

The Suzaku broad-band spectrum of the low-luminosity AGN M81

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Open Issue:

Understand the origin of High Energy Emission of M81 (the brightest Nearby LLAGN)

Current Knowledge:

Complex FeK line structure from BeppoSAX, XMM and Chandra (HETGs)

Current possible physical models:

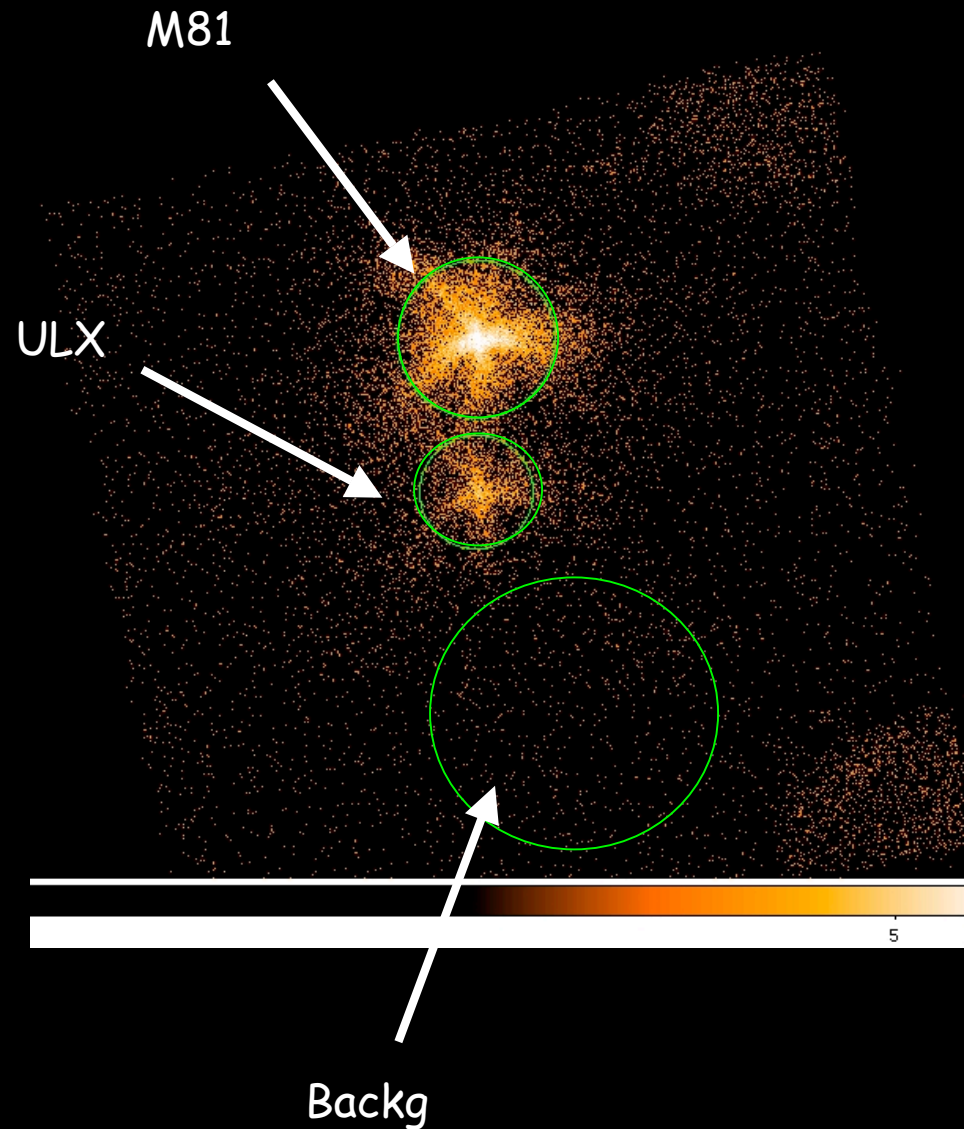
- i) Reflection (neutral and ionized);
- ii) Thermal emission (from a hot gas);
- iii) Photoionization

Goal of the present program:

Analyse the Suzaku spectrum of the source to discriminate between the three above possibilities

The Suzaku observation:

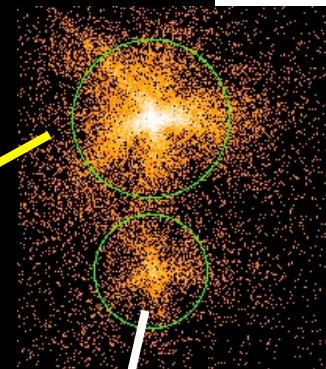
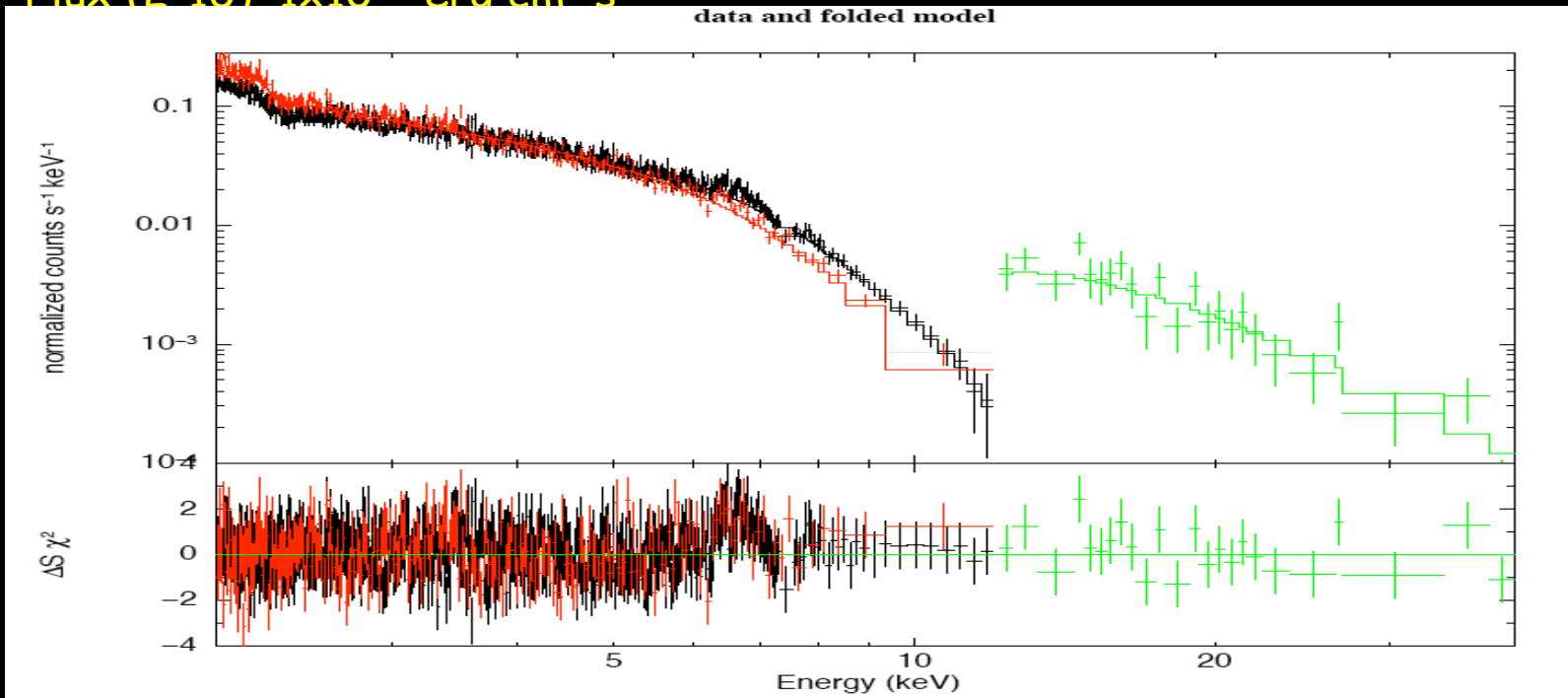
- M81 was observed in 2006, May 8th
- Exposure Time: 100 ks
- XIS0,1,2,3 working nominally (at that time)
- A ULX in the FOV



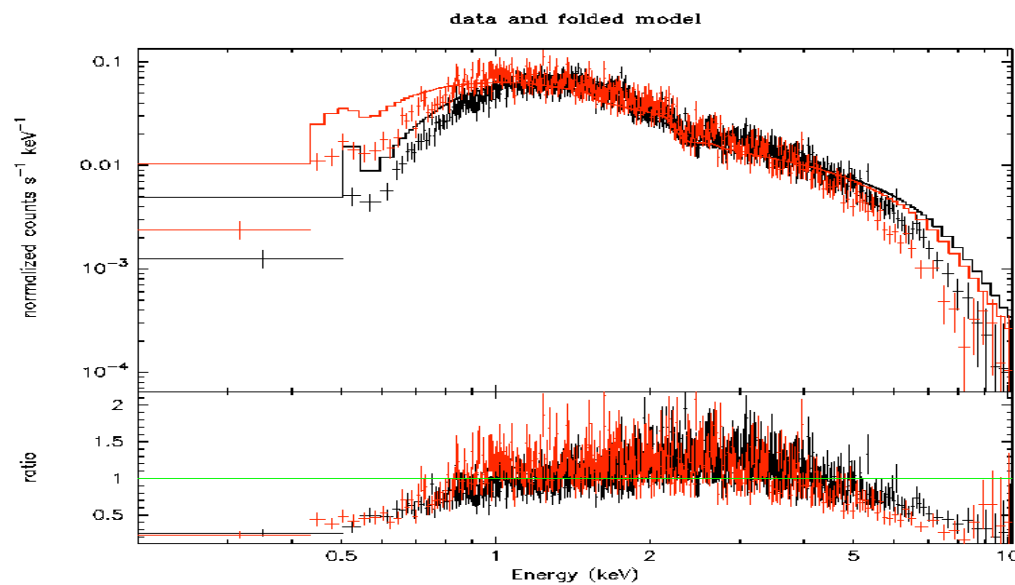
Suzaku Broad-band spectrum of M81

$\Gamma \sim 1.8-1.9$

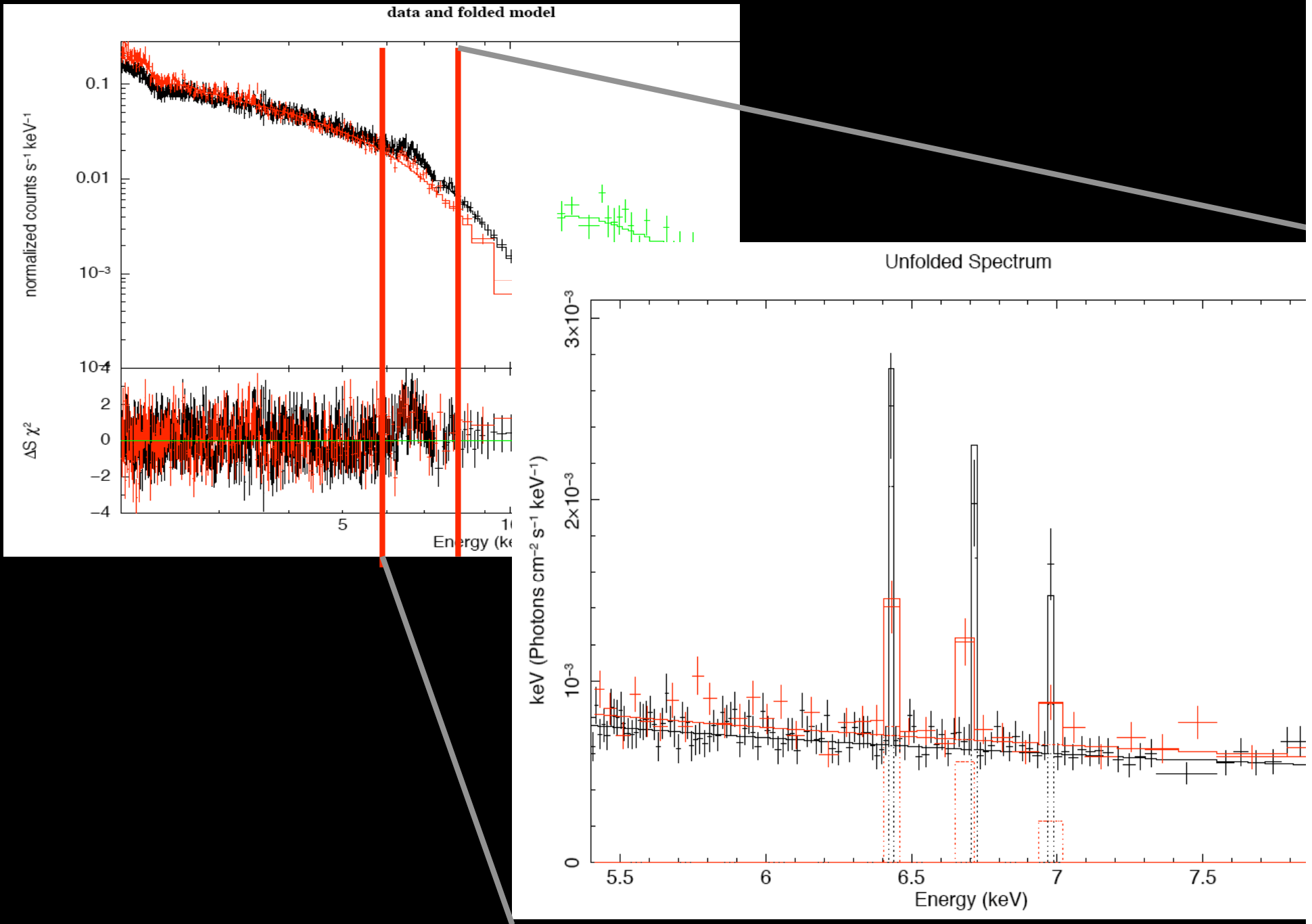
Flux (2-10) $\sim 1 \times 10^{-11} \text{ erg cm}^{-2} \text{ s}^{-1}$



Suzaku Broad-band spectrum
of ULX:Convex spectrum...



Zooming and fitting the line...



Fitting the line...with Chi-2 and C- statistics !!!

	EW (eV)			Flux
	6.4 (keV)	6.7 (keV)	6.9 (keV)	2-10 keV 10^{-11} (cgs)
XMM	27-52	34-60	22-52	1.1
BEPP0-SAX	—	64-133	—	3.8
CHANDRA	22-71	5-54	71-163	1.0
SUZAKU	35-56	40-63	22-47	1.1