IBIS/ISGRI
In flight calibration and OSA

Team evolution

- A. Sauvageon still monitoring ISGRI behaviour
- A. Gros (OSA) more available in 2013
- Fabio Mattana left 6/2012
- Juan Zurita left 8/2012
- Karsten Kretschmer arrived 9/2012
- Simona Soldi left 12/2012
- Volodymyr Savchenko arrived 12/2012
- Isabel Caballero left 5/2013
- Lin Lin arrived 11/2013

ISGRI OFF during SPI annealings

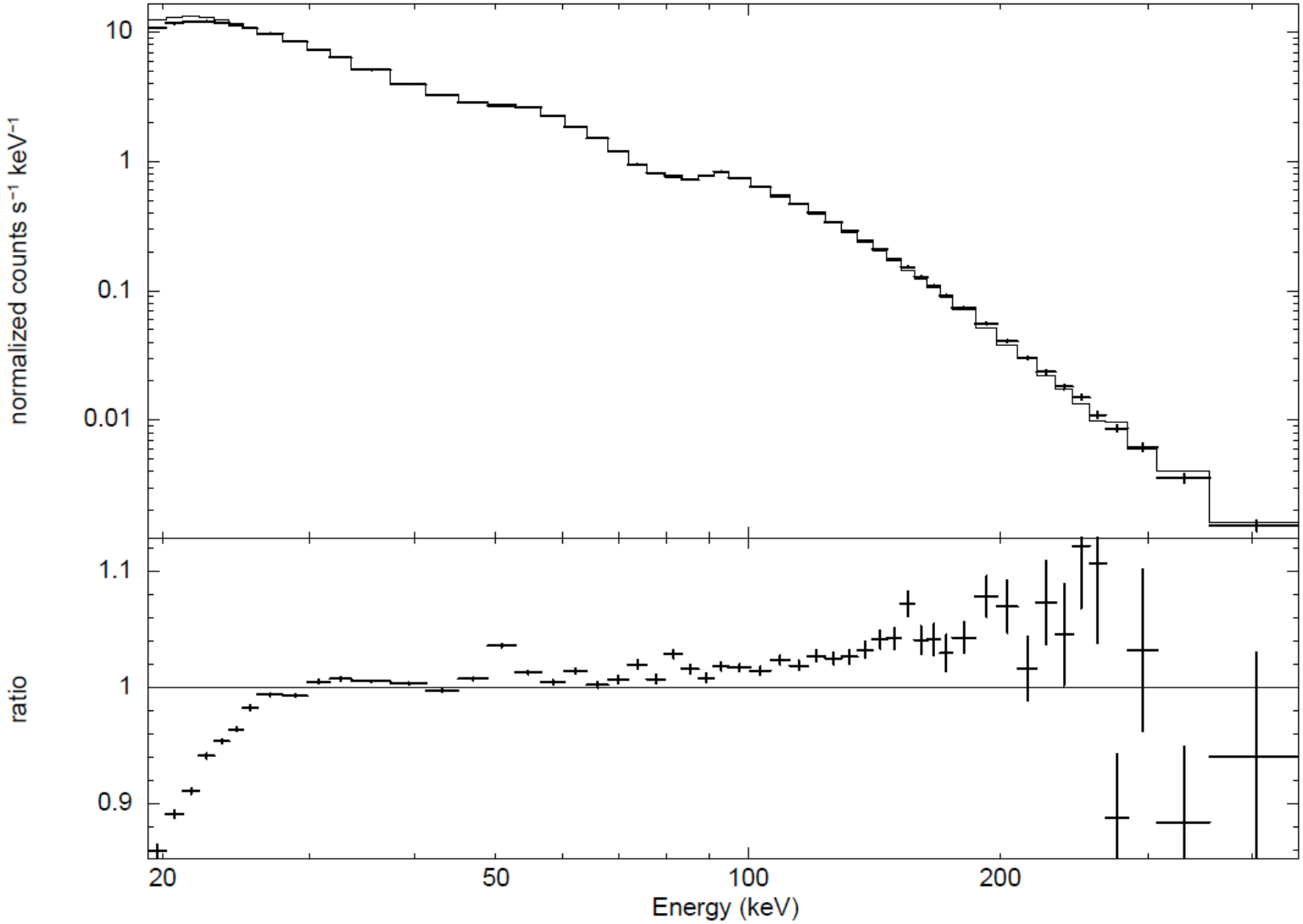
- Strong spectral effect seen in ISGRI Crab spectra after last annealing (C. Ferrigno E-mail)
- Nothing special to report regarding ISGRI pixel noise (A. Sauvageon)
- Late ARF production

Spectral response

- The spectral response is evolving
  - Under the effect of irradiation (detector degradation → ~ gain drift)
  - Other effects
- 2 new ARFs have been produced from the last two Crab observations:
  - 1268 - 1269 (mars 2013)
  - 1327 - 1328 (aout 2013)

rev1327-1328

Corrected with the ARF from 1268-1269

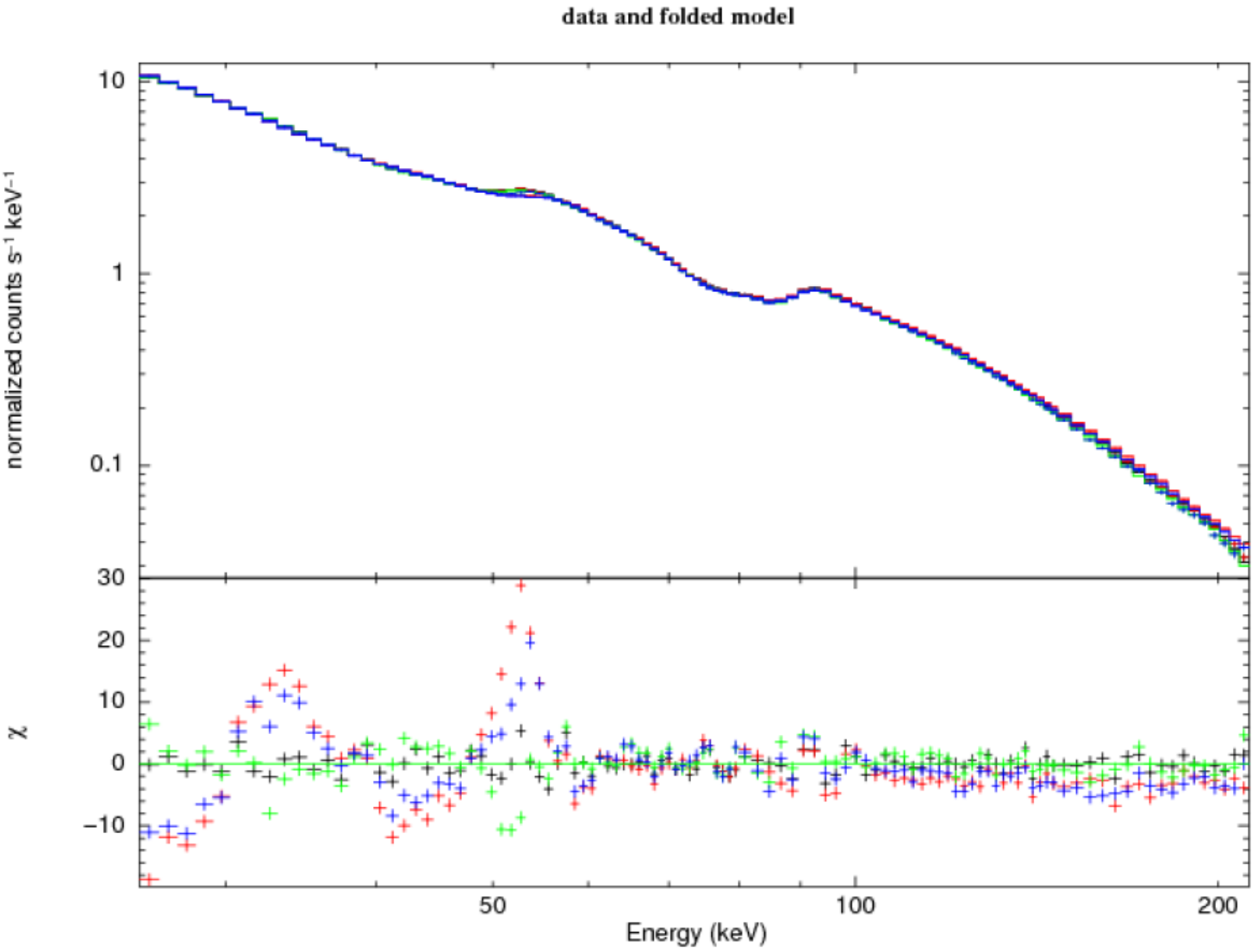


V. Savchenko, L. Natlucci, P. Laurent

Calibrating ARF

black, blue: 1268-9; **green, red**: 1378

black, green: arf calibrated on 1268-9; **blue,red**: old arf



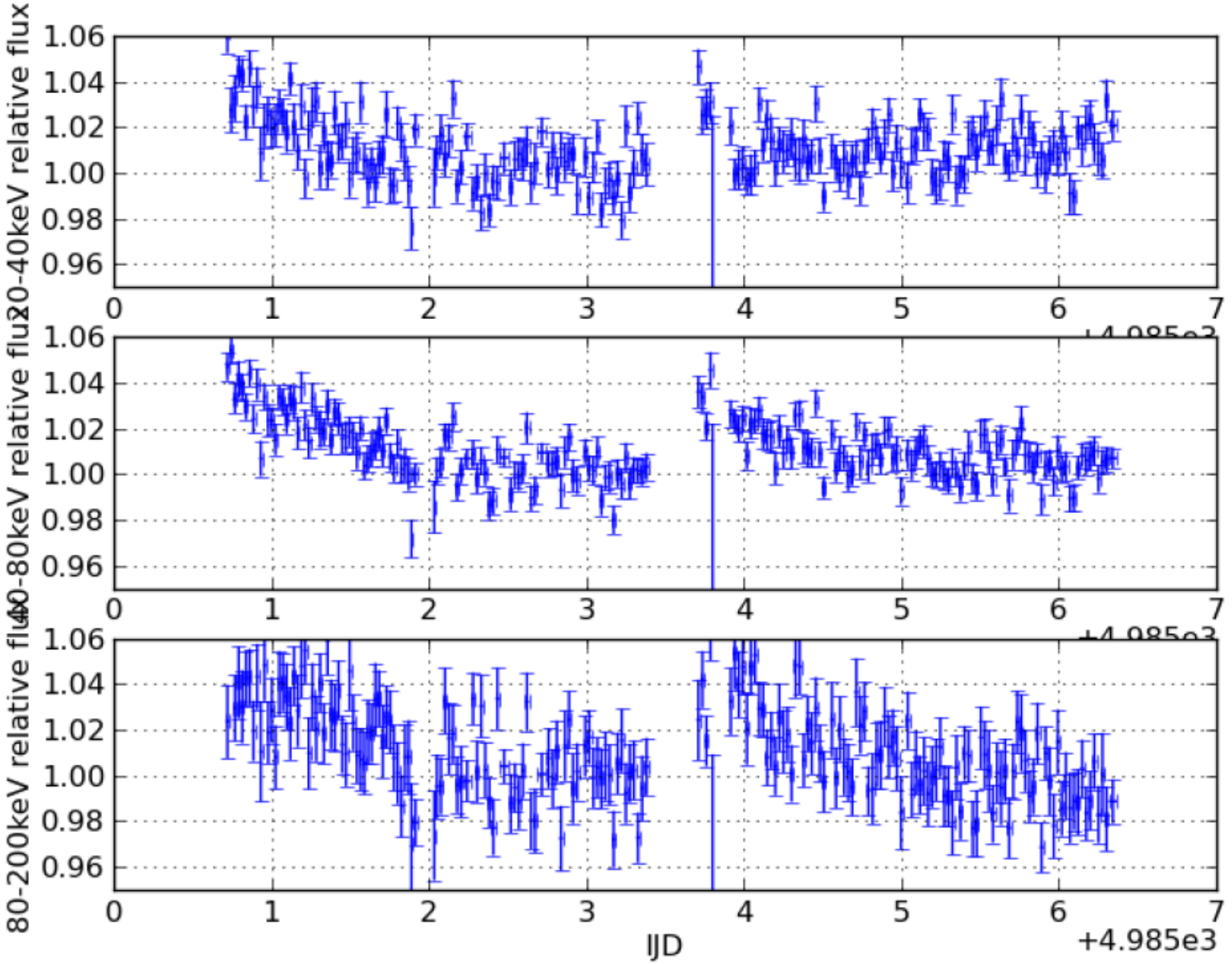
V. Savchenko

Crab flux drift with orbit: 1378

20-40 keV

40-80 keV

80-200 keV



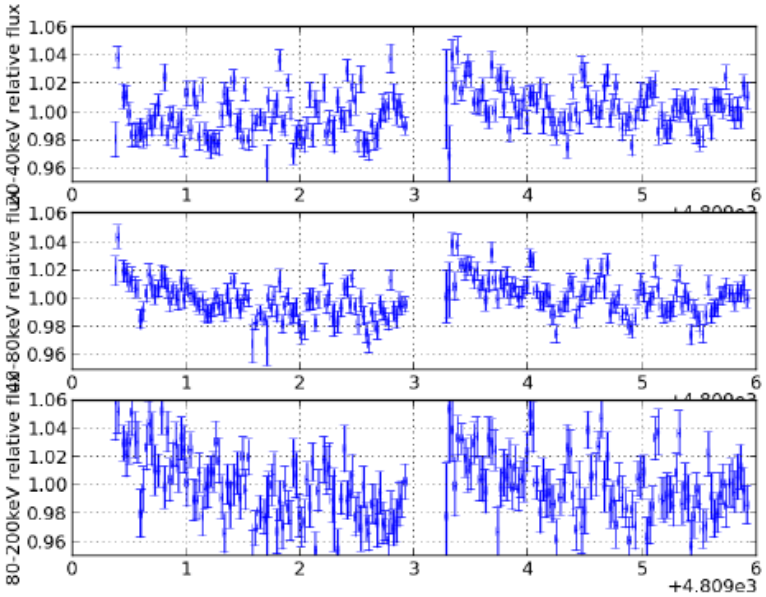
V. Savchenko

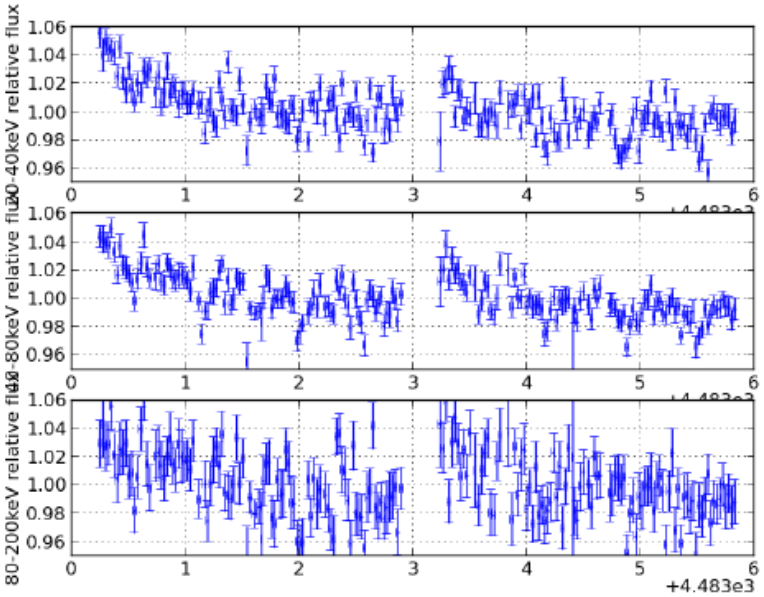
Crab flux drift with orbit: 1268,1159

20-40 keV

40-80 keV

80-200 keV

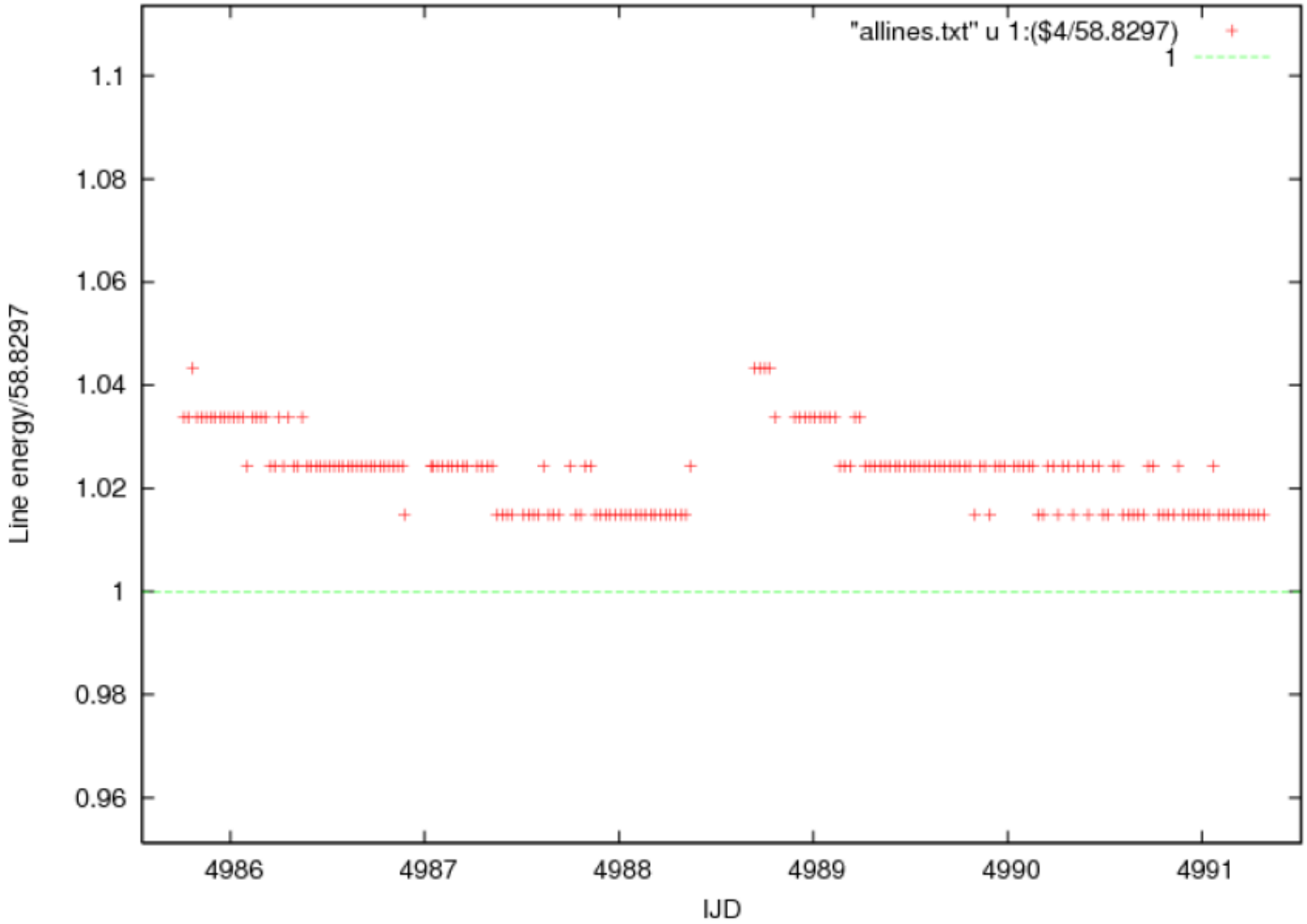




Activation or spectral drift ?

V. Savchenko

Energy "drift"

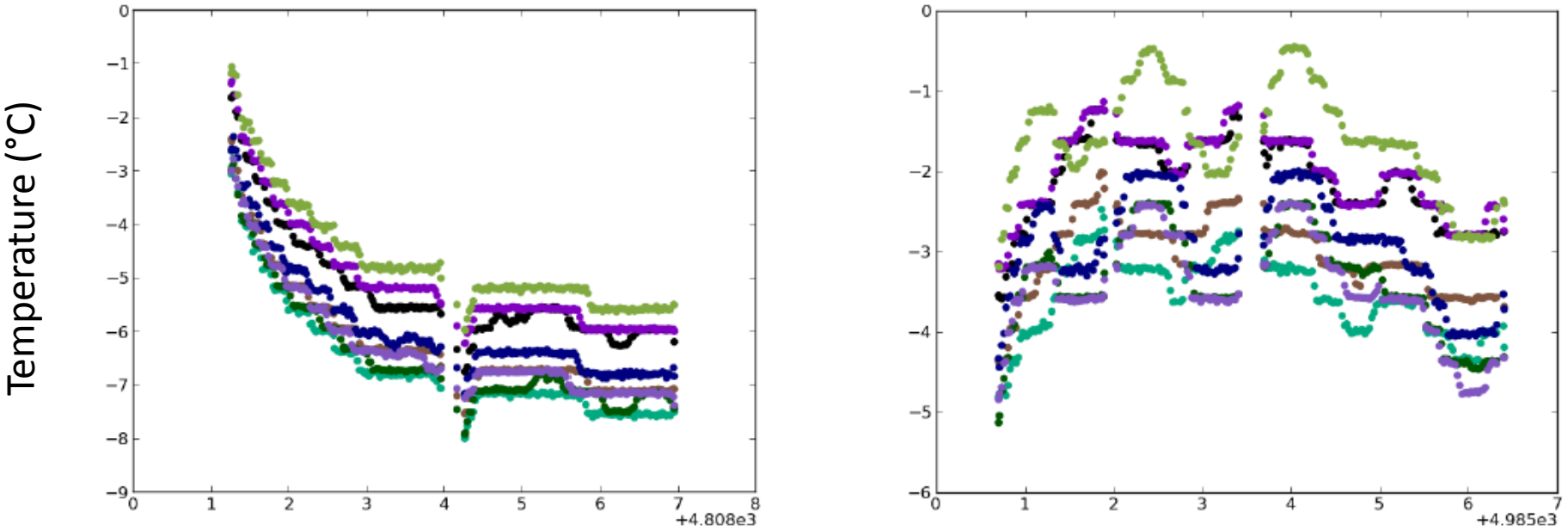


drift or countrate change in some bands?

V. Savchenko

Temperature evolution

1268-9,1378-9



No clear trend

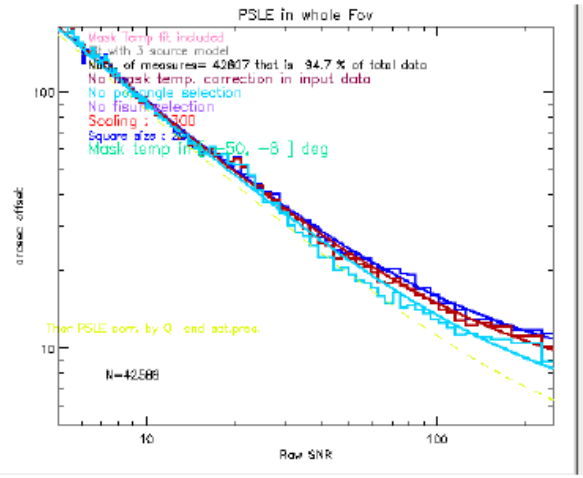
V. Savchenko

PSLA

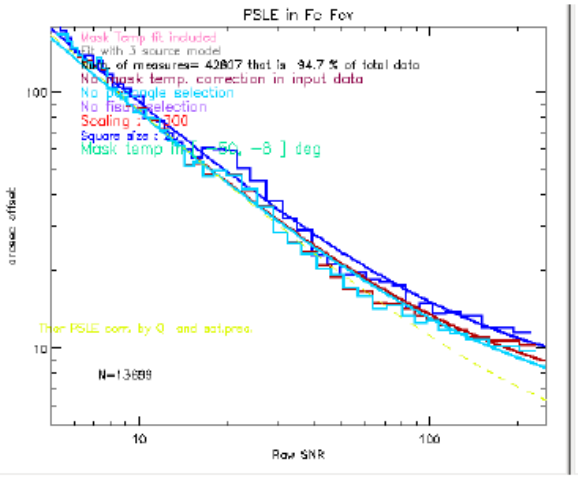
- Work on-going by A. Gros and A. Goldwurm to improve the PLSA accuracy by modelling mask and detector defects and their evolution (orientation, temperature)
- First results very encouraging
- Very complex model
  - Applicable to OSA ?
  - Effect on ghosts ?

PSLE improvement

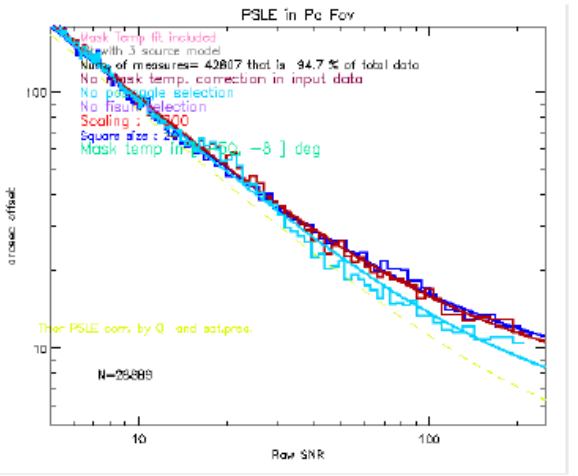
Whole Fov



Fc Fov



PcFov

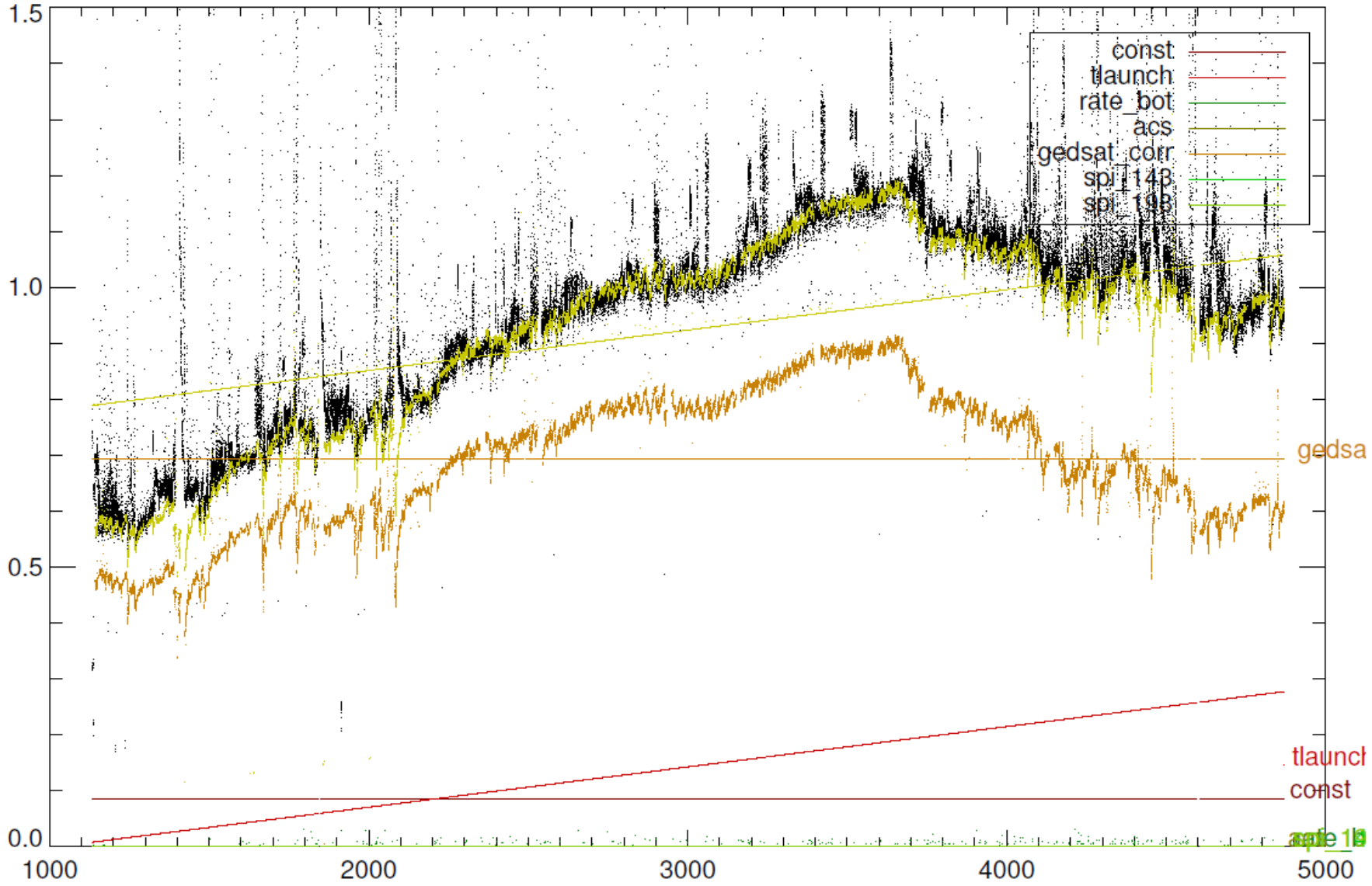
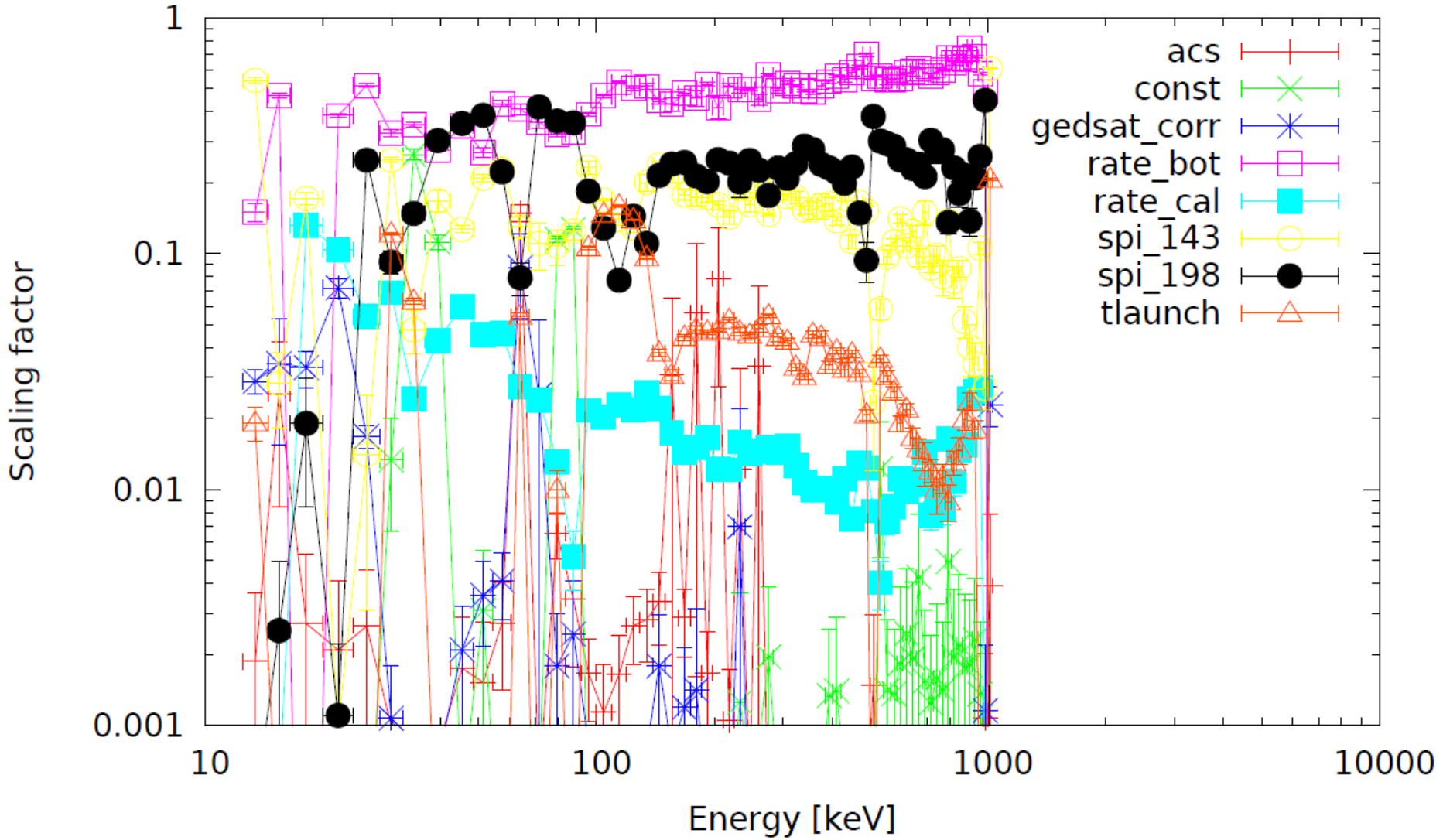


Method	90% C.R. PSLE in arcsec					
	Raw SNR=10		Raw SNR=100		Raw SNR=1000	
	Fov	Pc Fov	Fov	Pc Fov	Fov	Pc Fov
ISDC corr.	92.2	96.6	16.0	16.8	8.4	8.8
M1+M2	90.5	93.4	13.4	13.7	5.7	5.7
Theor	85		11.2		3.8	

Background maps

- Correcting for background spatial structures is essential to obtain flat images
- The spatial structure of the background is variable
- The spatial structures of the various BKG components are differents
- First step: estimate the relative intensity of the BKG components

Energy dependence



Count rate spectra