

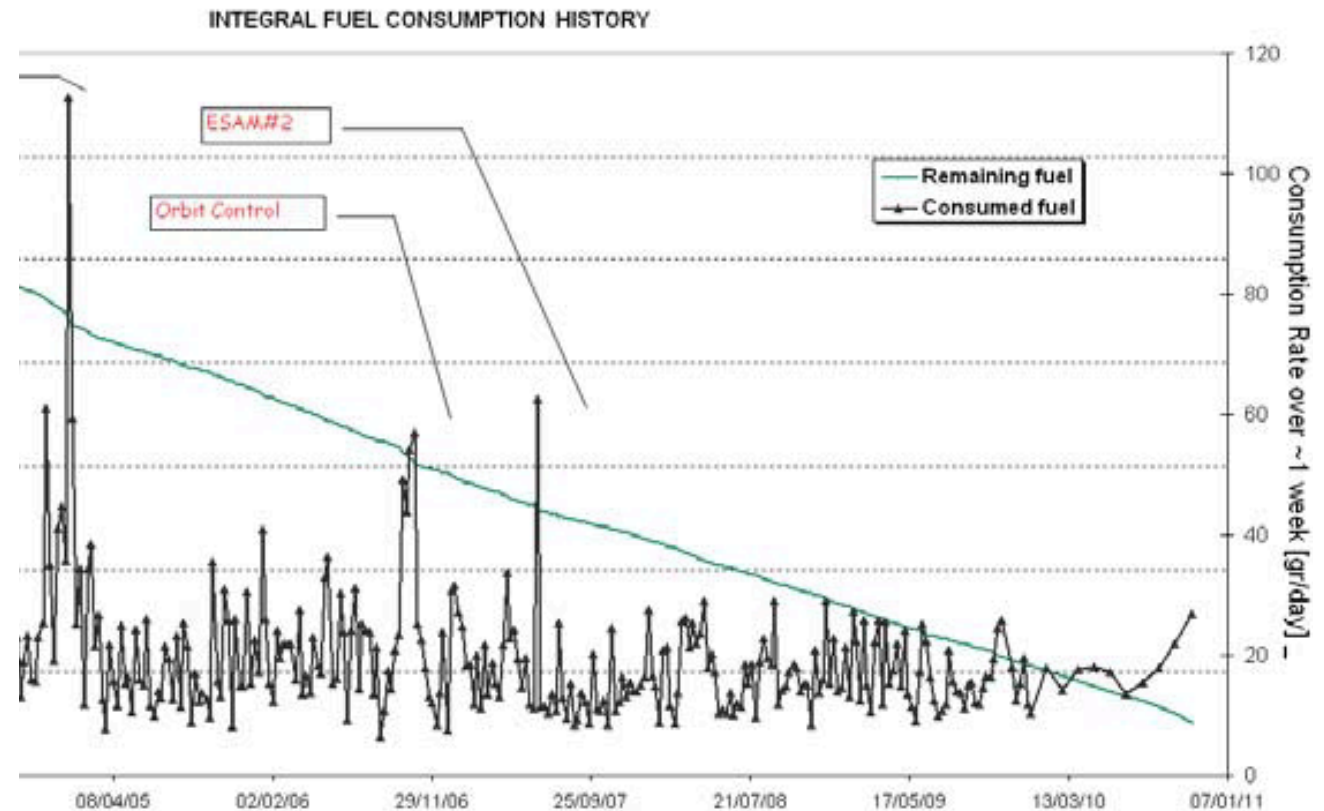
INTEGRAL Mission Status

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

PLATFORM STATUS

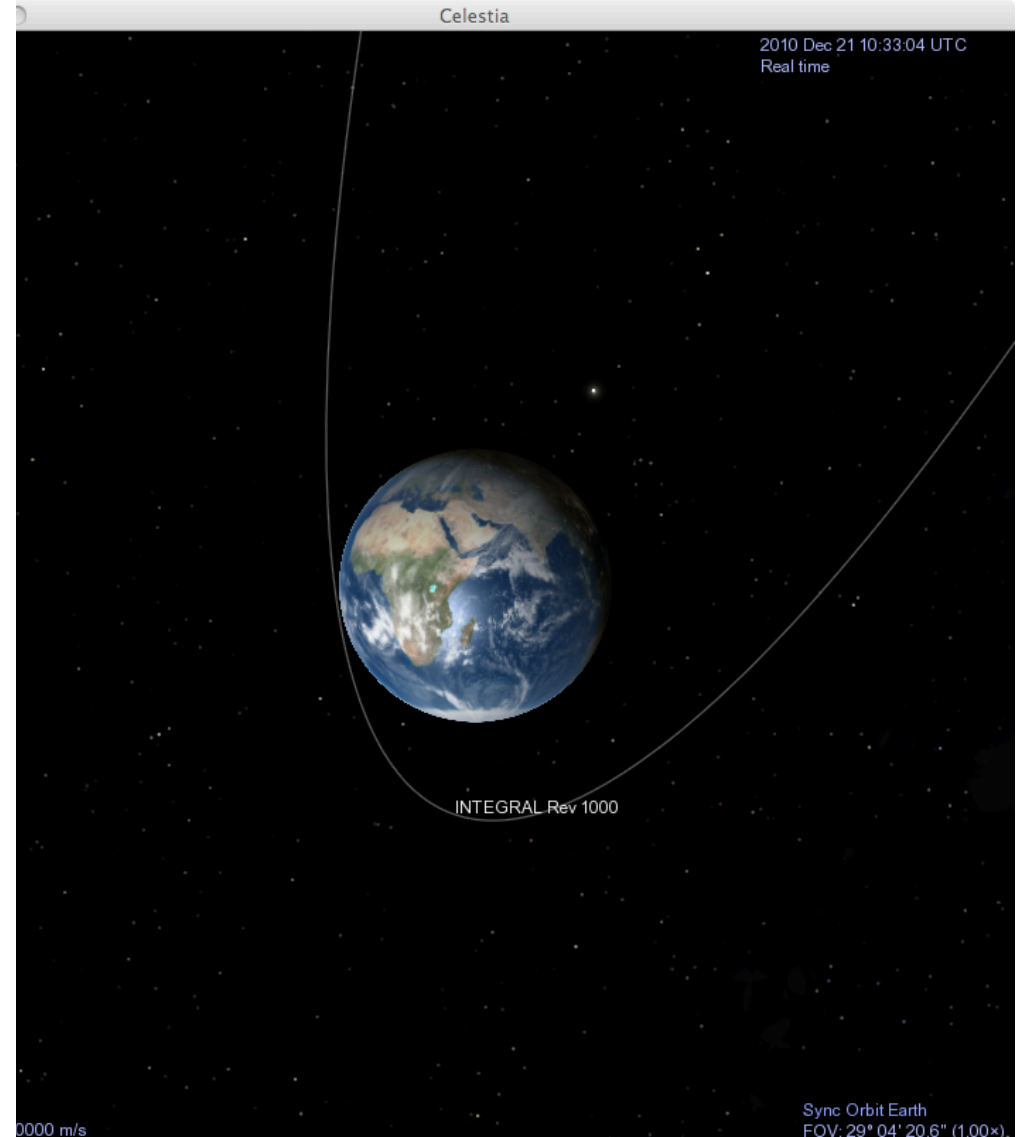
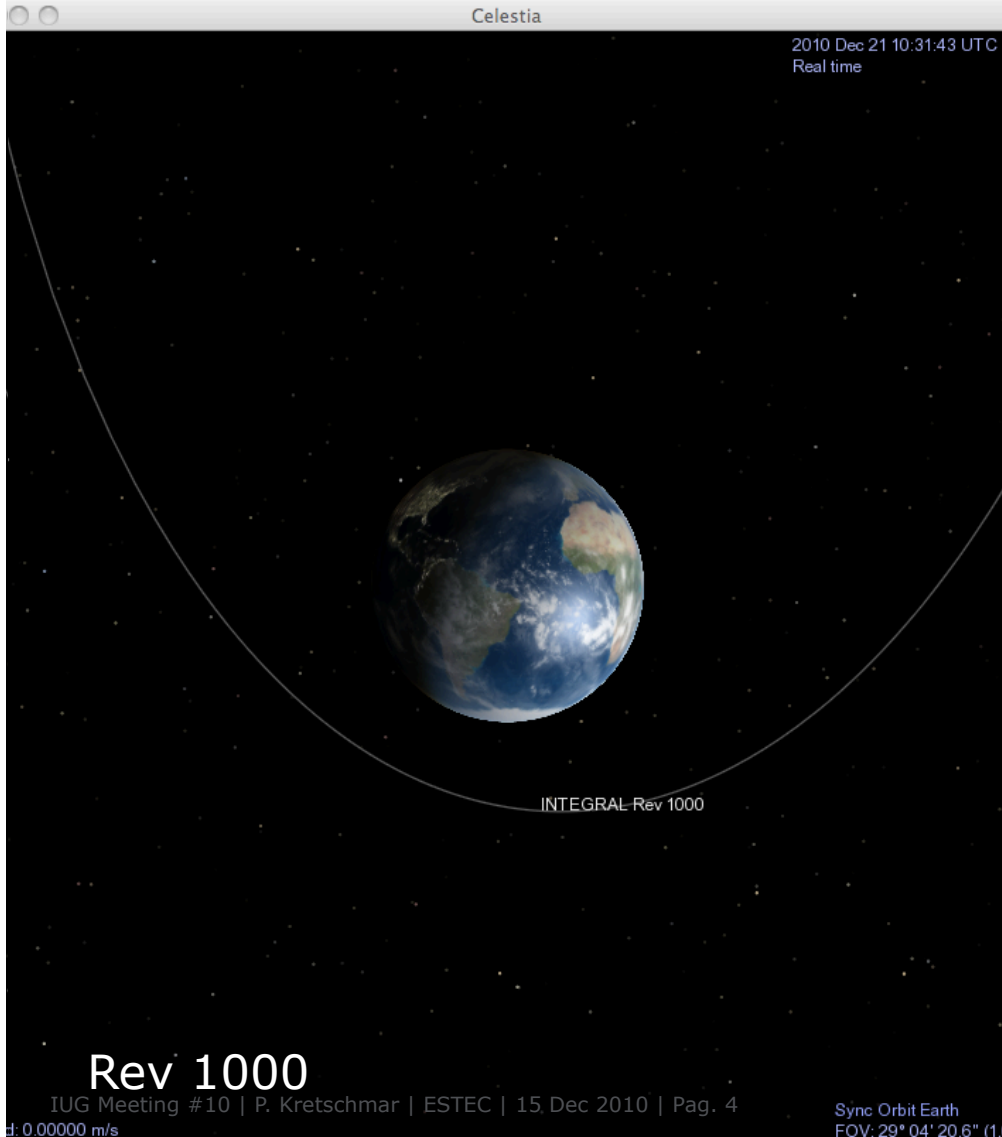


- Platform (AOCS, Power, Thermal, OBDH) all working smoothly.
- Fuel consumption in October 0.84kg, about 30% to 40% higher than nominal. Attributed to large number of ToOs → non-optimised Reaction Wheel Biases. Remaining fuel: >124 kg.



- 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. 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.

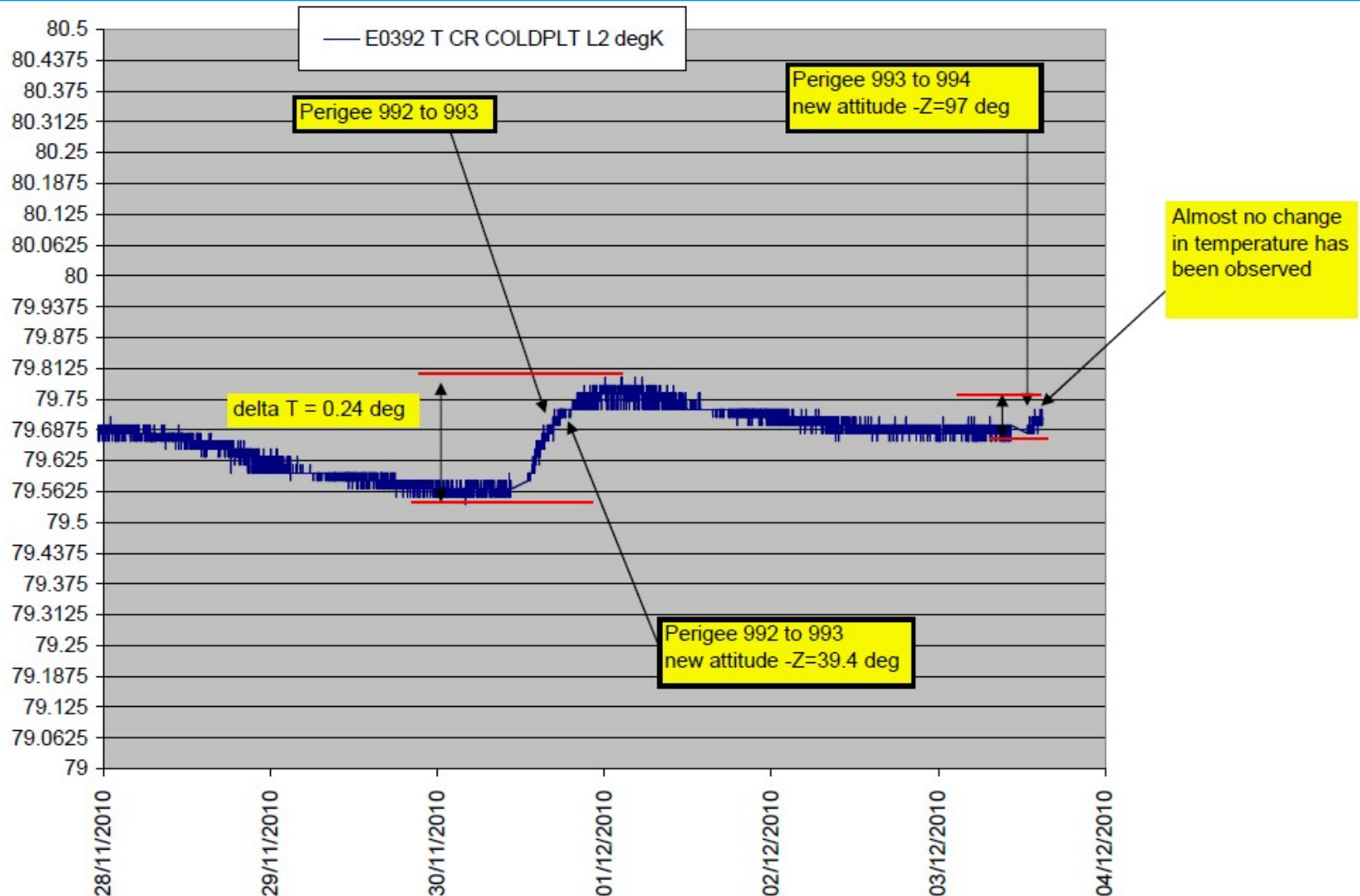
ORBIT EVOLUTION IN 1 YEAR



SPI COLD PLATE TEMPERATURES



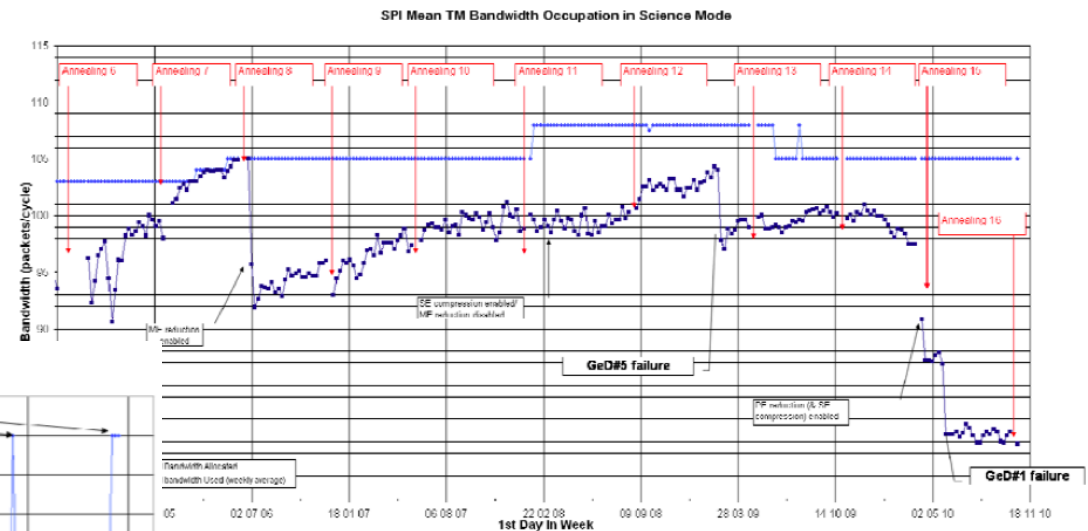
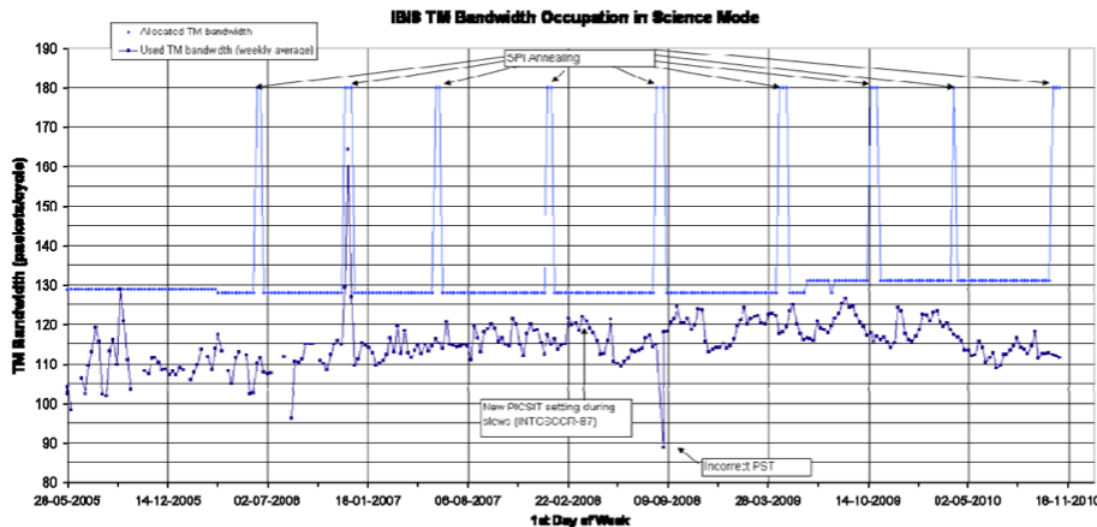
- Change in perigee attitude scheme: now fixed by MOC to ensure cold plate stays in shadow.



BACKGROUND & TELEMETRY



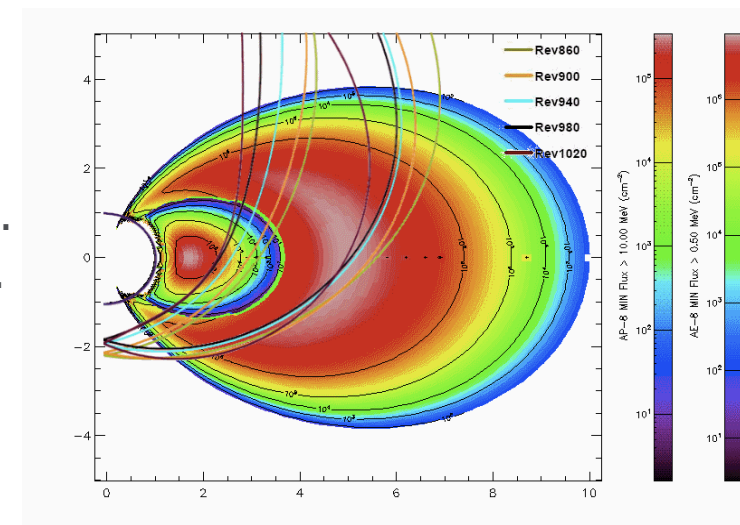
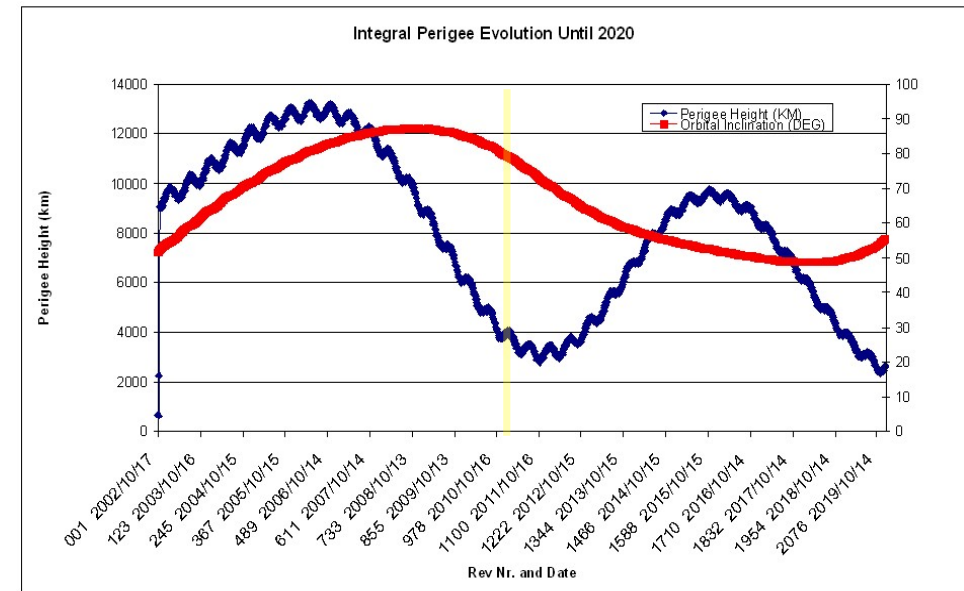
- Background slowly decreasing in all high-energy instruments. In addition SPI reduced TM use through compression and detector loss.
- Meeting at INTEGRAL workshop Dublin: redistribution of 6 packets from SPI and 2 from IBIS to allow use of both JEM-X units again.



ORBIT EVOLUTION & RADIATION DOSE



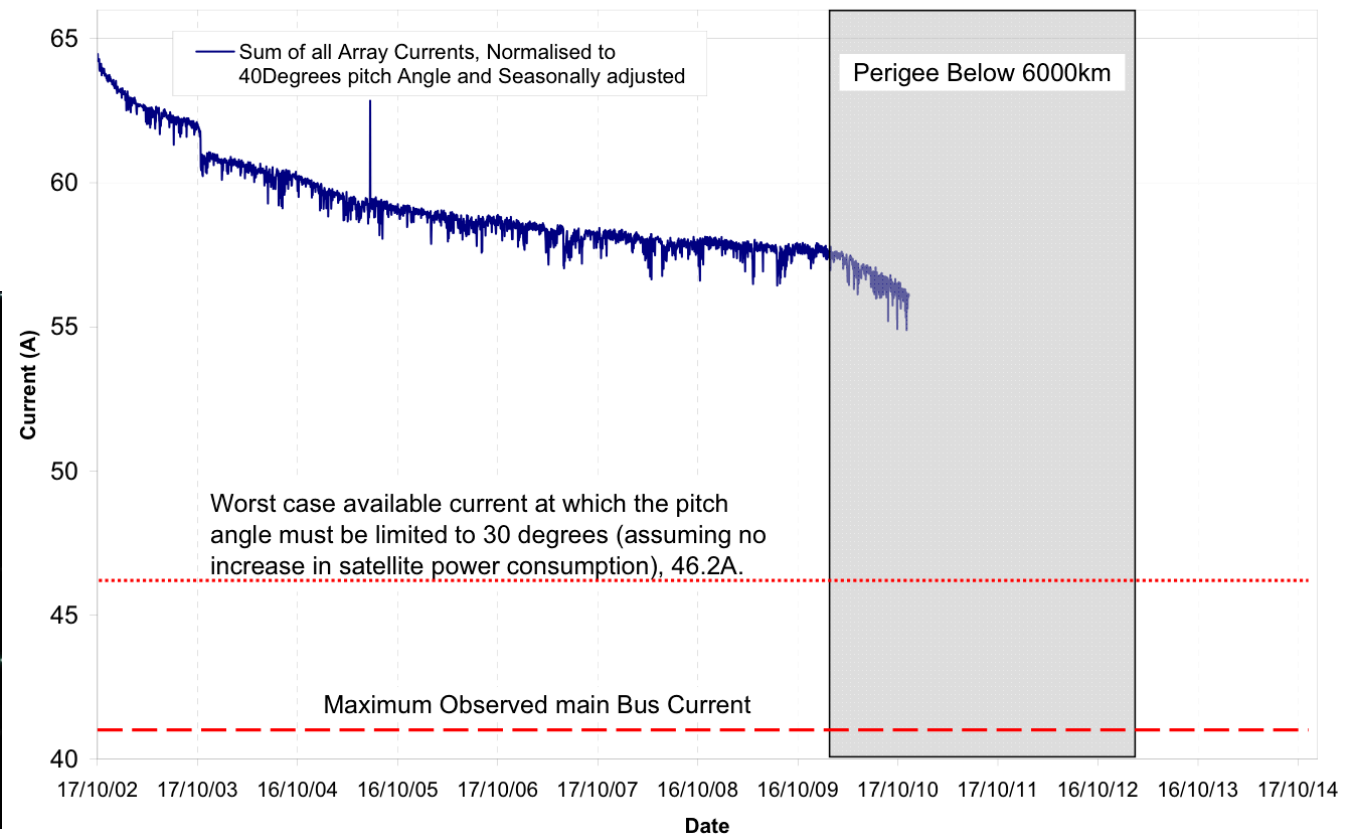
- Perigee altitude currently at <4000 km. Minimum of ~2800 km will be reached in October 2011.
- No special problems reported so far from belt passages. But main dose from proton belts to come in 2011/12.
➔ Study of effects on solar arrays.
- Belts passage time now shorter.
- Transmitters are switched 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.



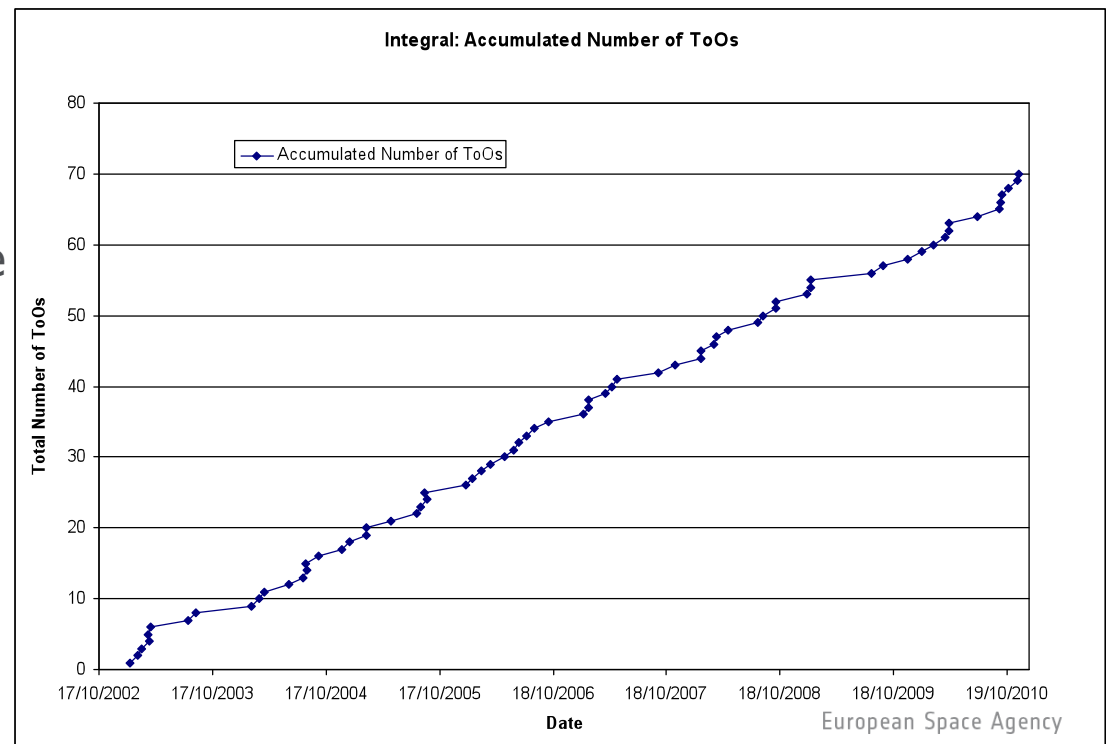
RADIATION DOSE EFFECTS ON SOLAR ARRAYS



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

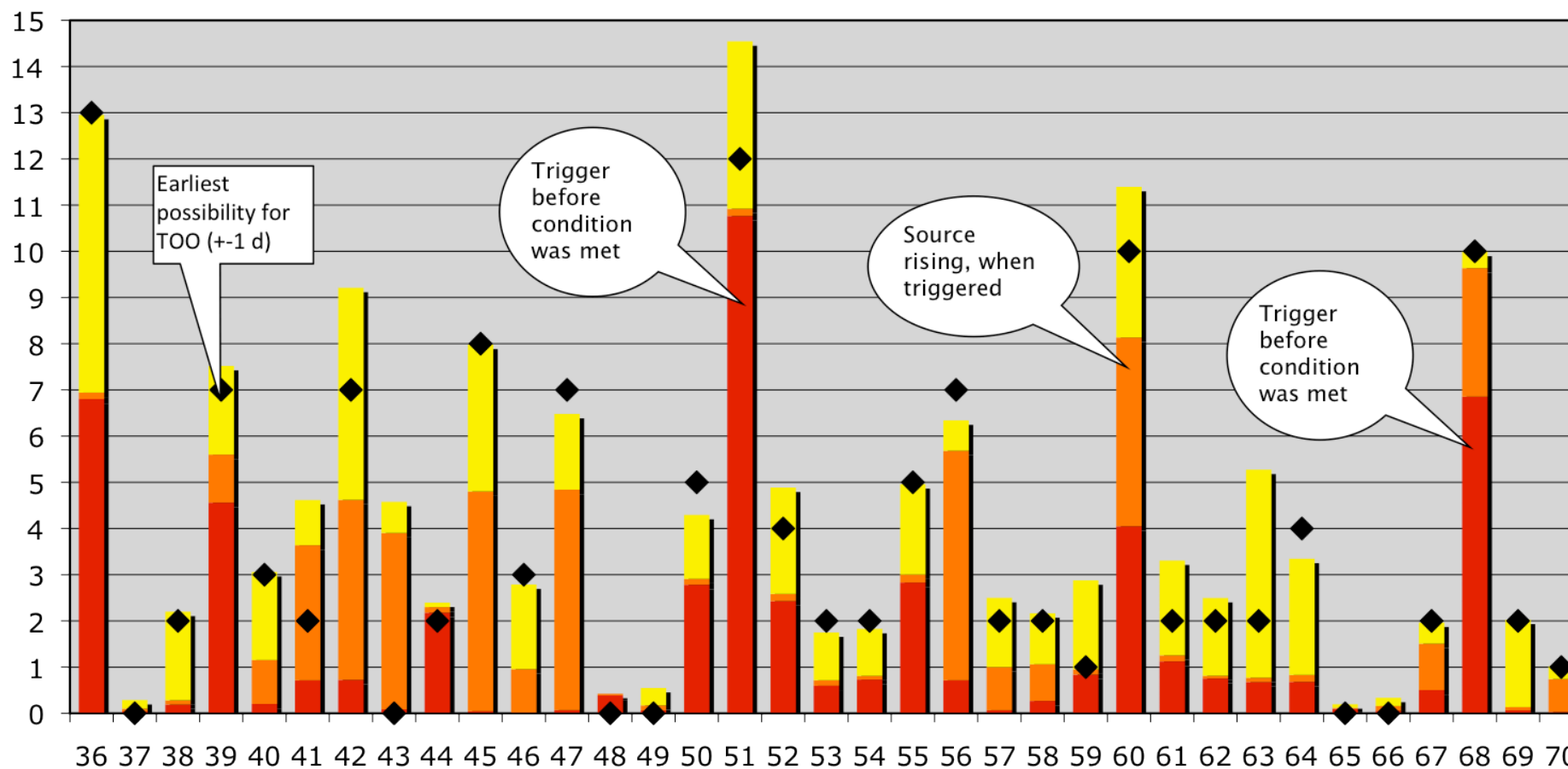


- No staff changes since last IUG Meeting.
- AO-8 Data Rights proposal selection process went overall very smoothly. New functionality in TAC pages (conflict detection & management) very much appreciated by Compact Objects panel. Further improvements planned for AO-9. Database has been updated and PIs 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).



Delays between trigger and observation

■ POS Delay ■ TSF Delay ■ Obs Delay ◆ Min. Delay



**Thank you for
the great
effort!**