

ISGRI ANALYSIS: GRS 1915+105 and the Aquila field



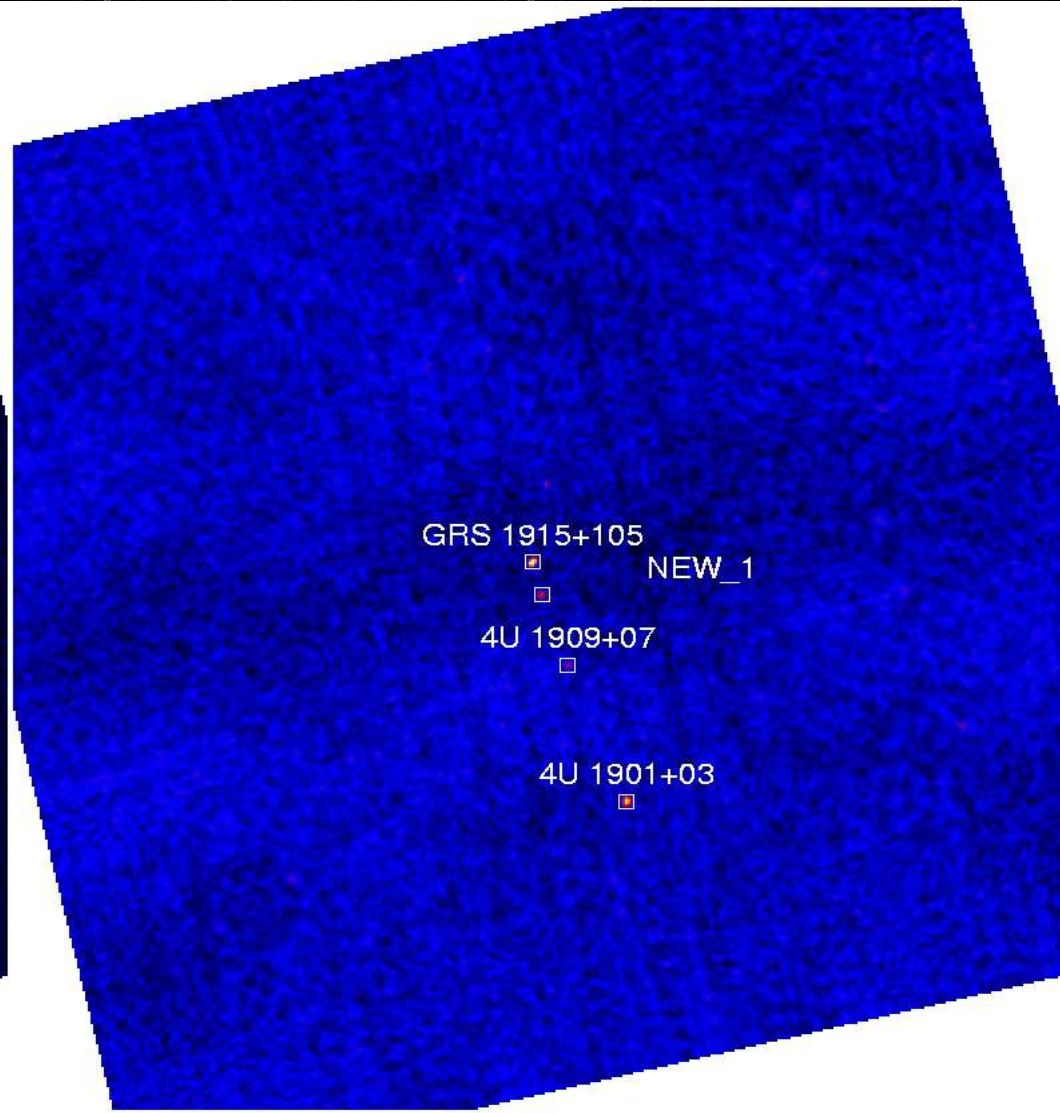
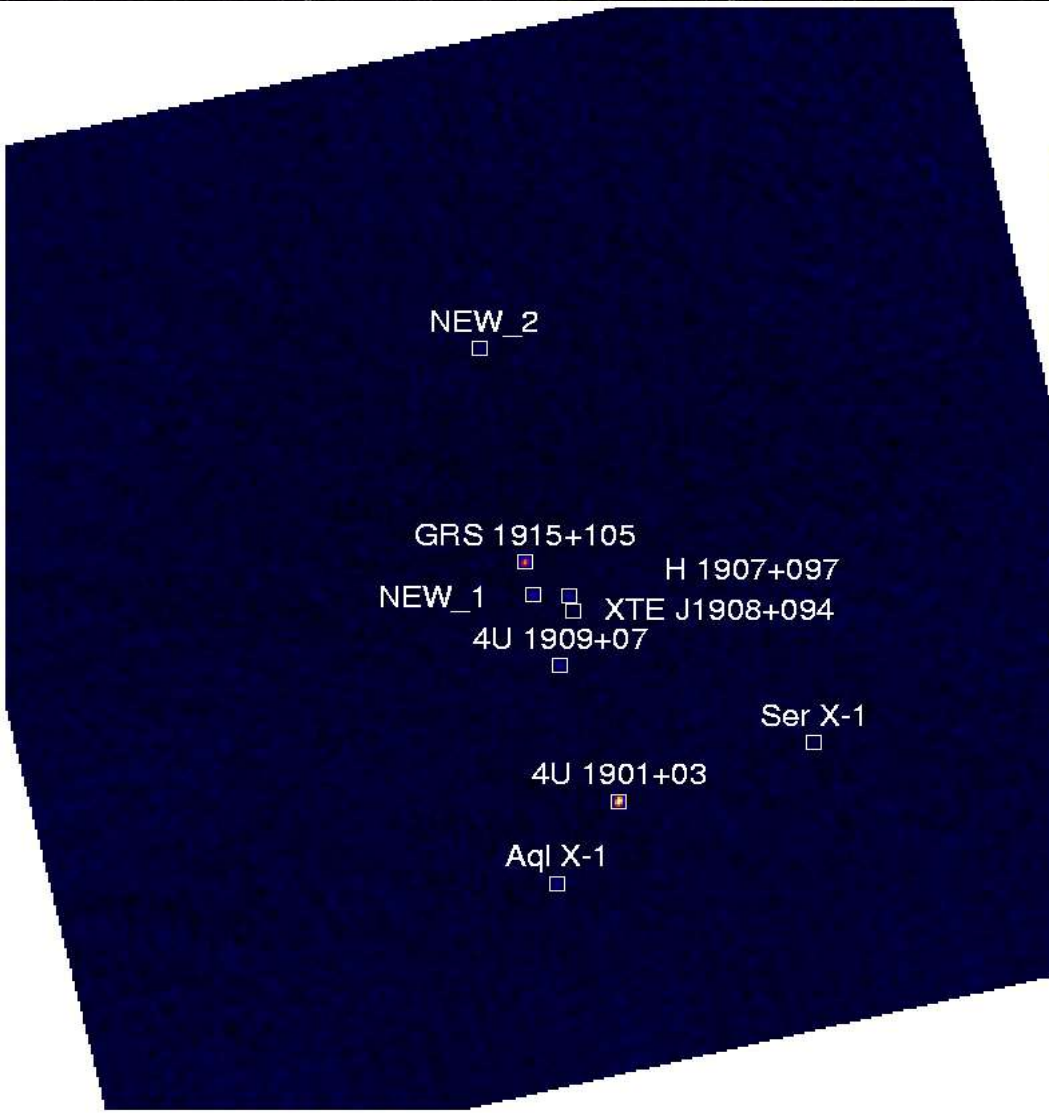
J. Rodríguez CE A Sp Inctay & IDIC

1st Observation Revolution 48: March 2003

A first run of OSA with basic parameters, and standard catalogue (at the time of the observation)

```
$ISDC_REF_CAT=gnrl_refr_cat_009.fits\[1]
```

```
> ibis_science_analysis ogDOL="og_ibis.fits[1]" startLevel="COR" endLevel="IMA"  
CAT_refCat="$ISDC_REF_CAT" IBIS_II_ChanNum=2 IBIS_II_E_band_min="20 40"  
IBIS_II_E_band_max="40 60" SWITCH_disablePICsIT="yes" OBS1_SearchMode=2 OBS1_ToSearch=20  
OBS1_DoPart2=1 SCW1_BKG_I_isgrUnifDol="-" OBS1_PixSpread="0"
```



New Sources vs. Spurious sources

Not a definite answer; just some ways to discriminate

- Bright sources: are they detected in several scw with different attitudes?
- Are they detected in several energy ranges?
- Does the shape is as expected: PSF, and not bgd structure, e.g. elongated?
- Is the source at the rim of the detector, where lot of structures?
- Is the source seen in JEM-X?

GRS 1915+105

NEW_1

H 1907+097

4U 1909+07

GRS 1915+105

NEW_1

4U 1909+07

New1 fulfils lot of those
criteria

=> IGR J19140+0951

IAUC 8088

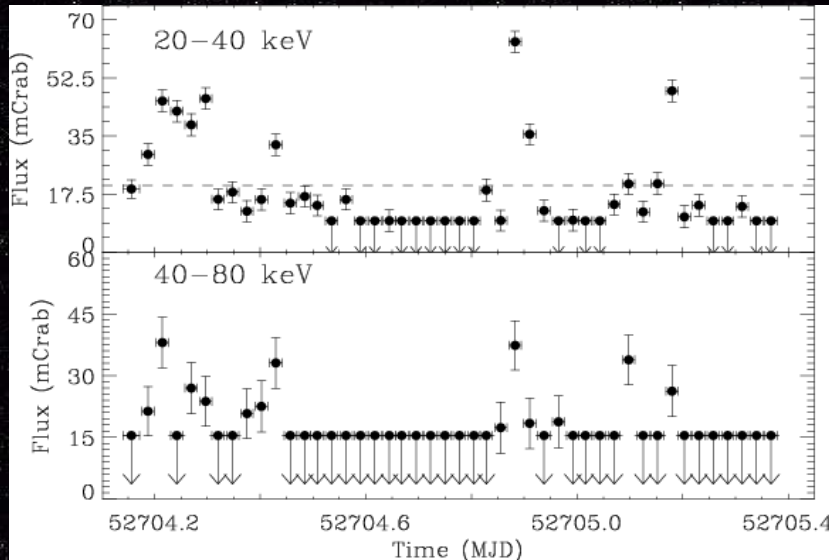
Run 2 => more thorough study and focus on sources: light curves on scw basis

I know which bright sources => update my catalogue

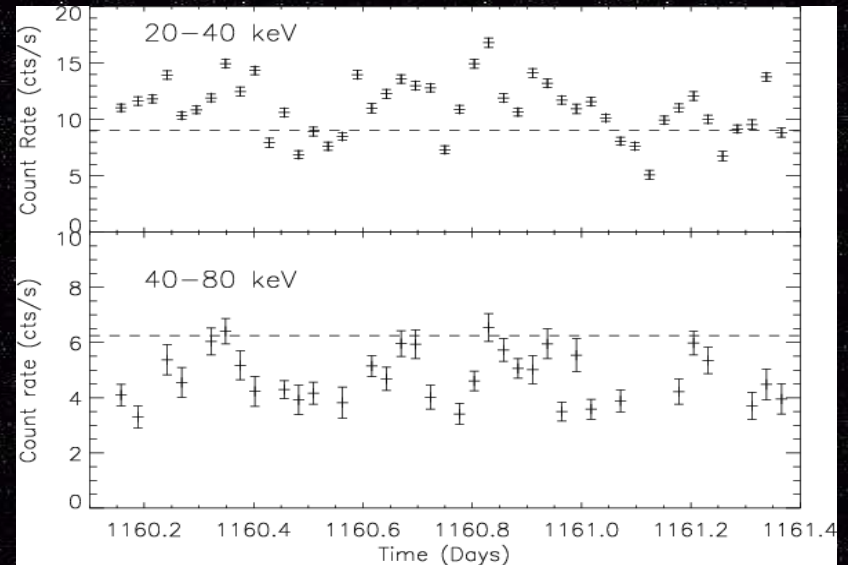
- GRS 1915+105
- IGR J19140+0951
- 4U 1901+03
- XTE J1908+094
- H1907+097
- 4U1909+07
- Aql X-1

```
> ibis_science_analysis ogDOL="og_ibis.fits[1]" startLevel="COR"  
endLevel="IMA" CAT_refCat="My_updated_cat" IBIS_II_ChanNum=2  
IBIS_II_E_band_min="20 40" IBIS_II_E_band_max="40 80"  
SWITCH_disablePICsIT="yes" OBS1_SearchMode=1 OBS1_ToSearch=7  
OBS1_DoPart2=0 SCW1_BKG_I_isgrUnifDol="-"
```

IGR J19140+0951



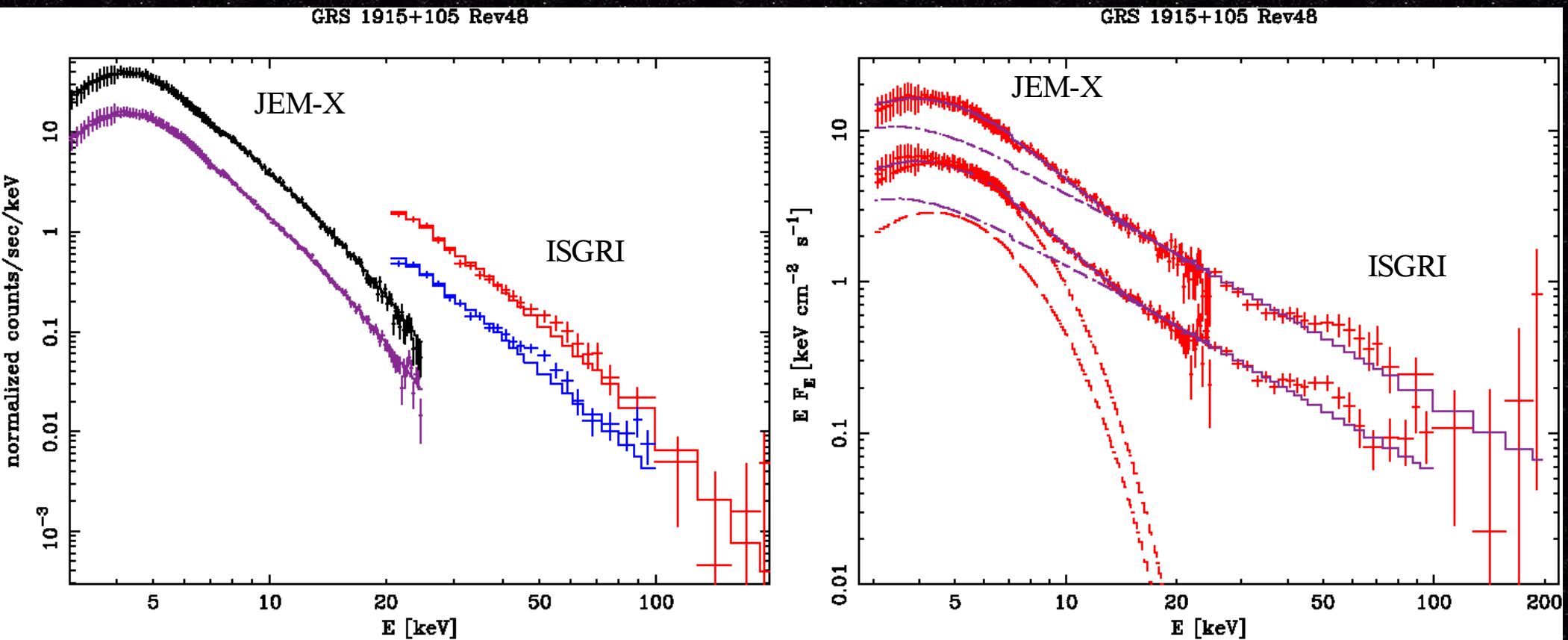
GRS 1915+105



Above the IMA level => Spec extract

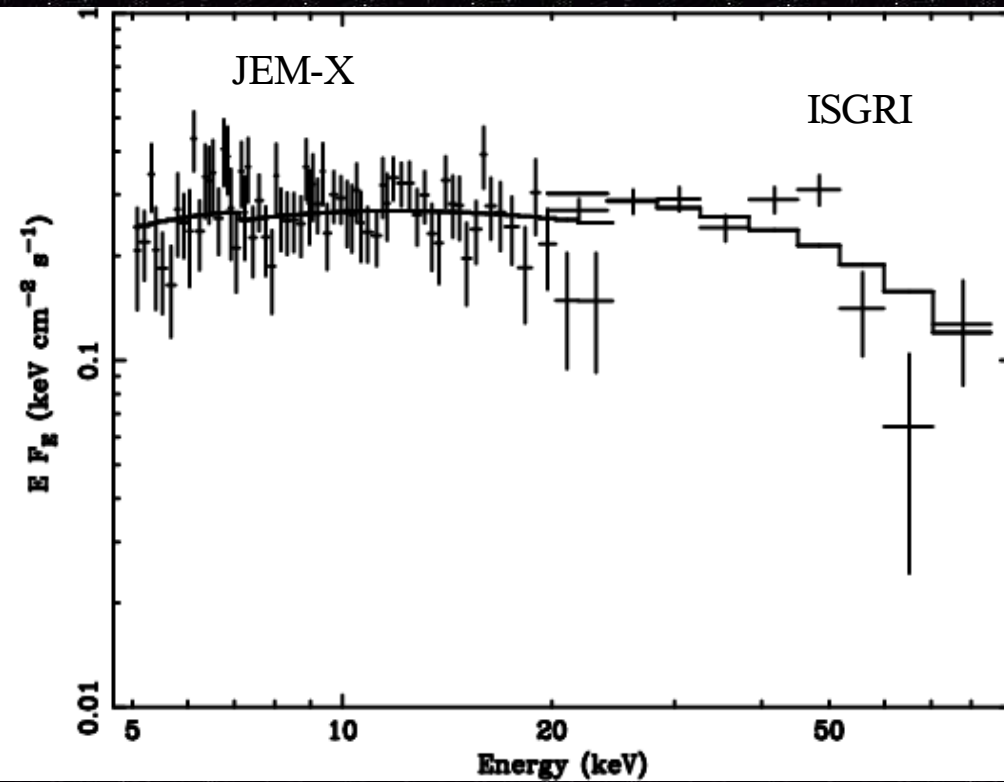
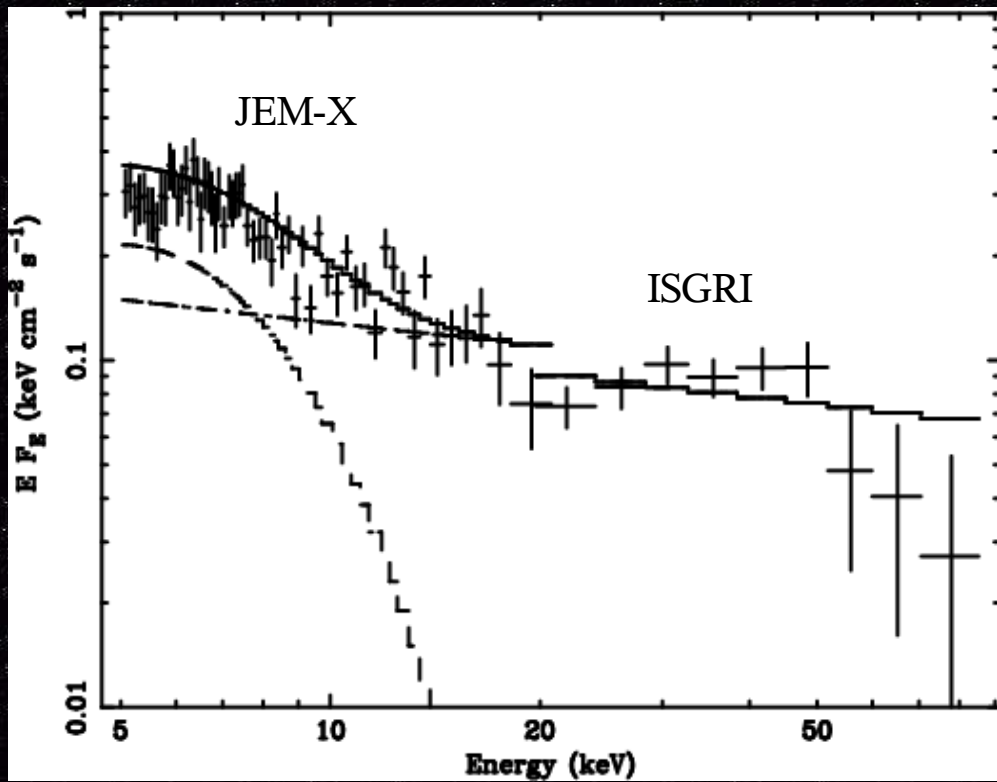
Update output catalogue (isgri_srel_res.fits) + rebin the rmf according to luminosity of source (here 63 spectral channels for 1915+105)

```
> ibis_science_analysis ogDOL="og_ibis.fits[1]" startLevel="BIN_S"  
endLevel="SPE" SWITCH_disablePICsIT="yes" SCW2_ISPE_MethodFit=2  
IBIS_SI_inEnergyValues="/home/pche/rodrigue/Matrixes/Matrix_1915.rmf[3]"
```



Other example IGR J19140+0951: fainter source

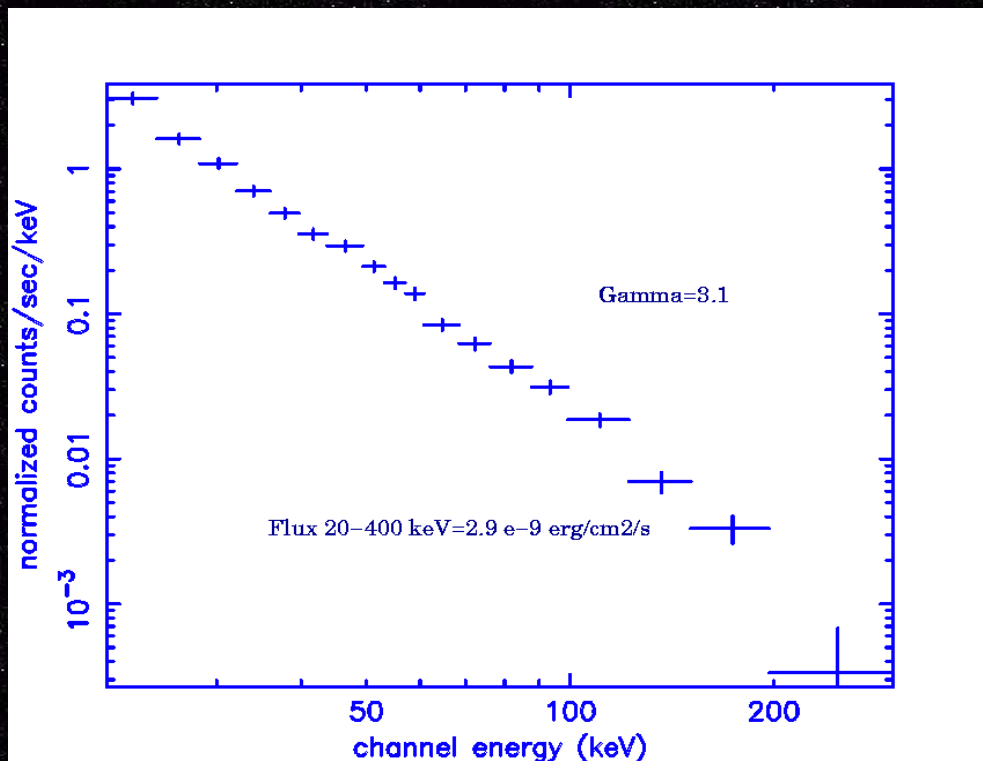
Other rebin of rmf needed \Rightarrow 16 spectral channels



Obtaining spectra from the mosaics (not validated)

Instead of running the spec extract, read fluxes from mosaics

- Follow spectral bins of rmf
- Several calls to OSA for more than 10 bins
- Rebin rmf to coincide with ranges
- Extract a Crab spectrum in the same way



```
> ibis_science_analysis ogDOL="og_ibis.fits  
[1]" startLevel="COR" endLevel="IMA"  
CAT_refCat="My_updated_cat"  
IBIS_II_ChanNum=10  
IBIS_II_E_band_min="20.65 24.48 28.31  
32.14 35.97 39.8 43.36 49.38 53.21 57.04"  
IBIS_II_E_band_max="24.88 28.31 32.14  
35.97 39.8 43.36 49.38 53.21 57.04 60.87"  
SWITCH_disablePICsIT="yes"  
OBS1_SearchMode=1 OBS1_ToSearch=7  
OBS1_DoPart2=1 OBS1_PixSpread=0
```

```
> ibis_science_analysis ogDOL="og_ibis.fits  
[1]" startLevel="COR" endLevel="IMA"  
CAT_refCat="My_updated_cat"  
IBIS_II_ChanNum=10  
IBIS_II_E_band_min="60.87 68.52 76.18  
87.67 99.16 122.14 150.86 196.82 300.22  
518.5" IBIS_II_E_band_max="68.52 76.18  
87.67 99.16 122.14 150.86 196.82 300.22  
518.5 1000" SWITCH_disablePICsIT="yes"  
OBS1_SearchMode=1 OBS1_ToSearch=7  
OBS1_DoPart2=1 OBS1_PixSpread=0
```