

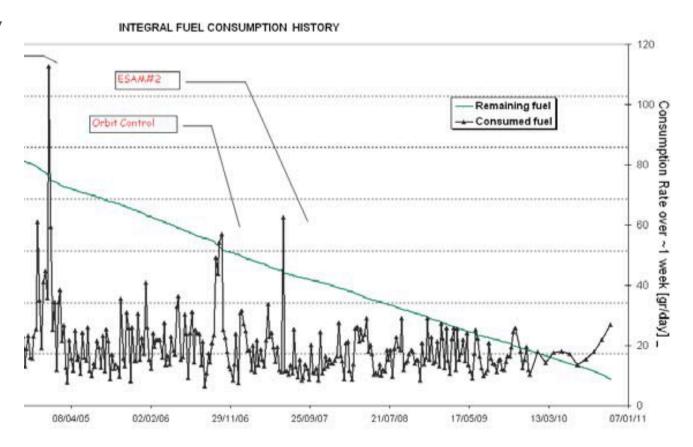
INTEGRAL Mission Status

P. Kretschmar – INTEGRAL Mission Manager INTEGRAL User Group Meeting ESTEC – 16 December 2010

PLATFORM STATUS



- Platform (AOCS, Power, Thermal, OBDH) all working smoothly.
- ➤ Fuel consumption in October 0.84kg, about 30% to 40% higher than nominal.
 Attributed to large number of ToOs → non-optimised Reaction Wheel Biases.
 Remaining fuel: >124 kg.



PAYLOAD STATUS



SPI: Nominal. Active detectors working with reduced HV (3 kV instead of 4 kV) since end of annealing in revolution 981.

Compressor Drive Electronics 1 changed to safer configuration.

Compressor Drive Electronics 1 changed to safer configuration.

Operational issue: cold plate temperature rising through Earth

albedo, combination of low perigee height and season.

> IBIS: Nominal.

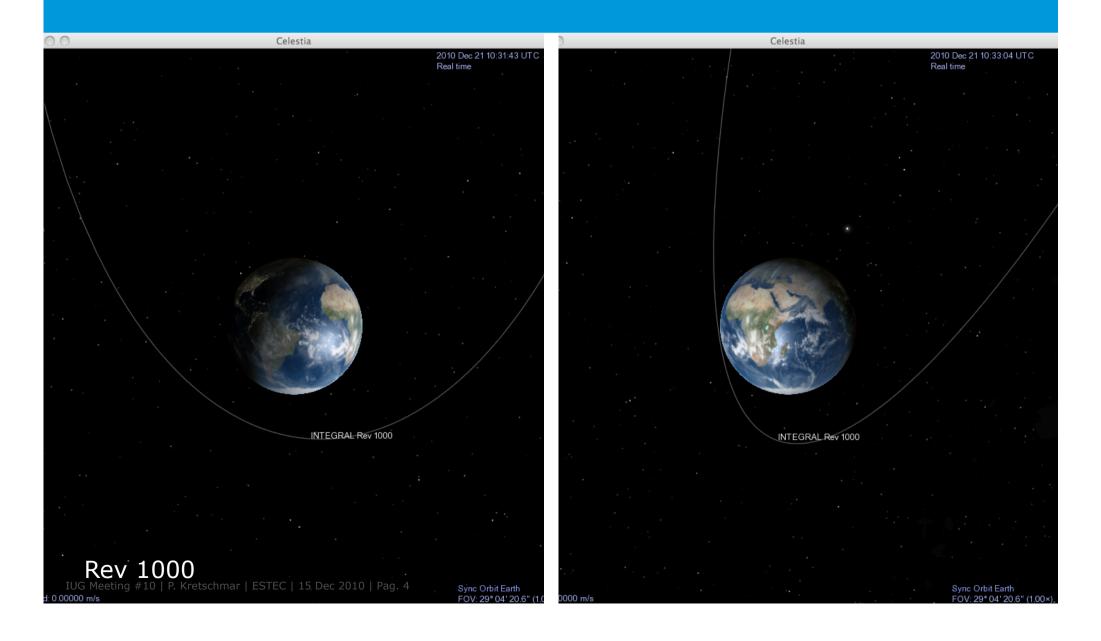
> JEM-X: Nominal, running again with both units since revolution 976 (10 Oct).

➤ OMC: Nominal.

> IREM: Nominal.

ORBIT EVOLUTION IN 1 YEAR





SPI COLD PLATE TEMPERATURES



80.5 --- E0392 T CR COLDPLT L2 degK Change in 80.4375 Perigee 993 to 994 80.375 new attitude -Z=97 deg Perigee 992 to 993 perigee 80.3125 80.25 attitude 80.1875 80.125 scheme: 80.0625 80 now fixed 79.9375 by MOC to 79.875 79.8125 ensure 79.75 delta T = 0.24 deg 79.6875 cold plate 79.625 79.5625 stays in 79.5 shadow. 79.4375 79.375 79.3125 Perigee 992 to 993 79.25 new attitude -Z=39.4 deg 79.1875

29/11/2010

30/11/2010

01/12/2010

02/12/2010

03/12/2010

Almost no change in temperature has been observed

IUG Meeting #10 | P. Kretschmar | ESTEC | 15 Dec 2010 | Pag. 5

79.125 -79.0625 -79 -

European Space Agency

04/12/2010

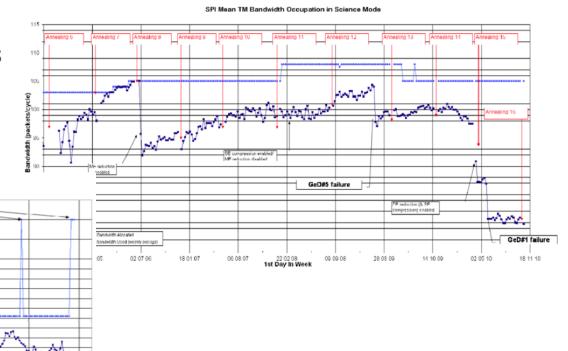
BACKGROUND & TELEMETRY



- ➤ Background slowly decreasing in all high-energy instruments. In addition SPI reduced TM use through compression and detector loss.
- Meeting at INTEGRAL workshop Dublin: redistribution of 6 packets from SPI and 2 from IBIS to allow use of both JEM-X units again.

IBIS TM Bandwidth Occupation in Science Mode

lows (INTC3CCR-87)



Alocated TM bandwidth

Used TM bandwidth (week)

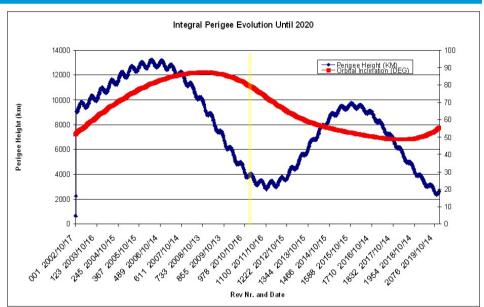
170

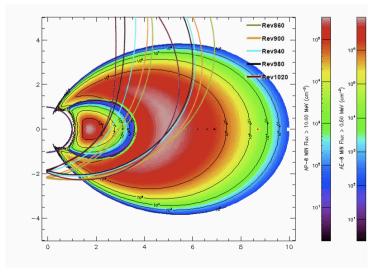
150

ORBIT EVOLUTION & RADIATION DOSE



- ➤ Perigee altitude currently at <4000 km km. Minimum of ~2800 km will be reached in October 2011.
- ➤ No special problems reported so far from belt passages. But main dose from proton belts to come in 2011/12.
 - → Study of effects on solar arrays.
- Belts passage time now shorter.
- Transmitters are switched off and back on via time-tagged commands during perigee passage since 26 August 2010 in order not to violate ITU regulations.
- Probably short gap in coverage from Redu in late 2014. Magnitude of effect and possible solutions under study. Depends on detailed orbit evolution.

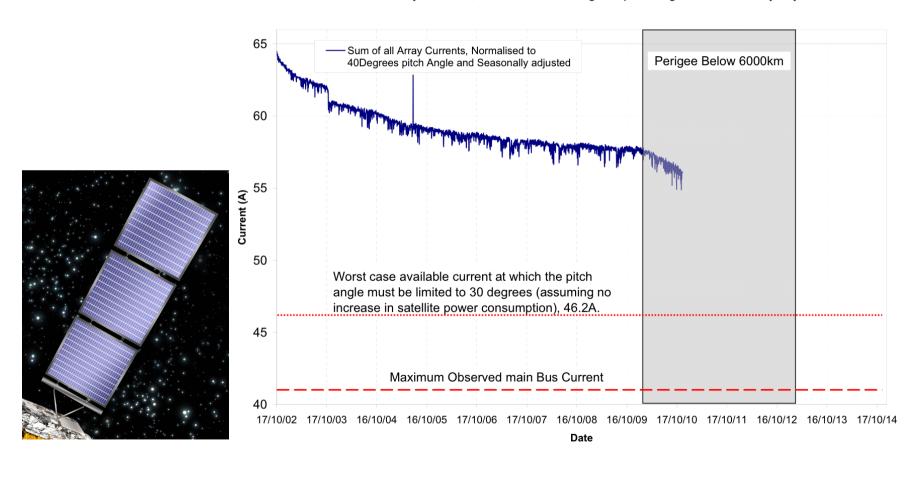




RADIATION DOSE EFFECTS ON SOLAR ARRAYS



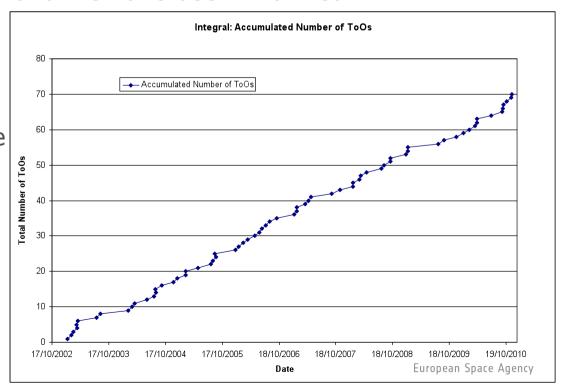
Sum of all Array Currents, Normalised to 40Degrees pitch Angle and Seasonally Adjusted



ISOC NEWS



- No staff changes since last IUG Meeting.
- ➤ AO-8 Data Rights proposal selection process went overall very smoothly. New functionality in TAC pages (conflict detection & management) very much appreciated by Compact Objects panel. Further improvements planned for AO-9. Database has been updated and PIs have been informed.
- ▶ eAIMS has been used to derive first Long-Term Plan for AO-8.
- ➤ TOO reactivity remains high, thanks also to very good response at MOC. TOOs on Crab and on MAXI J1659-152 were among fastest ever (observed <5 h and ~8 h after trigger, respectively).

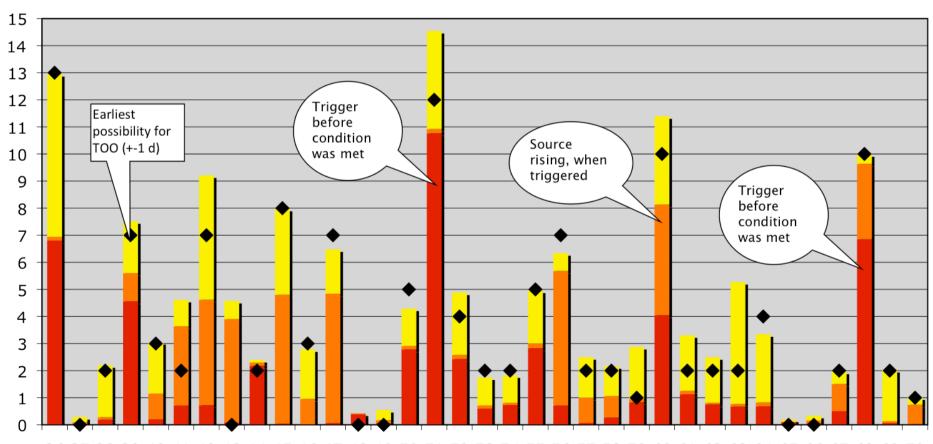


TOO Delay Overview



Delays between trigger and observation





36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70



Thank you for the great effort!