R O S E T T A

FLIGHT REPORTS
of RPC–MAG

RO–IGEP–TR–0024

Issue: 2 Revision: 0

January 22, 2010

OVERVIEW OF
AVAILABLE RPCMAG DATA
AND
DATA QUALITY ASSESSMENT

Mission Phases: CR3, EAR2
Time Period: June 2007 - January 2008

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1 Introduction

This document contains information about all available data and its quality for the time period between June, 2007 until January 2008. This covers this Mission Phases CRUISE 3 and EARTH SWING-BY 2. Data are only available for the Earth Swing-by 2 phase, as the instrument was off during Cruise Phase 3. The following campaigns have been executed during the covered time interval:

- PC6: Payload Checkout No.6 — September 2007
- ESB2: Earth Swingby No.2 — November 2007
- PC7: Payload Checkout No.7 — January 2008

For every year, month and days where measurement data are available overview plots have been created. The data availability plots show all data calibration levels being available. For RESAMPLED data the average interval is listed as well. An overview table of available data completes the data overview.

Additionally for each measurement day two plots of calibrated LEVEL_F data (s/c coordinates) are available. These plots show

- the OB and IB data and
- the differences of OB-IB

In these plots the phases where the sensors are not in thermal equilibrium have been marked as red areas. The assessment indicator I of these "BAD INTERVALS" has been derived from the first derivative of the difference of the sensor temperatures

$$I = \frac{\partial(T_{\mathrm{OB}} - T_{\mathrm{IB}})}{\partial dt}$$

Areas are marked red if I exceeds a certain level.

The science modes of the data are distinguished by different colors.

This document shall give a quick overview of all data available.

2 2007

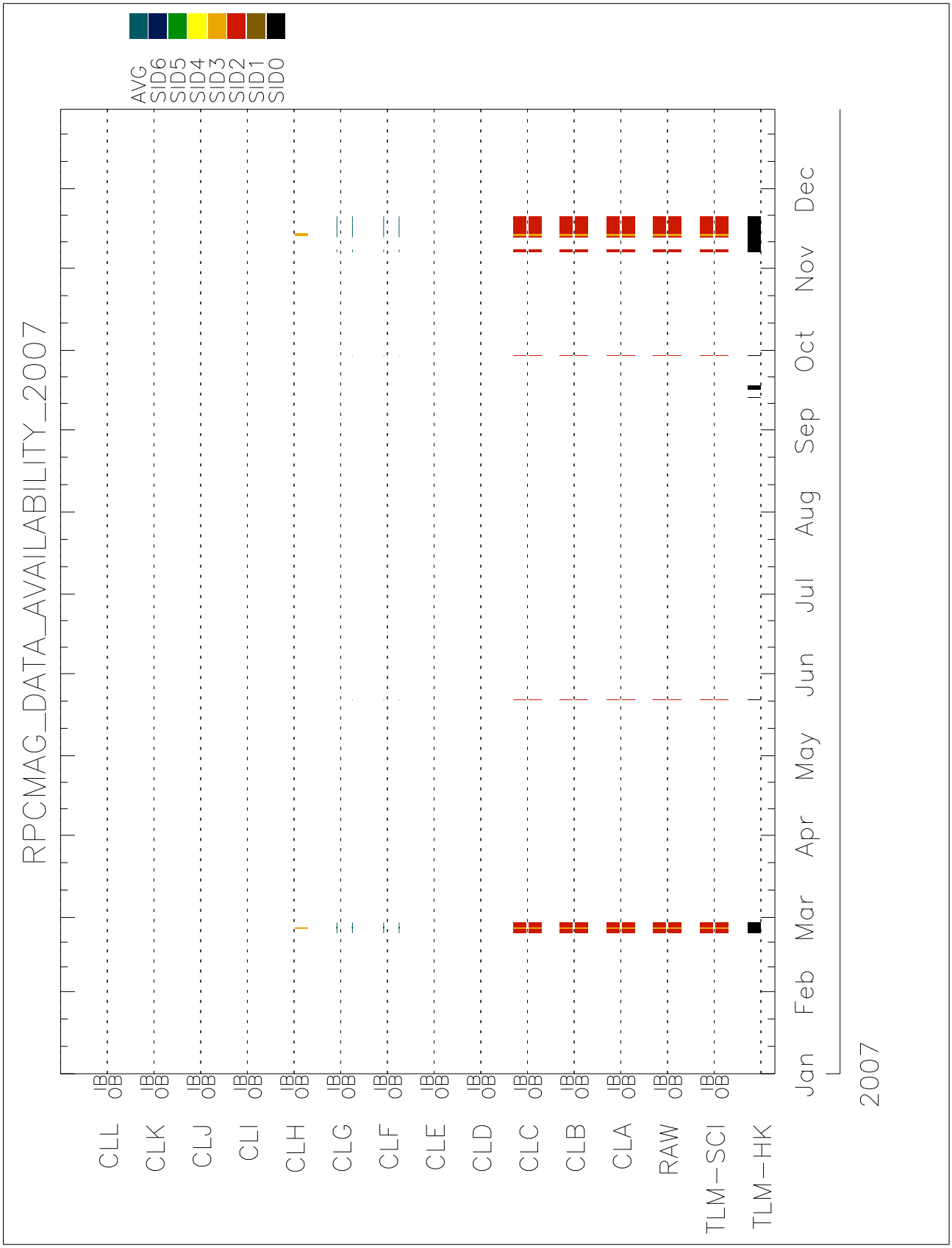


Figure 1: Overview 2007

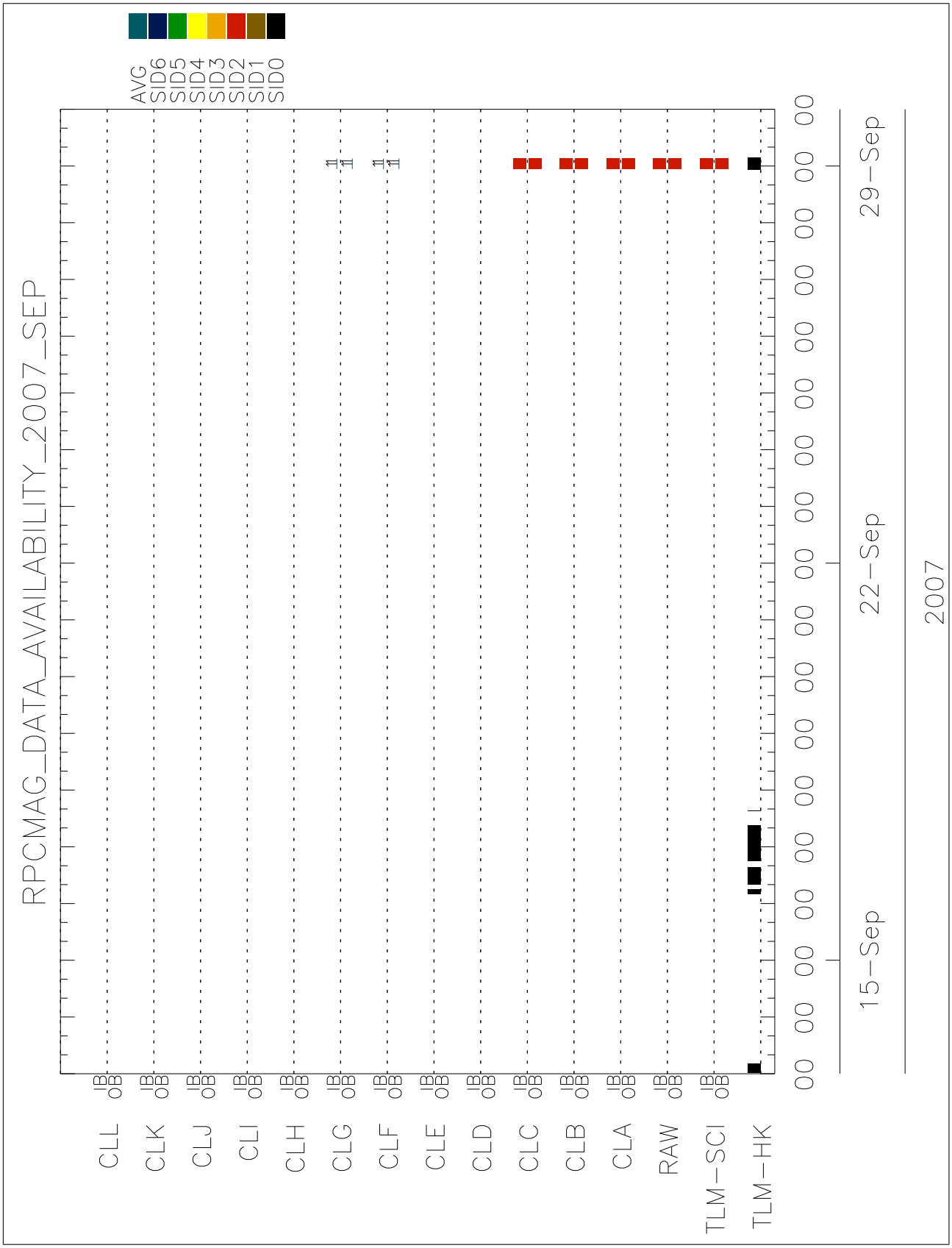
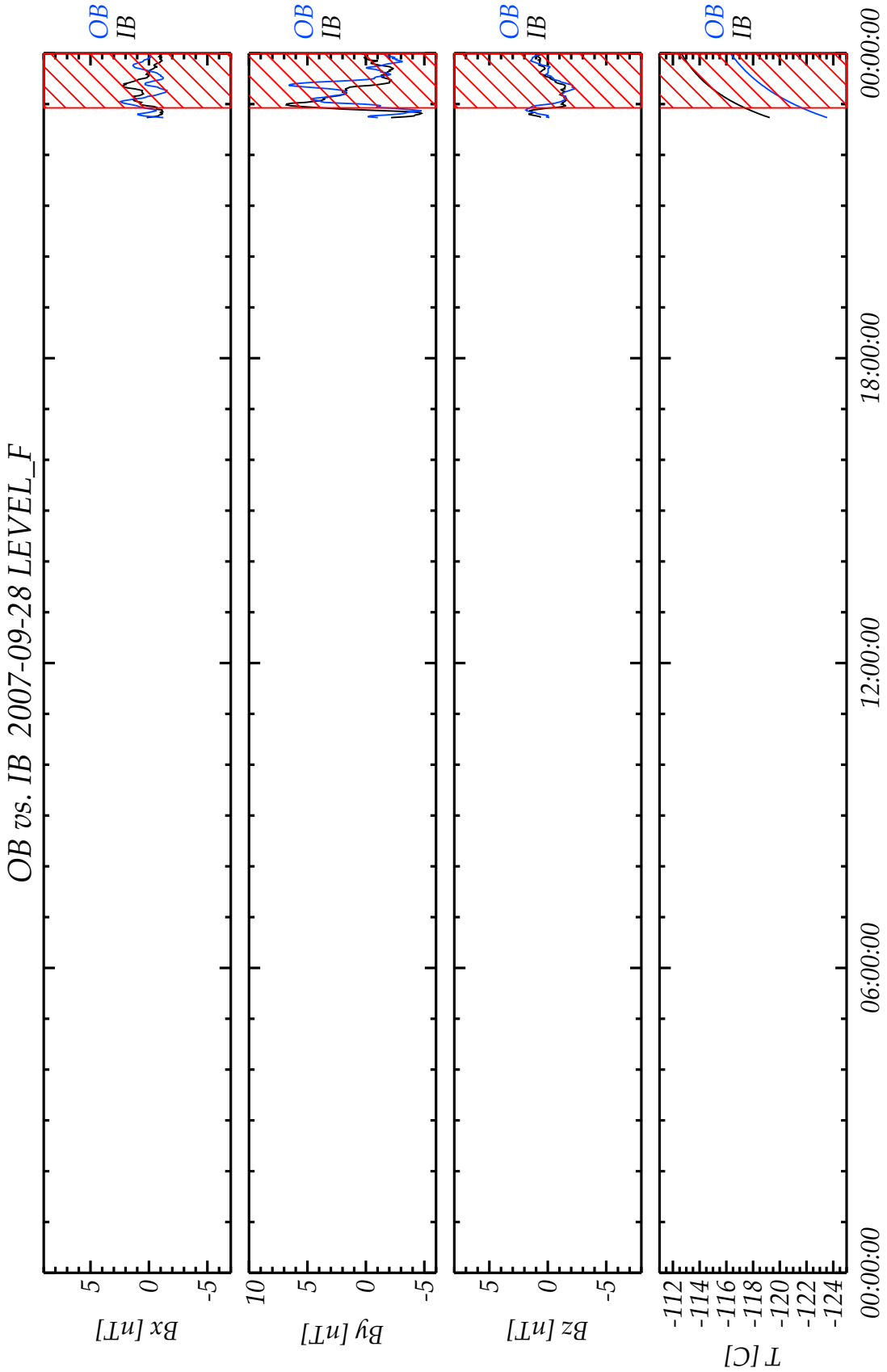


Figure 2: Overview September 2007


OB vs. IB 2007-09-28 LEVEL_F
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IB
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By [nT]
Bz [nT]
T [C]
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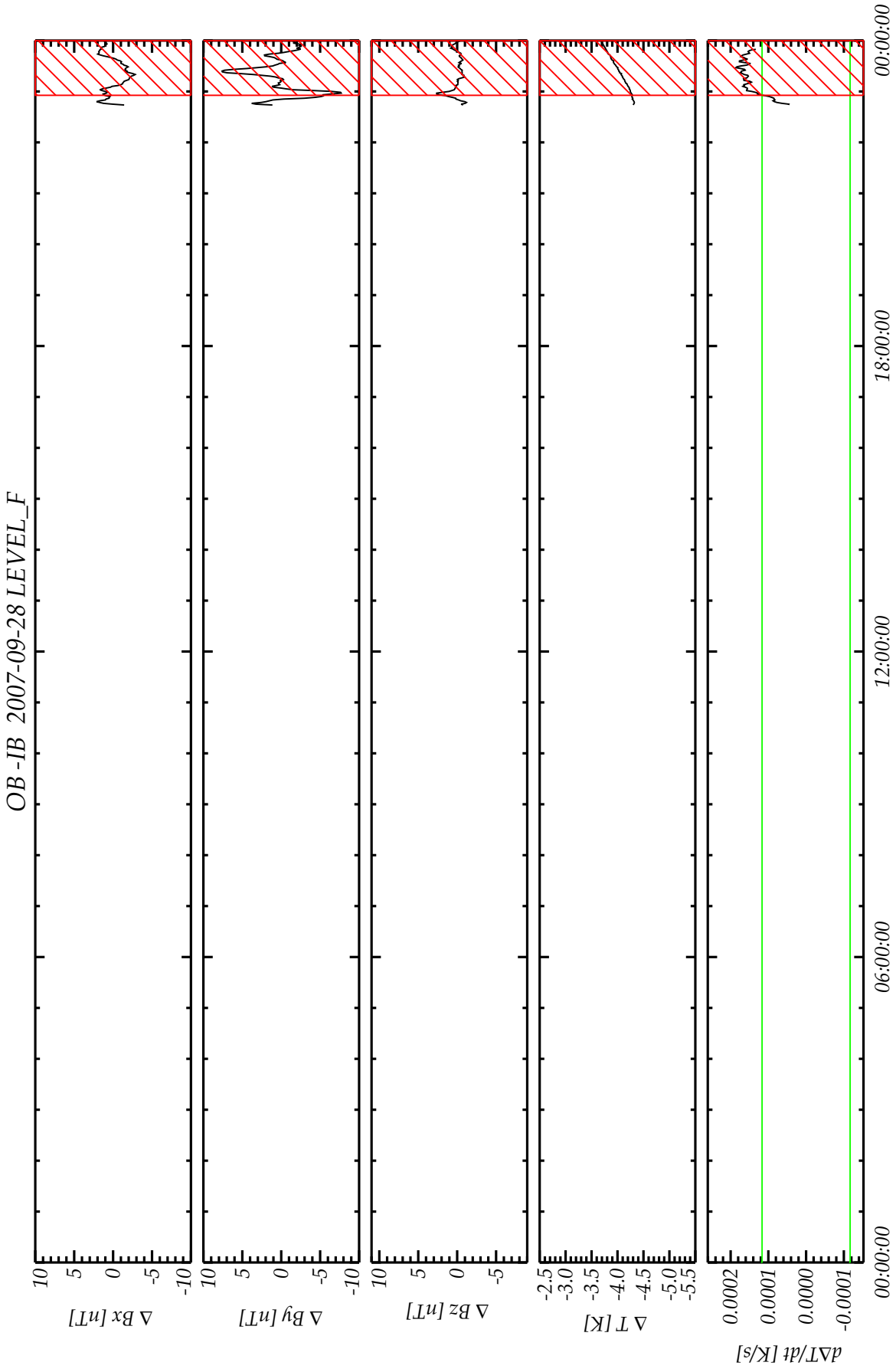
00:00:00


OB -IB 2007-09-28 LEVEL_F
Δ Bx [nT]
Δ By [nT]
Δ Bz [nT]
Δ T [K]
dΔT/dt [K/s]
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06:00:00
12:00:00
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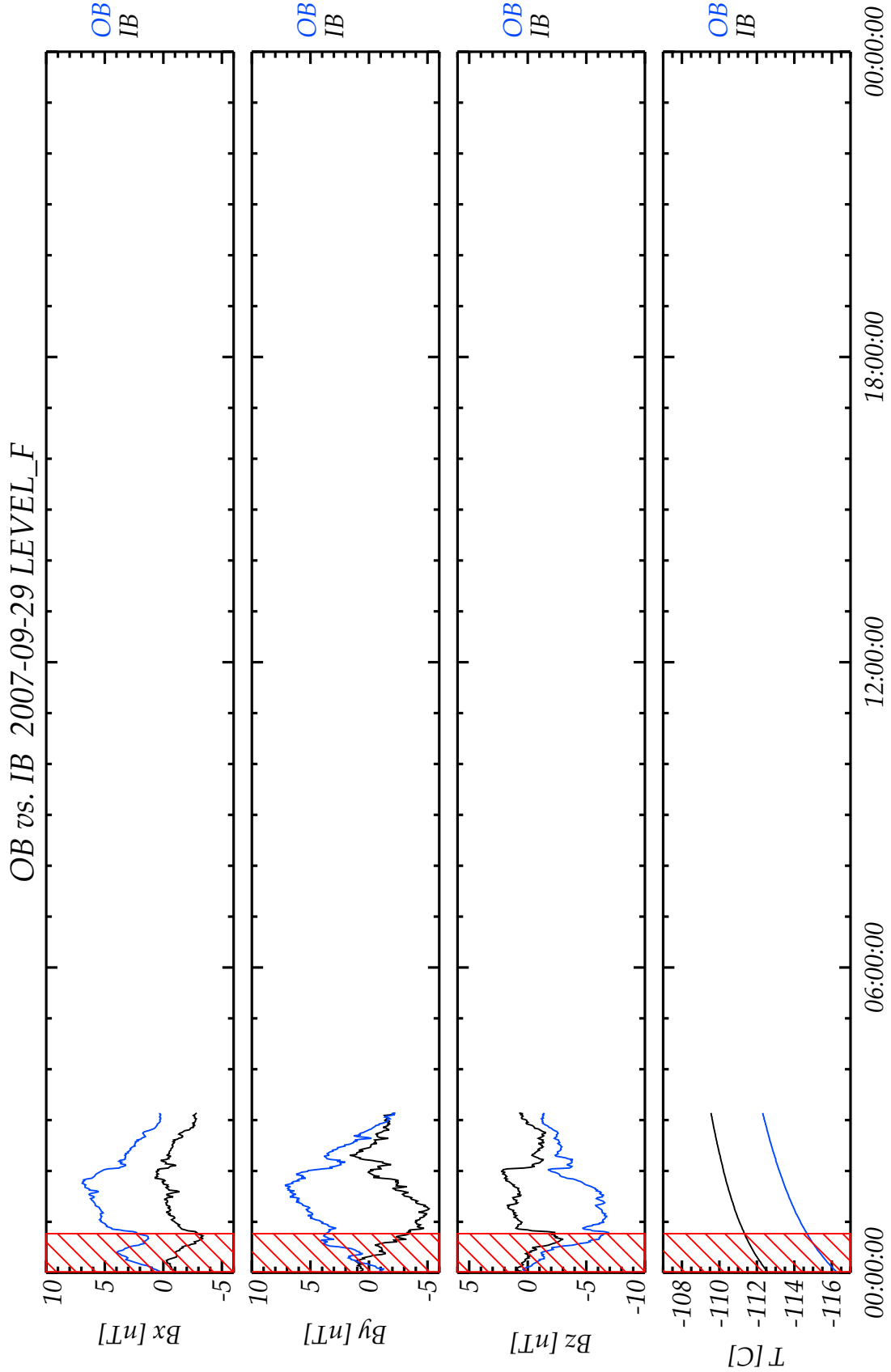
00:00:00


OB vs. IB 2007-09-29 LEVEL_F
OB
IB
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By [nT]
Bz [nT]
T [C]
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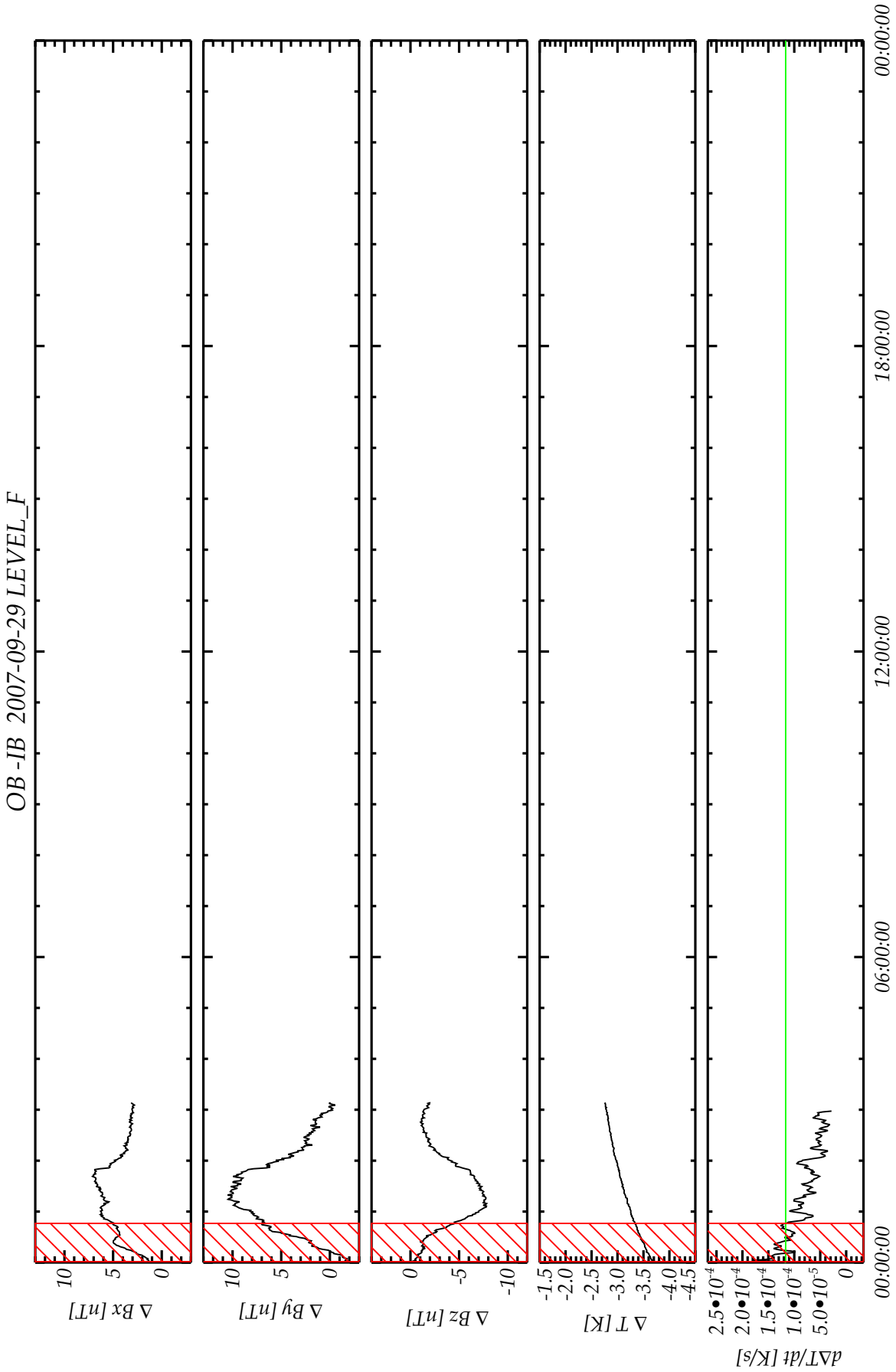
00:00:00


OB -IB 2007-09-29 LEVEL_F
Δ Bx [nT]
Δ By [nT]
Δ Bz [nT]
Δ T [K]
dΔT/dt [K/s]
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06:00:00
12:00:00
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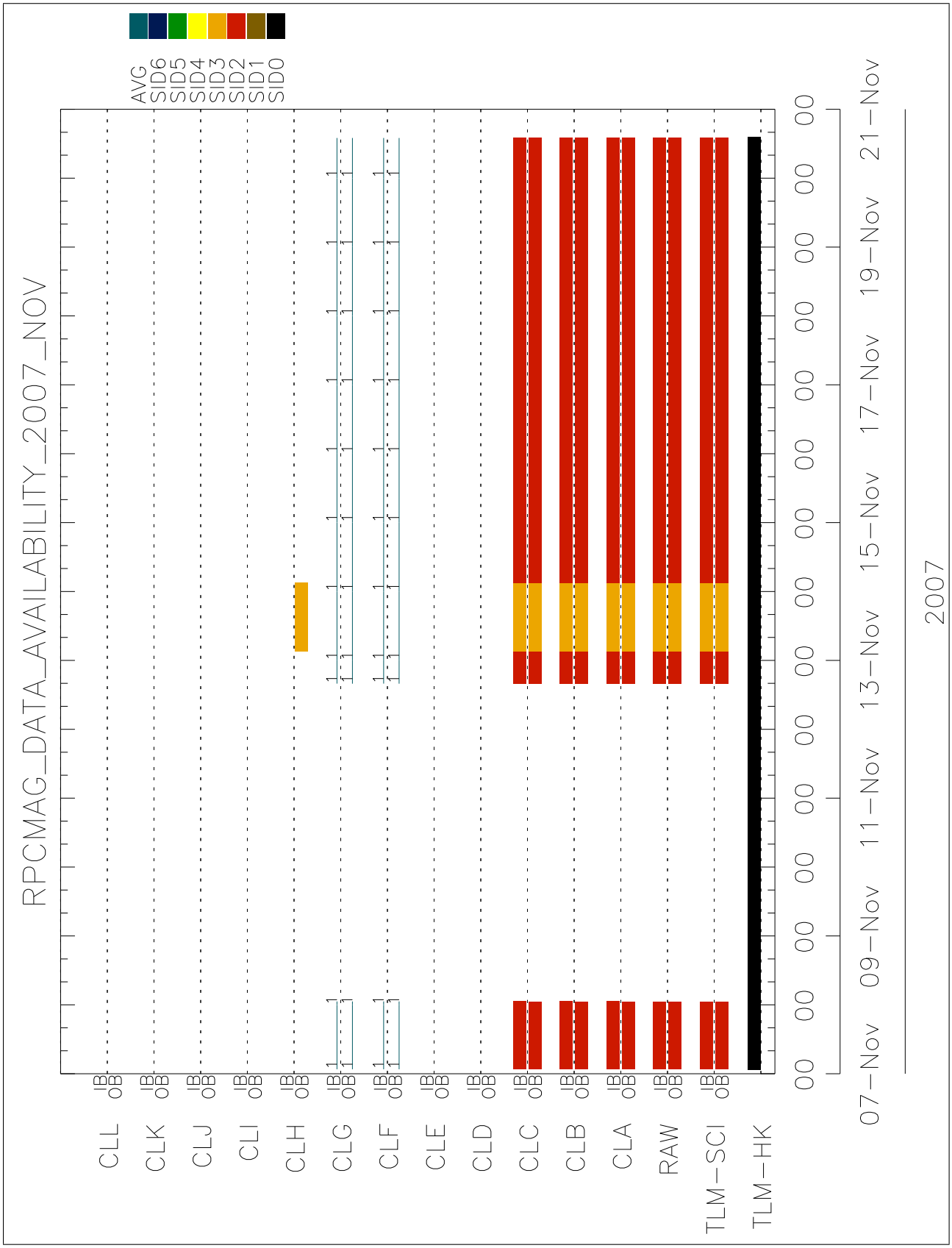

Figure 3: Overview November 2007

DATE	LEVEL	AVERAGE [s]	SENSOR
2007-11-07	CLG	1	OB
2007-11-07	CLF	1	OB
2007-11-07	CLG	1	IB
2007-11-07	CLF	1	IB
2007-11-08	CLF	1	OB
2007-11-08	CLG	1	OB
2007-11-08	CLG	1	IB
2007-11-08	CLF	1	IB
2007-11-12	CLF	1	OB
2007-11-12	CLG	1	OB
2007-11-12	CLG	1	IB
2007-11-12	CLF	1	IB
2007-11-13	CLF	1	OB
2007-11-13	CLG	1	OB
2007-11-13	CLG	1	IB
2007-11-13	CLF	1	IB
2007-11-14	CLG	1	OB
2007-11-14	CLF	1	OB
2007-11-14	CLG	1	IB
2007-11-14	CLF	1	IB
2007-11-15	CLG	1	OB
2007-11-15	CLF	1	OB
2007-11-15	CLF	1	IB
2007-11-15	CLG	1	IB
2007-11-16	CLF	1	OB
2007-11-16	CLG	1	OB
2007-11-16	CLF	1	IB
2007-11-16	CLG	1	IB
2007-11-17	CLG	1	OB
2007-11-17	CLF	1	OB
2007-11-17	CLG	1	IB
2007-11-17	CLF	1	IB
2007-11-18	CLF	1	OB
2007-11-18	CLG	1	OB
2007-11-18	CLF	1	IB
2007-11-18	CLG	1	IB
2007-11-19	CLF	1	OB
2007-11-19	CLG	1	OB
2007-11-19	CLG	1	IB
2007-11-19	CLF	1	IB
2007-11-20	CLG	1	OB
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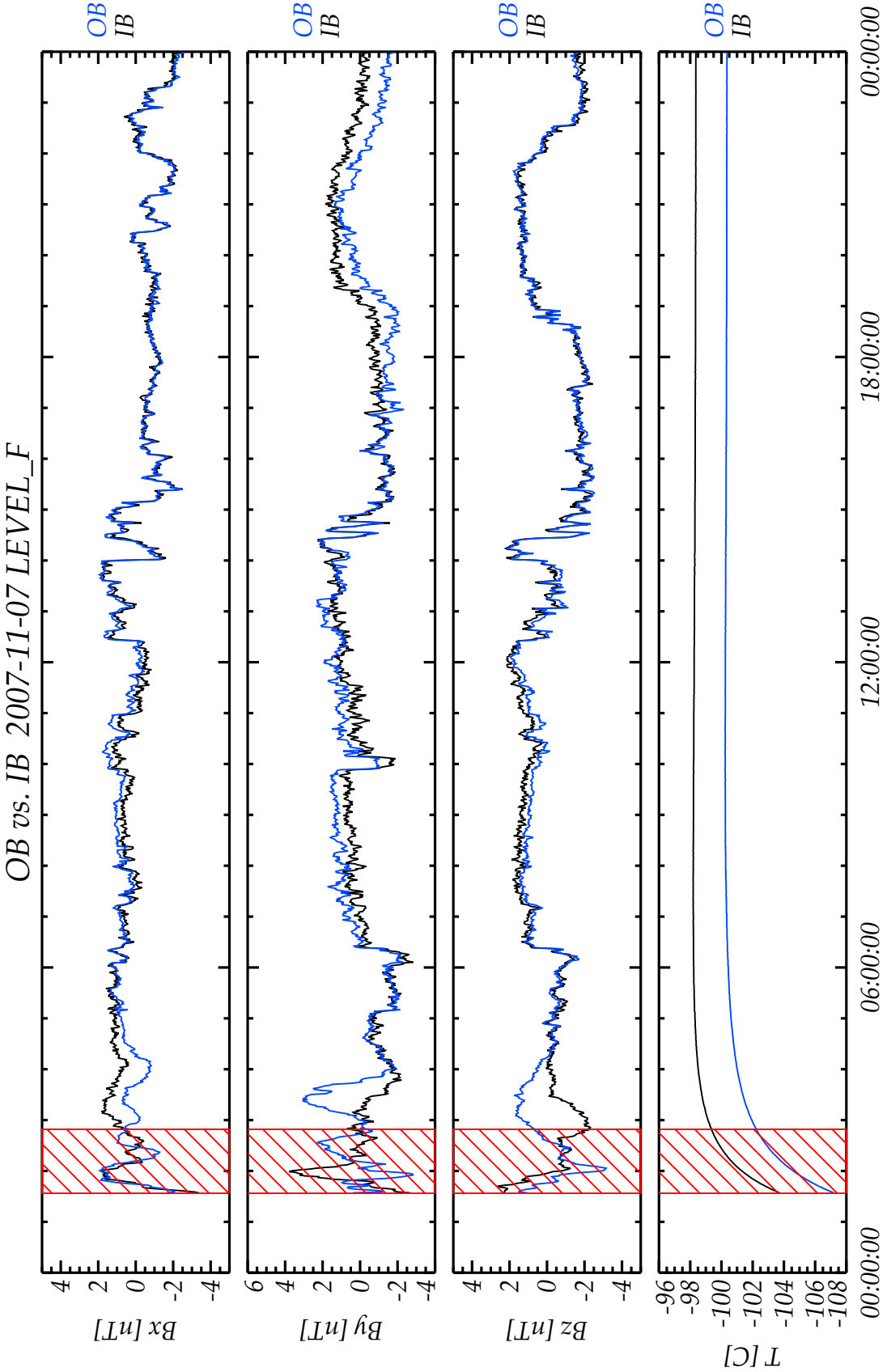
2007-11-20	CLF	1	IB
2007-11-20	CLG	1	IB


OB vs. IB 2007-11-07 LEVEL_F
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IB
Bx [nT]
By [nT]
Bz [nT]
T [C]
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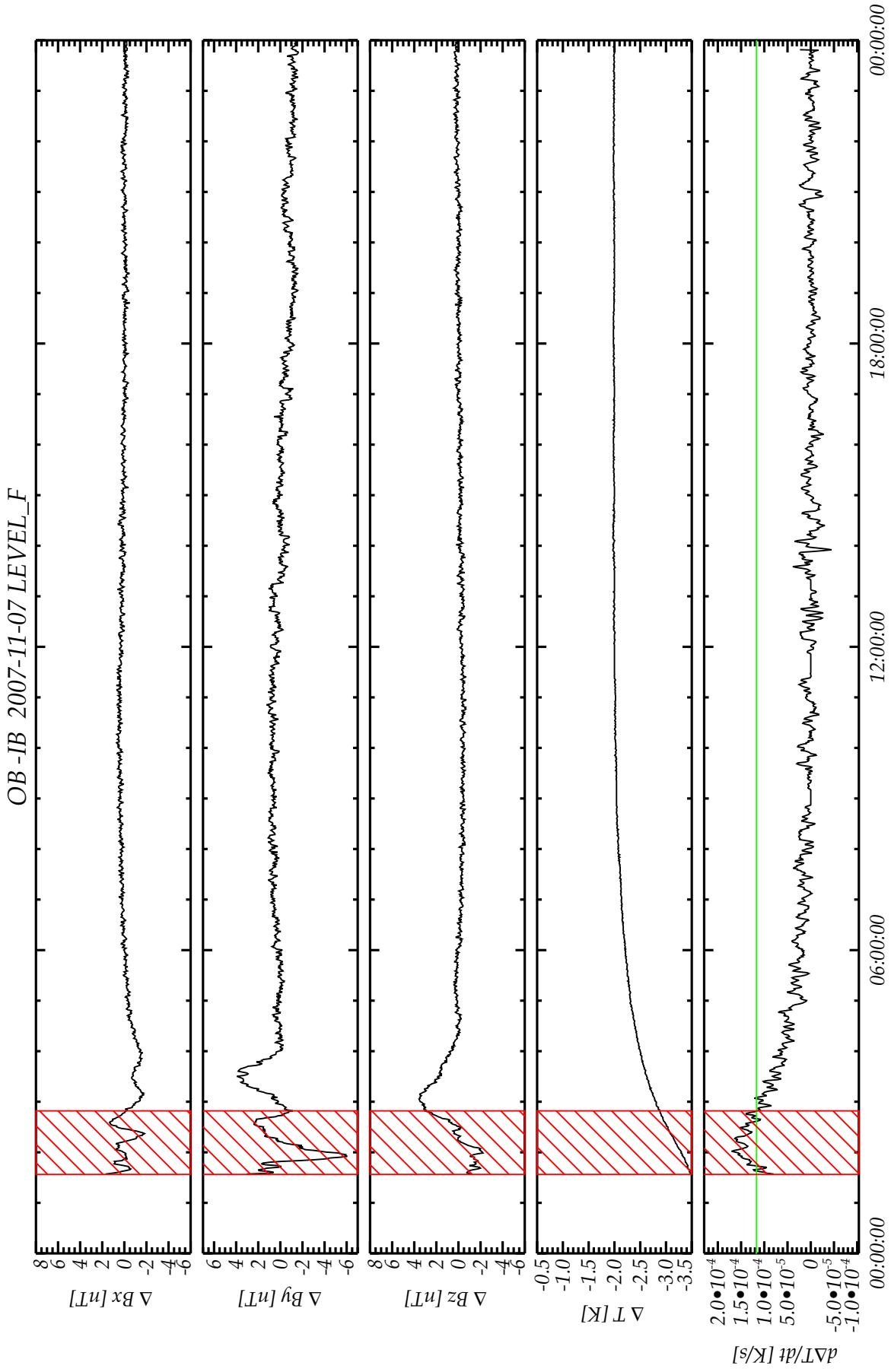
06:00:00
12:00:00
18:00:00
00:00:00


OB -IB 2007-11-07 LEVEL_F
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Δ By [nT]
Δ Bz [nT]
Δ T [K]
dΔT/dt [K/s]
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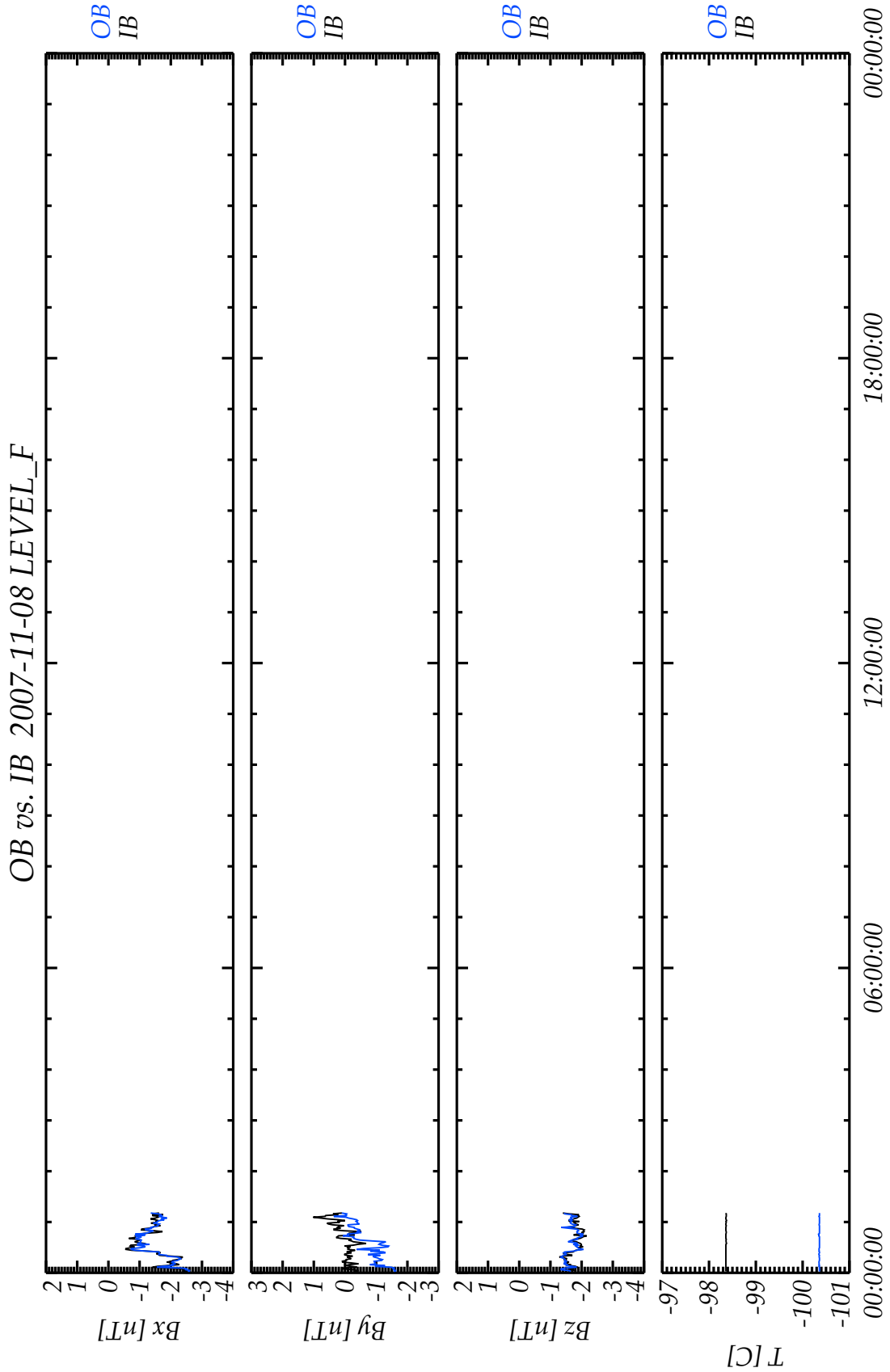
OB vs. IB 2007-11-08 LEVEL_F
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T [C]
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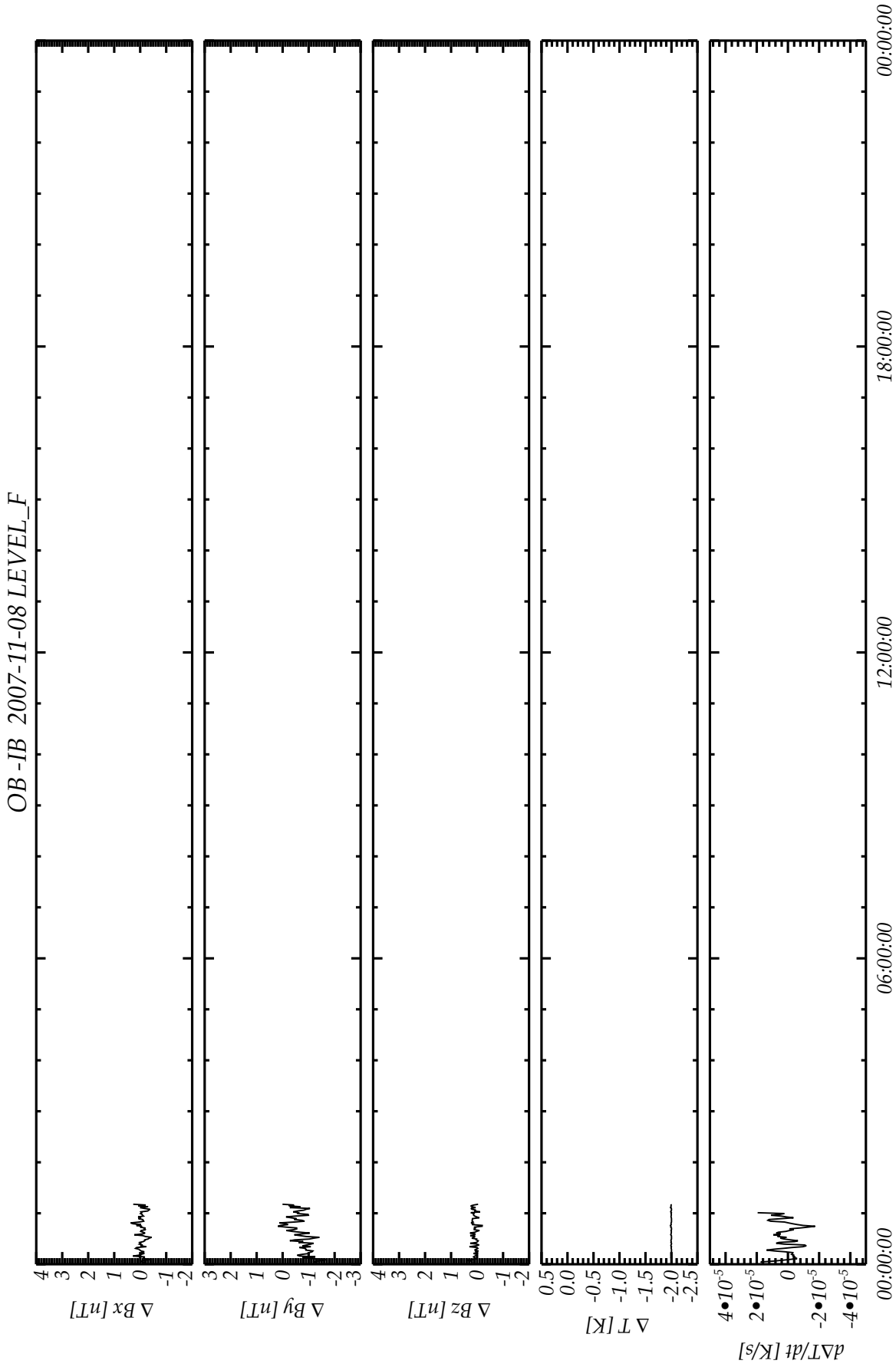
OB -IB 2007-11-08 LEVEL_F
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Δ By [nT]
Δ Bz [nT]
Δ T [K]
dΔT/dt [K/s]
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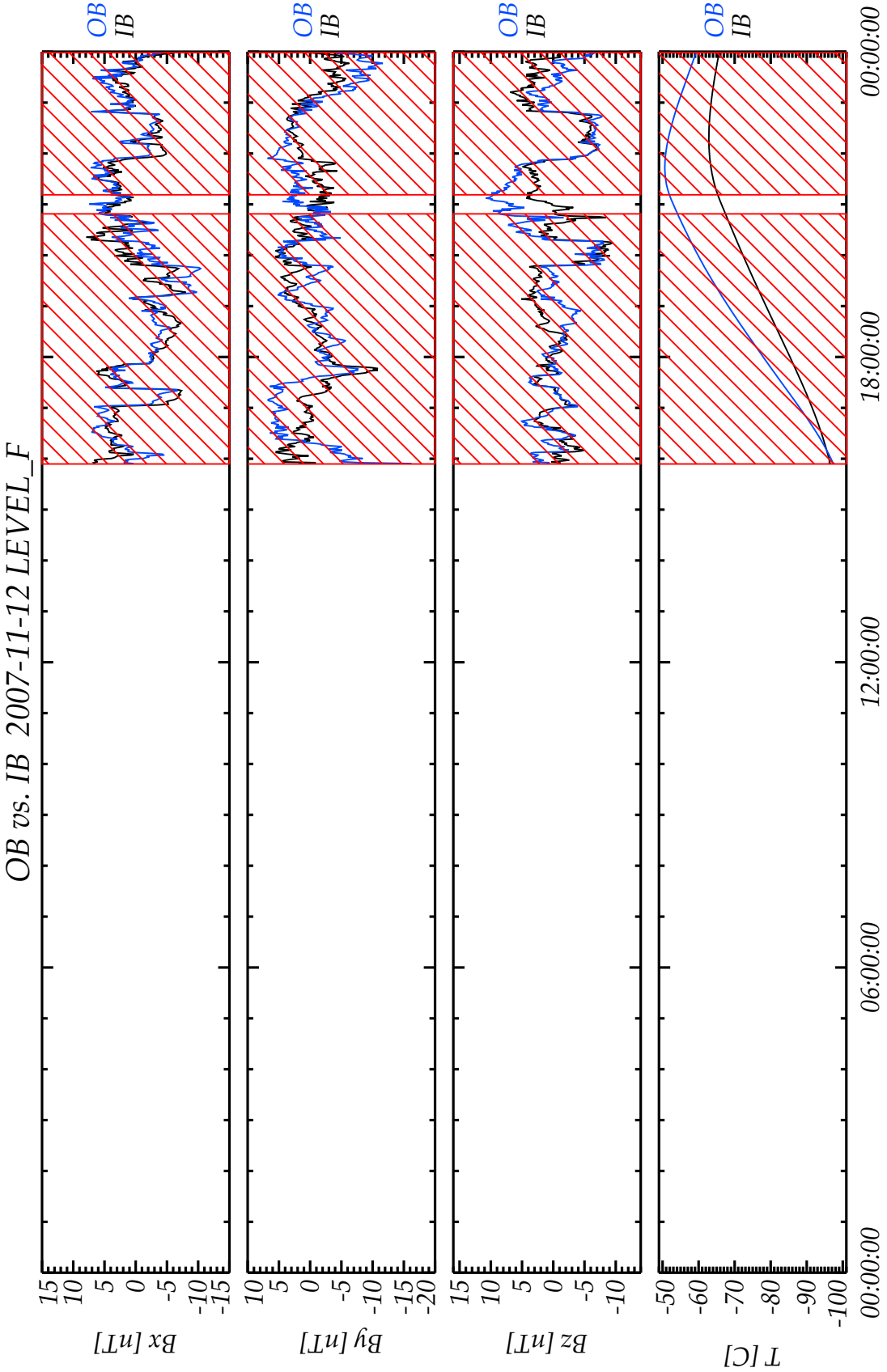
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By [nT]
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T [C]
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IB
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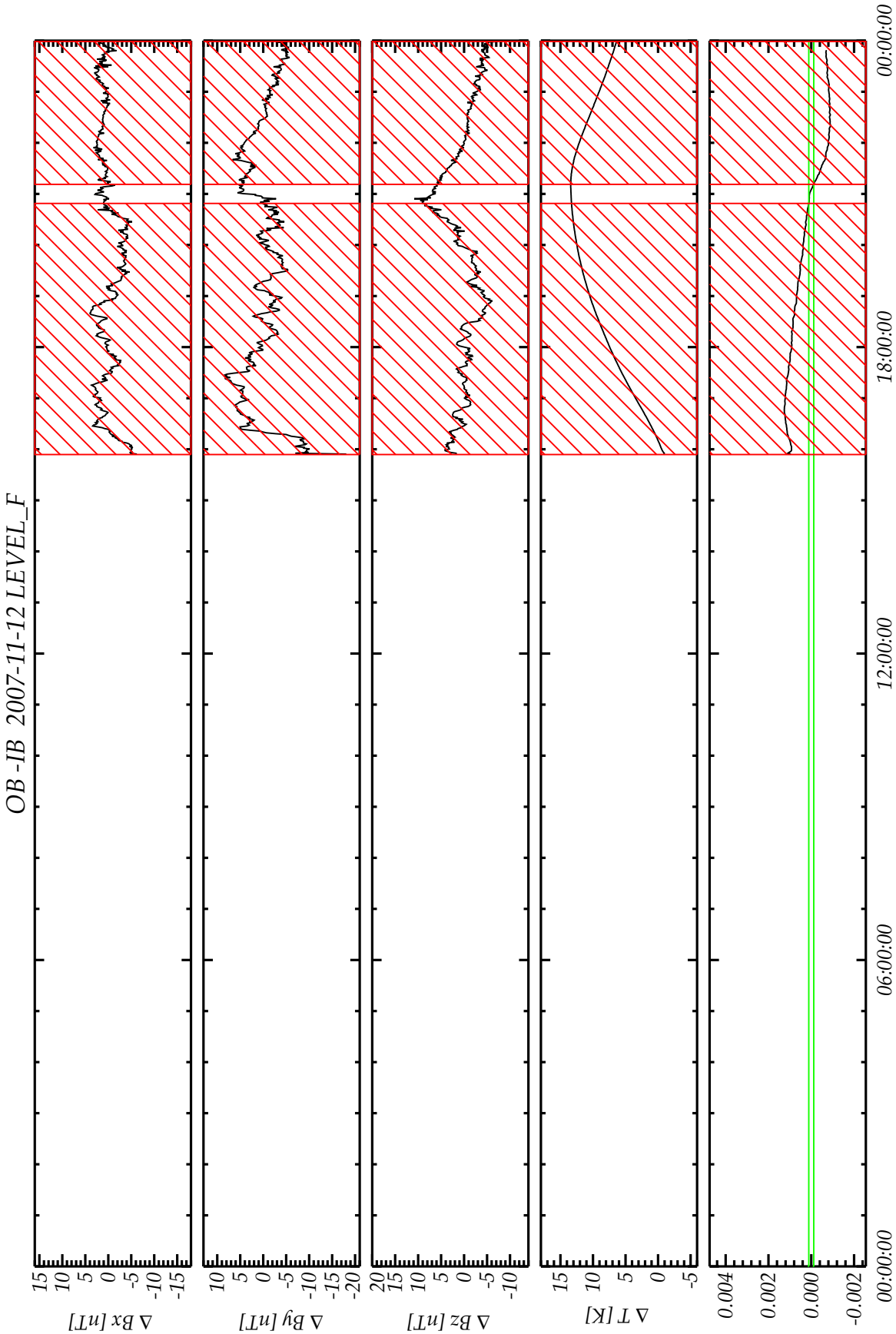
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Δ By [nT]
Δ Bz [nT]
Δ T [K]
dΔT/dt [K/s]
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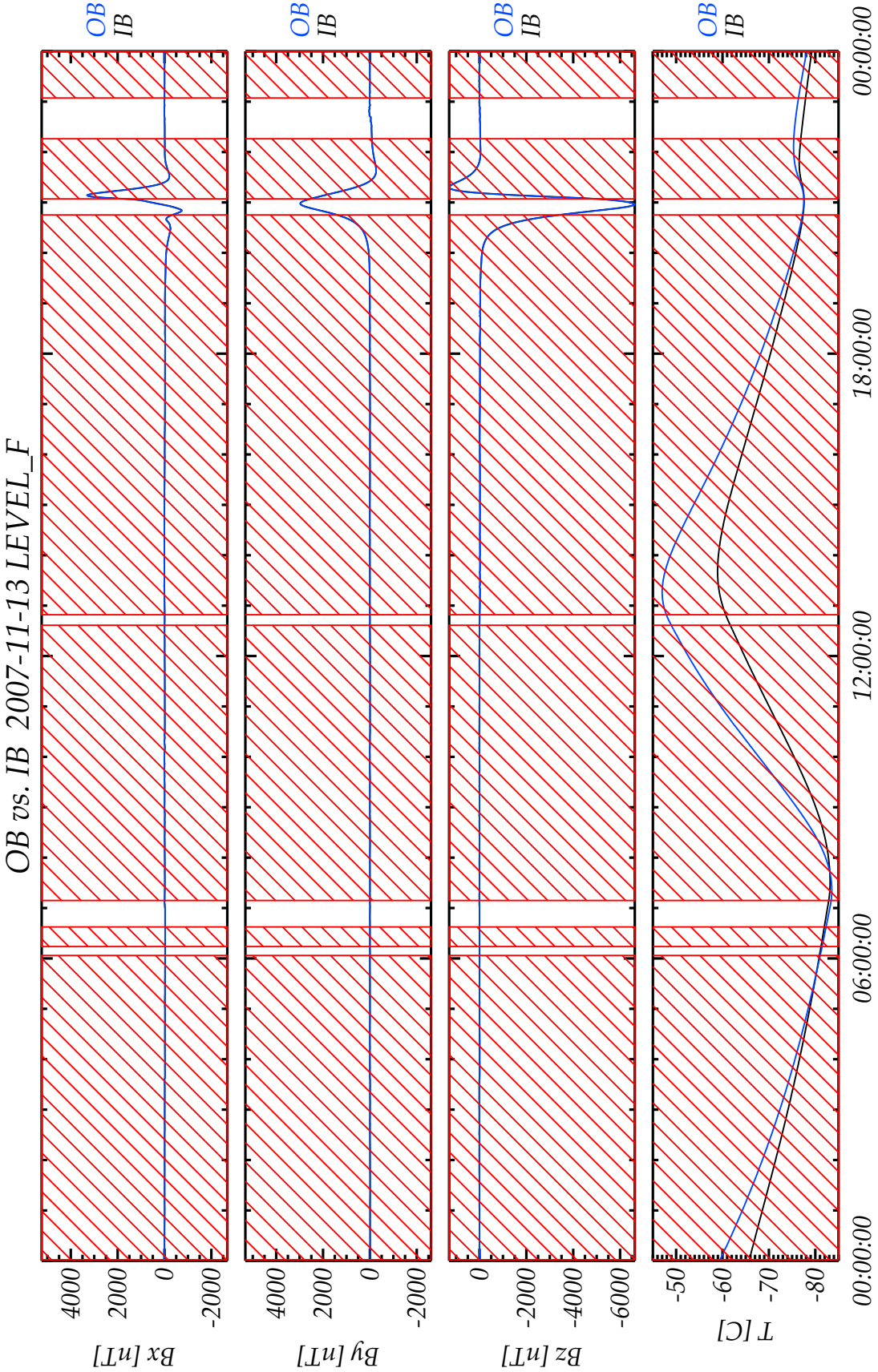
OB vs. IB 2007-11-13 LEVEL_F
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IB
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0
-2000
By [nT]
4000
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Bz [nT]
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-2000
-4000
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T [C]
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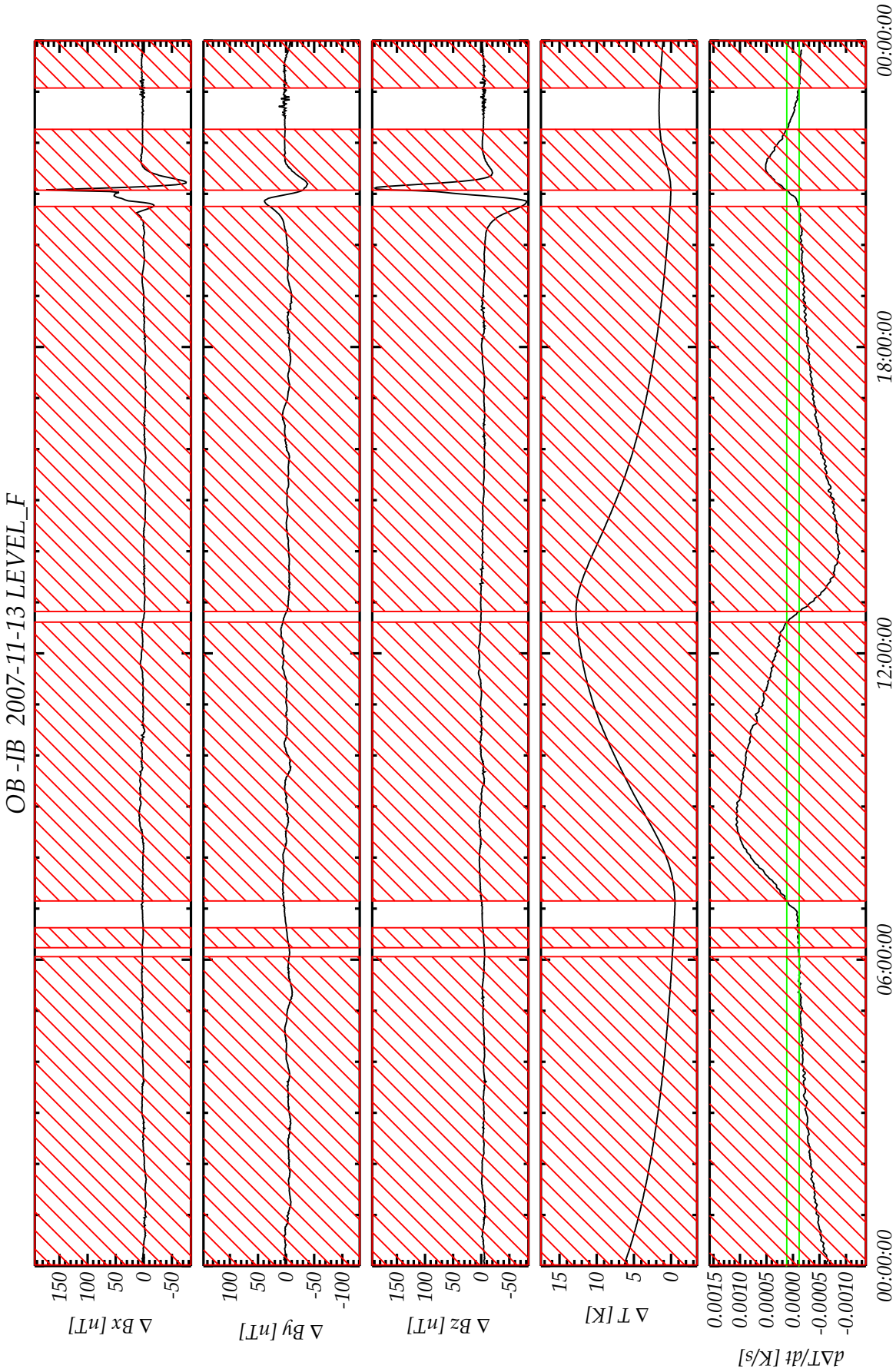
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Δ By [nT]
Δ Bz [nT]
Δ T [K]
dΔT/dt [K/s]
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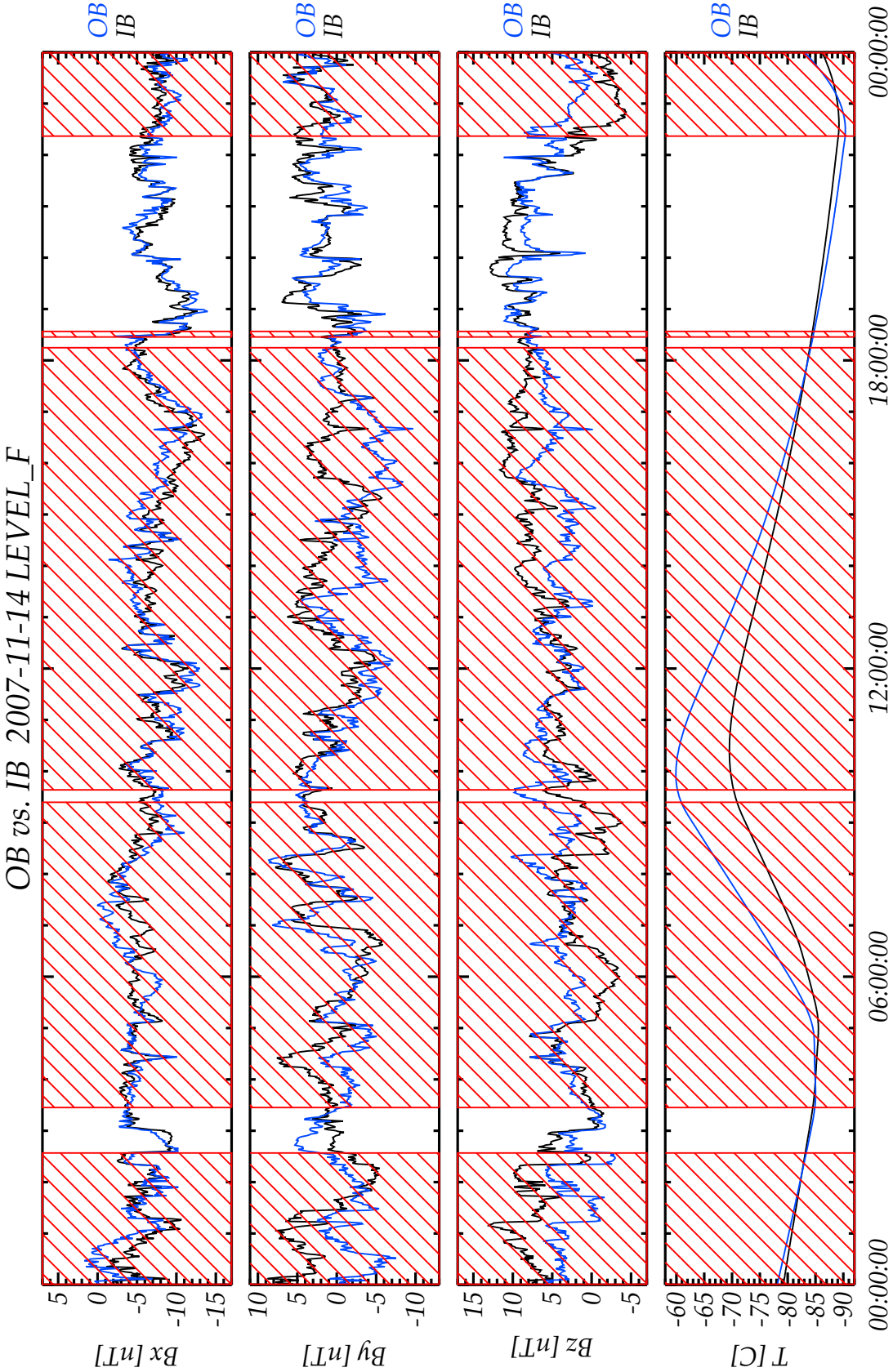
OB vs. IB 2007-11-14 LEVEL_F
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IB
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By [nT]
Bz [nT]
T [C]
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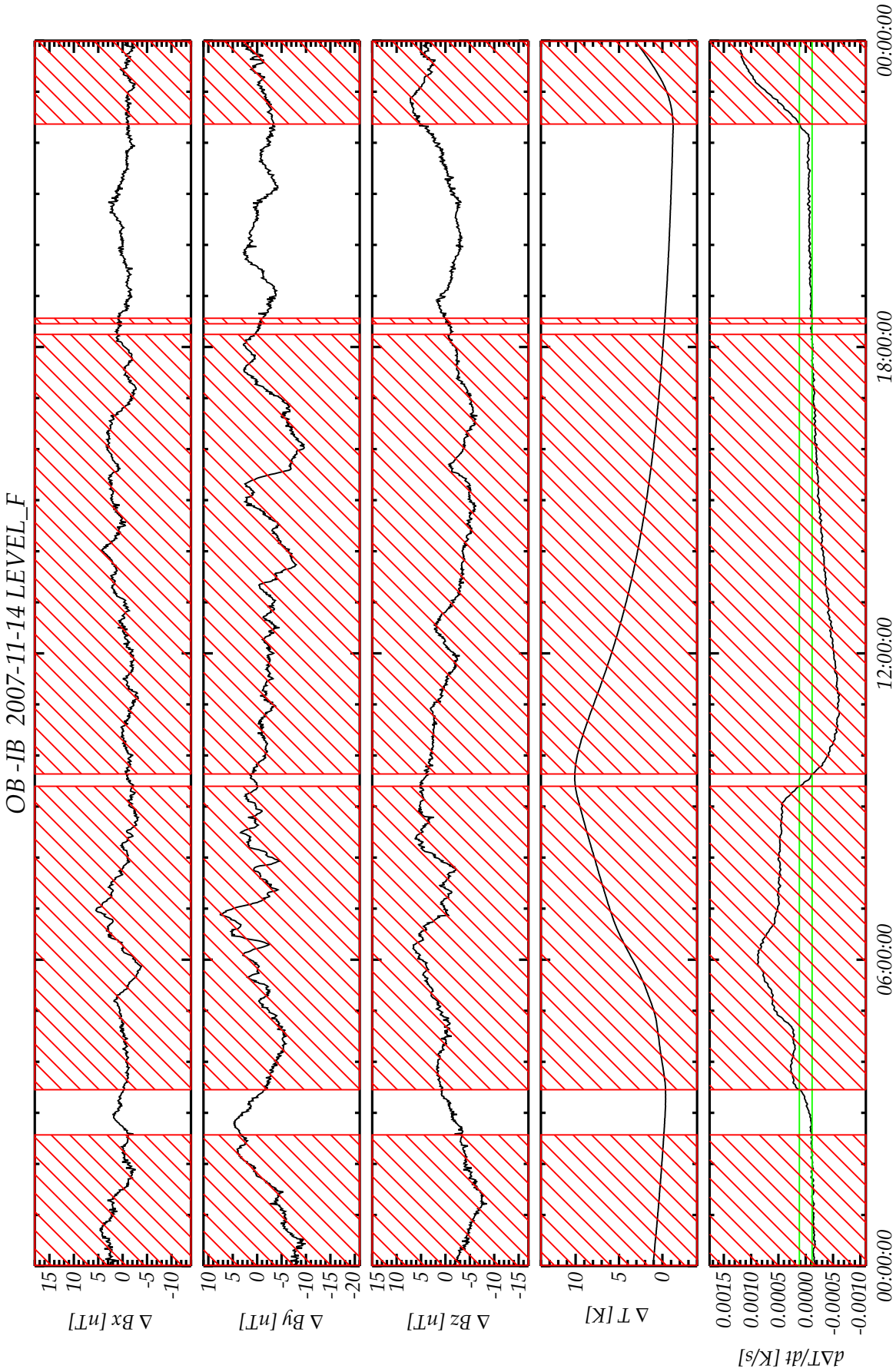
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Δ By [nT]
Δ Bz [nT]
Δ T [K]
dΔT/dt [K/s]
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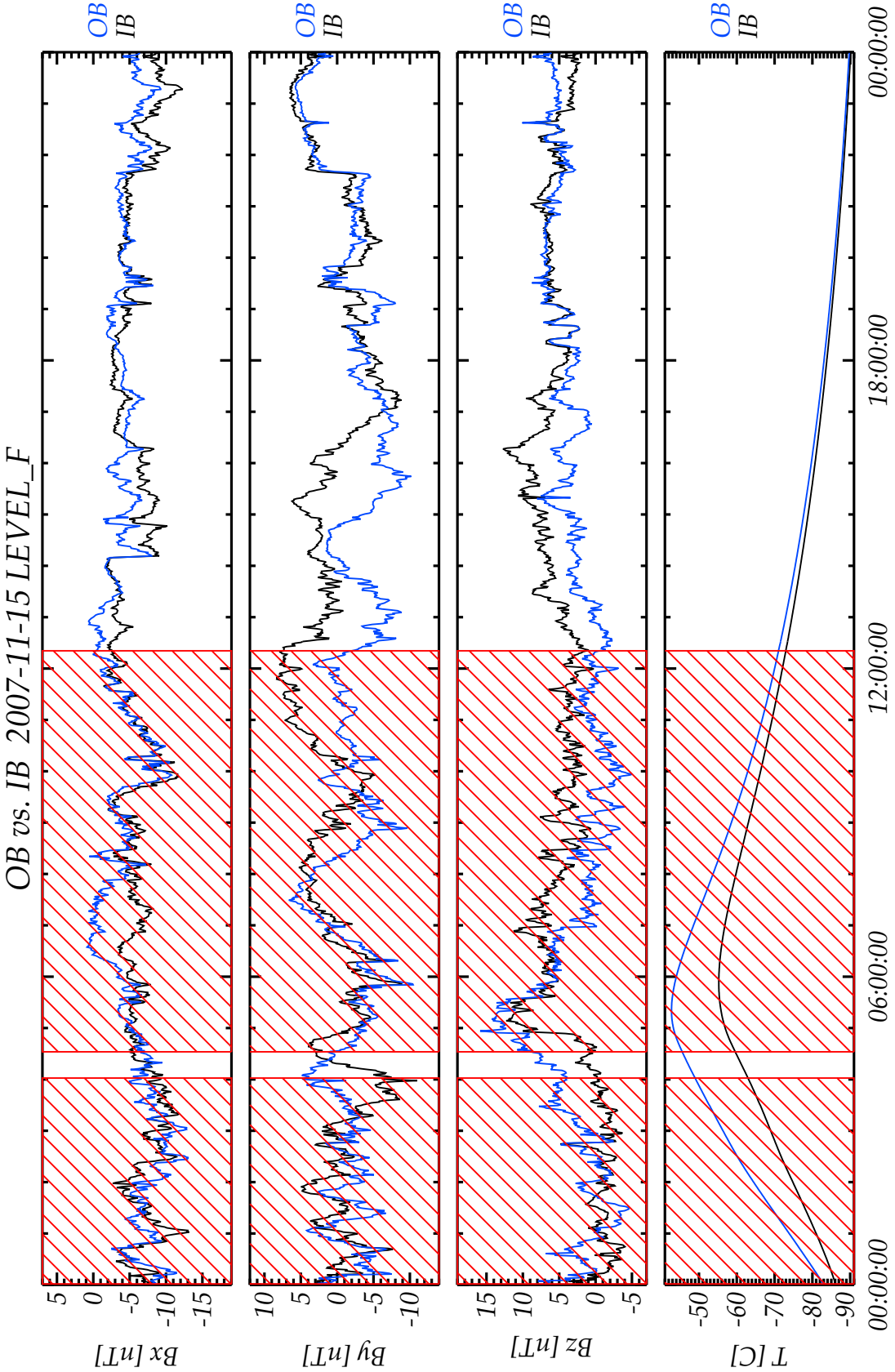
OB vs. IB 2007-11-15 LEVEL_F
OB
IB
Bx [nT]
By [nT]
Bz [nT]
T [C]
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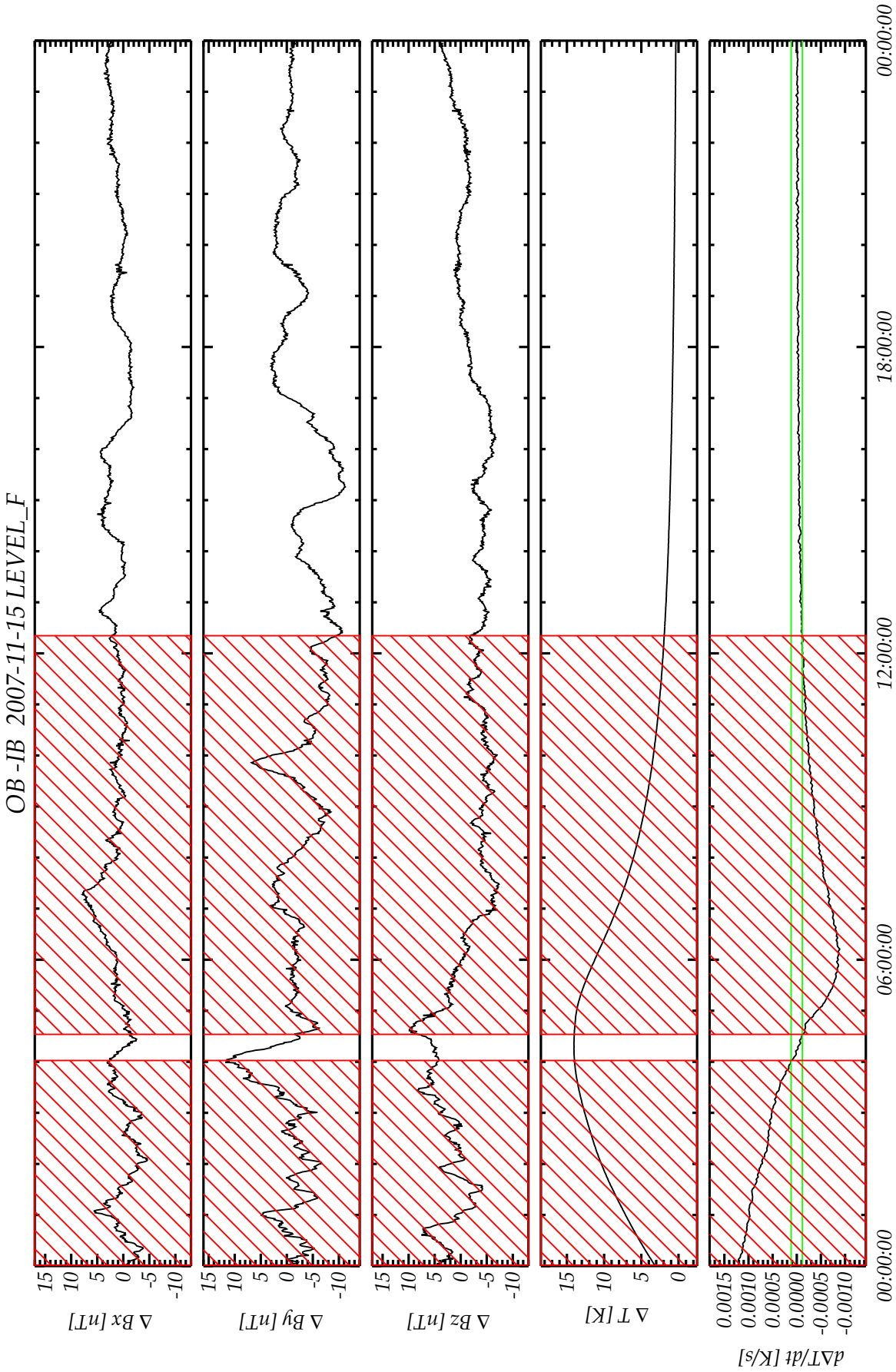
OB -IB 2007-11-15 LEVEL_F
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Δ Bz [nT]
Δ T [K]
dΔT/dt [K/s]
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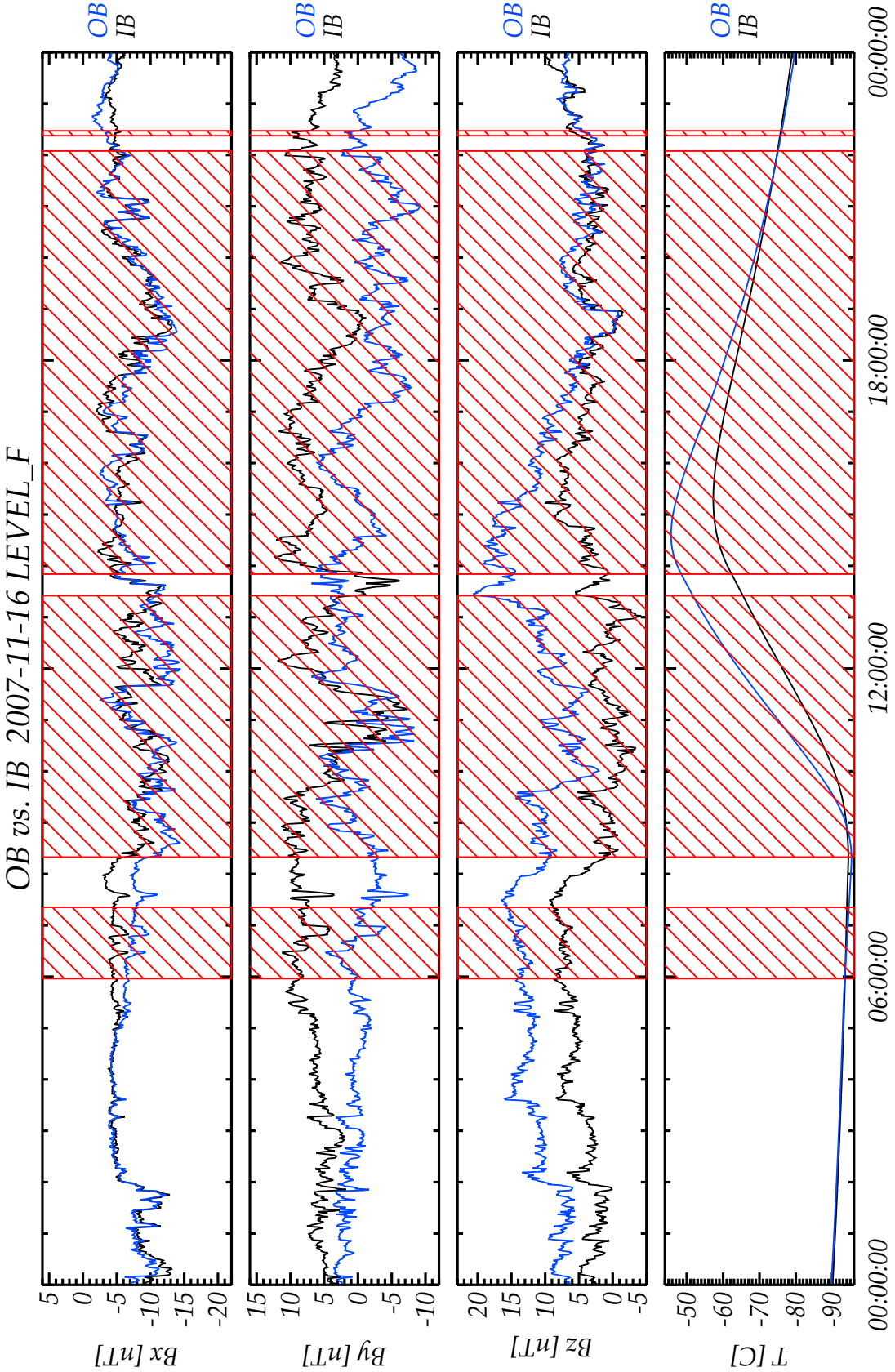
OB vs. IB 2007-11-16 LEVEL_F
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IB
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By [nT]
Bz [nT]
T [C]
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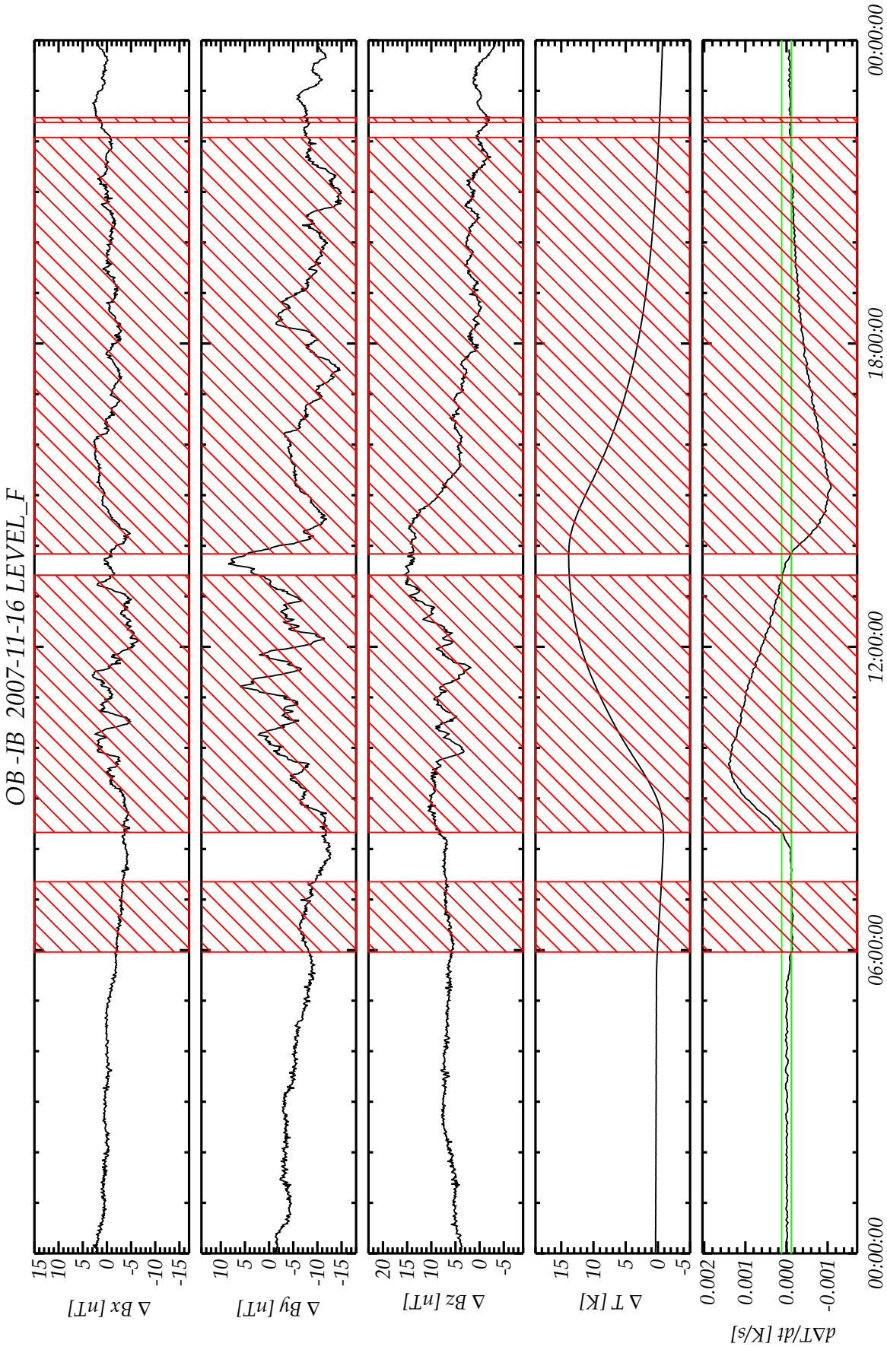
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Δ By [nT]
Δ Bz [nT]
Δ T [K]
dΔT/dt [K/s]
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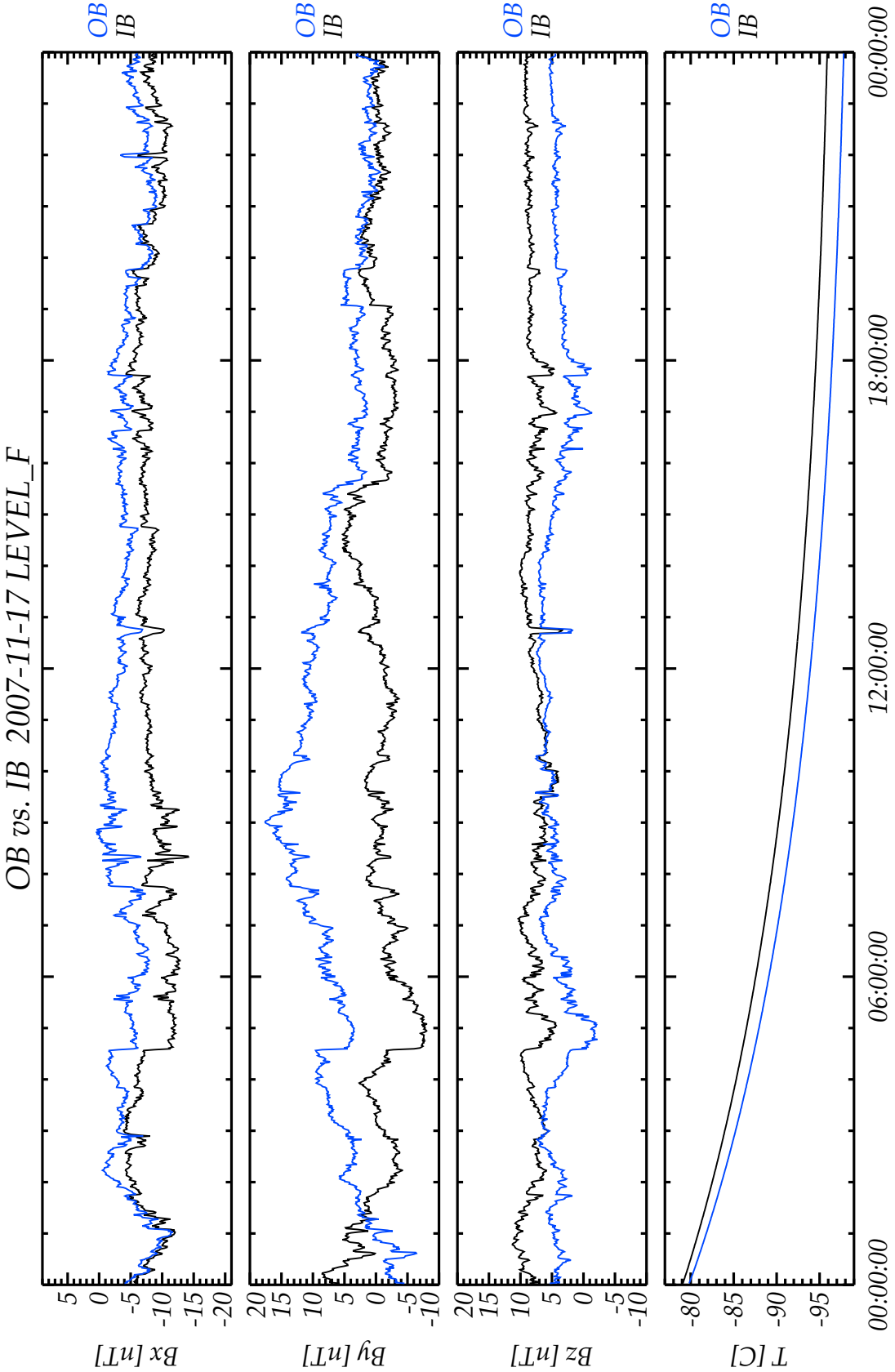
OB vs. IB 2007-11-17 LEVEL_F
OB
IB
Bx [nT]
By [nT]
Bz [nT]
T [C]
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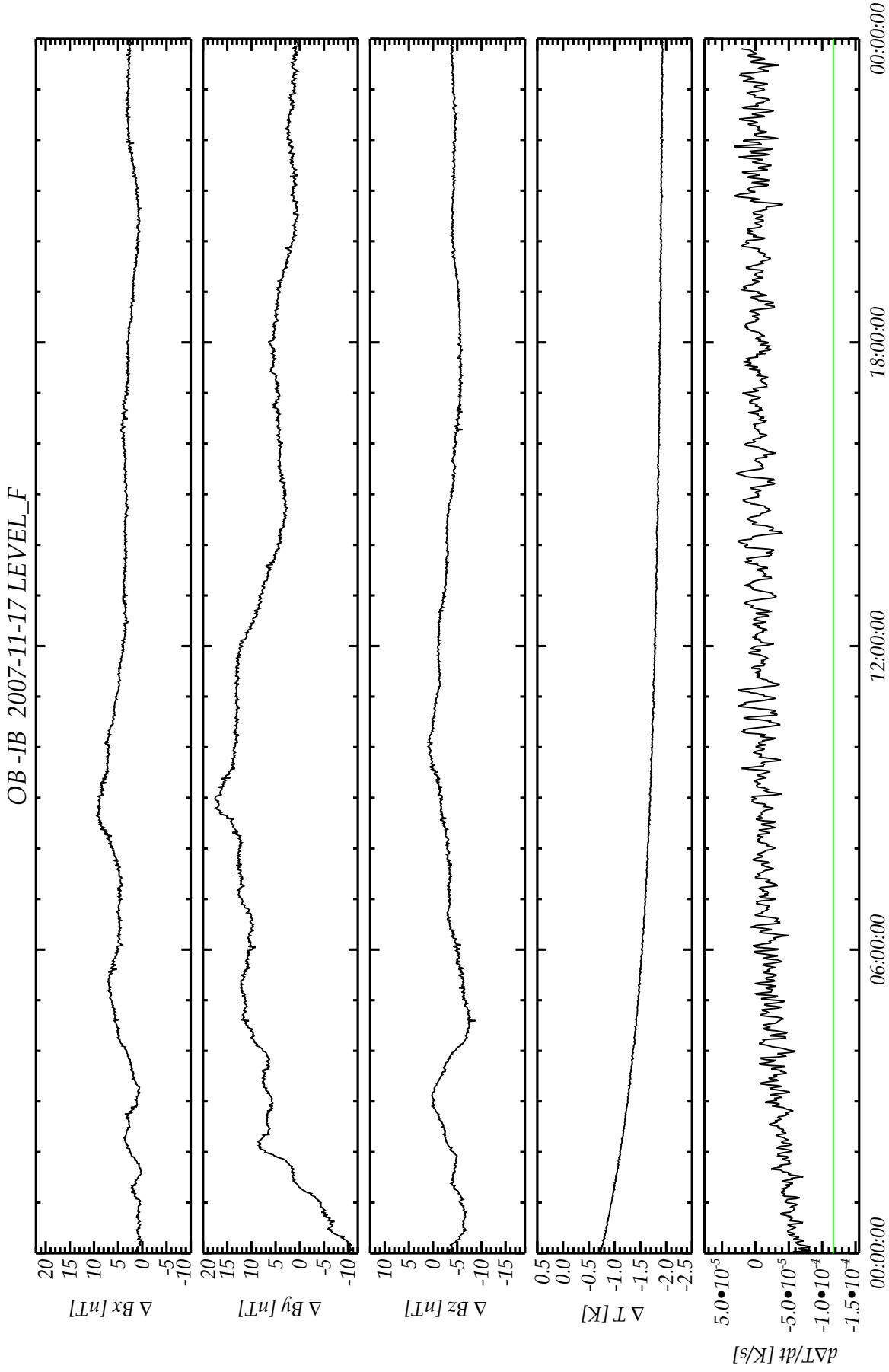
OB -IB 2007-11-17 LEVEL_F
Δ Bx [nT]
Δ By [nT]
Δ Bz [nT]
Δ T [K]
dΔT/dt [K/s]
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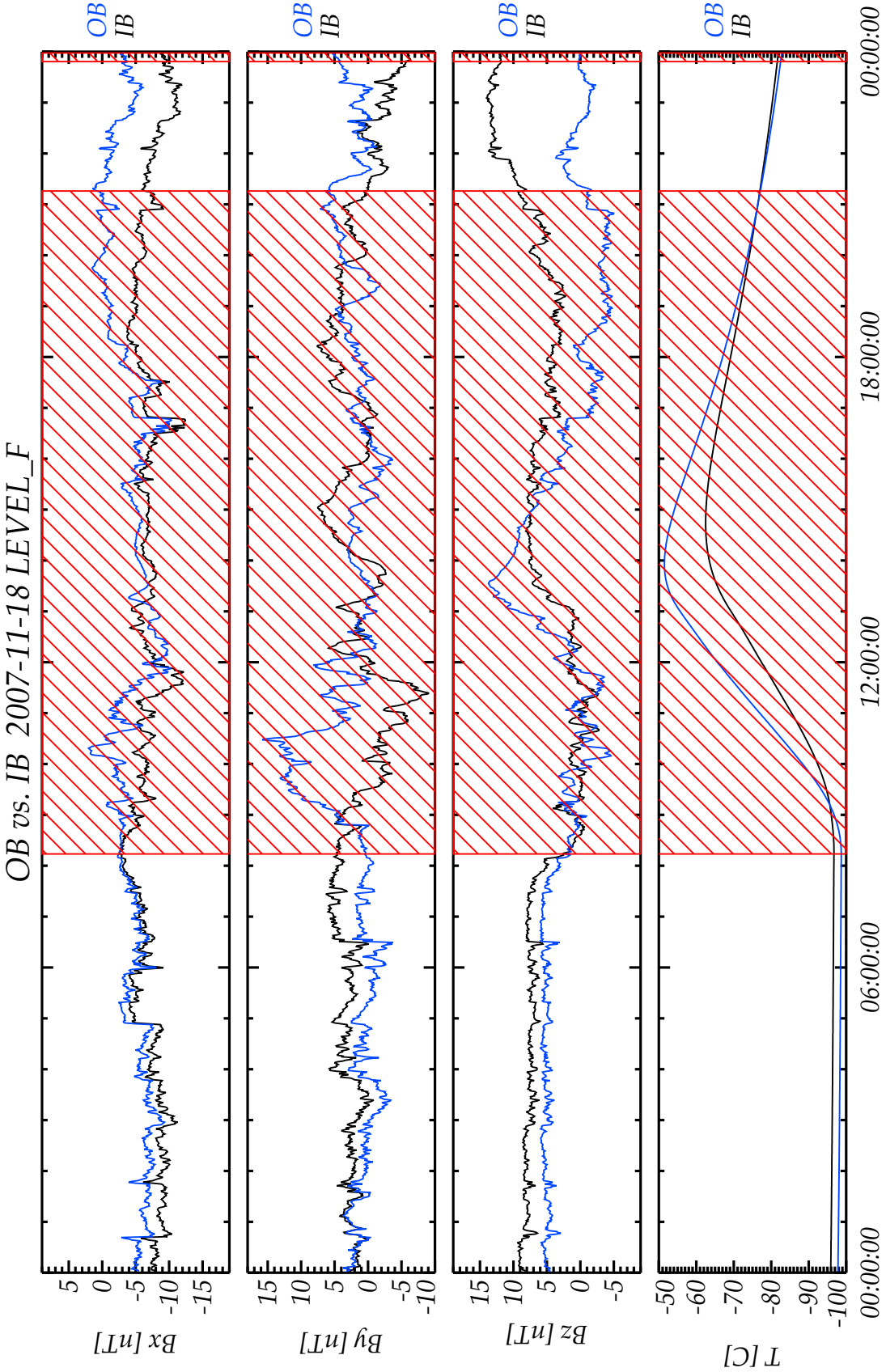
OB vs. IB 2007-11-18 LEVEL_F
OB
IB
Bx [nT]
By [nT]
Bz [nT]
T [C]
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12:00:00
18:00:00
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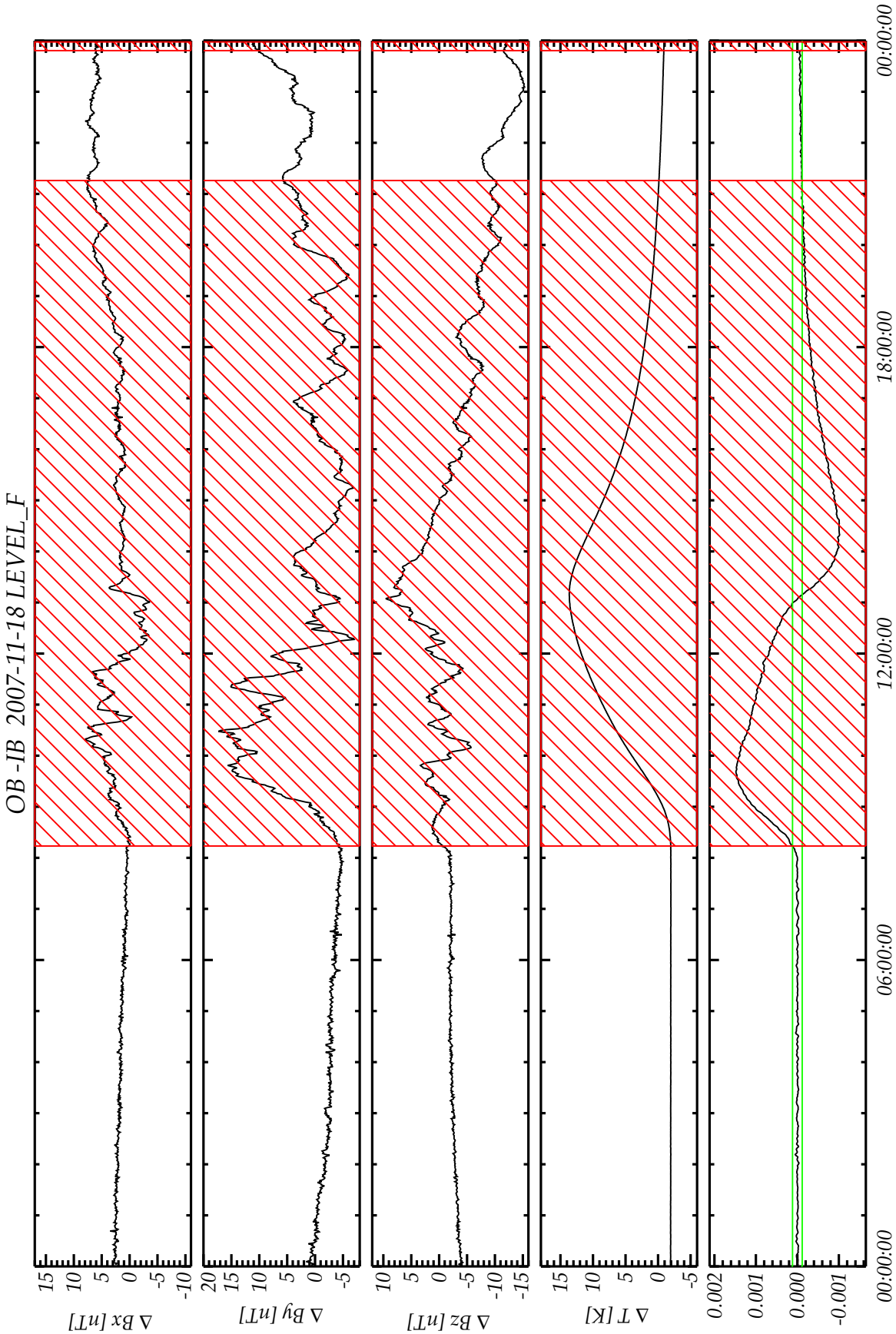
OB -IB 2007-11-18 LEVEL_F
Δ Bx [nT]
Δ By [nT]
Δ Bz [nT]
Δ T [K]
dΔT/dt [K/s]
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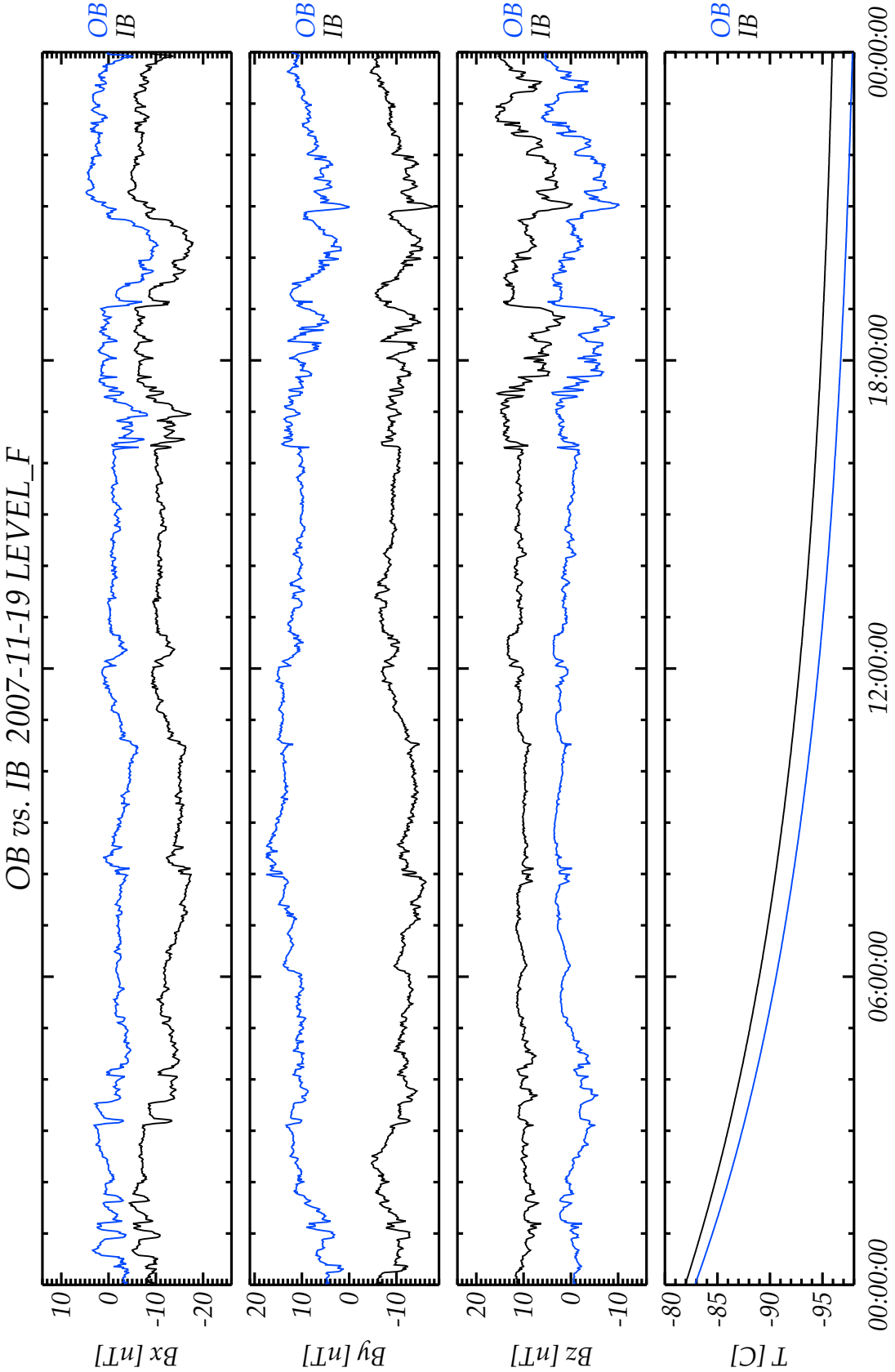
OB vs. IB 2007-11-19 LEVEL_F
OB
IB
Bx [nT]
By [nT]
Bz [nT]
T [C]
00:00:00
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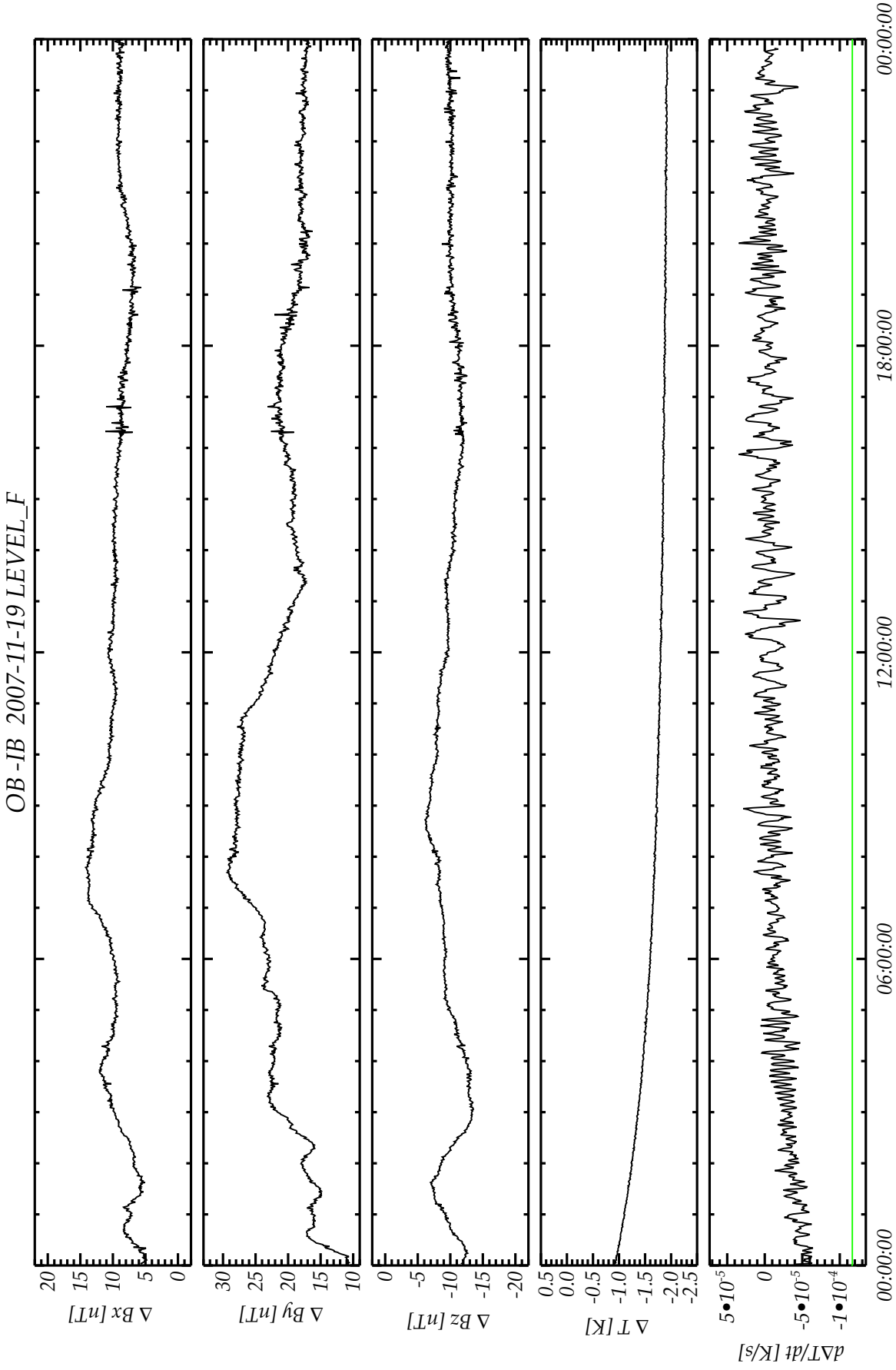
OB -IB 2007-11-19 LEVEL_F
Δ Bx [nT]
Δ By [nT]
Δ Bz [nT]
Δ T [K]
dΔT/dt [K/s]
00:00:00
06:00:00
12:00:00
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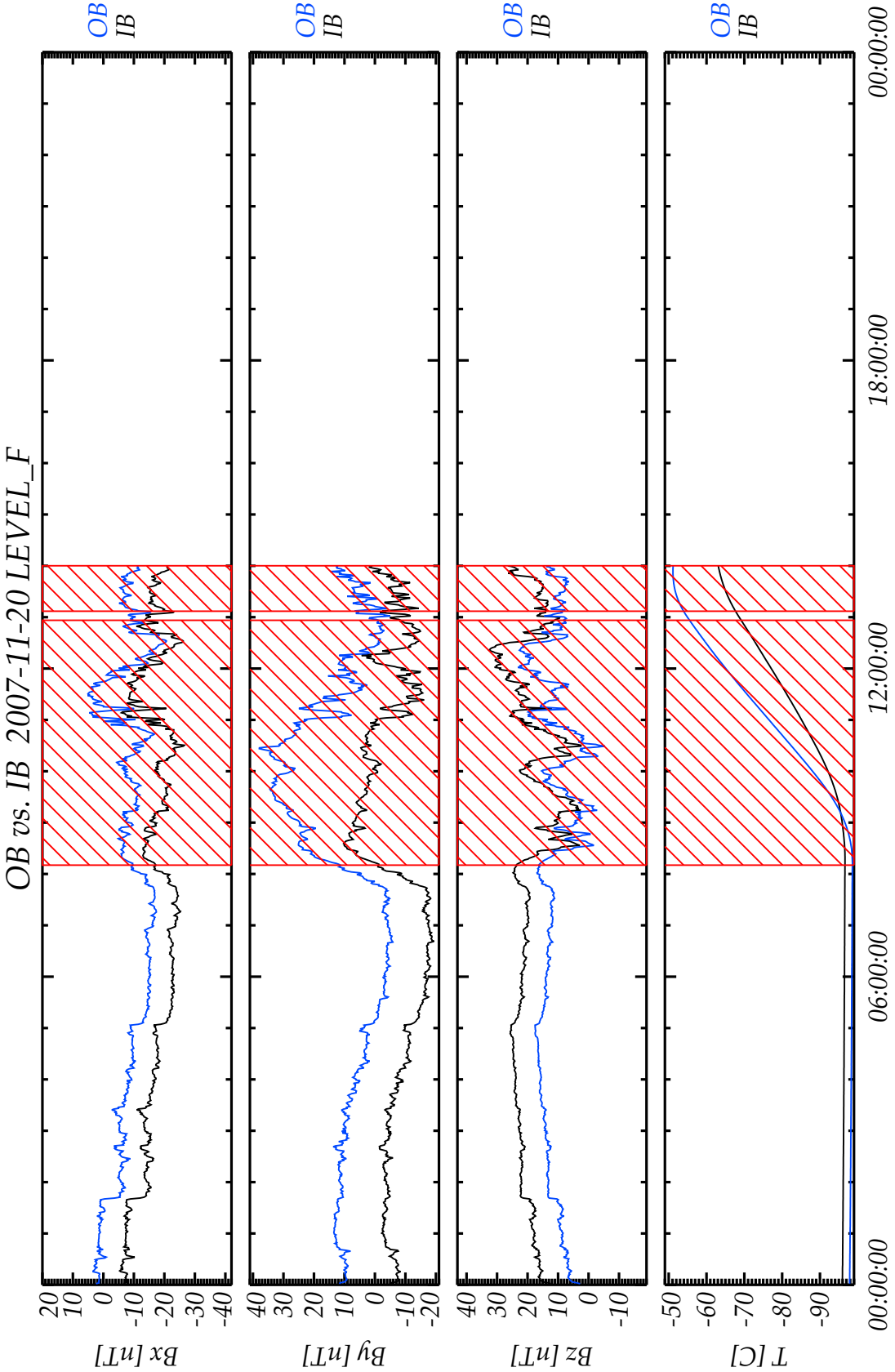
OB vs. IB 2007-11-20 LEVEL_F
OB
IB
Bx [nT]
By [nT]
Bz [nT]
T [C]
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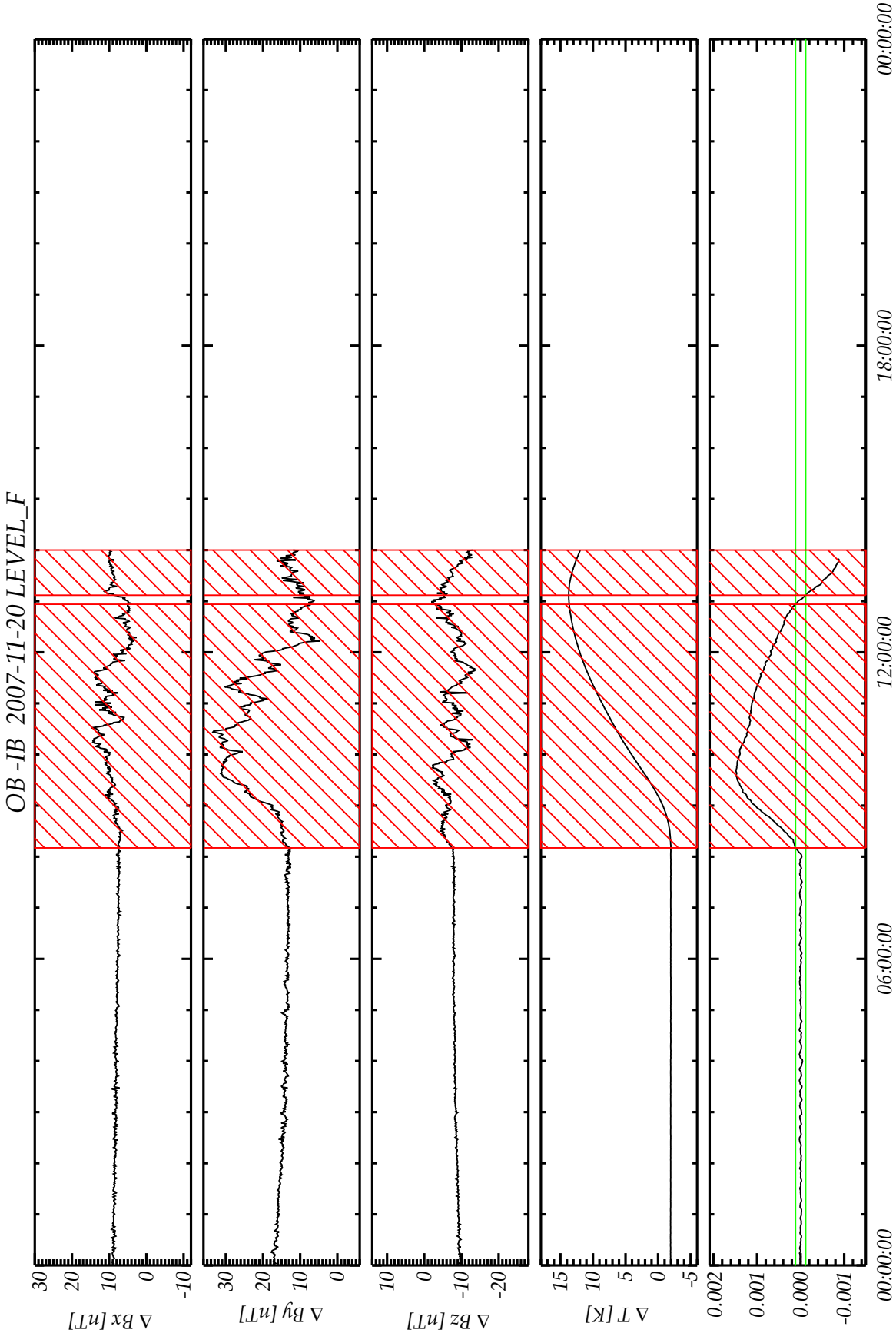
OB -IB 2007-11-20 LEVEL_F
Δ Bx [nT]
Δ By [nT]
Δ Bz [nT]
Δ T [K]
dΔT/dt [K/s]
00:00:00
06:00:00
12:00:00
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3 2008

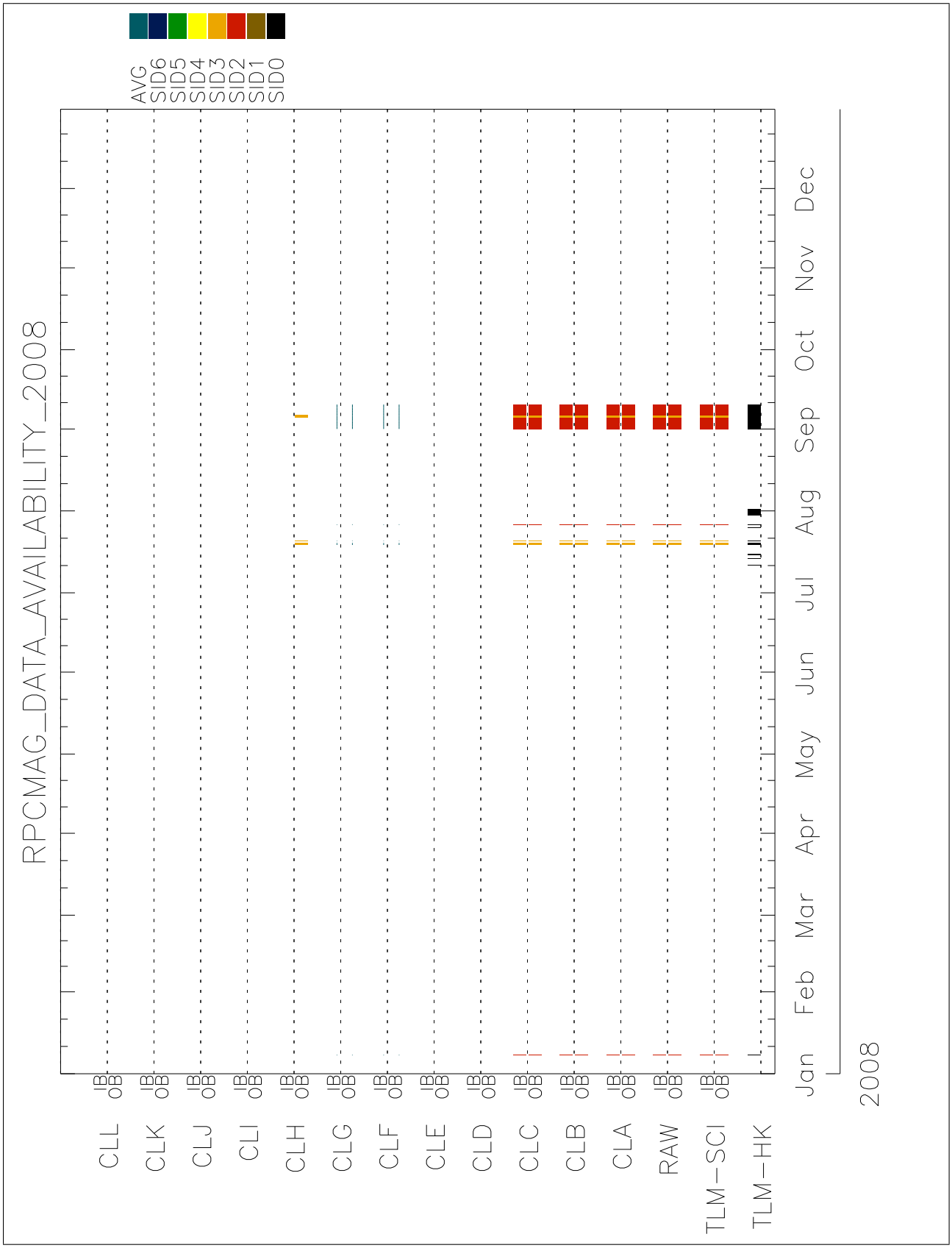


Figure 4: Overview 2008

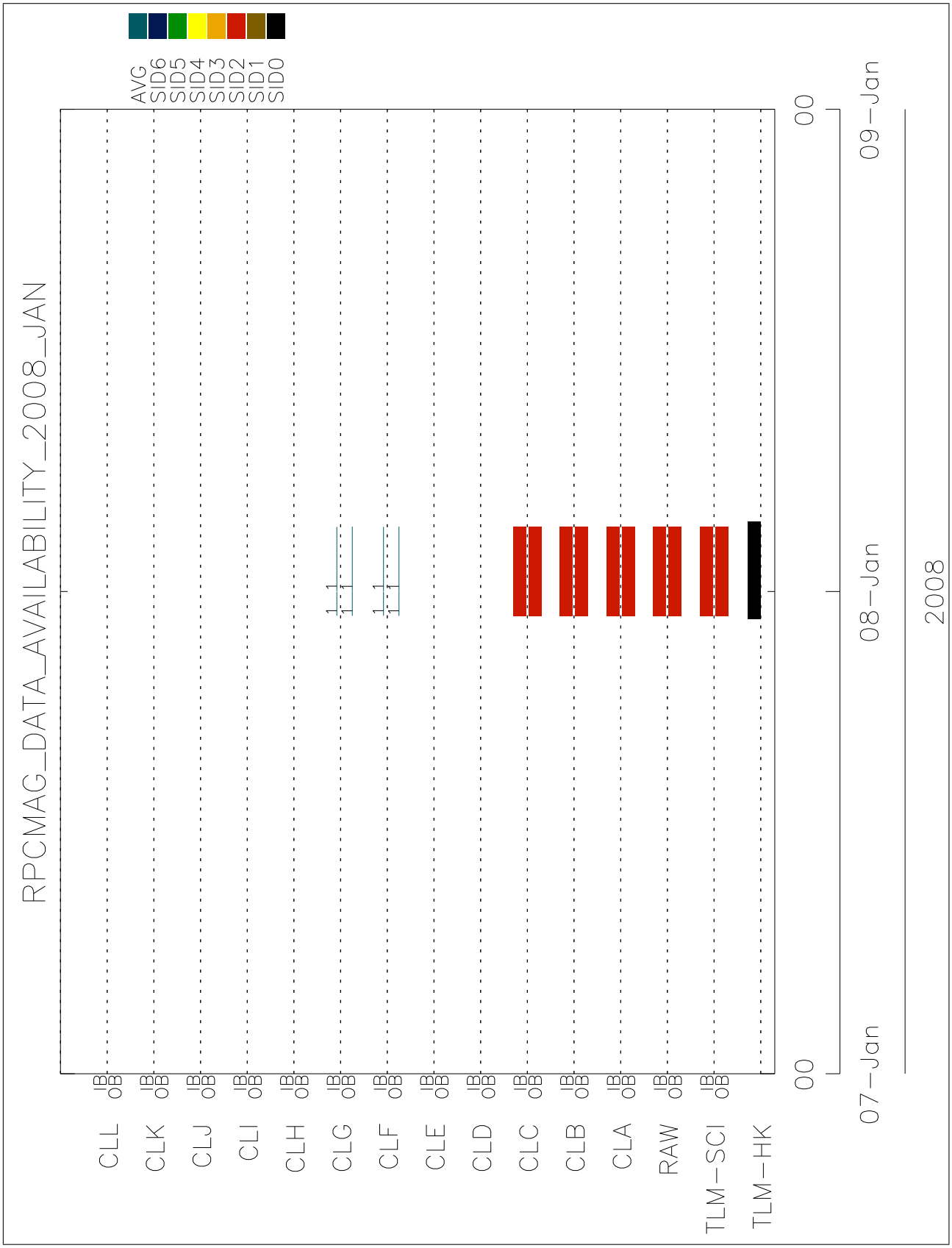
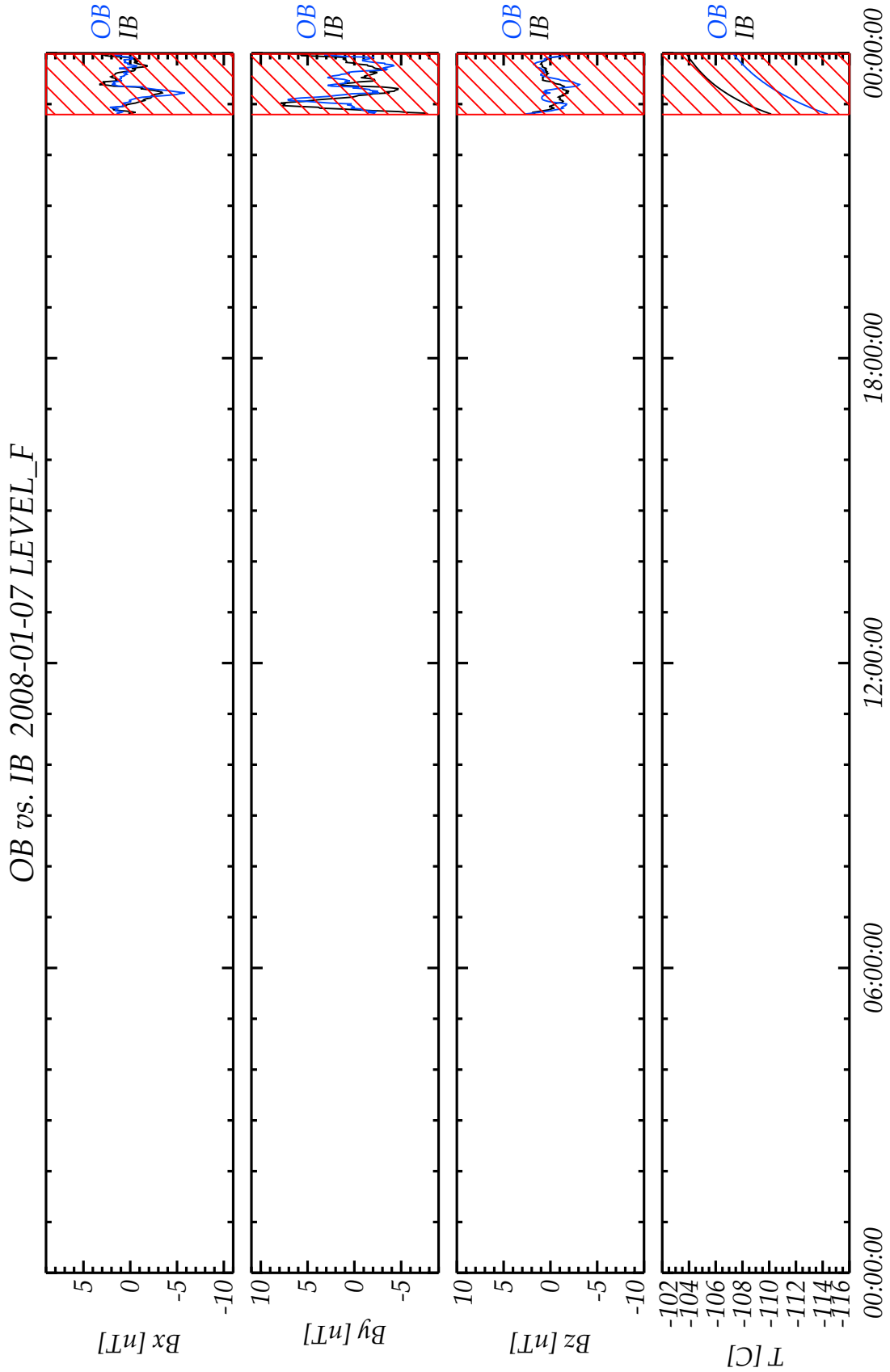
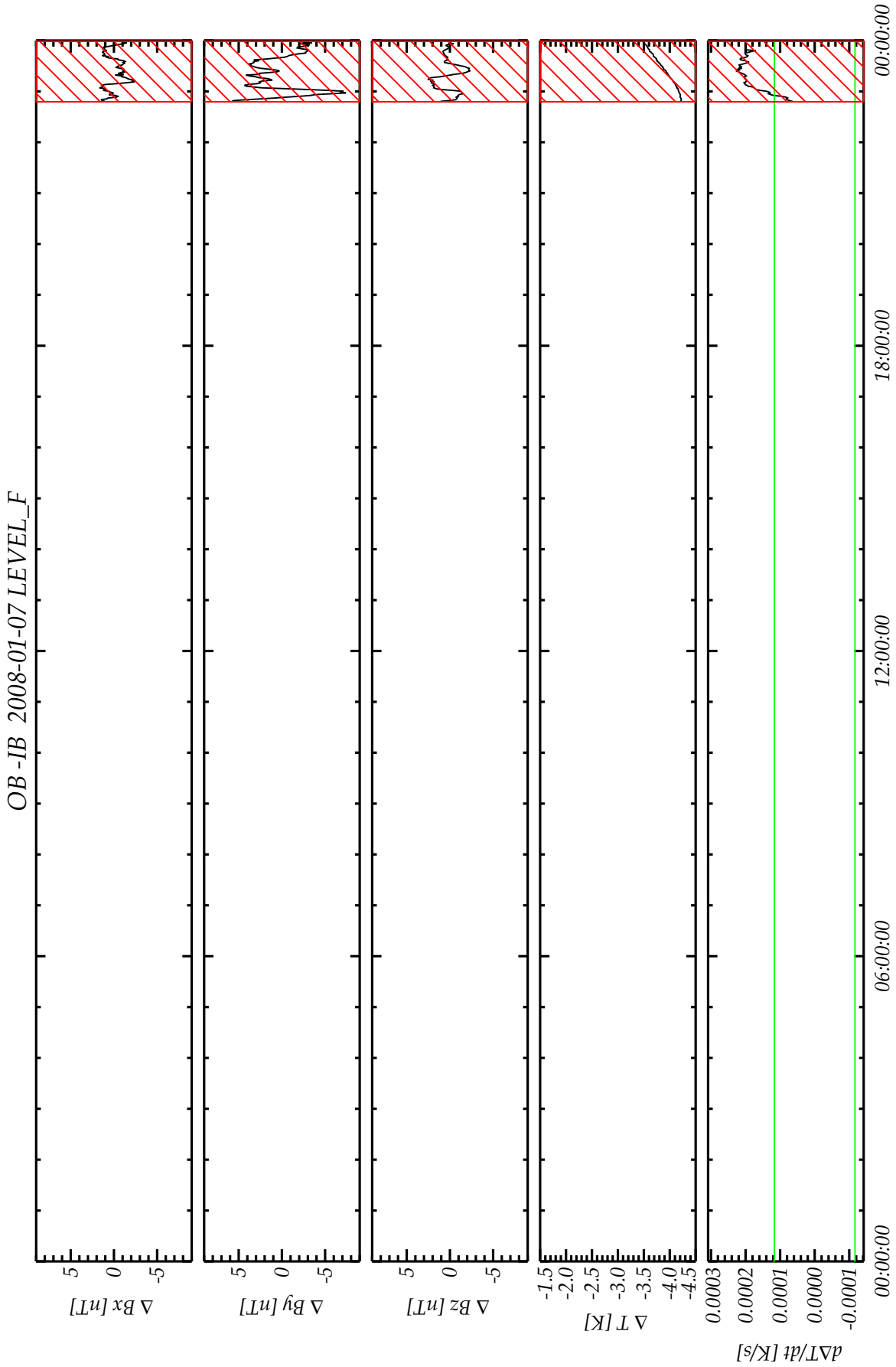
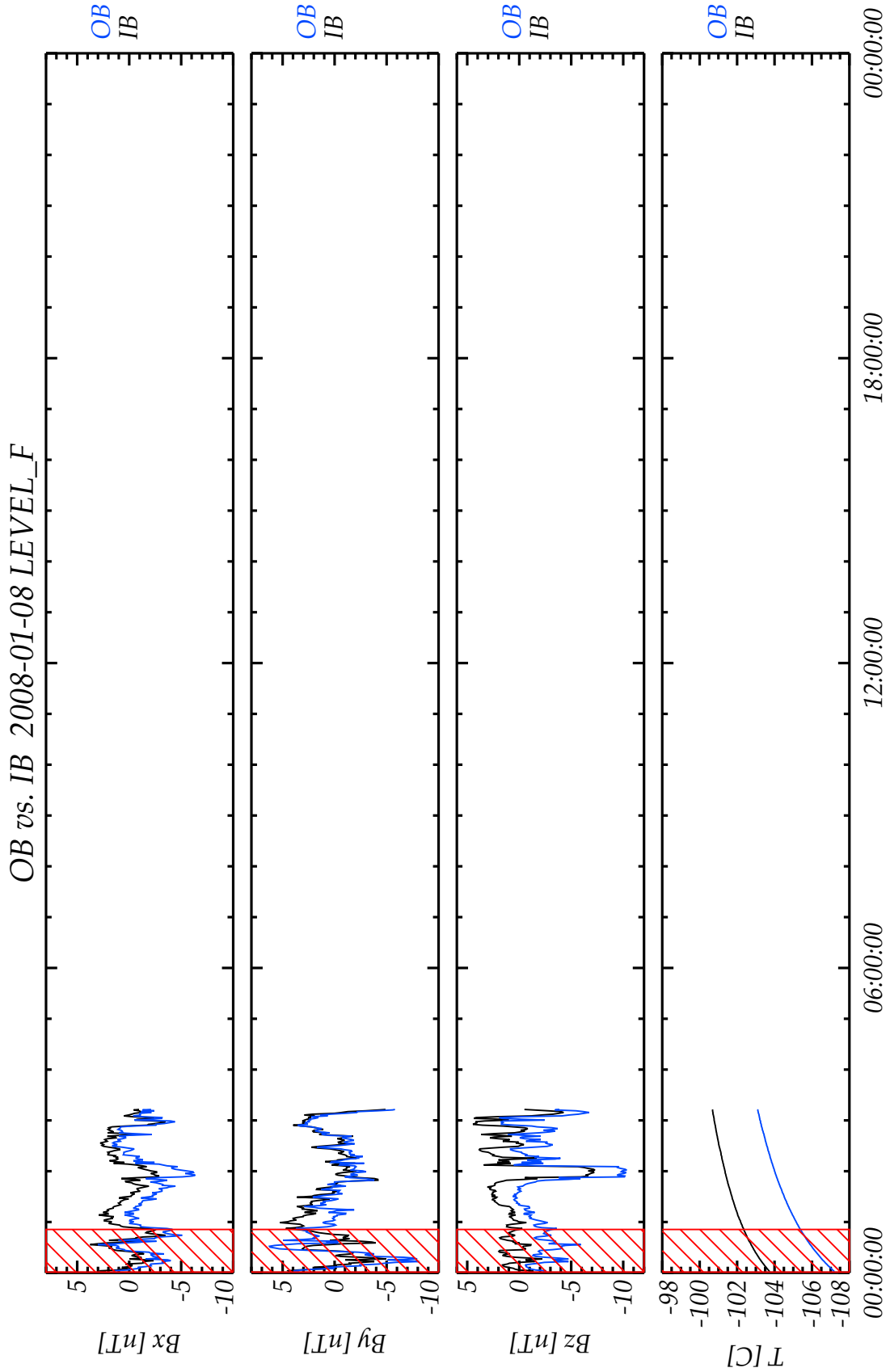


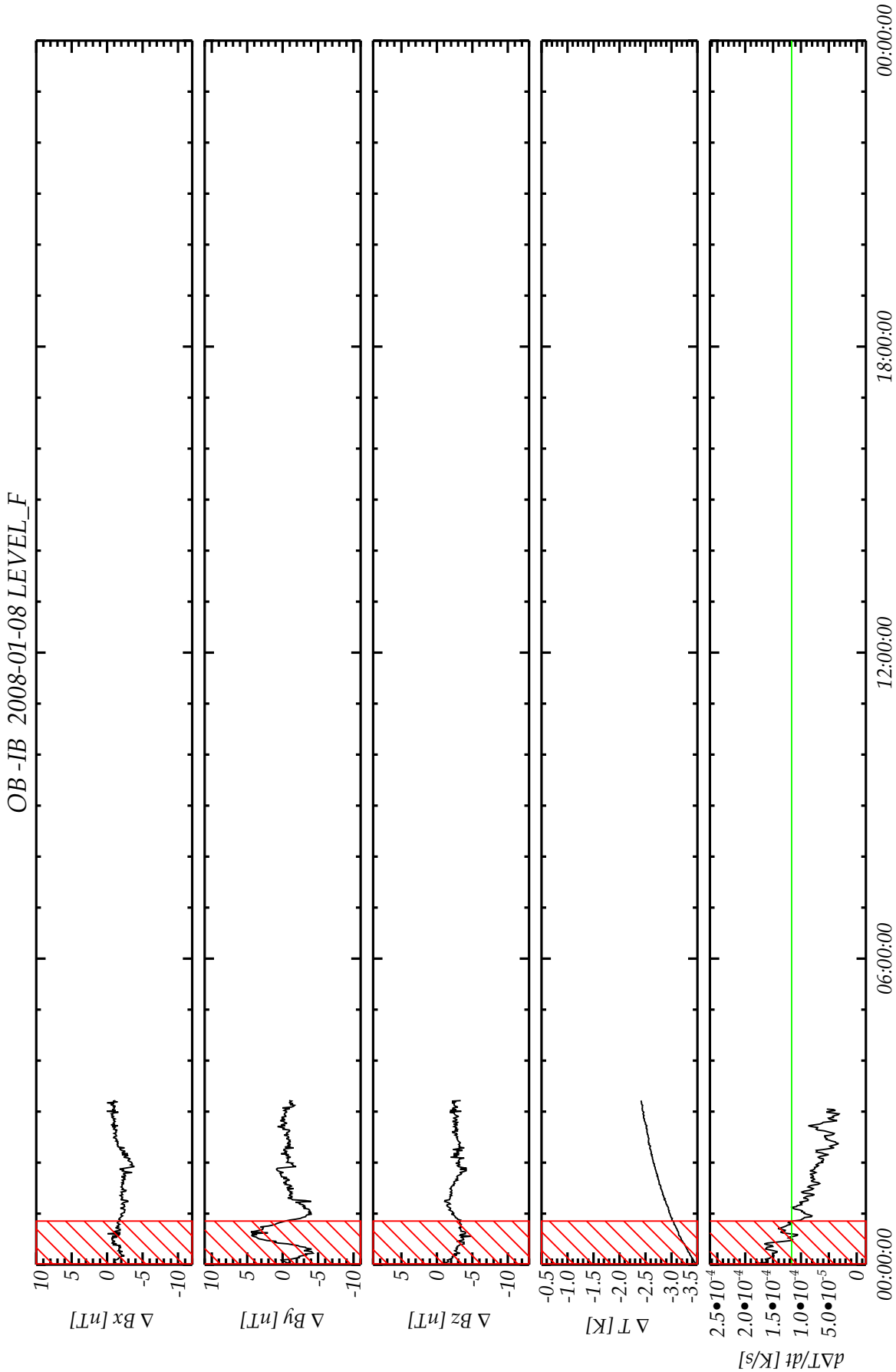
Figure 5: Overview January 2008

DATE	LEVEL	AVERAGE [s]	SENSOR
2008-01-07	CLG	1	OB
2008-01-07	CLF	1	OB
2008-01-07	CLF	1	IB
2008-01-07	CLG	1	IB
2008-01-08	CLF	1	OB
2008-01-08	CLG	1	OB
2008-01-08	CLG	1	IB
2008-01-08	CLF	1	IB


OB vs. IB 2008-01-07 LEVEL_F
Bx [nT]
By [nT]
Bz [nT]
T [C]
OB
IB
00:00:00
06:00:00
12:00:00
18:00:00
00:00:00


OB -IB 2008-01-07 LEVEL_F
Δ Bx [nT]
Δ By [nT]
Δ Bz [nT]
Δ T [K]
dΔT/dt [K/s]
5
0
-5
-1.5
-2.0
-2.5
-3.0
-3.5
-4.0
-4.5
0.0003
0.0002
0.0001
0.0000
-0.0001
00:00:00
06:00:00
12:00:00
18:00:00
00:00:00


OB vs. IB 2008-01-08 LEVEL_F
Bx [nT]
By [nT]
Bz [nT]
T [C]
OB
IB
5
0
-5
-10
-98
-100
-102
-104
-106
-108
00:00:00
06:00:00
12:00:00
18:00:00
00:00:00


OB -IB 2008-01-08 LEVEL_F
Δ Bx [nT]
Δ By [nT]
Δ Bz [nT]
Δ T [K]
dΔT/dt [K/s]
00:00:00
06:00:00
12:00:00
18:00:00
00:00:00