INTEGRAL and BeppoSAX comparison for Circinus galaxy and other AGN

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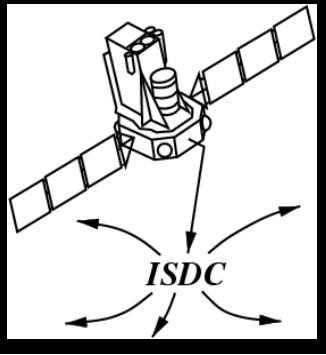
INTEGRAL Science Data Centre



ESTEC INTEGRAL workshop, January 21, 2005

Chandra image: NASA/Penn State/ Bauer et al.

Overview

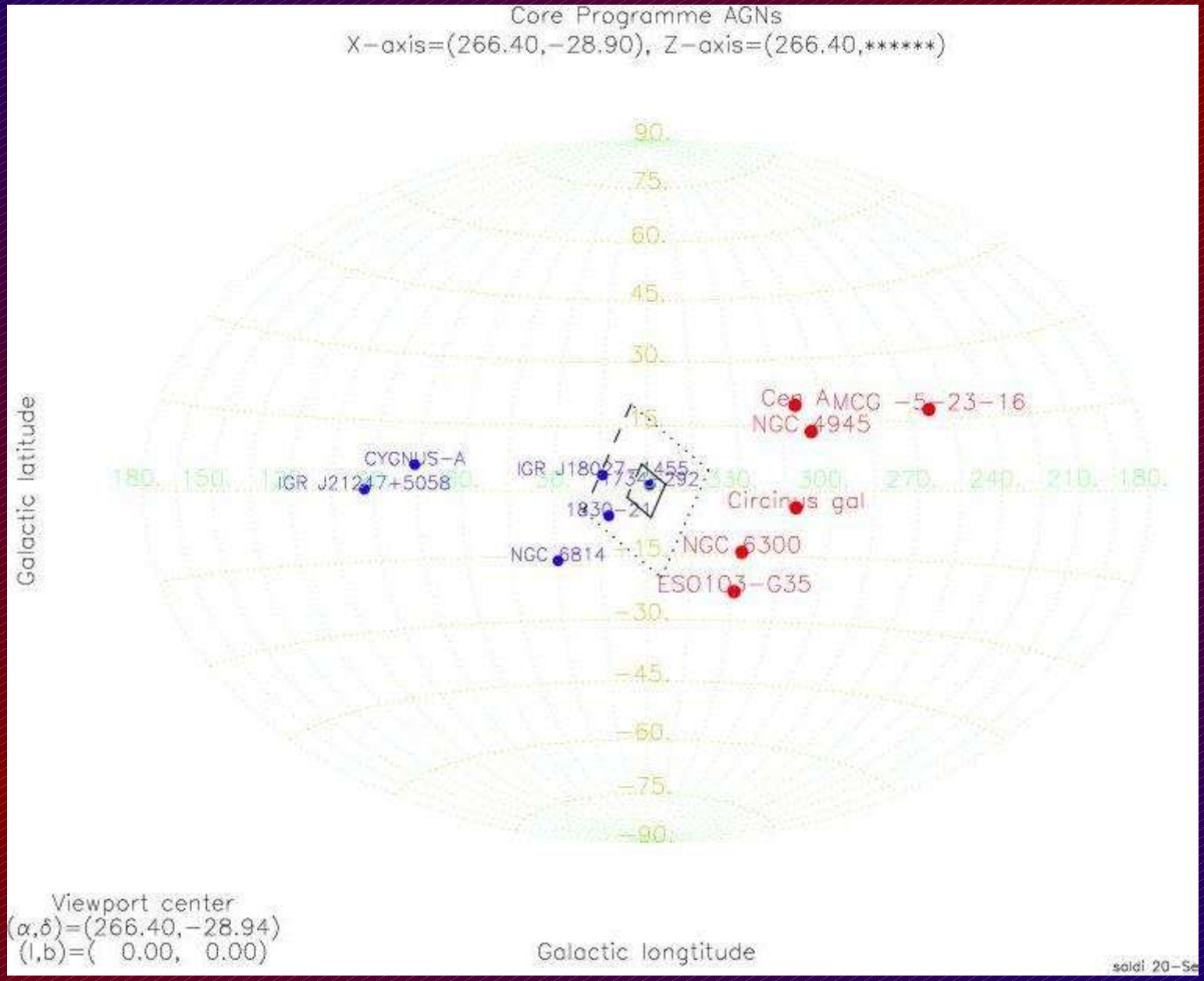
- AGN in the core program
- Circinus galaxy
- Comparison with BeppoSAX results
- Compton thick AGN
- Conclusion

AGN in the core program

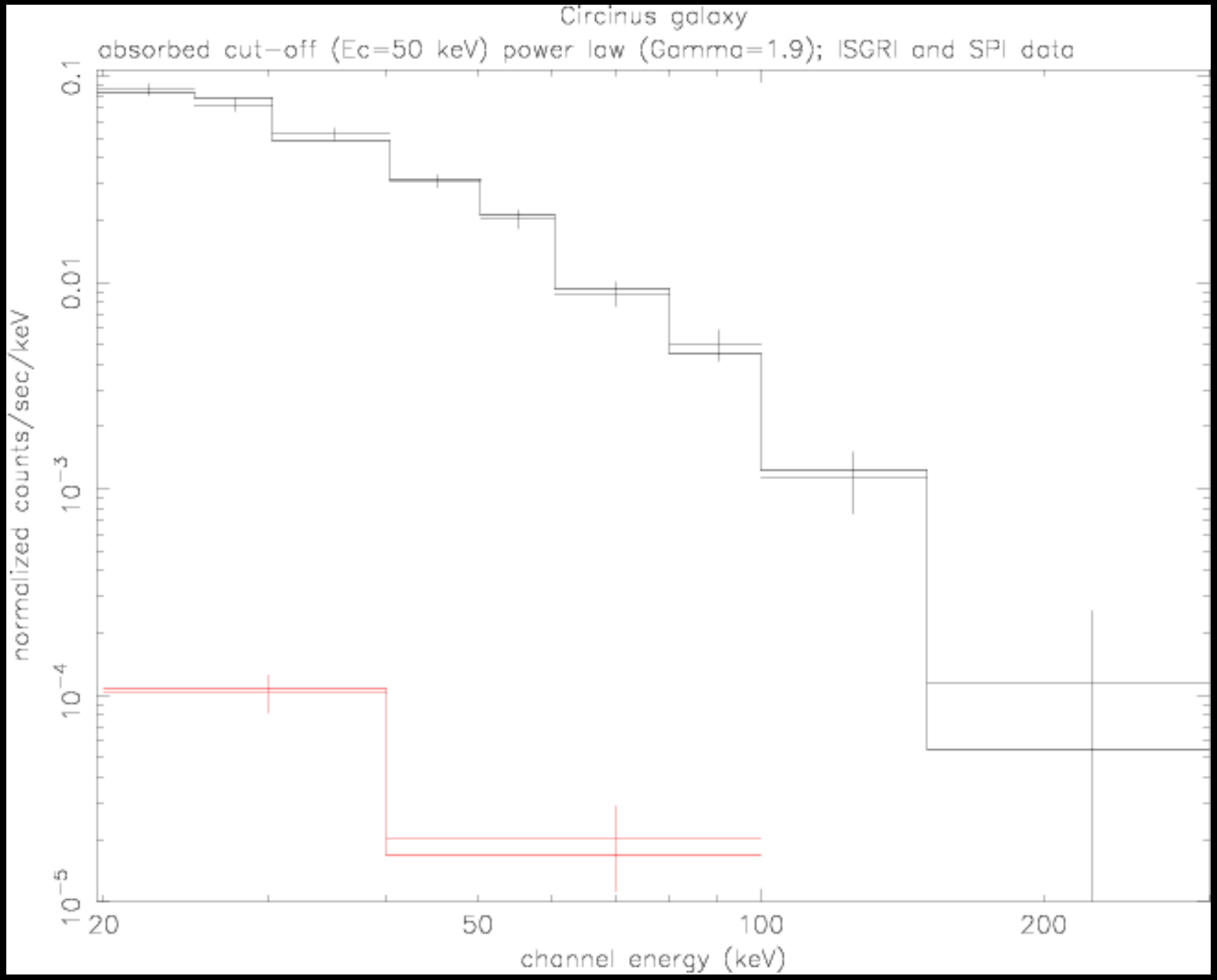
- Six bright AGN in GPS/GCDE
- Use all core program + public data
- Spectra from mosaic images

Name	Type	Exp [ksec]	Significance
MCG -05-23-16	Sy2	2	2.3
NGC 4945	Sy2	151	25.4
Cen A	Sy2	332	166.4
Circinus	Sy2	551	53.3
NGC 6300	Sy2	171	7.1
ESO 103-G35	Sy1..2	35	3.6

AGN in the core program

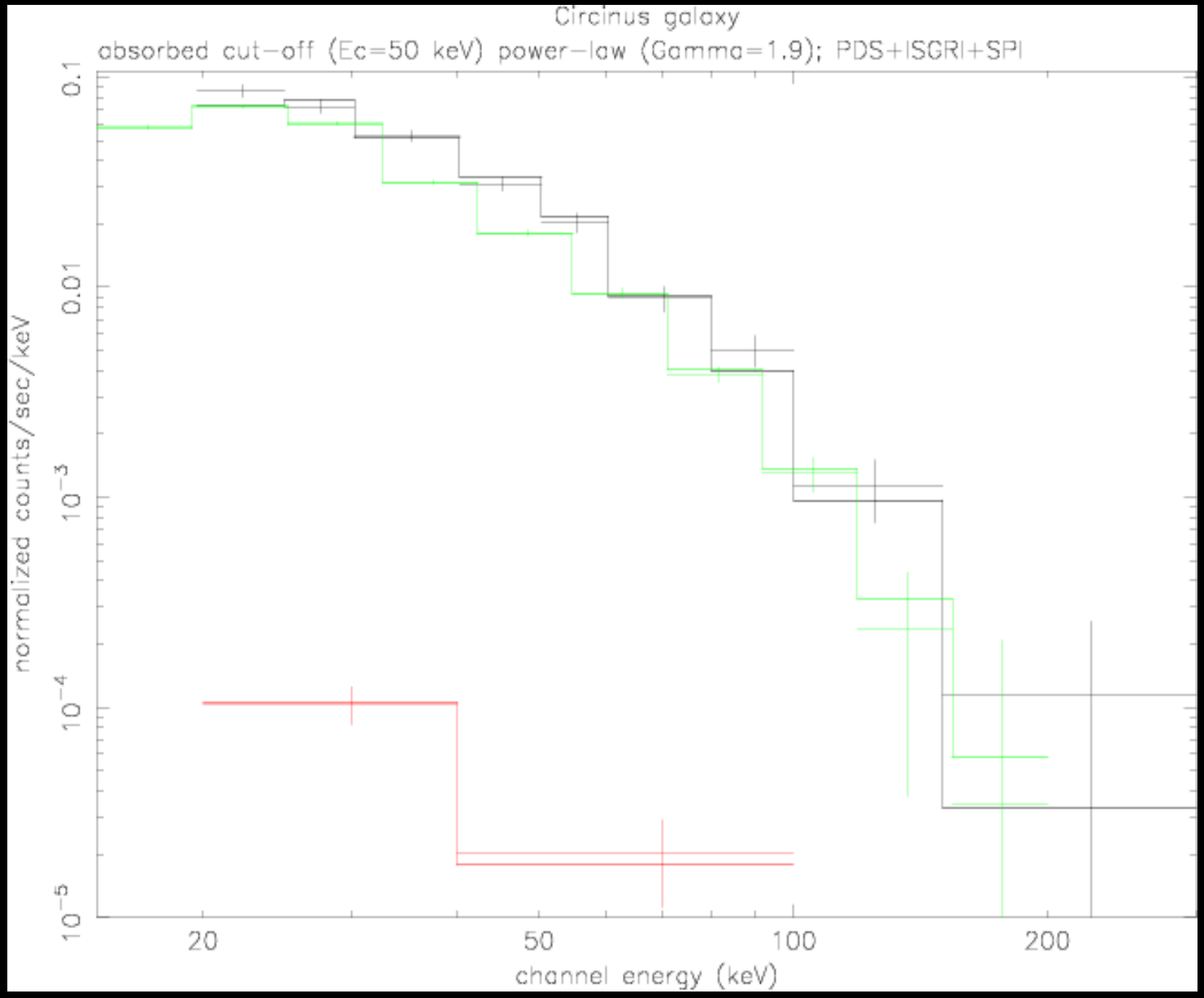


Circinus Galaxy



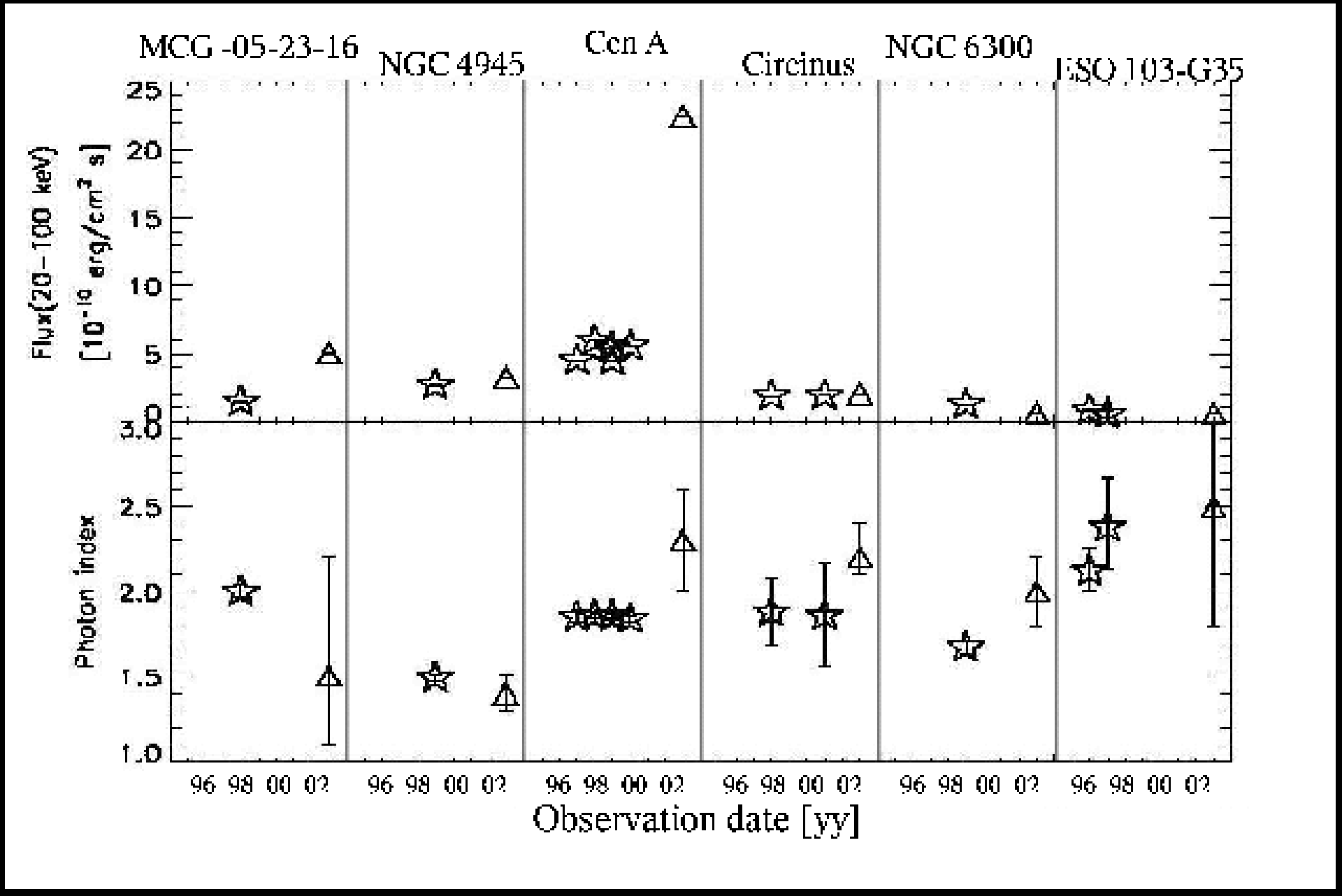
ISGRI + SPI count spectrum

Circinus Galaxy



Adding BeppoSAX/PDS data; same model

Comparison: INTEGRAL and BeppoSAX



Comparison INTEGRAL / BeppoSAX

- absorbed (cut-off) power law
- Wide range of photon indices: 1.5 – 2.4 (SAX) and 1.4 – 2.6 (ISGRI)
- Exponential cut-off (if necessary): 30-150 keV for both, PDS and ISGRI spectra
- INTEGRAL/ISGRI results are consistent with BeppoSAX/PDS

Conclusion

- INTEGRAL results on AGN in the core program consistent with BeppoSAX
- 'standard model': absorbed power law with exponential cut-off
- indication for Comptonization of soft photons in the hot corona above the accretion disk
- Most bright AGN in Galactic Plane are Seyfert 2
- on-going project will reveal the population of Compton thick AGN down to ~1 mCrab