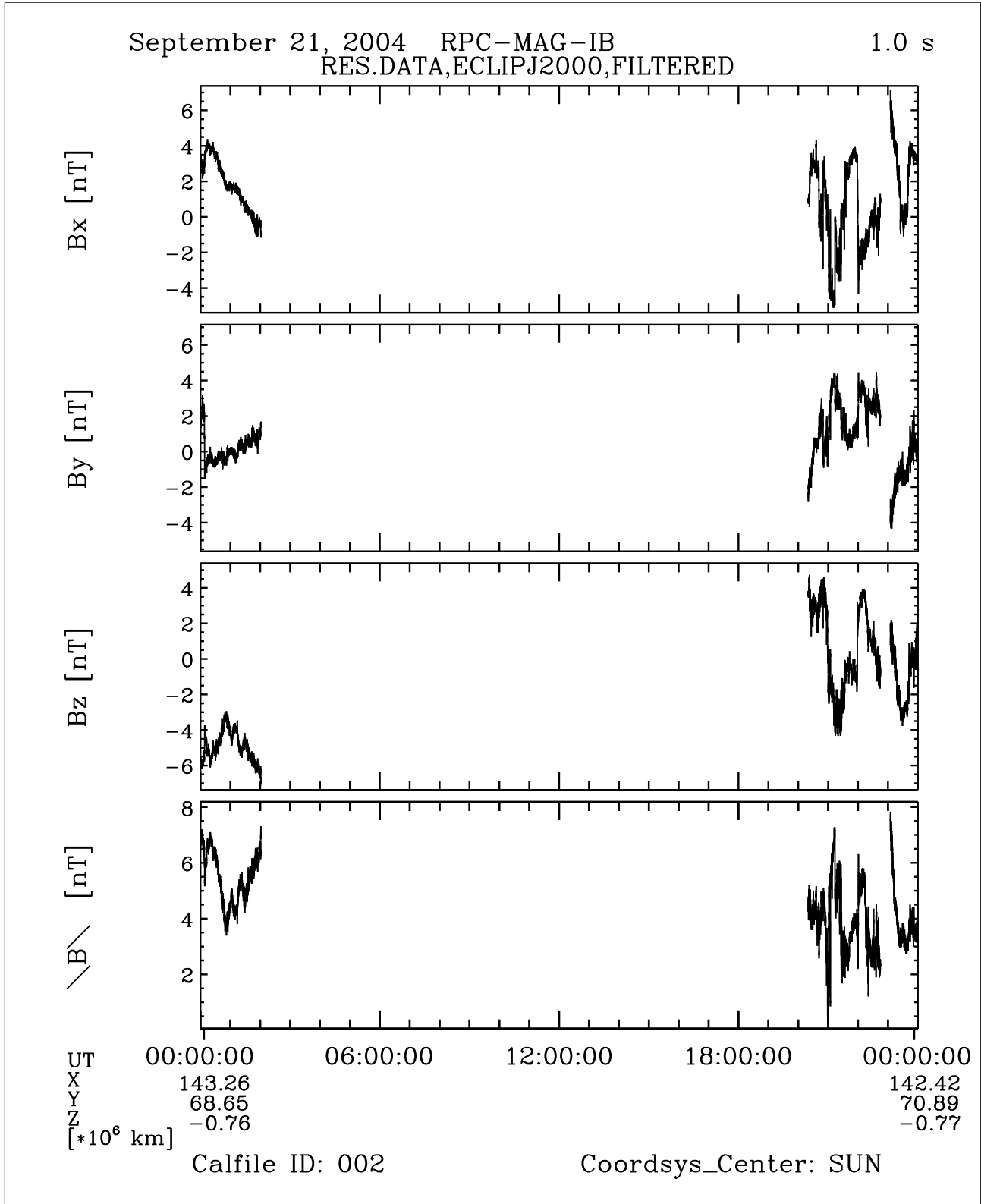


Figure 25: File: RPCMAG040921\_CLG\_IB\_A1\_T0000\_2400\_002

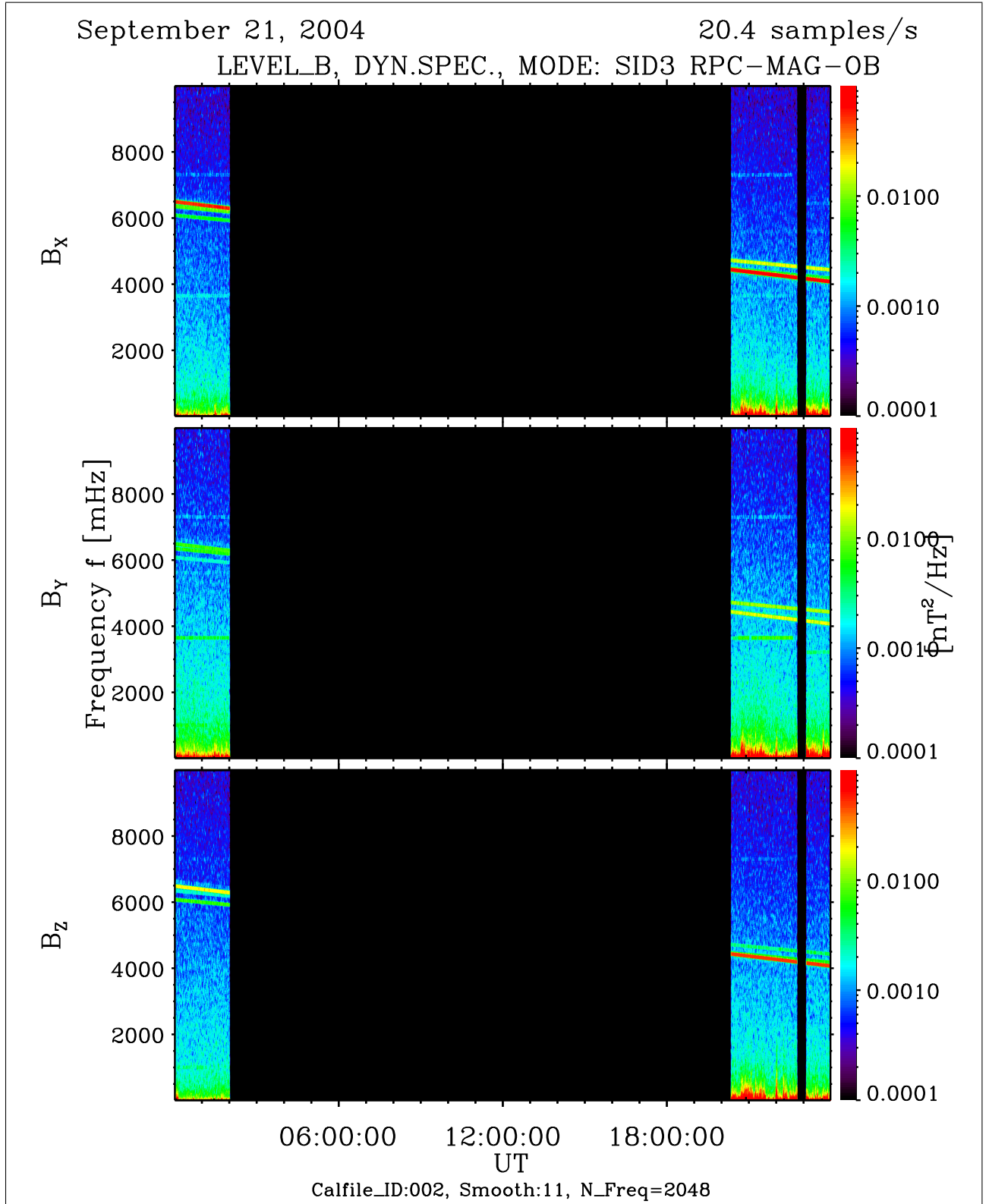


Figure 26: File: RPCMAG040921T0000\_CLB\_OB\_M3\_DS2\_10000\_002

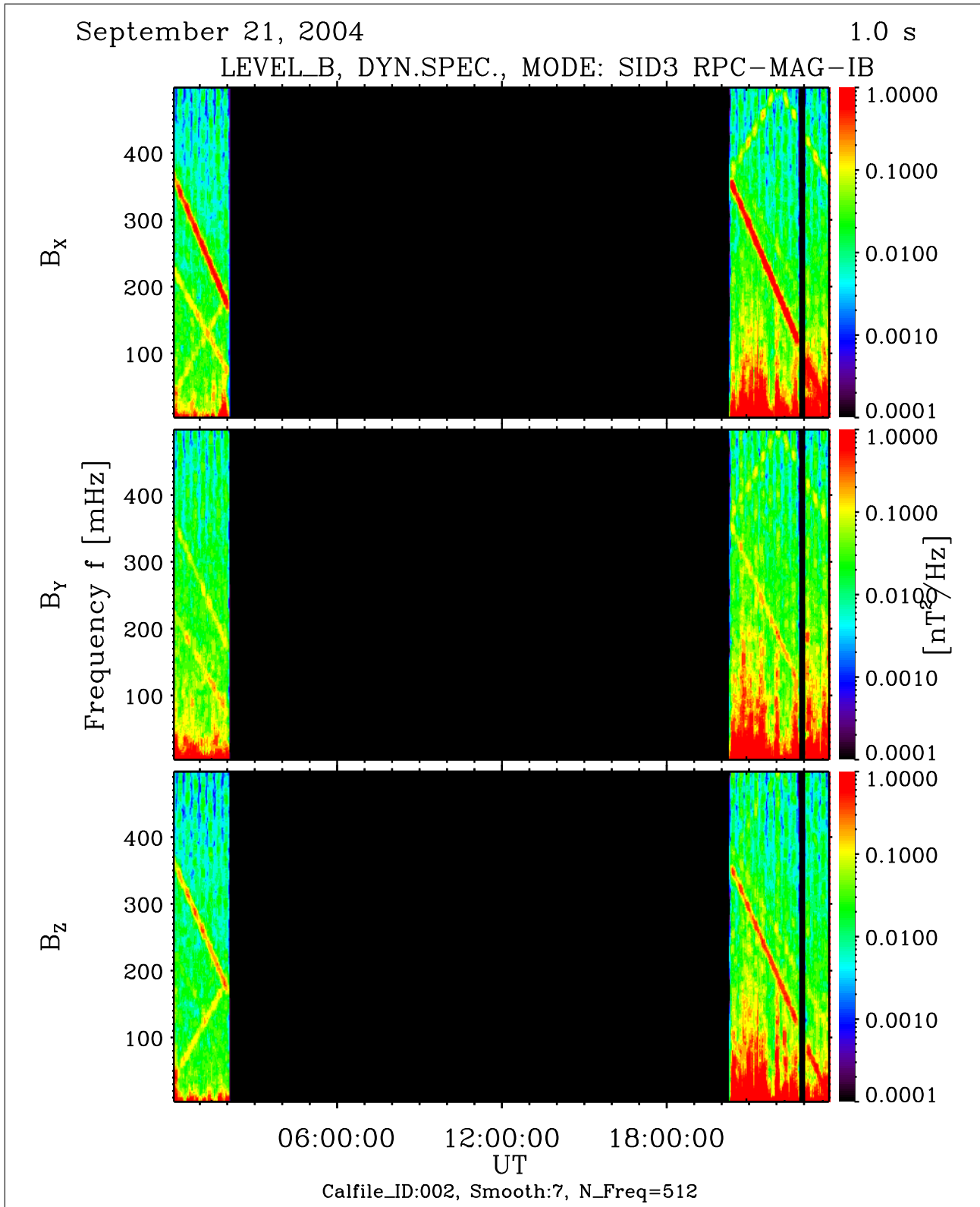


Figure 27: File: RPCMAG040921T0000\_CLB\_IB\_M3\_DS2\_500\_002

R O S E T T A	Document: RO-IGEP-TR-0011 Issue: 3 Revision: 1 Date: April 13, 2007 Page: 31
IGEP Institut für Geophysik u. extraterr. Physik Technische Universität Braunschweig	

### 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.

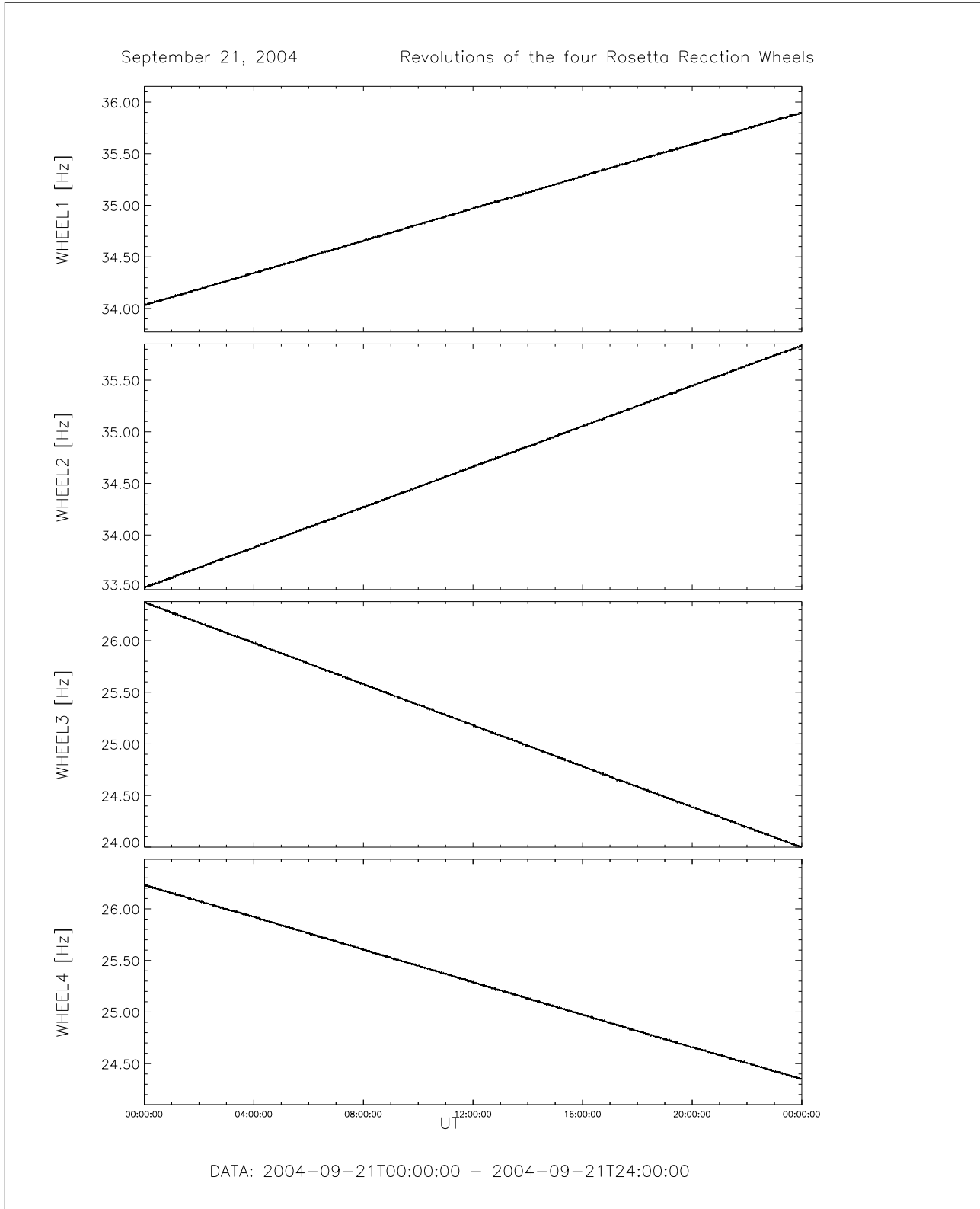


Figure 28: File: wheels\_Hz2004-09-21T00-00

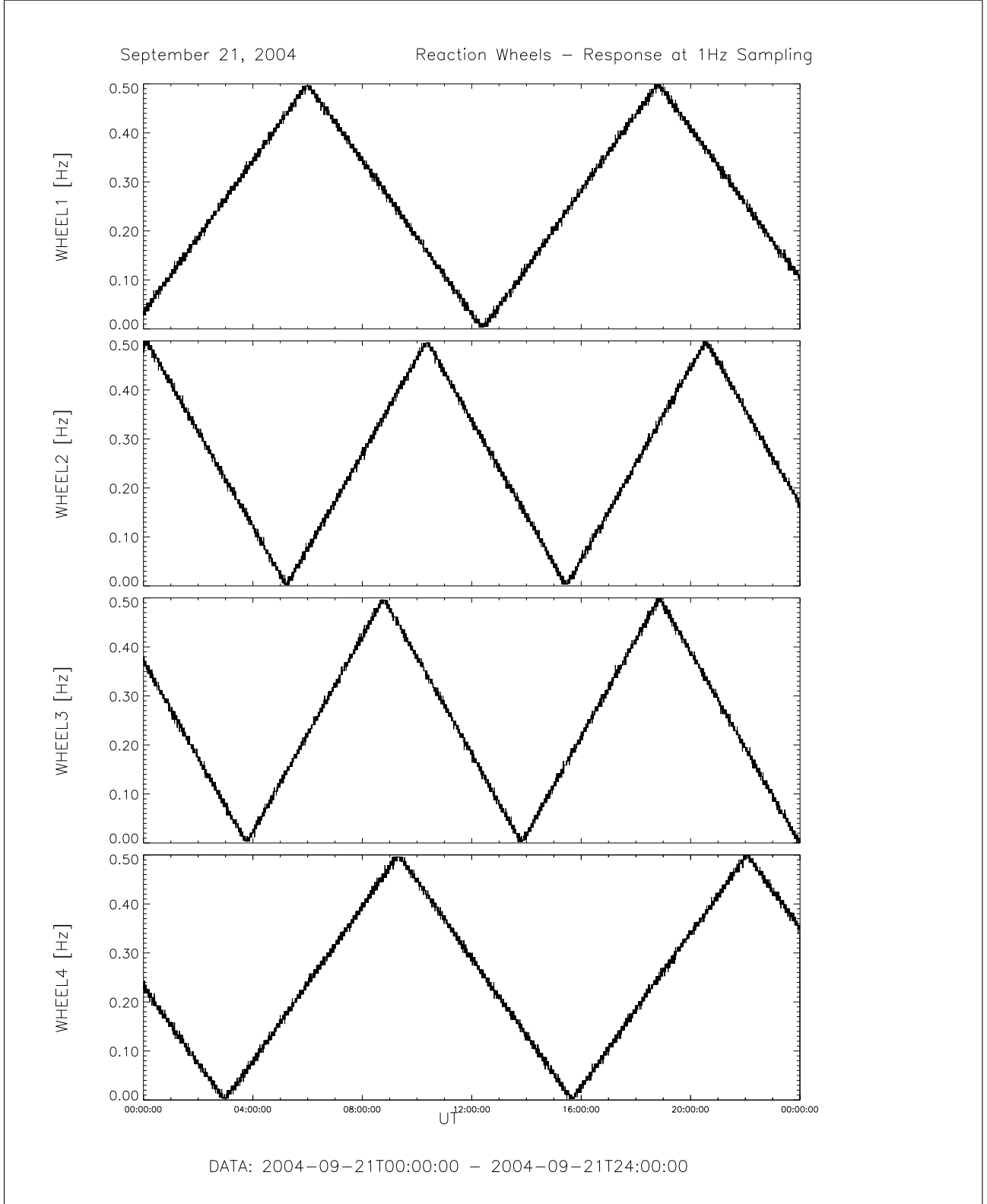


Figure 29: File: wheels\_1Hz\_Sampling2004-09-21T00-00

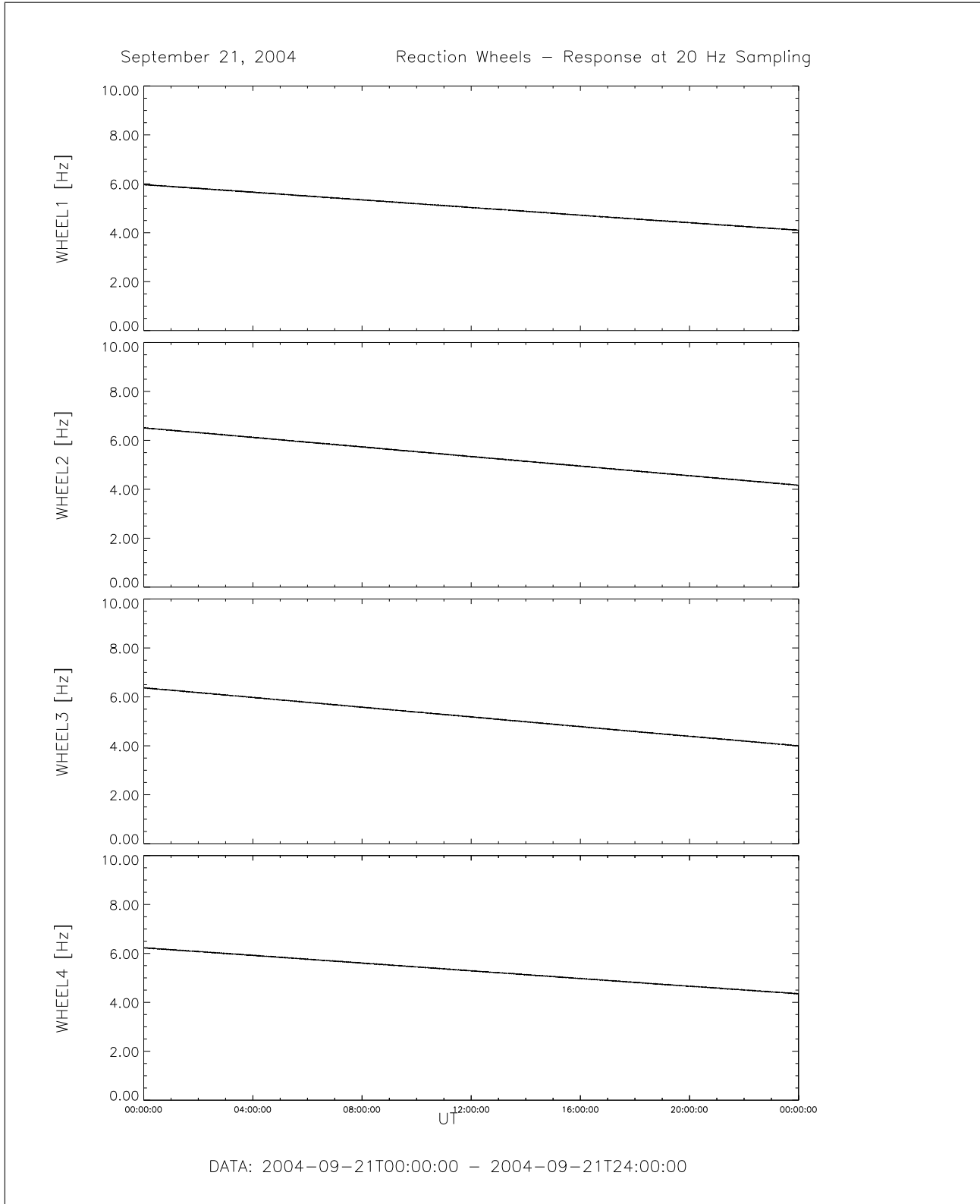


Figure 30: File: wheels\_20Hz\_Sampling2004-09-21T00-00



R O S E T T A		Document: RO-IGEP-TR-0011
		Issue: 3
		Revision: 1
IGEP	Institut für Geophysik u. extraterr. Physik	Date: April 13, 2007
	Technische Universität Braunschweig	Page: 35

## 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

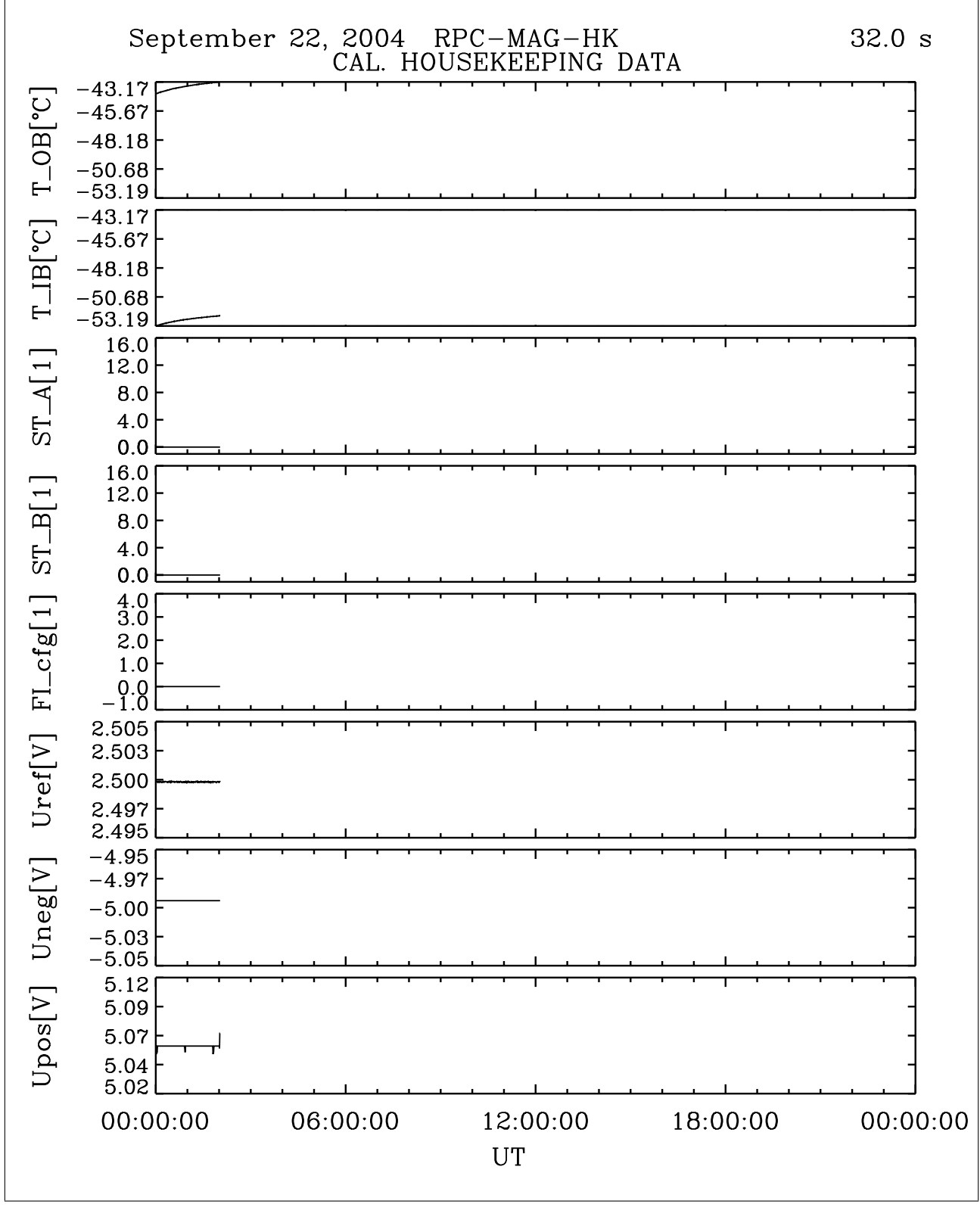


Figure 31: File: RPCMAG040922T0000\_CLA\_HK\_P0000\_2400

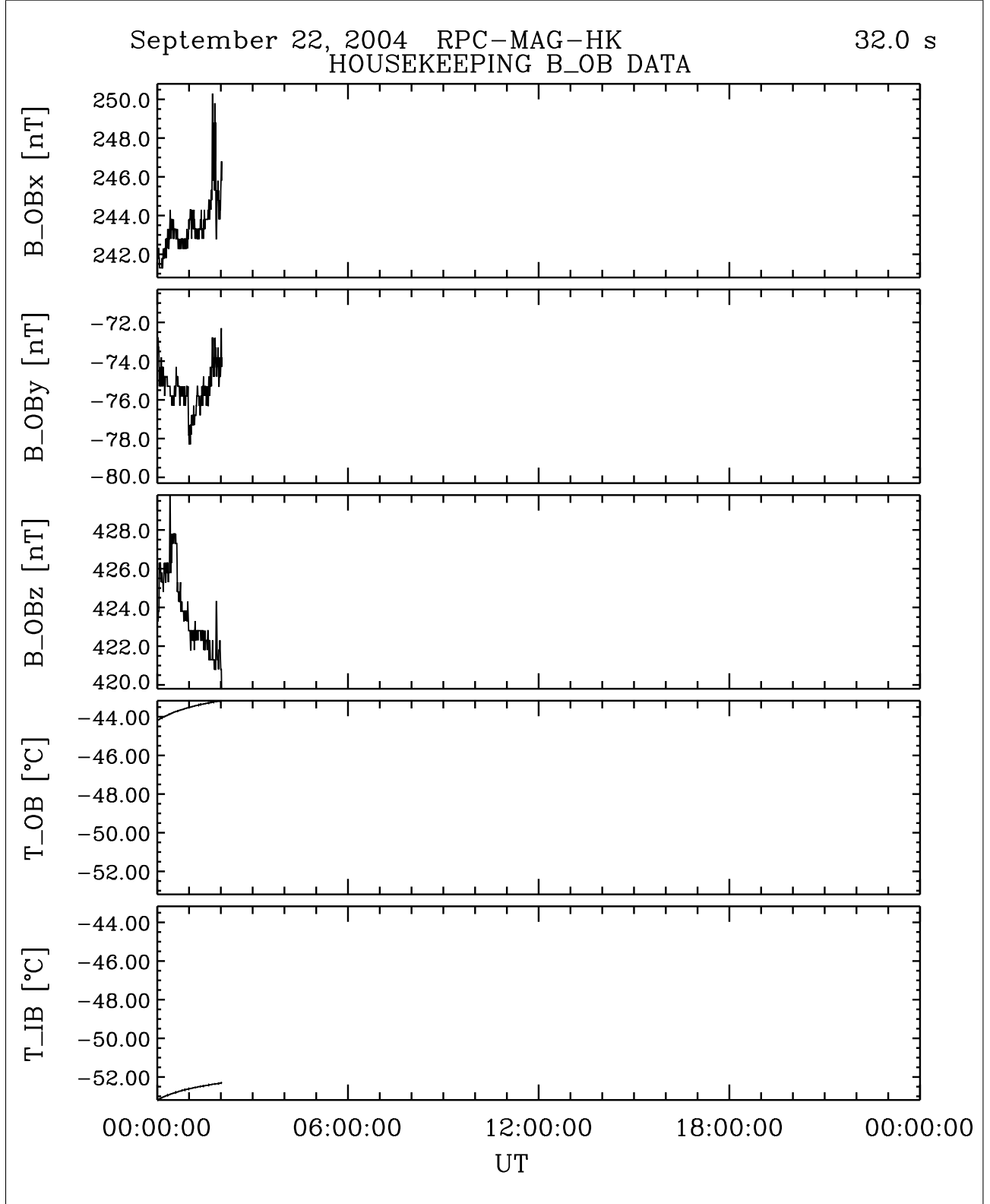


Figure 32: File: RPCMAG040922T0000\_CLA\_HK\_B.P0000\_2400

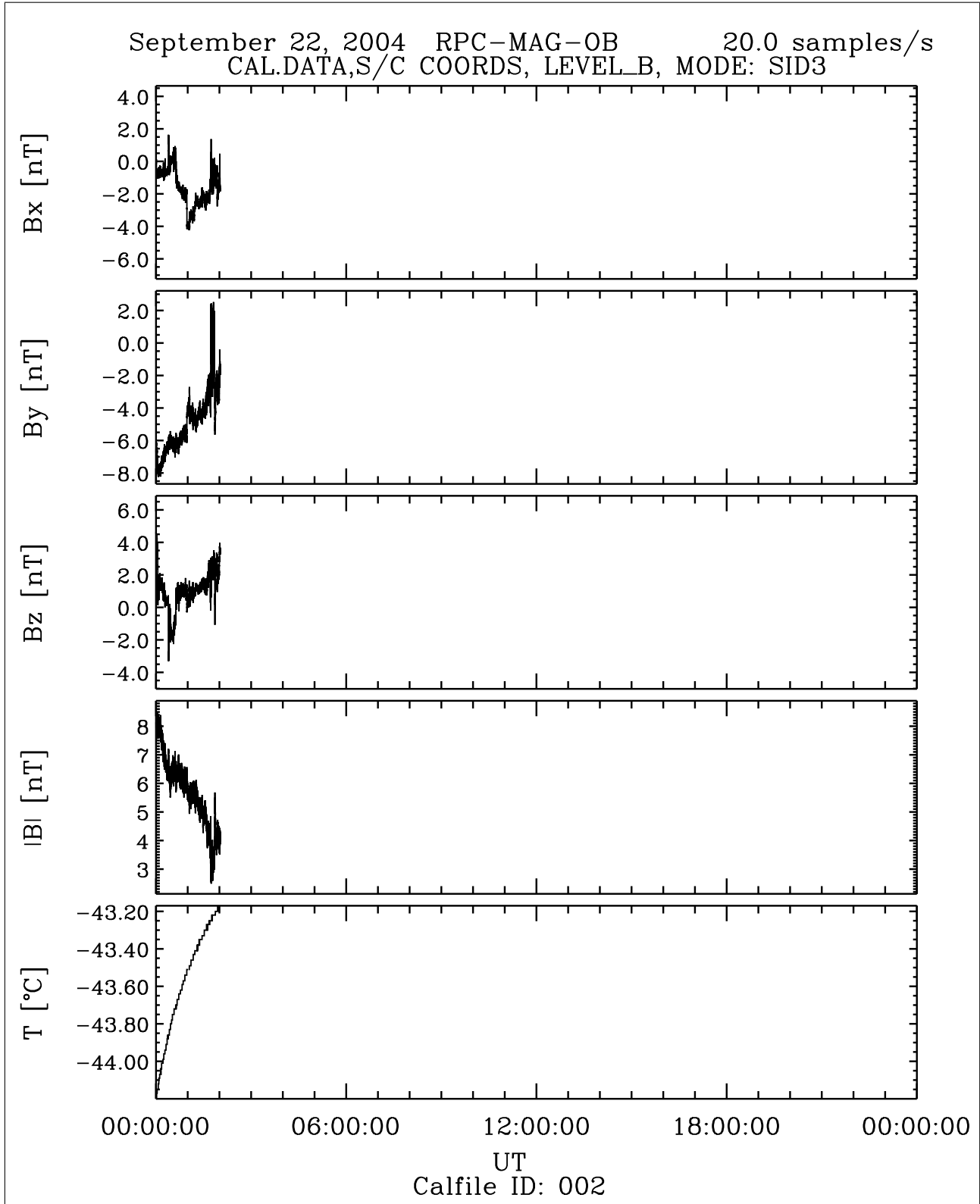


Figure 33: File: RPCMAG040922T0000\_CLB\_OB\_M3\_T0000\_2400\_002

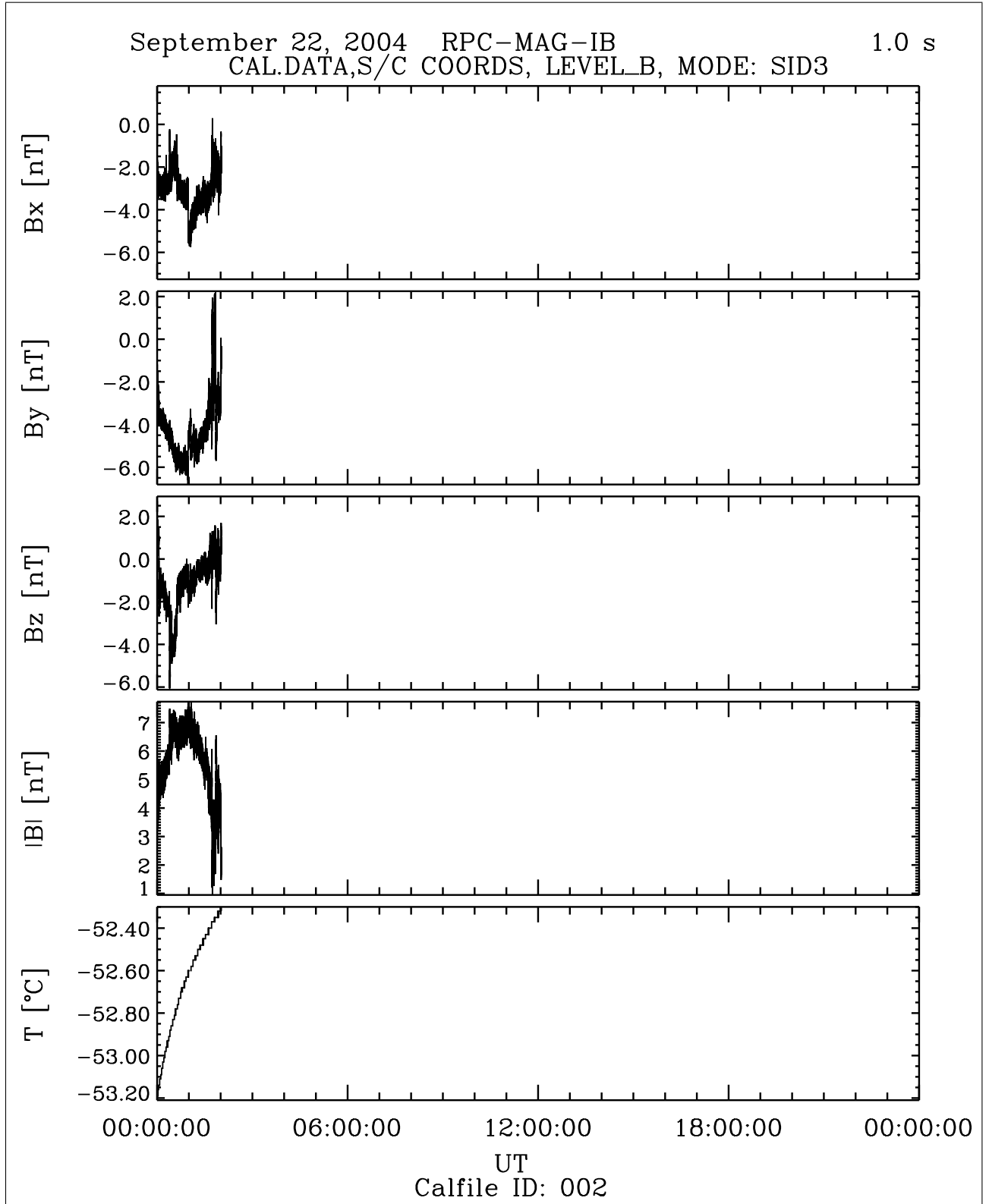


Figure 34: File: RPCMAG040922T0000\_CLB\_IB\_M3\_T0000\_2400\_002

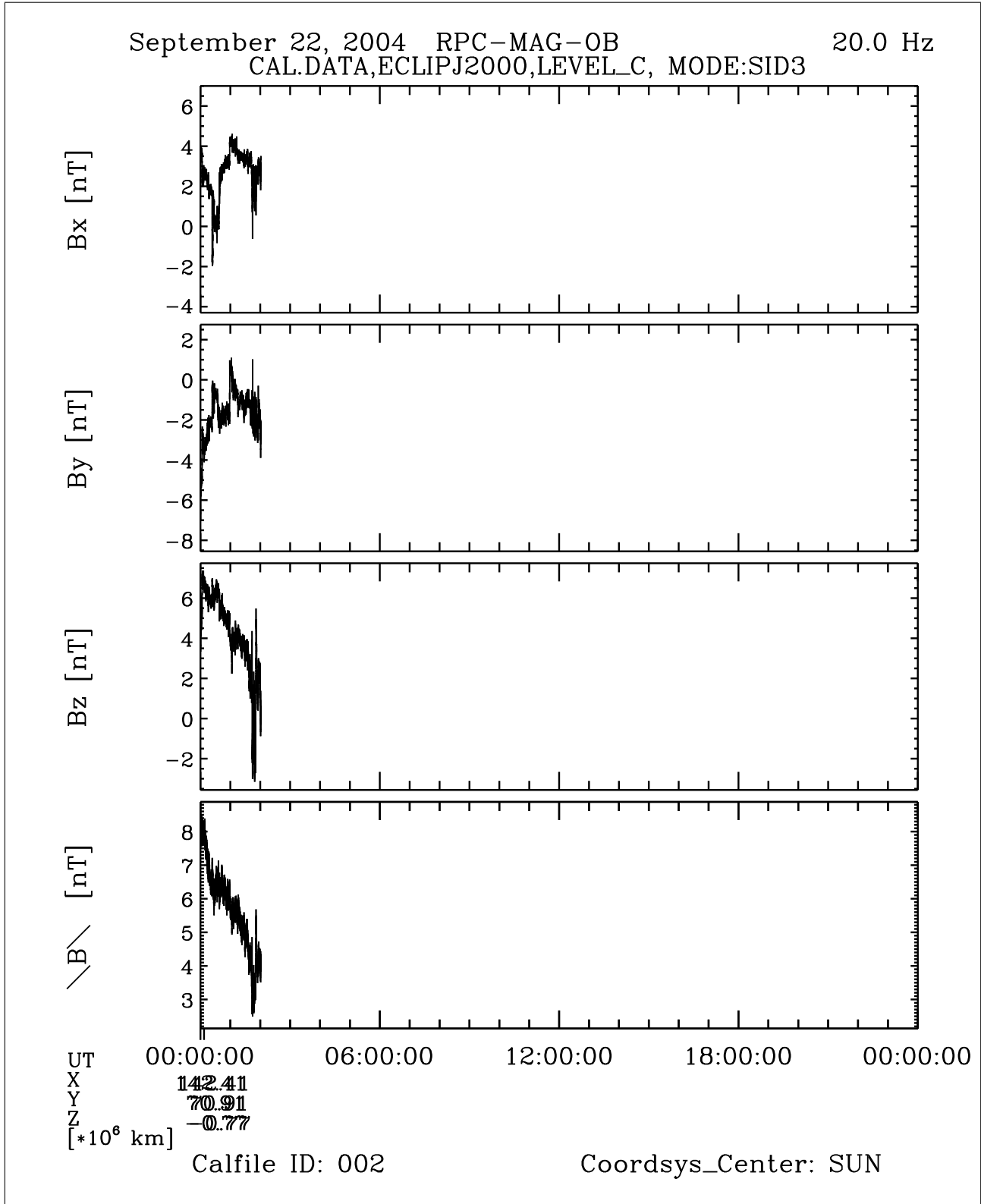


Figure 35: File: RPCMAG040922T0000\_CLC\_OB\_M3\_T0000\_2400\_002

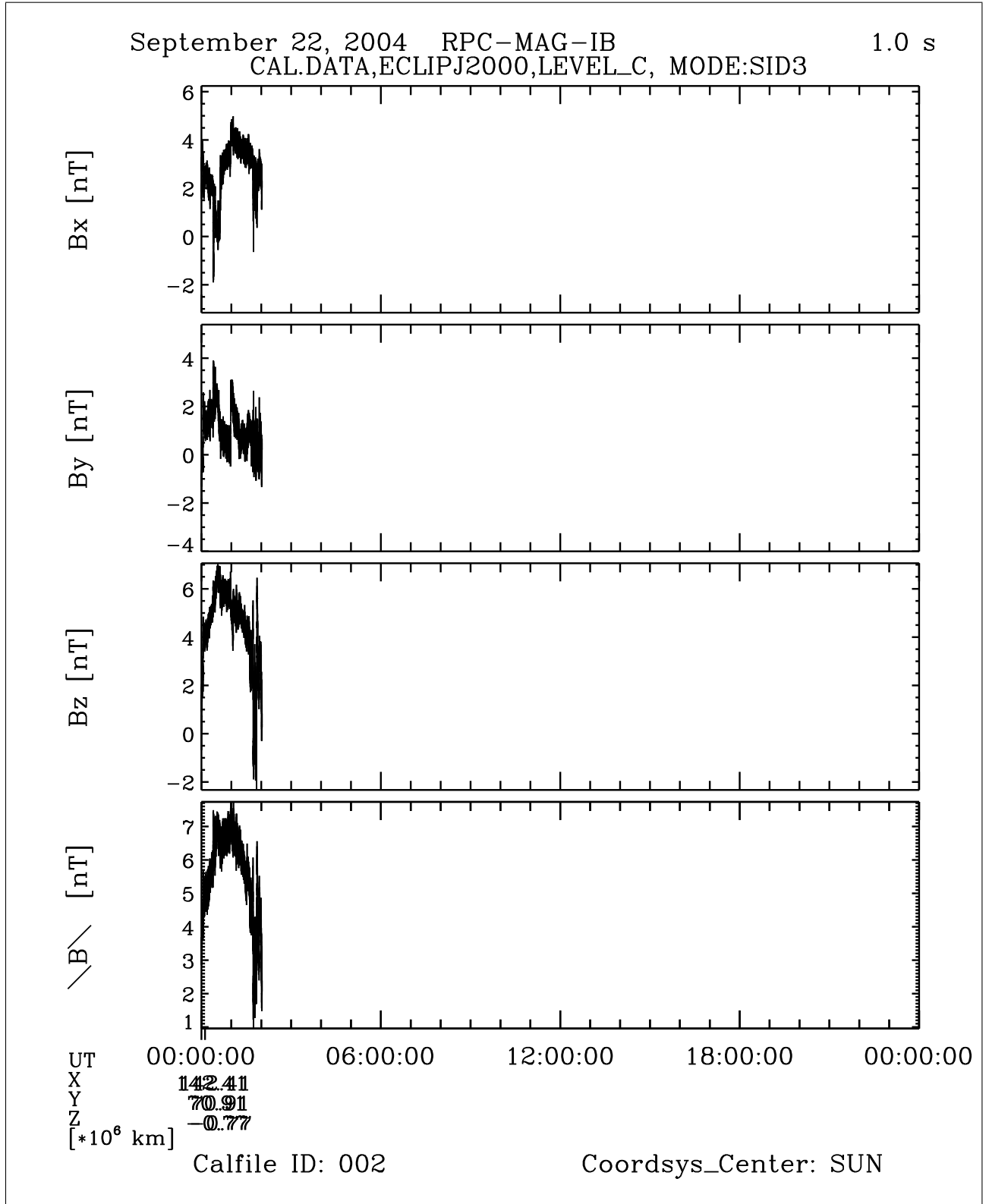


Figure 36: File: RPCMAG040922T0000\_CLC\_IB\_M3\_T0000\_2400\_002

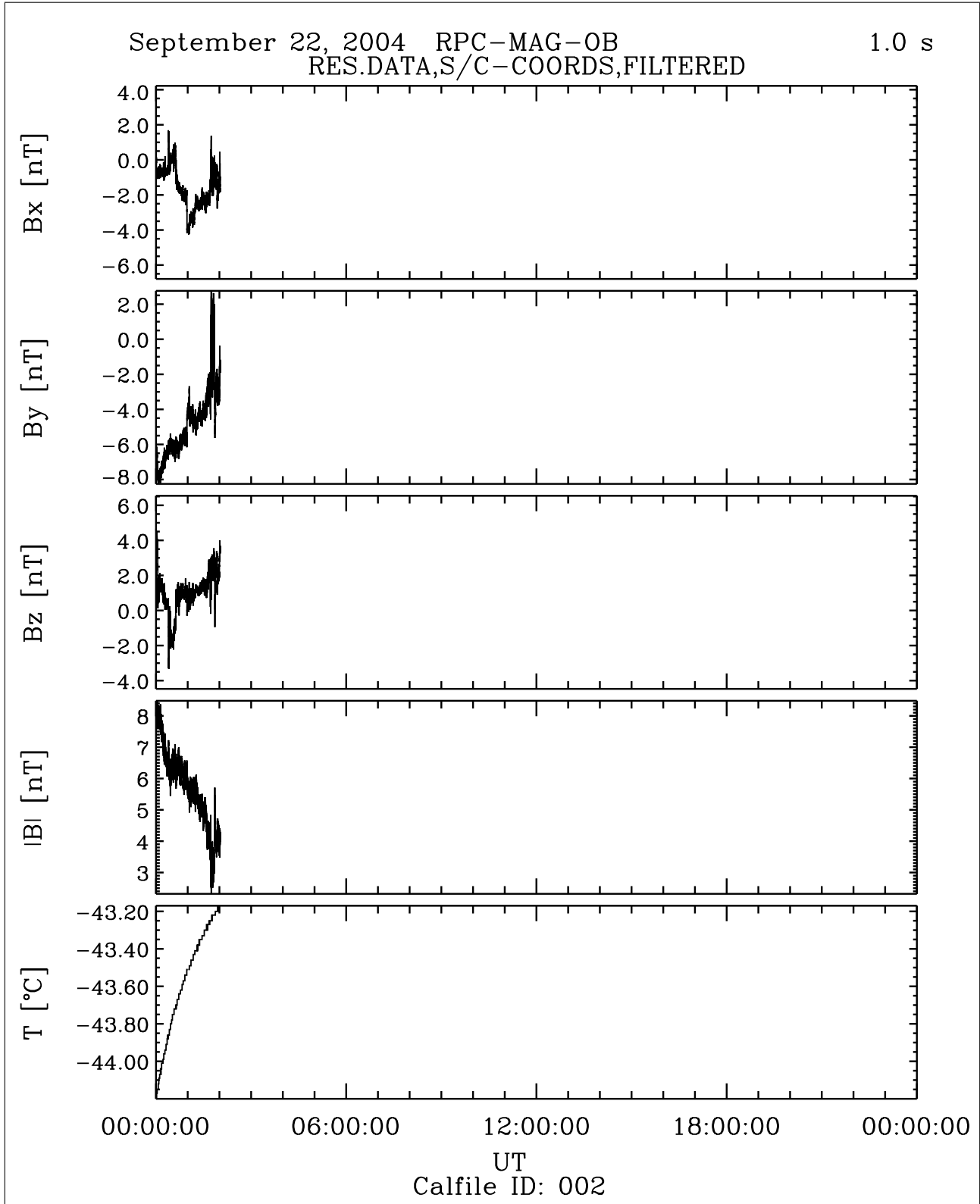


Figure 37: File: RPCMAG040922\_CLF\_OB\_A1\_T0000\_2400\_002



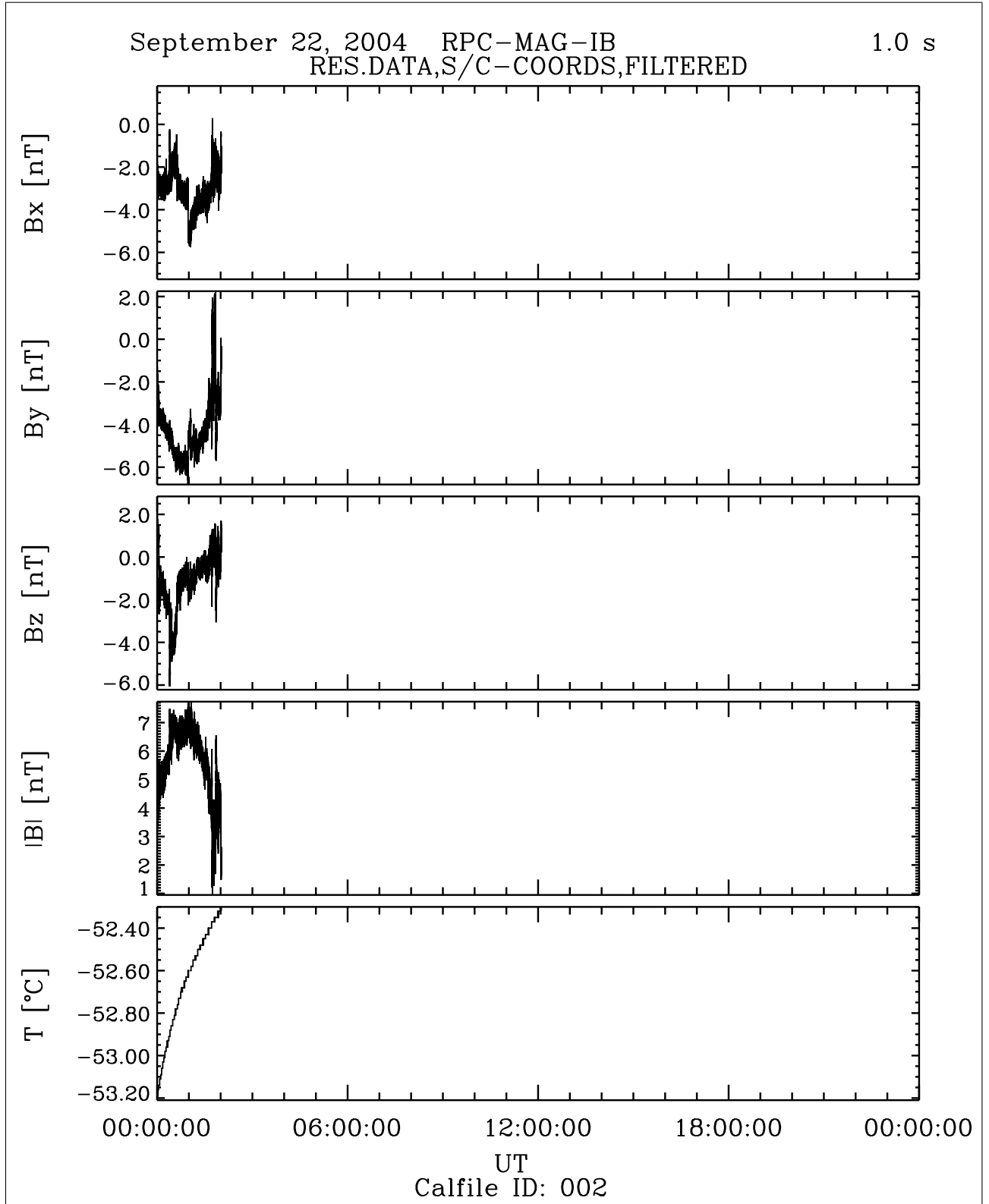


Figure 38: File: RPCMAG040922\_CLF\_IB\_A1\_T0000\_2400\_002

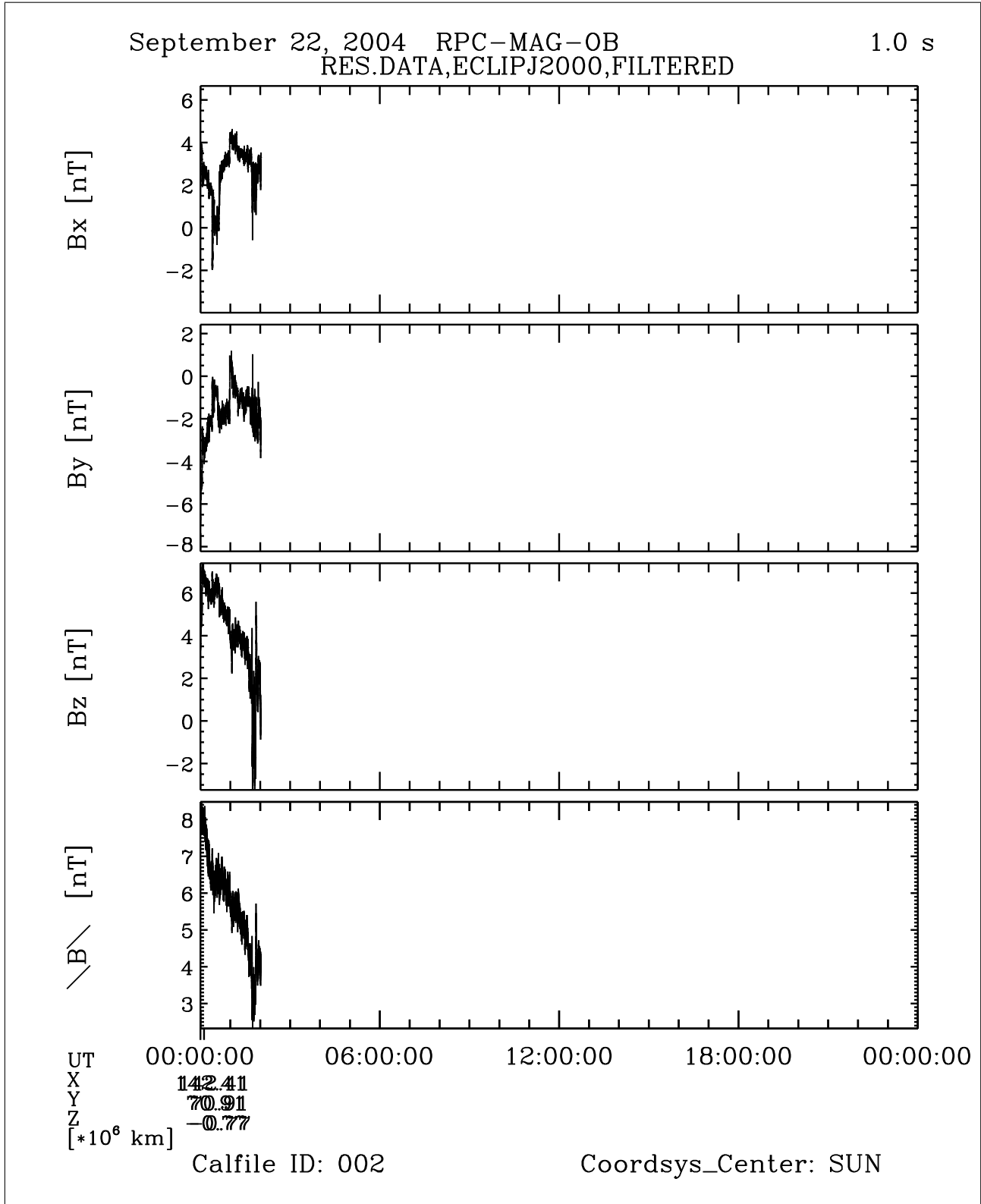


Figure 39: File: RPCMAG040922\_CLG\_OB\_A1.T0000\_2400\_002

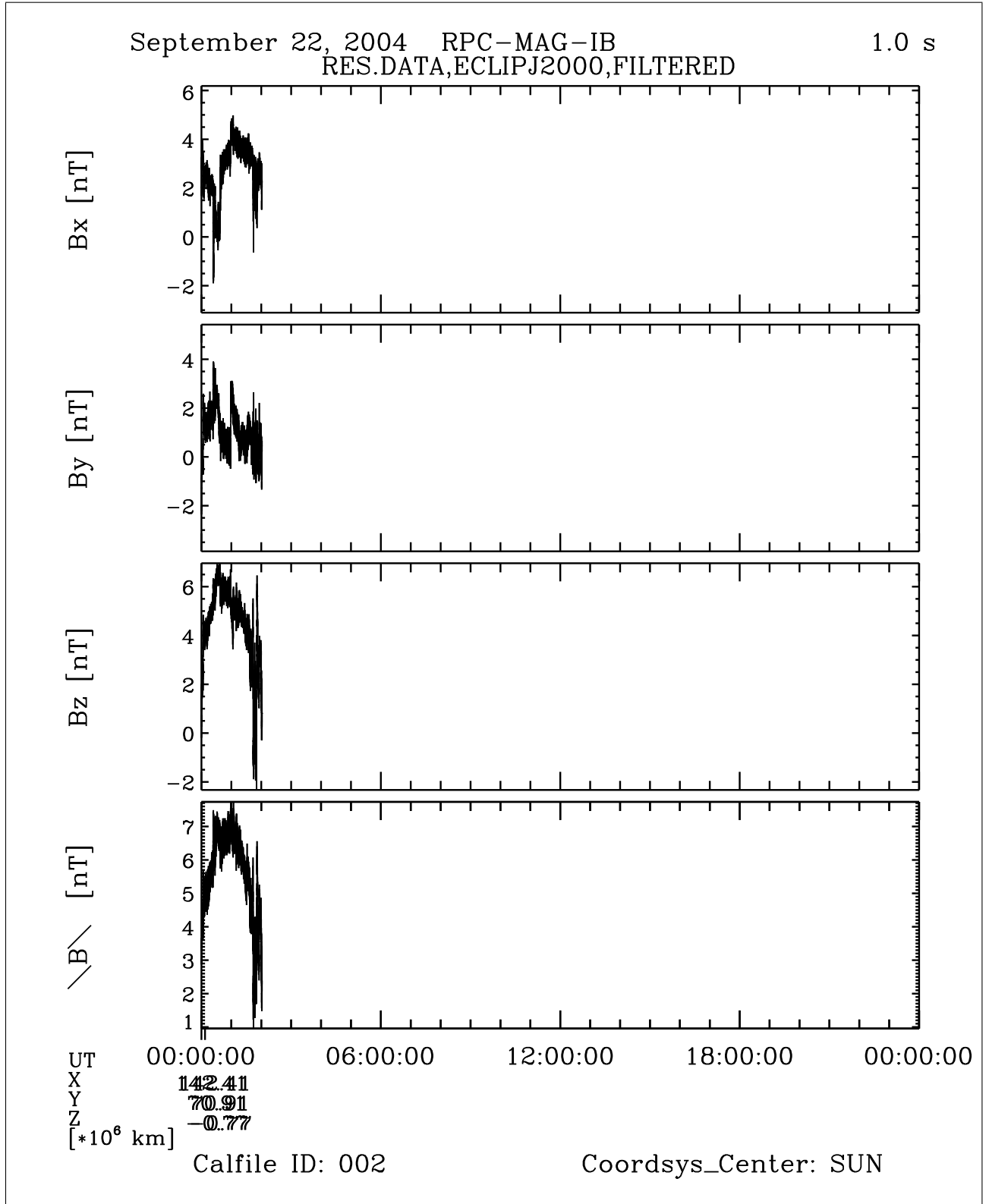


Figure 40: File: RPCMAG040922\_CLG\_IB\_A1\_T0000\_2400\_002

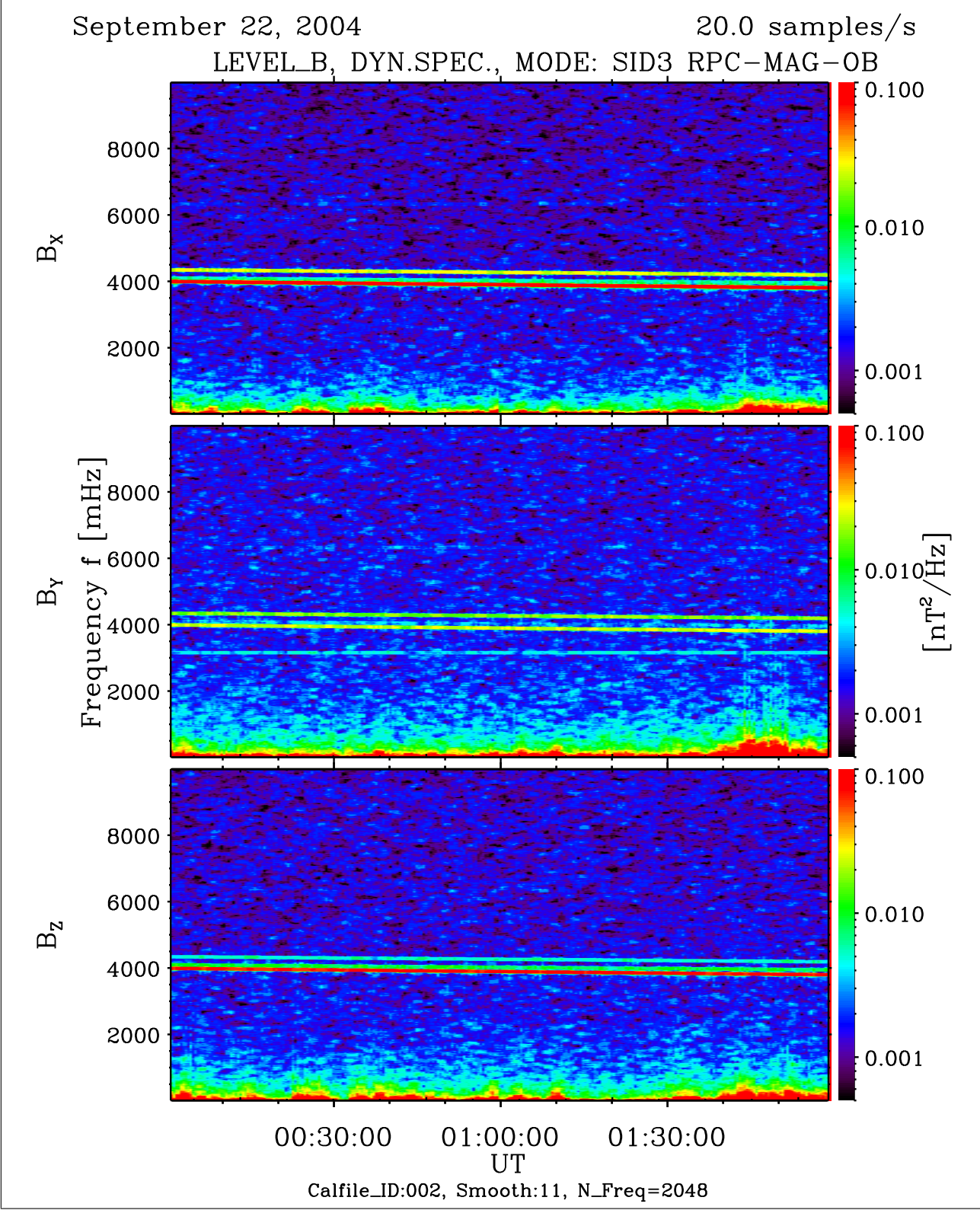


Figure 41: File: RPCMAG040922T0000\_CLB\_OB\_M3\_DS0\_10000\_002

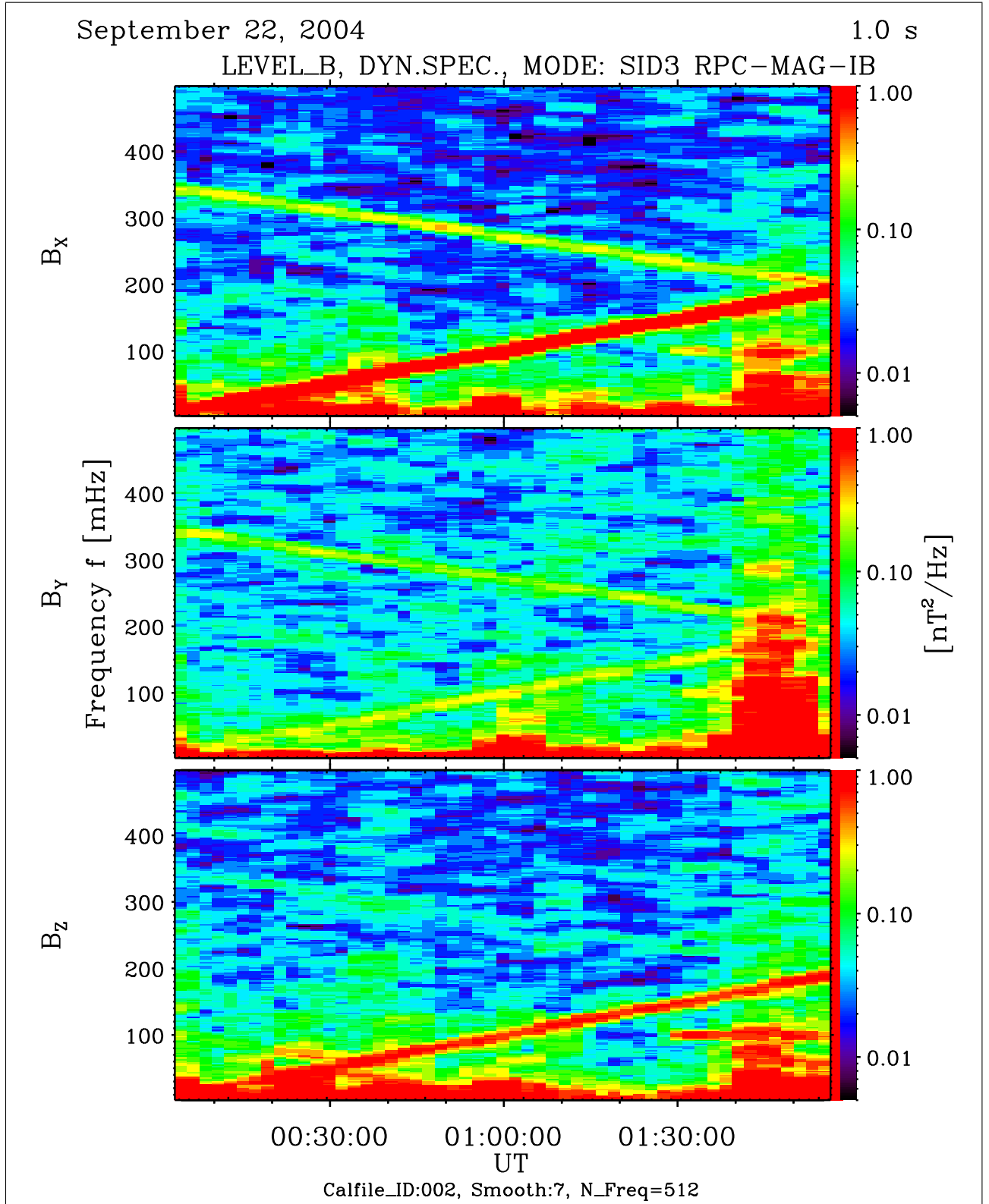


Figure 42: File: RPCMAG040922T0000\_CLB\_IB\_M3\_DS0\_500\_002

<h1 style="margin: 0;">ROSETTA</h1>	Document: RO-IGEP-TR-0011 Issue: 3 Revision: 1
<h2 style="margin: 0;">IGEP</h2>	Institut für Geophysik u. extraterr. Physik Technische Universität Braunschweig Date: April 13, 2007 Page: 48

### 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.

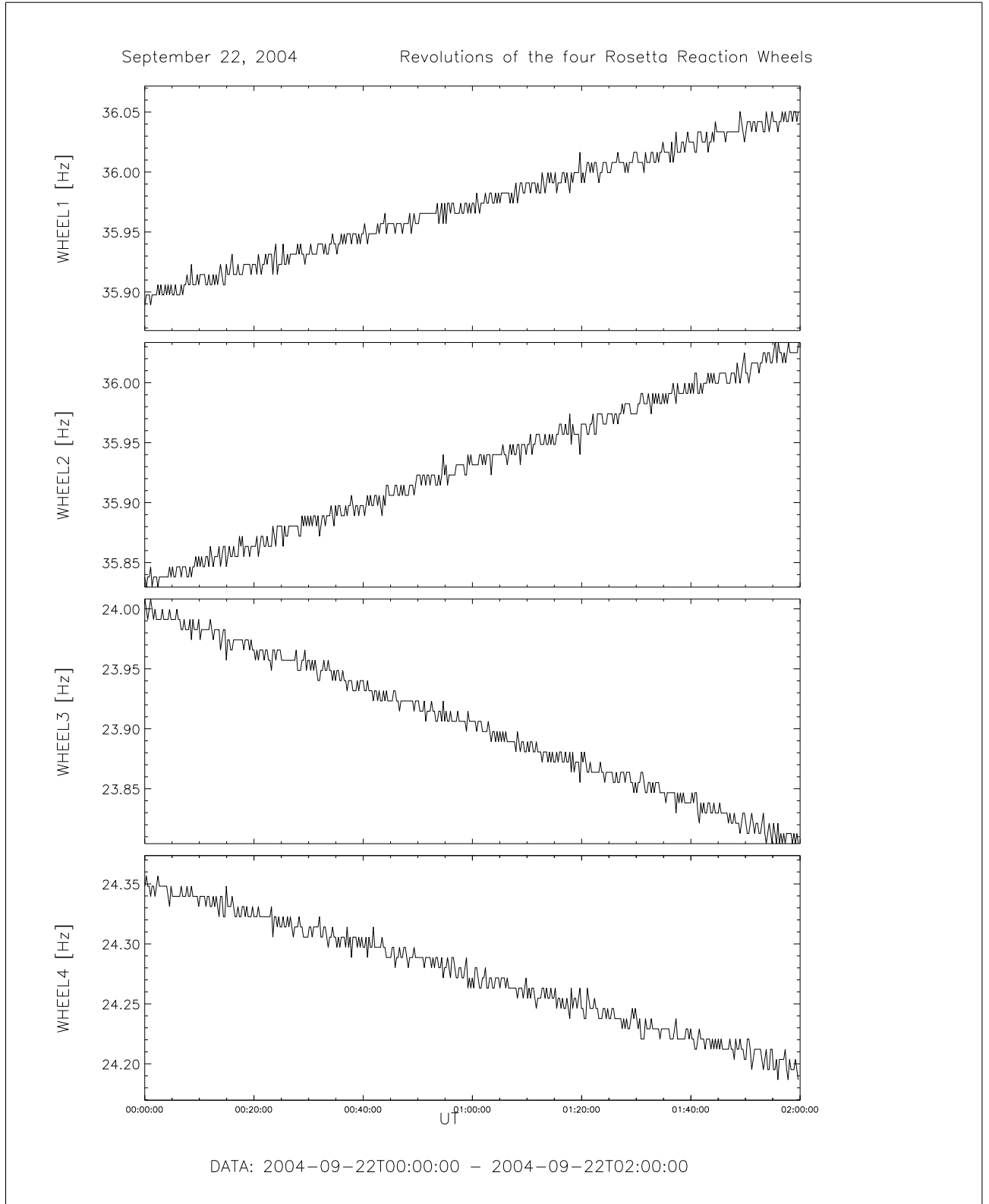


Figure 43: File: wheels\_Hz2004-09-22T00-00

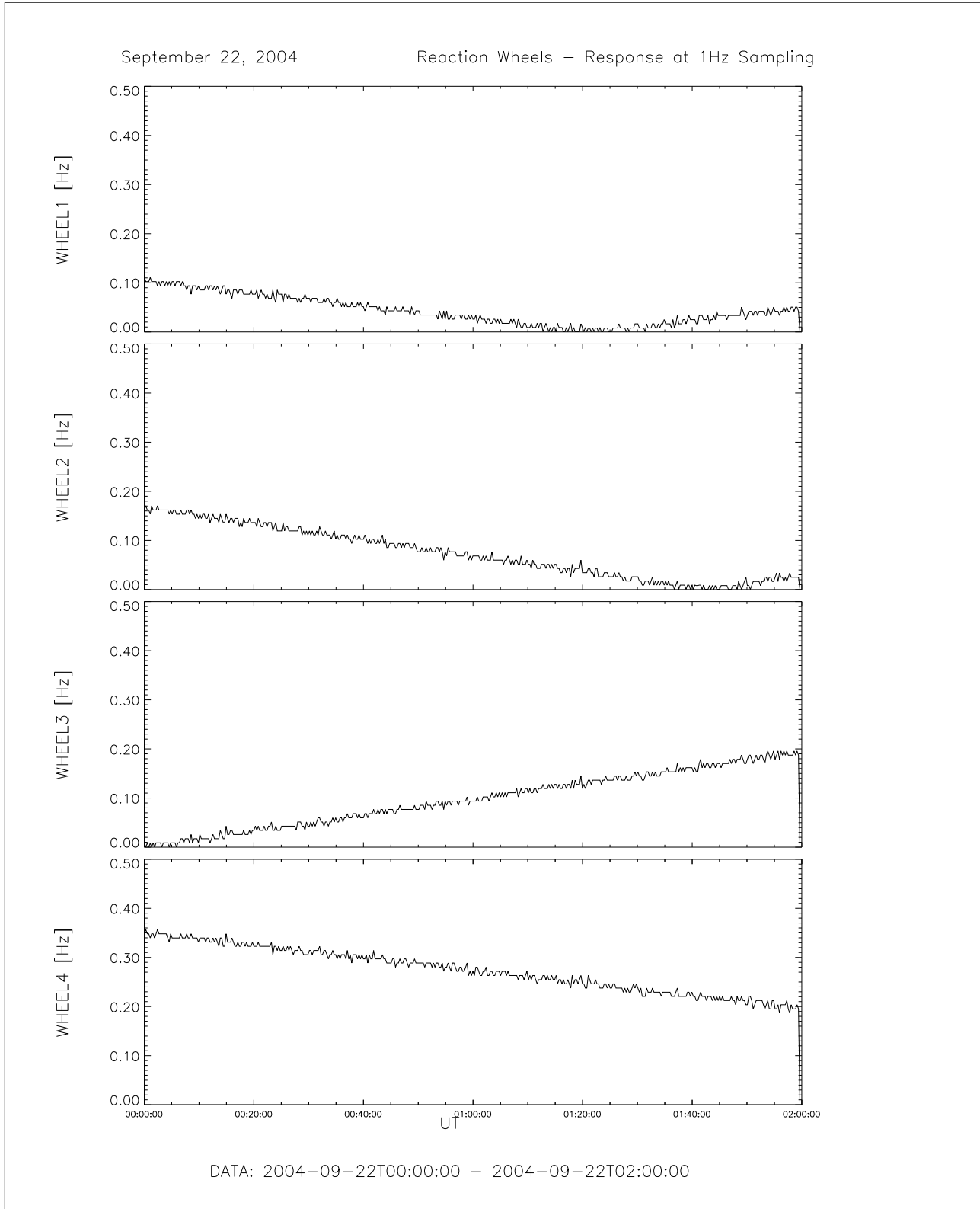


Figure 44: File: wheels\_1Hz\_Sampling2004-09-22T00-00



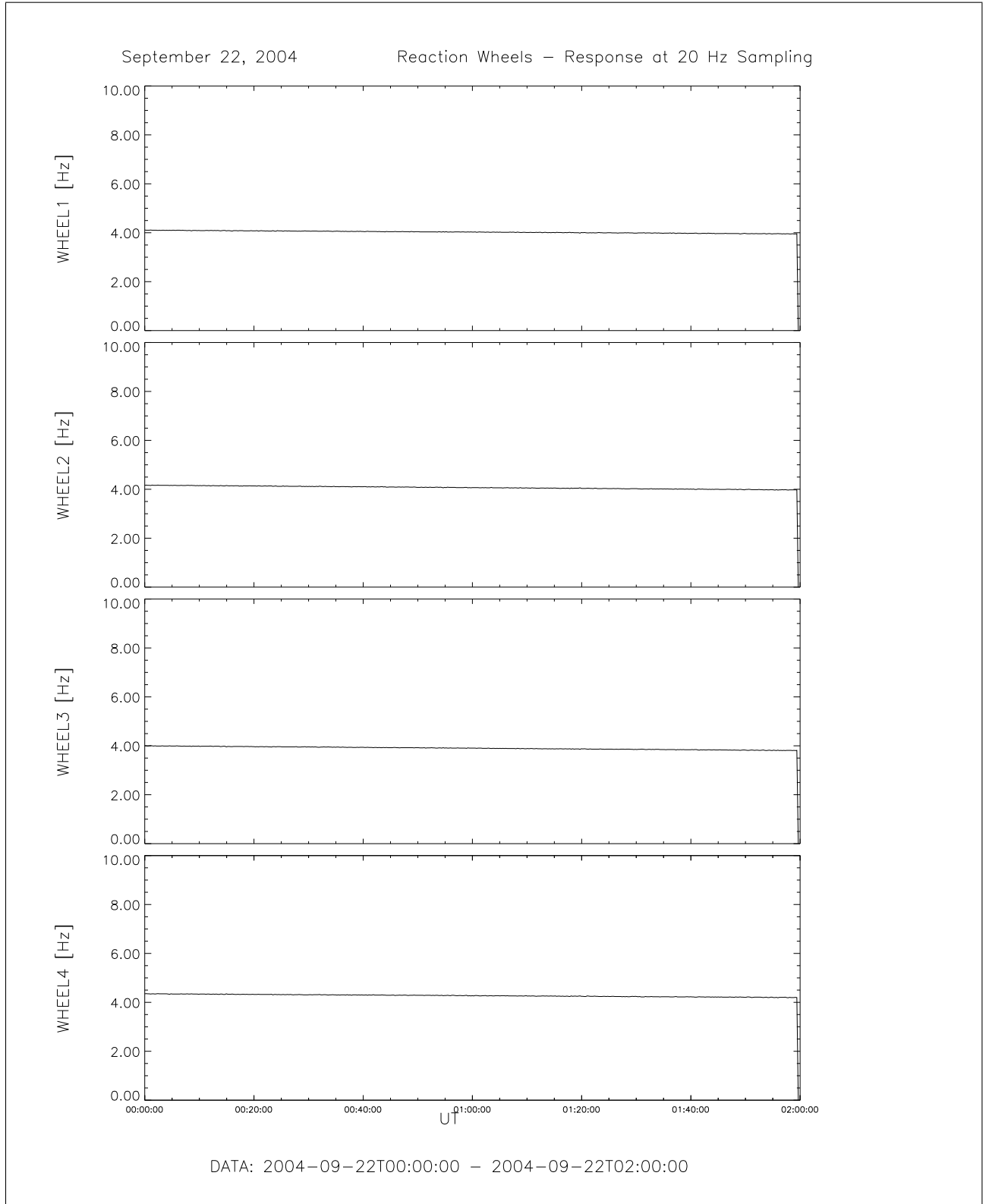


Figure 45: File: wheels\_20Hz\_Sampling2004-09-22T00-00

<h1 style="margin: 0;">R O S E T T A</h1>	Document: RO-IGEP-TR-0011 Issue: 3 Revision: 1
<b>IGEP</b> Institut für Geophysik u. extraterr. Physik Technische Universität Braunschweig	Date: April 13, 2007 Page: 52

## 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

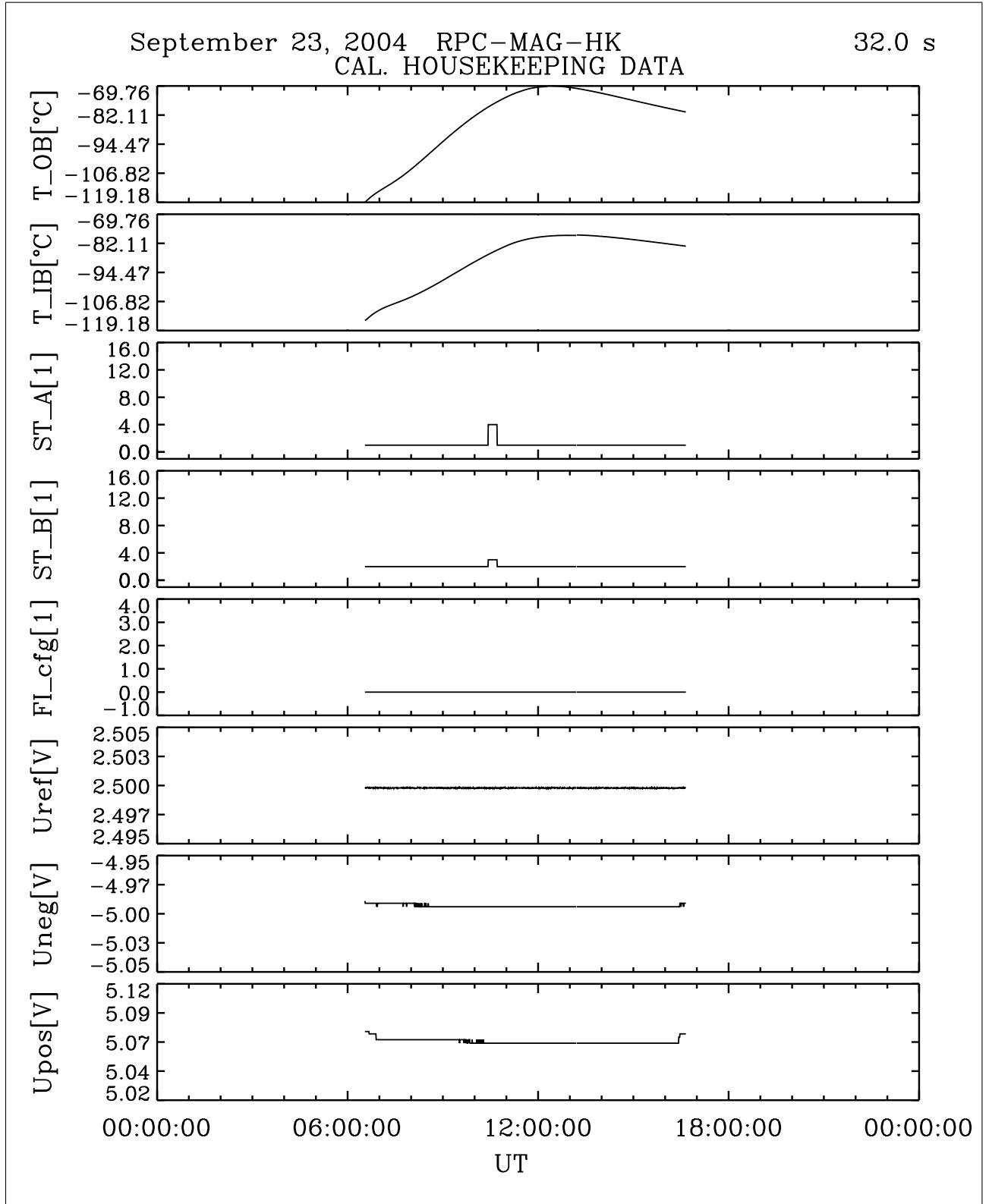


Figure 46: File: RPCMAG040923T0632\_CLA\_HK\_P0000\_2400

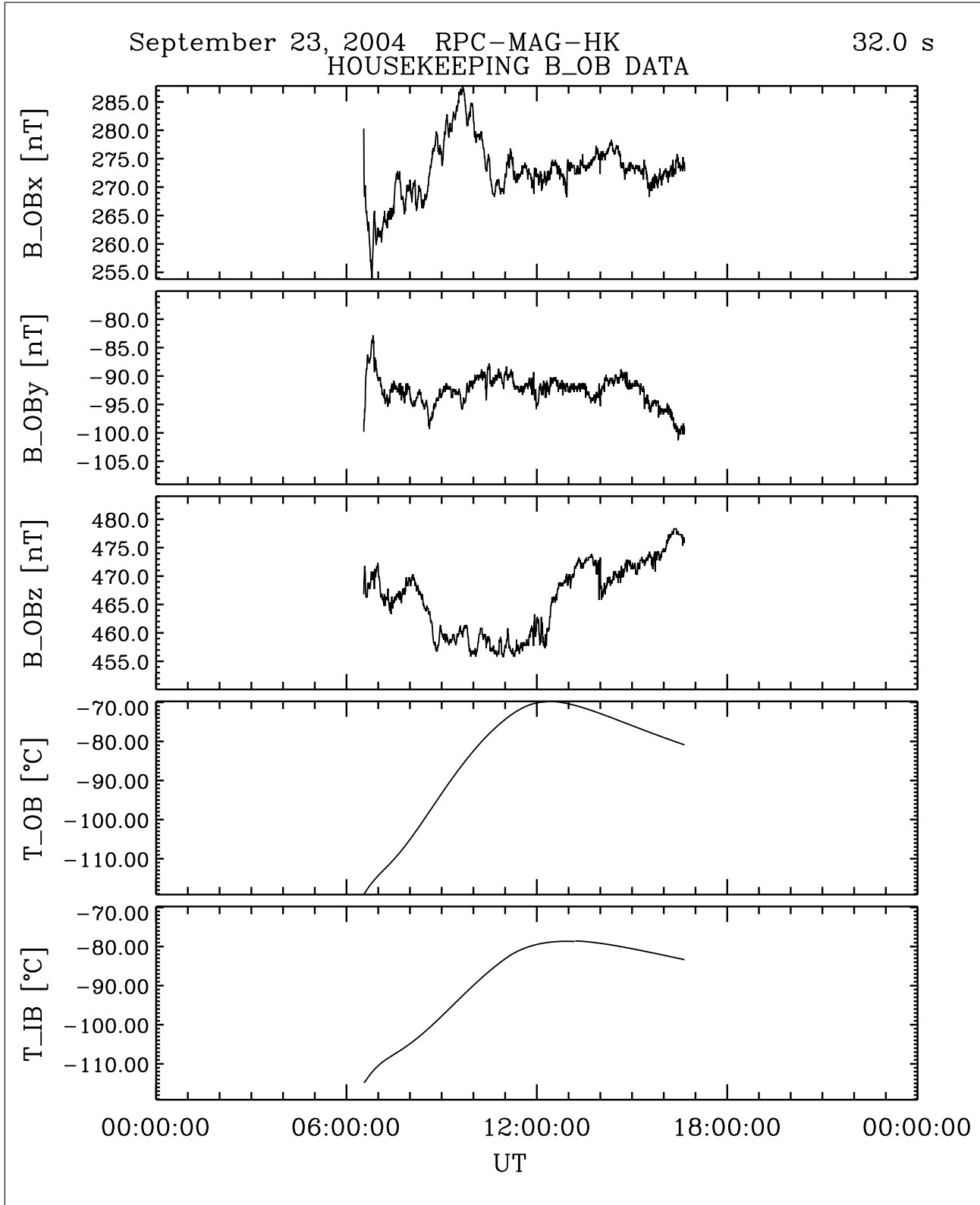


Figure 47: File: RPCMAG040923T0632\_CLA\_HK\_B\_P0000\_2400

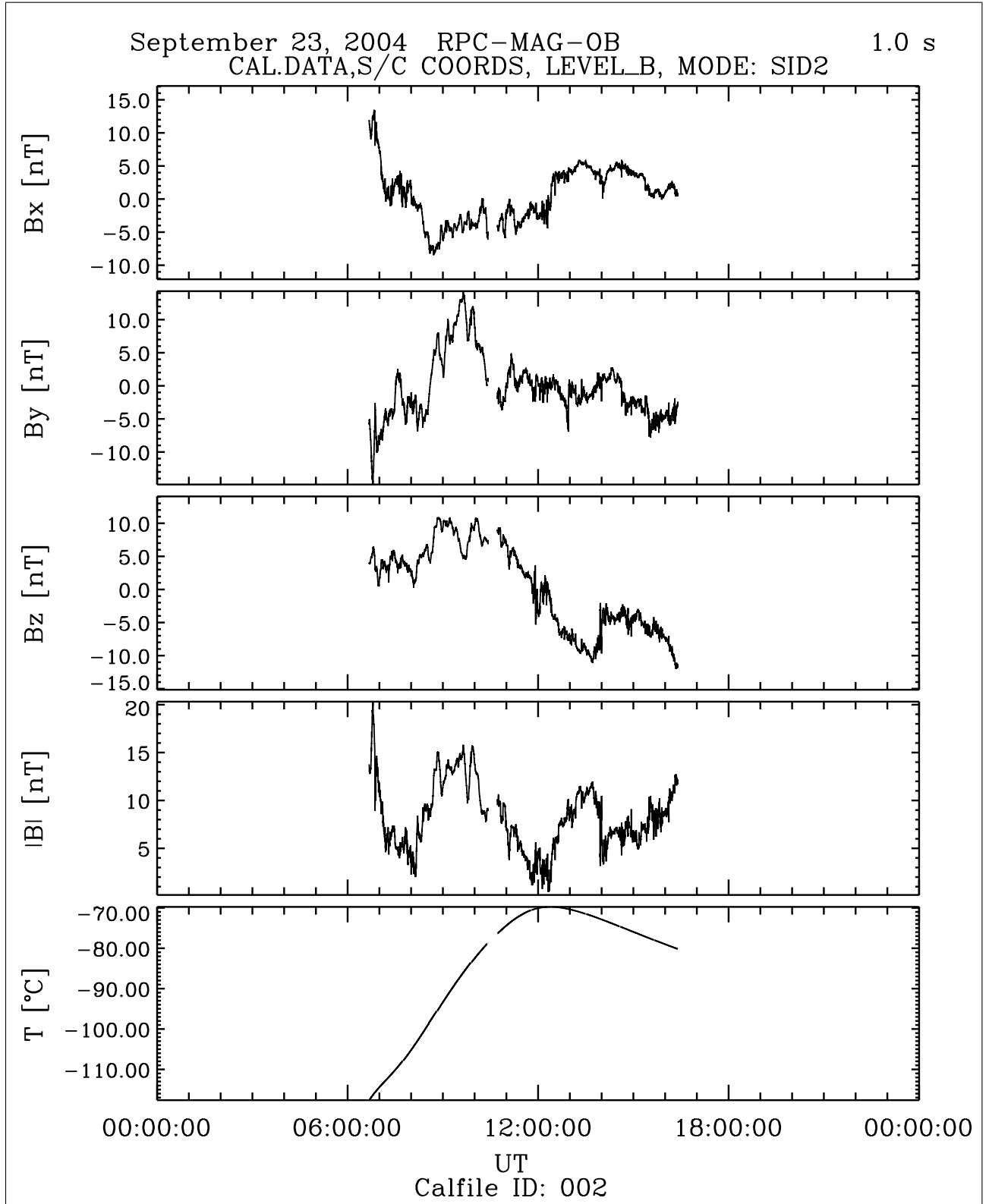


Figure 48: File: RPCMAG040923T0640\_CLB\_OB\_M2\_T0000\_2400\_002

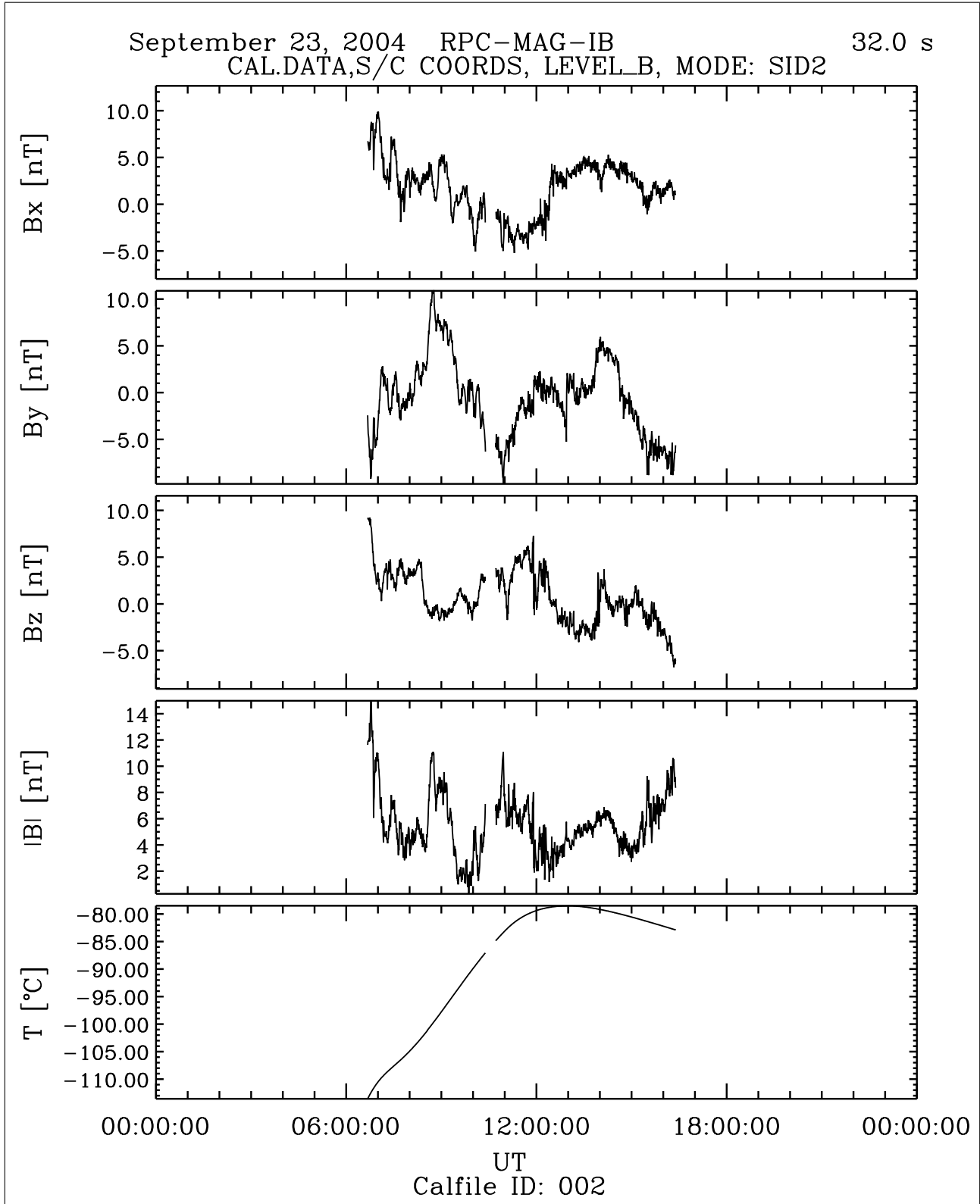


Figure 49: File: RPCMAG040923T0640\_CLB\_IB\_M2\_T0000\_2400\_002

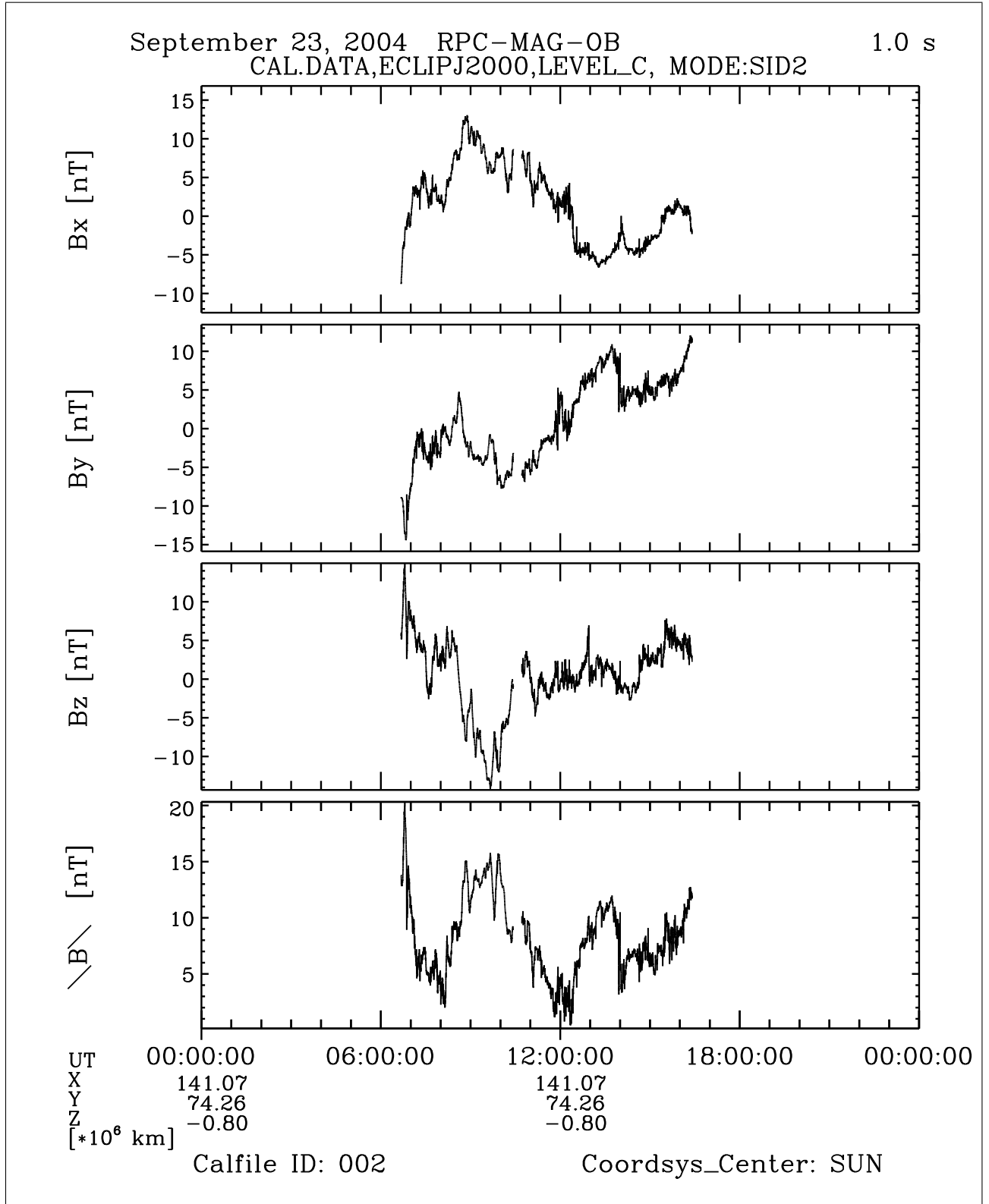


Figure 50: File: RPCMAG040923T0640\_CLC\_OB\_M2\_T0000\_2400\_002

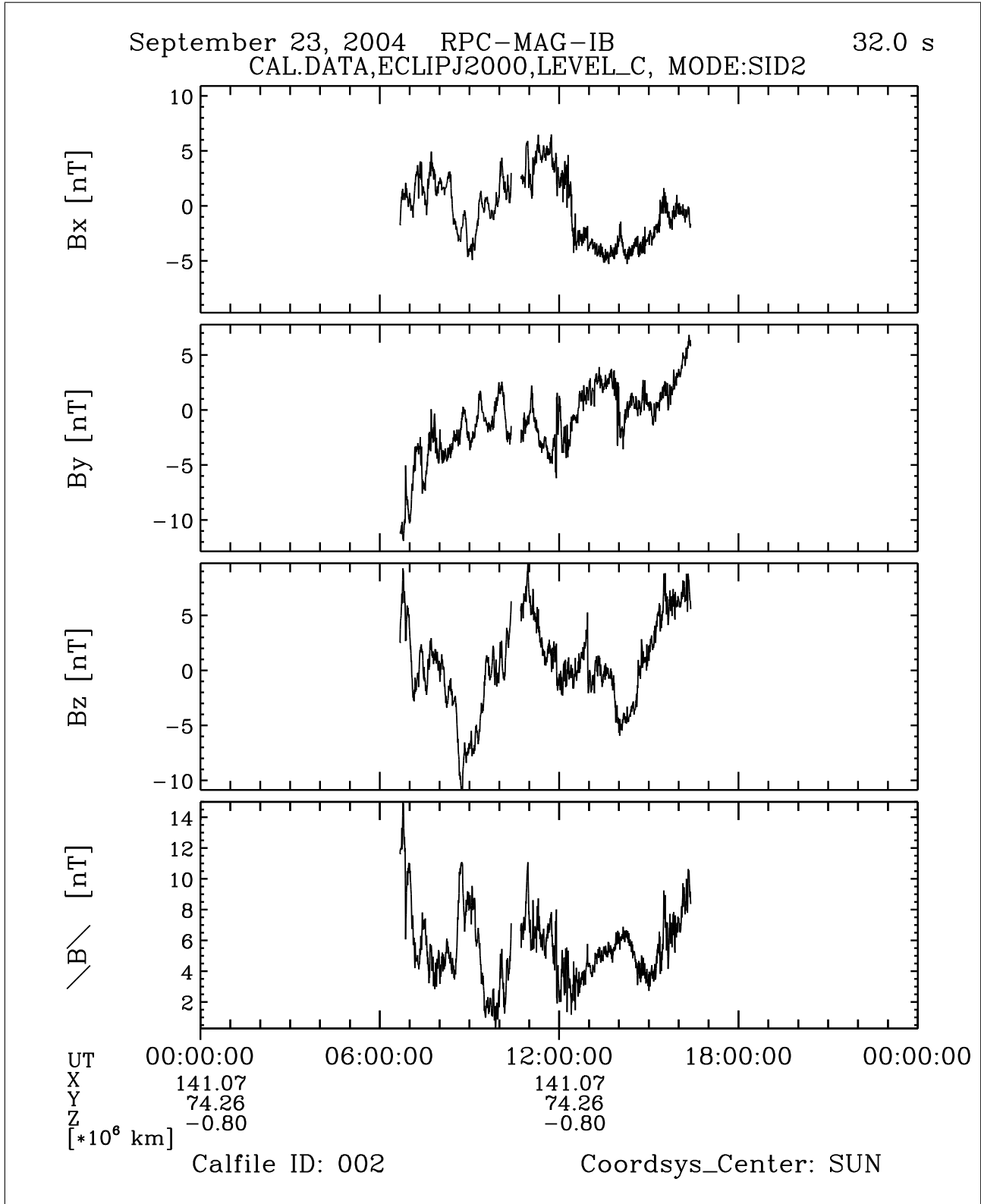


Figure 51: File: RPCMAG040923T0640\_CLC\_IB\_M2\_T0000\_2400\_002



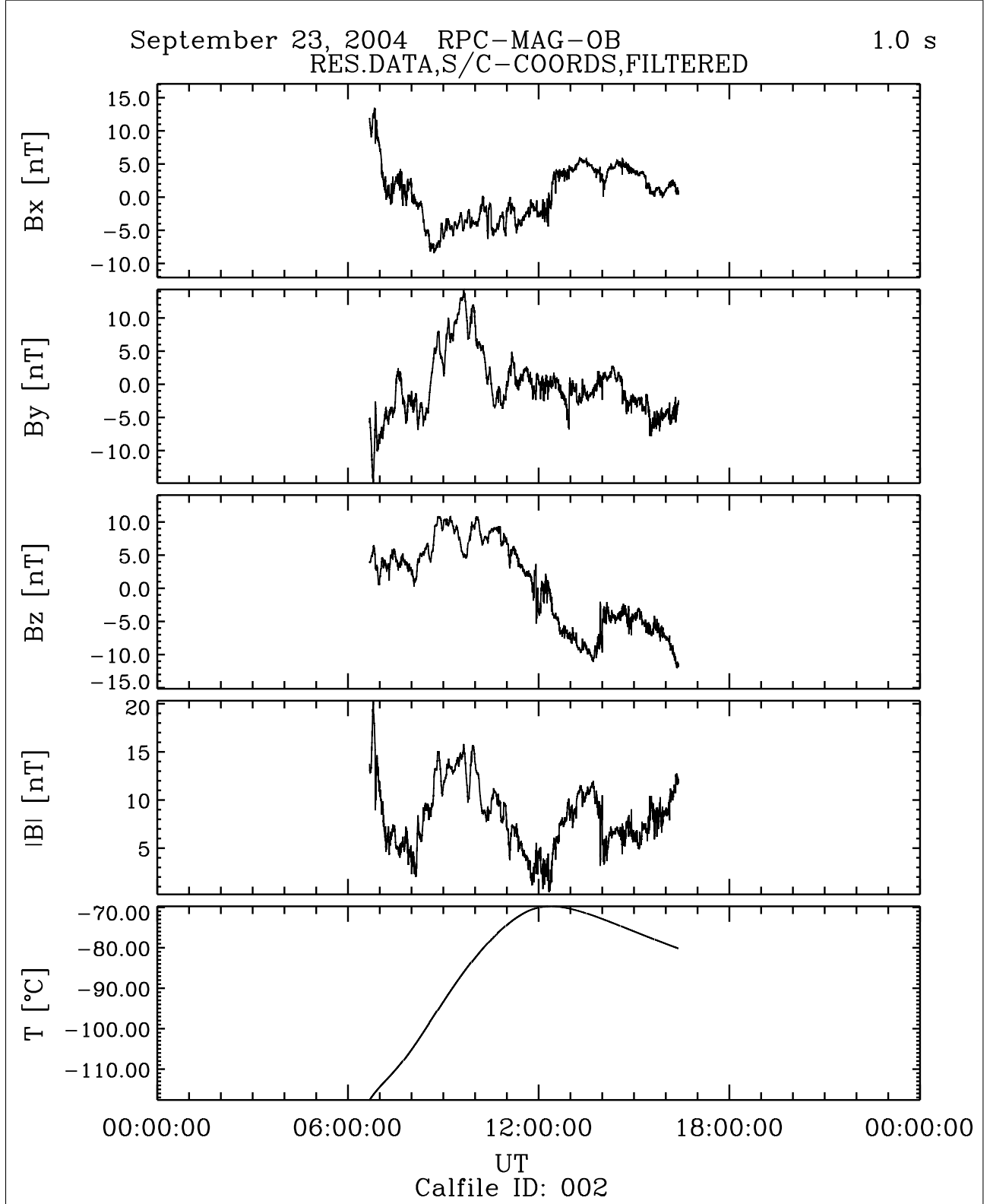


Figure 52: File: RPCMAG040923\_CLF\_OB\_A1\_T0000\_2400\_002

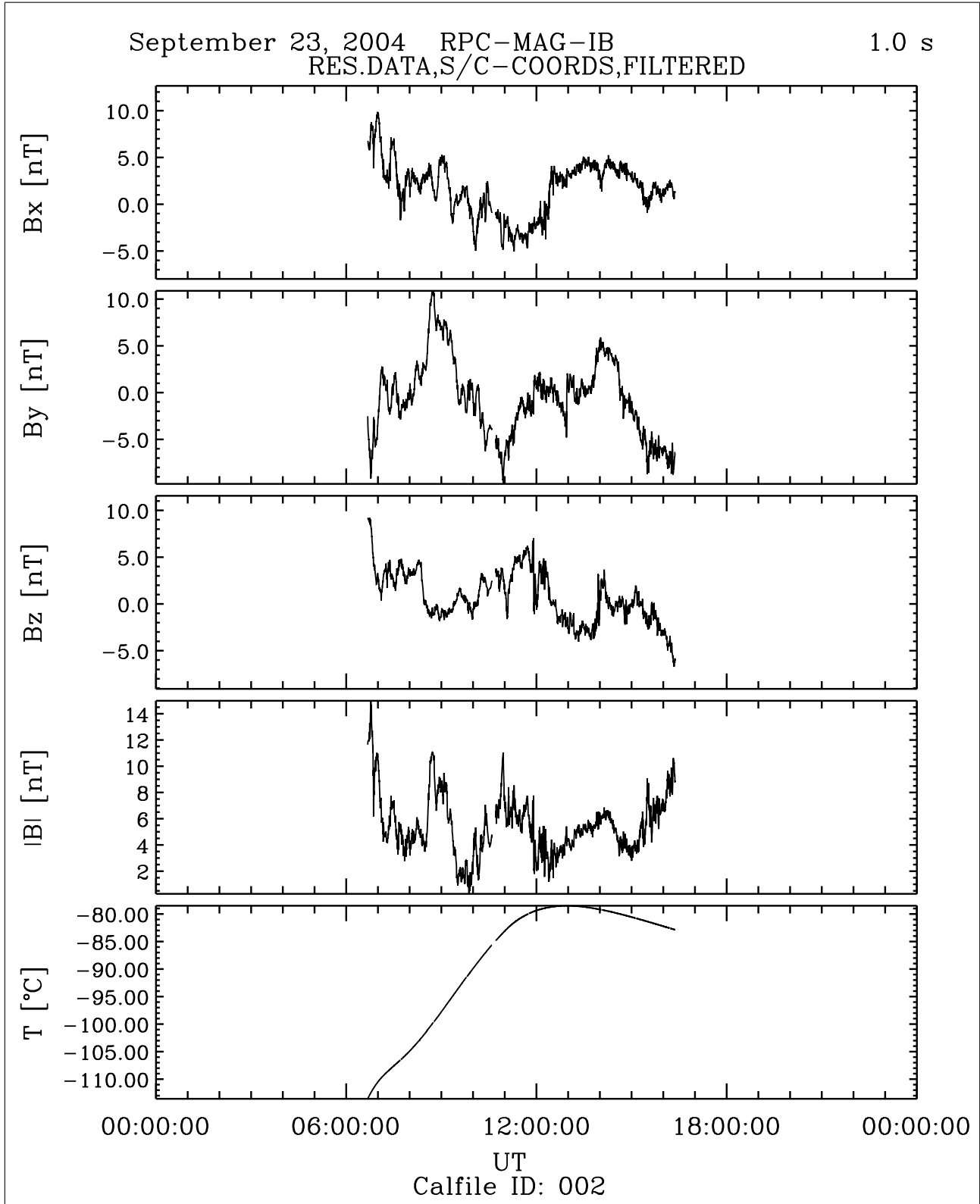


Figure 53: File: RPCMAG040923\_CLF\_IB\_A1\_T0000\_2400\_002

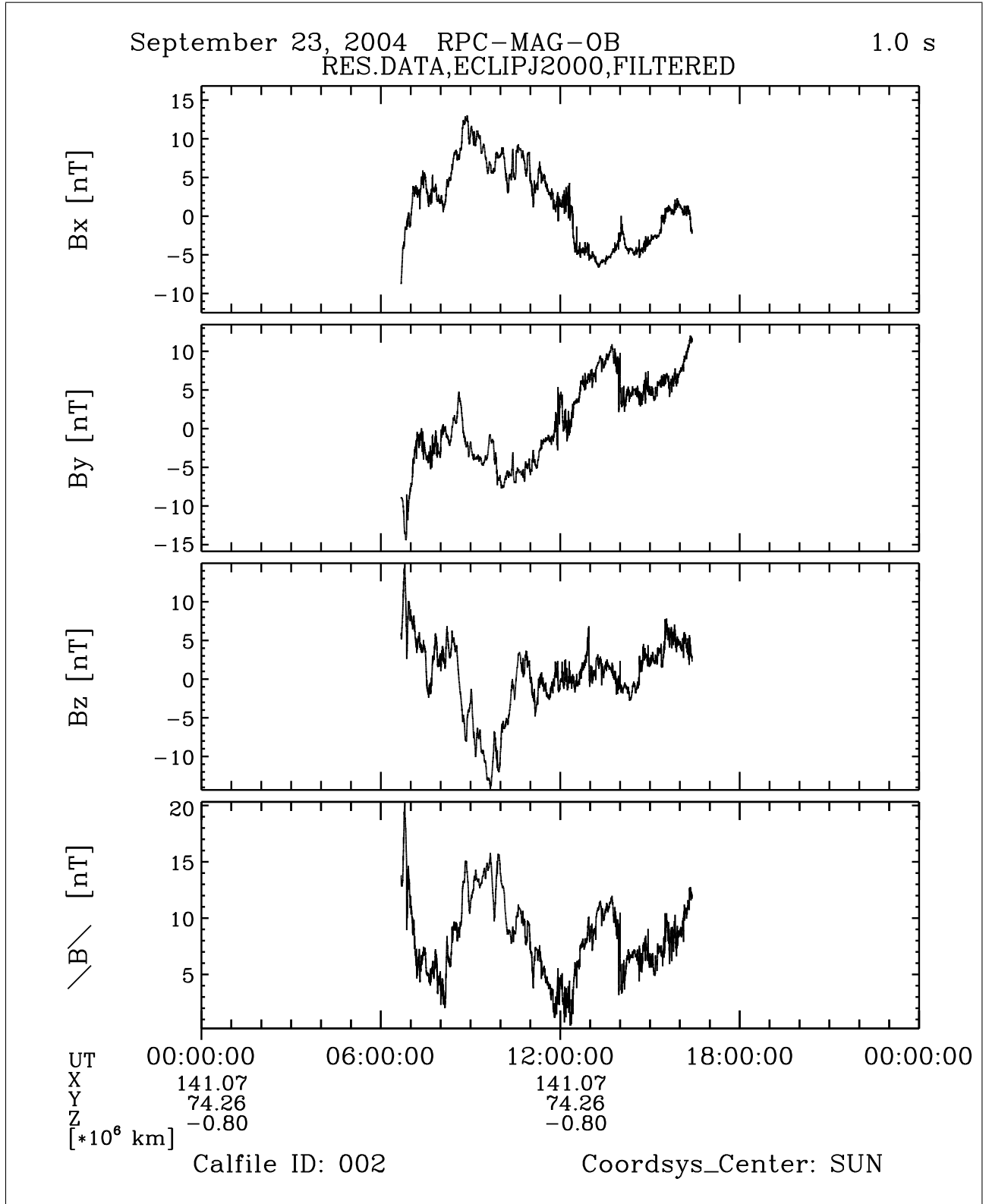


Figure 54: File: RPCMAG040923\_CLG\_OB\_A1\_T0000\_2400\_002

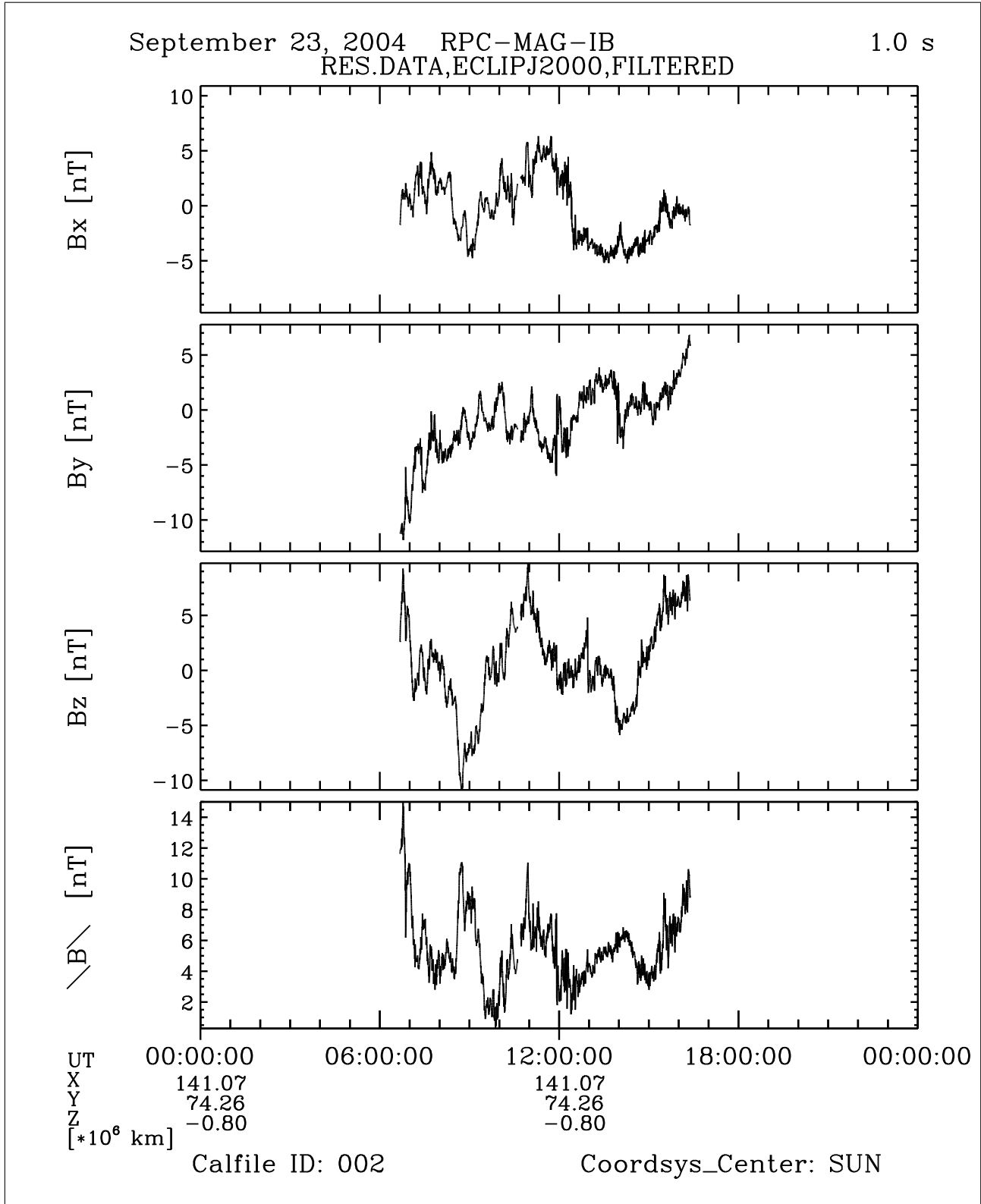


Figure 55: File: RPCMAG040923\_CLG\_IB\_A1\_T0000\_2400\_002

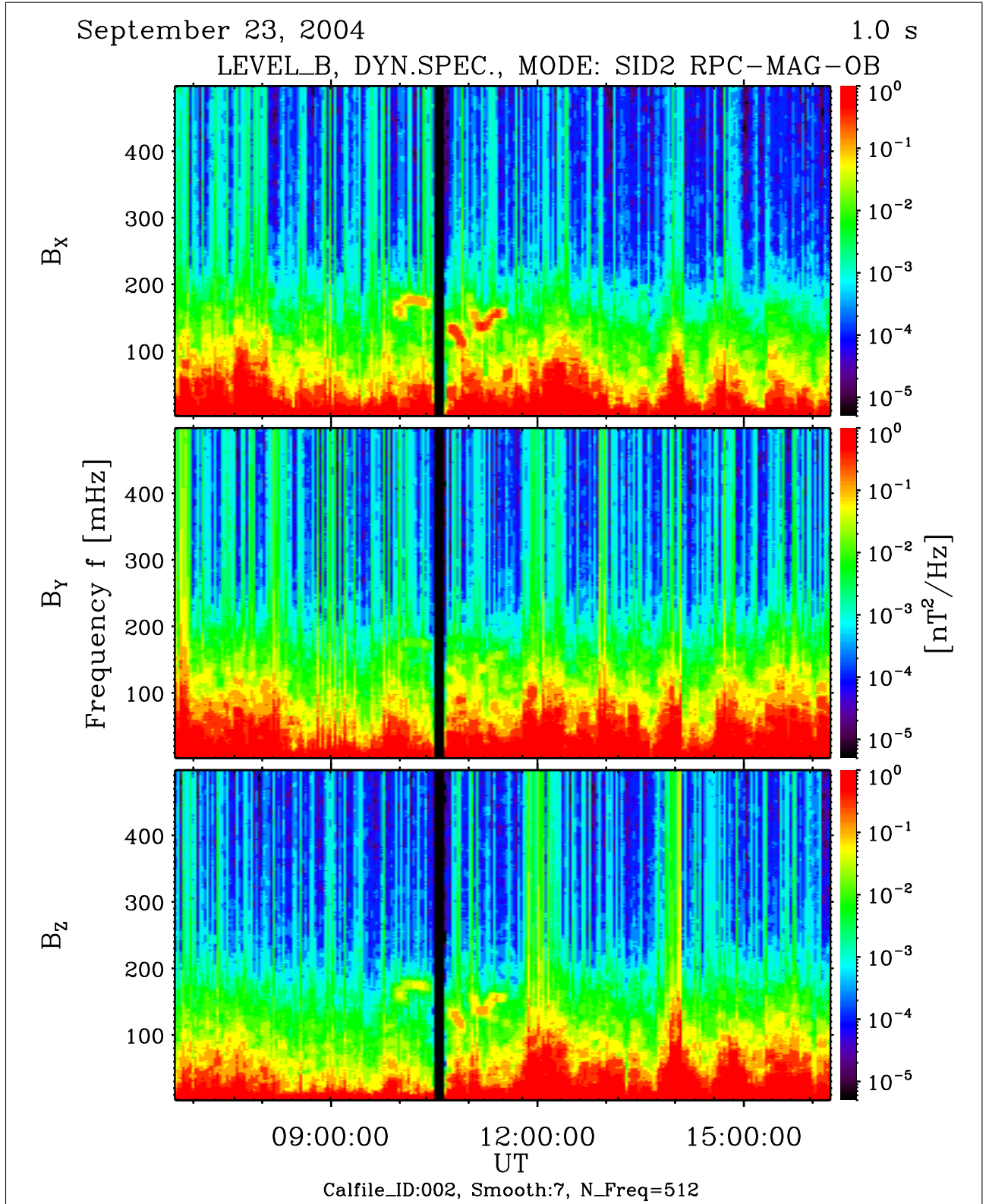


Figure 56: File: RPCMAG040923T0640\_CLB\_OB.M2\_DS0.500.002

ROSETTA	Document: RO-IGEP-TR-0011
IGEP Institut für Geophysik u. extraterr. Physik Technische Universität Braunschweig	Issue: 3
	Revision: 1
	Date: April 13, 2007
	Page: 64

### 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.

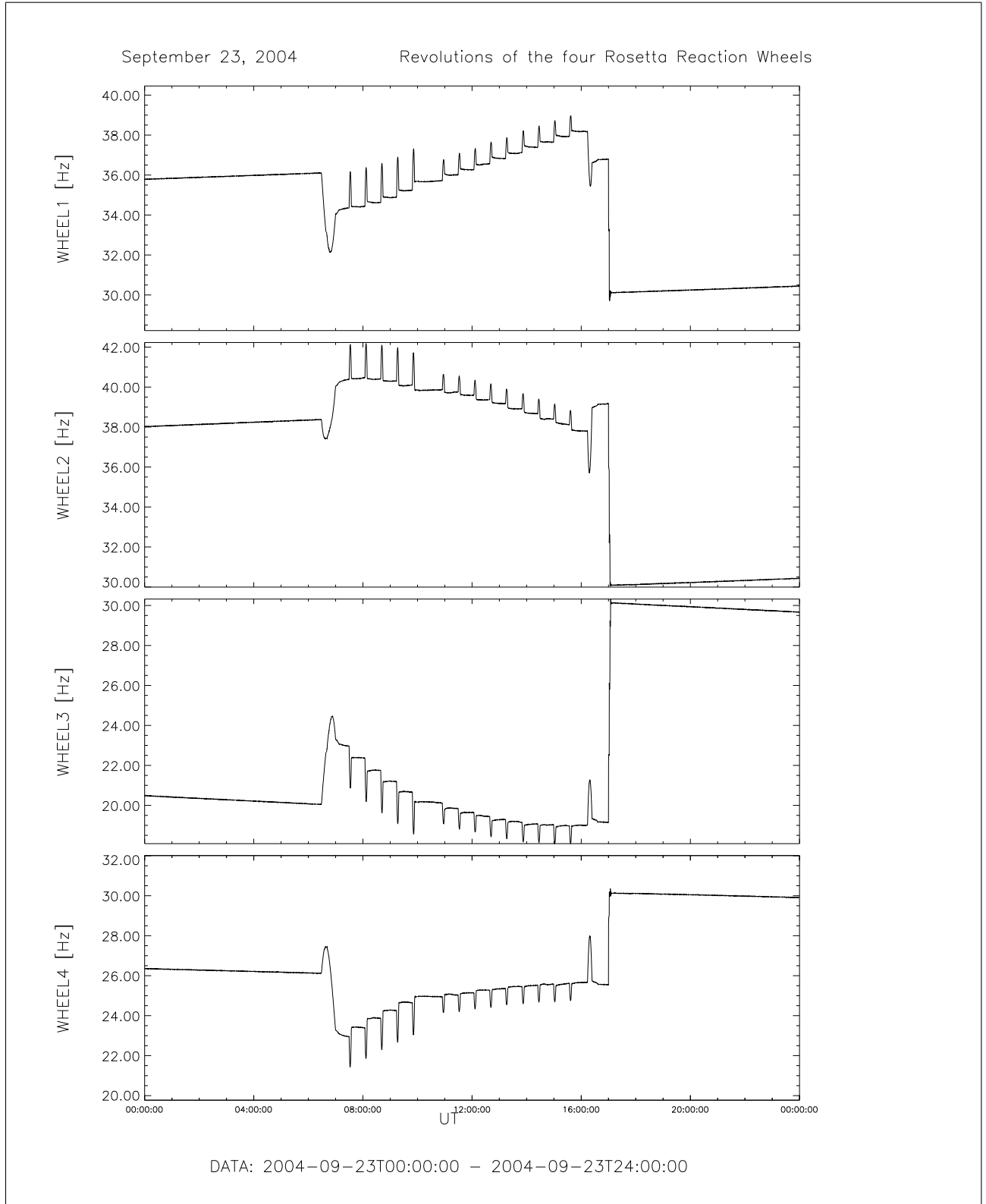


Figure 57: File: wheels\_Hz2004-09-23T00-00

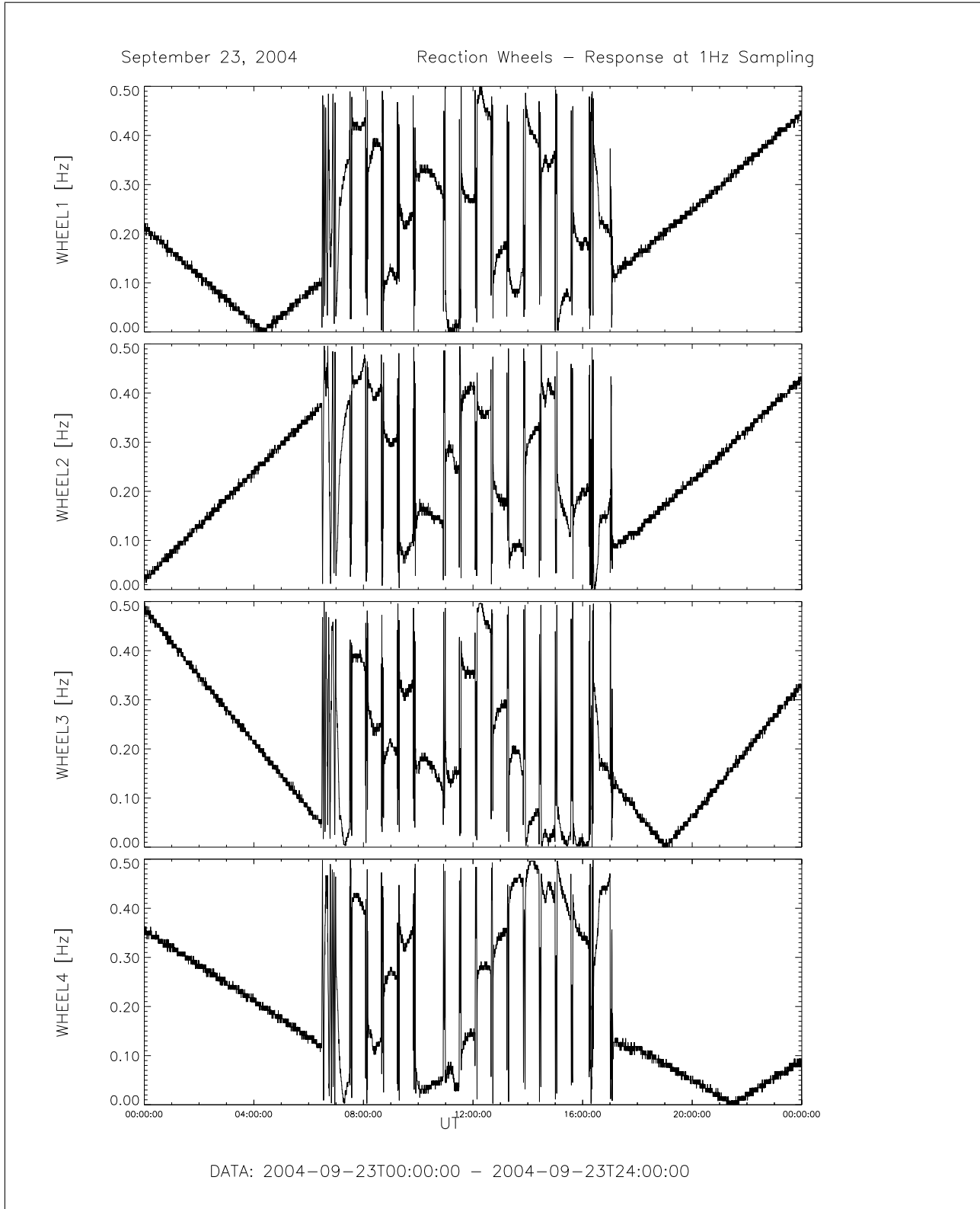


Figure 58: File: wheels\_1Hz\_Sampling2004-09-23T00-00



R O S E T T A	Document: RO-IGEP-TR-0011 Issue: 3 Revision: 1 Date: April 13, 2007 Page: 67
IGEP Institut für Geophysik u. extraterr. Physik Technische Universität Braunschweig	

## 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

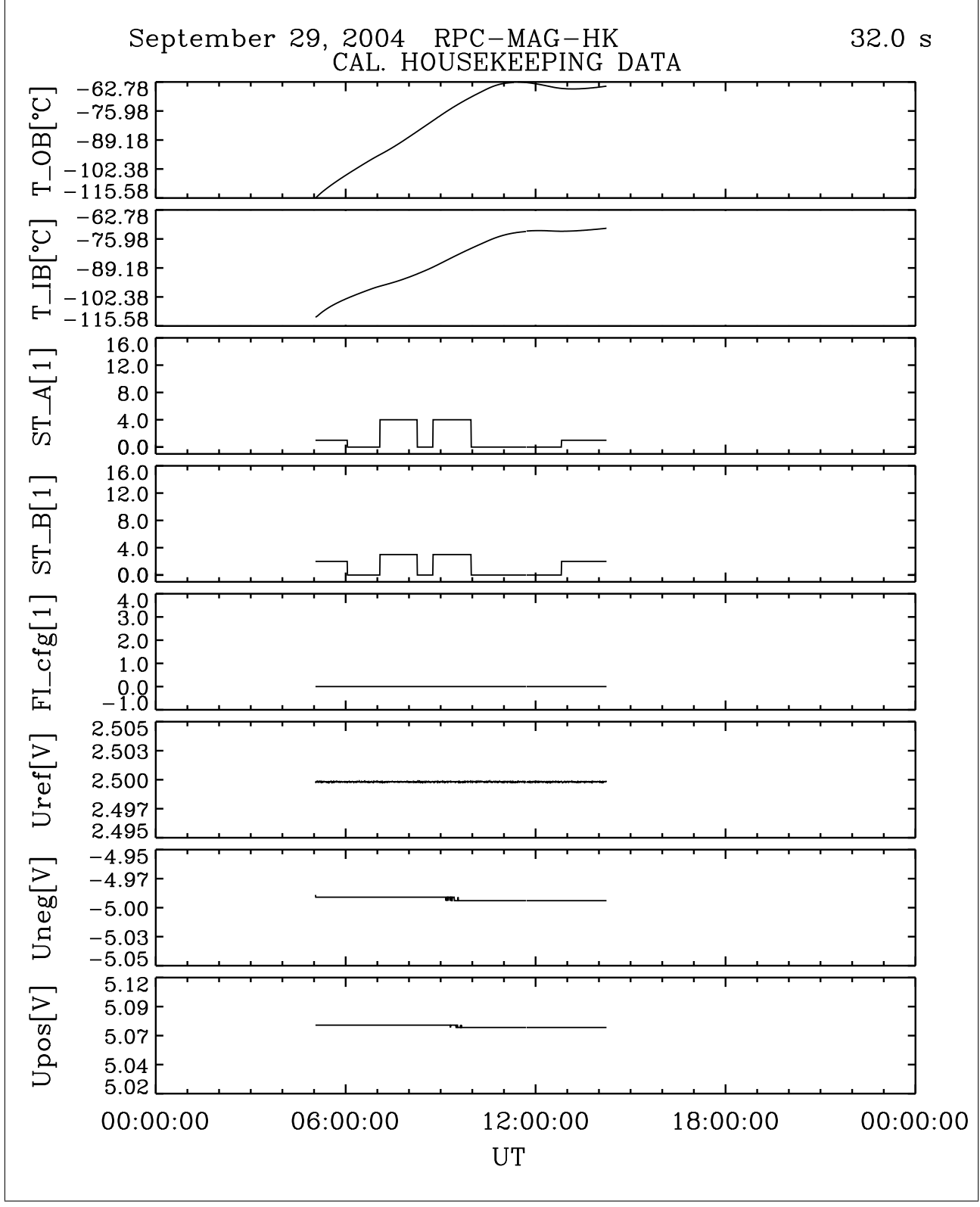


Figure 59: File: RPCMAG040929T0502\_CLA\_HK\_P0000\_2400

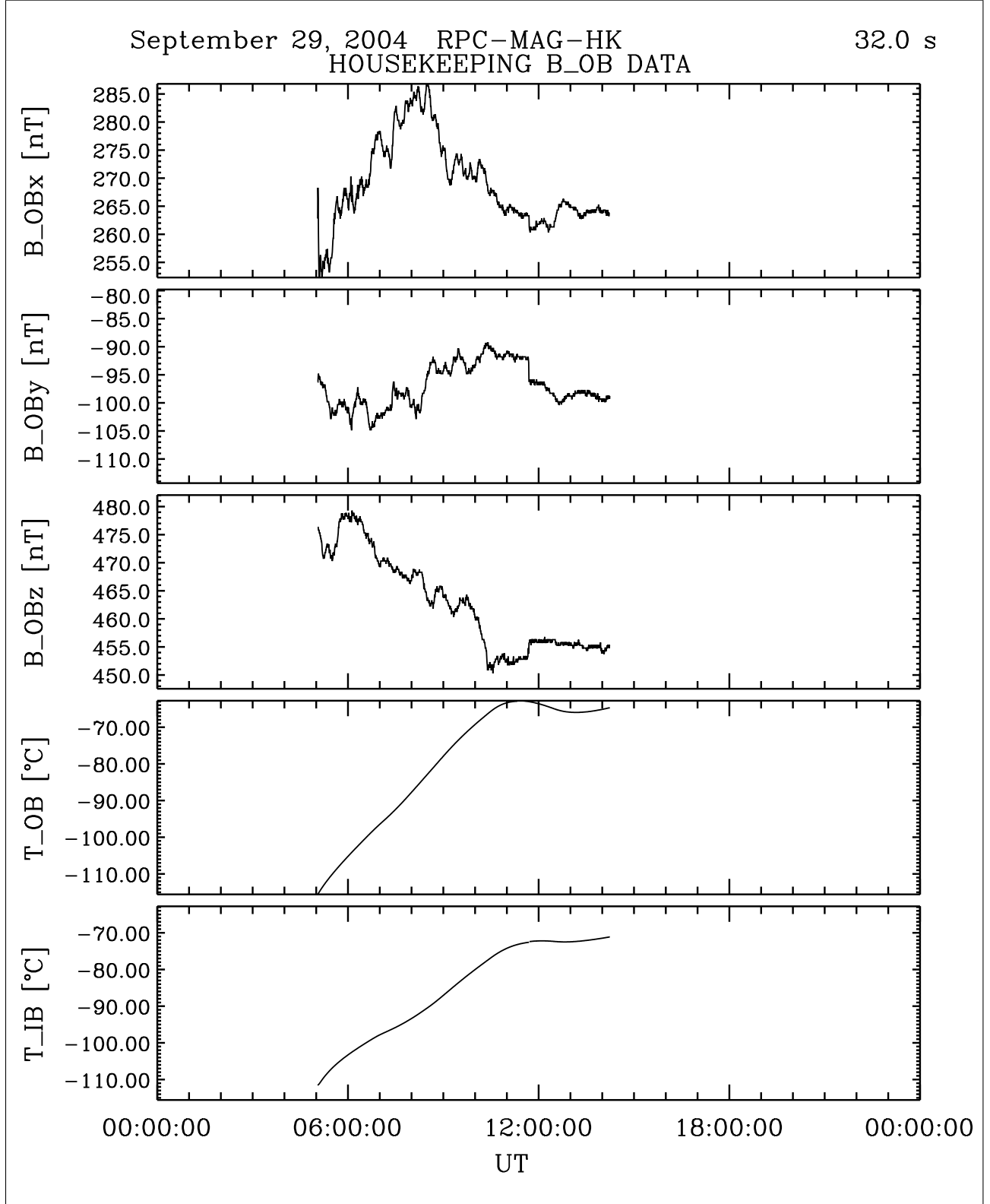


Figure 60: File: RPCMAG040929T0502\_CLA\_HK\_B\_P0000\_2400

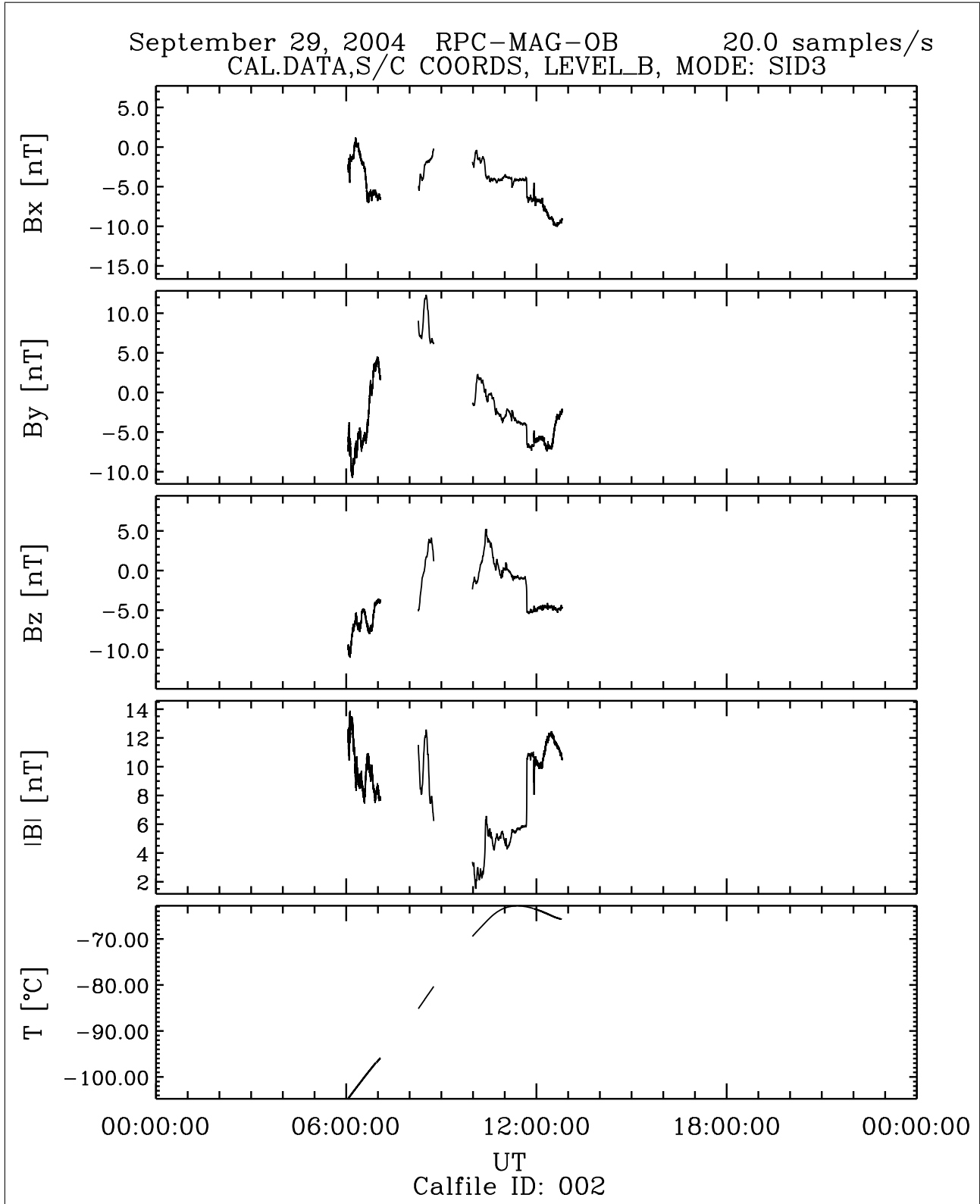


Figure 61: File: RPCMAG040929T0603\_CLB\_OB\_M3\_T0000\_2400\_002

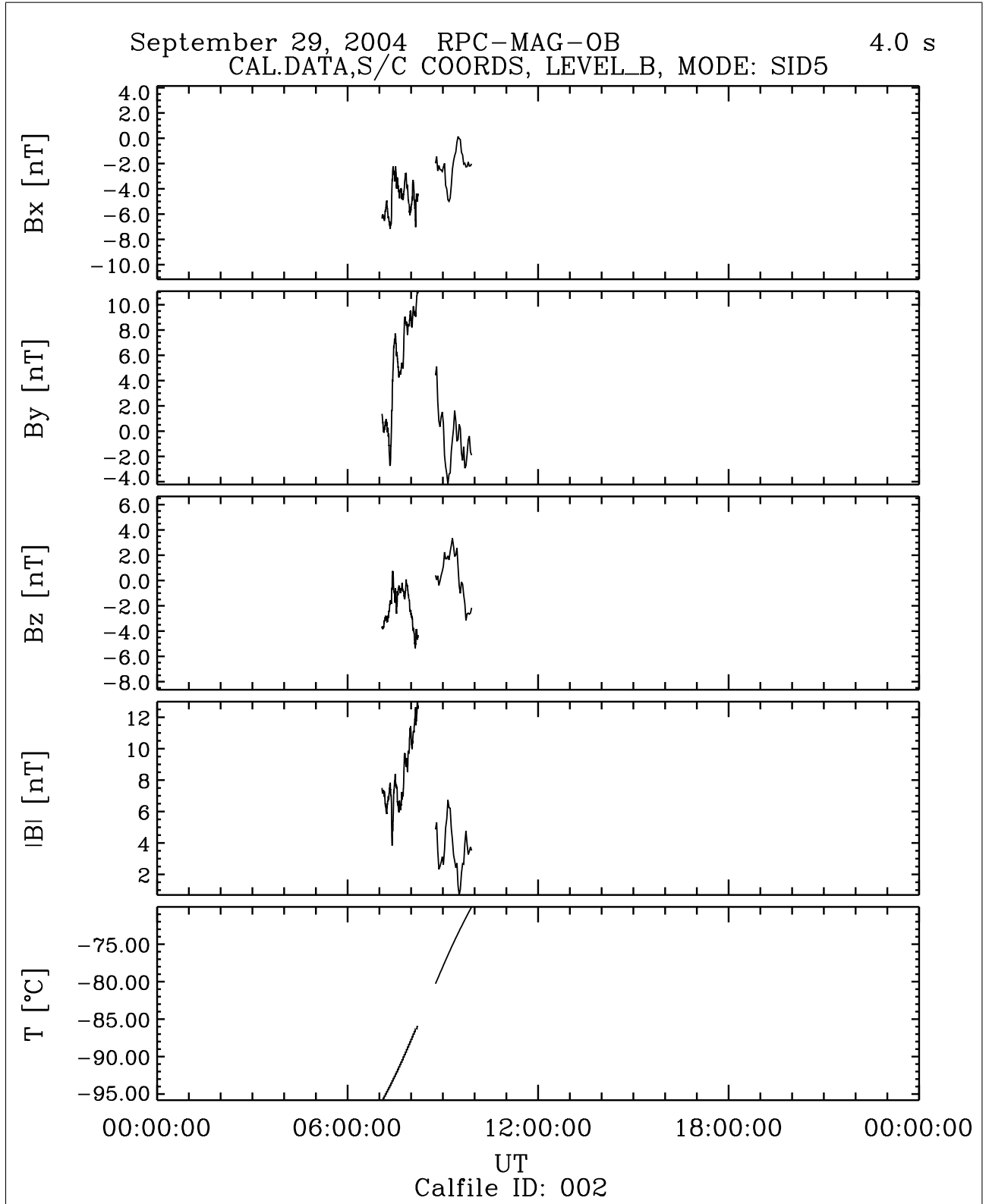


Figure 62: File: RPCMAG040929T0705\_CLB\_OB\_M5\_T0000\_2400\_002

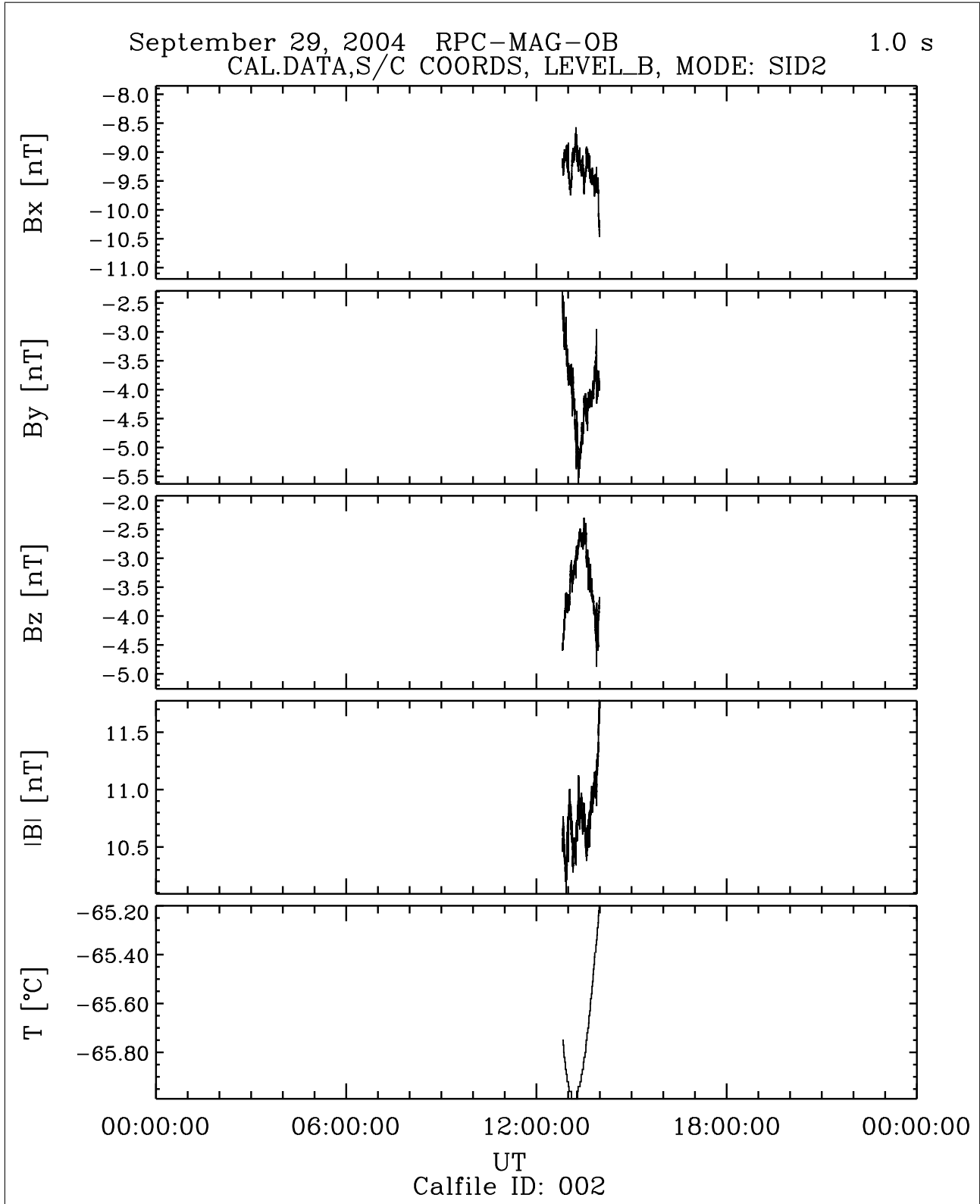


Figure 63: File: RPCMAG040929T1249\_CLB\_OB\_M2\_T0000\_2400\_002

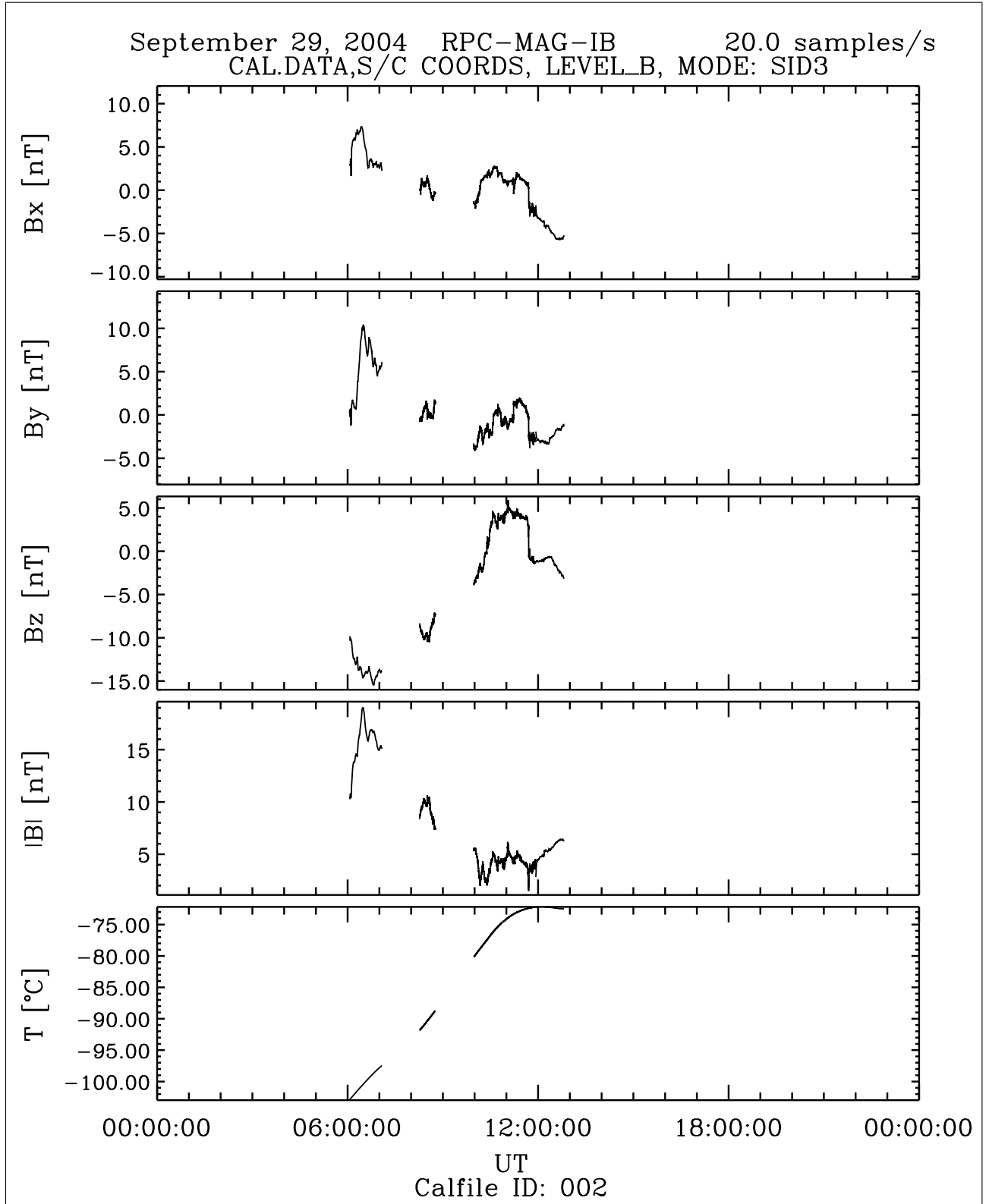


Figure 64: File: RPCMAG040929T0603\_CLB\_IB\_M3\_T0000\_2400\_002

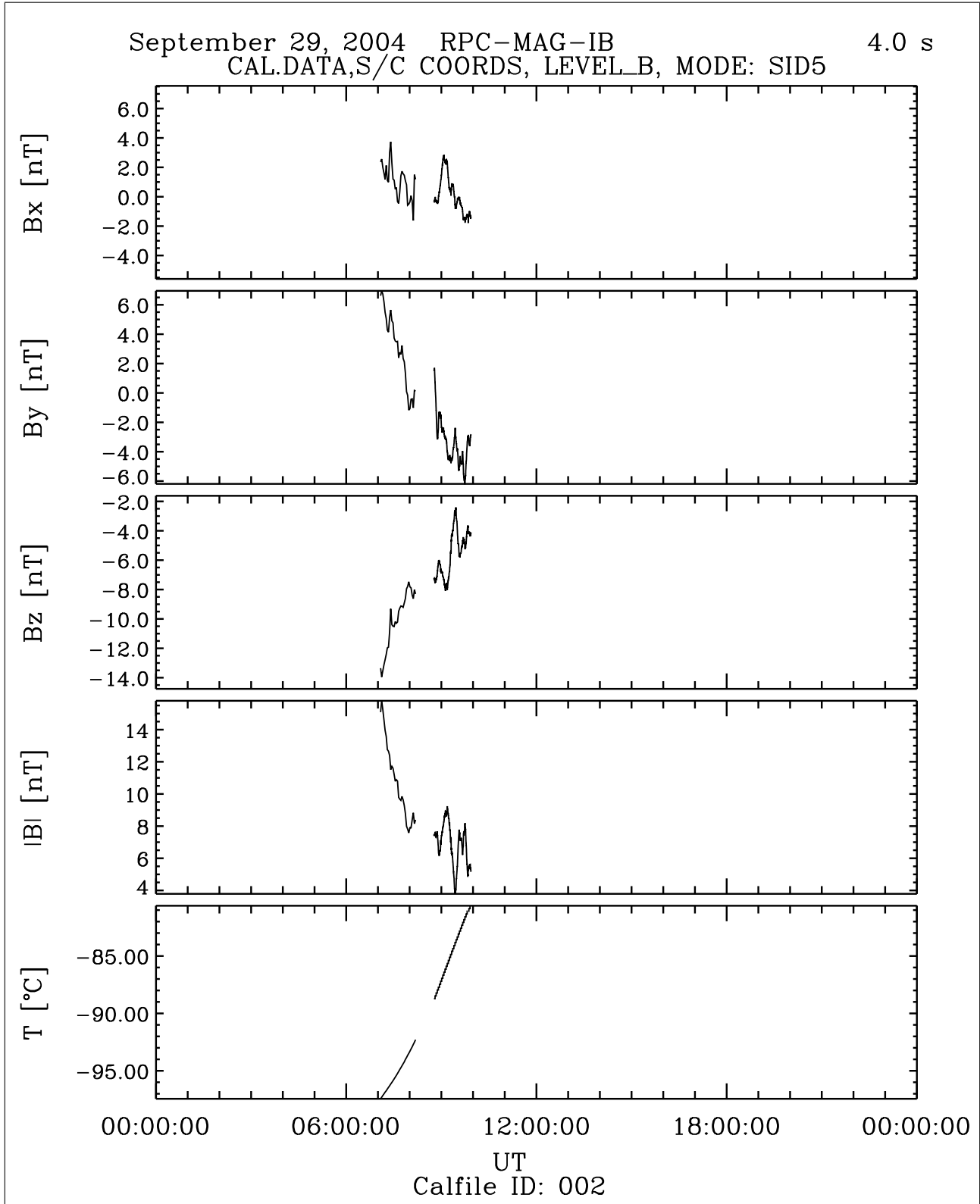


Figure 65: File: RPCMAG040929T0705\_CLB\_IB\_M5\_T0000\_2400\_002



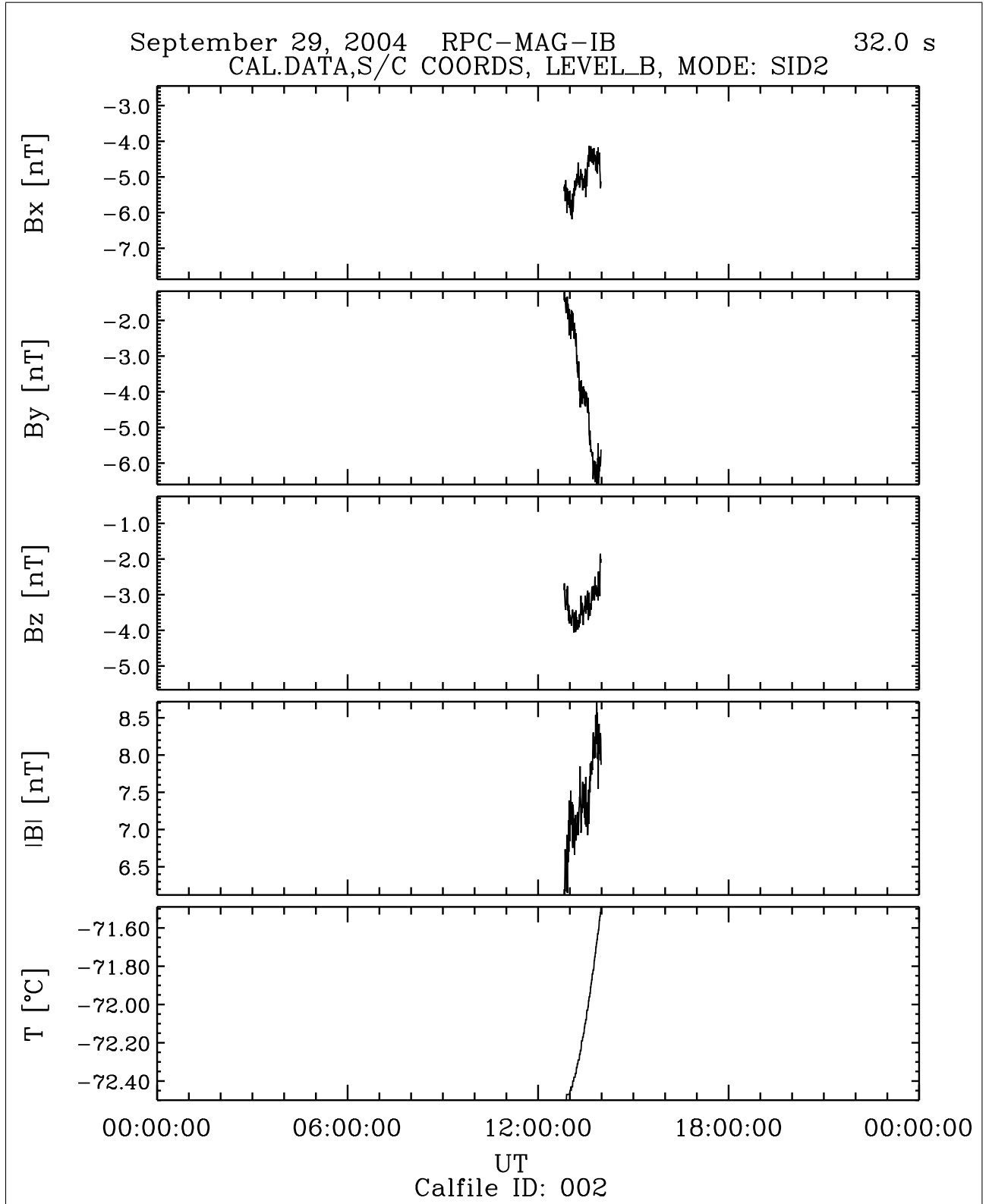


Figure 66: File: RPCMAG040929T1249\_CLB\_IB\_M2\_T0000\_2400\_002

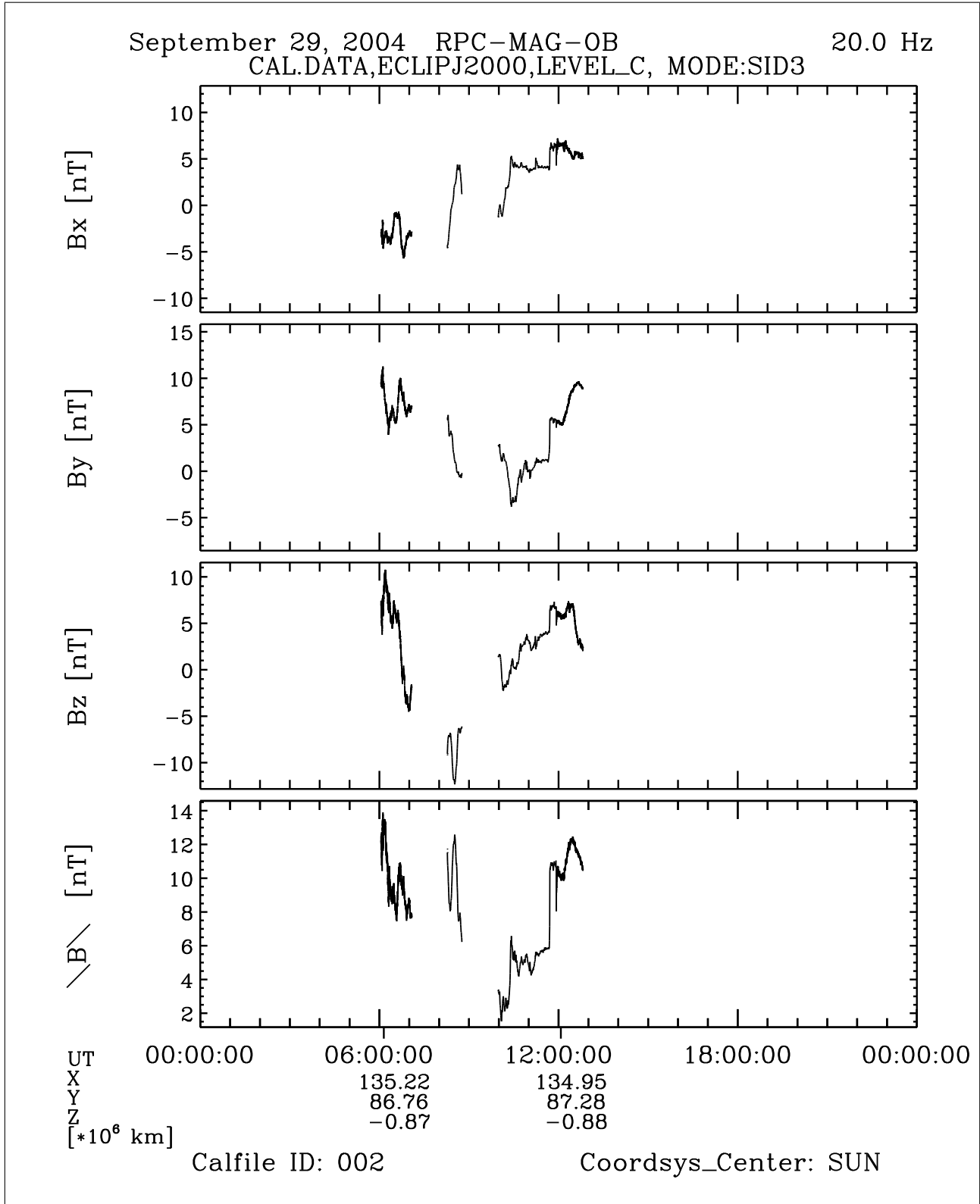


Figure 67: File: RPCMAG040929T0603\_CLC\_OB\_M3\_T0000\_2400\_002

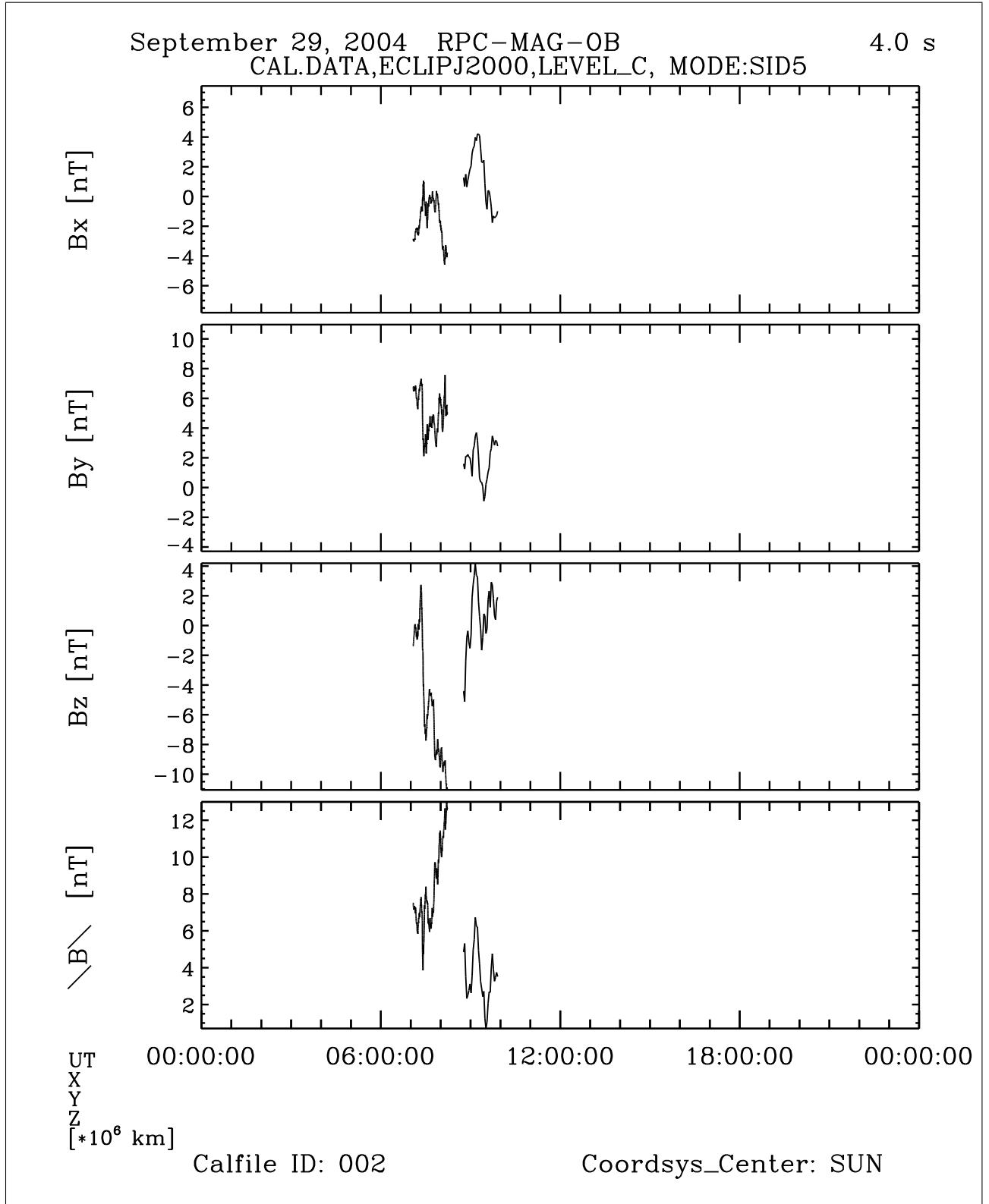


Figure 68: File: RPCMAG040929T0705\_CLC\_OB\_M5\_T0000\_2400\_002

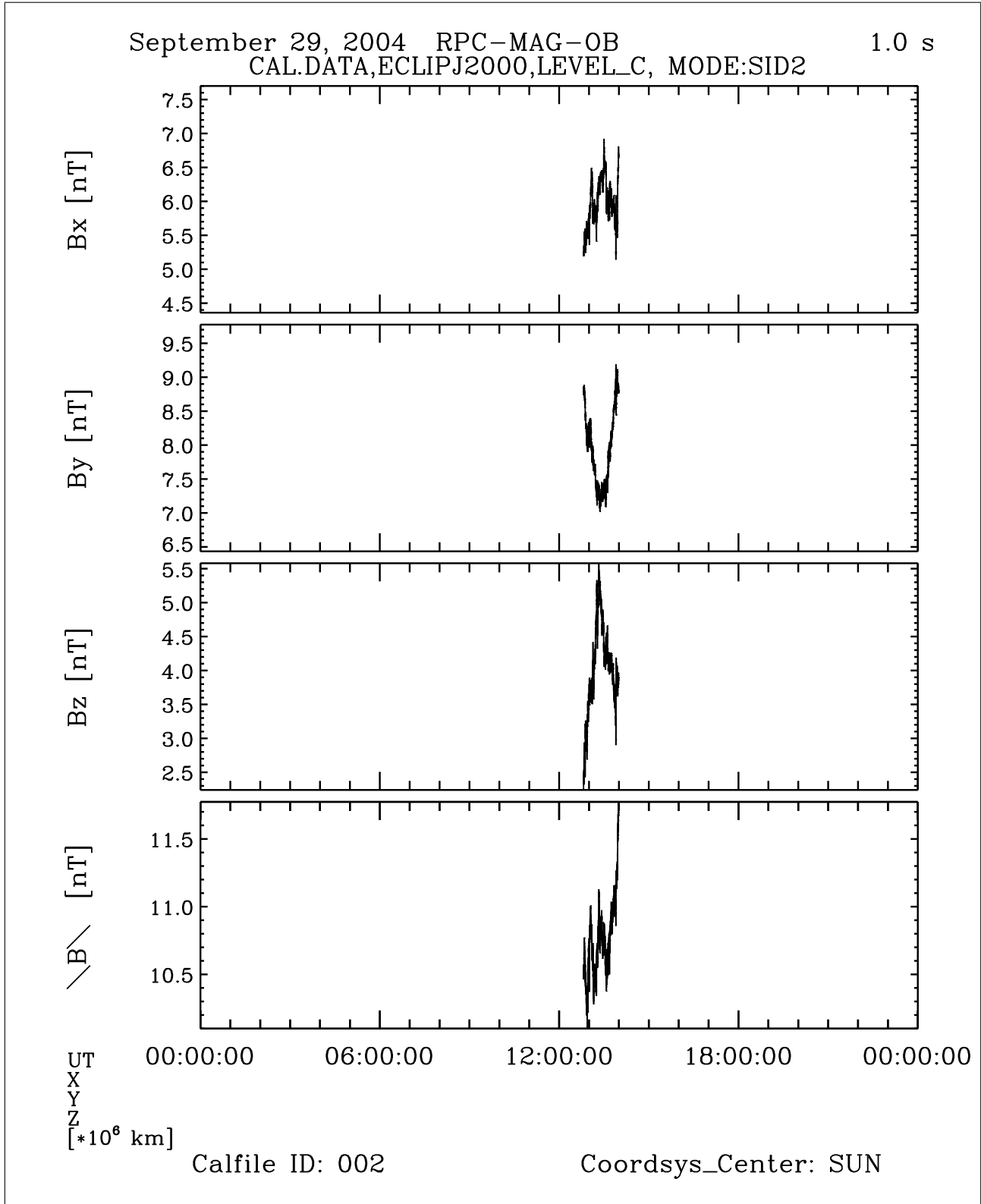


Figure 69: File: RPCMAG040929T1249\_CLC\_OB\_M2\_T0000\_2400\_002

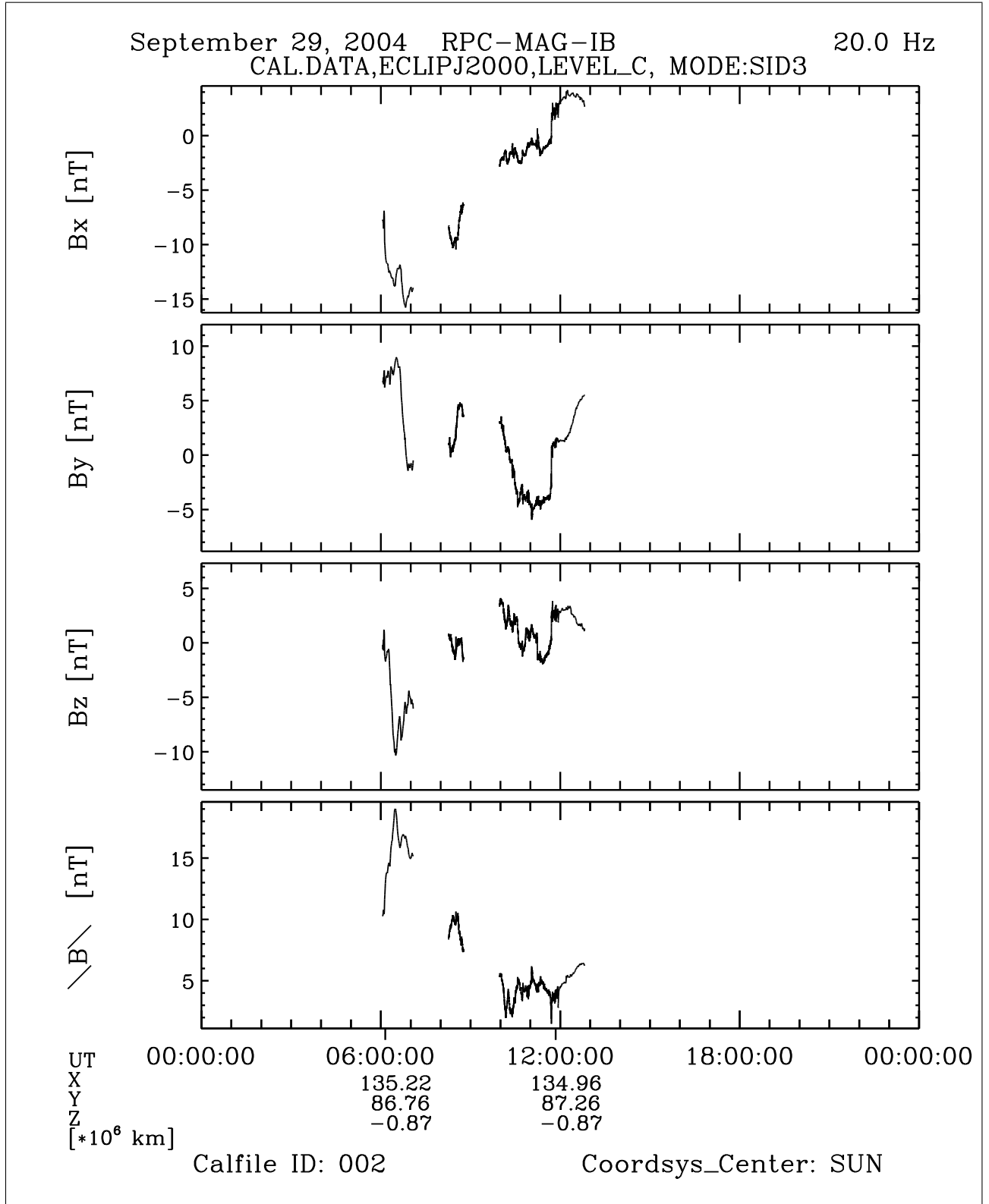


Figure 70: File: RPCMAG040929T0603\_CLC\_IB\_M3\_T0000\_2400\_002

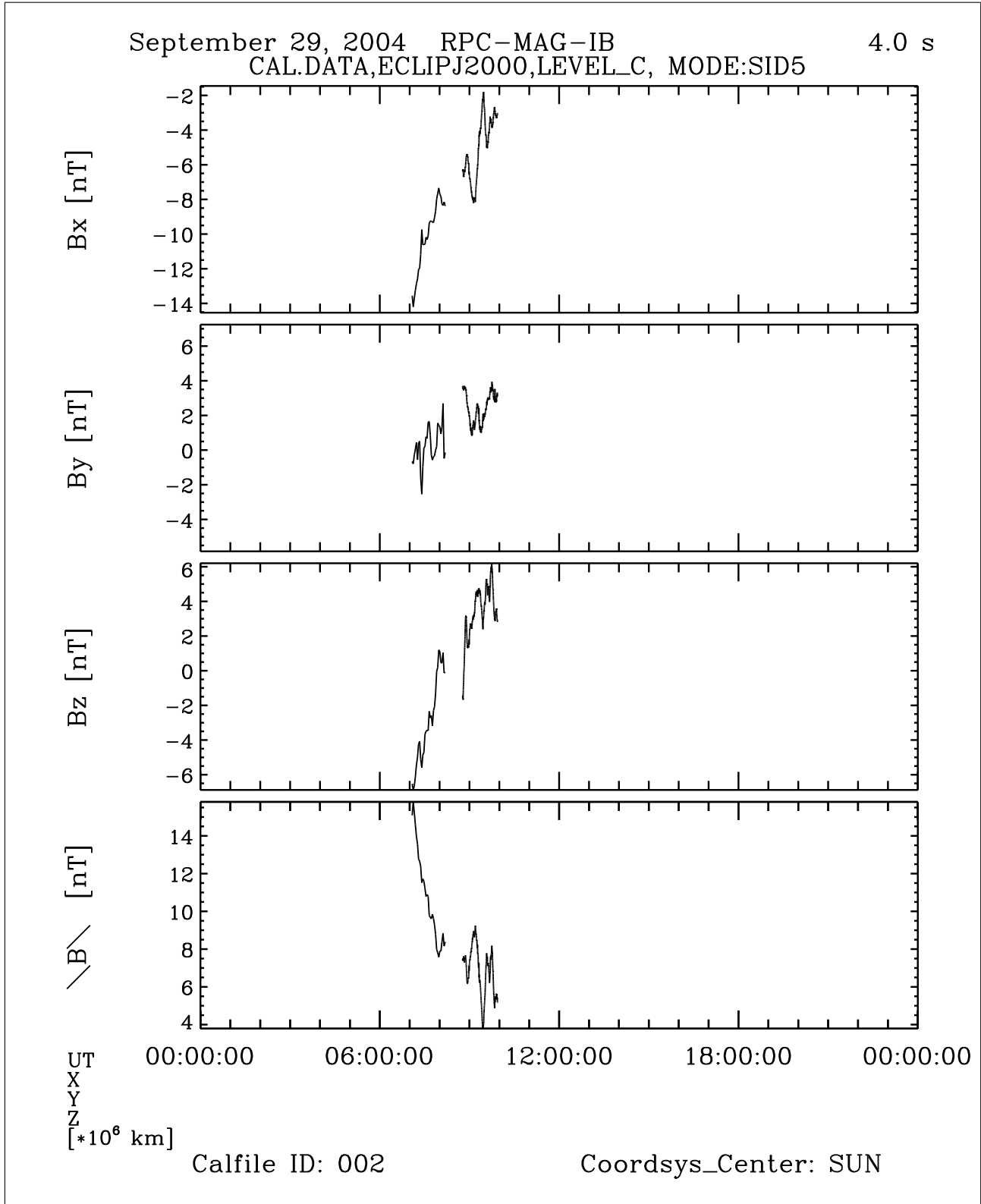


Figure 71: File: RPCMAG040929T0705\_CLC\_IB\_M5\_T0000\_2400\_002

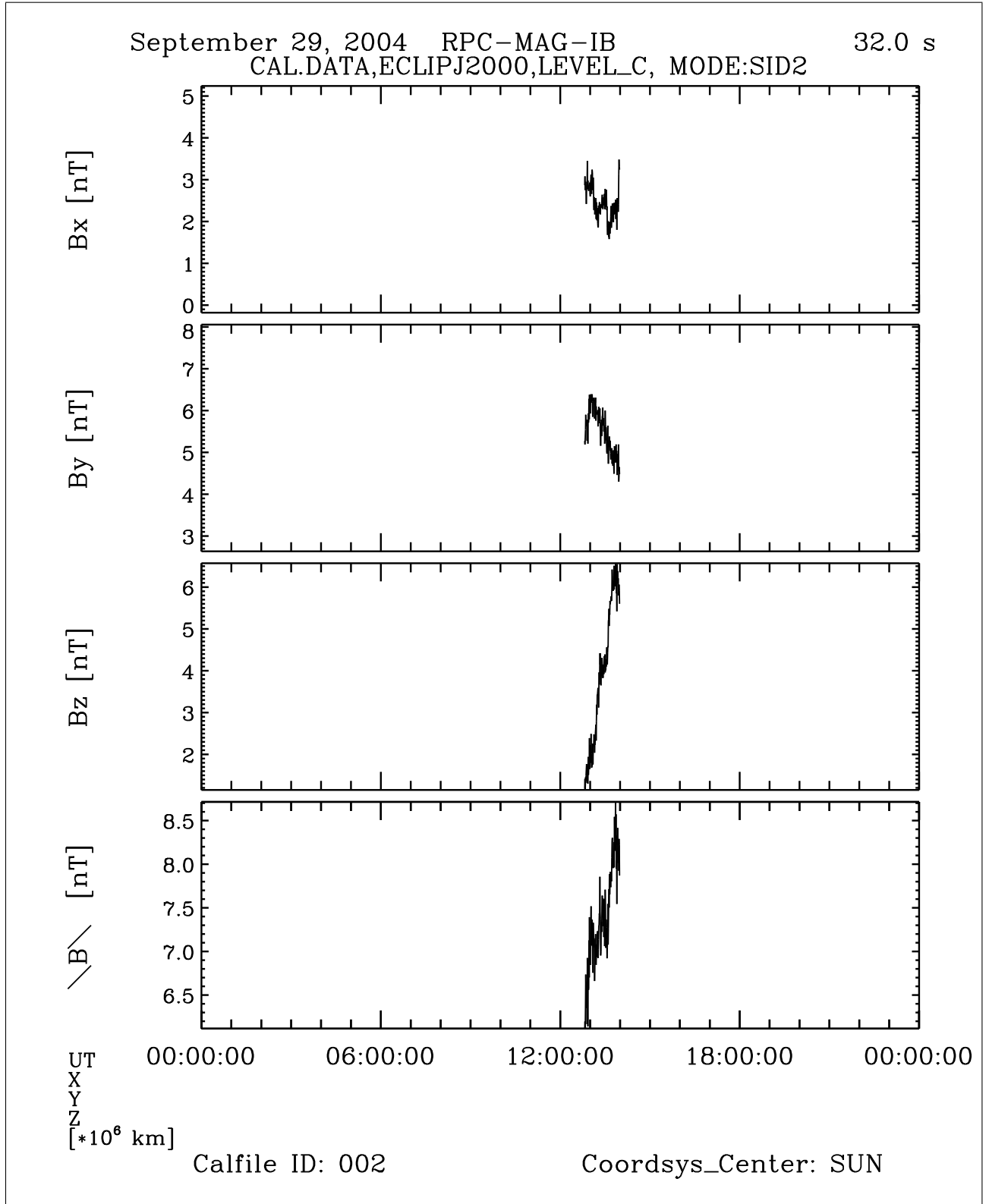


Figure 72: File: RPCMAG040929T1249\_CLC\_IB\_M2\_T0000\_2400\_002

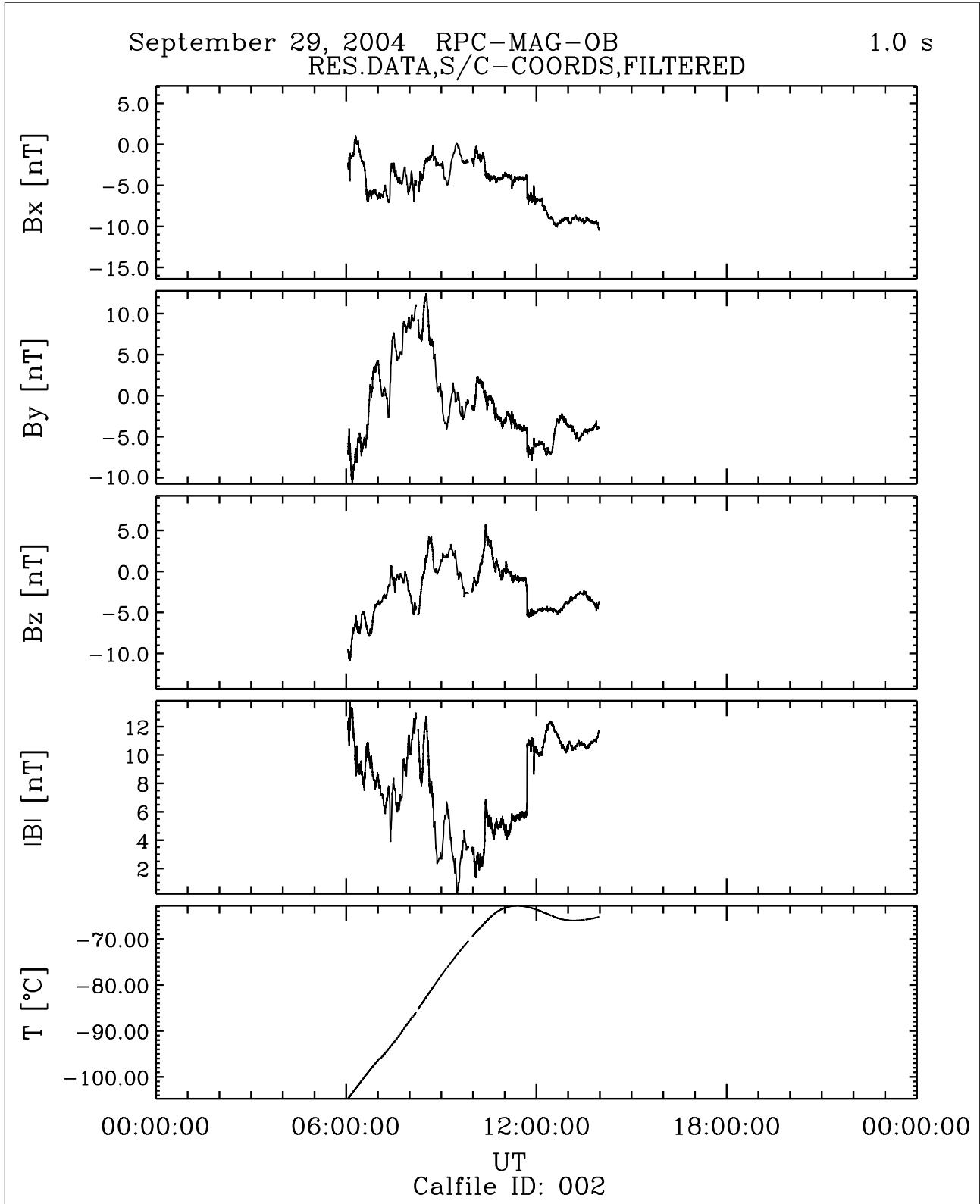


Figure 73: File: RPCMAG040929\_CLF\_OB\_A1\_T0000\_2400\_002



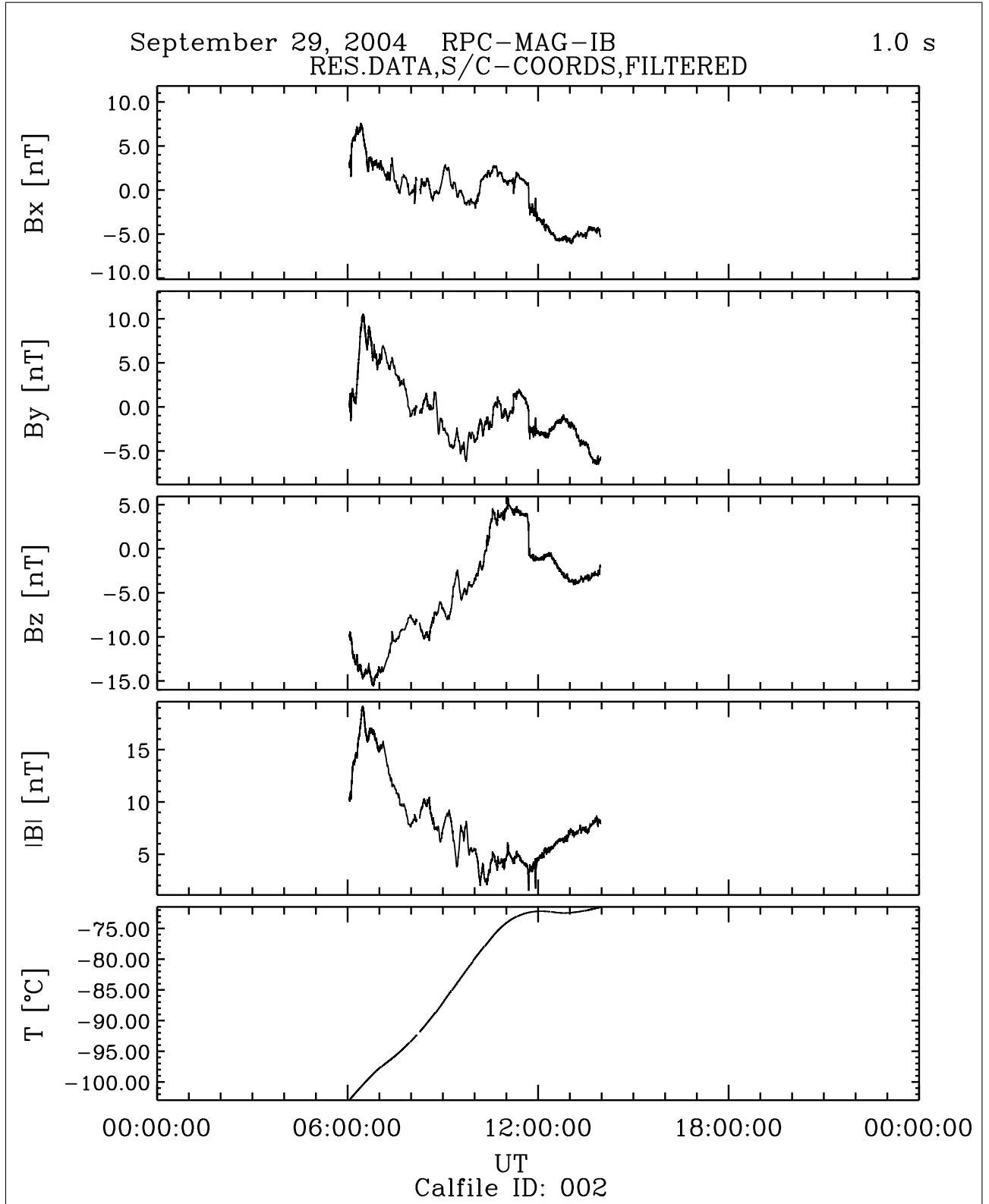


Figure 74: File: RPCMAG040929\_CLF\_IB\_A1\_T0000\_2400\_002

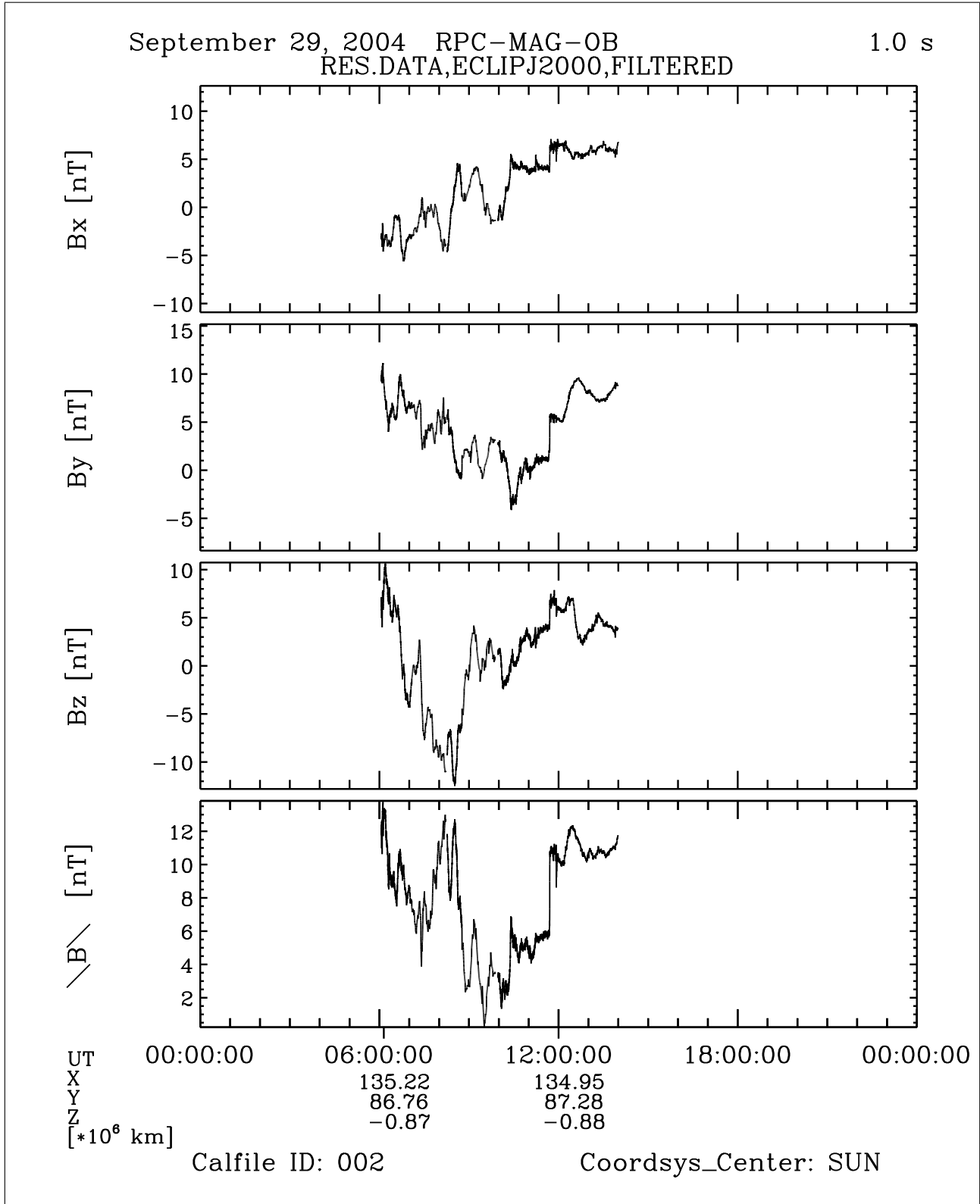


Figure 75: File: RPCMAG040929\_CLG\_OB\_A1.T0000\_2400\_002

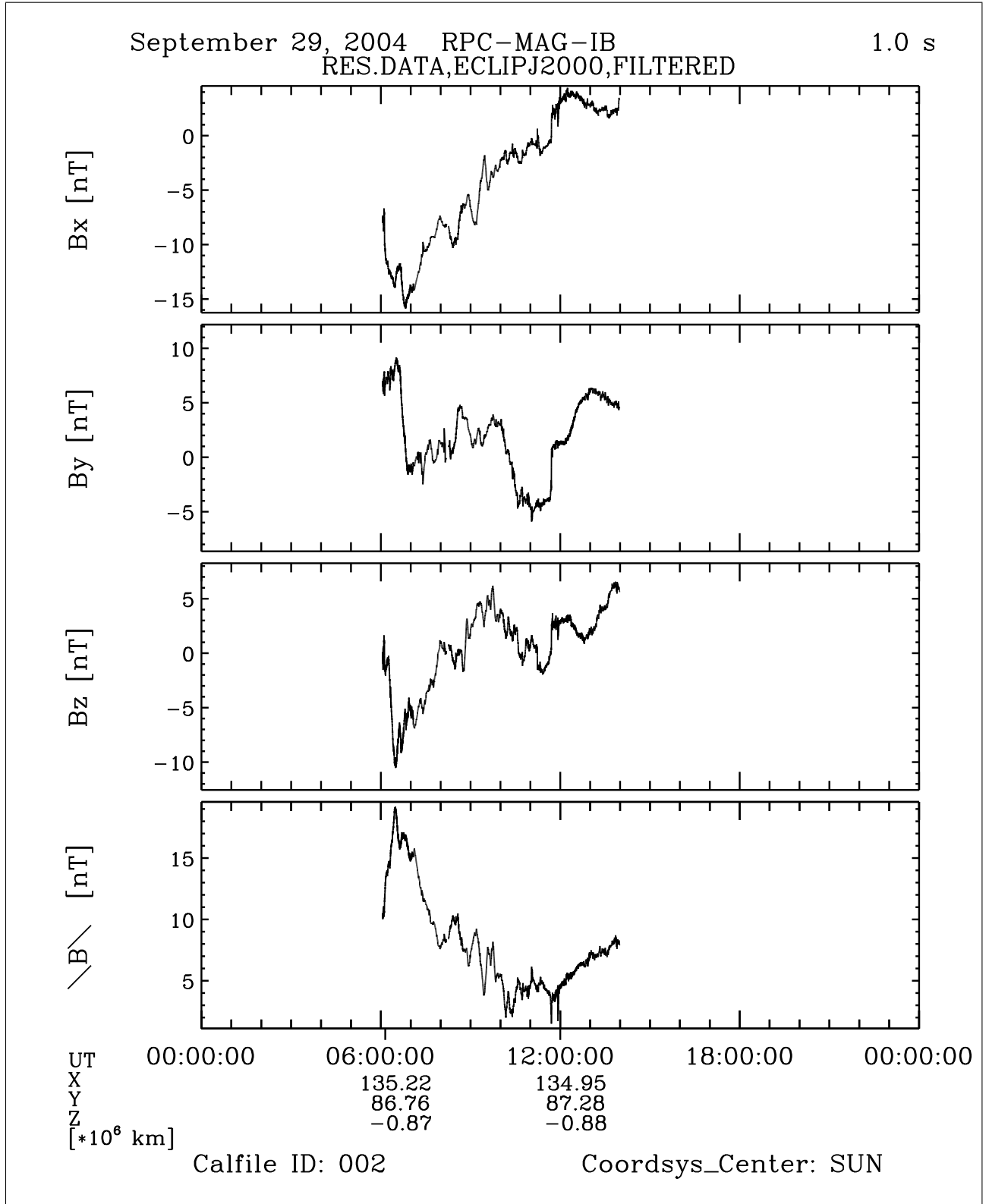


Figure 76: File: RPCMAG040929\_CLG\_IB\_A1\_T0000\_2400\_002

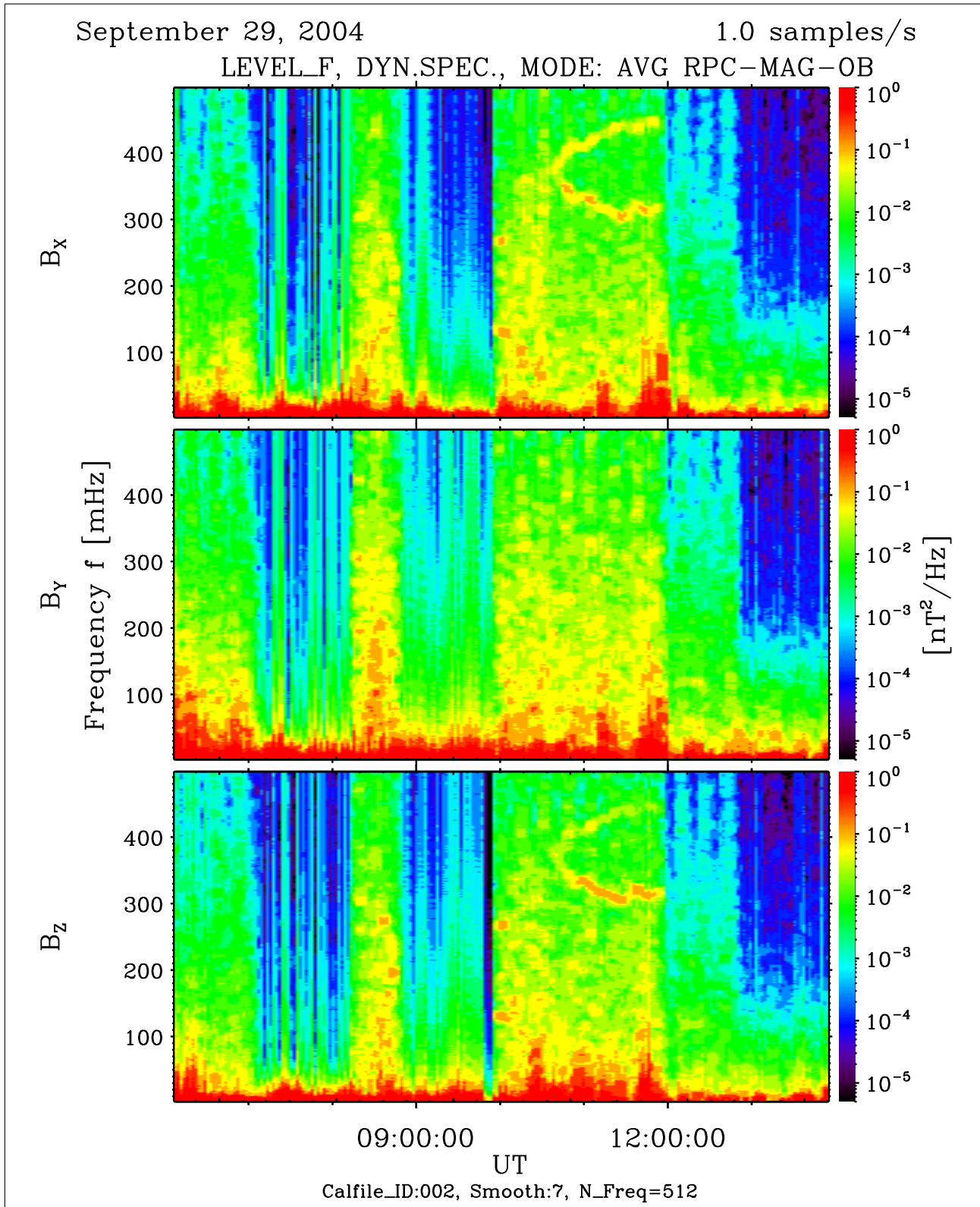


Figure 77: File: RPCMAG040929\_CLF\_OB\_A1\_DS0\_500\_002

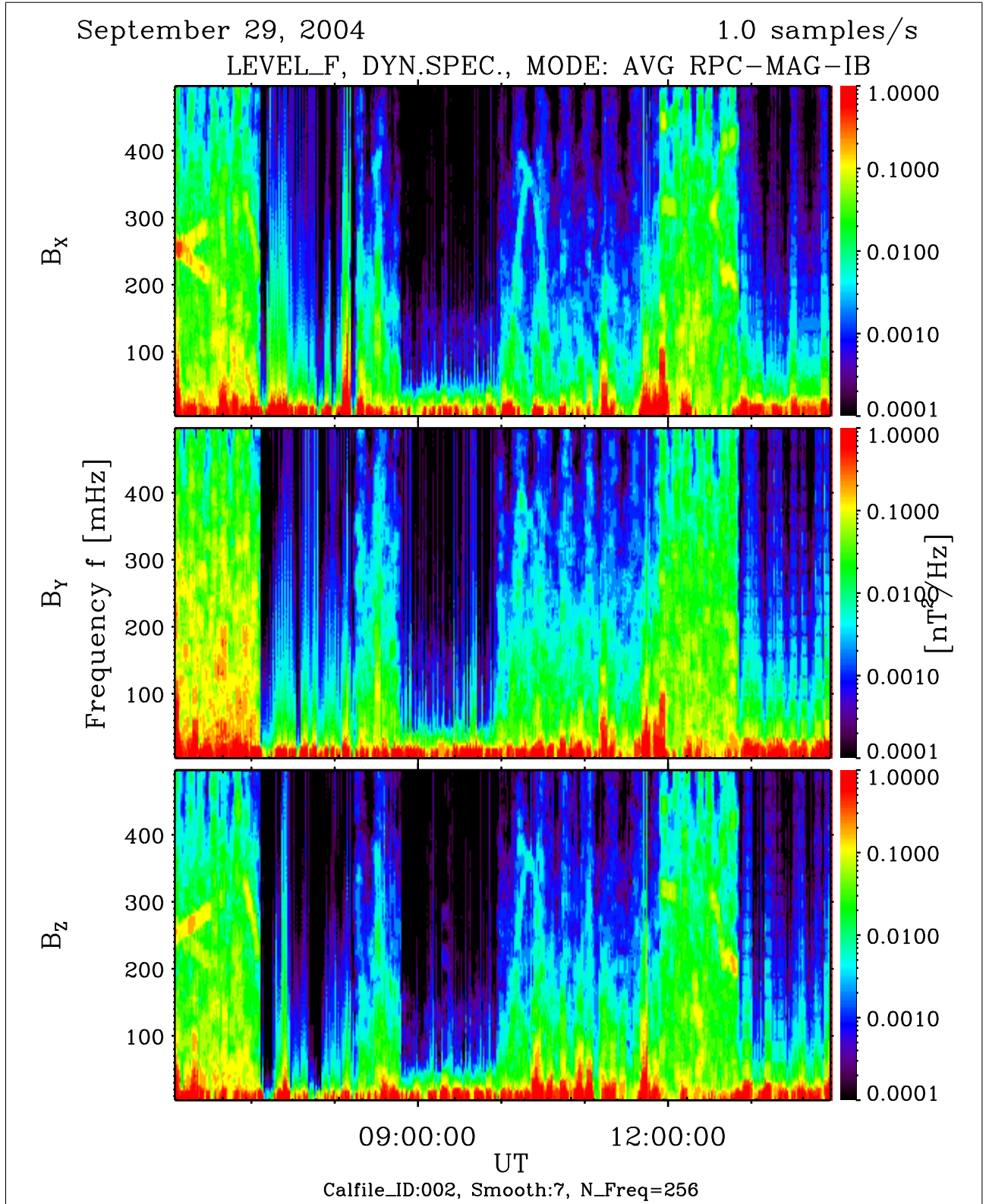


Figure 78: File: RPCMAG040929\_CLF\_IB\_A1\_DS0\_500\_002

<h1 style="margin: 0;">ROSETTA</h1>	Document: RO-IGEP-TR-0011 Issue: 3 Revision: 1
<b>IGEP</b> Institut für Geophysik u. extraterr. Physik Technische Universität Braunschweig	Date: April 13, 2007 Page: 88

### 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.

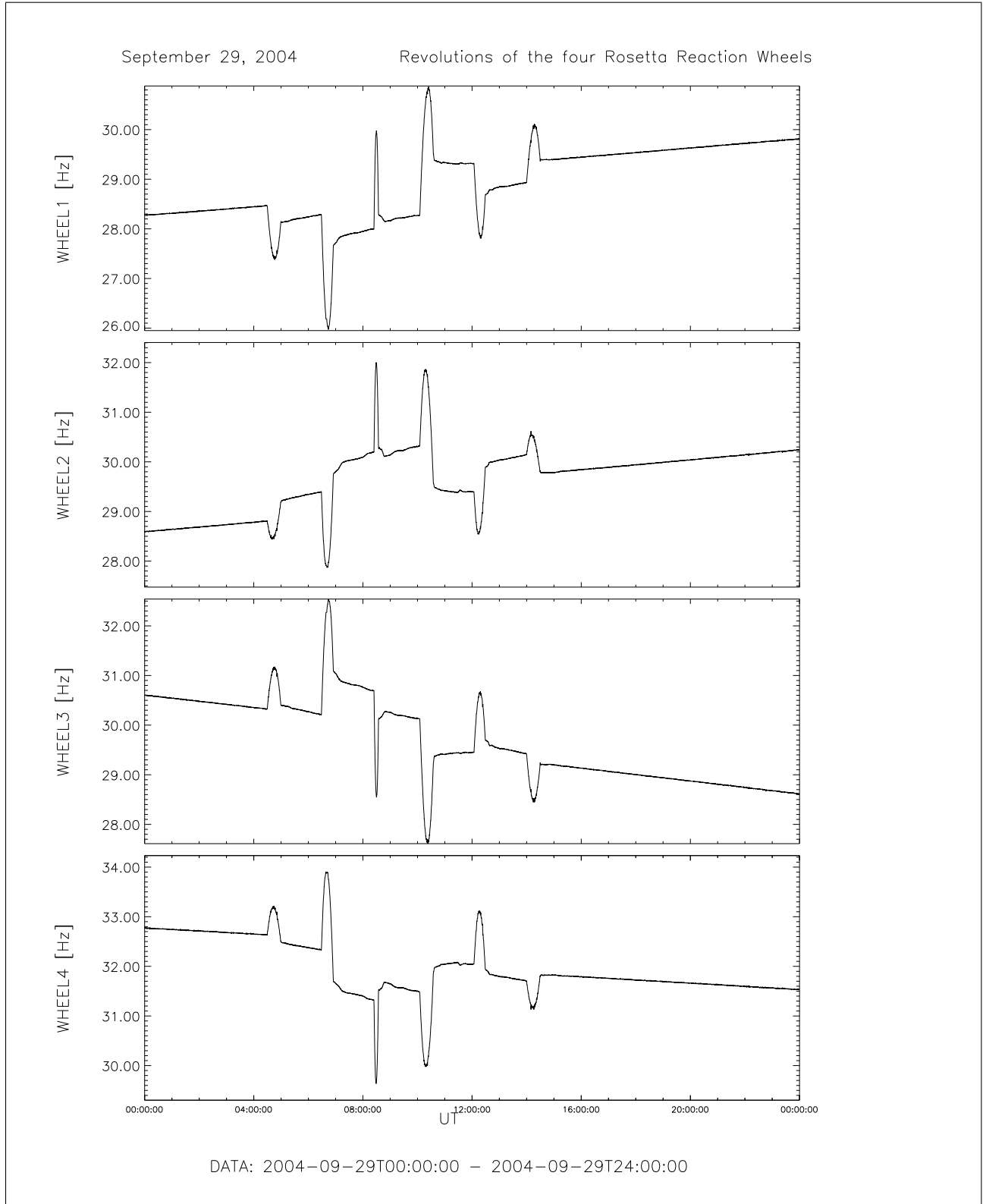


Figure 79: File: wheels\_Hz2004-09-29T00-00

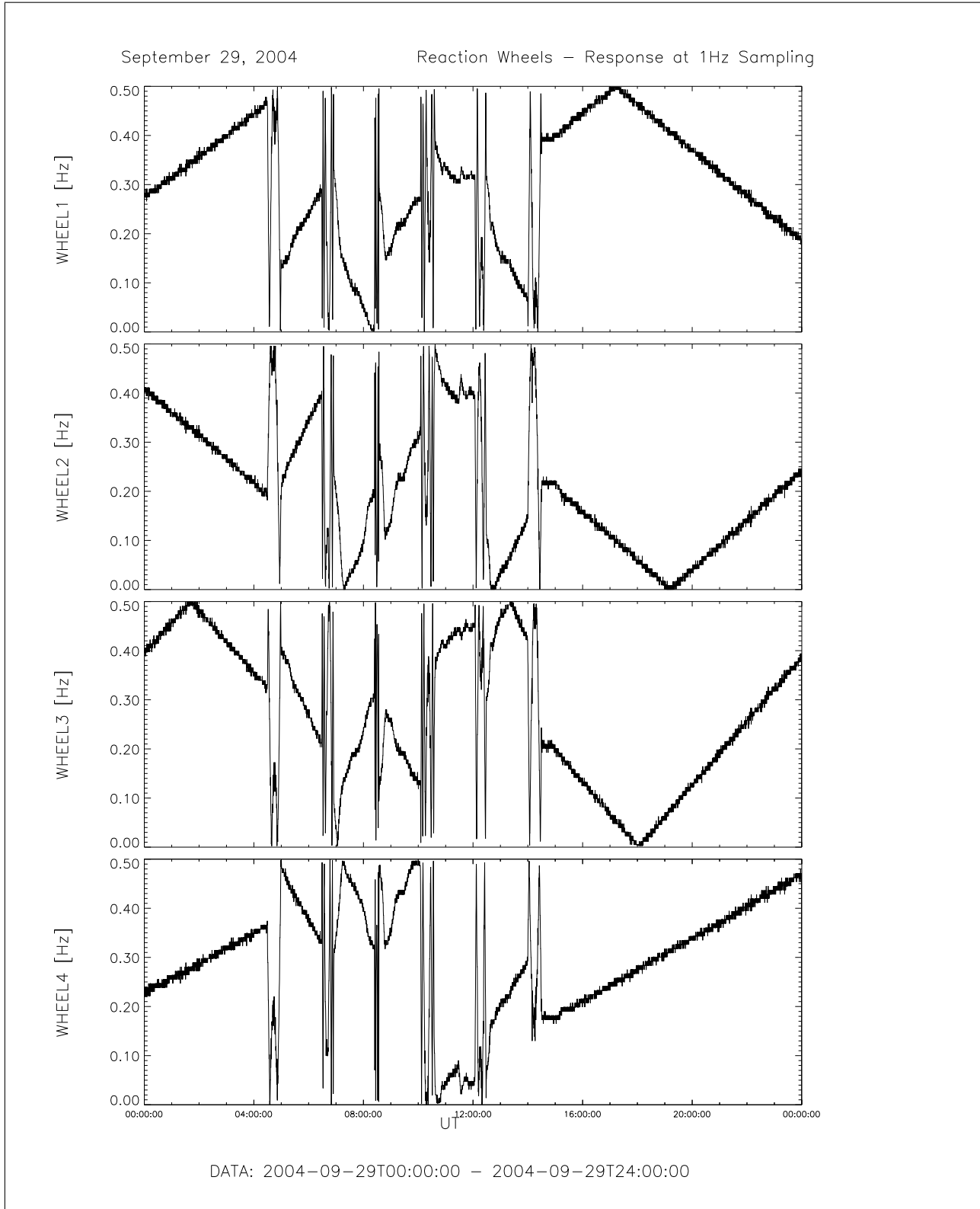


Figure 80: File: wheels\_1Hz\_Sampling2004-09-29T00-00



R O S E T T A	Document: RO-IGEP-TR-0011 Issue: 3 Revision: 1 Date: April 13, 2007 Page: 91
<b>IGEP</b> Institut für Geophysik u. extraterr. Physik Technische Universität Braunschweig	

## 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

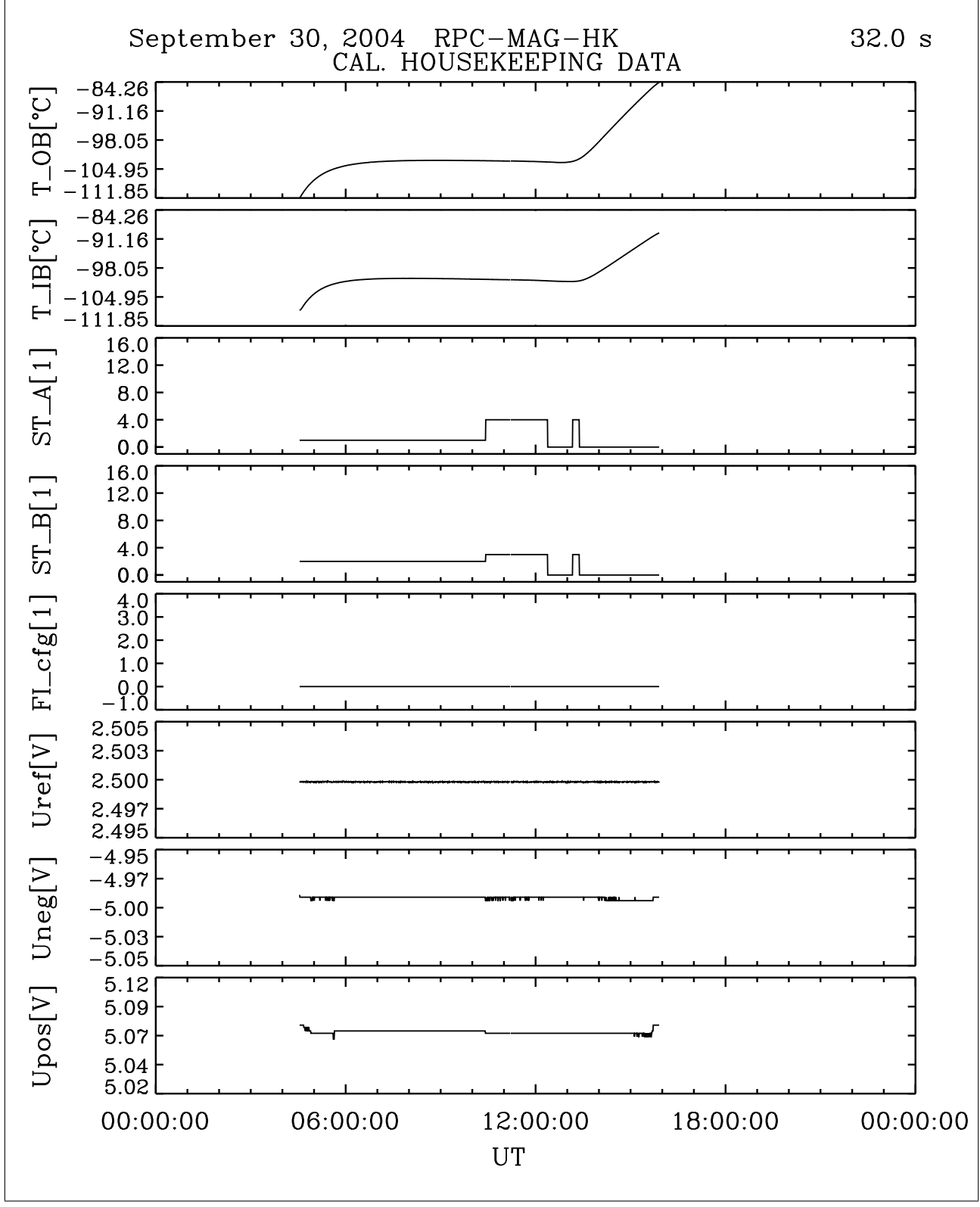


Figure 81: File: RPCMAG040930T0432\_CLA\_HK\_P0000\_2400

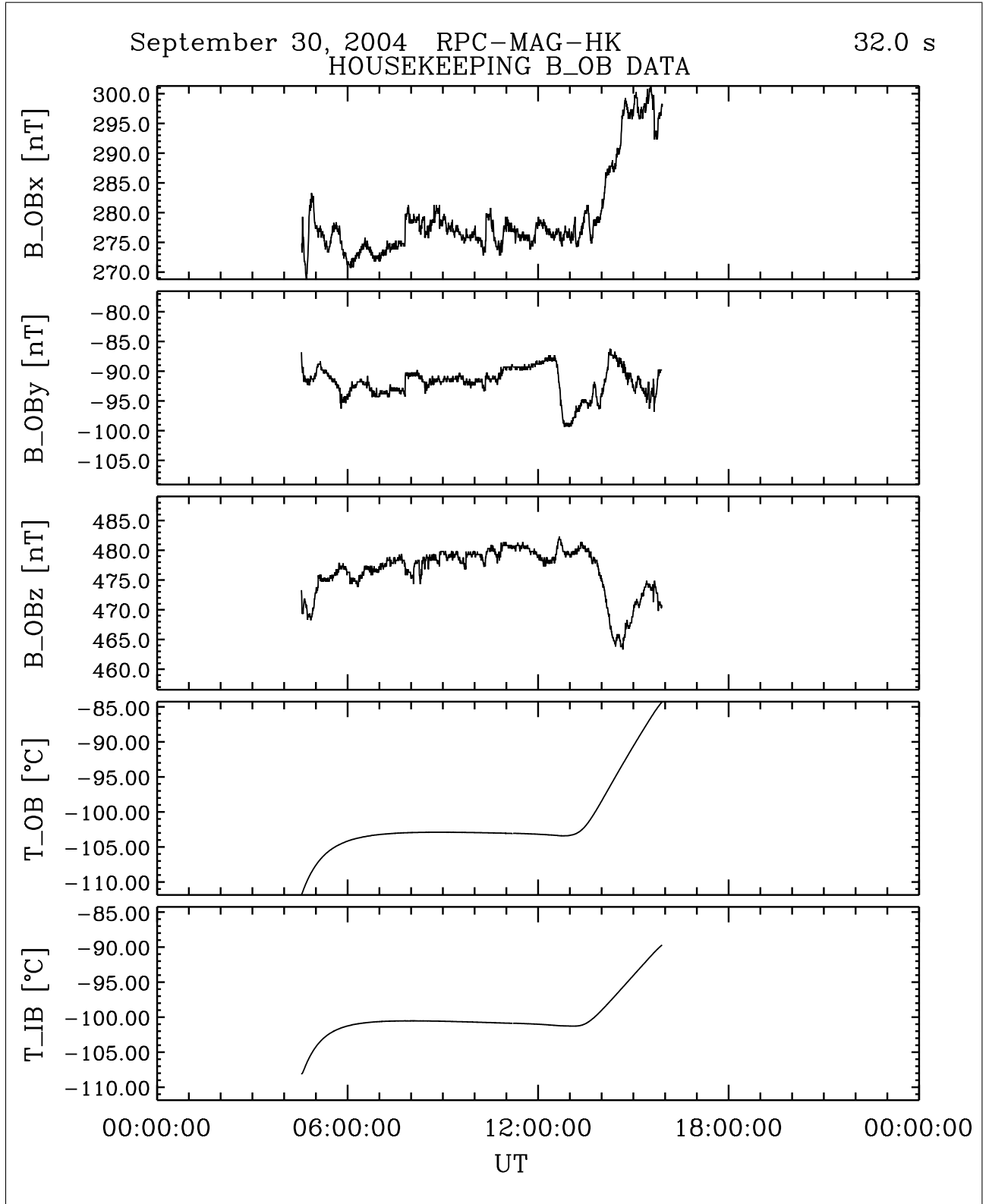


Figure 82: File: RPCMAG040930T0432\_CLA\_HK\_B\_P0000\_2400

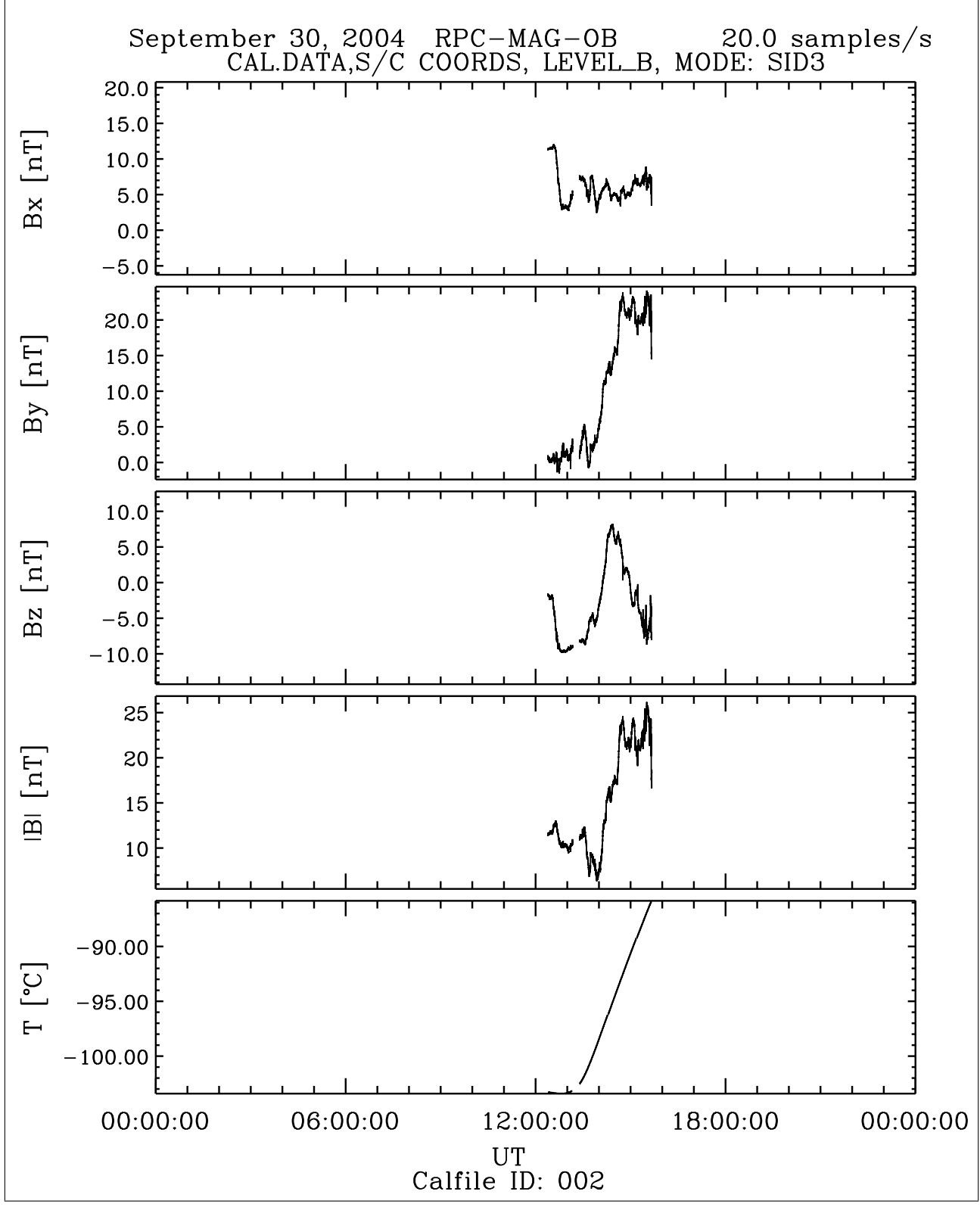


Figure 83: File: RPCMAG040930T1223\_CLB\_OB\_M3\_T0000\_2400\_002

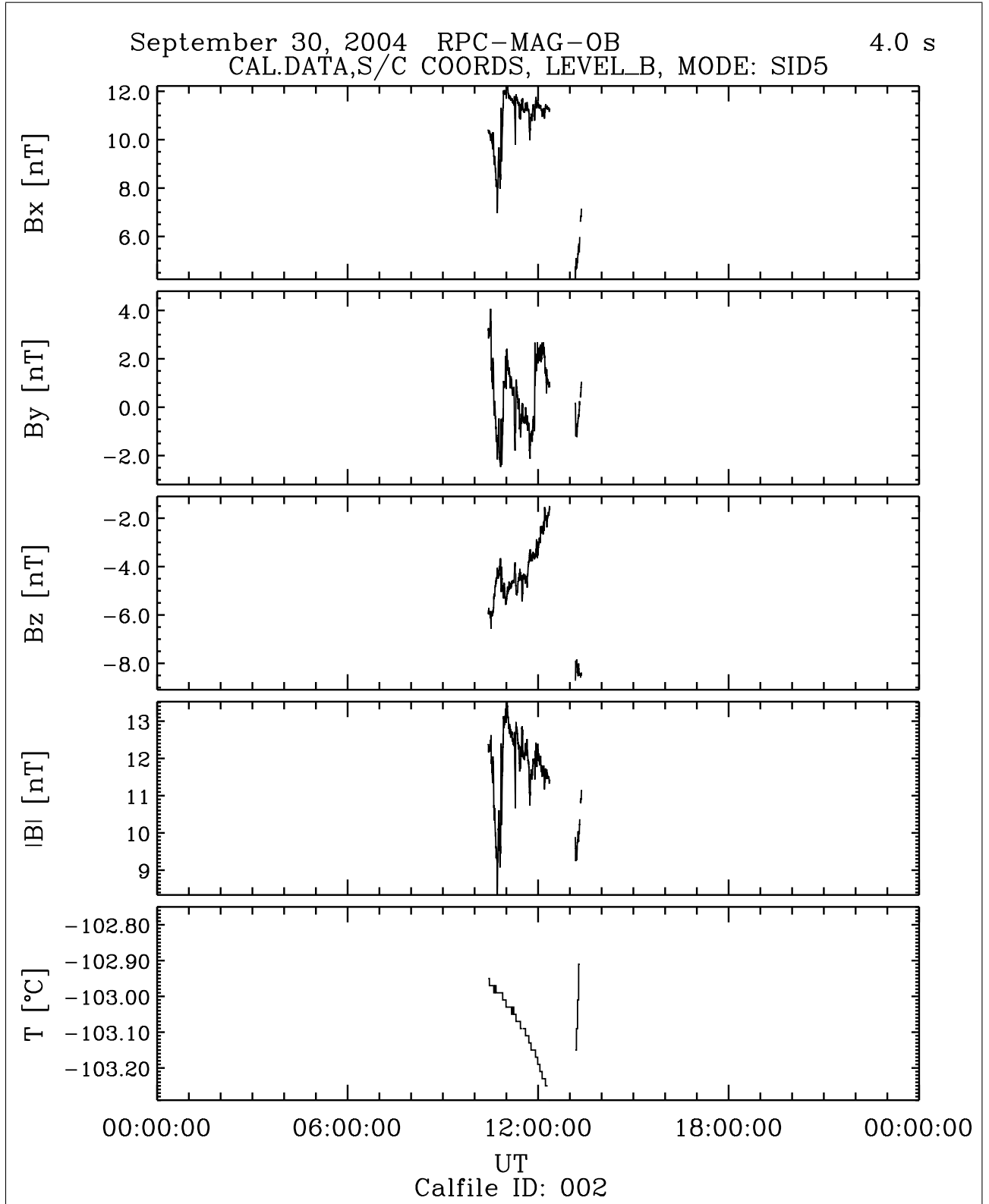


Figure 84: File: RPCMAG040930T1025\_CLB\_OB\_M5\_T0000\_2400\_002

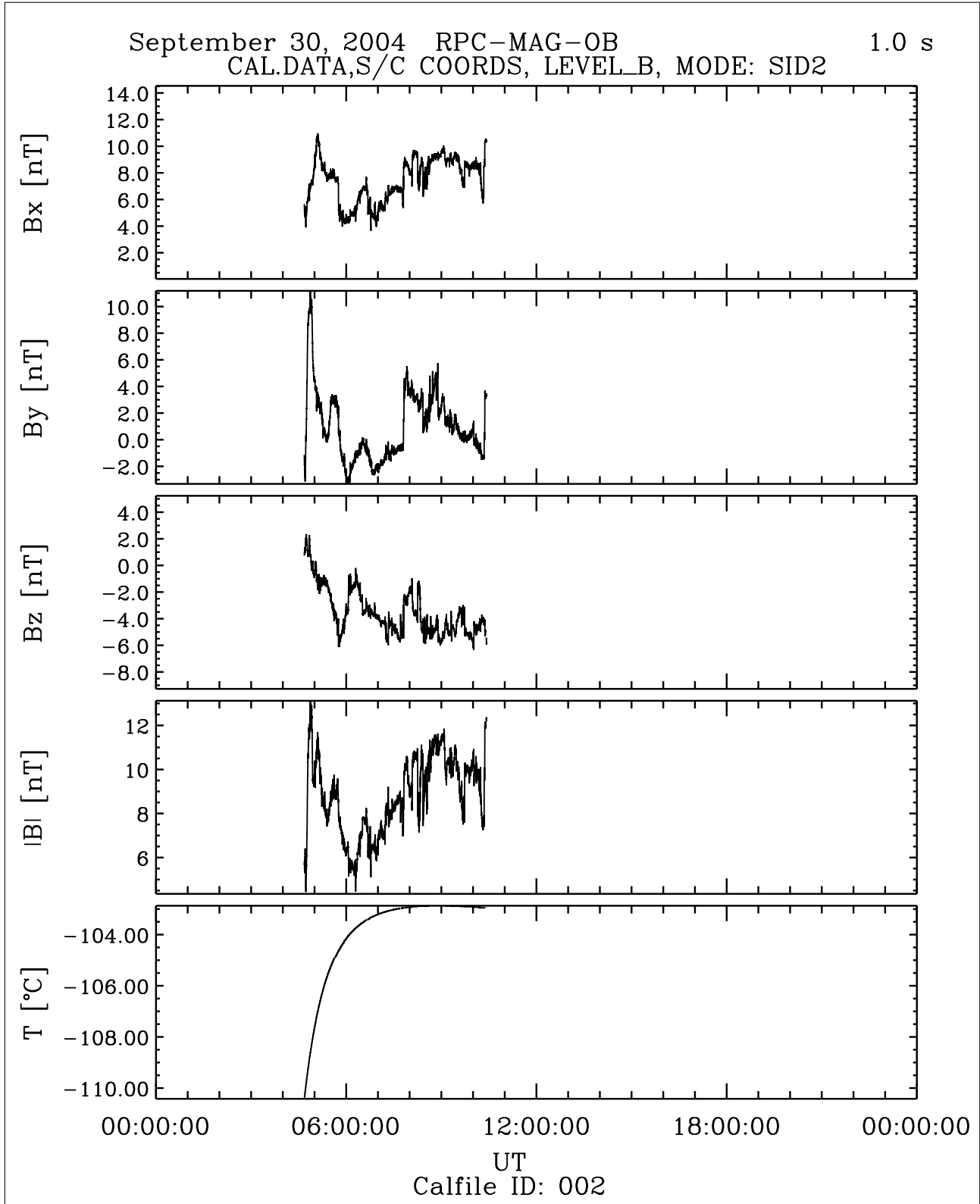


Figure 85: File: RPCMAG040930T0440\_CLB\_OB\_M2\_T0000\_2400\_002

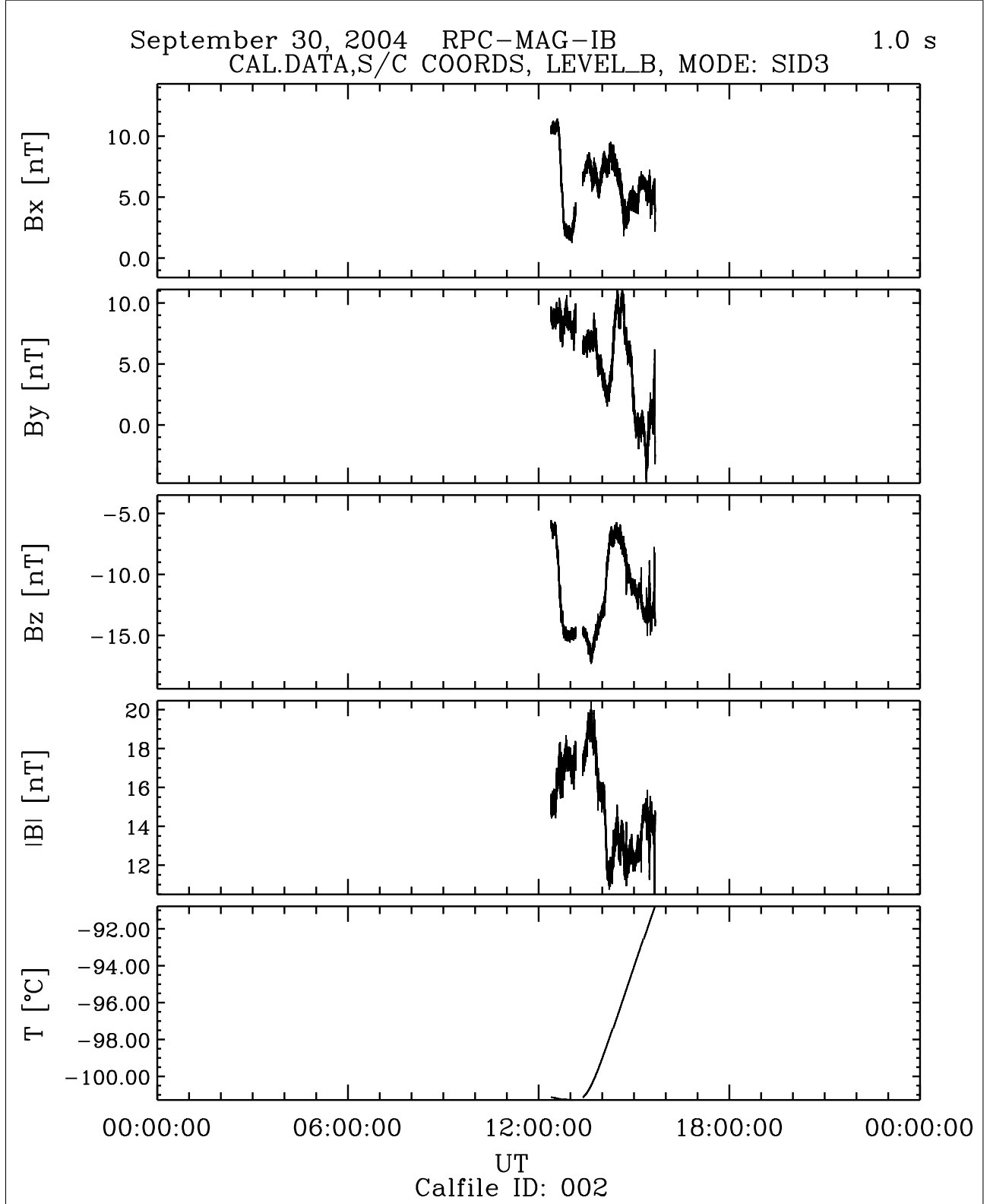


Figure 86: File: RPCMAG040930T1223\_CLB\_IB\_M3\_T0000\_2400\_002

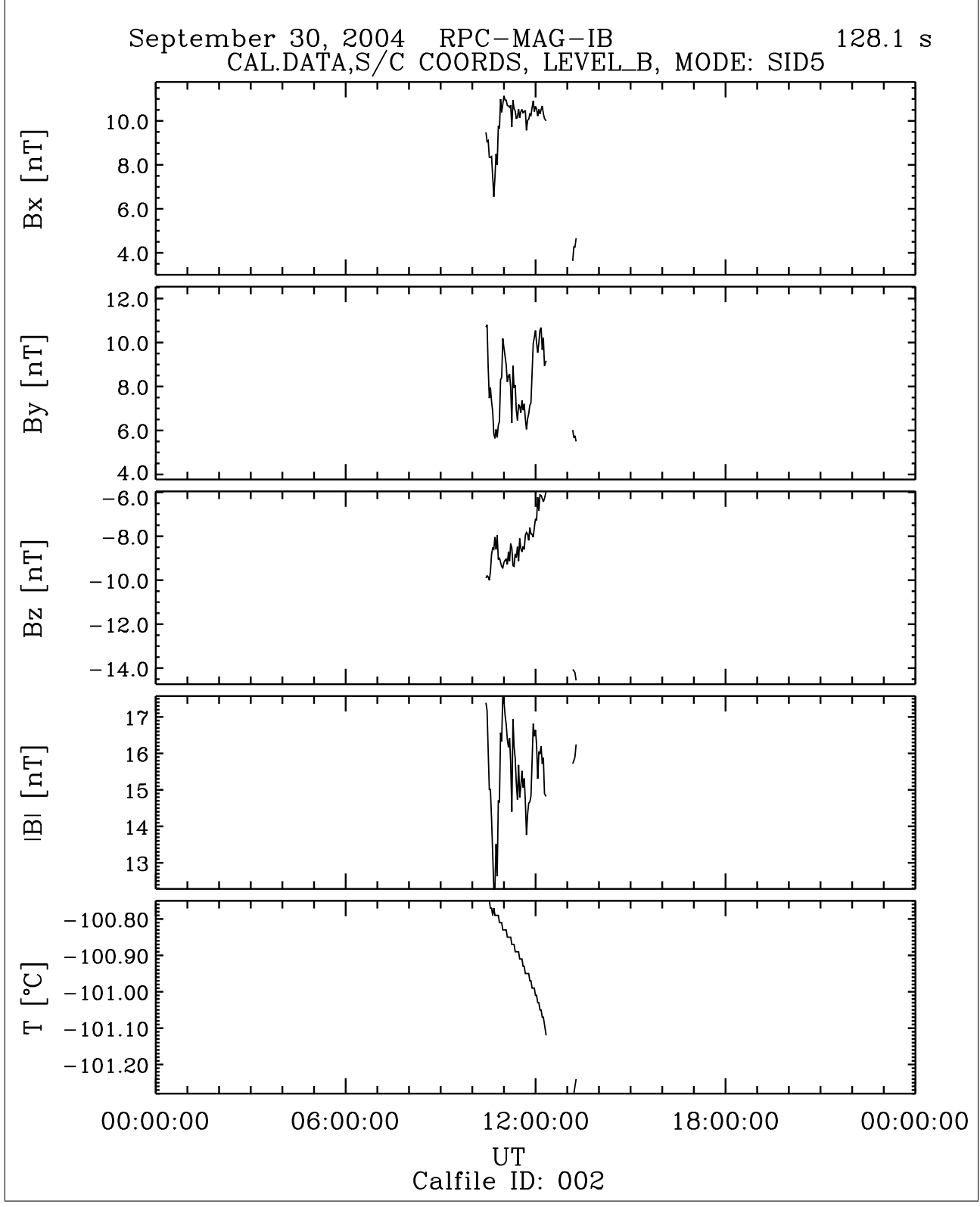


Figure 87: File: RPCMAG040930T1025\_CLB\_IB\_M5\_T0000\_2400\_002



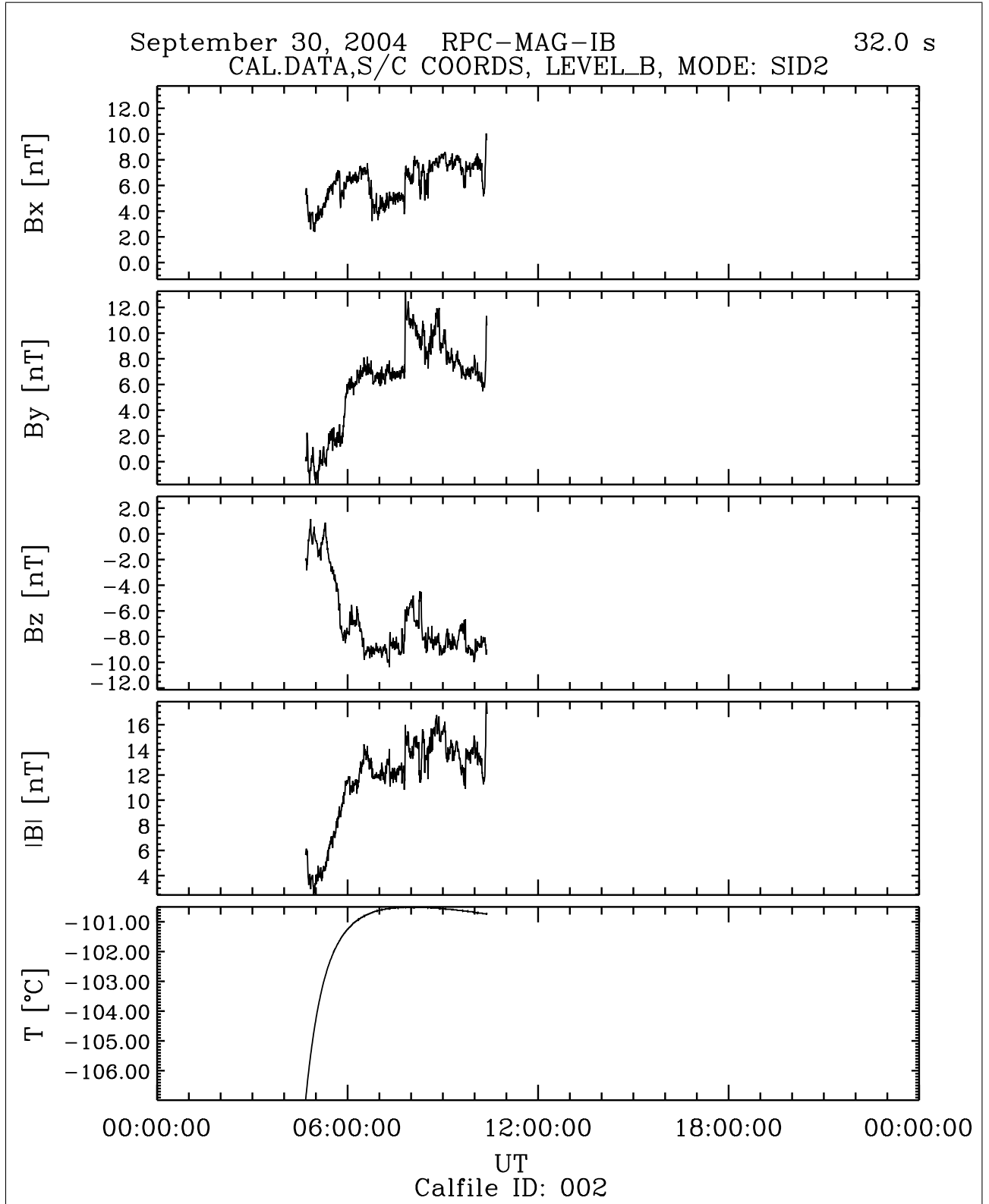


Figure 88: File: RPCMAG040930T0440\_CLB\_IB\_M2\_T0000\_2400\_002

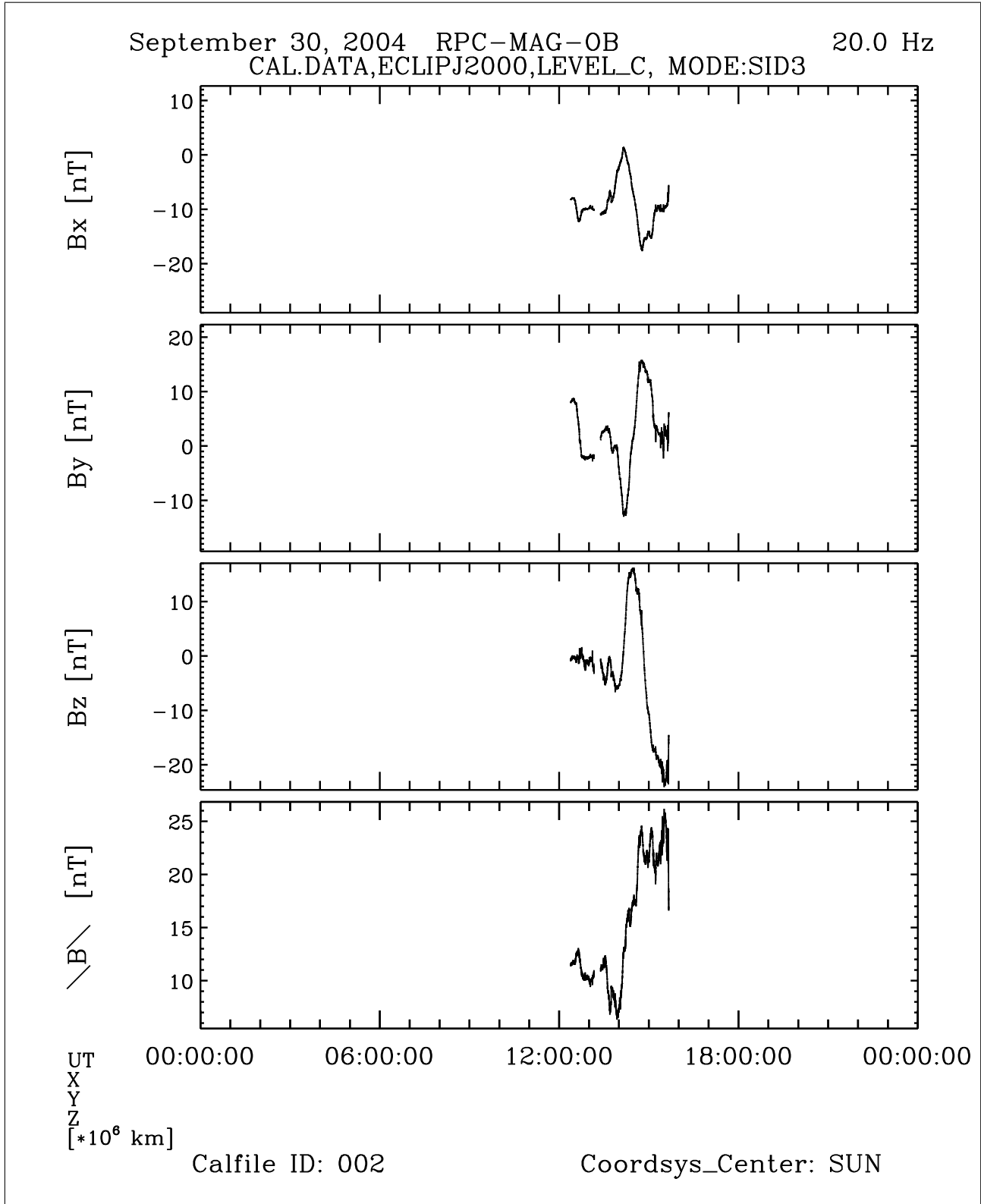


Figure 89: File: RPCMAG040930T1223\_CLC\_OB\_M3\_T0000\_2400\_002

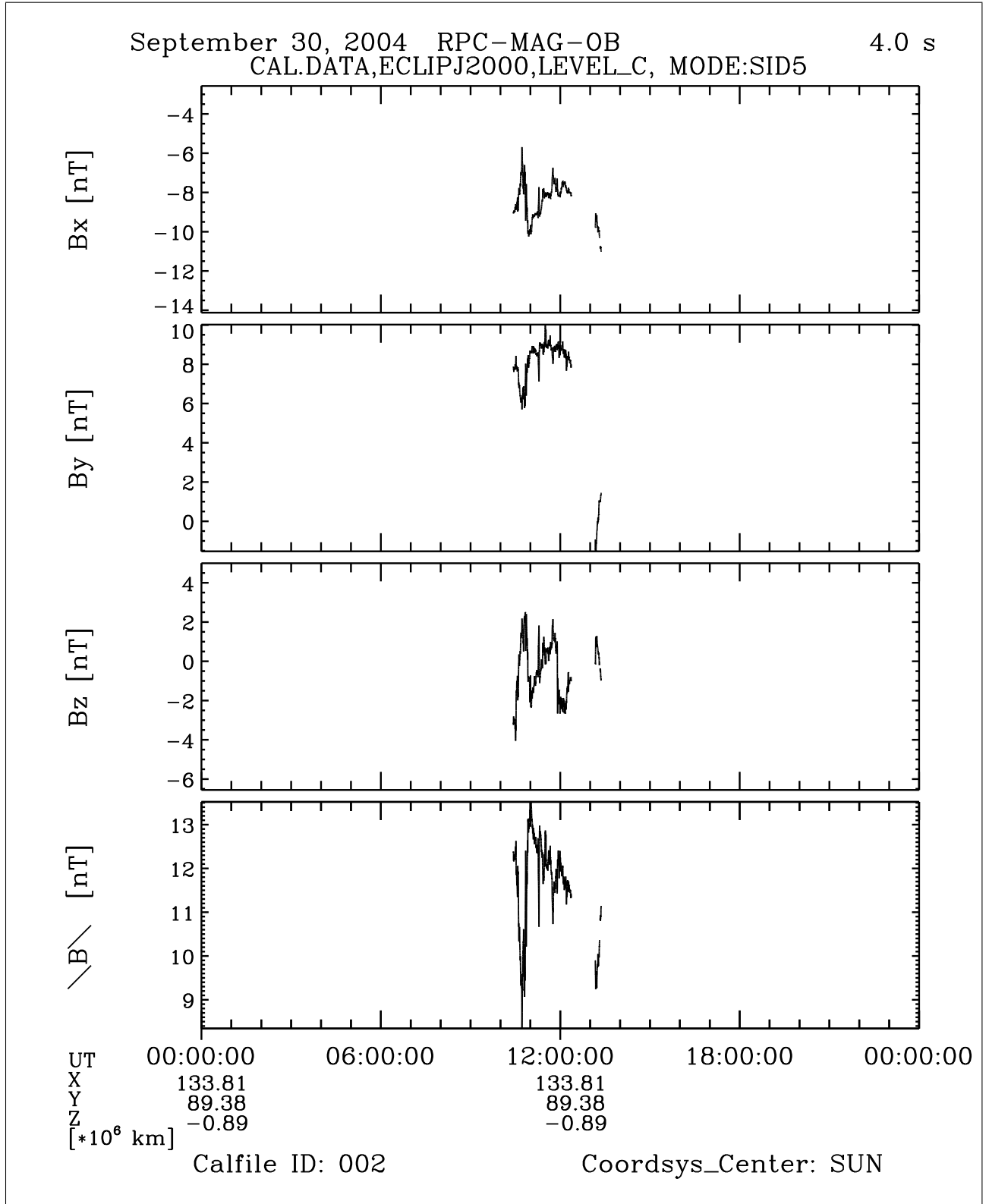


Figure 90: File: RPCMAG040930T1025\_CLC\_OB\_M5\_T0000\_2400\_002

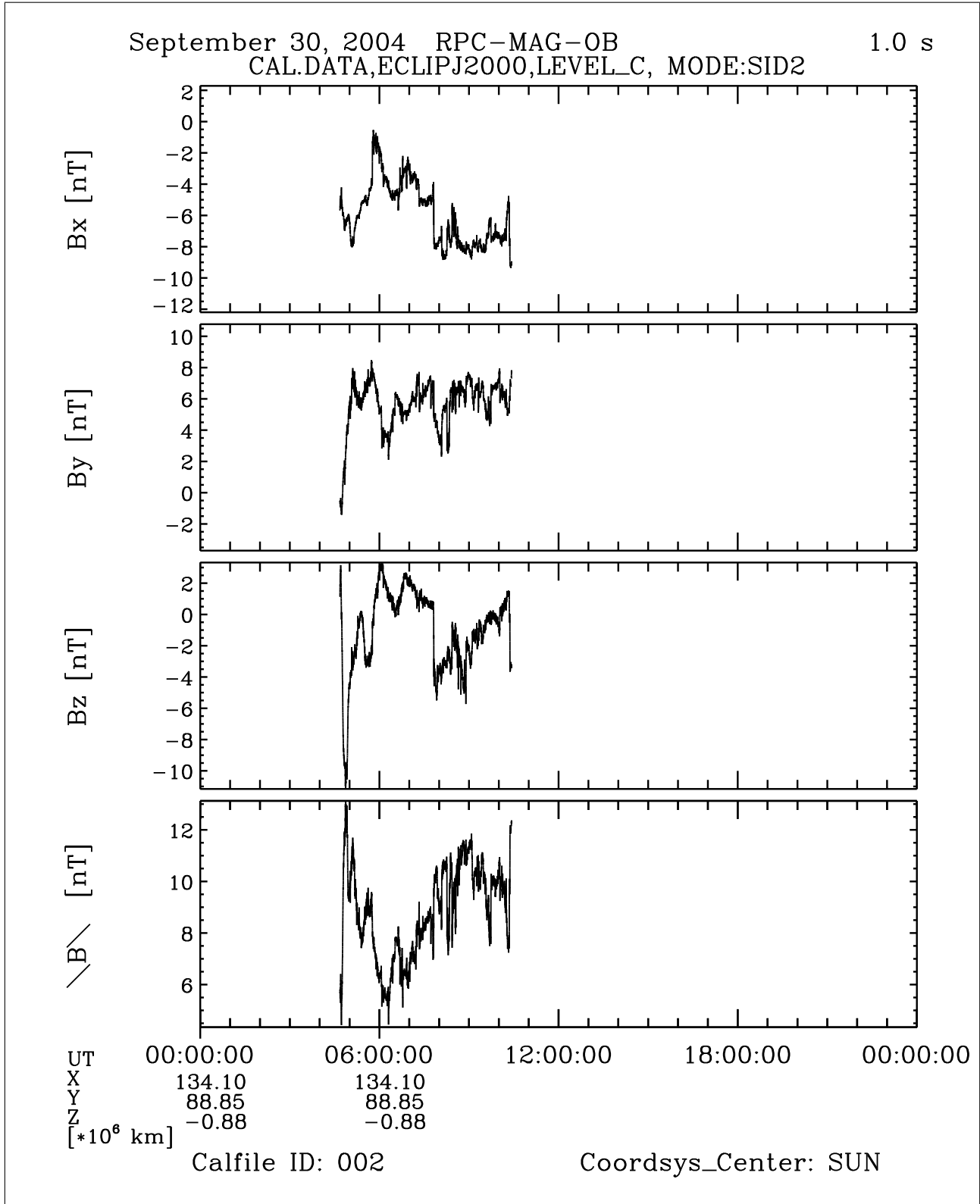


Figure 91: File: RPCMAG040930T0440\_CLC\_OB\_M2\_T0000\_2400\_002

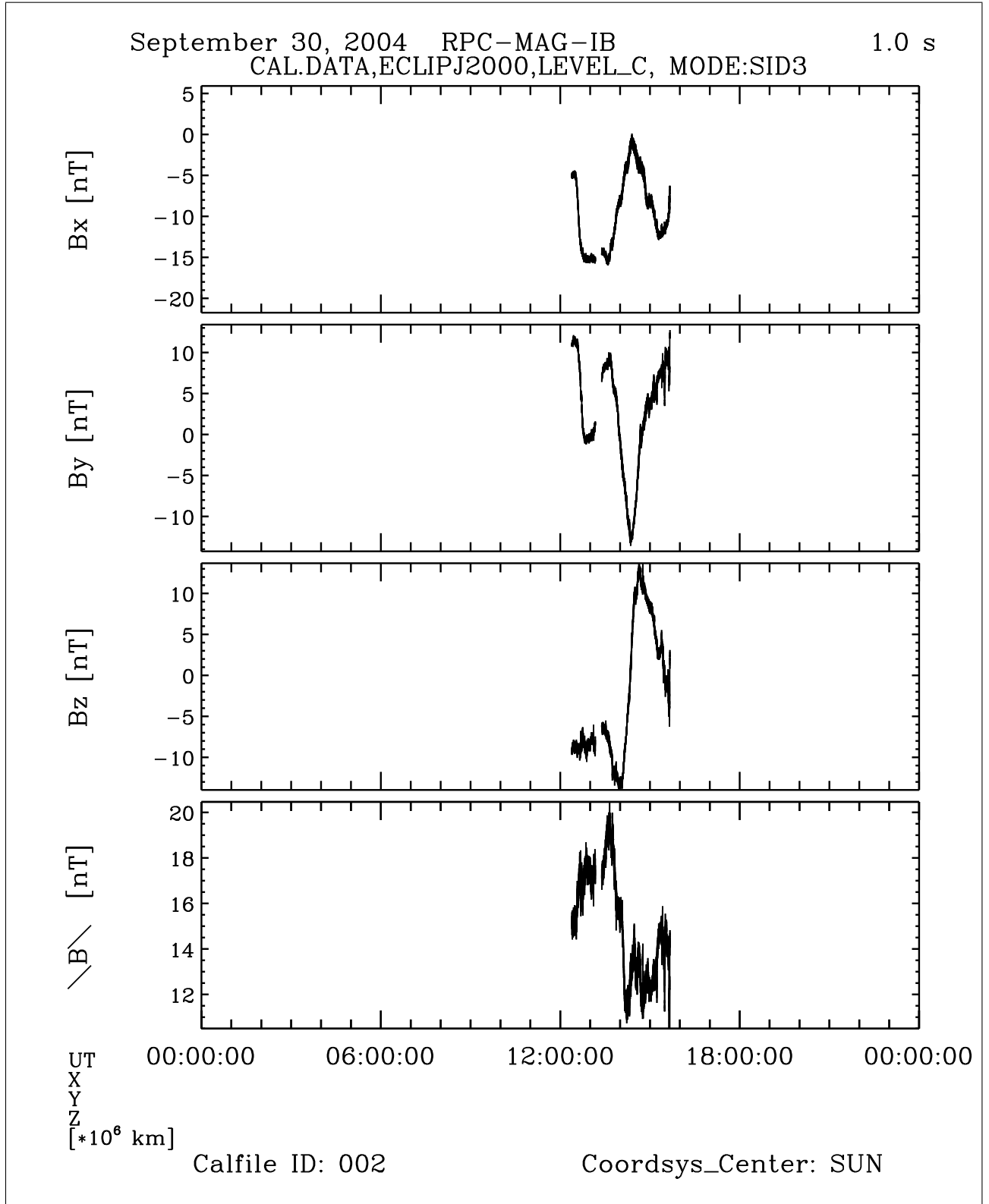


Figure 92: File: RPCMAG040930T1223\_CLC\_IB\_M3\_T0000\_2400\_002

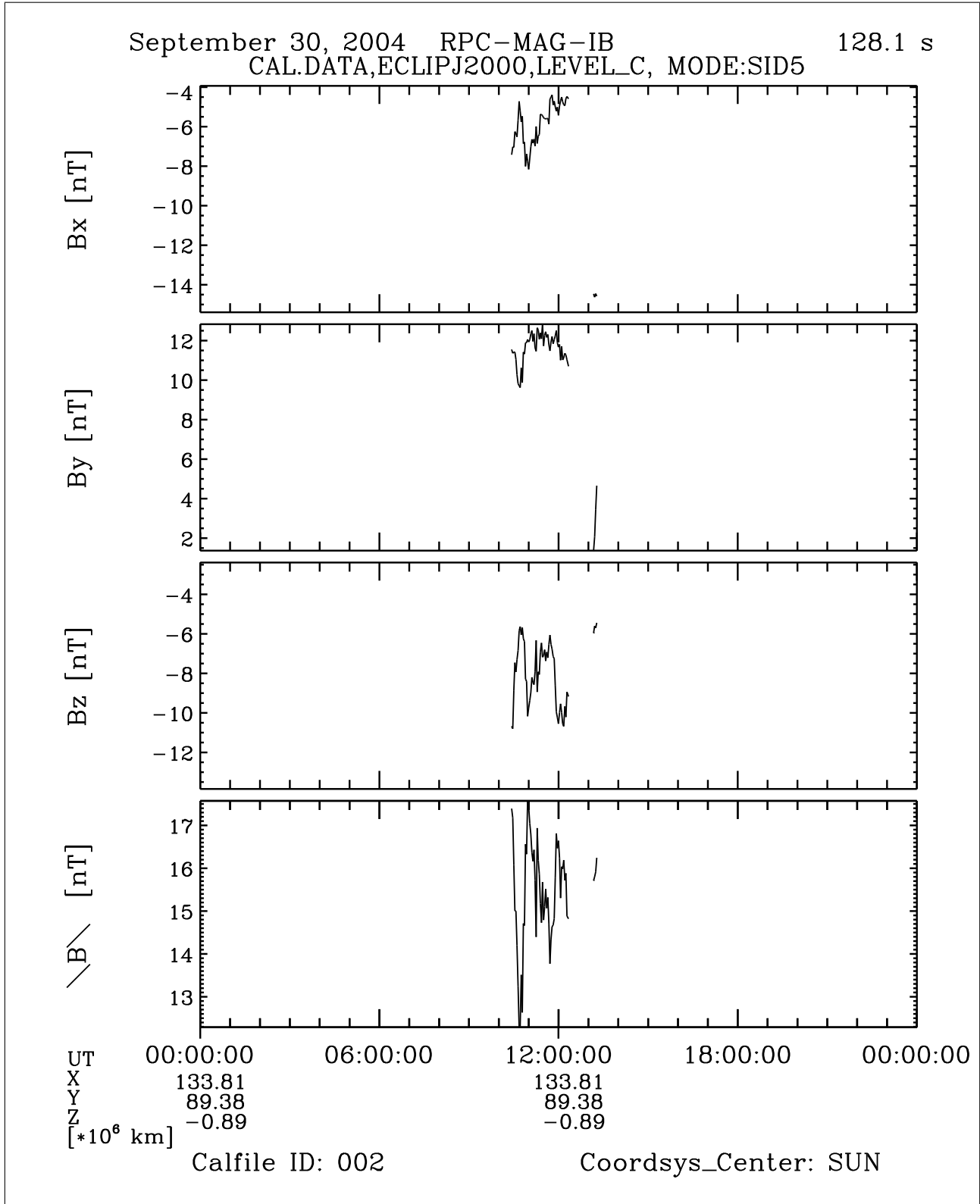


Figure 93: File: RPCMAG040930T1025\_CLC\_IB\_M5\_T0000\_2400\_002

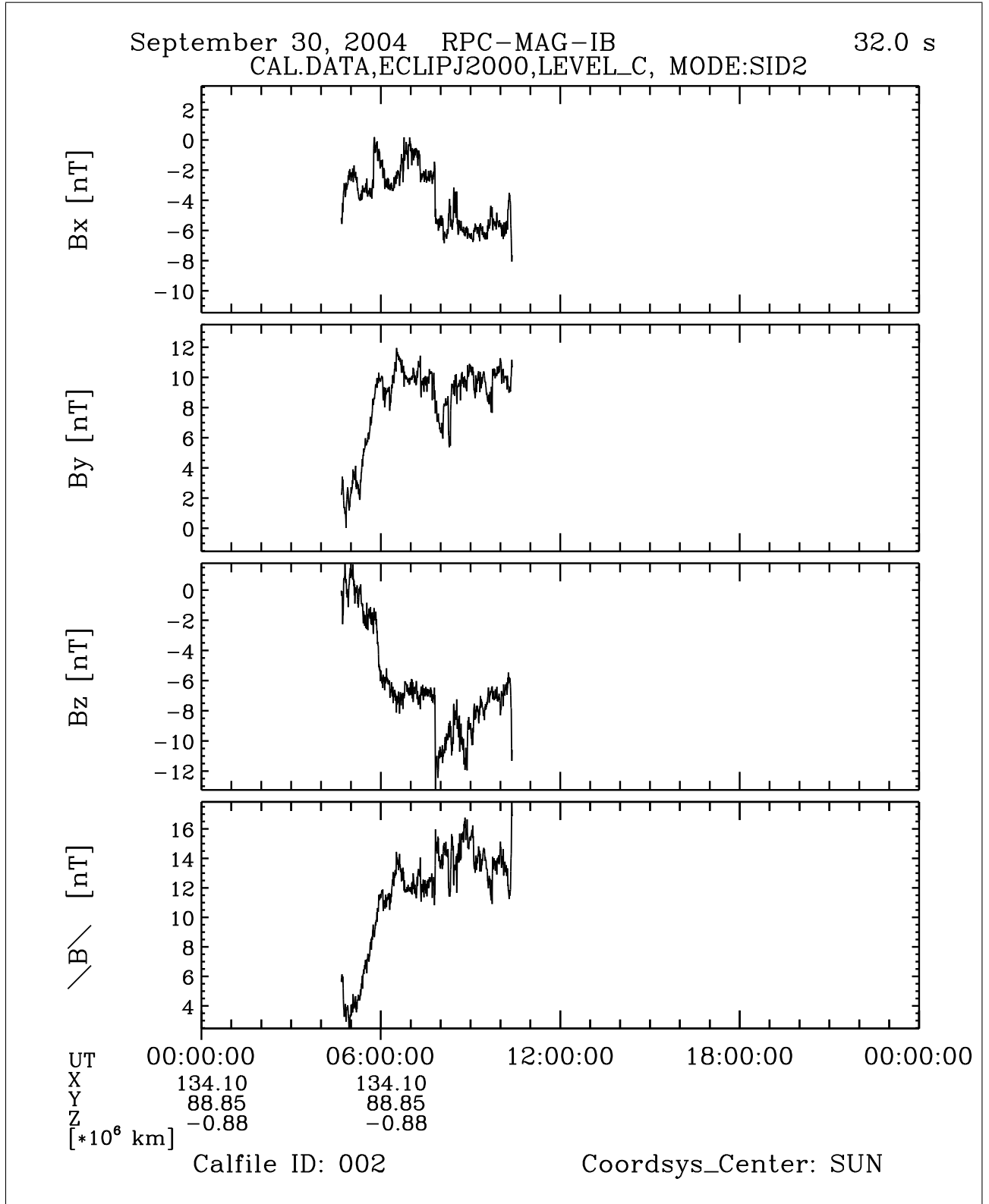


Figure 94: File: RPCMAG040930T0440\_CLC\_IB\_M2\_T0000\_2400\_002

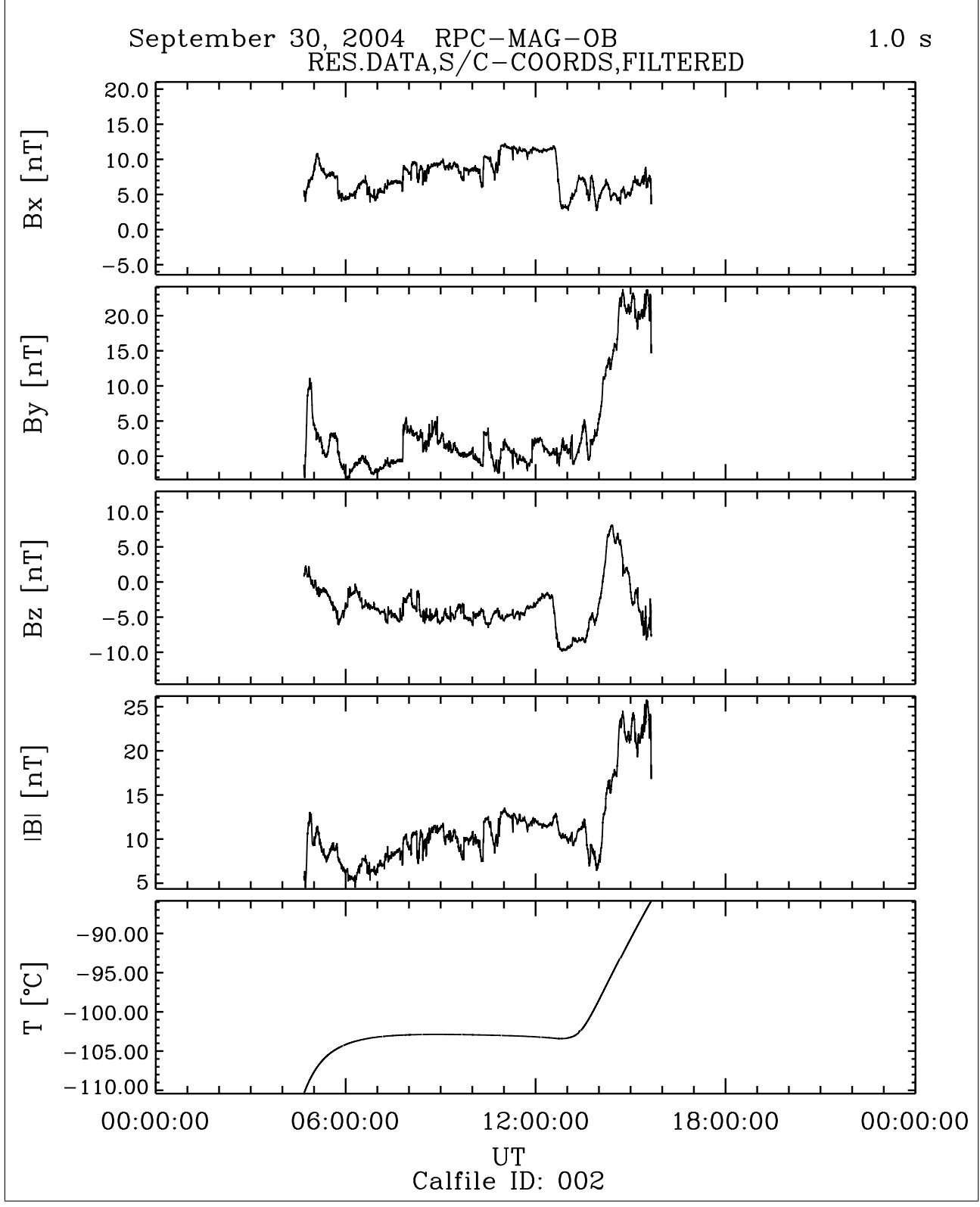


Figure 95: File: RPCMAG040930\_CLF\_OB\_A1\_T0000\_2400\_002



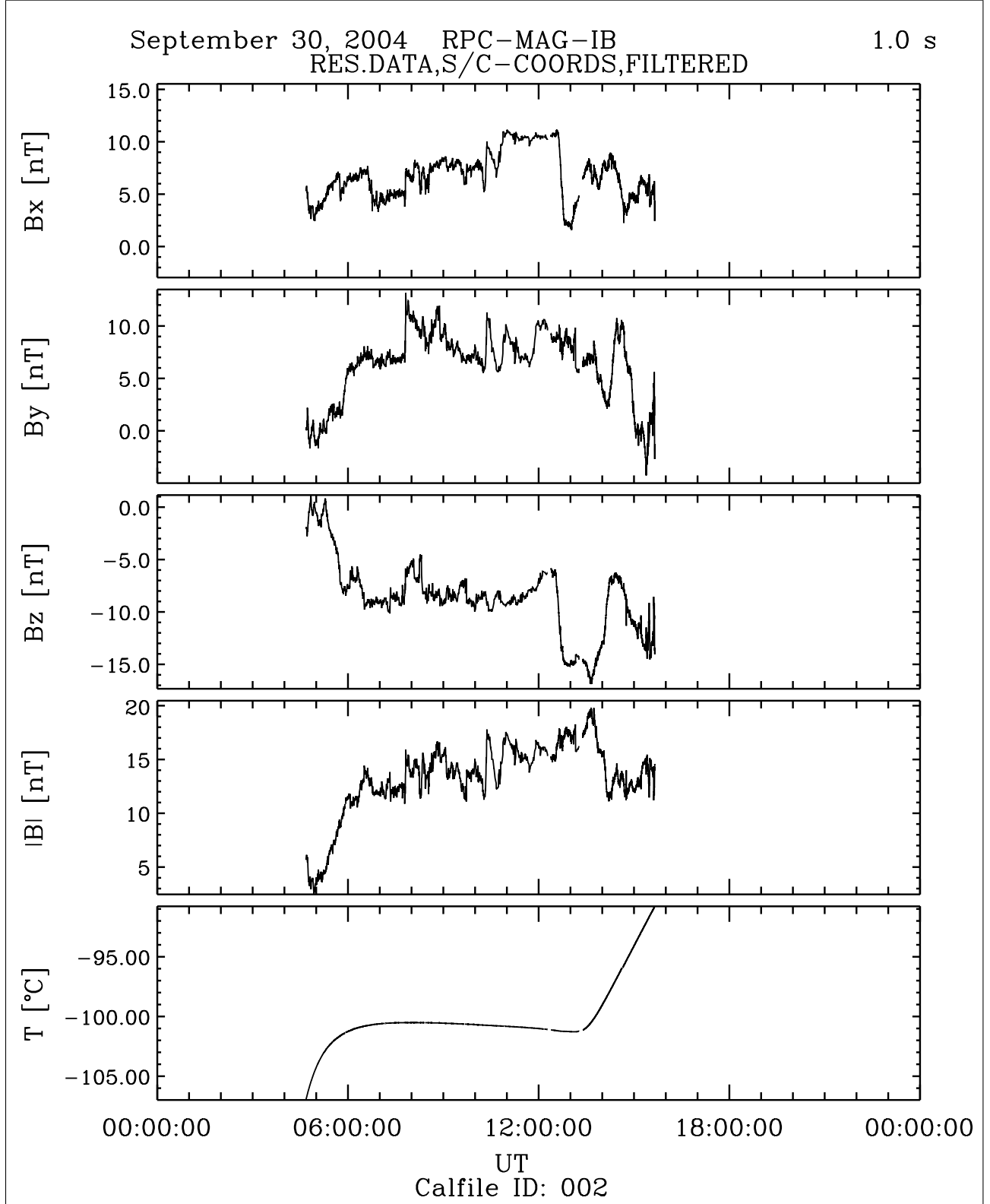


Figure 96: File: RPCMAG040930\_CLF\_IB\_A1\_T0000\_2400\_002

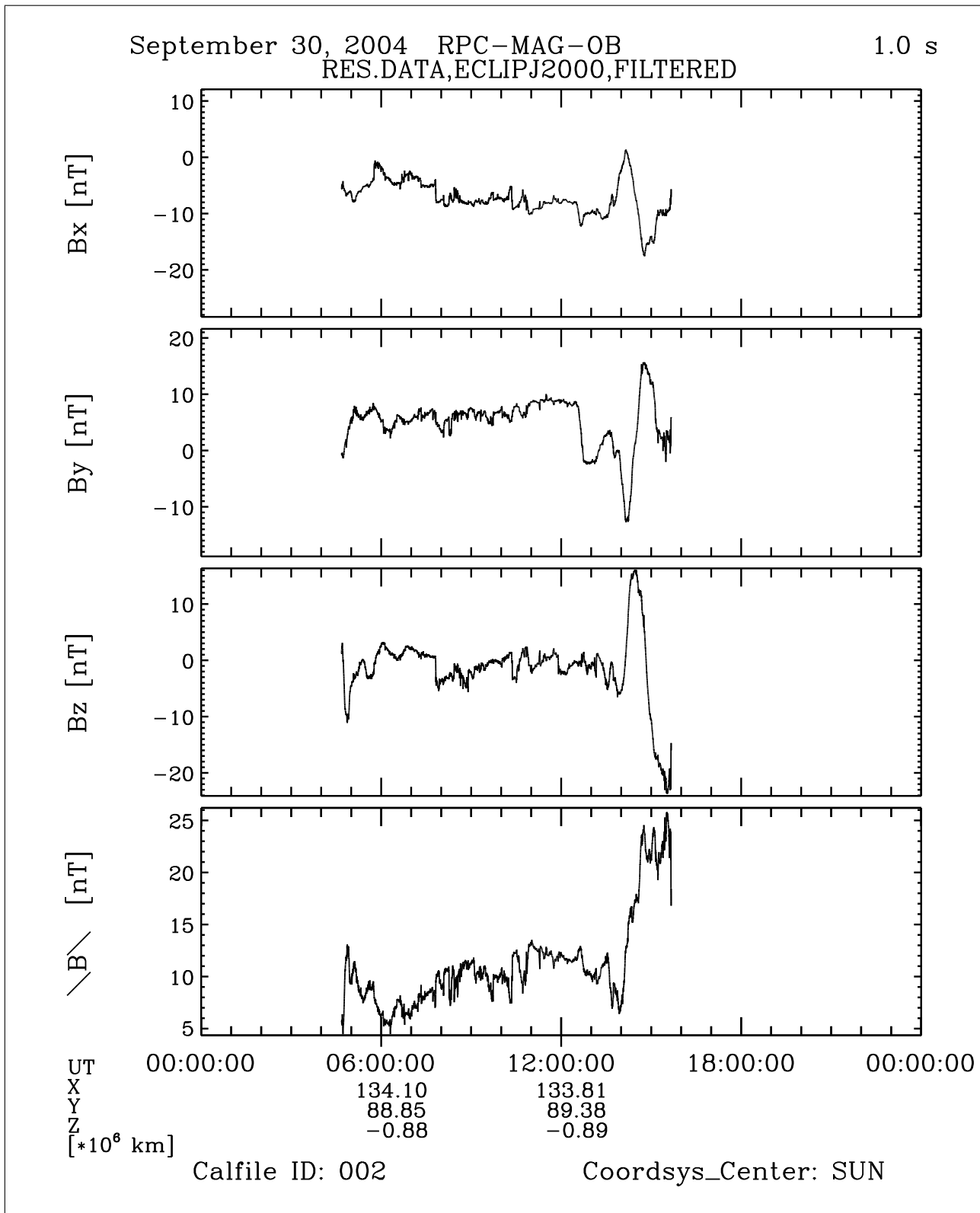


Figure 97: File: RPCMAG040930\_CLG\_OB\_A1.T0000\_2400\_002

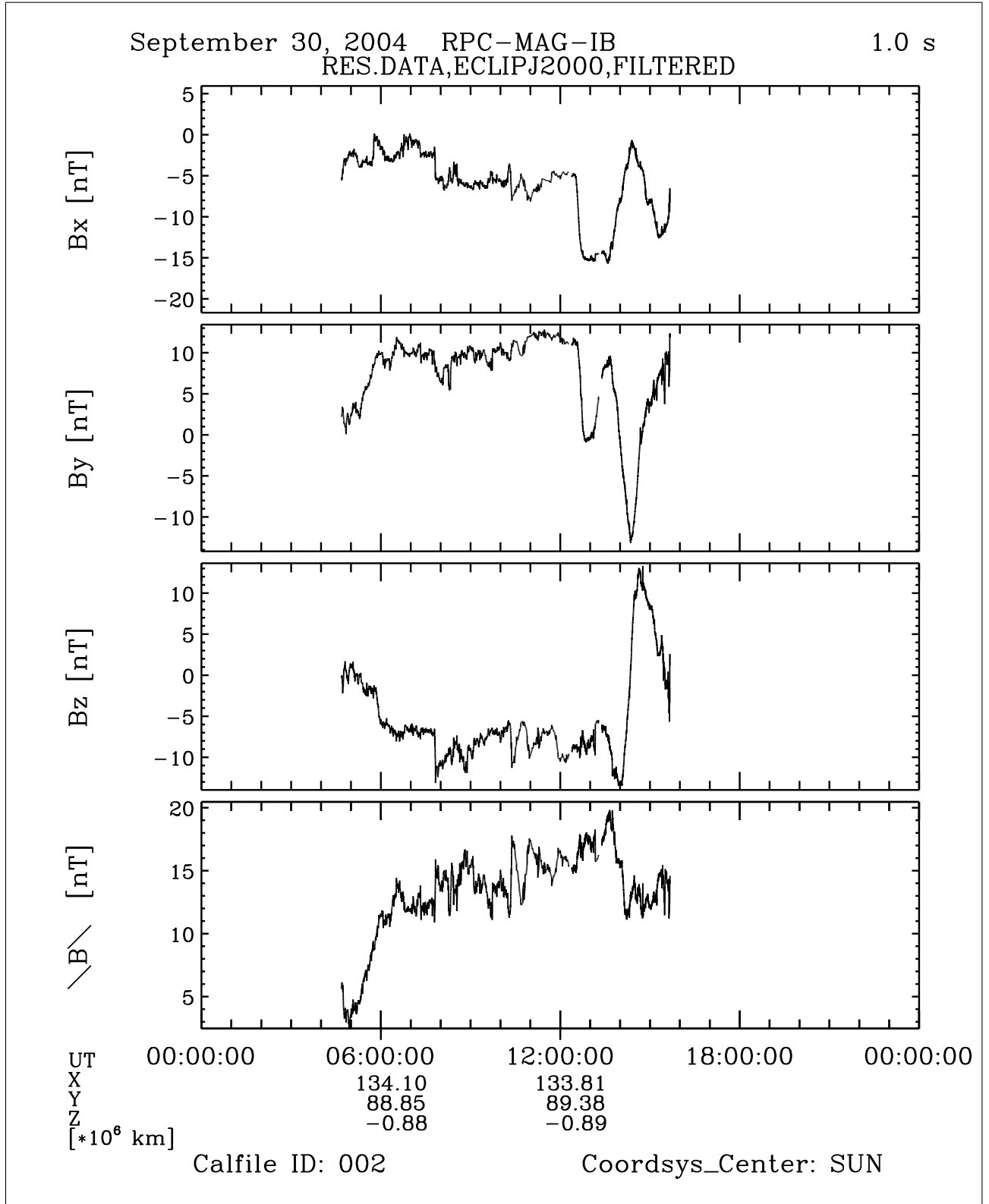


Figure 98: File: RPCMAG040930\_CLG\_IB\_A1\_T0000\_2400\_002

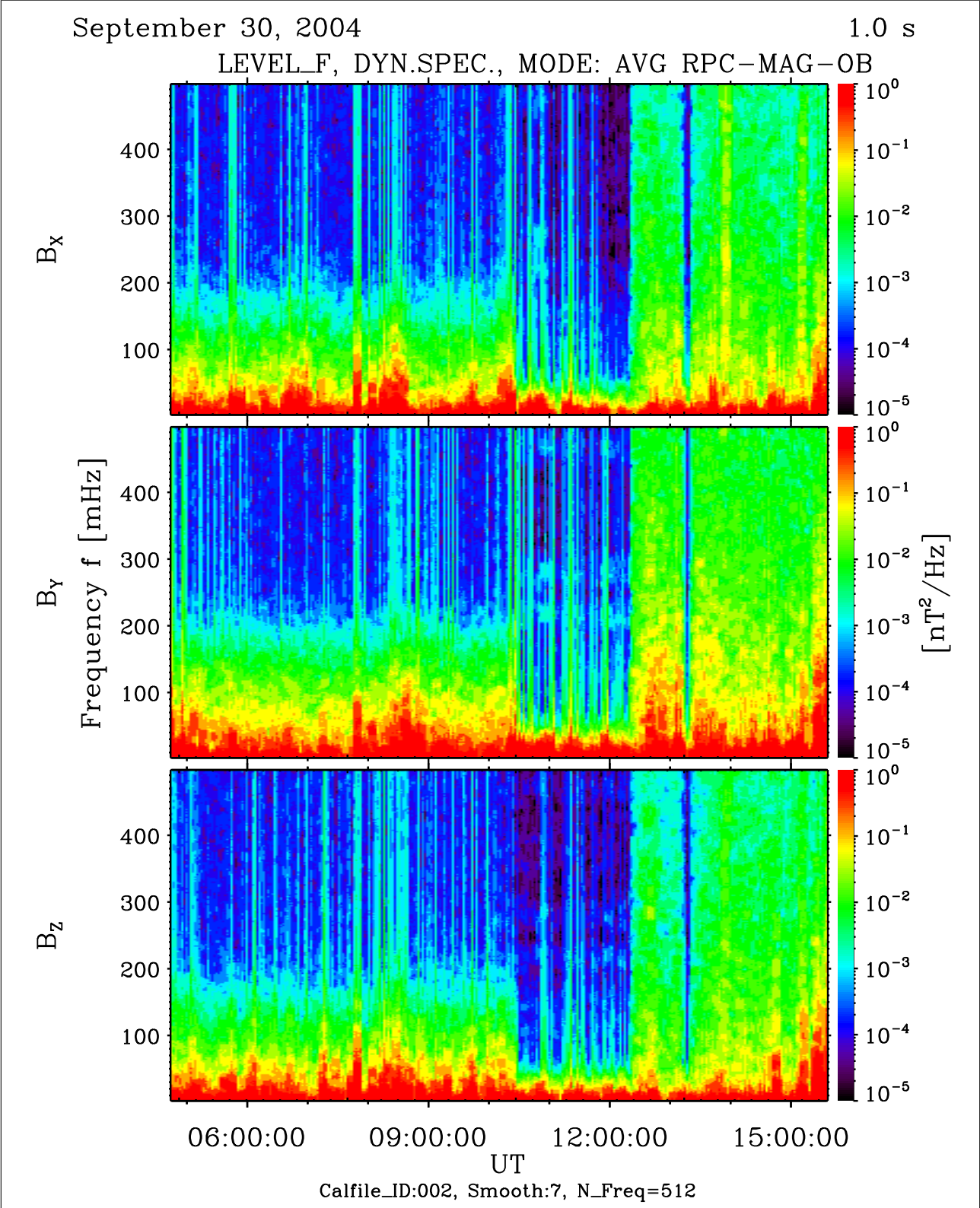


Figure 99: File: RPCMAG040930\_CLF\_OB\_A1\_DS0\_500\_002

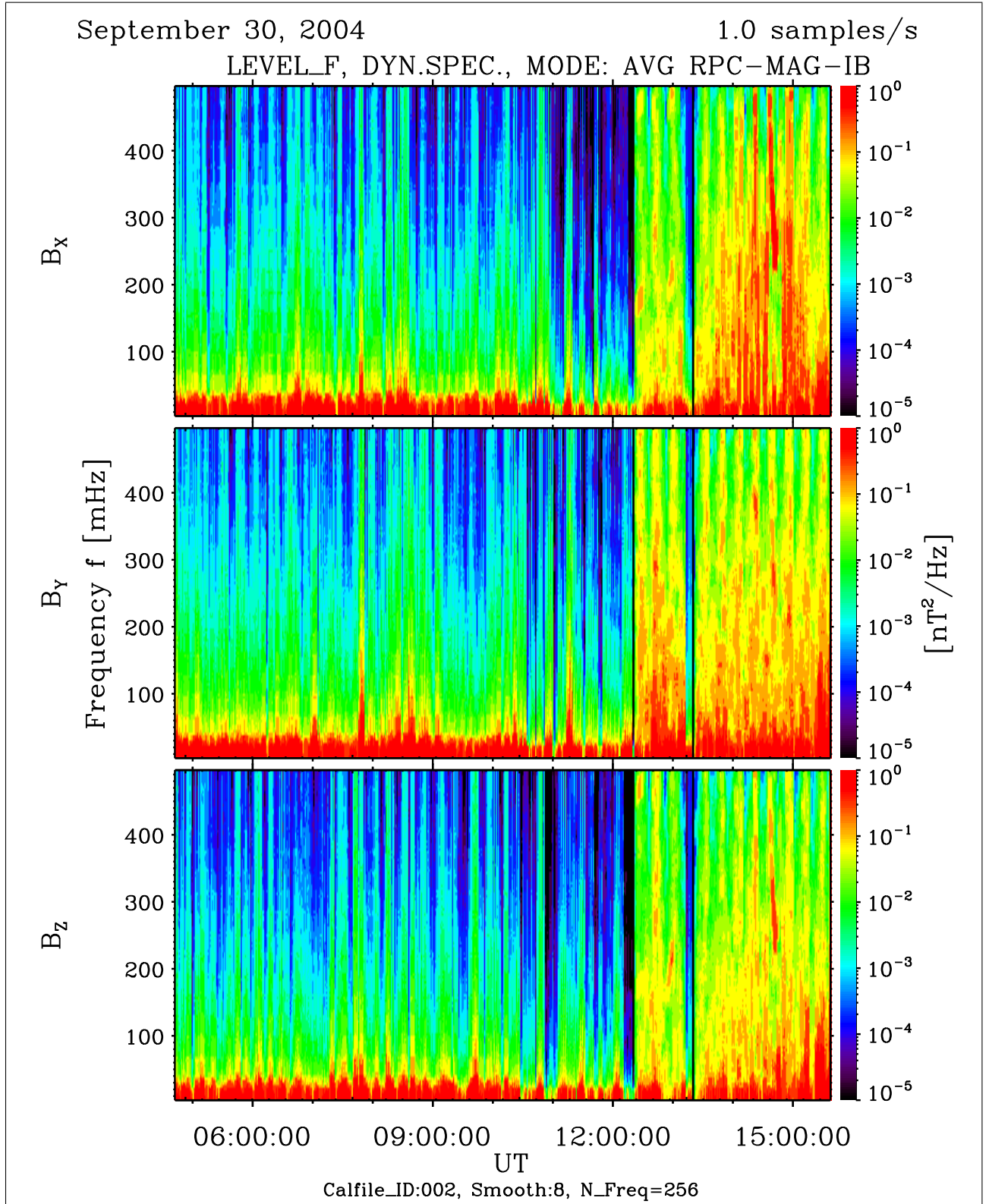


Figure 100: File: RPCMAG040930\_CLF\_IB\_A1\_DS0\_500\_002

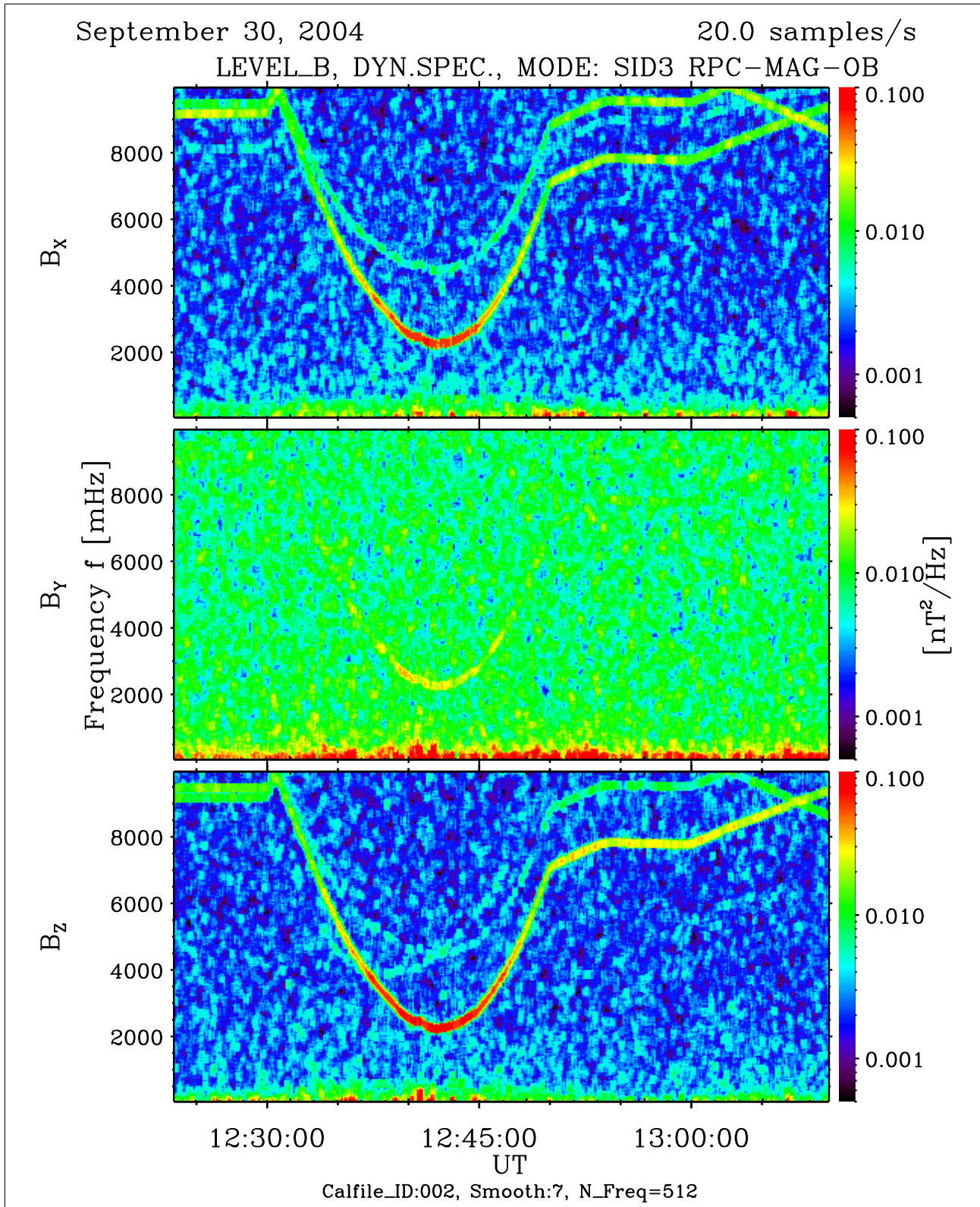


Figure 101: File: RPCMAG040930T1223\_CLB\_OB\_M3\_DS0\_10000\_002

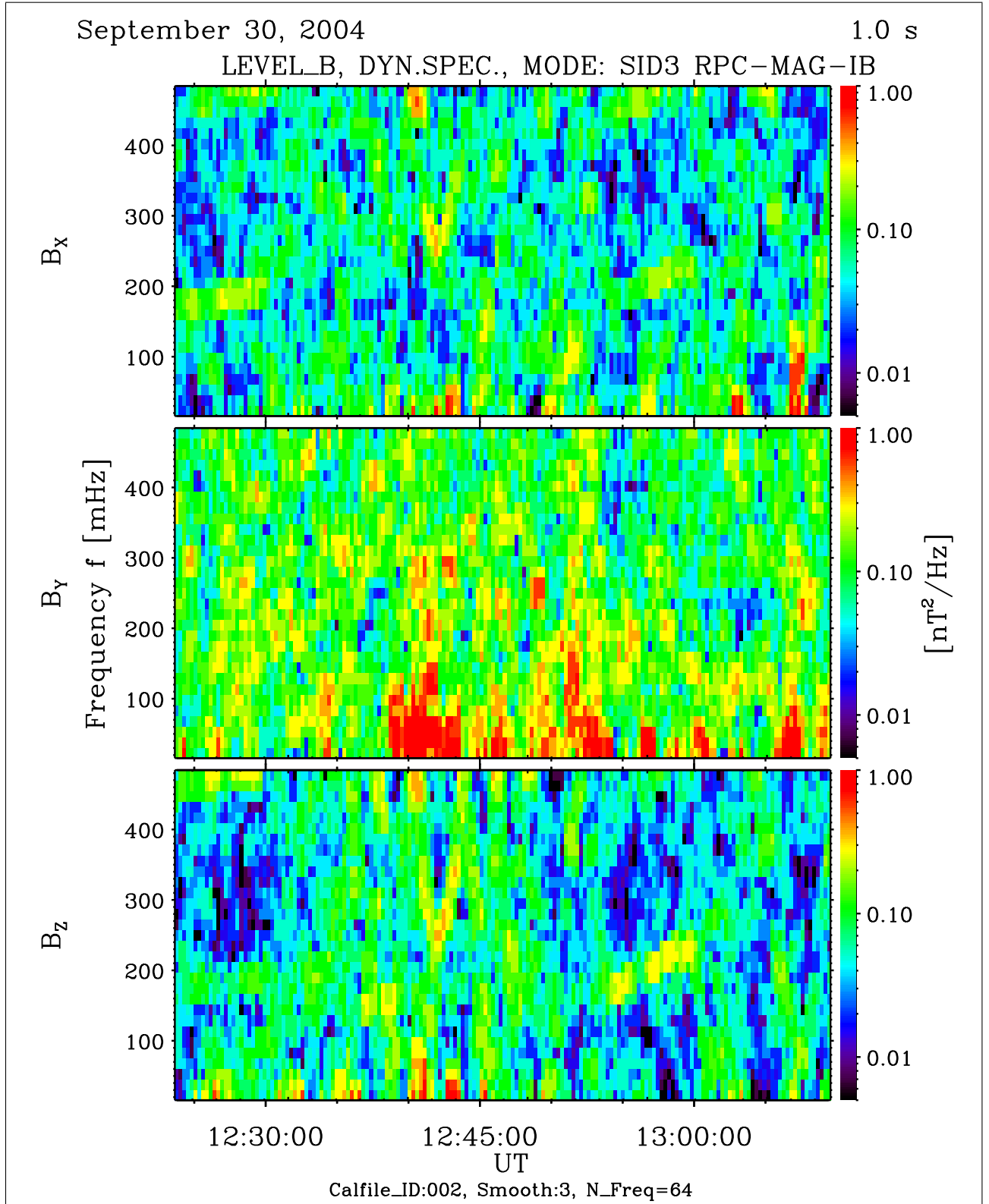


Figure 102: File: RPCMAG040930T1223\_CLB\_IB\_M3\_DS0\_500\_002



<h1 style="margin: 0;">R O S E T T A</h1>	Document: RO-IGEP-TR-0011 Issue: 3 Revision: 1
<h1 style="margin: 0;">IGEP</h1>	Institut für Geophysik u. extraterr. Physik Technische Universität Braunschweig Date: April 13, 2007 Page: 114

### 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.



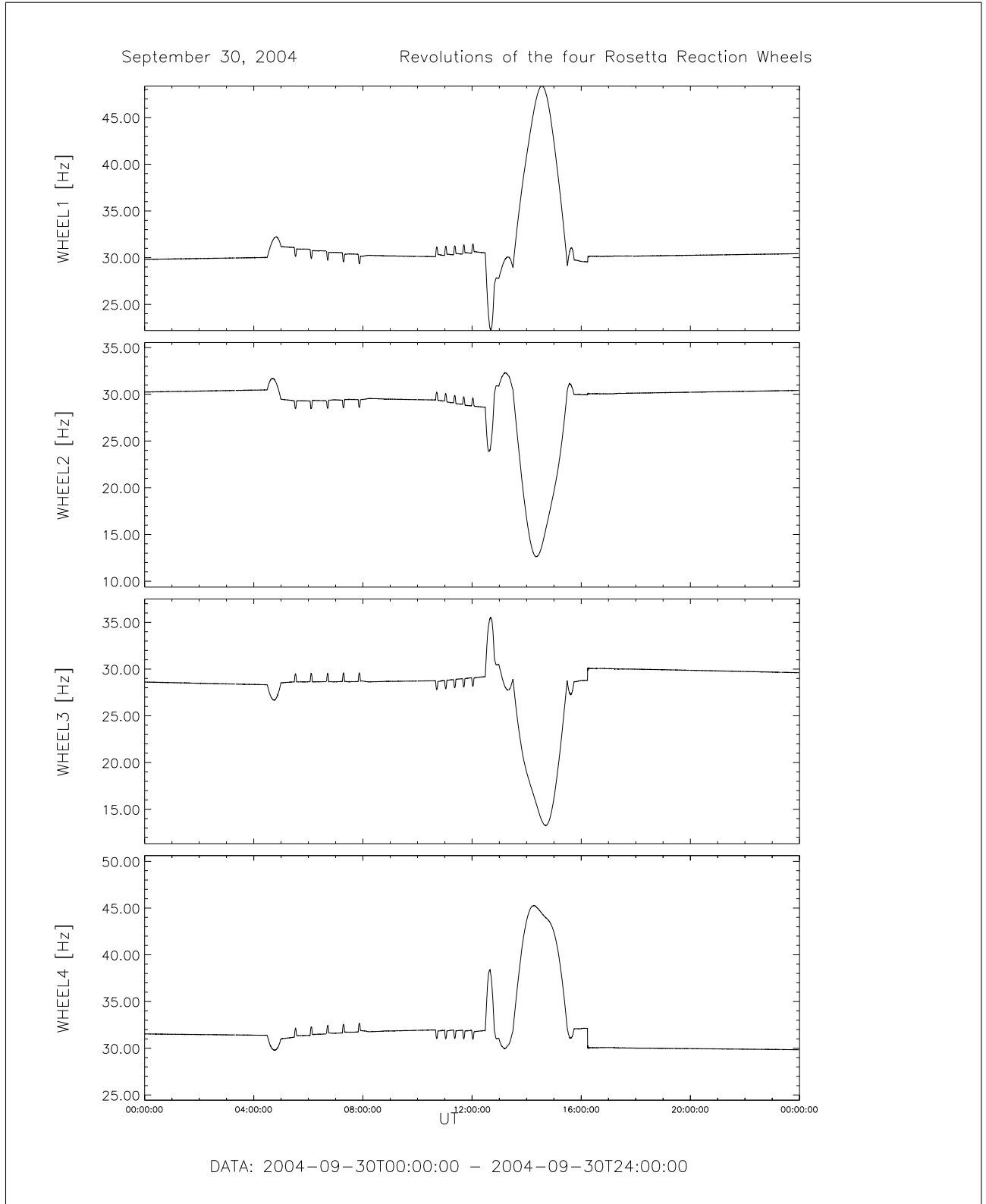


Figure 103: File: wheels\_Hz2004-09-30T00-00

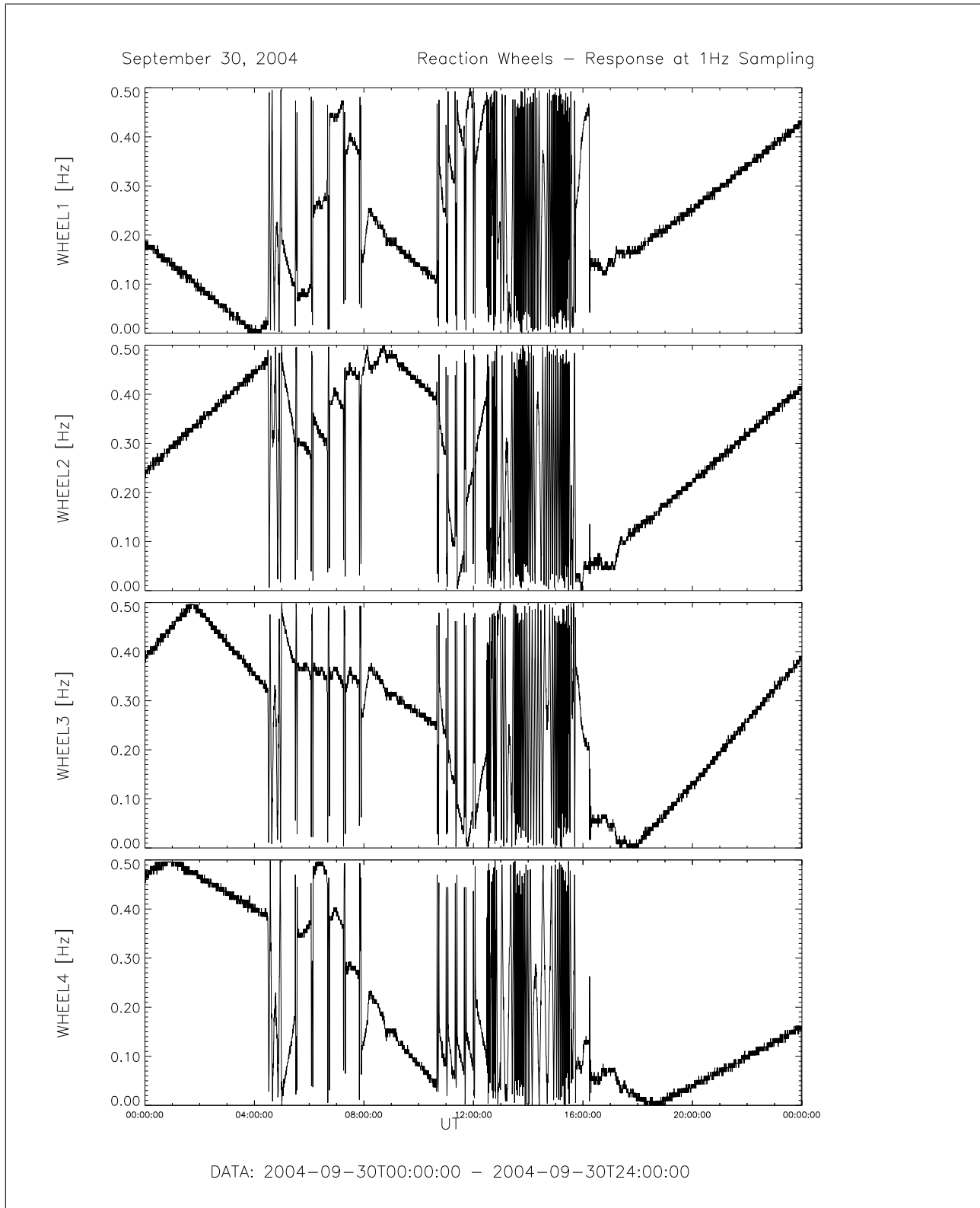


Figure 104: File: wheels\_1Hz\_Sampling2004-09-30T00-00

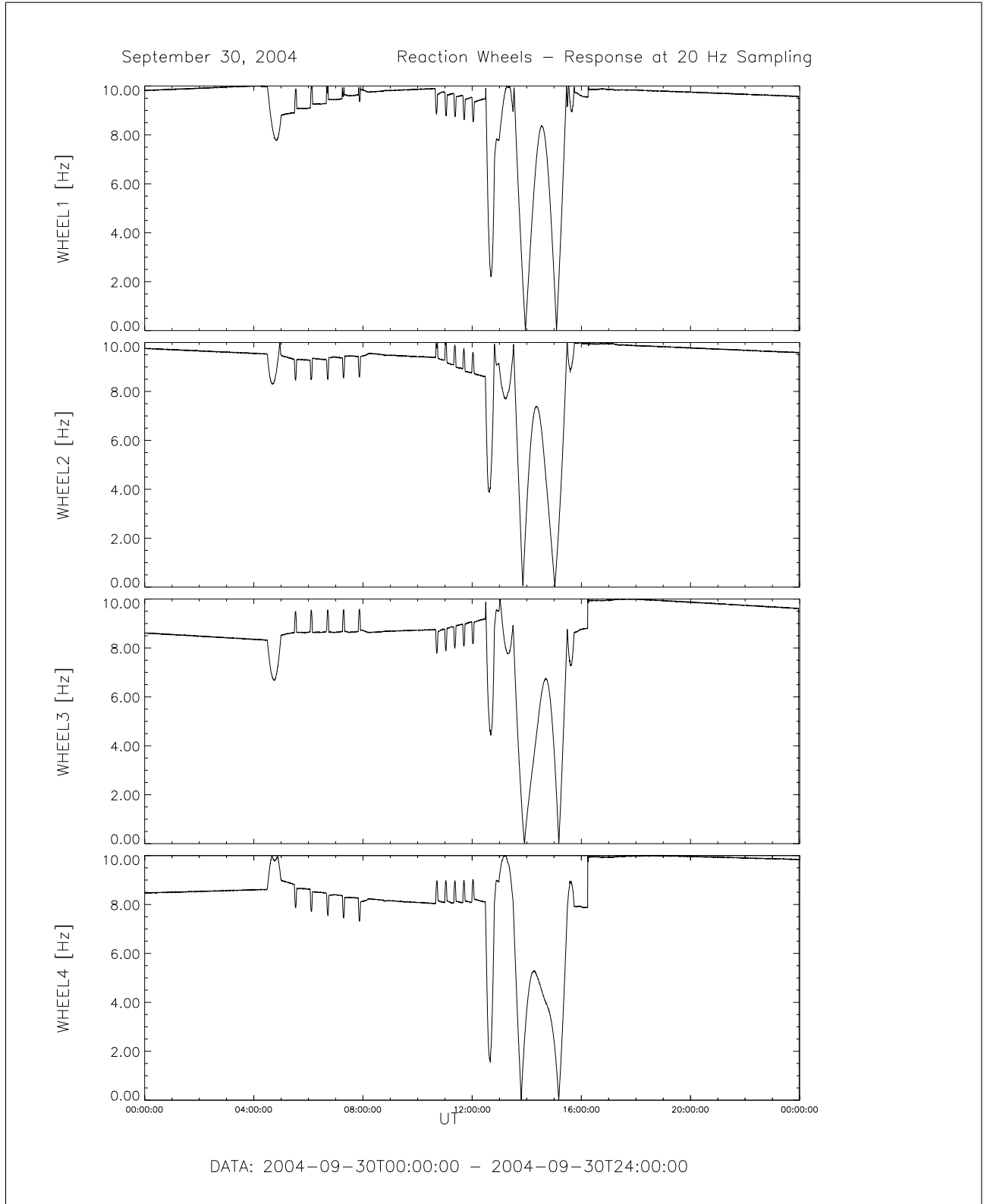


Figure 105: File: wheels\_20Hz\_Sampling2004-09-30T00-00

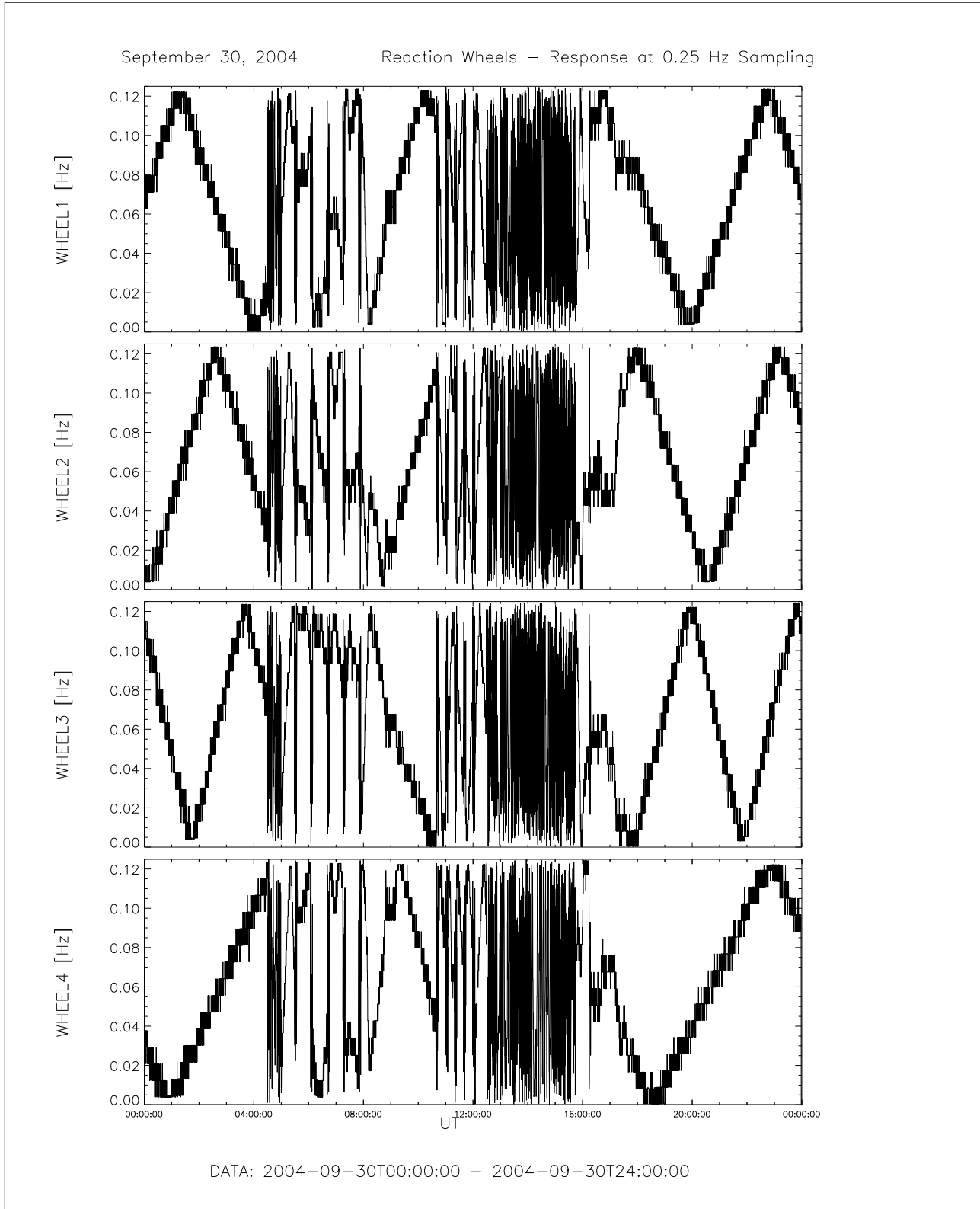


Figure 106: File: wheels\_025Hz\_Sampling2004-09-30T00-00

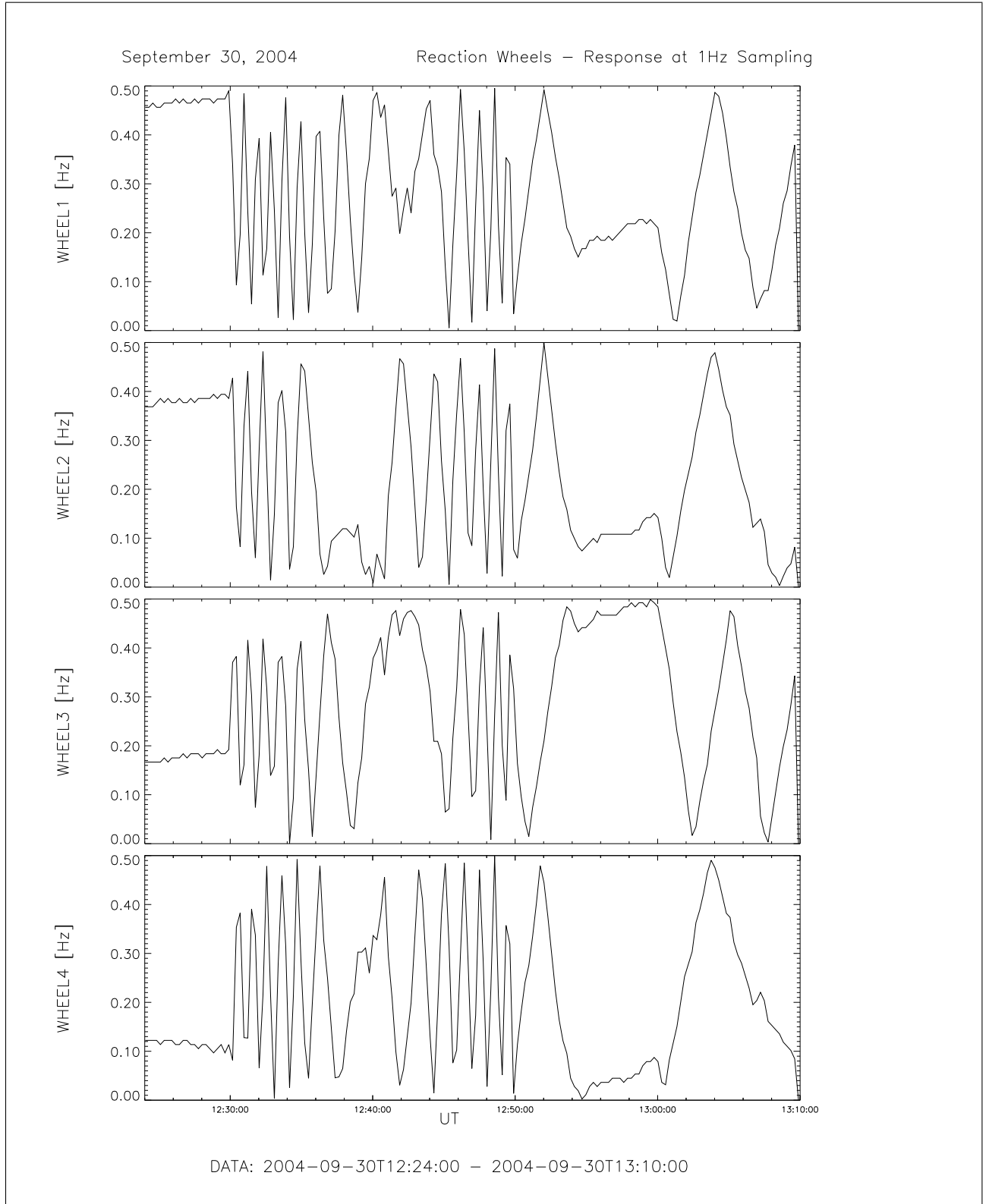


Figure 107: File: wheels\_1Hz\_Sampling2004-09-30T12-24

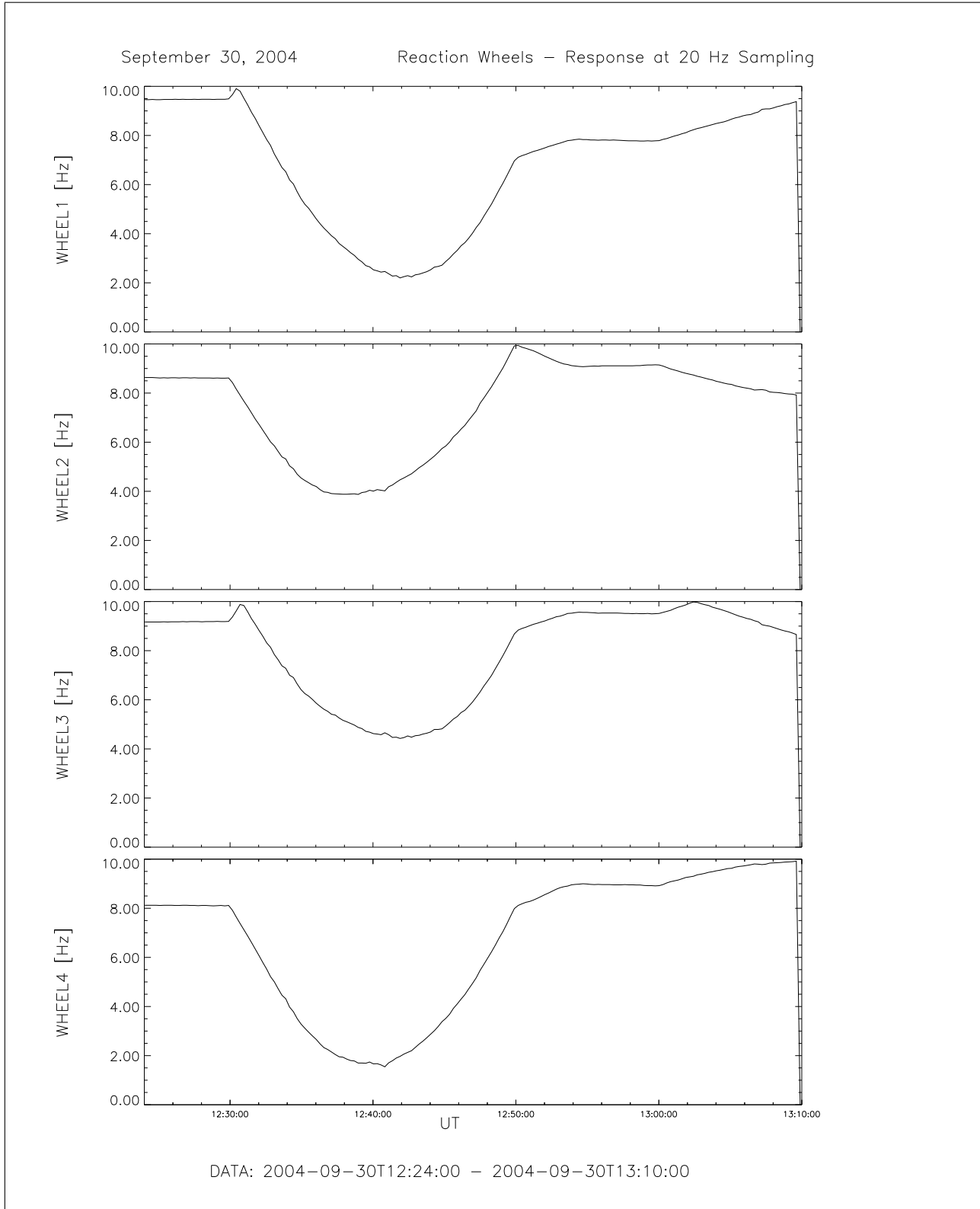


Figure 108: File: wheels\_20Hz\_Sampling2004-09-30T12-24

R O S E T T A		Document: RO-IGEP-TR-0011
		Issue: 3
		Revision: 1
IGEP	Institut für Geophysik u. extraterr. Physik	Date: April 13, 2007
	Technische Universität Braunschweig	Page: 121

## 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

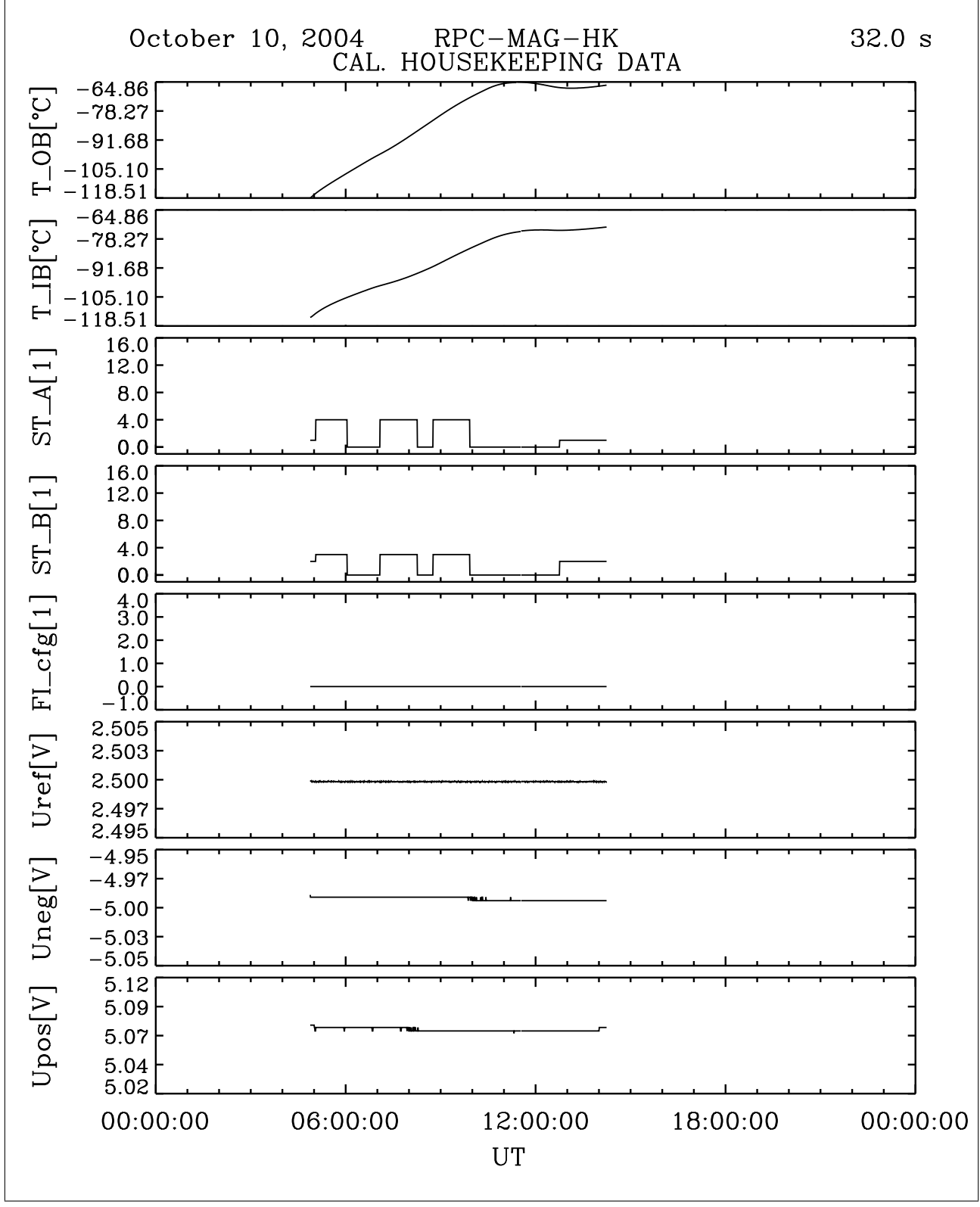


Figure 109: File: RPCMAG041010T0452\_CLA\_HK\_P0000\_2400



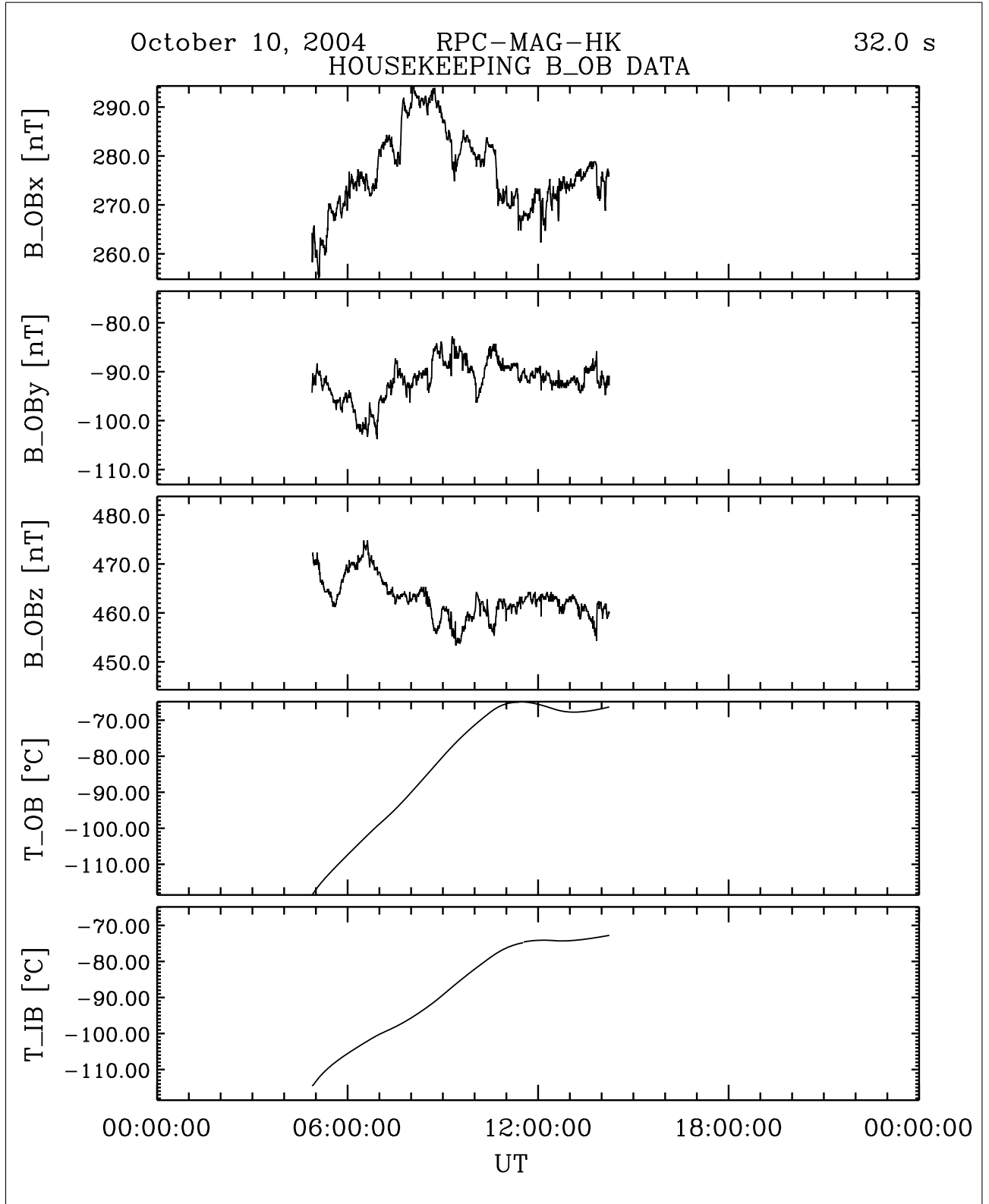


Figure 110: File: RPCMAG041010T0452\_CLA\_HK\_B\_P0000\_2400

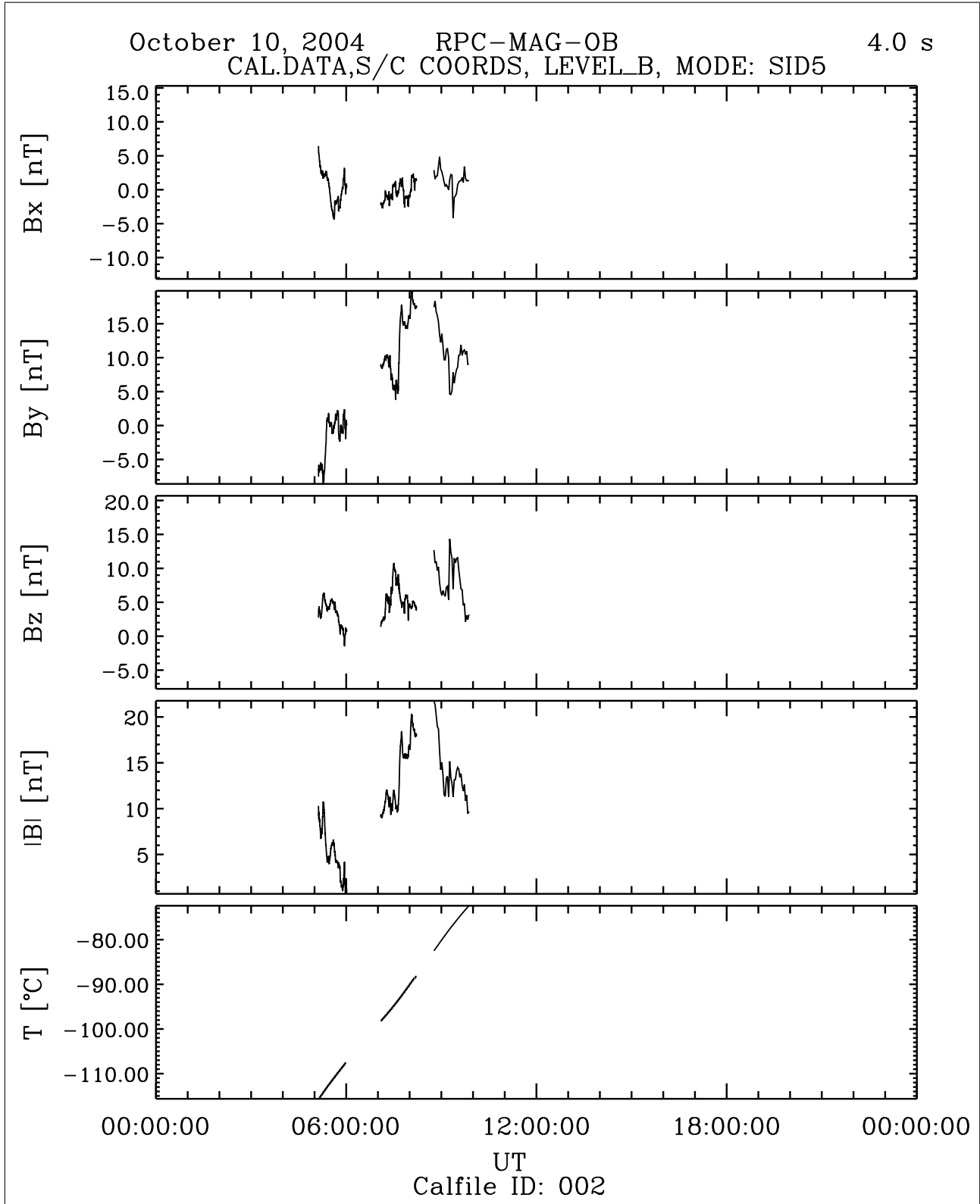


Figure 111: File: RPCMAG041010T0507\_CLB\_OB\_M5\_T0000\_2400\_002

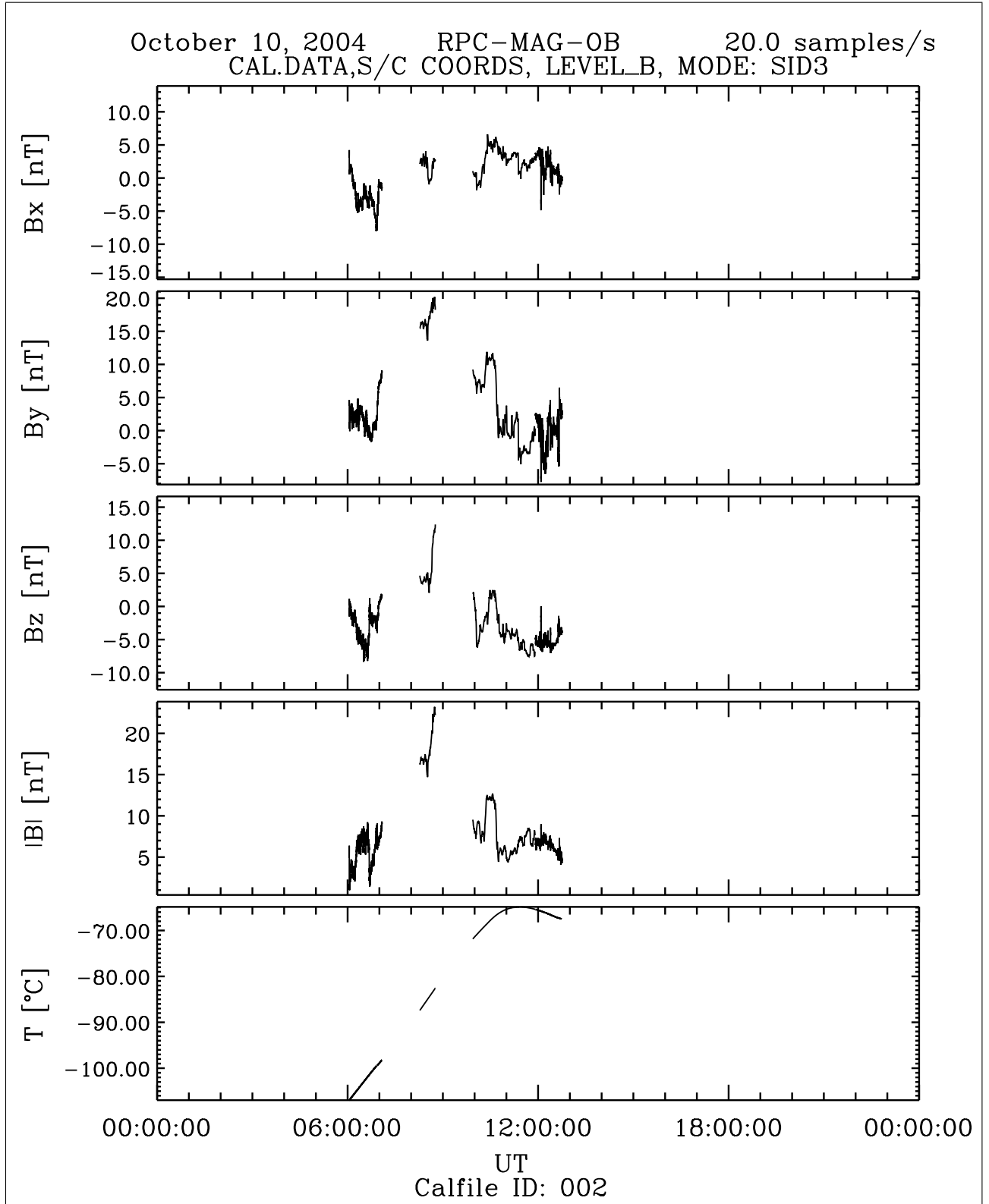


Figure 112: File: RPCMAG041010T0603\_CLB\_OB\_M3\_T0000\_2400\_002

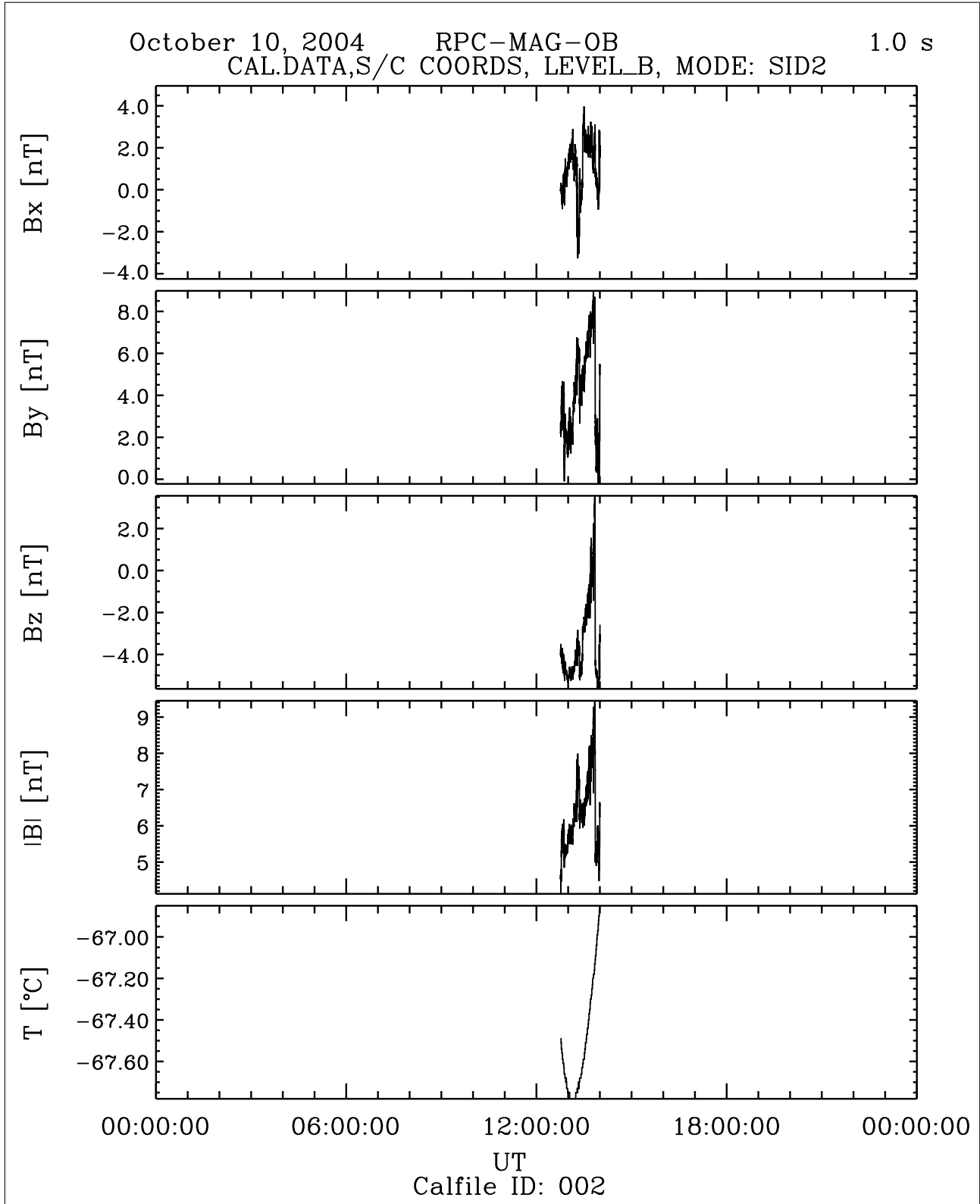


Figure 113: File: RPCMAG041010T1245\_CLB\_OB\_M2\_T0000\_2400\_002

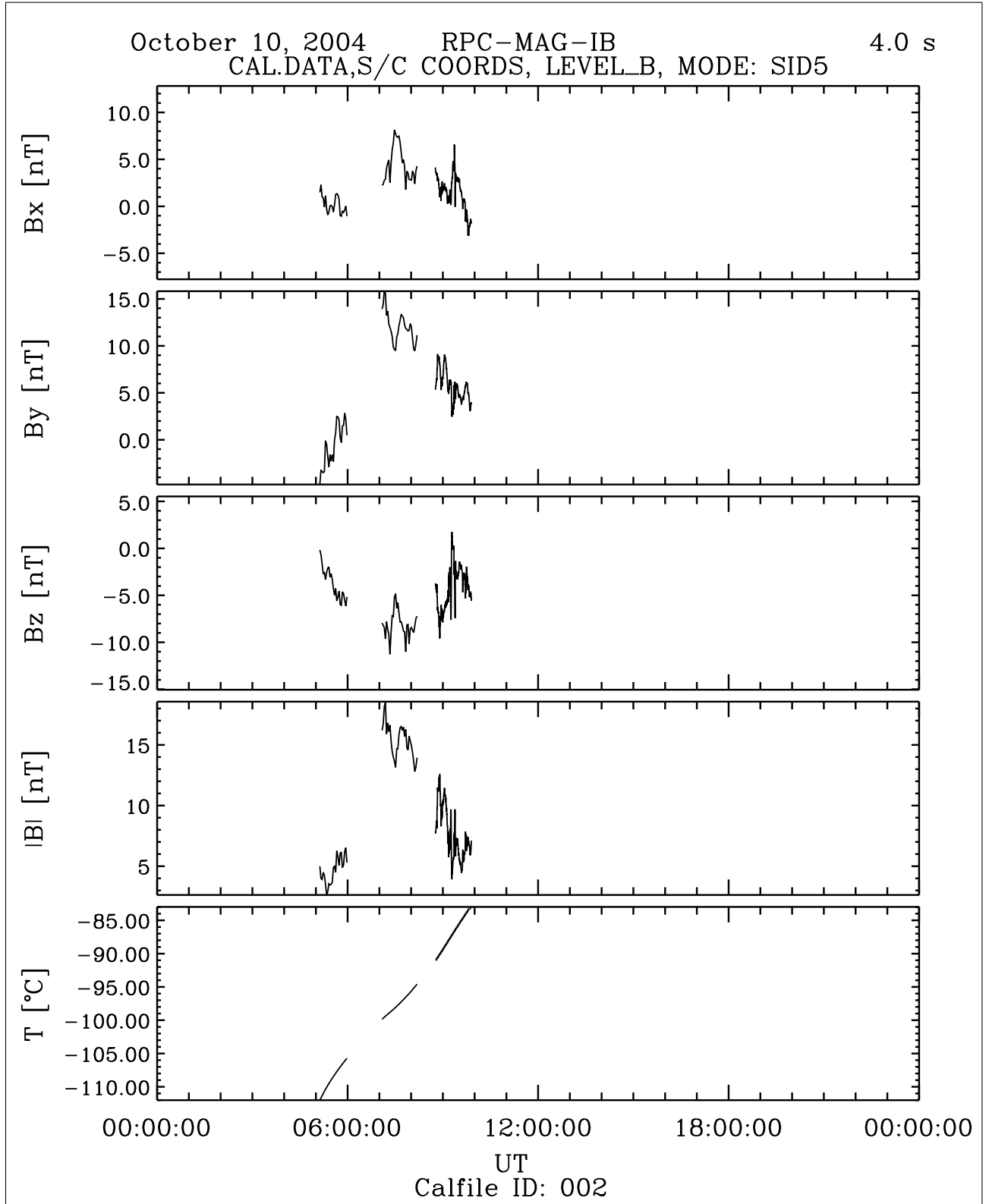


Figure 114: File: RPCMAG041010T0507\_CLB\_IB\_M5\_T0000\_2400\_002

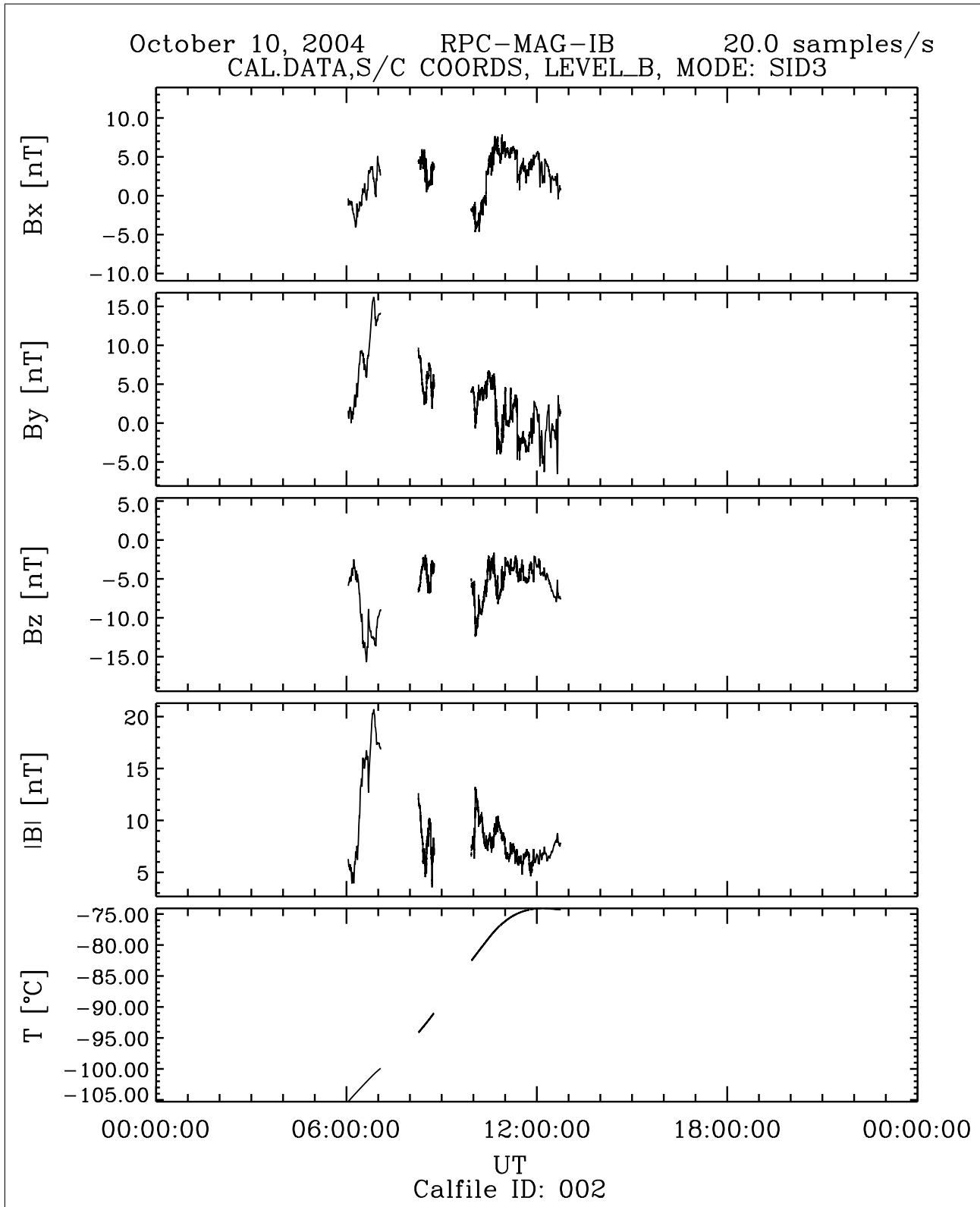


Figure 115: File: RPCMAG041010T0603\_CLB\_IB\_M3\_T0000\_2400\_002

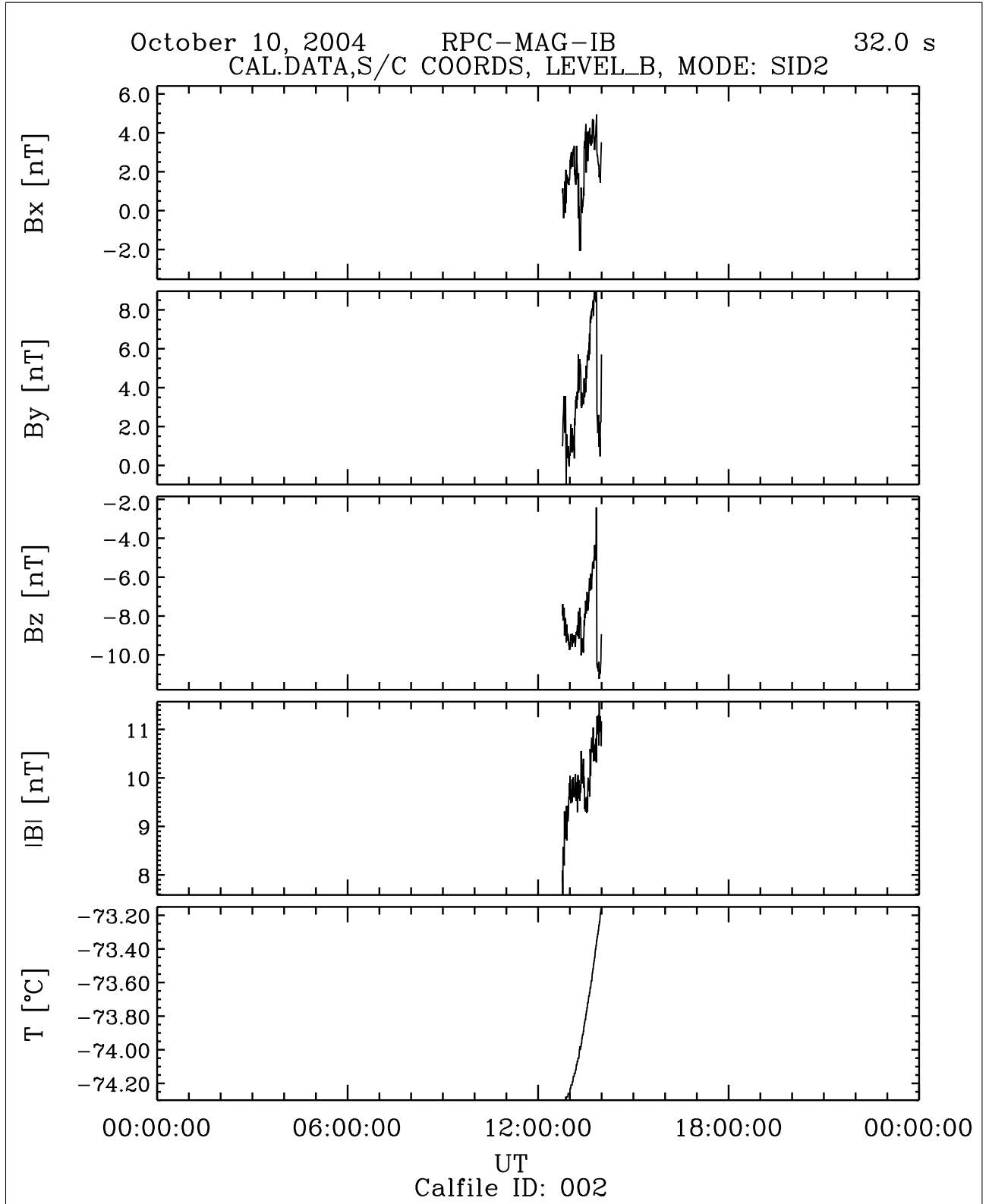


Figure 116: File: RPCMAG041010T1245\_CLB\_IB\_M2\_T0000\_2400\_002

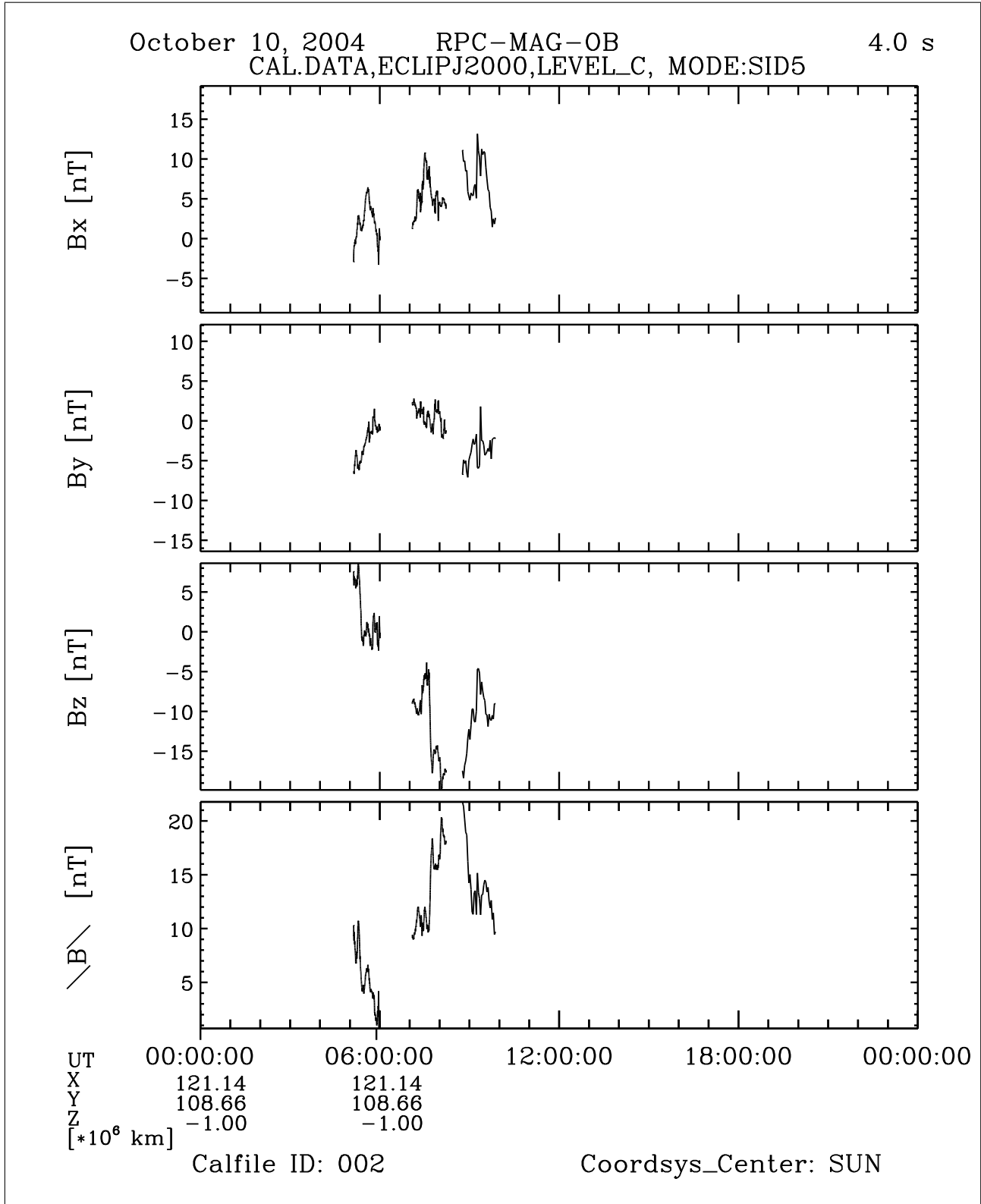


Figure 117: File: RPCMAG041010T0507\_CLC\_OB\_M5\_T0000\_2400\_002



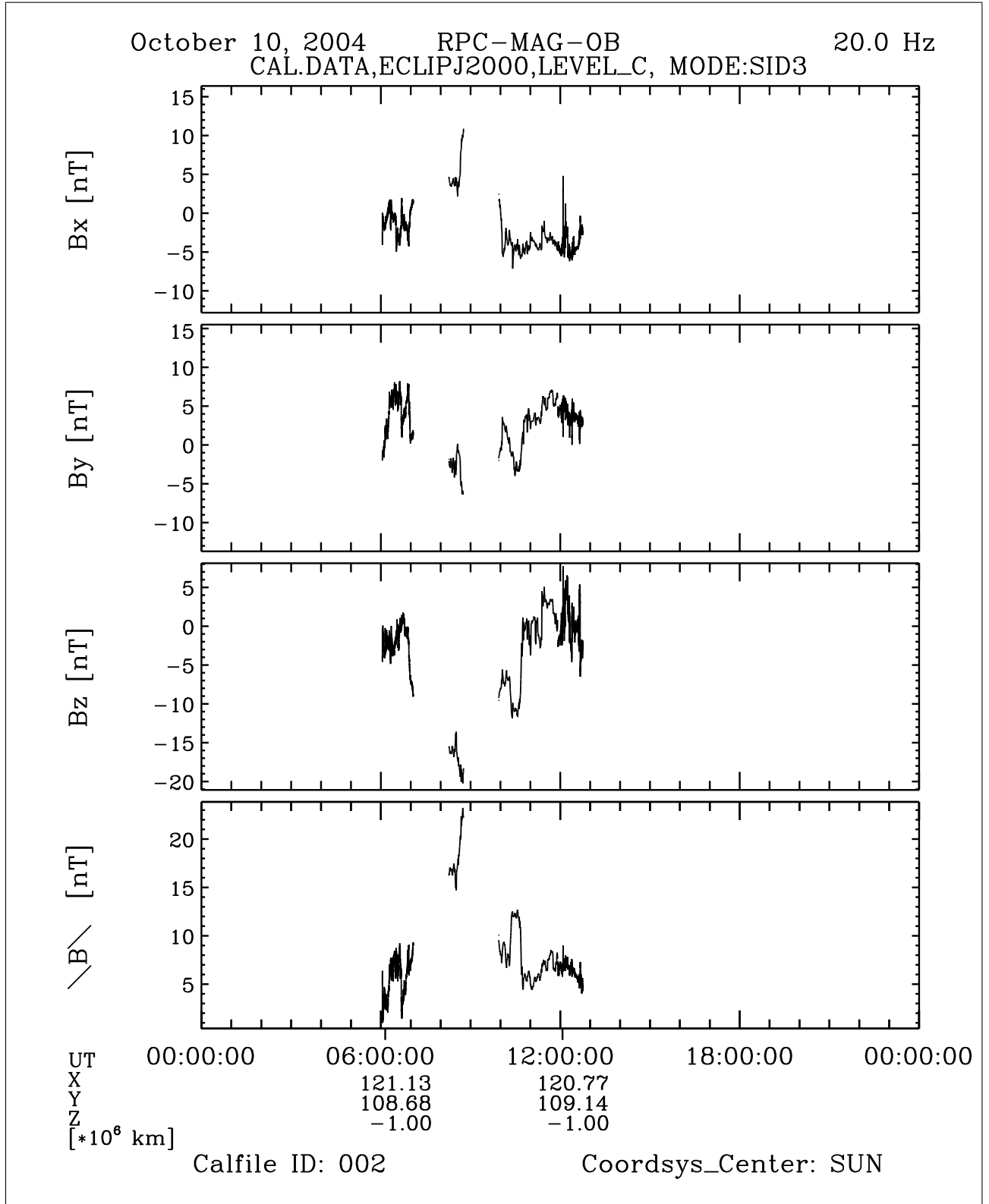


Figure 118: File: RPCMAG041010T0603\_CLC\_OB\_M3\_T0000\_2400\_002

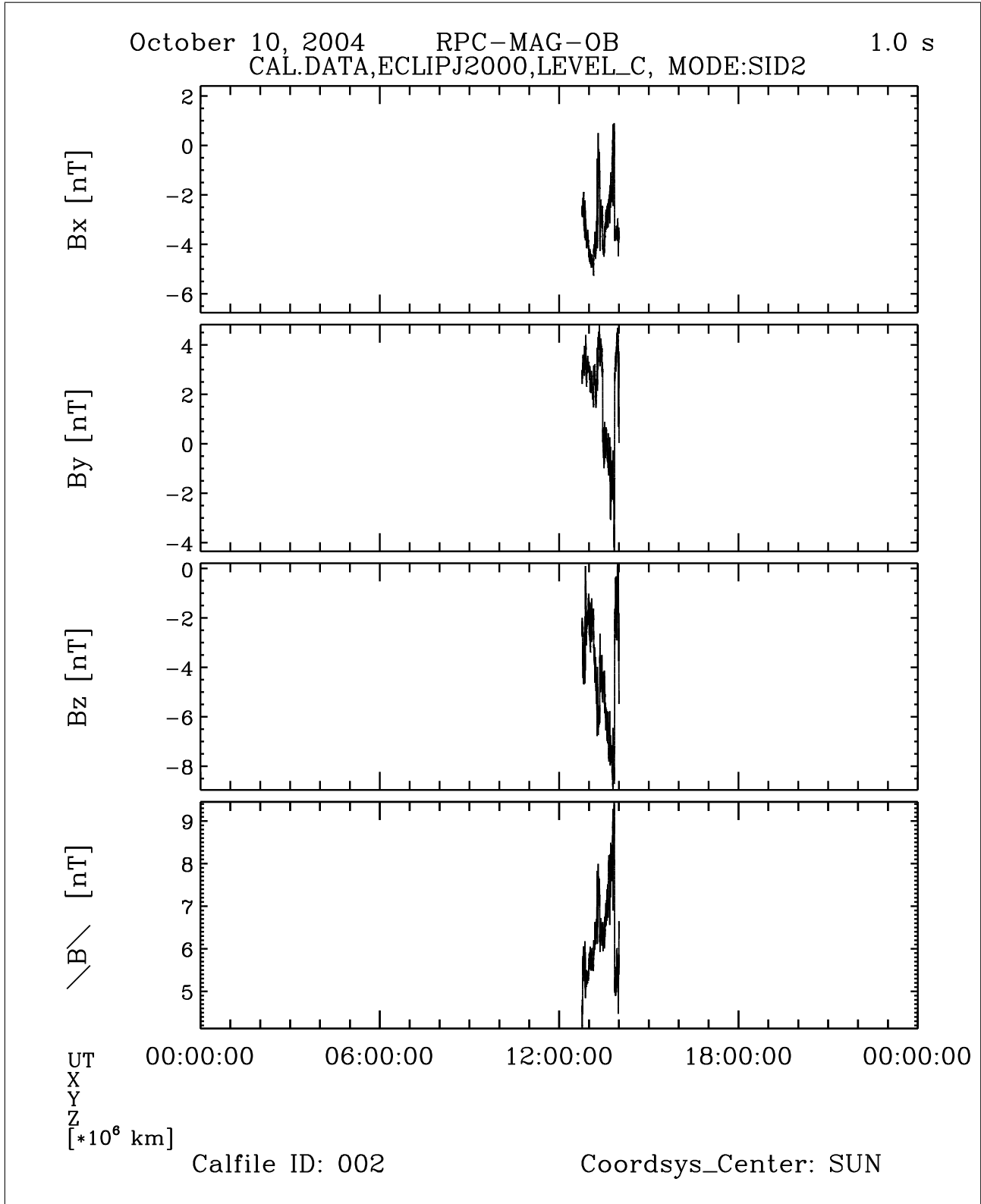


Figure 119: File: RPCMAG041010T1245\_CLC\_OB\_M2\_T0000\_2400\_002

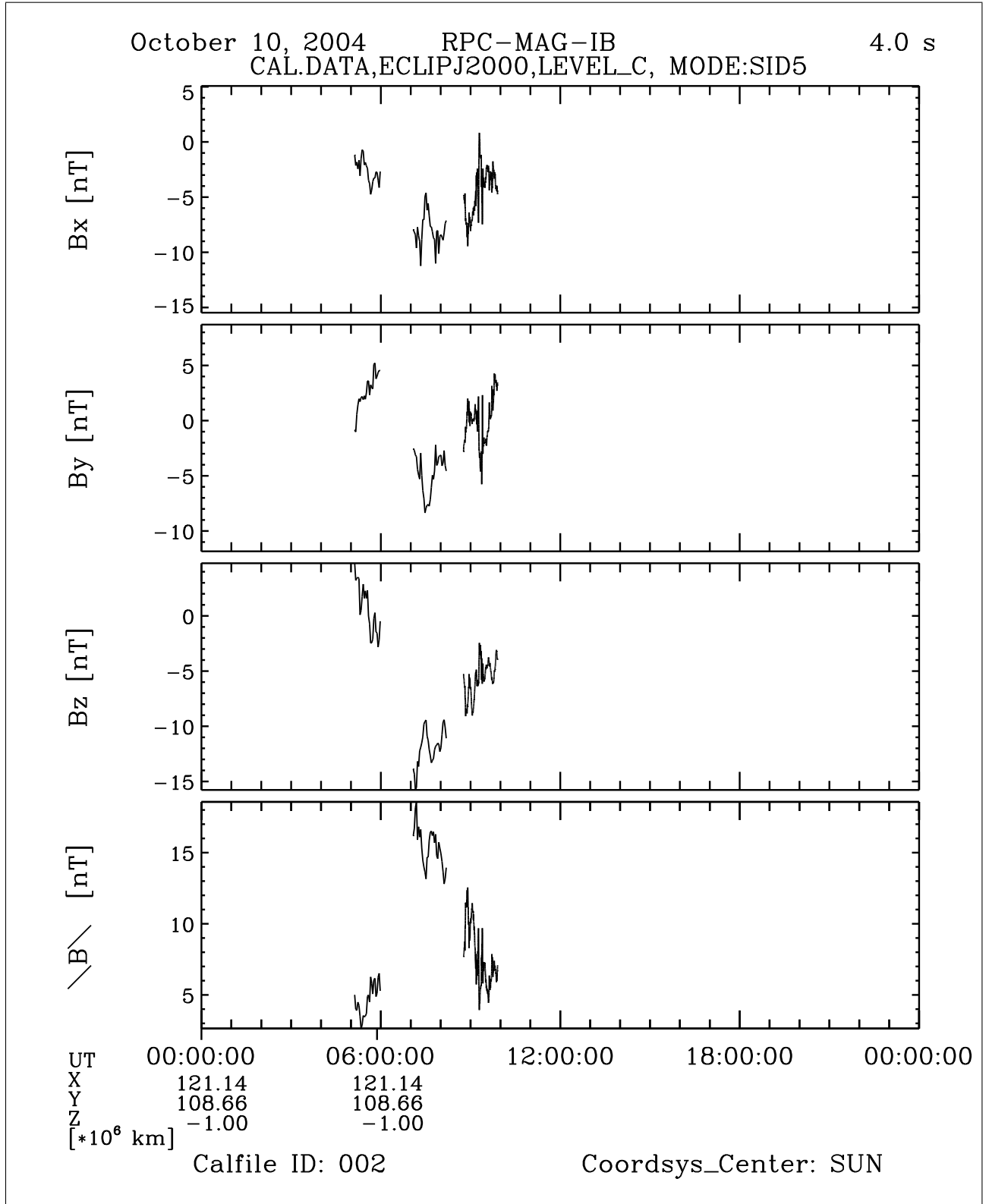


Figure 120: File: RPCMAG041010T0507\_CLC\_IB\_M5\_T0000\_2400\_002

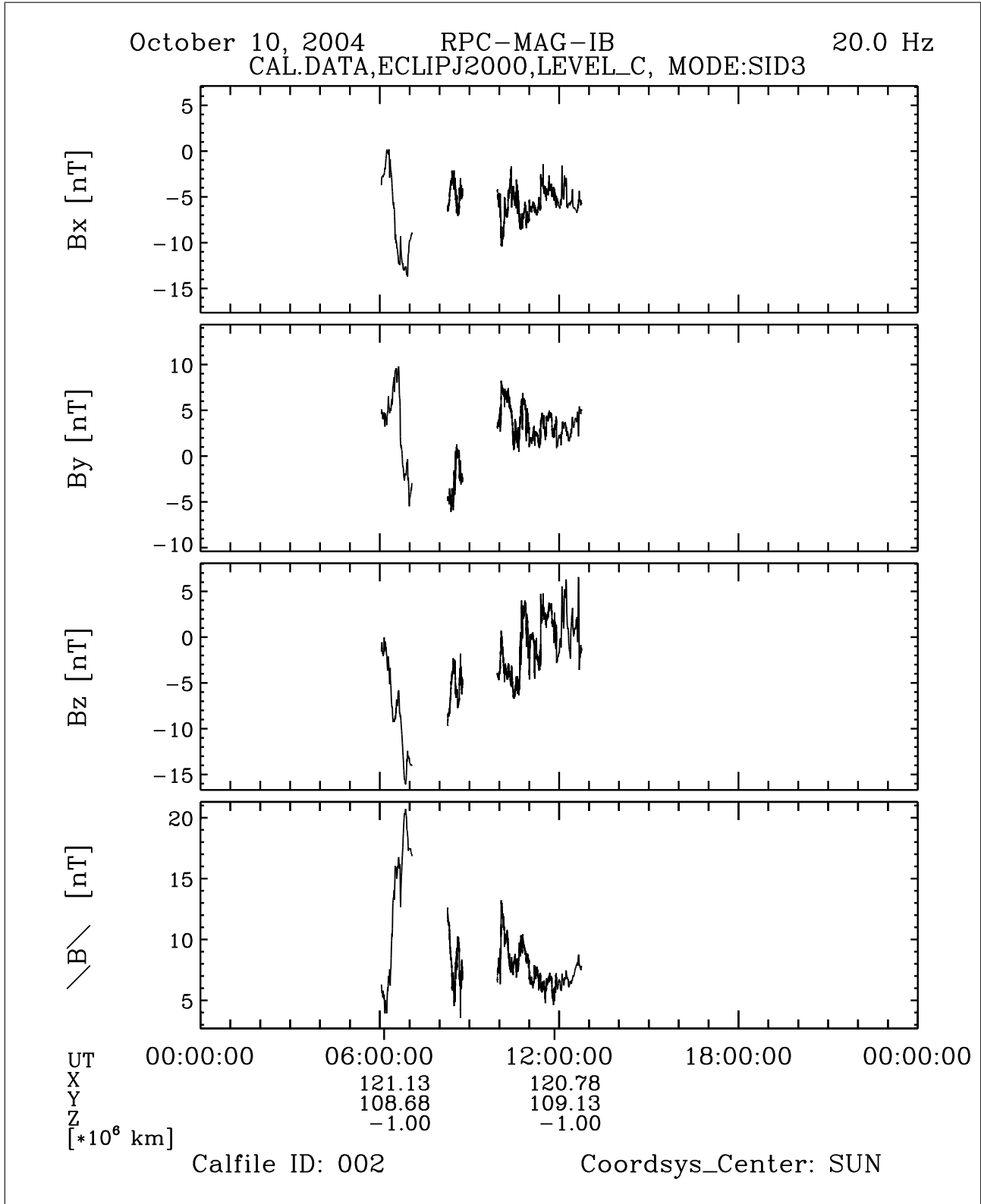


Figure 121: File: RPCMAG041010T0603\_CLC\_IB\_M3\_T0000\_2400\_002

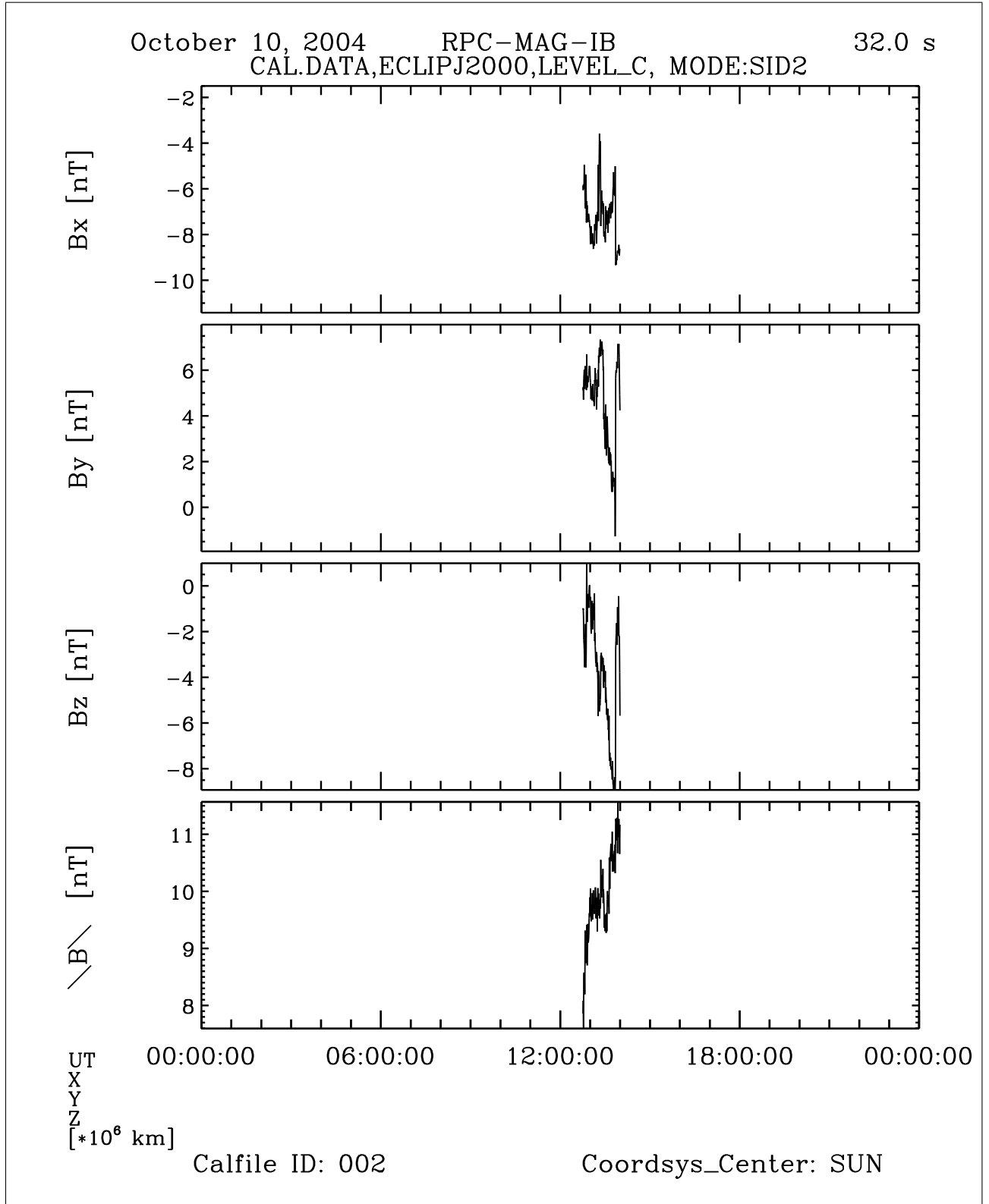


Figure 122: File: RPCMAG041010T1245\_CLC\_IB\_M2\_T0000\_2400\_002

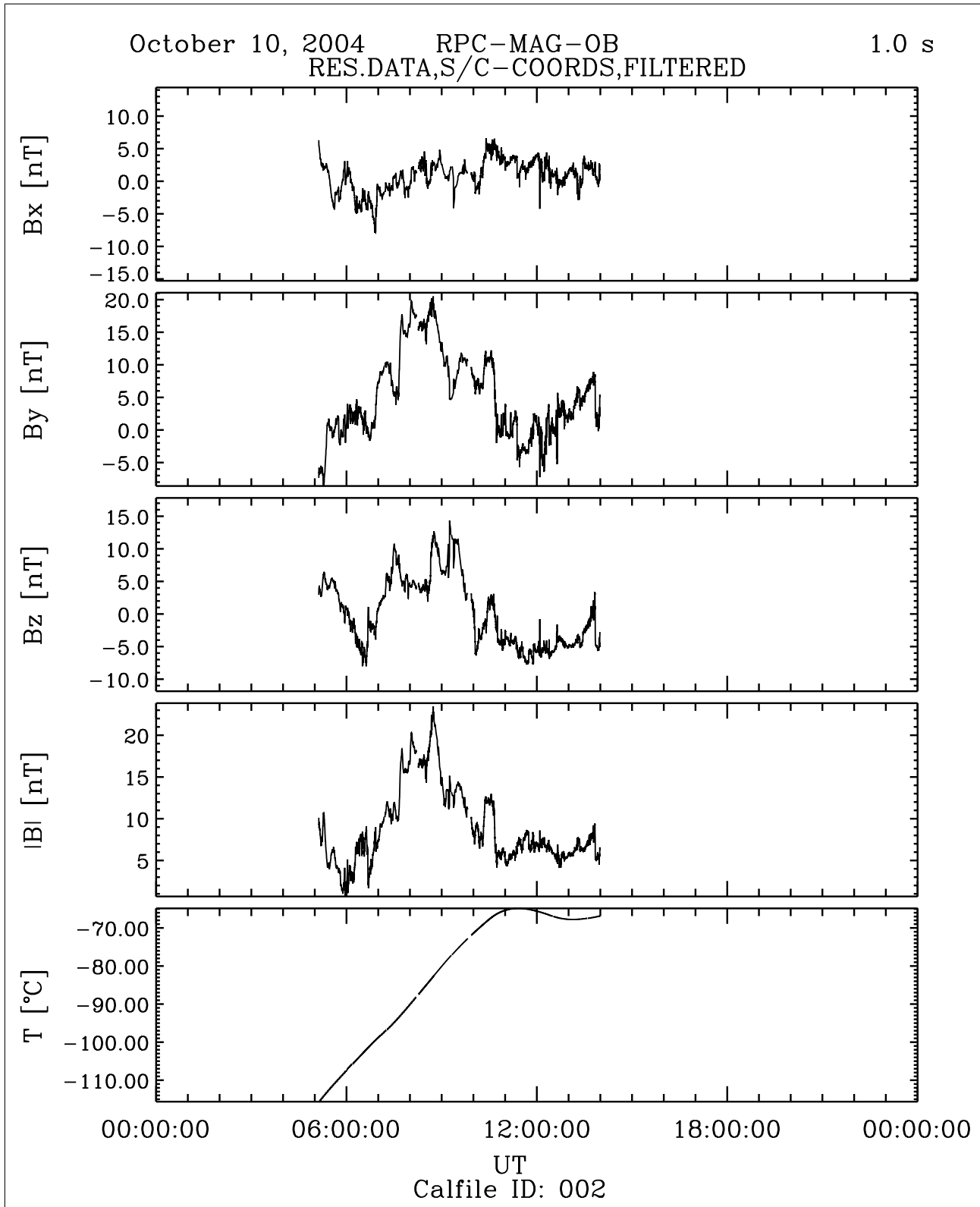


Figure 123: File: RPCMAG041010\_CLF\_OB\_A1\_T0000\_2400\_002

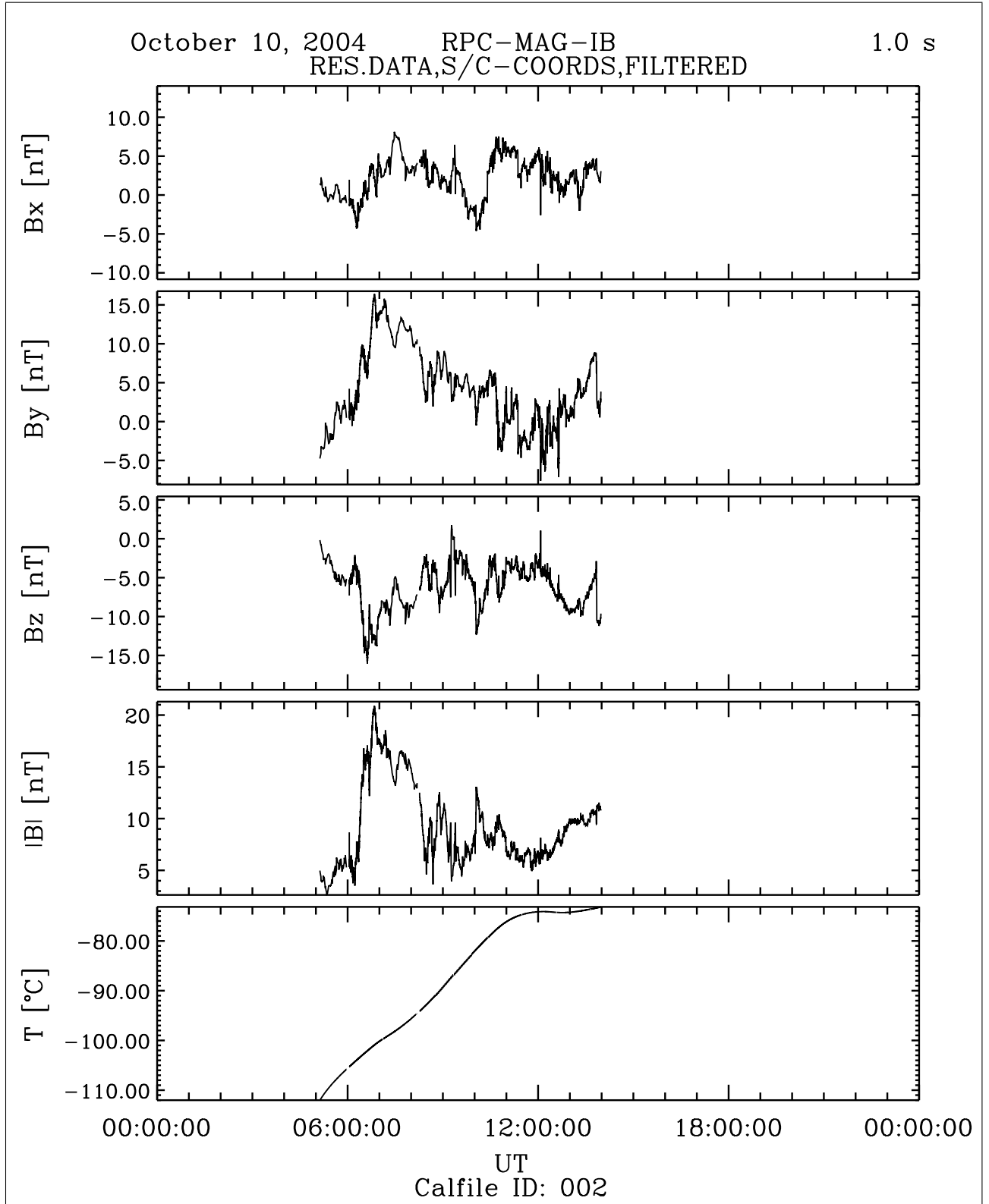


Figure 124: File: RPCMAG041010\_CLF\_IB\_A1\_T0000\_2400\_002

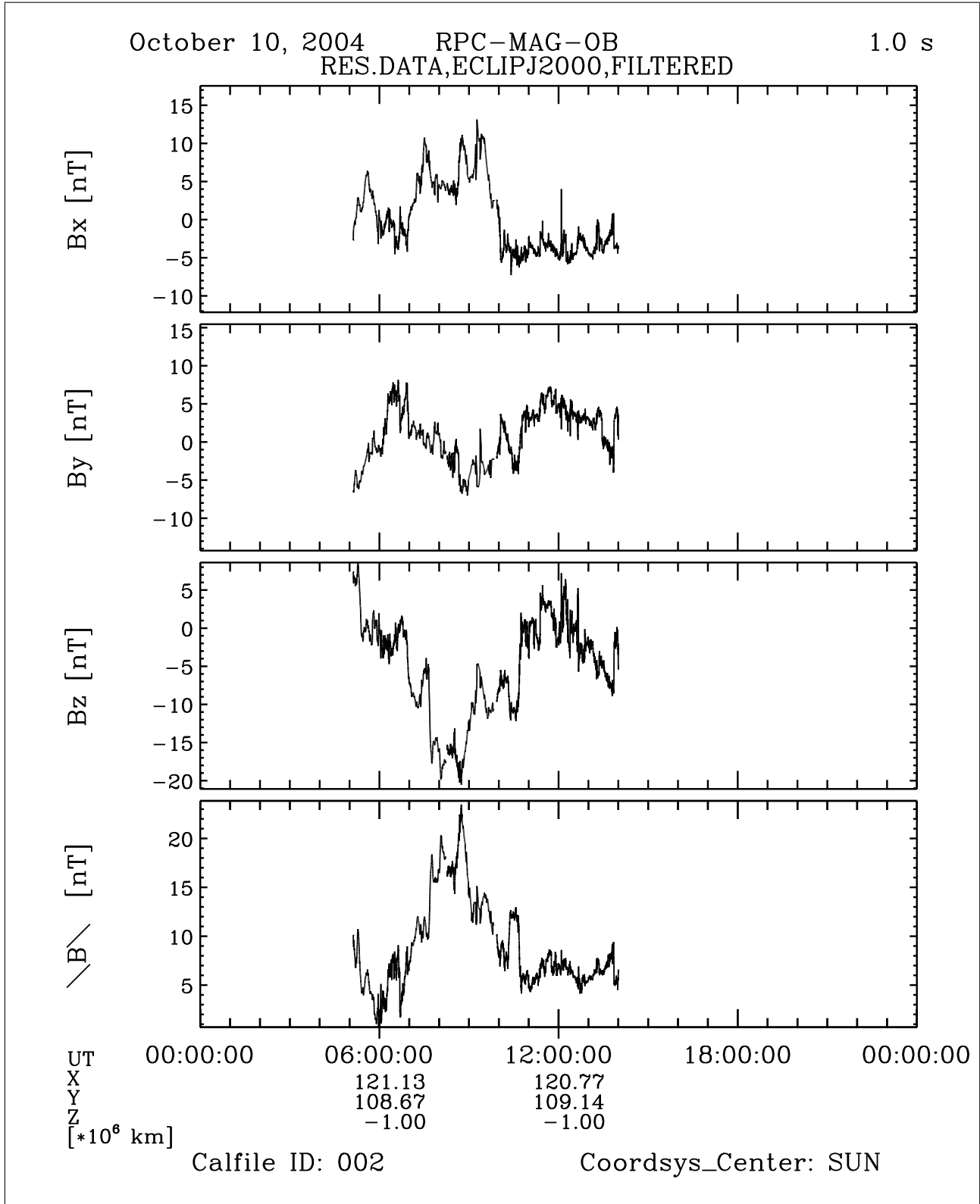


Figure 125: File: RPCMAG041010\_CLG\_OB\_A1\_T0000\_2400\_002



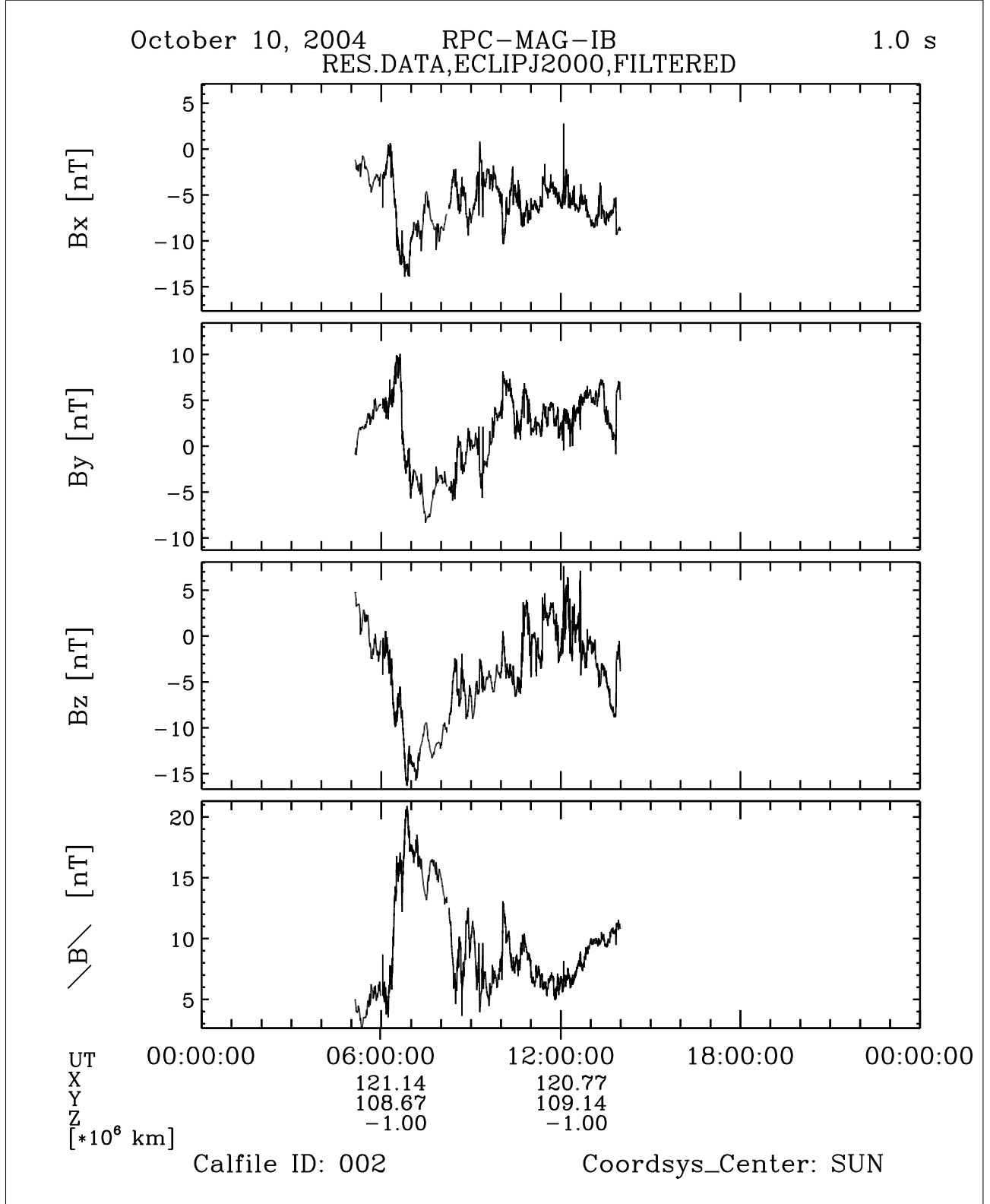


Figure 126: File: RPCMAG041010\_CLG\_IB\_A1\_T0000\_2400\_002

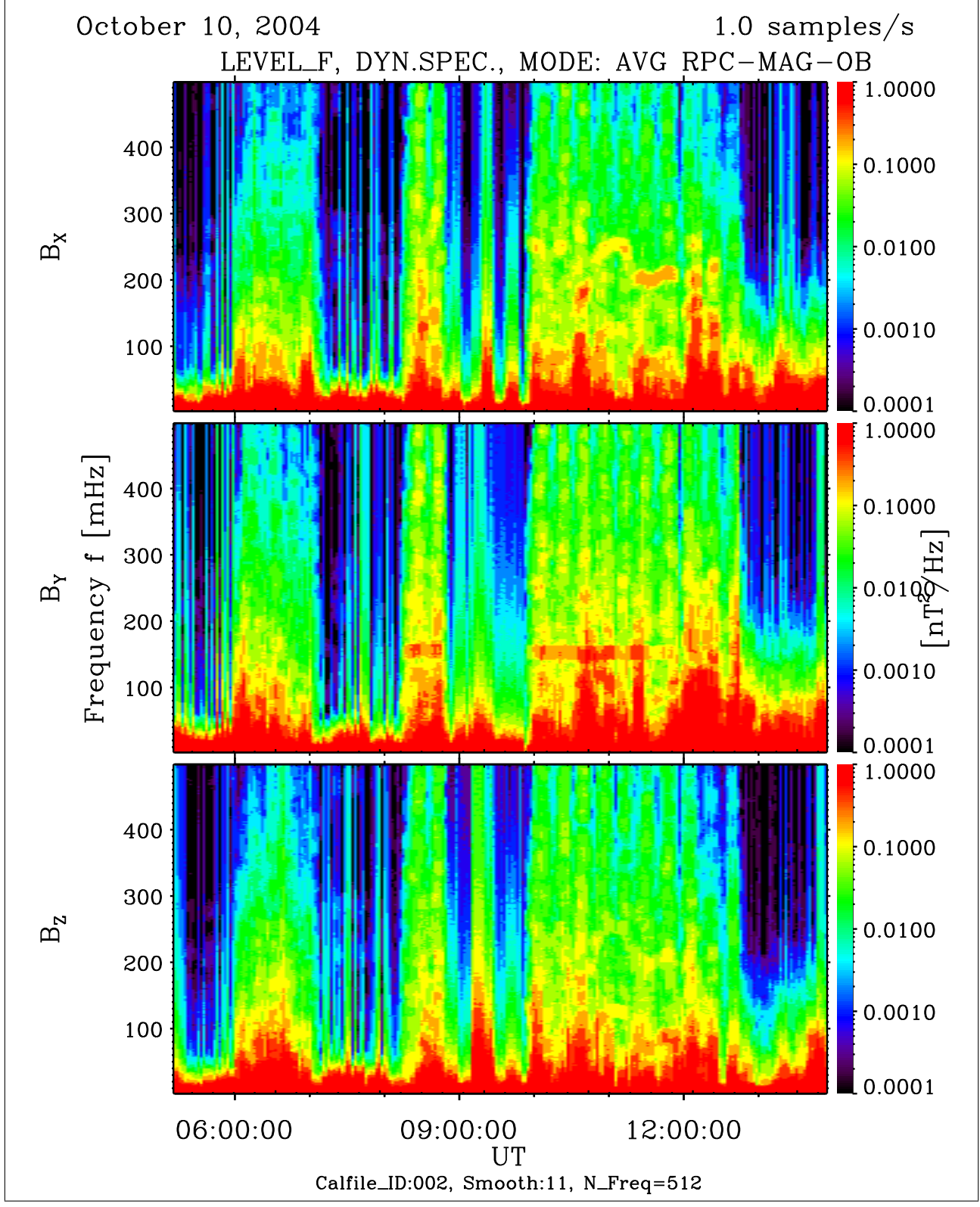


Figure 127: File: RPCMAG041010\_CLF\_OB\_A1\_DS0\_500\_002

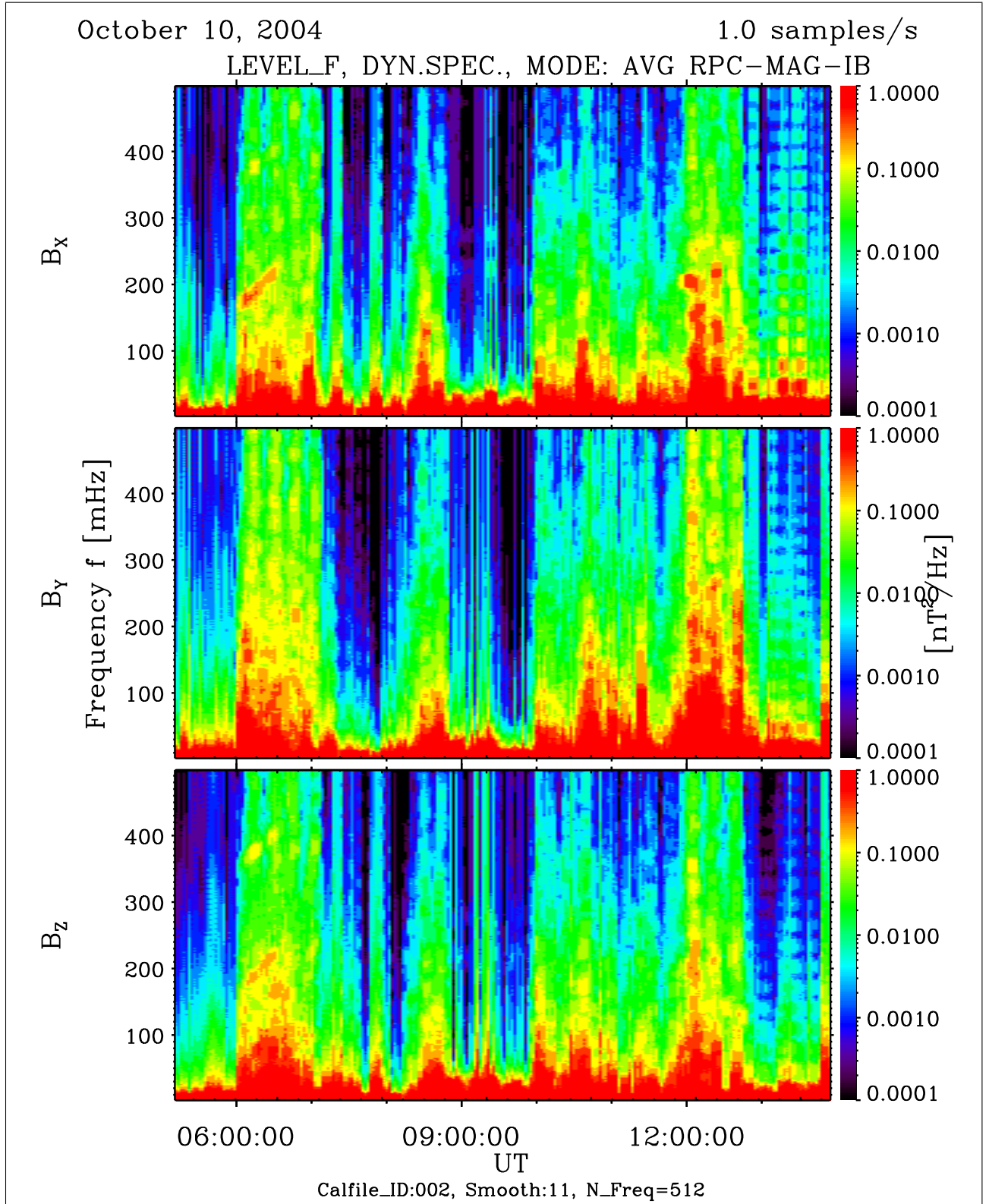


Figure 128: File: RPCMAG041010\_CLF\_IB\_A1\_DS0\_500\_002

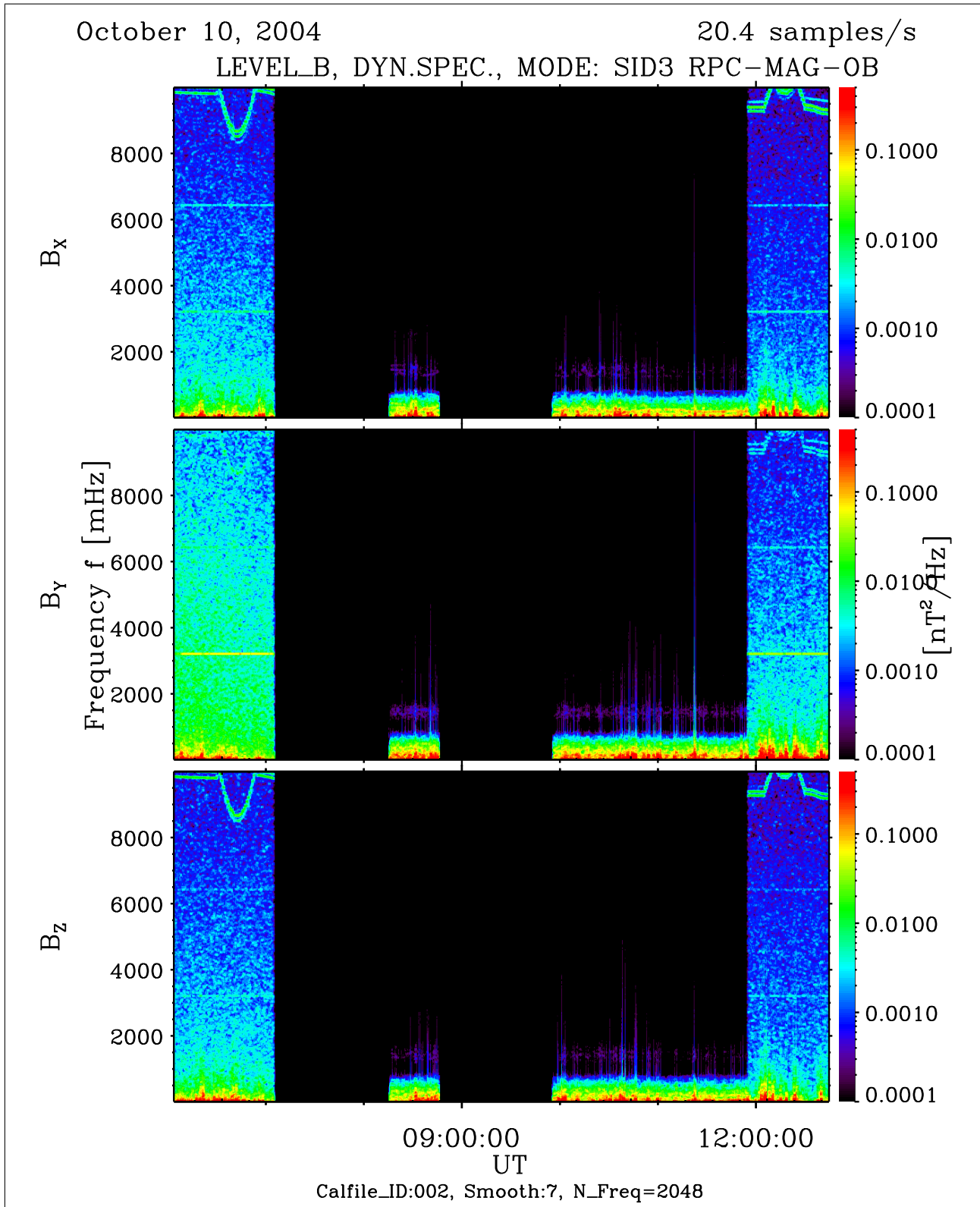


Figure 129: File: RPCMAG041010T0603\_CLB\_OB\_M3\_DS0\_10000\_002

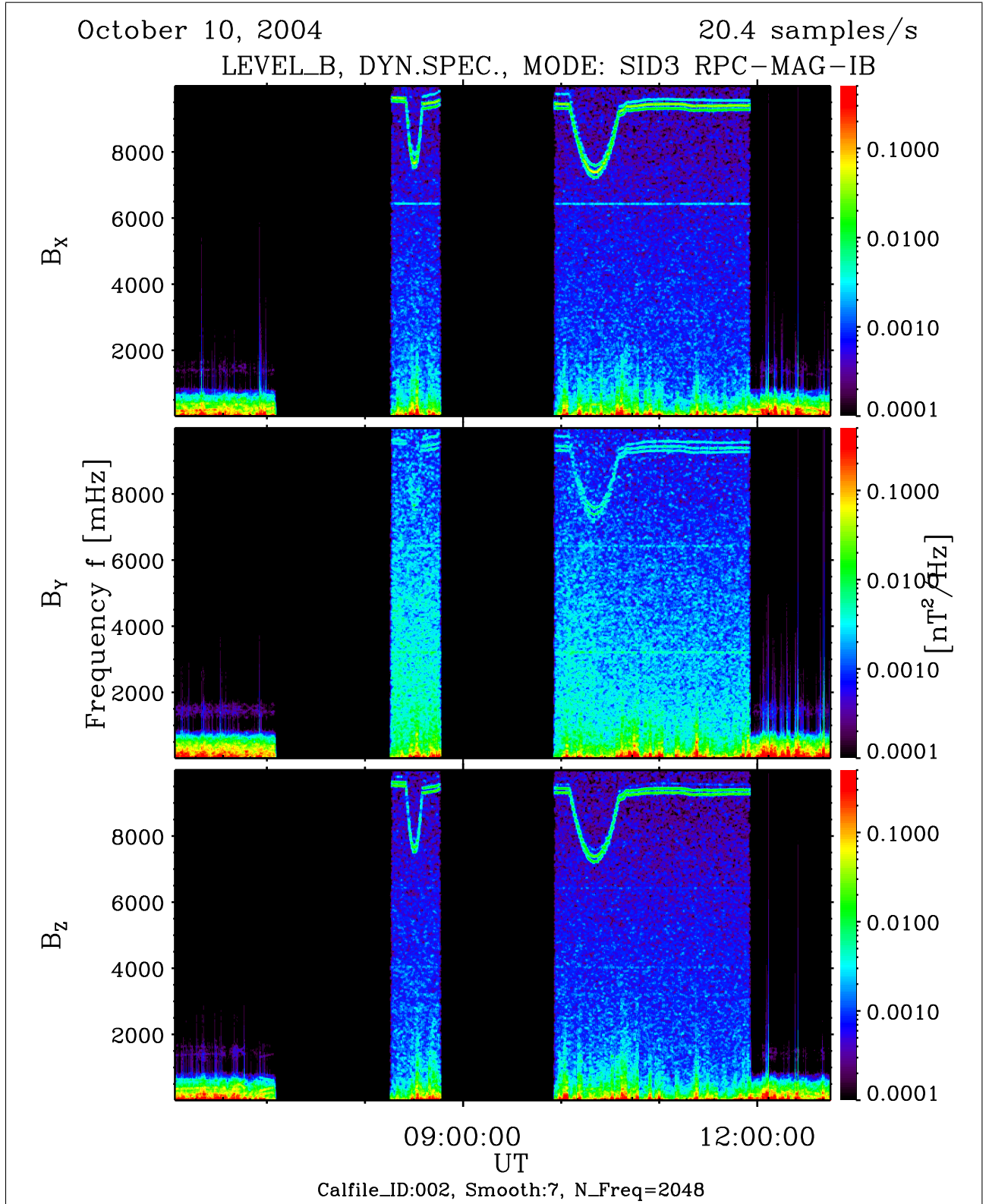


Figure 130: File: RPCMAG041010T0603\_CLB\_IB\_M3\_DS0\_10000\_002

<h1 style="margin: 0;">R O S E T T A</h1>	Document: RO-IGEP-TR-0011 Issue: 3 Revision: 1
<b>IGEP</b> Institut für Geophysik u. extraterr. Physik Technische Universität Braunschweig	Date: April 13, 2007 Page: 144

### 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.

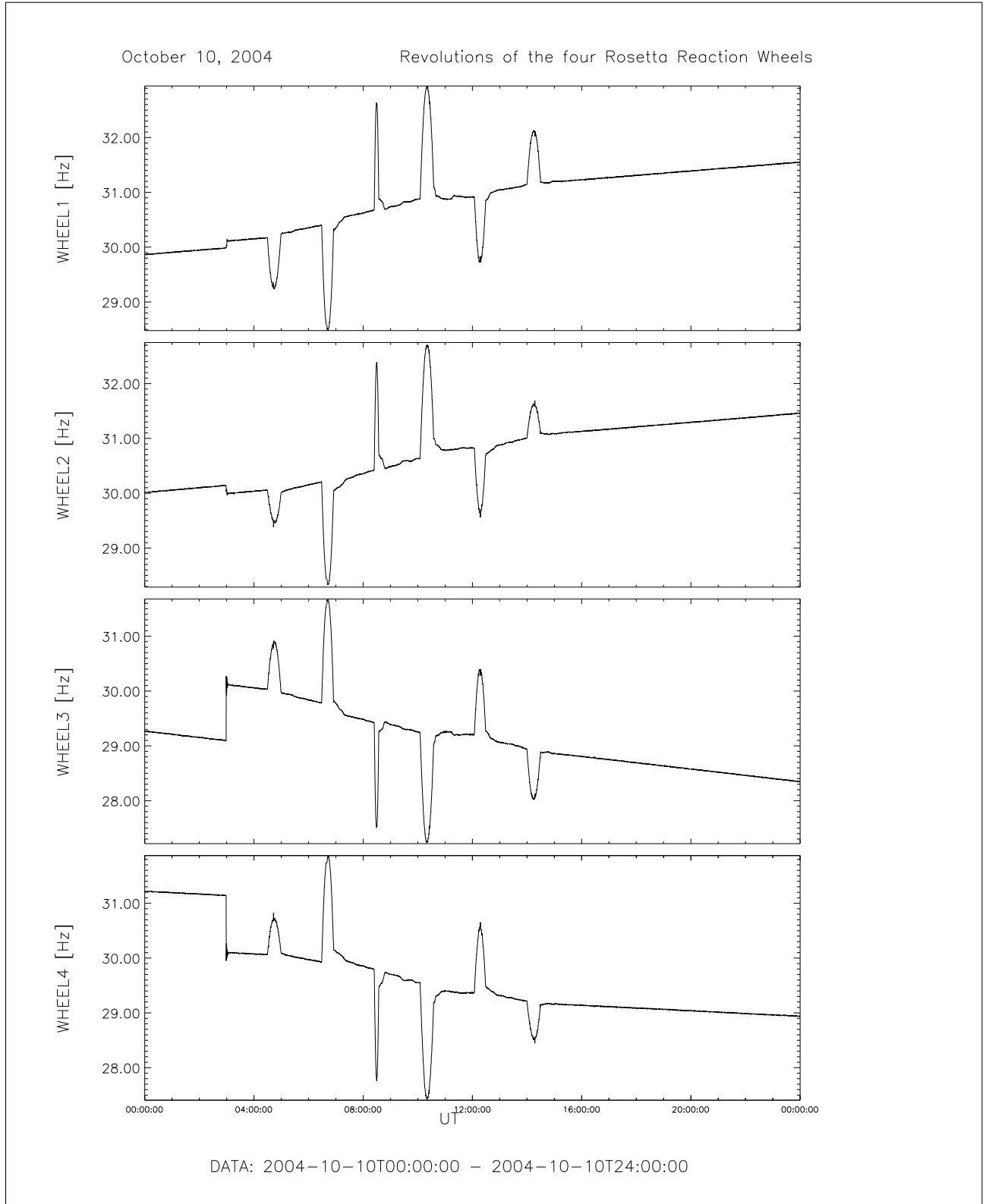


Figure 131: File: wheels\_Hz2004-10-10T00-00

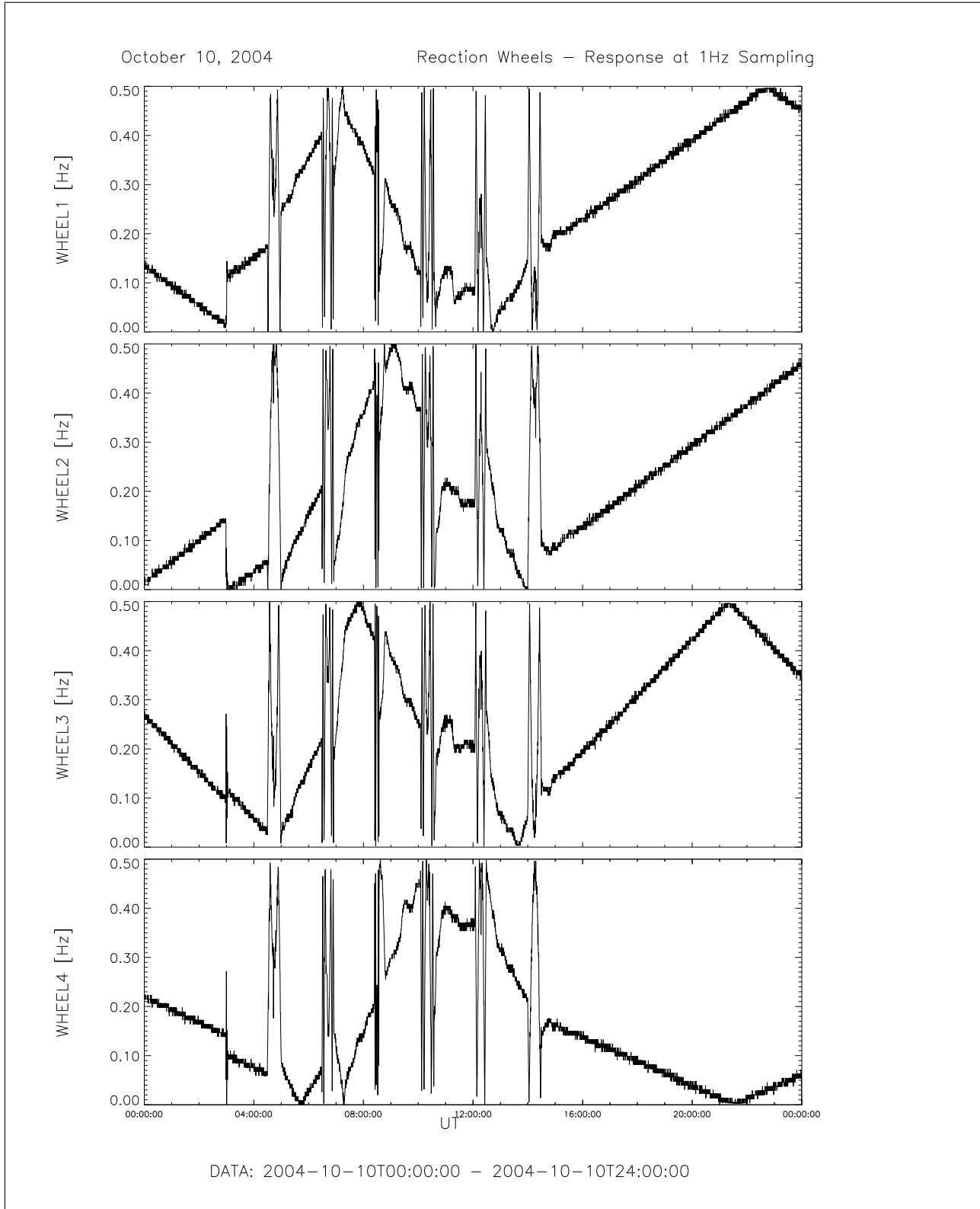


Figure 132: File: wheels\_1Hz\_Sampling2004-10-10T00-00



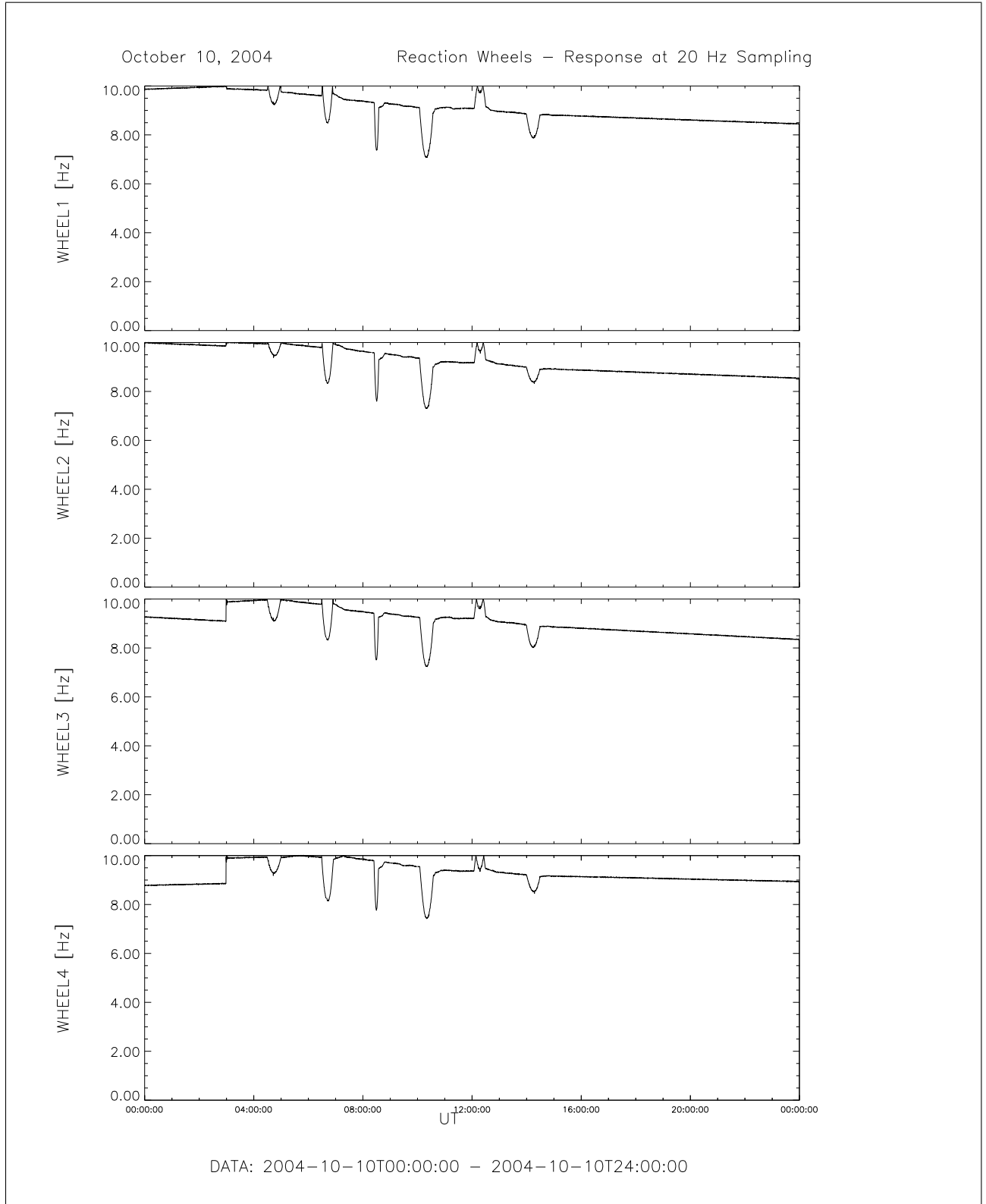


Figure 133: File: wheels\_20Hz\_Sampling2004-10-10T00-00

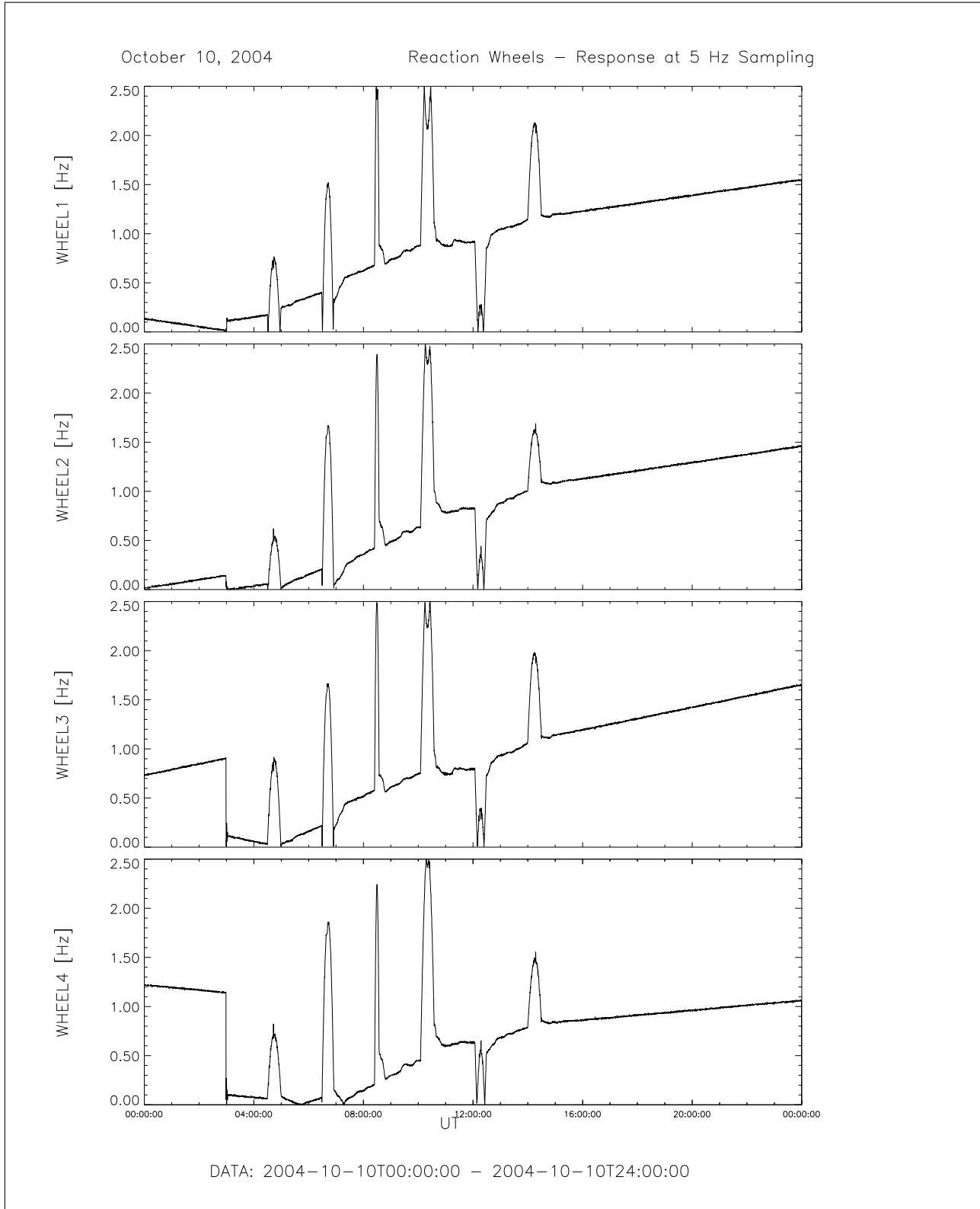


Figure 134: File: wheels\_5Hz\_Sampling2004-10-10T00-00

R O S E T T A	Document: RO-IGEP-TR-0011 Issue: 3 Revision: 1
IGEP Institut für Geophysik u. extraterr. Physik Technische Universität Braunschweig	Date: April 13, 2007 Page: 149

## 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

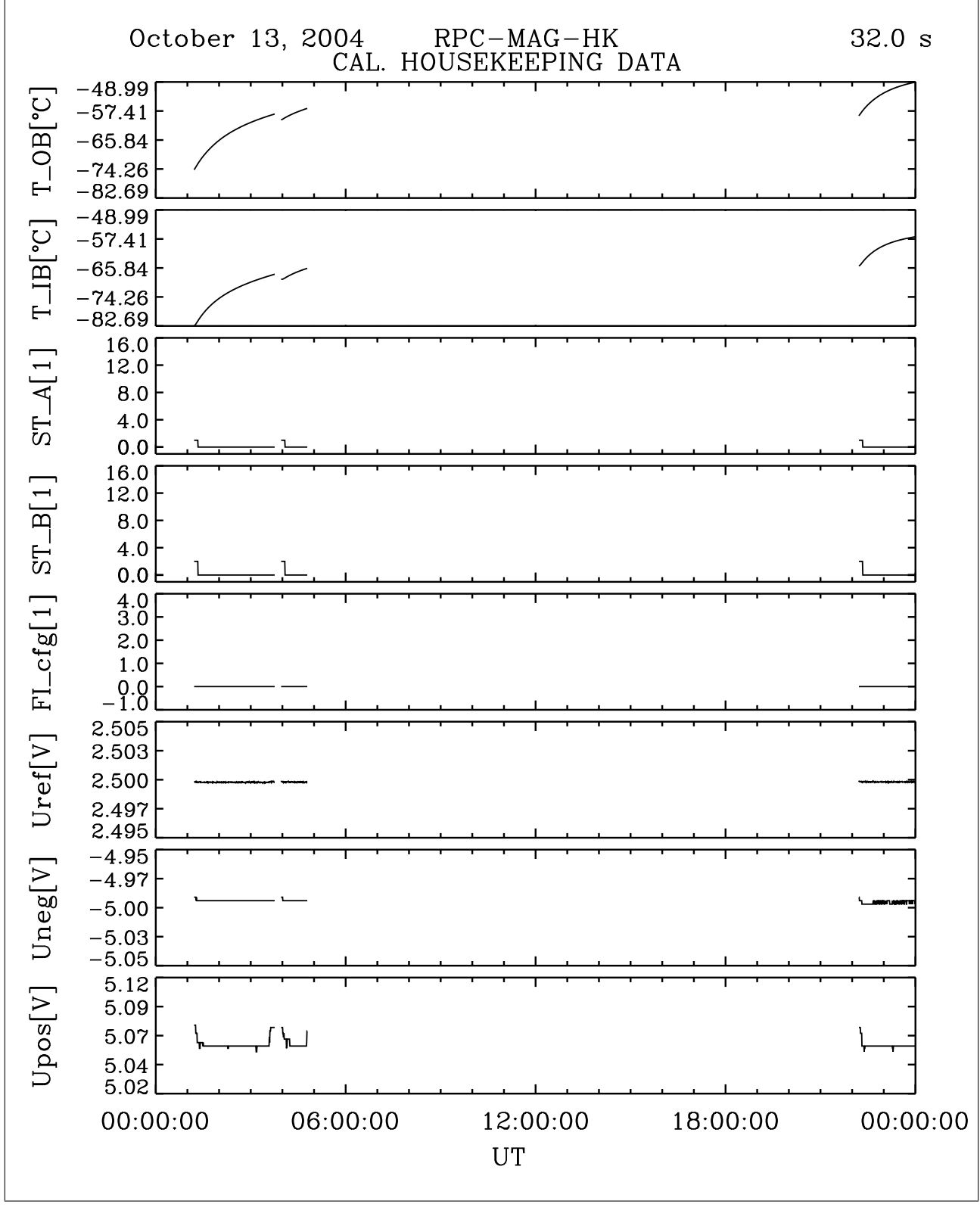


Figure 135: File: RPCMAG041013T0112\_CLA\_HK\_P0000\_2400

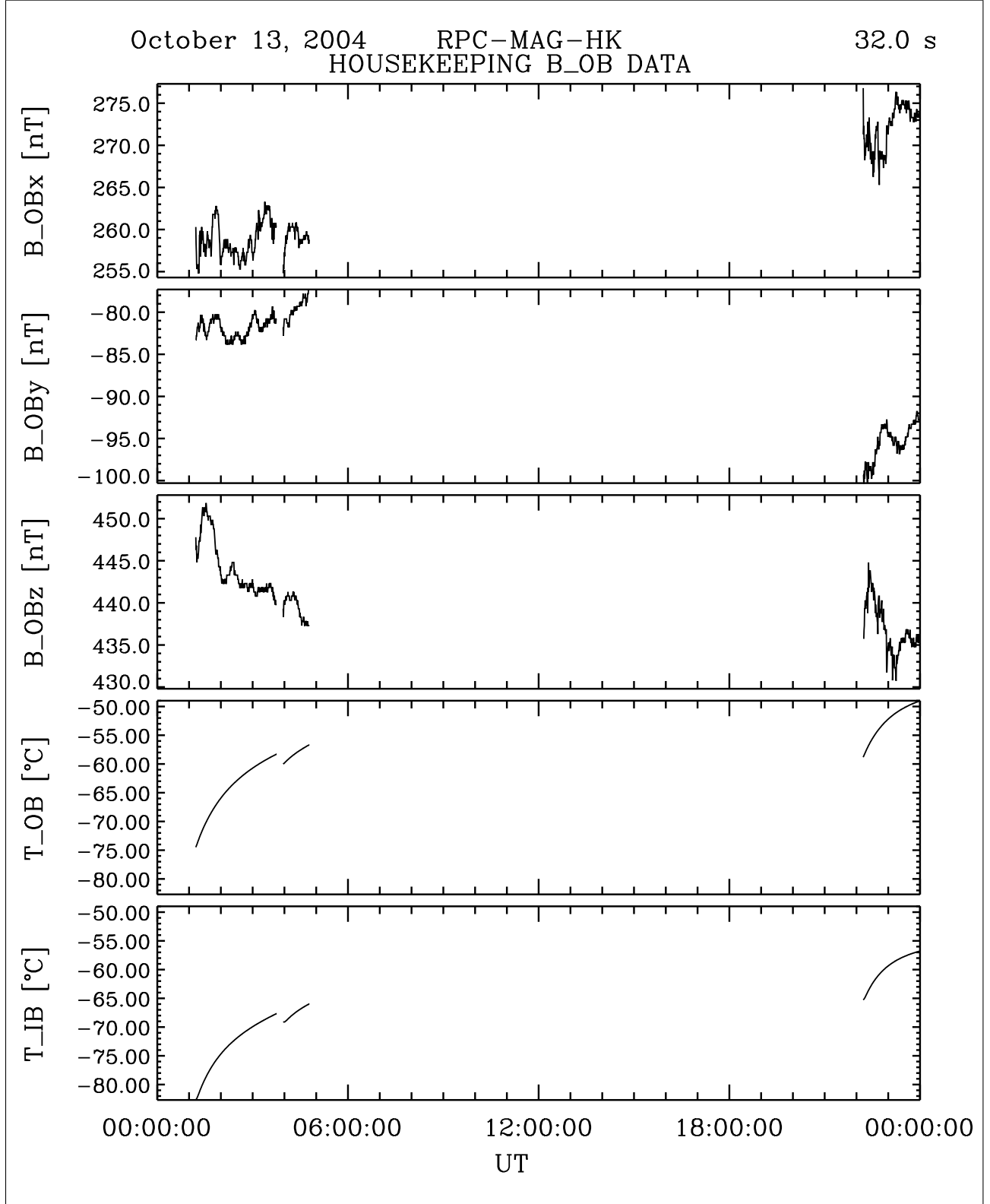


Figure 136: File: RPCMAG041013T0112\_CLA\_HK\_B\_P0000\_2400

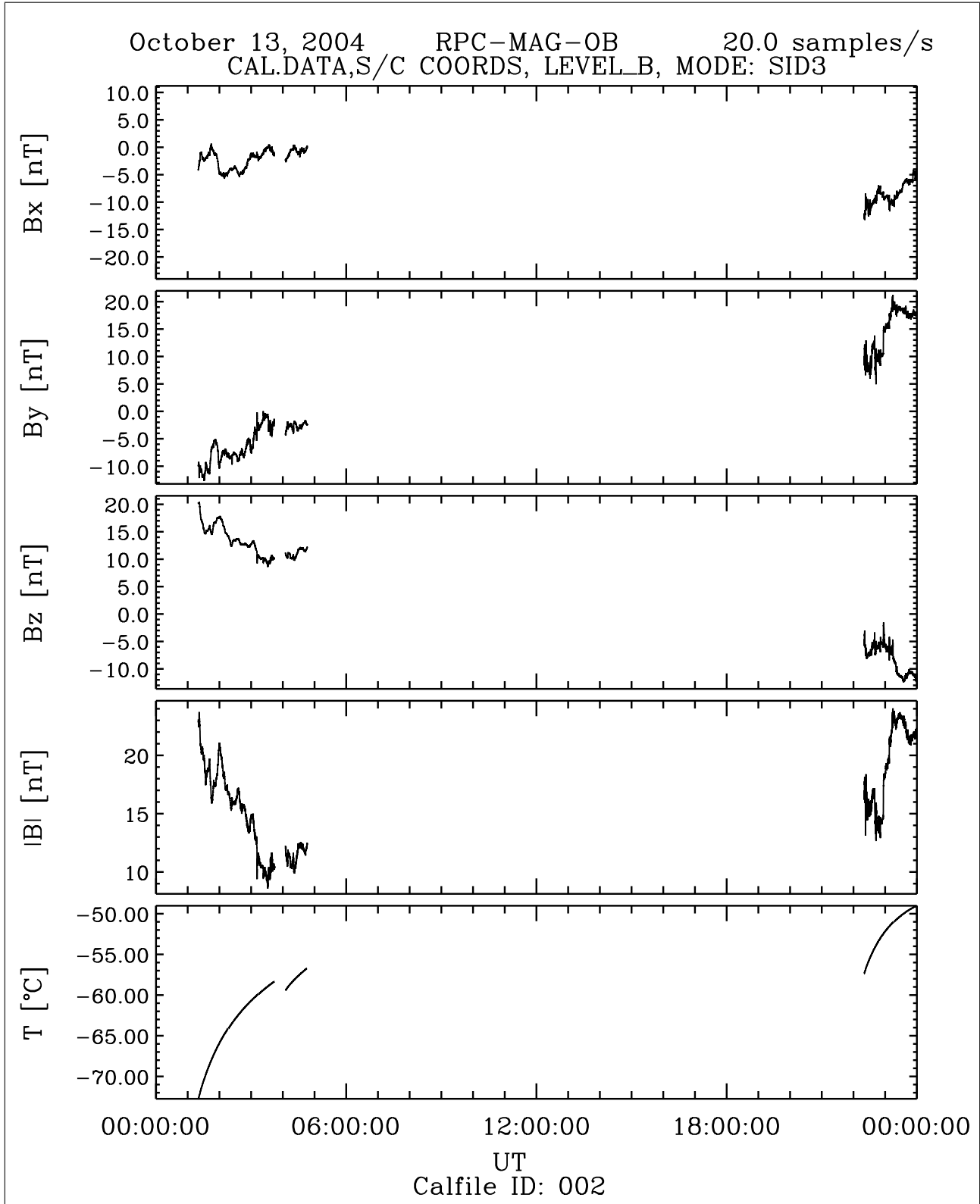


Figure 137: File: RPCMAG041013T0119\_CLB\_OB\_M3\_T0000\_2400\_002

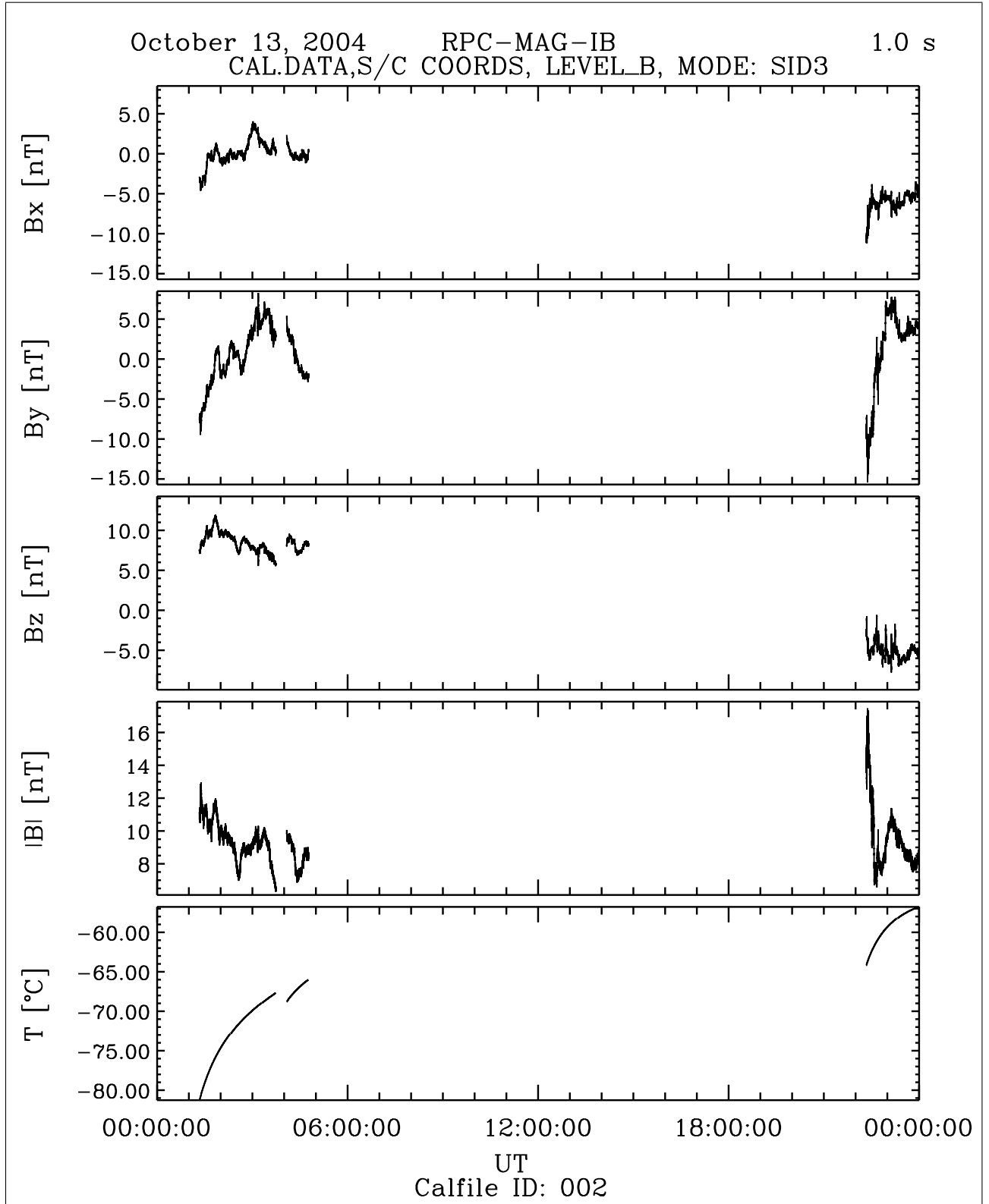


Figure 138: File: RPCMAG041013T0119\_CLB\_IB\_M3\_T0000\_2400\_002

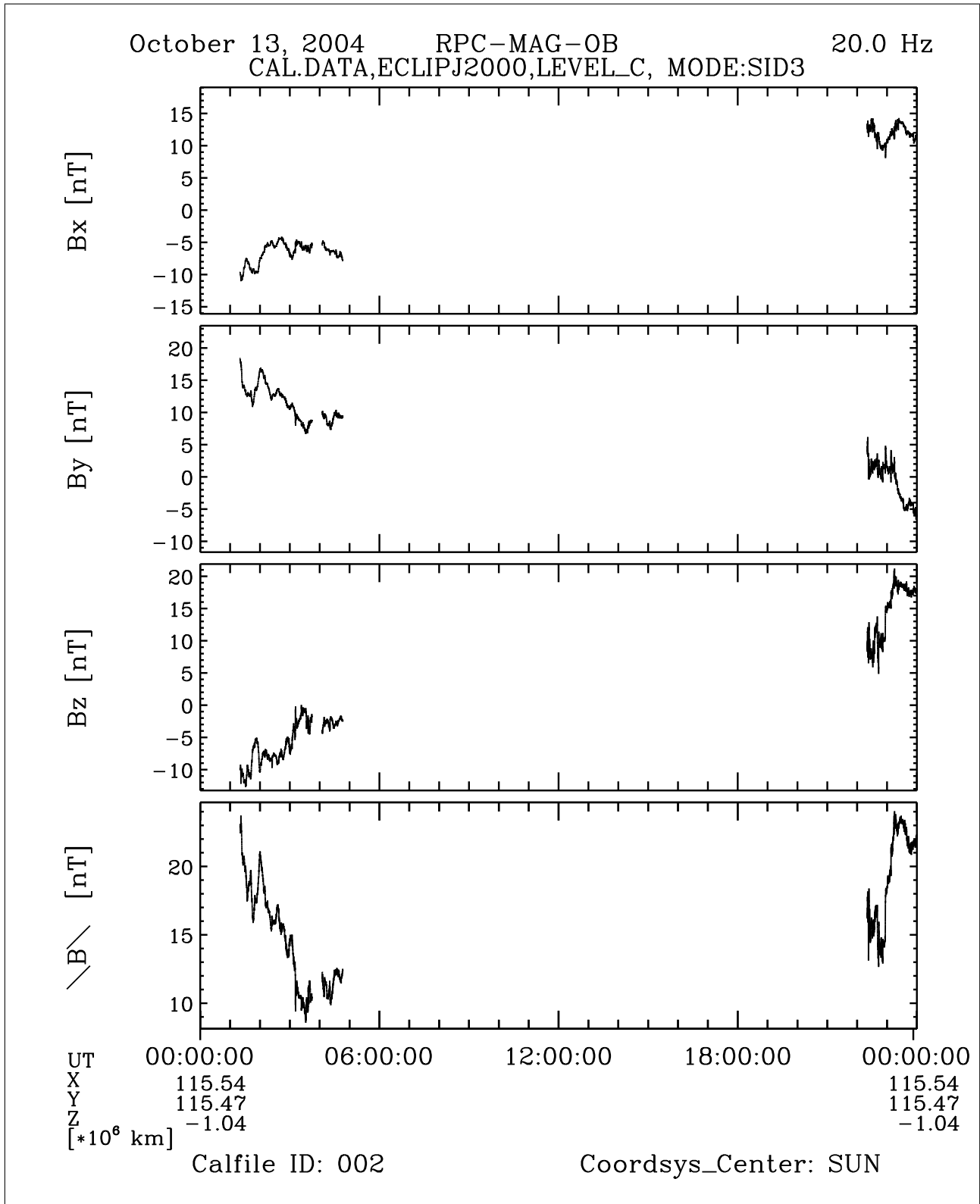


Figure 139: File: RPCMAG041013T0119\_CLC\_OB\_M3\_T0000\_2400\_002



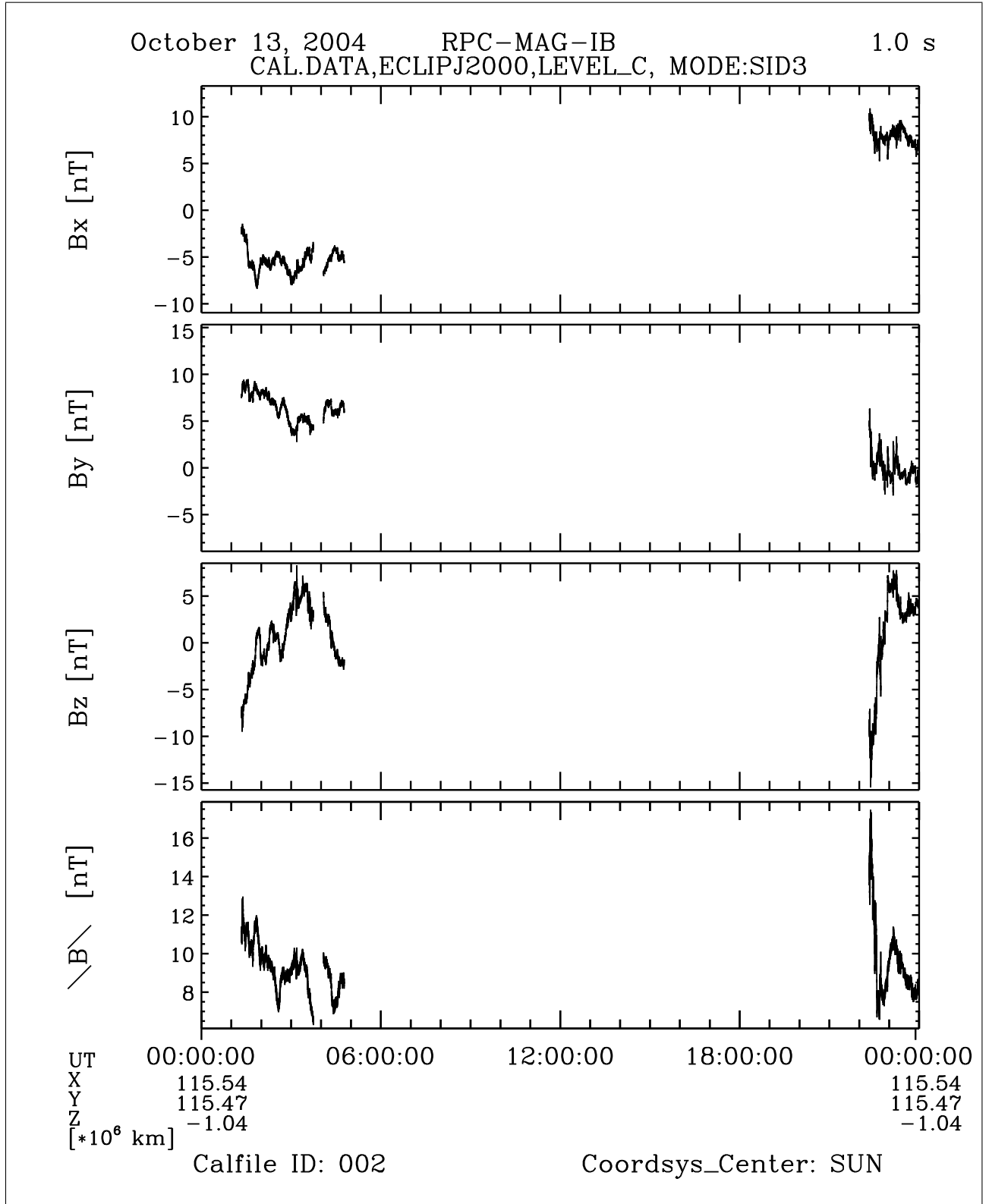


Figure 140: File: RPCMAG041013T0119\_CLC\_IB\_M3\_T0000\_2400\_002

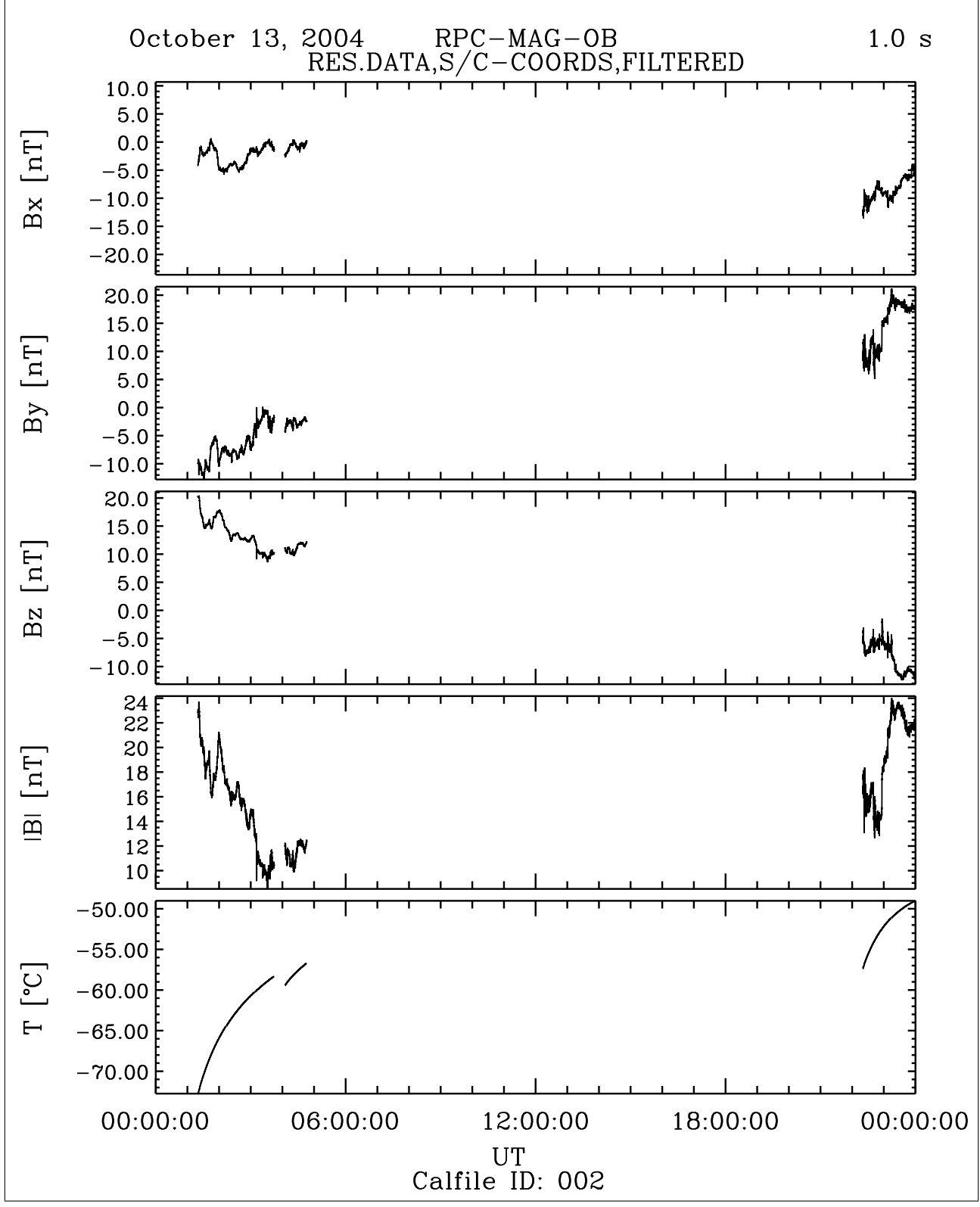


Figure 141: File: RPCMAG041013\_CLF\_OB\_A1\_T0000\_2400\_002

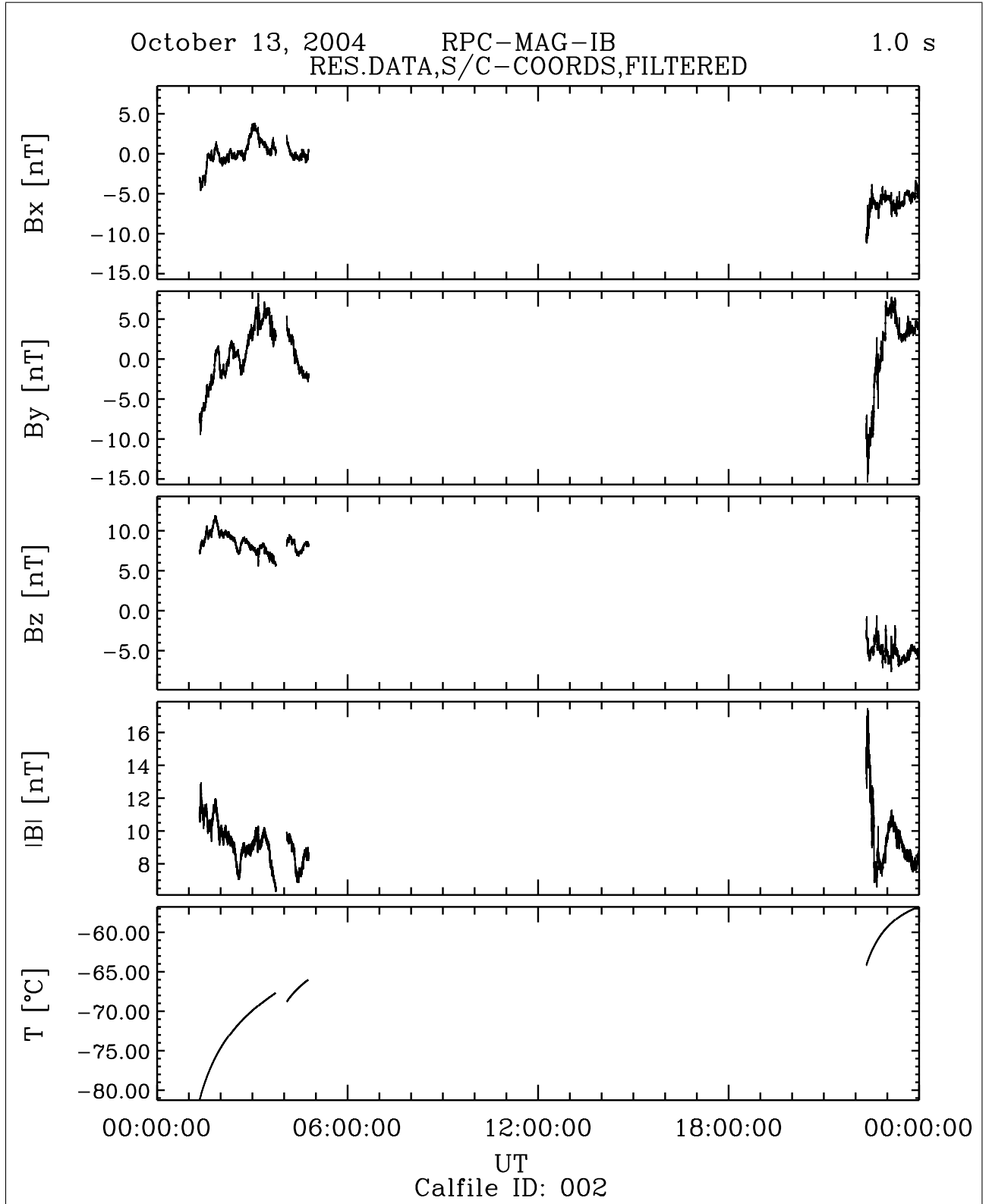


Figure 142: File: RPCMAG041013\_CLF\_IB\_A1\_T0000\_2400\_002

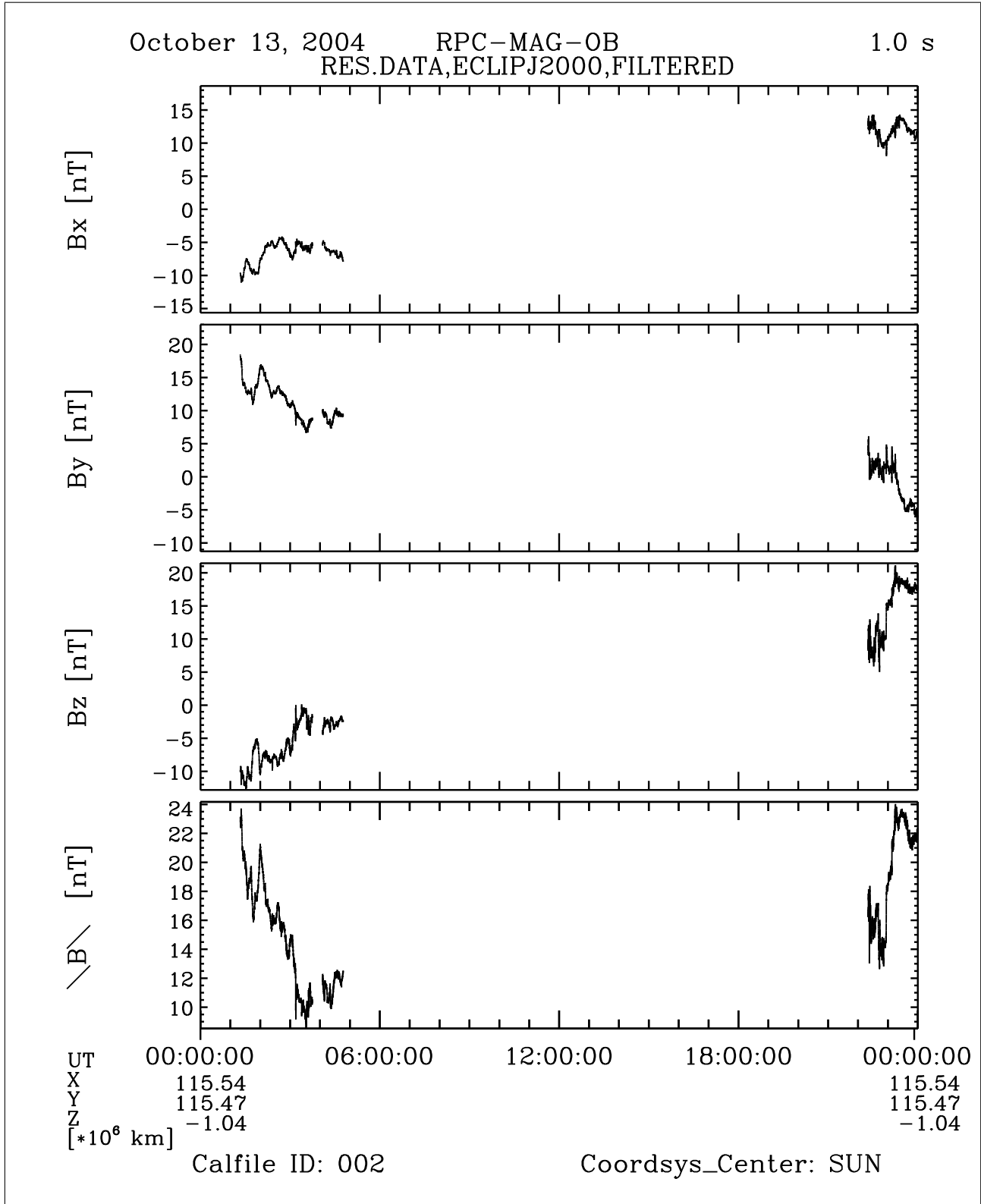


Figure 143: File: RPCMAG041013\_CLG\_OB\_A1\_T0000\_2400\_002

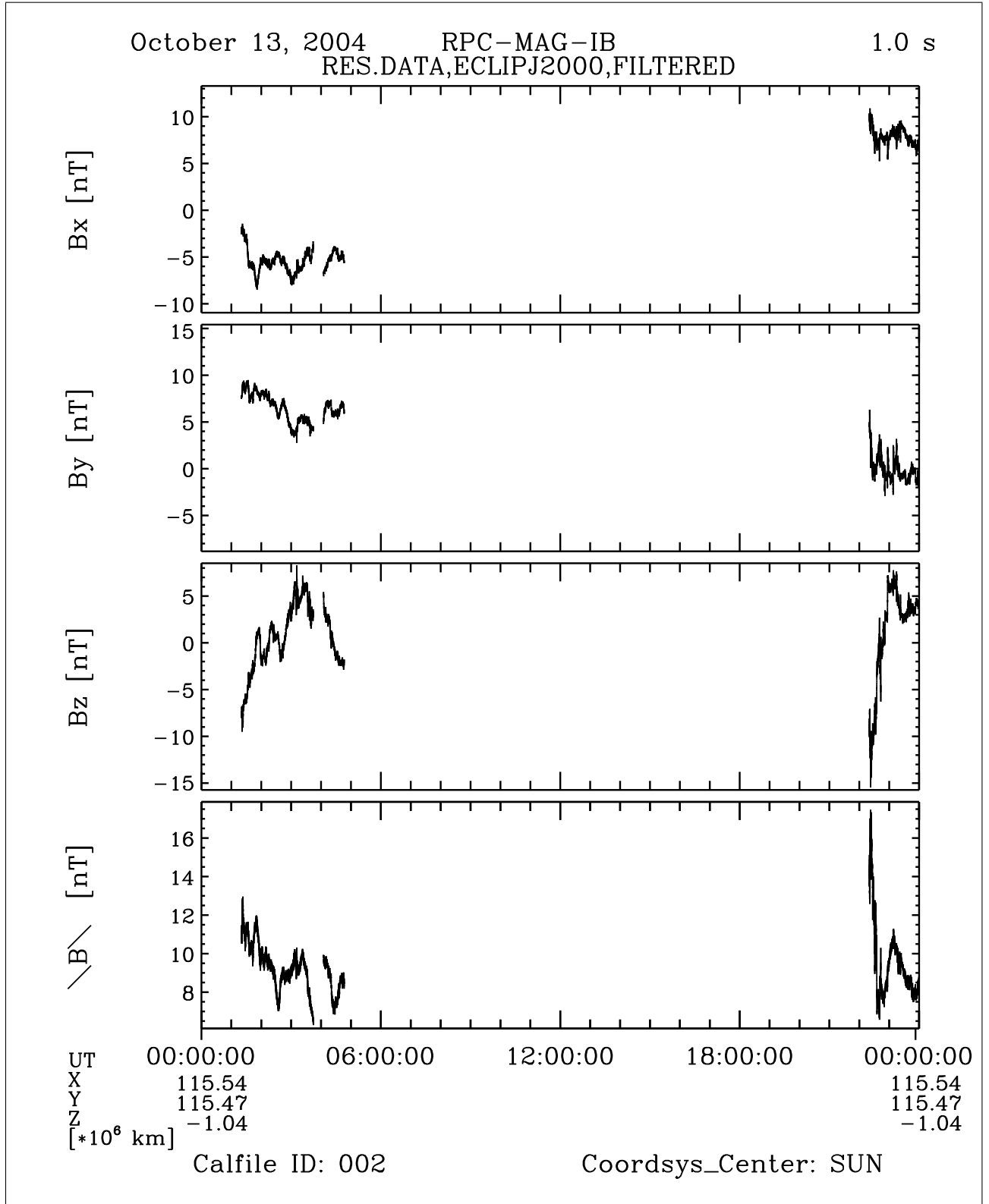


Figure 144: File: RPCMAG041013\_CLG\_IB\_A1\_T0000\_2400\_002

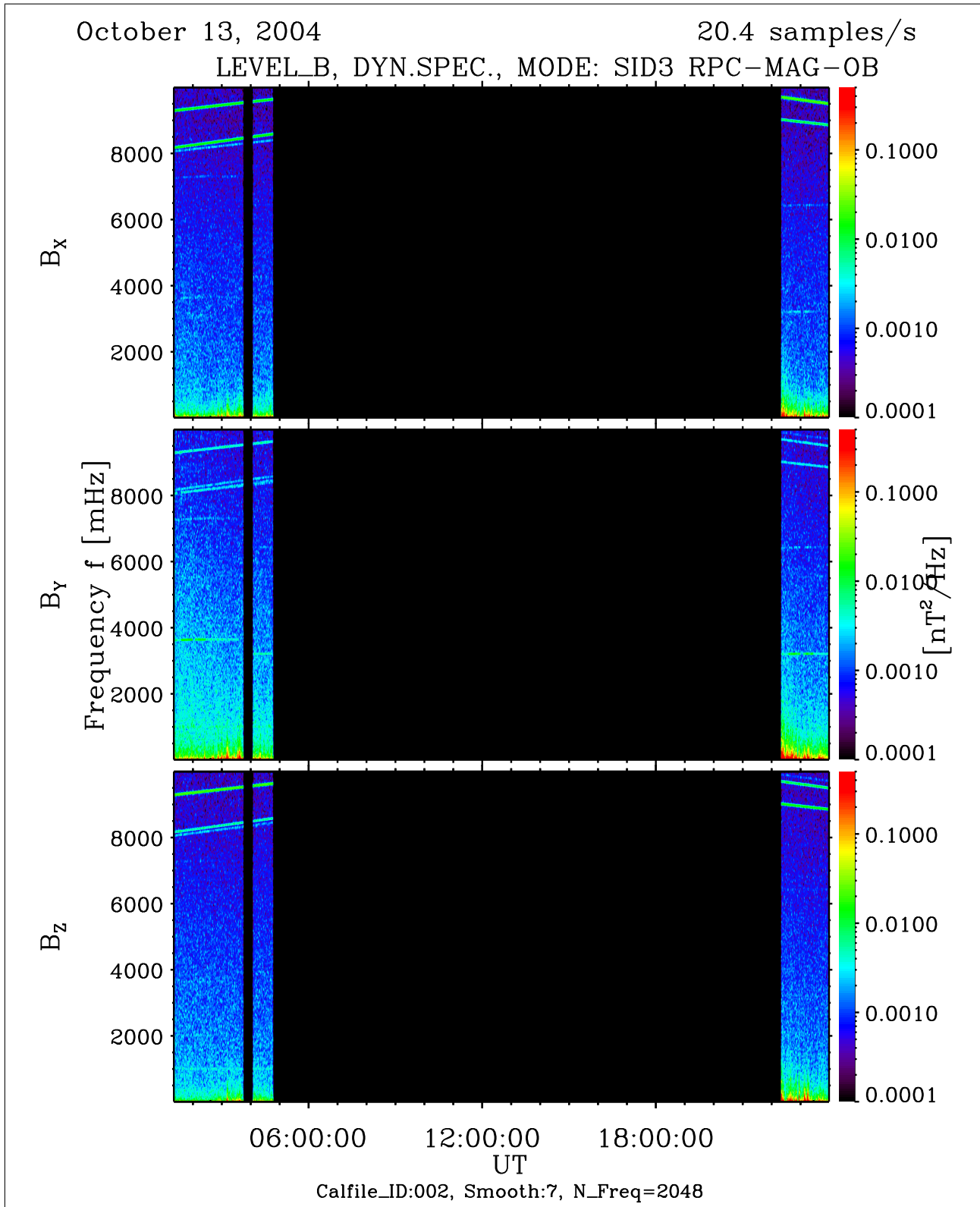


Figure 145: File: RPCMAG041013T0119\_CLB\_OB\_M3\_DS0\_10000\_002

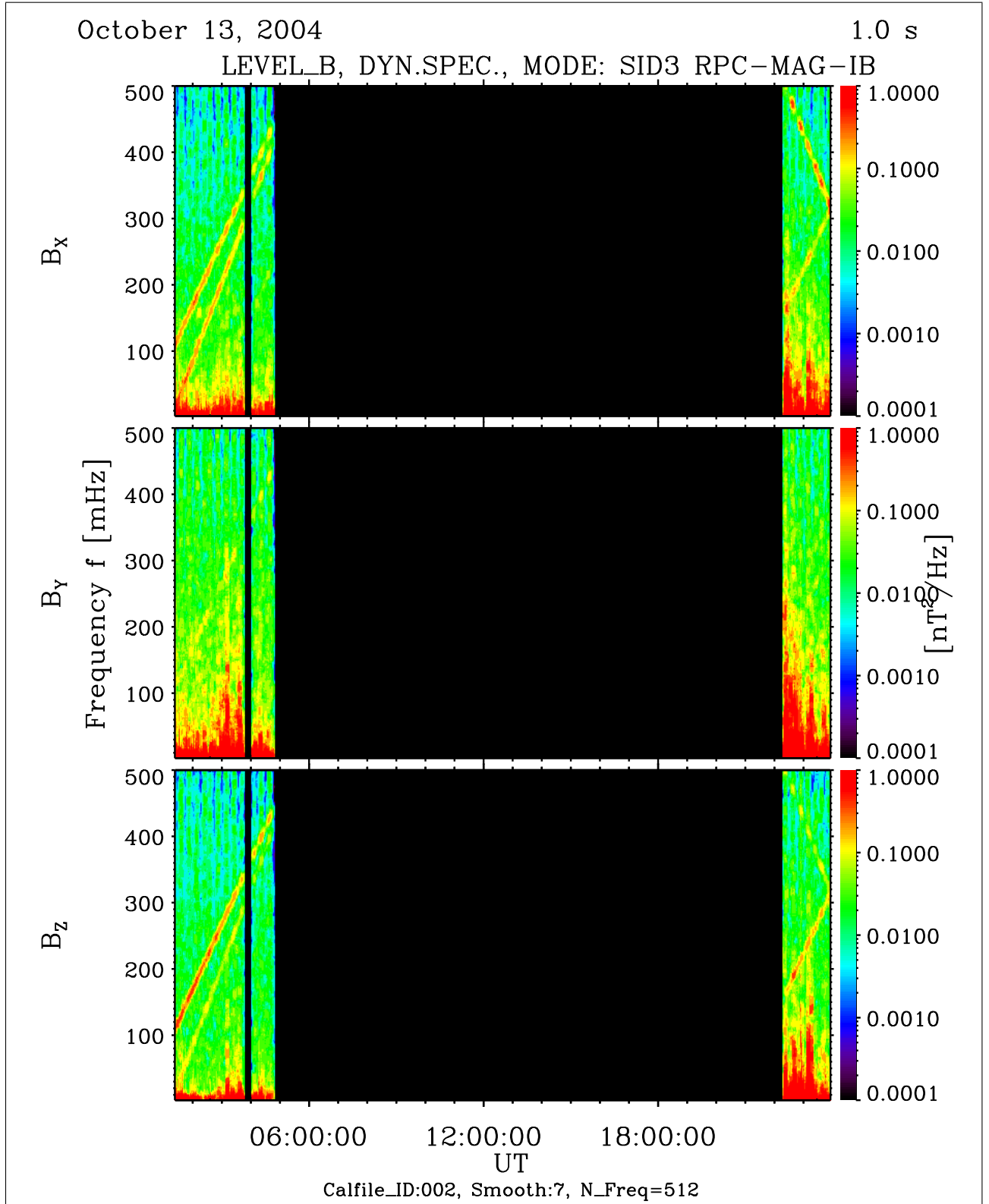


Figure 146: File: RPCMAG041013T0119\_CLB\_IB\_M3\_DS0\_10000\_002

<h1 style="margin: 0;">ROSETTA</h1>	Document: RO-IGEP-TR-0011 Issue: 3 Revision: 1
<b>IGEP</b> Institut für Geophysik u. extraterr. Physik Technische Universität Braunschweig	Date: April 13, 2007 Page: 162

### 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.



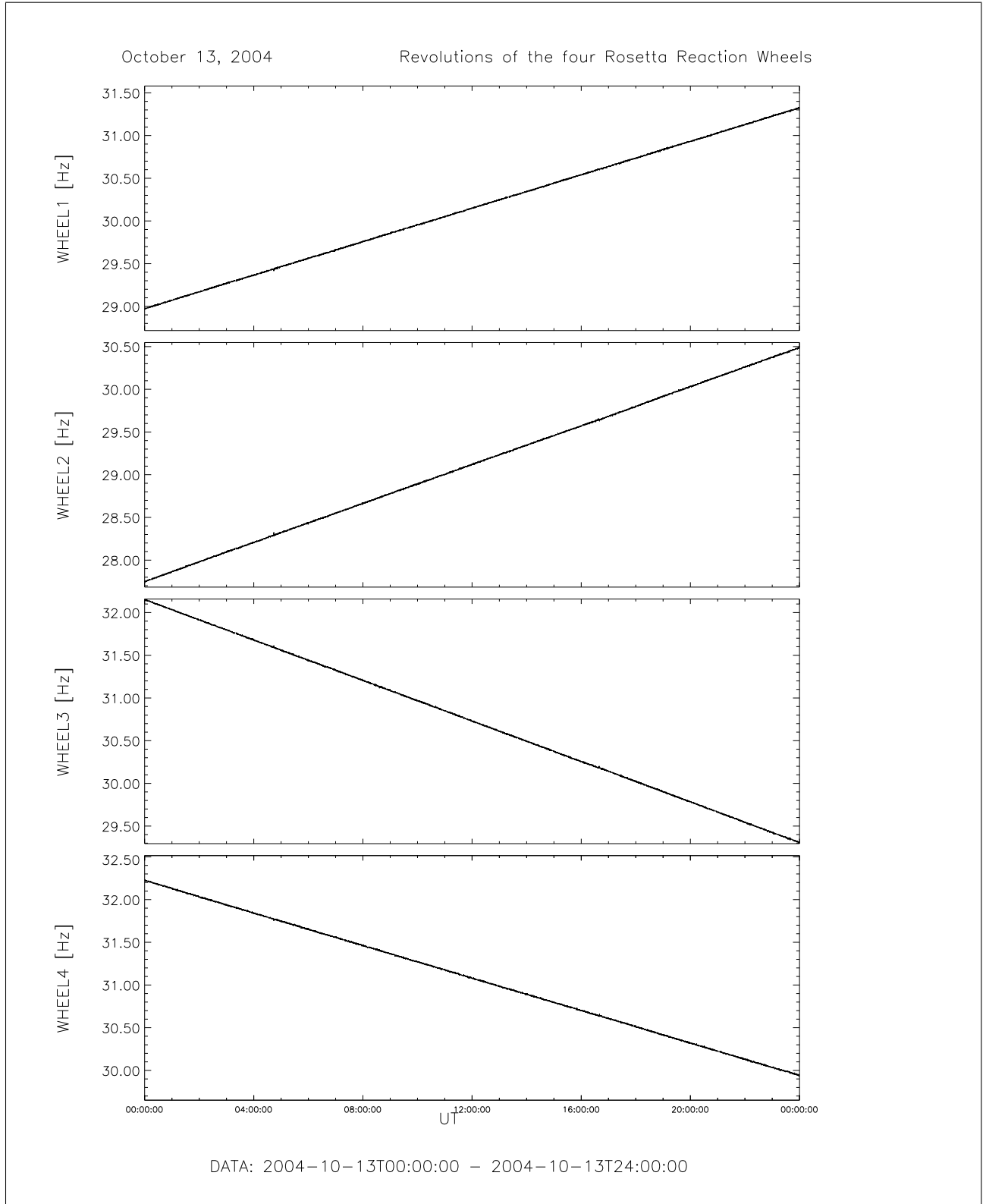


Figure 147: File: wheels\_Hz2004-10-13T00-00

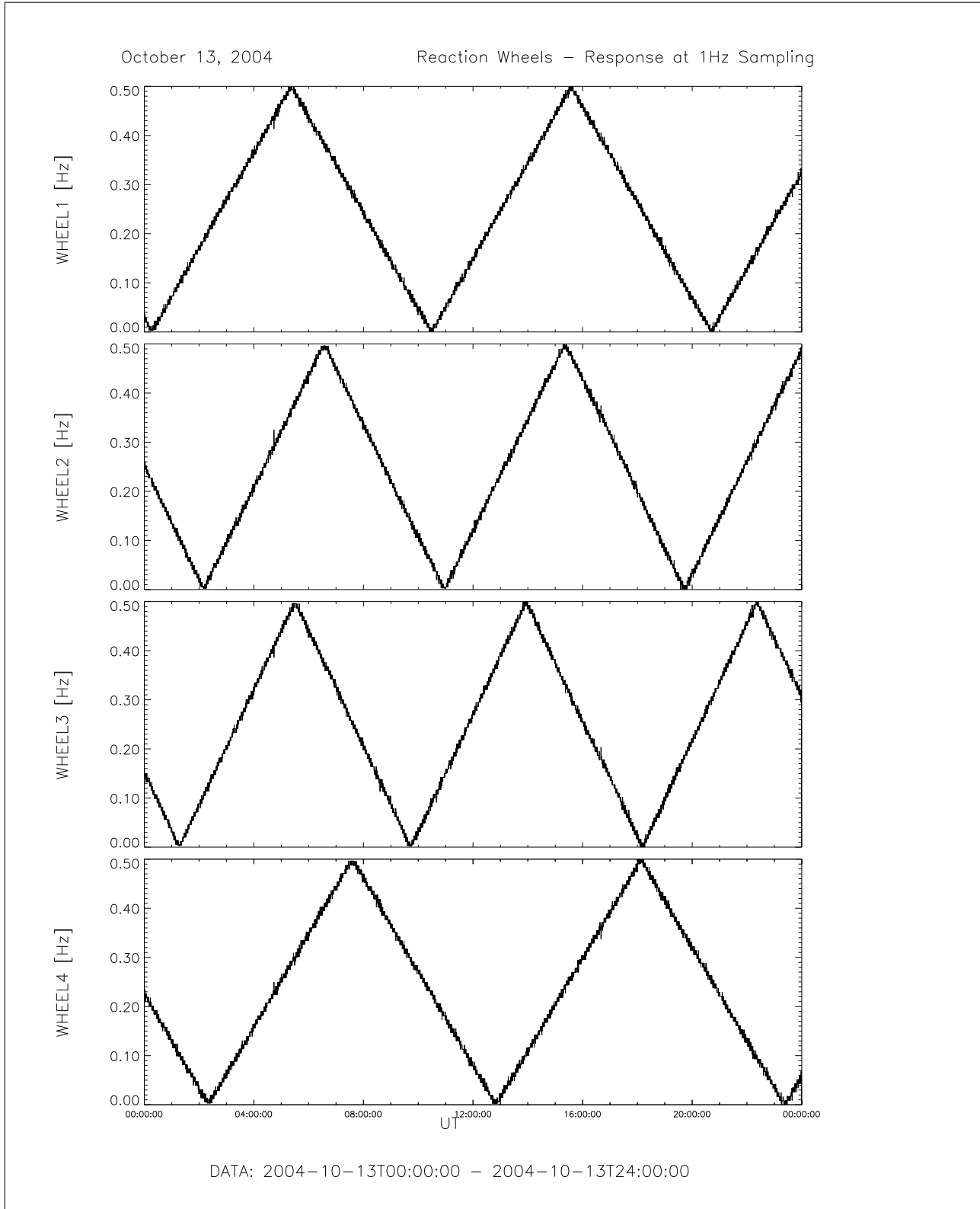


Figure 148: File: wheels\_1Hz\_Sampling2004-10-13T00-00

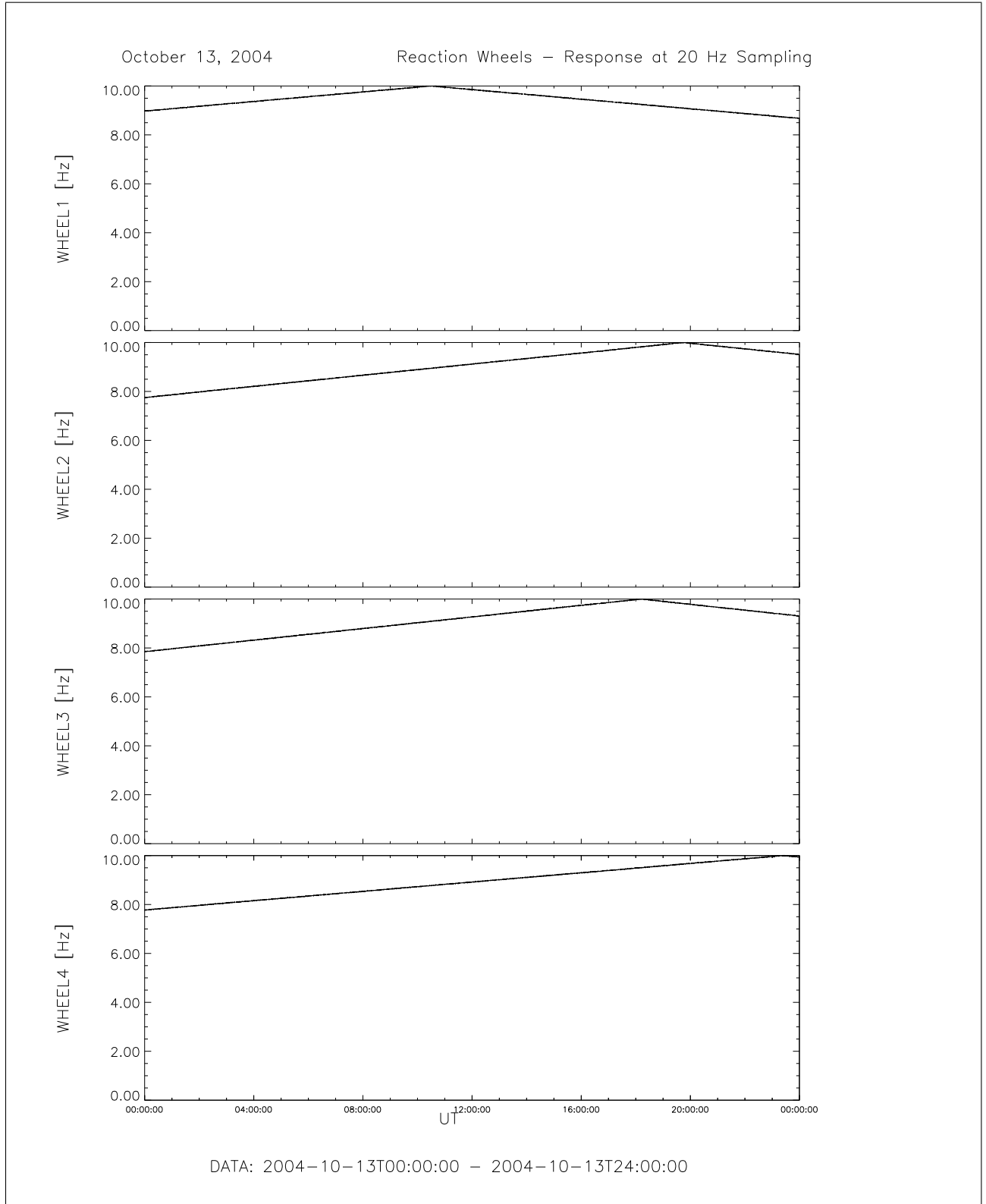


Figure 149: File: wheels\_20Hz\_Sampling2004-10-13T00-00

<h1 style="margin: 0;">R O S E T T A</h1>	Document: RO-IGEP-TR-0011 Issue: 3 Revision: 1 Date: April 13, 2007 Page: 166
<h2 style="margin: 0;">IGEP</h2>	Institut für Geophysik u. extraterr. Physik Technische Universität Braunschweig

## 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

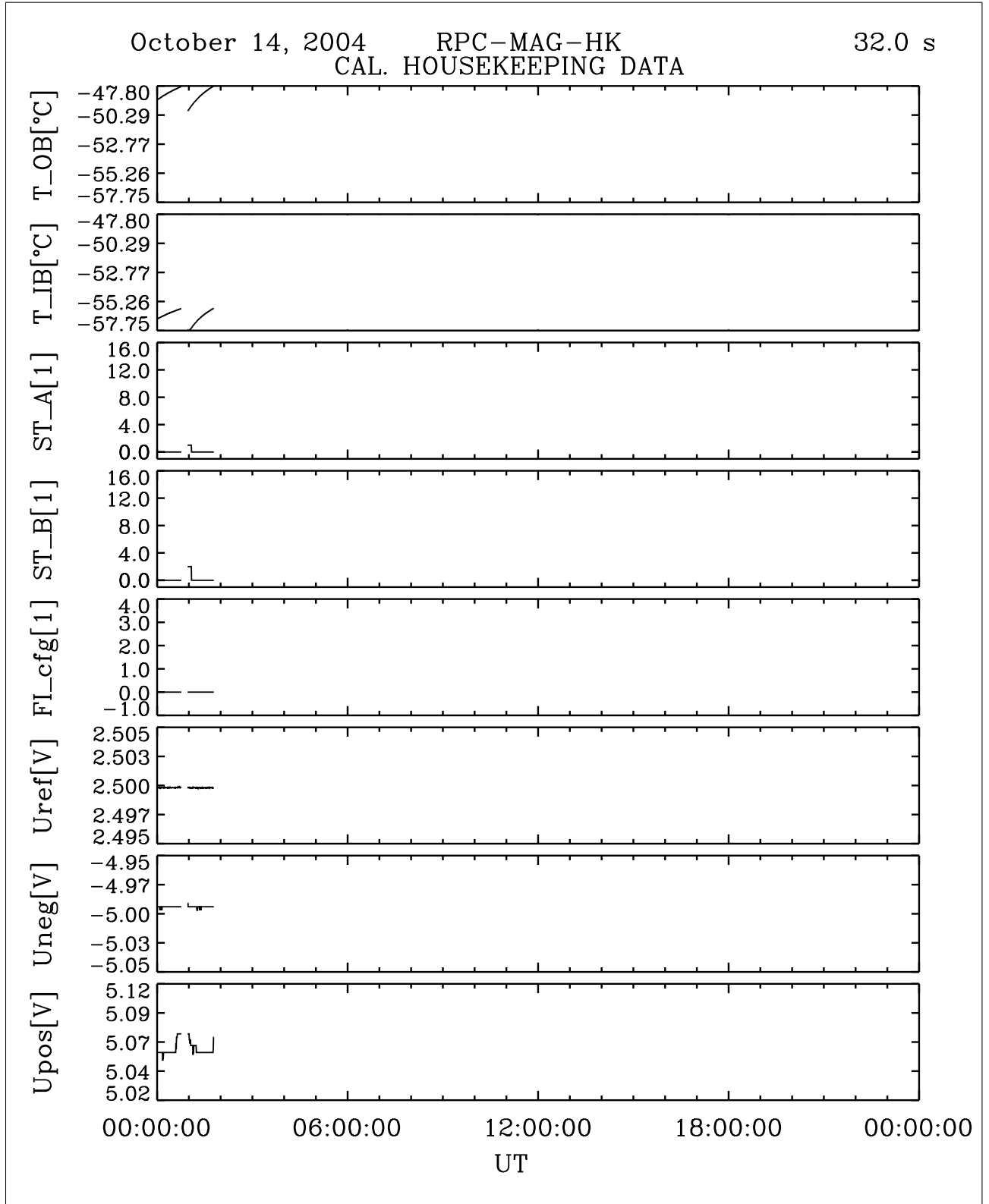


Figure 150: File: RPCMAG041014T0000\_CLA\_HK\_P0000\_2400

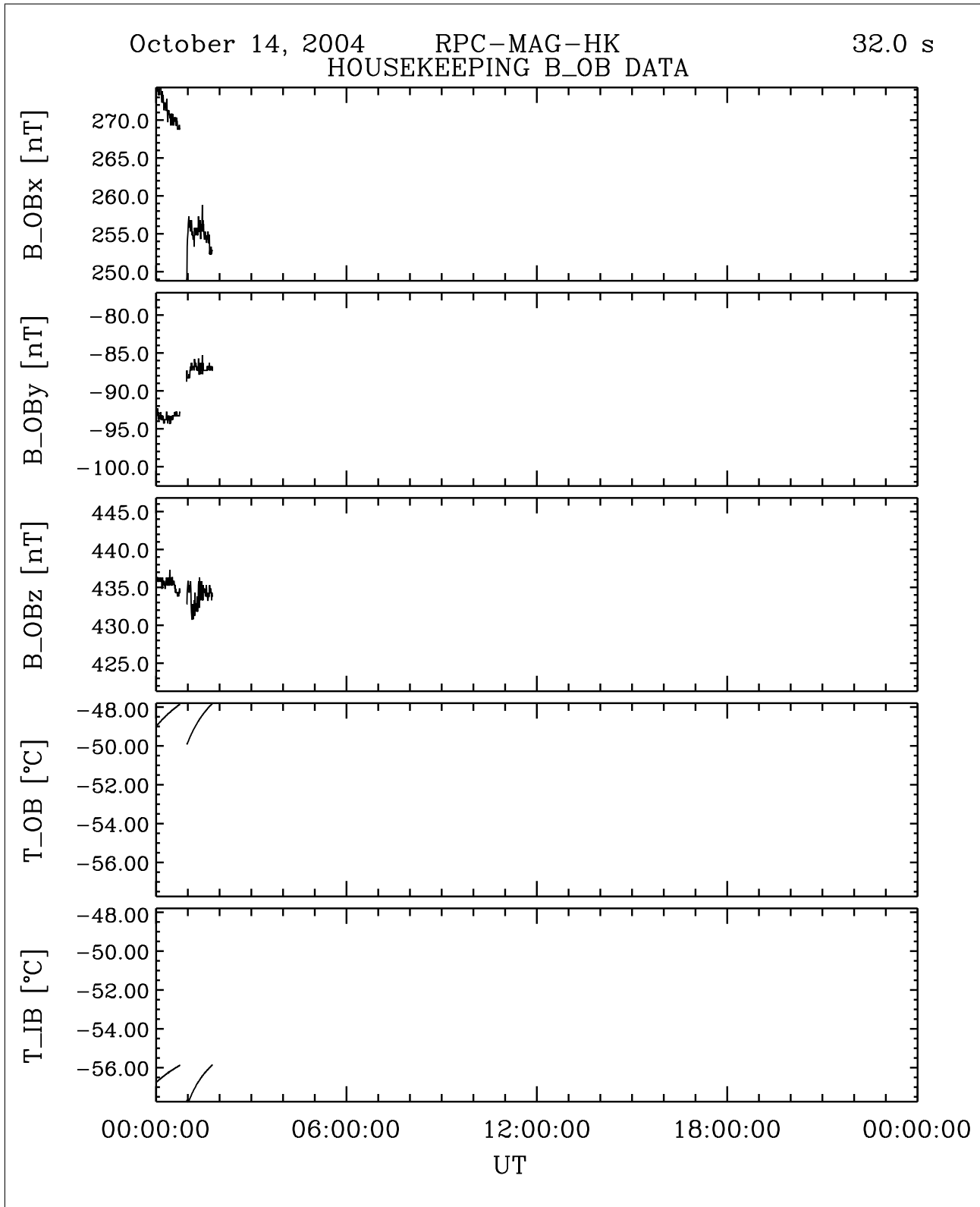


Figure 151: File: RPCMAG041014T0000\_CLA\_HK\_B\_P0000\_2400

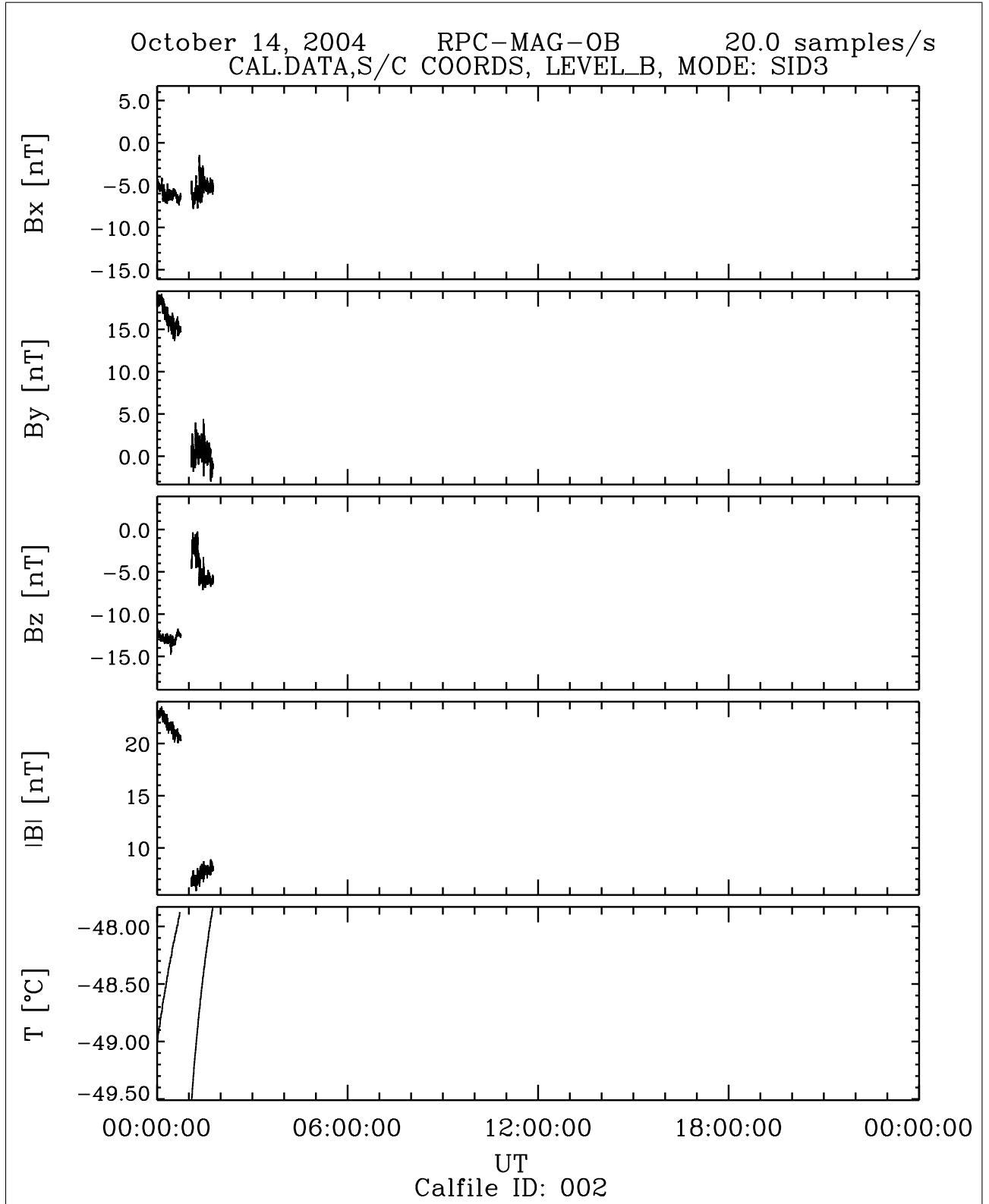


Figure 152: File: RPCMAG041014T0000\_CLB\_OB\_M3\_T0000\_2400\_002

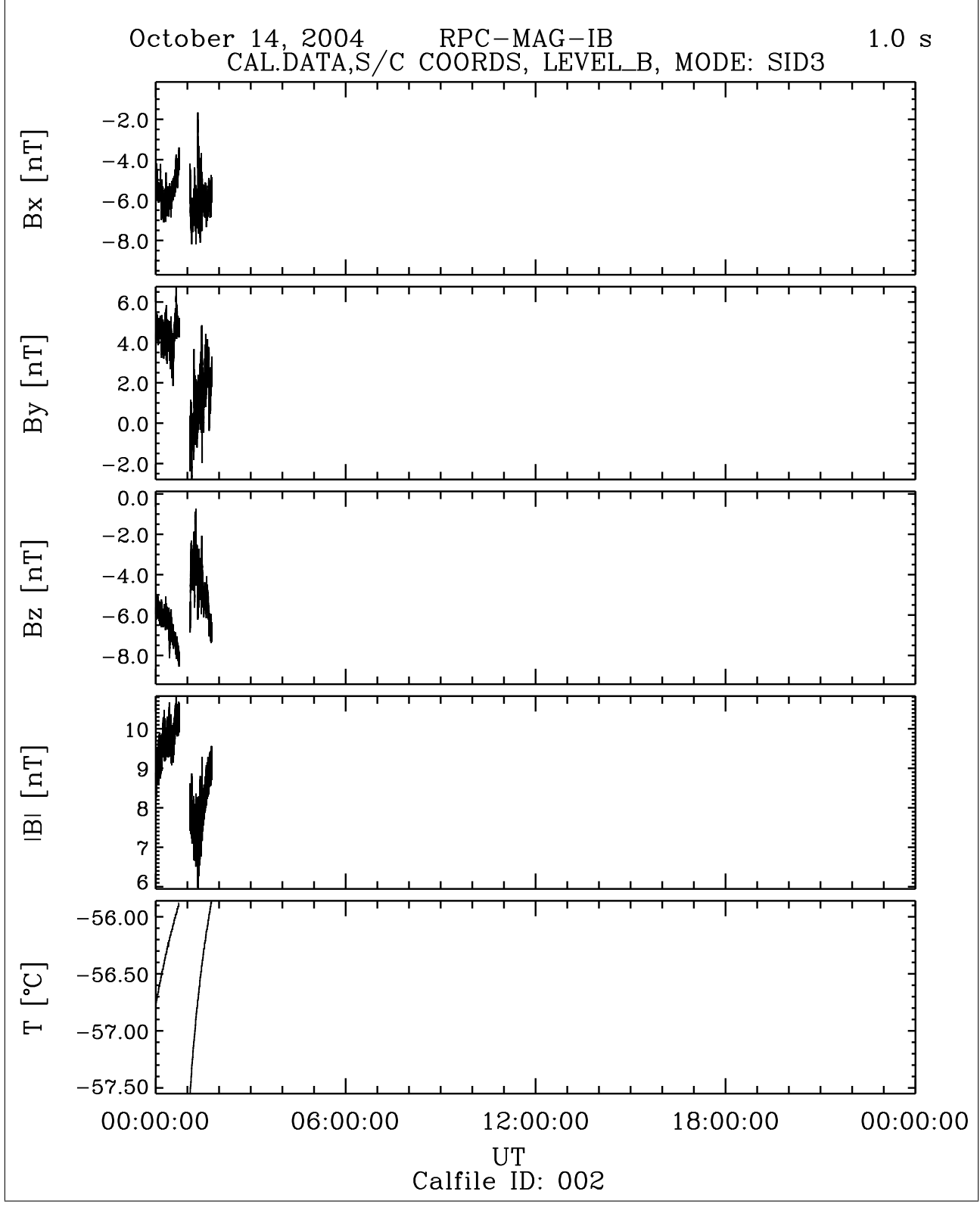


Figure 153: File: RPCMAG041014T0000\_CLB\_IB\_M3\_T0000\_2400\_002



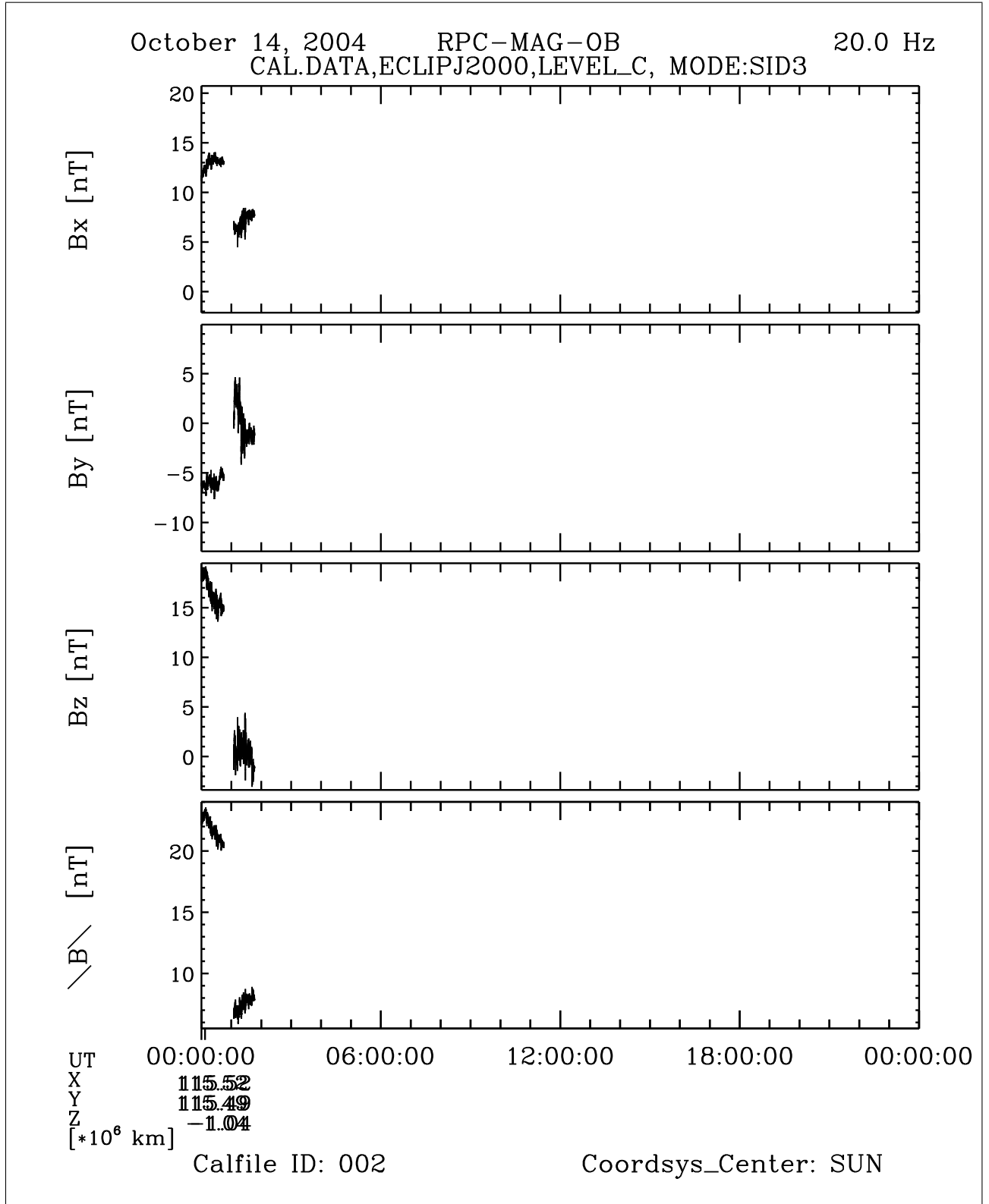


Figure 154: File: RPCMAG041014T0000\_CLC\_OB\_M3\_T0000\_2400\_002

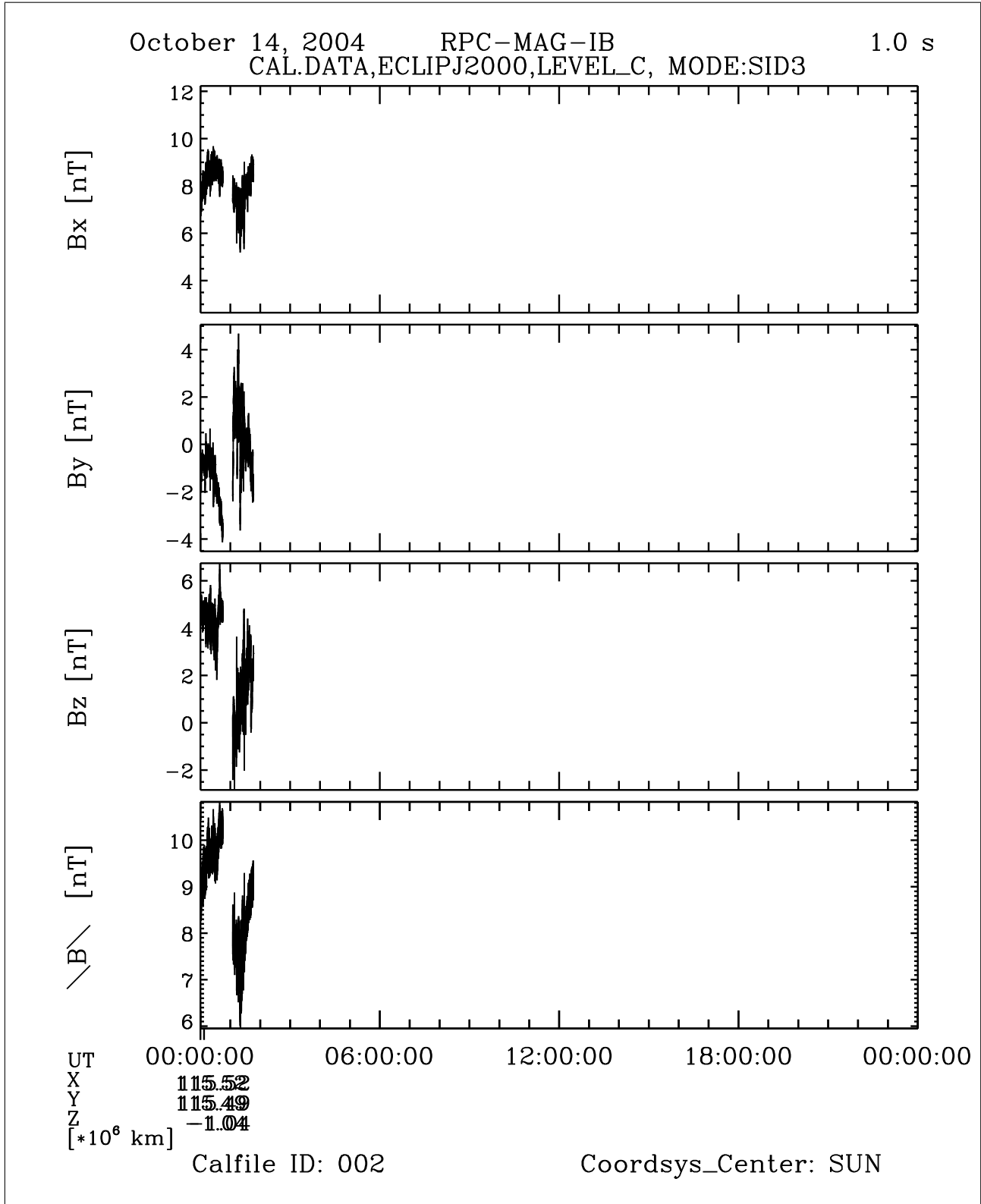


Figure 155: File: RPCMAG041014T0000\_CLC\_IB\_M3-T0000\_2400\_002

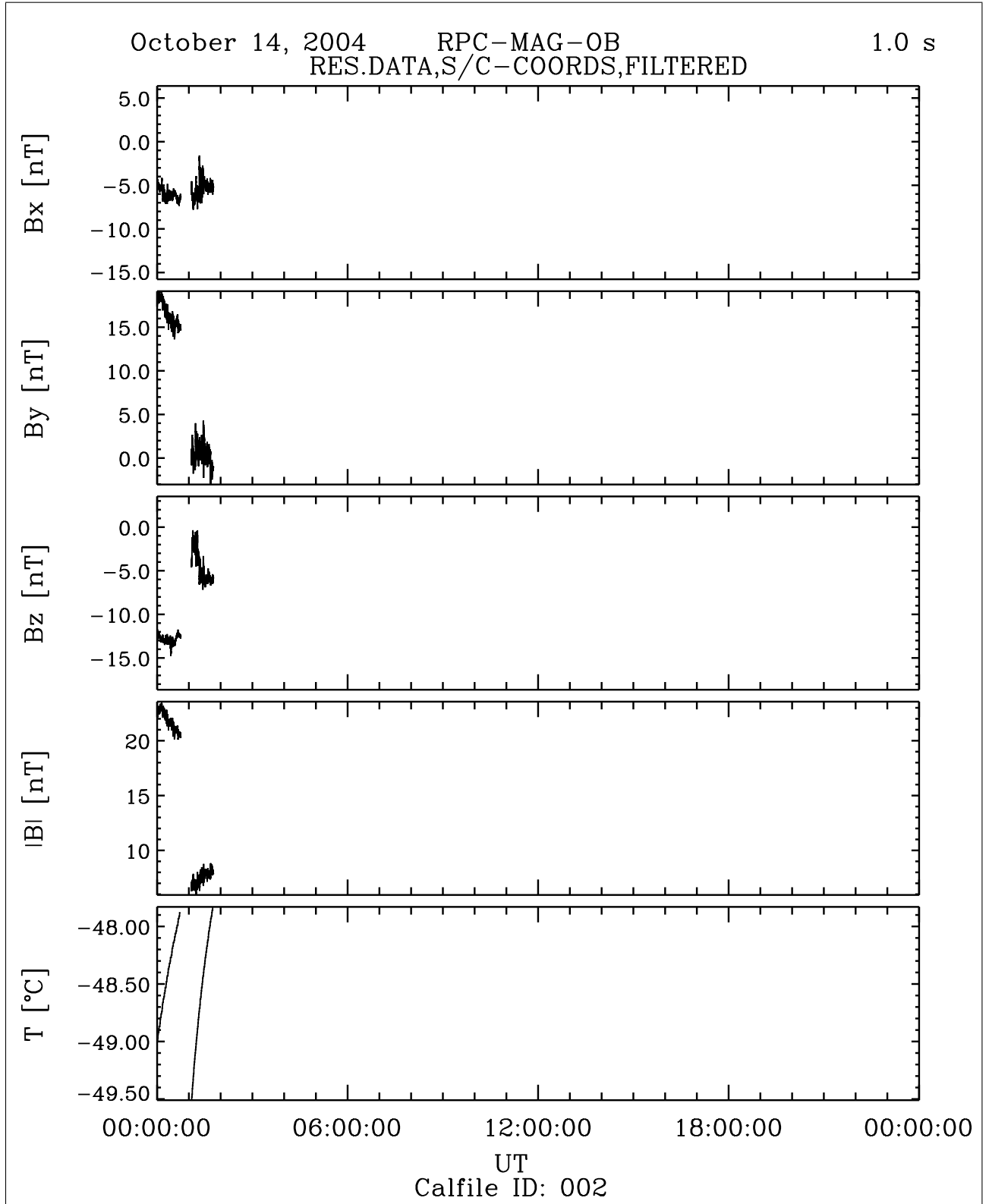


Figure 156: File: RPCMAG041014\_CLF\_OB\_A1\_T0000\_2400\_002

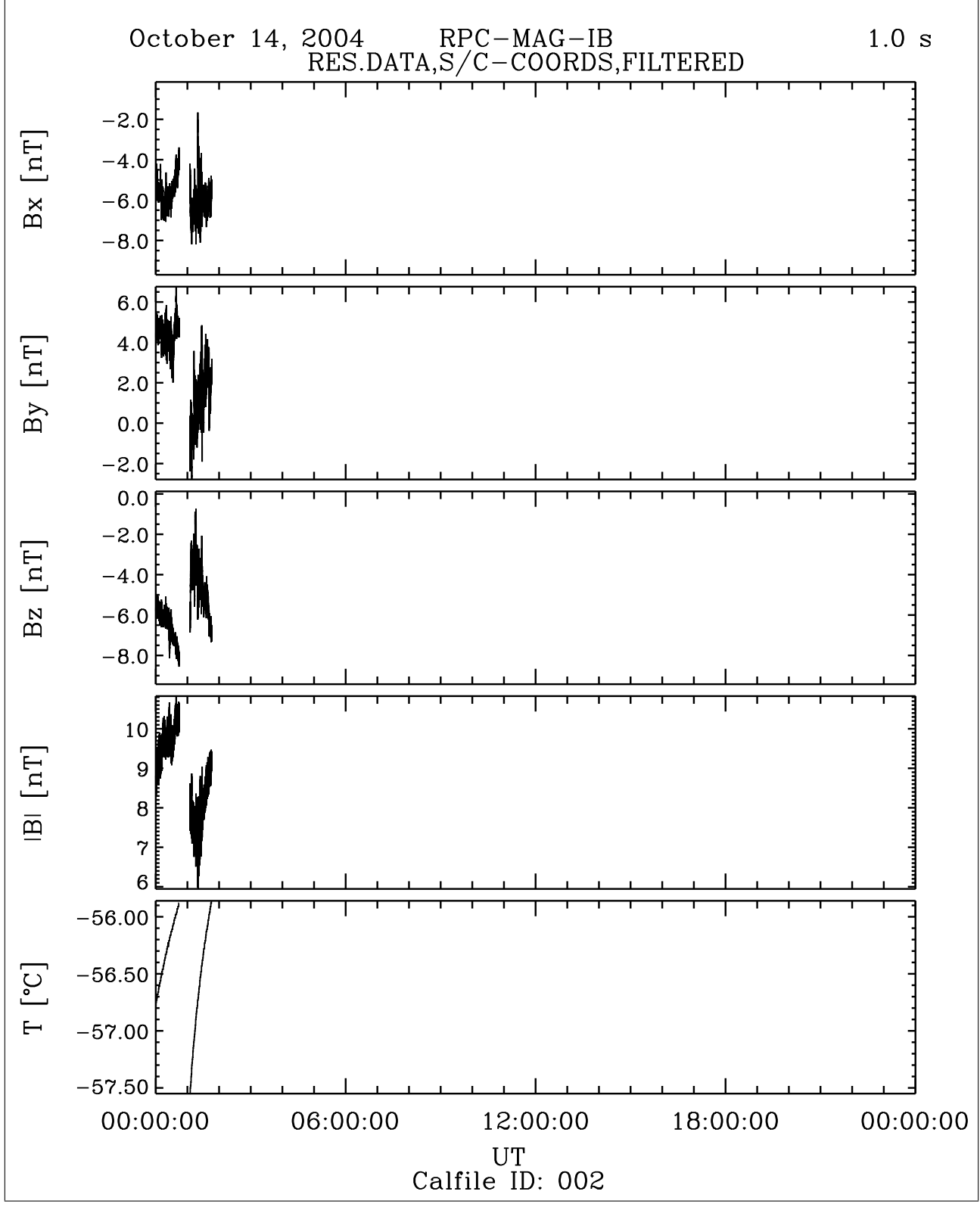


Figure 157: File: RPCMAG041014\_CLF\_IB\_A1.T0000\_2400\_002

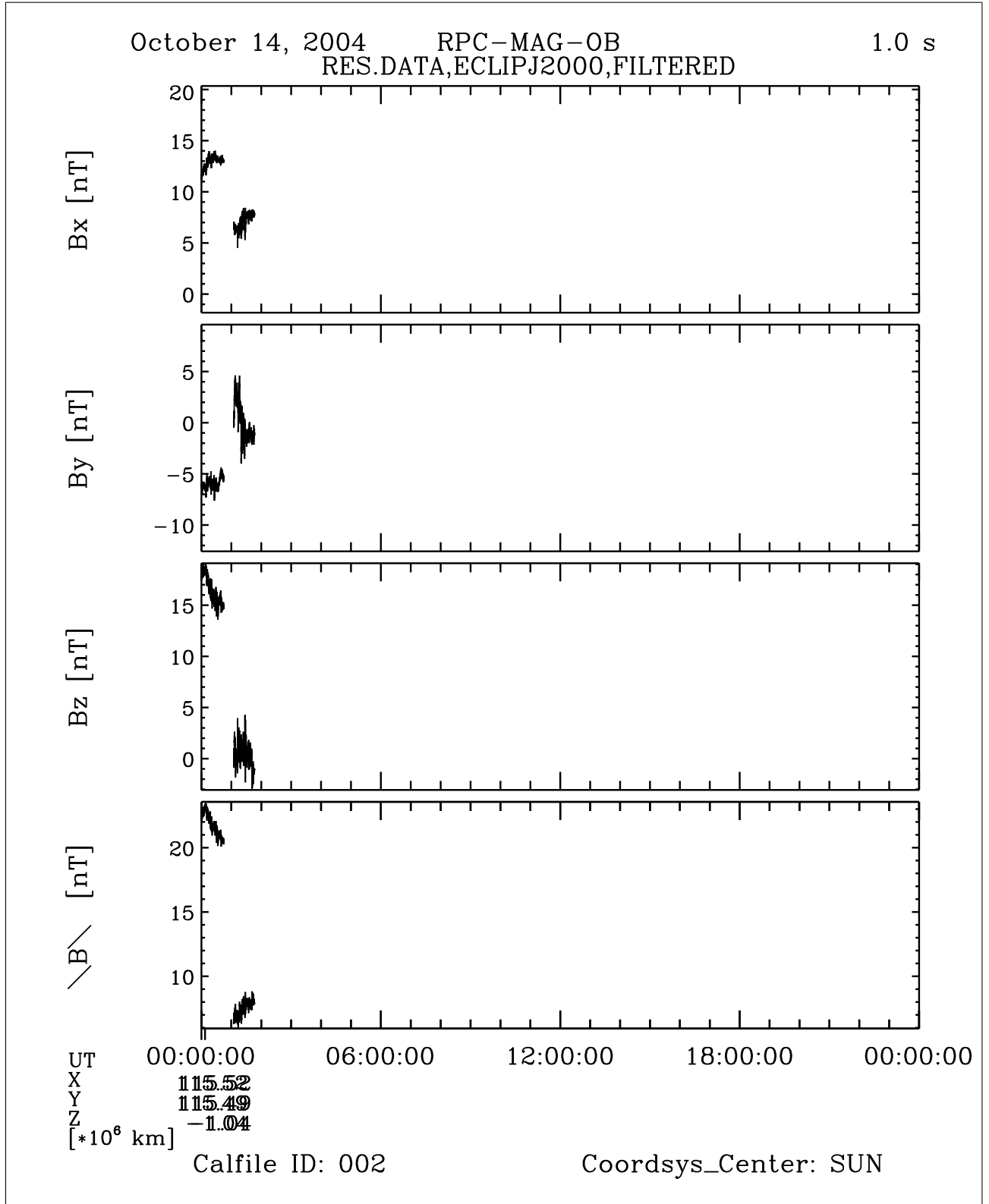


Figure 158: File: RPCMAG041014\_CLG\_OB\_A1\_T0000\_2400\_002

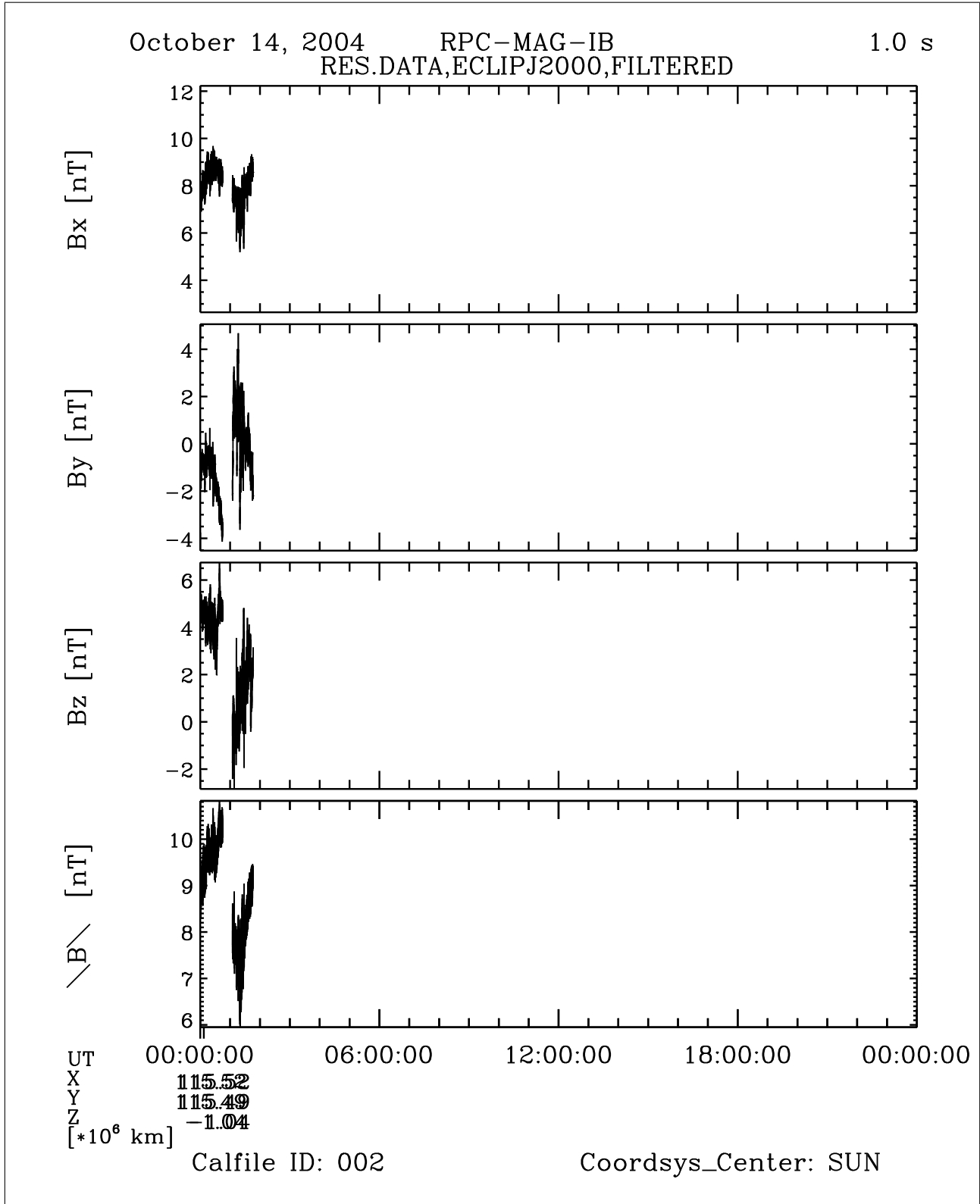


Figure 159: File: RPCMAG041014\_CLG\_IB\_A1\_T0000\_2400\_002

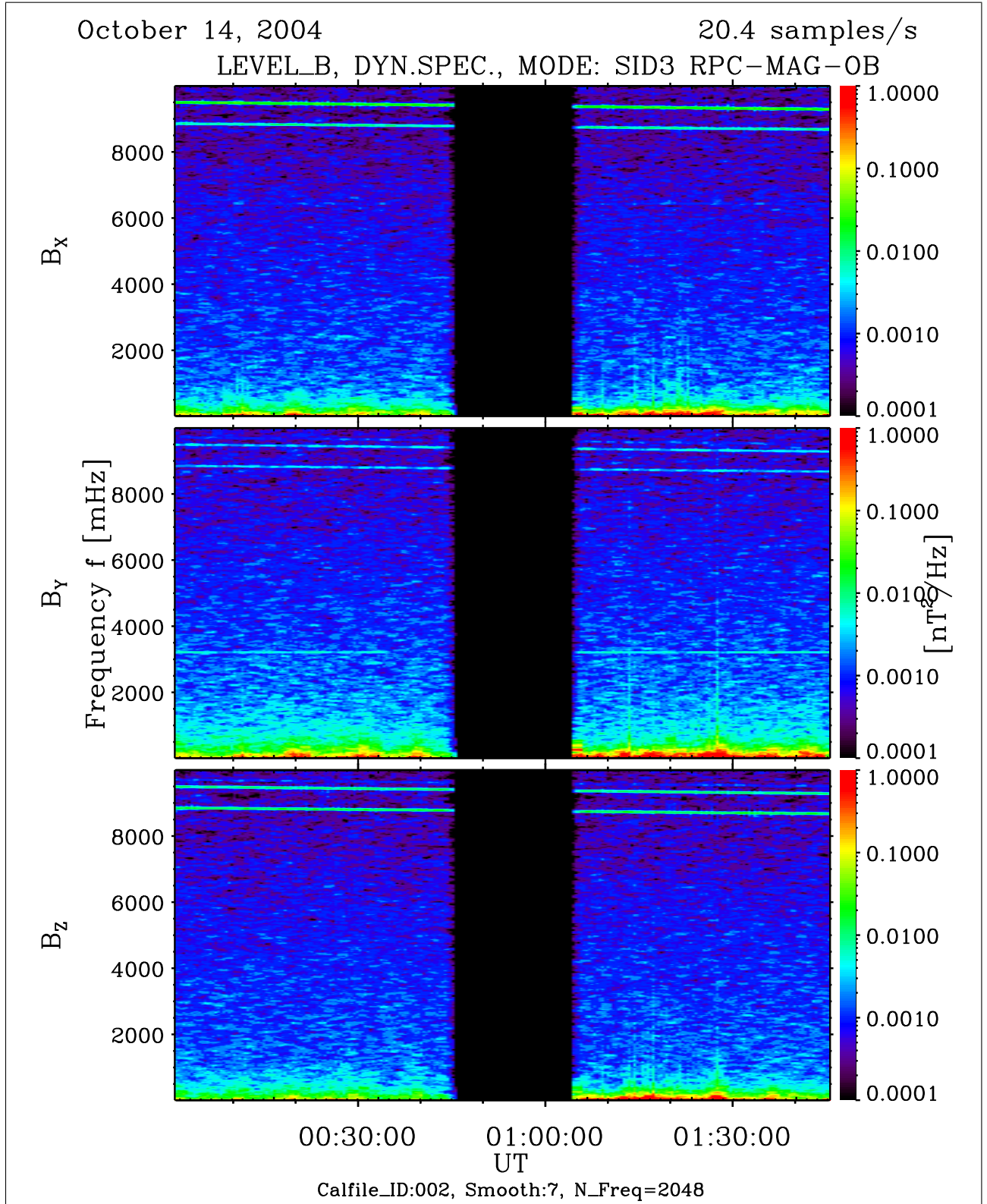


Figure 160: File: RPCMAG041014T0000\_CLB\_OB\_M3\_DS0\_10000\_002

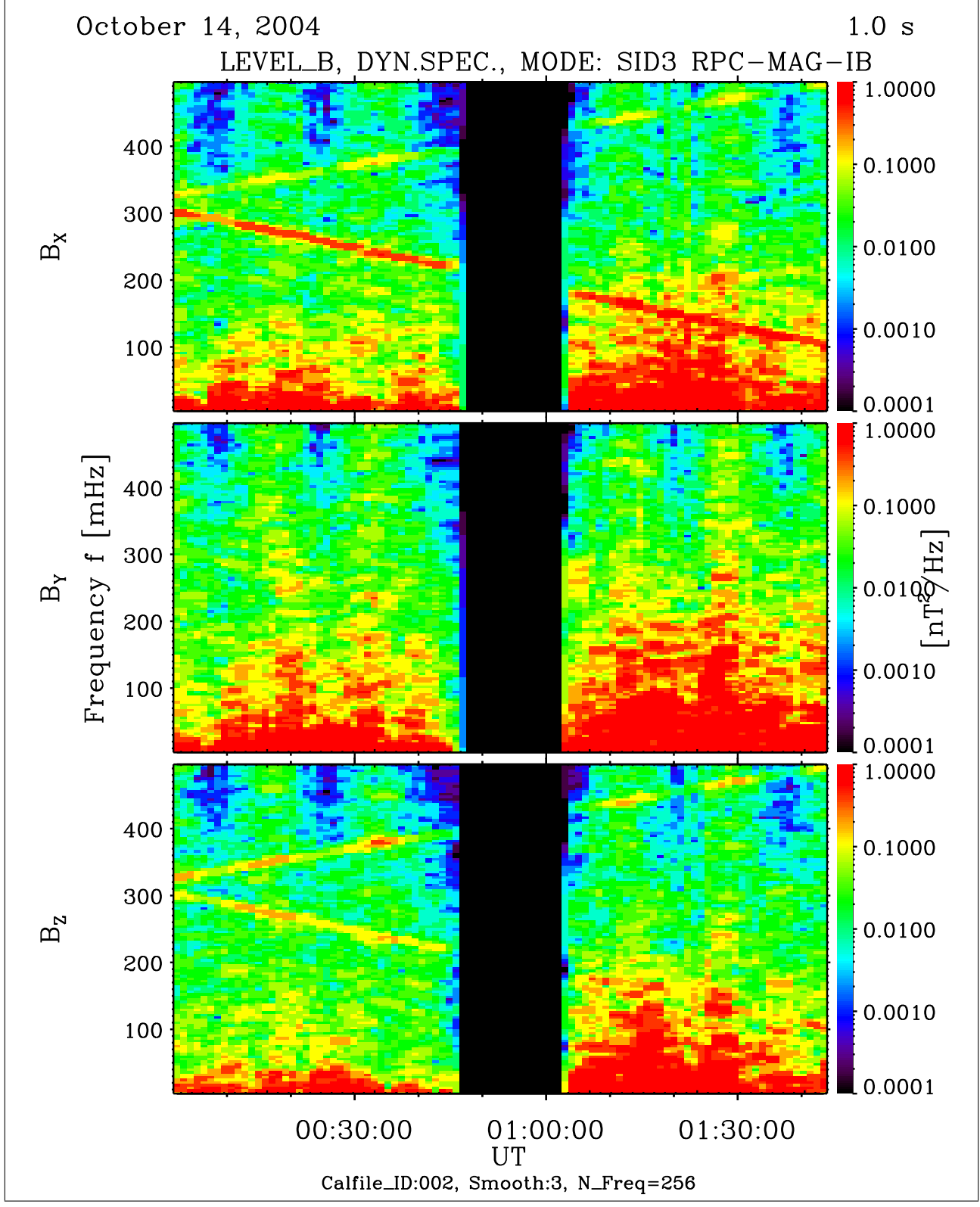


Figure 161: File: RPCMAG041014T0000\_CLB\_IB\_M3\_DS0\_500\_002



R O S E T T A	Document: RO-IGEP-TR-0011 Issue: 3 Revision: 1 Date: April 13, 2007 Page: 179
IGEP Institut für Geophysik u. extraterr. Physik Technische Universität Braunschweig	

### 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:

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- 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.

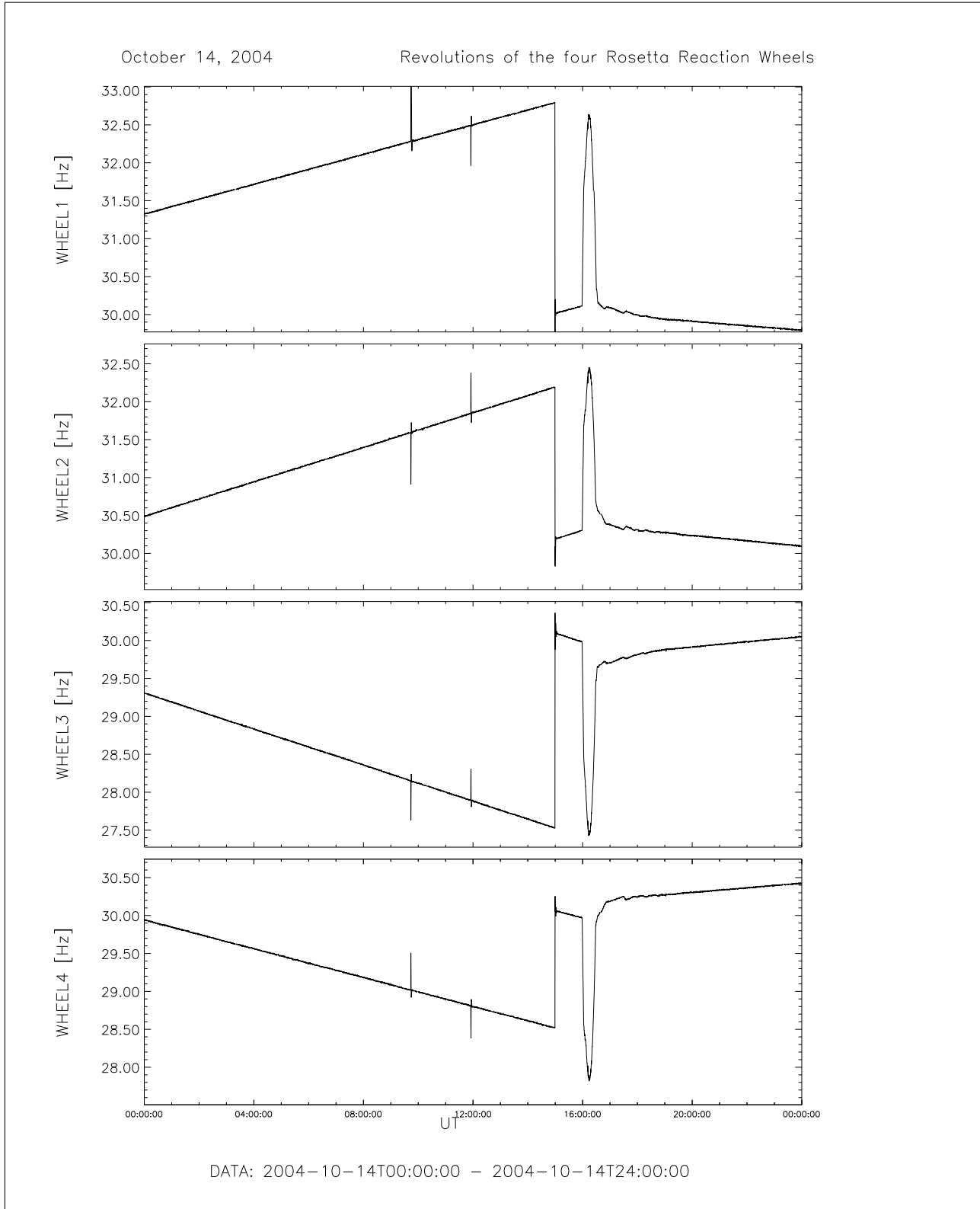


Figure 162: File: wheels\_Hz2004-10-14T00-00

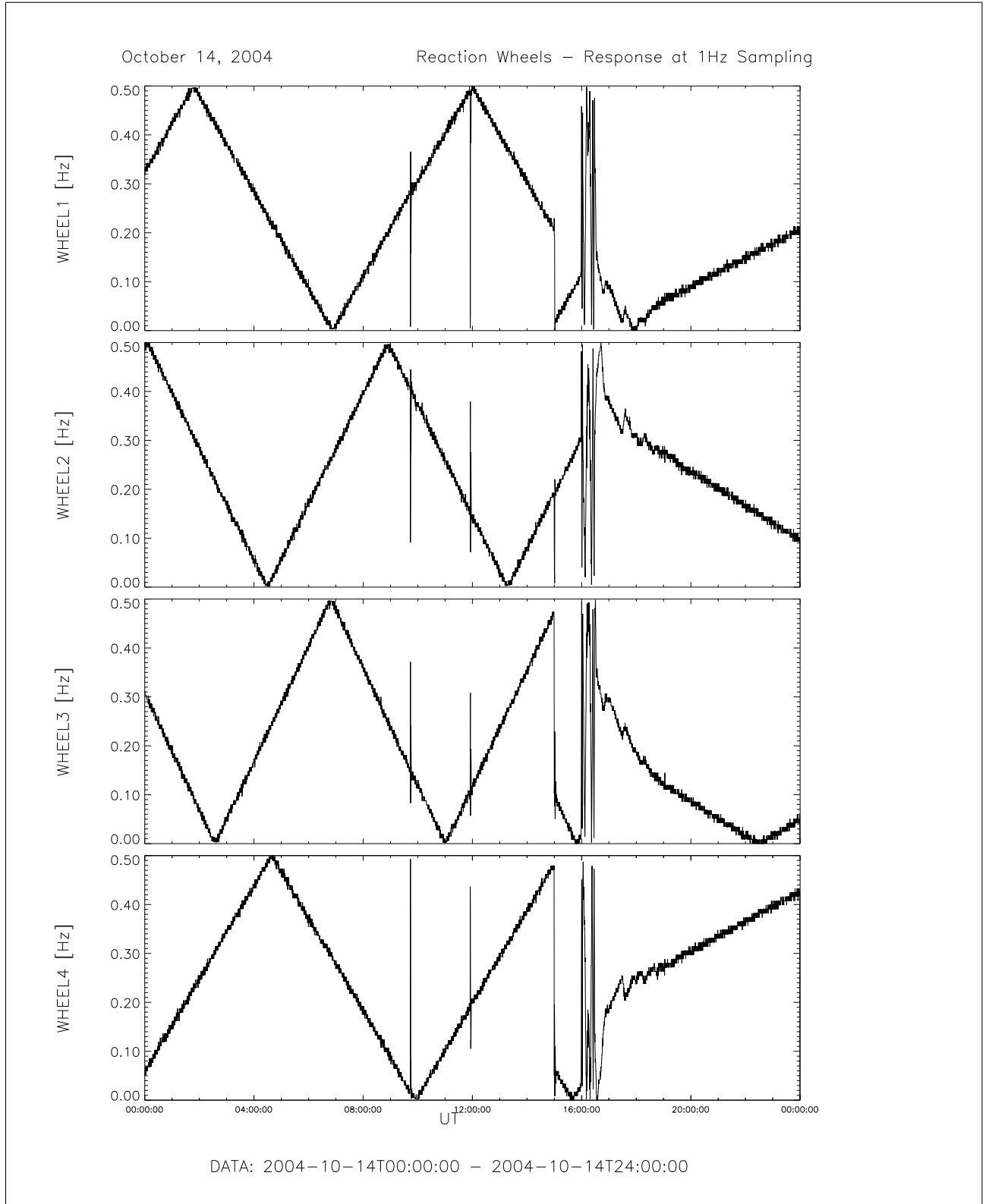


Figure 163: File: wheels\_1Hz\_Sampling2004-10-14T00-00

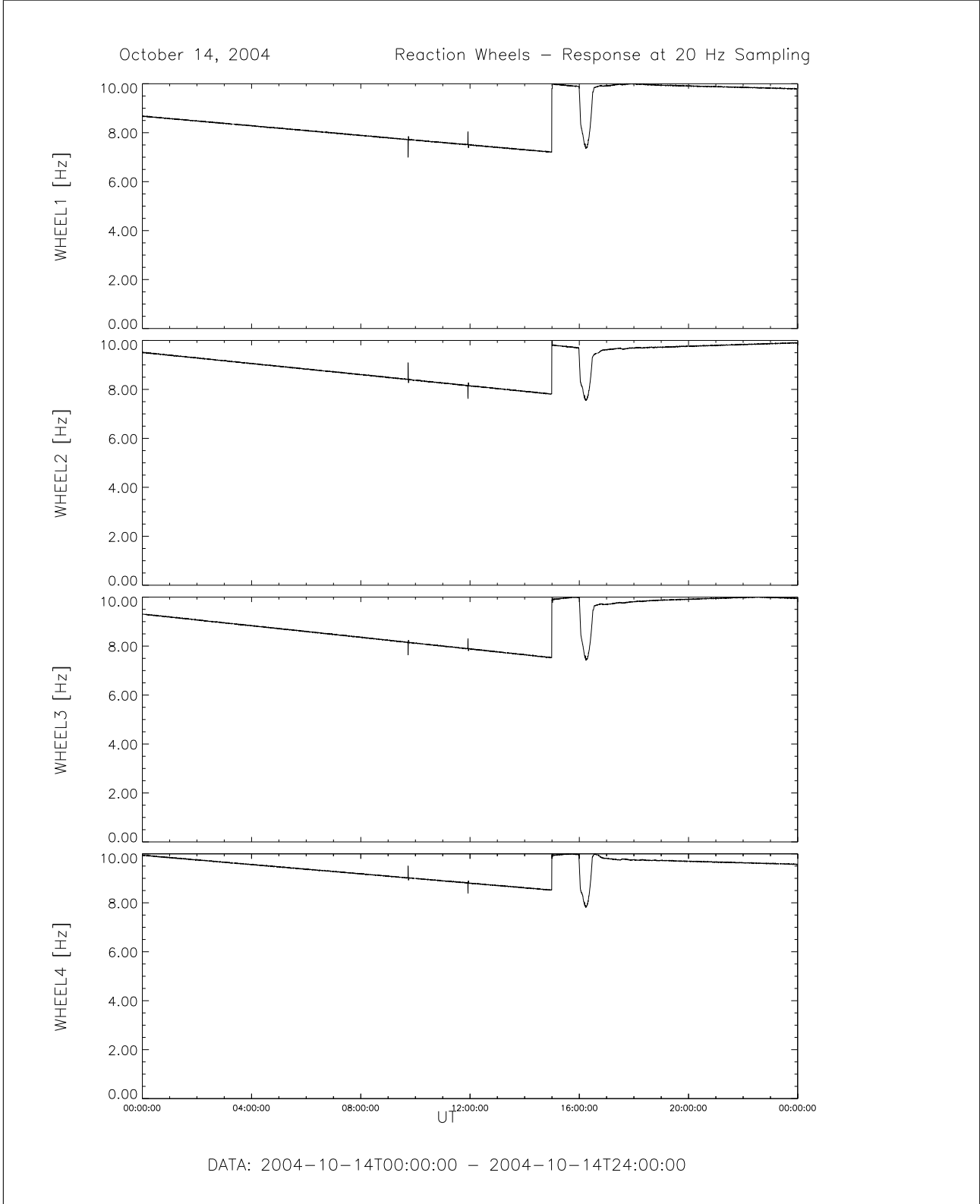


Figure 164: File: wheels\_20Hz\_Sampling2004-10-14T00-00