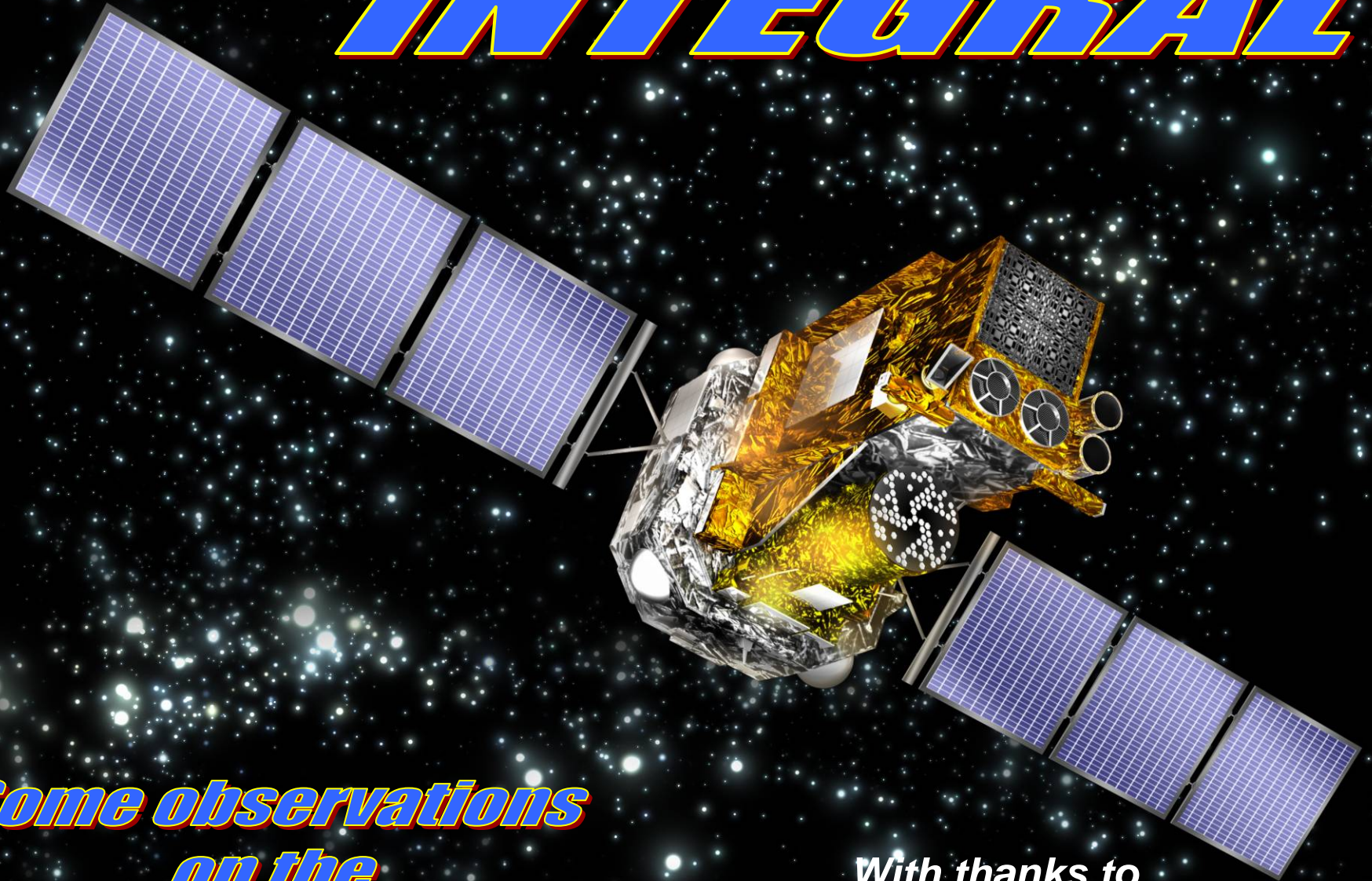


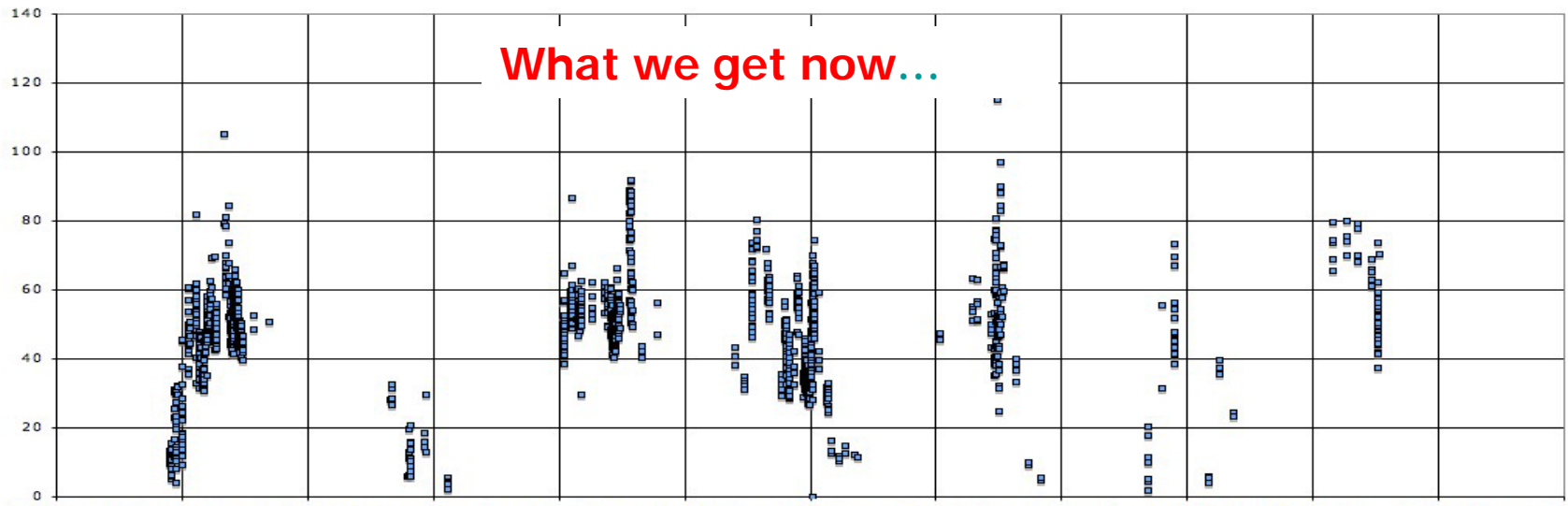
# ***INTEGRAL***



***Some observations  
on the  
observations***

With thanks to  
Angela  
who put the viewgraphs together

What we get now...

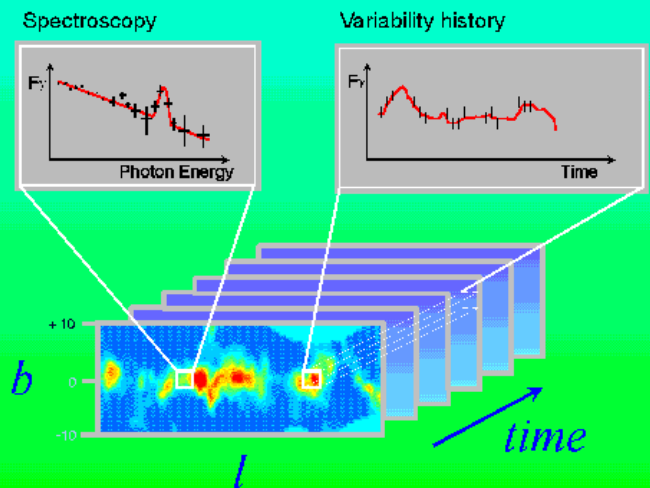


GRS 1915-105

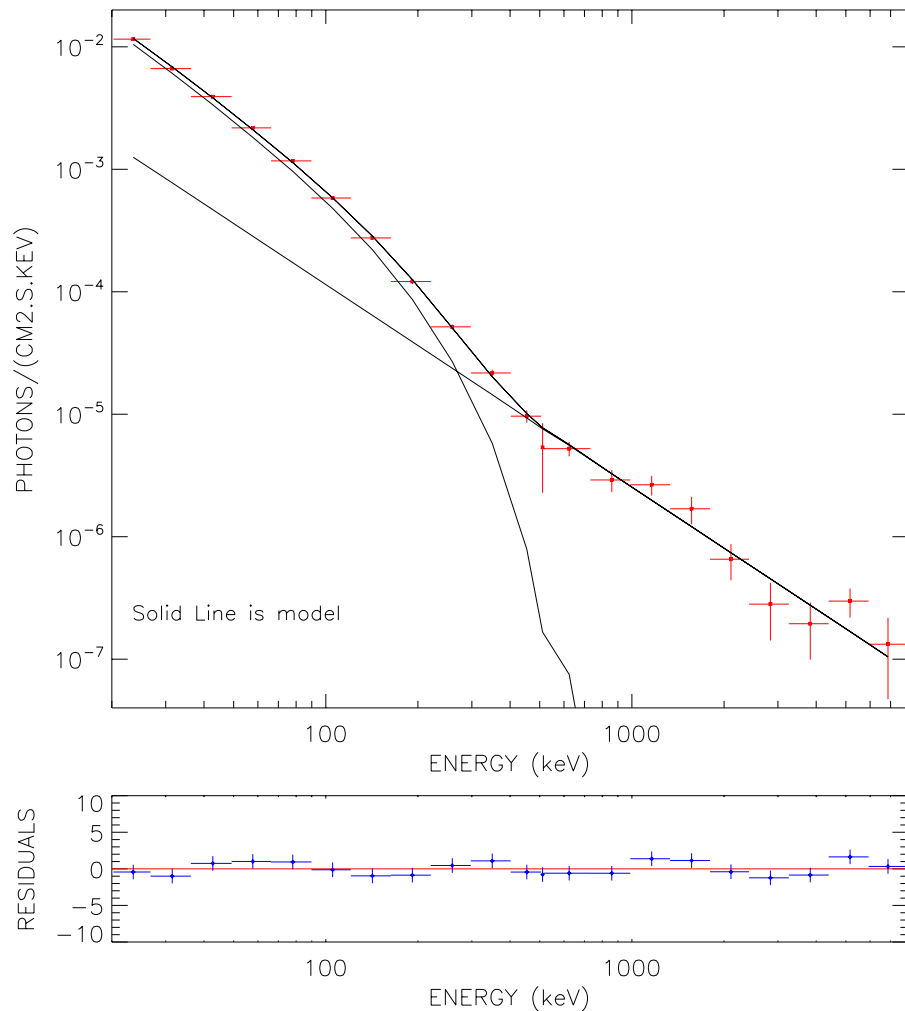


17-30, 30-60, 40-100 colours

What we hoped for in '93...



# THE SKY IN HARD X RAYS WITH SPI/INTEGRAL



## CYG X-1

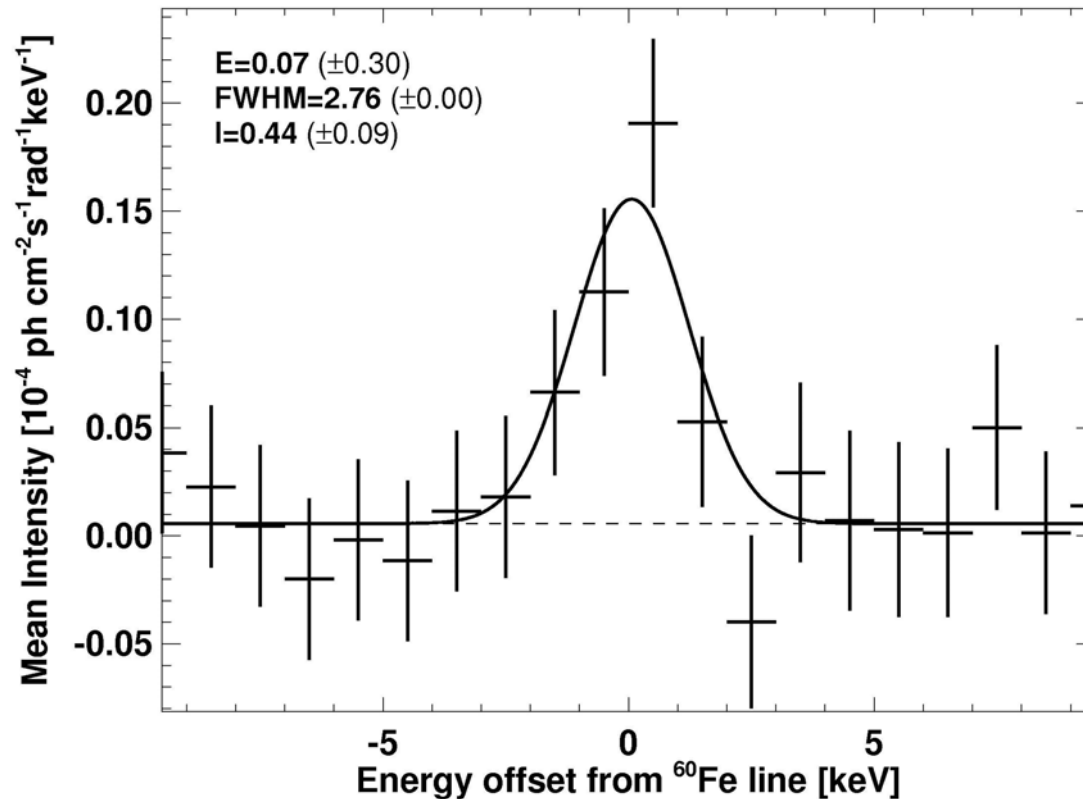
Thermal Comptonisation (Comptt)

$kT \sim 43 \text{ keV}$

$\tau \sim 1$

Power law photon index  $\sim 1.7$

# $^{60}\text{Fe}$ Detection – Combination



→ Combined emission:  $(4.4 \pm 0.9) \times 10^{-5}$  ph cm $^{-2}$  s $^{-1}$  rad $^{-1}$



Now we know the origin of pale stripe  
along the plane

Prospects for future?



*Extragalactic sky*

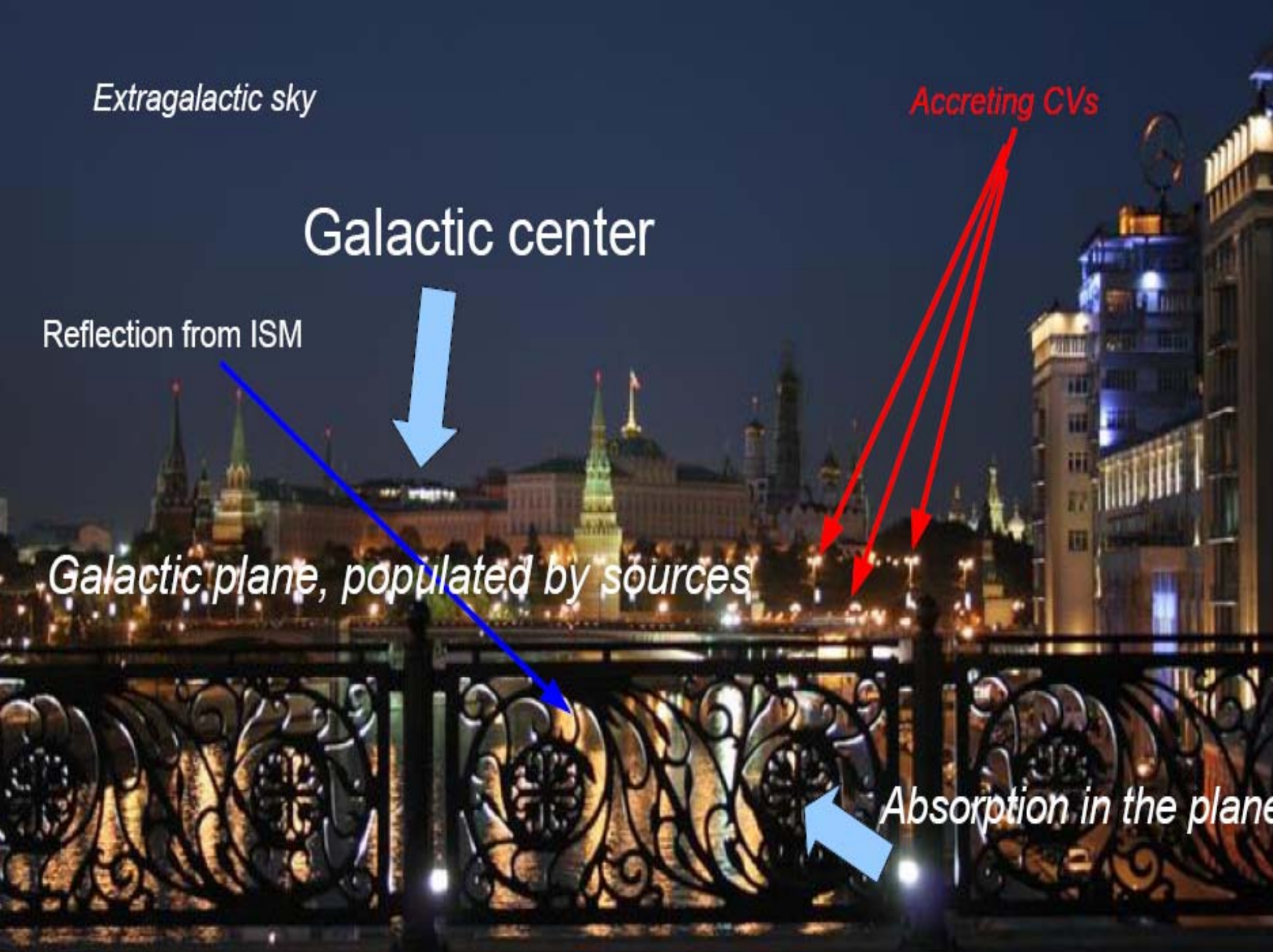
*Accreting CVs*

Galactic center

Reflection from ISM

*Galactic plane, populated by sources*

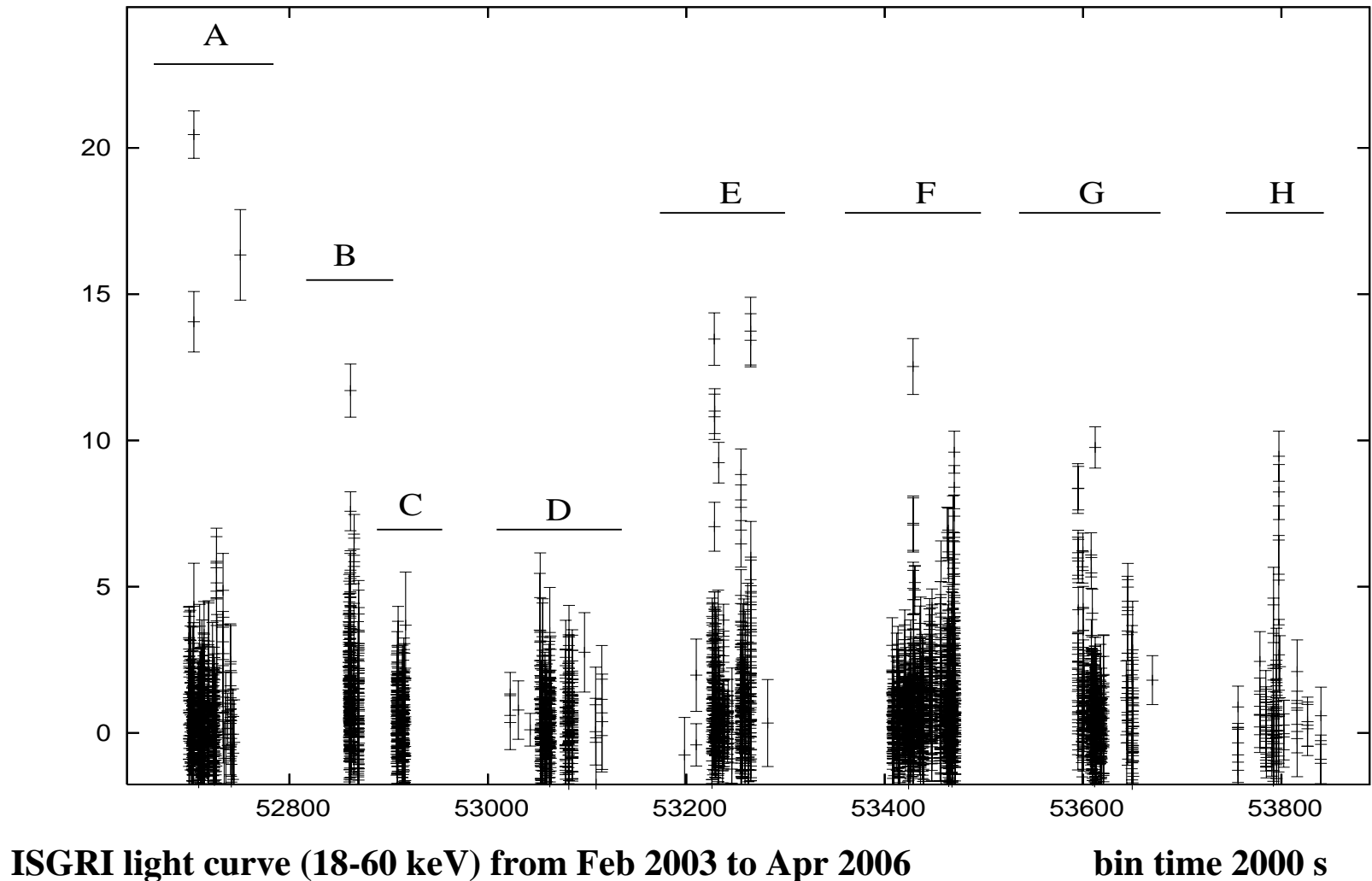
*Absorption in the plane*



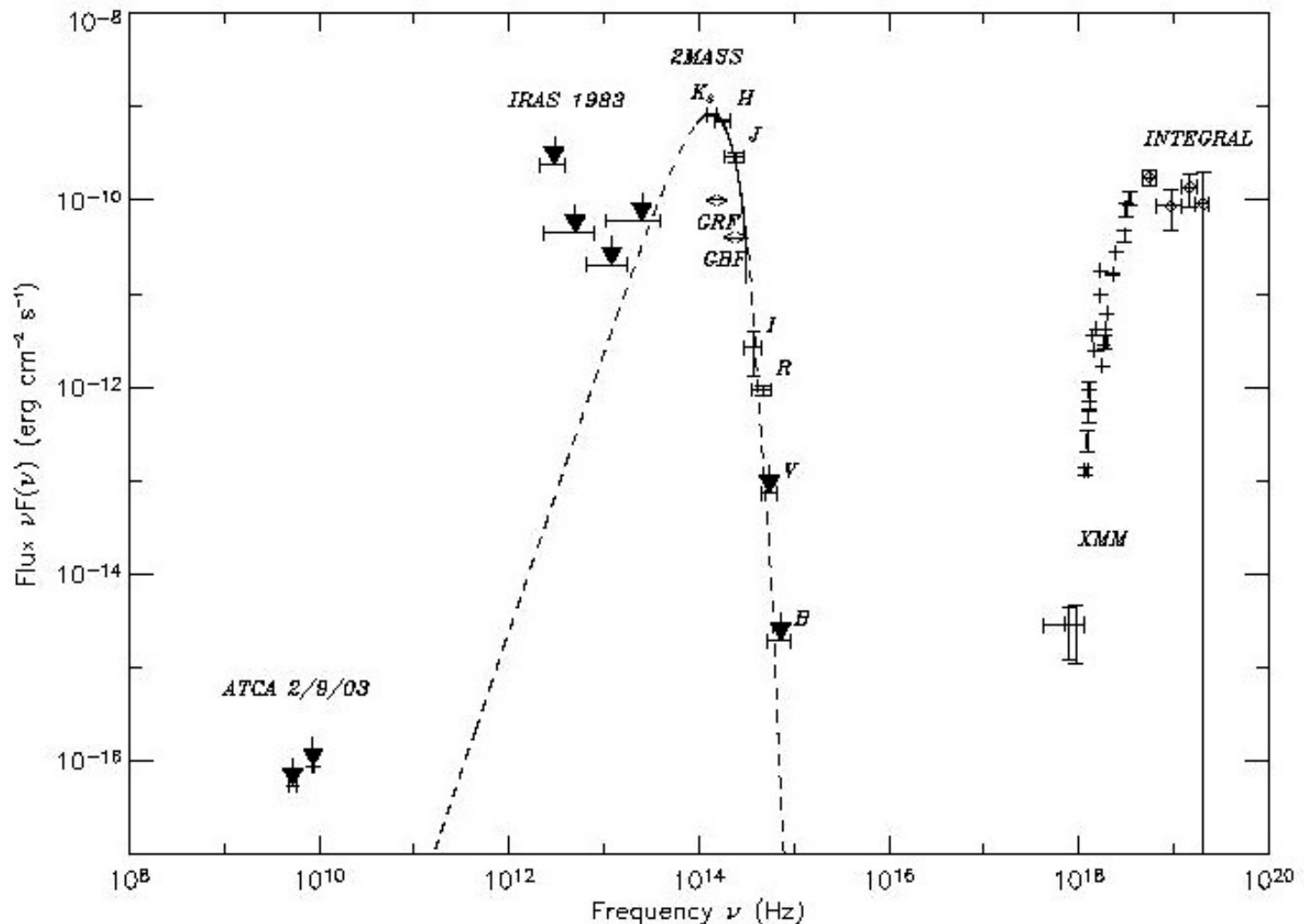
# IGR J16479-4514, the 9th SFXT

Optical counterpart recently identified as supergiant (Chaty 2007, *astroph* 0710.0292)

SFXT with the highest duty cycle (Sguera et al. 2007 to be submitted)



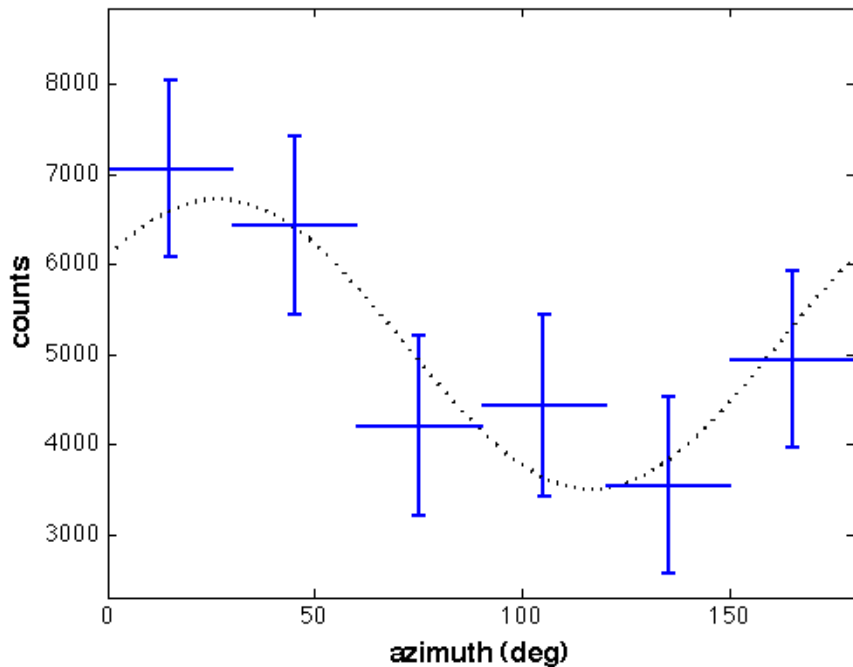
# The obscured source IGR J16318-4848





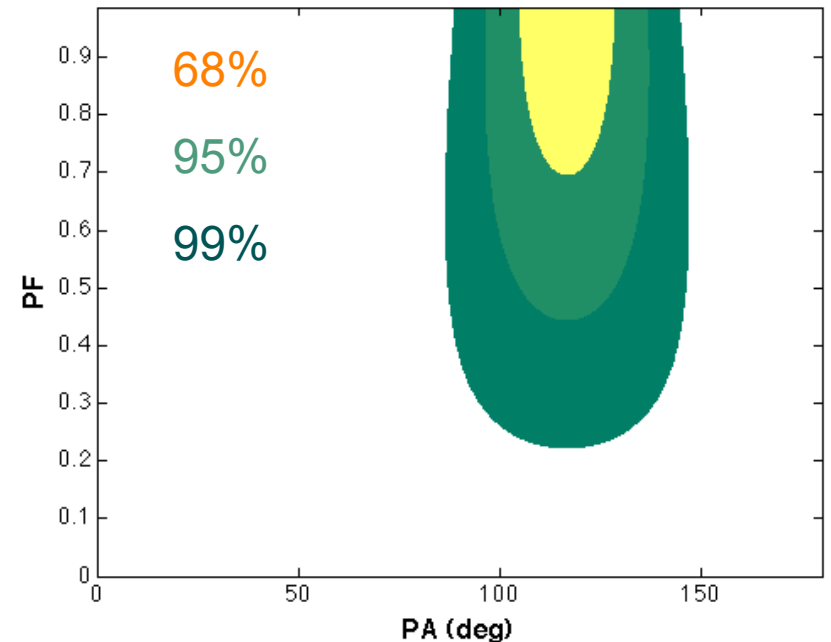


# azimuth profile: off-pulse + bridge



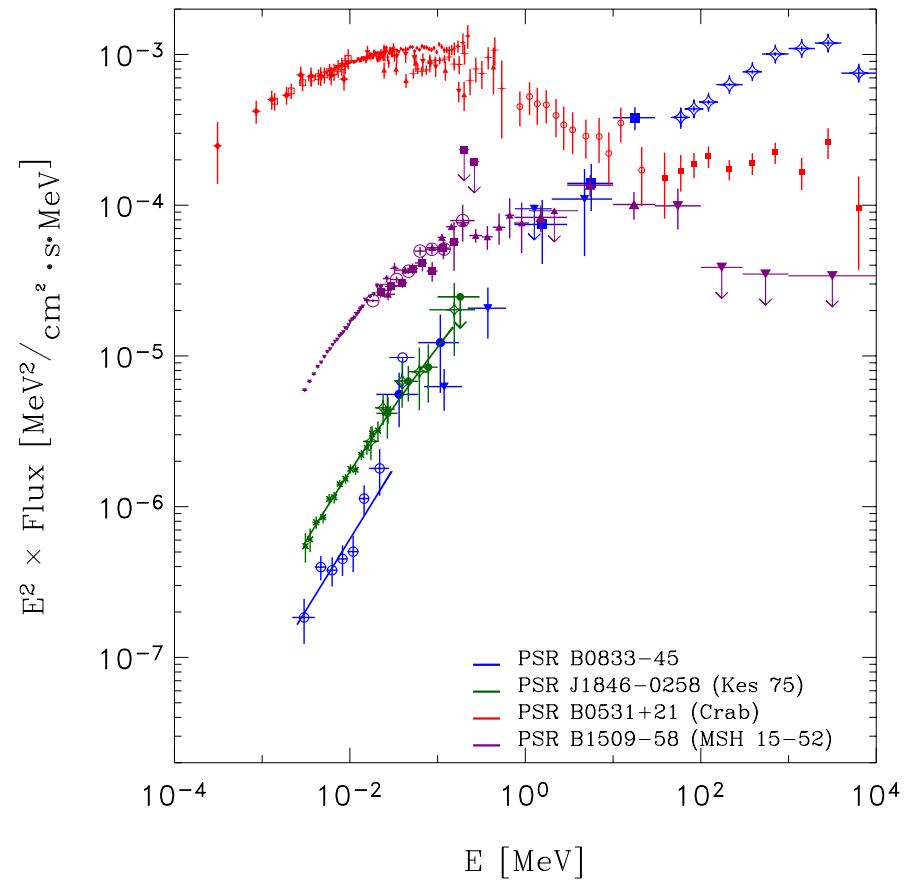
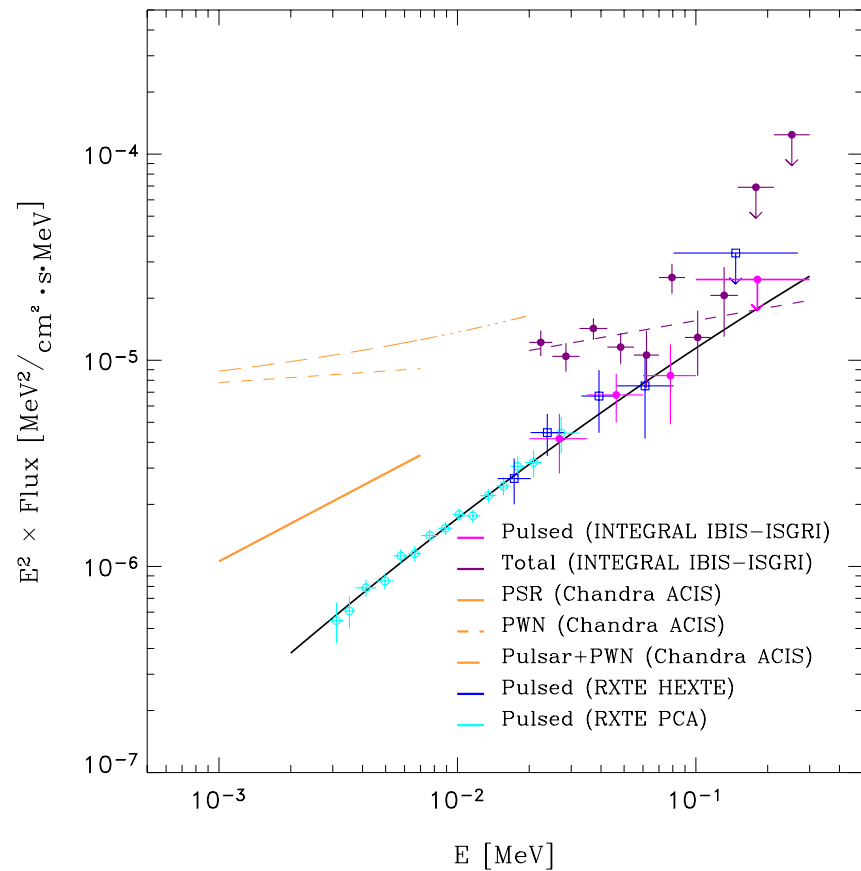
$$PA = 116.6^\circ \pm 7.9^\circ$$

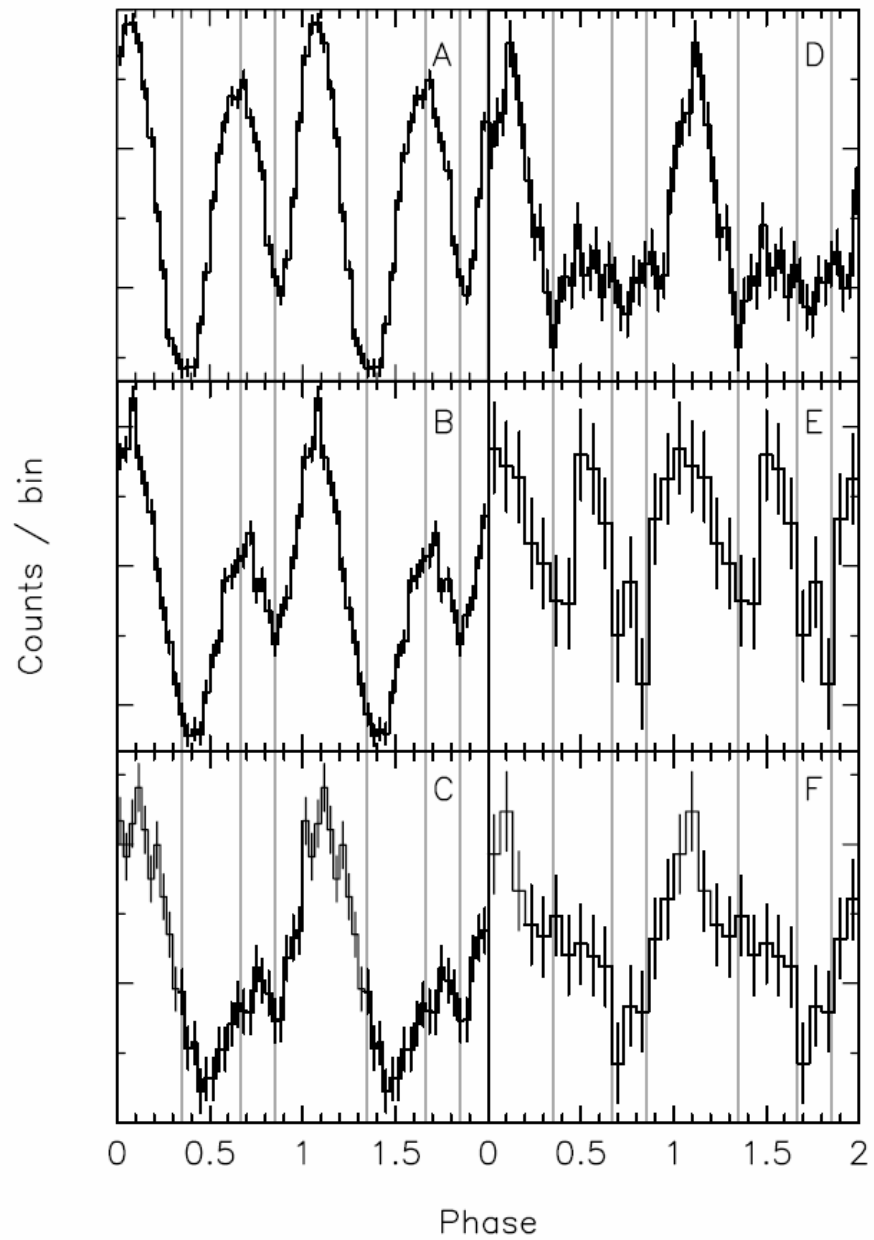
$$PF = 1.04 \pm {}^{0.30}_{0.25}$$



$$\text{proba}(a > a_0, \text{ any } \varphi) = 8.7 \cdot 10^{-4}$$

# High-energy spectrum of PSR J1846-0258



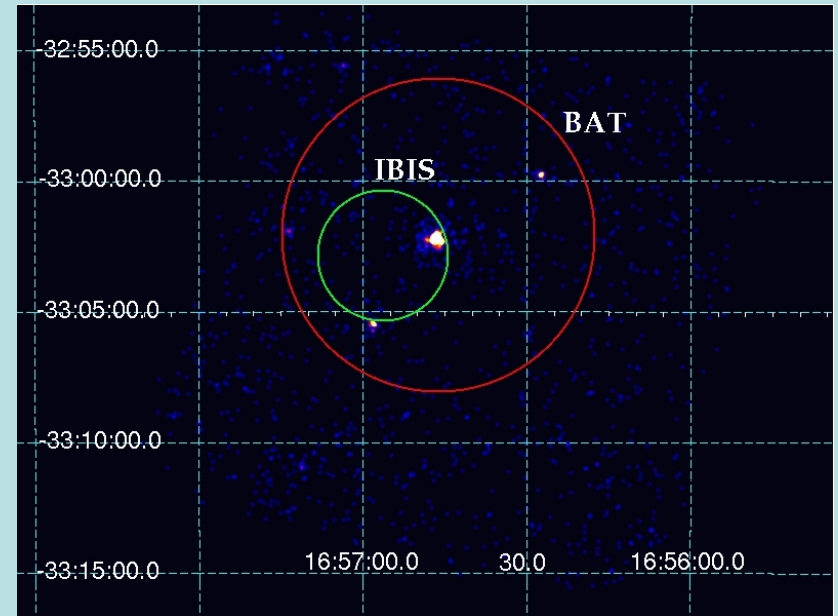
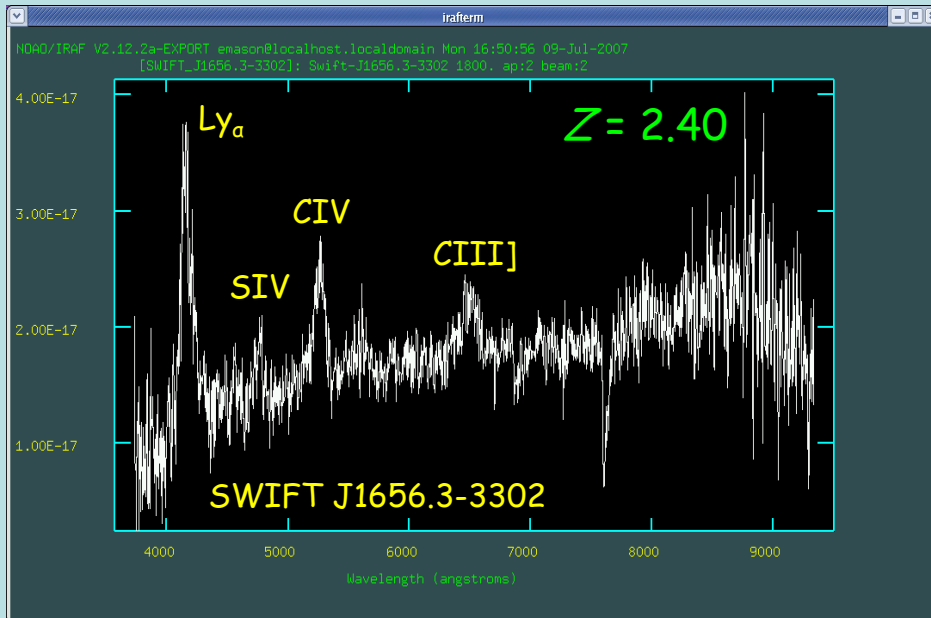


# The distant blazar Swift J1656.3-3302

Data analysis of spectroscopy collected with the ESO-3.6m telescope plus EFOSC2 on June 2007 allowed us to identify the hard X-ray source Swift J1656.3-3302 as a powerful gamma-ray loud blazar at  $z = 2.40$ .

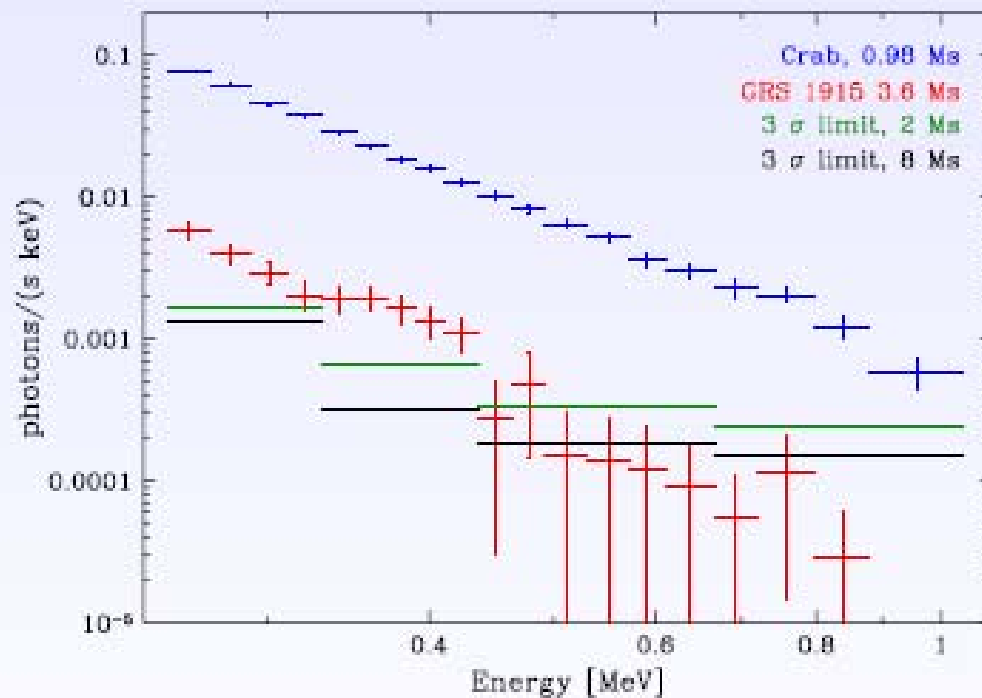
This is, up to now, the farthest optically-identified object of any INTEGRAL survey, and the fourth farthest of all objects detected with INTEGRAL.

Masetti et al. (in prep.)



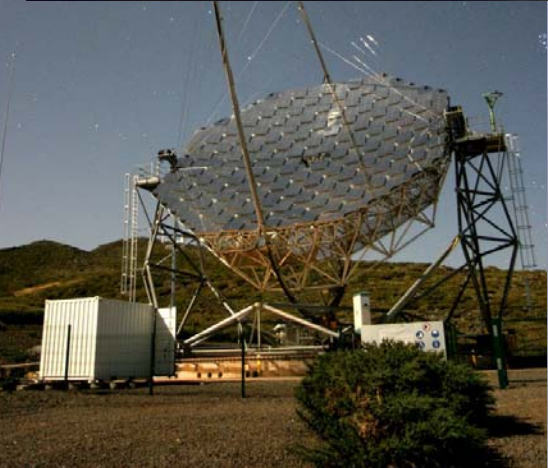
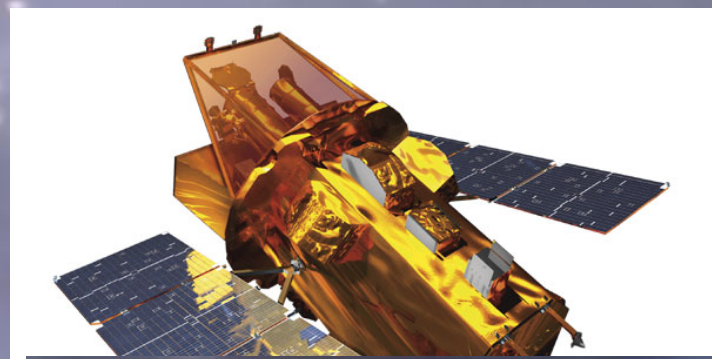
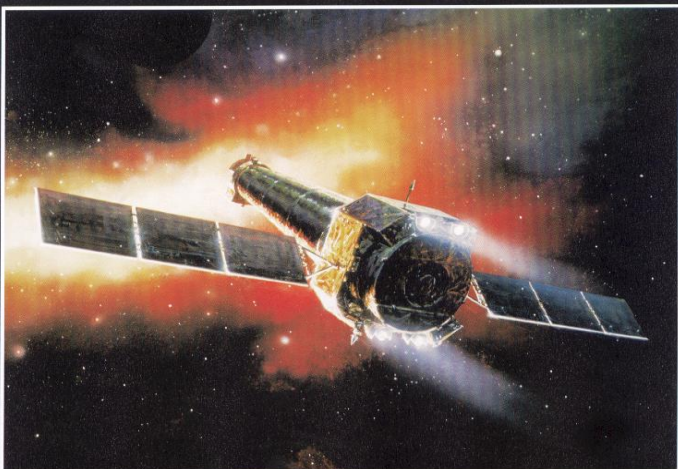
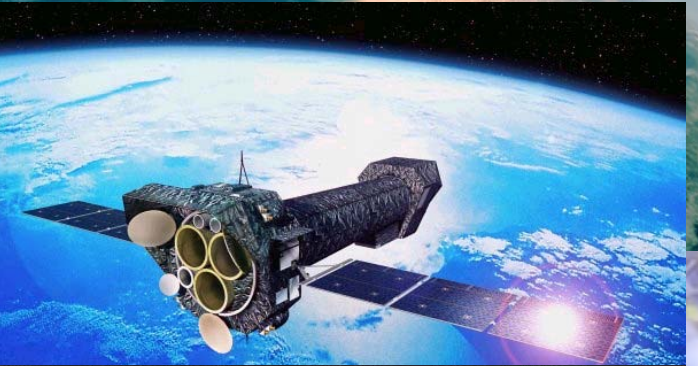


# *The Arrival of PICsIT*



# Hello, Non-Thermal Universe

keV to TeV



# *J1846-0258 a new keV to TeV emitter*

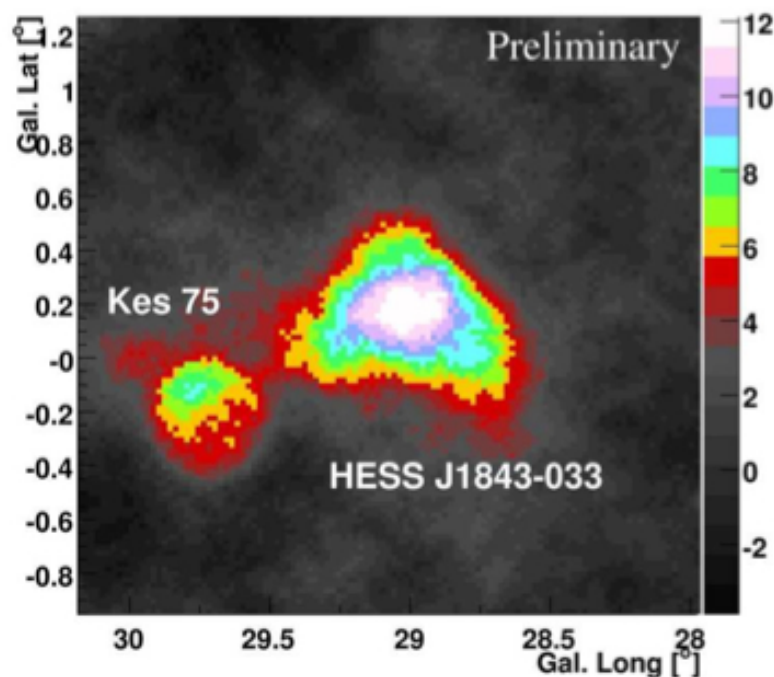


Figure 2:  $\gamma$ -ray significance map of the region containing Kes 75, obtained by counting  $\gamma$ -rays within  $0.22^\circ$  from a given location. The integration radius is part of the standard survey analysis, chosen a-priori and therefore not adjusted to the individual source sizes. Significance values shown do not take the statistical trials involved in the survey into account.



# Happy Birthday INTEGRAL



*Thanks to the AWG & SSAC  
This is not the end  
It is not the beginning of the end  
It's the end of the beginning*



*With Many Thanks for the Fantastic Organization*

*Sergio, Catia, Giuliano*

*and of course*

*Angela, Pietro, Chris & Roland*