Unfolded Spectrum

Flare 2

kT~4 keV

kT~16 keV

Flare 3

Preliminary

1000

100

keV² (Photons cm⁻² s⁻¹ keV⁻¹)

5

10

20

50

100

Energy (keV)

turler 26-Nov-2013 10:39

- The **post-perigee** Earth observations of 2012:
  - are **not usable** for a precise measurement of the CXB,
  - but EO 2.5 caught (very ?) interesting auroral activity.
    - Aurorae are a “new source” for INTEGRAL with new public outreach and science potential thanks to high orbit, and spectral coverage.
- The first **pre-perigee** Earth observation of 2013:
  - was a **success** by allowing to detect and measure the CXB occultation in the 5-50 keV range, despite moderate auroral emission and strong activity of GX 301-2.
  - The ability gained to model auroral emission should allow us to get additional CXB constraints in JEM-X from two EOs of 2006 not considered at the time and maybe also from EO 2.3.

    - **There is already the potential for an update on JEM-X results on the CXB and on a paper on the aurorae of EO 2.5.**

- The two papers on the CXB are well cited:
  - Churazov et al. 2007: **89** ; Türler et al. 2010: **19** (ADS)
- The pre-perigee observations are safe and two per year are manageable by the ISOC and MOC Teams.
  - The belt entry height will increase slowly with time, but solar activity will decrease again.
- It is one of the few areas where INTEGRAL has still a potential to improve much with new observations.
  - We can double the observing time (4 new EOs) by end-2014, and have 4 more by end-2016.
  - Even if some are affected by strong aurorae, we have enough to improve both on statistics and gain on systematics by different observing conditions (diff. background sky, etc.)
  - Strong aurorae observations are not lost. They can be used to gain public awareness on INTEGRAL.
- NuSTAR has been found to be unlikely to improve on the CXB measurement by IBIS (above 20-30 keV).

Thank You to the ISOC and MOC Teams for making this possible!

The INTEGRAL EO program lives only thanks to the enthusiasm and dedication of these teams for planning and performing carefully such critical, non-standard observations.