



Black-Hole Transients: the unique RossiXTE legacy

Tomaso Belloni

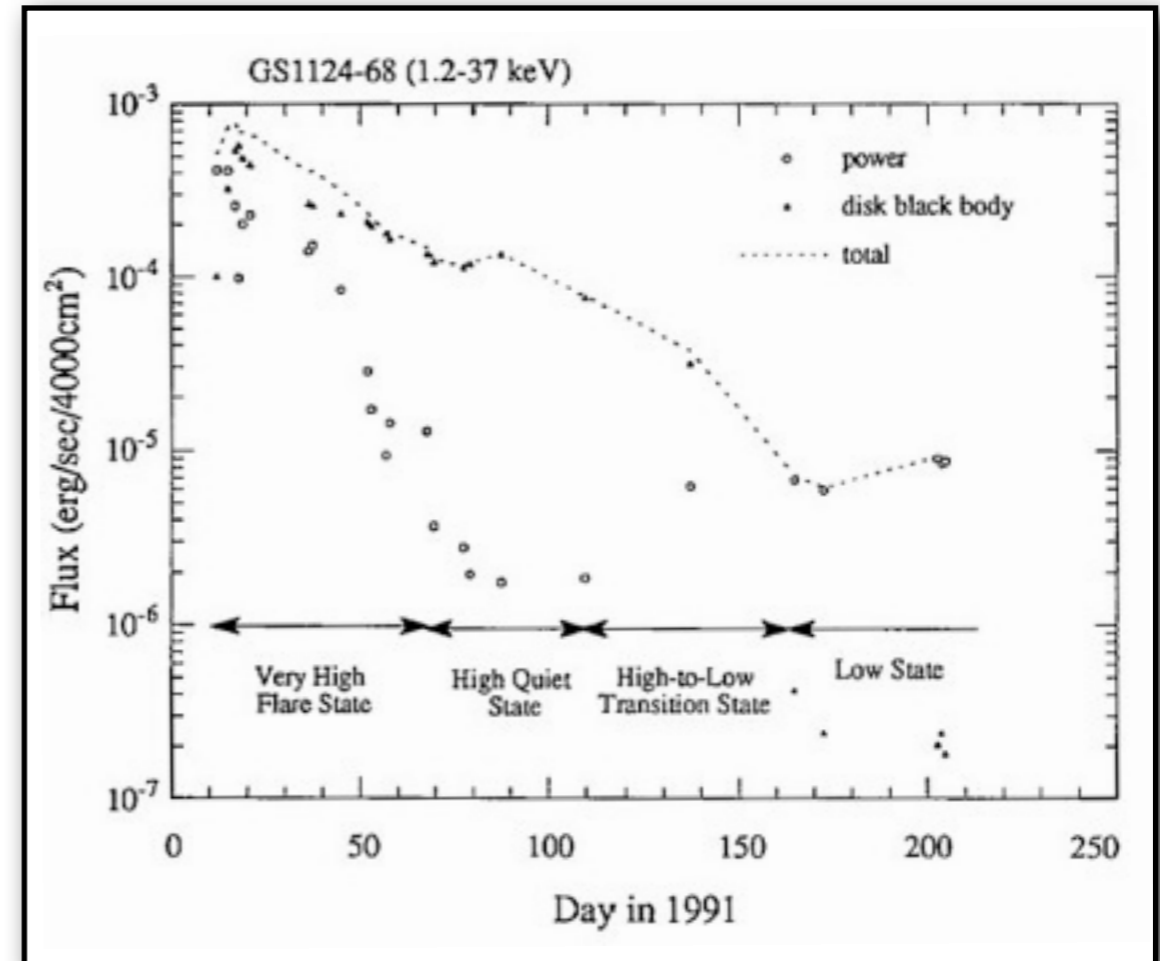
(INAF - Osservatorio Astronomico di Brera)

Leverhulme Visiting Professor, University of Southampton



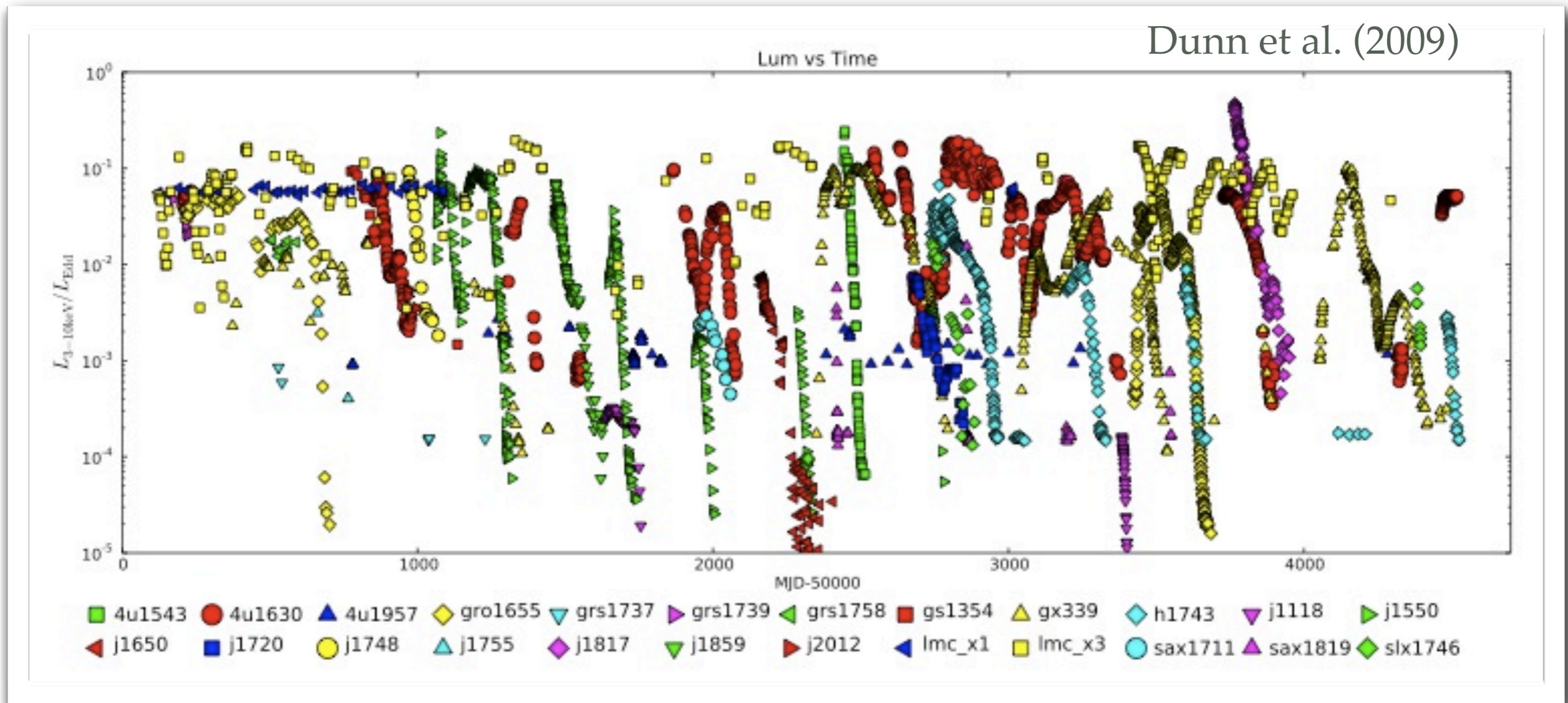
BEFORE RXTE

- Very few sources/observations
- 1995 review lists almost everything!
- We identified a VHS/IS
- Transitions were just assumed
- No coverage, no radio, no IR

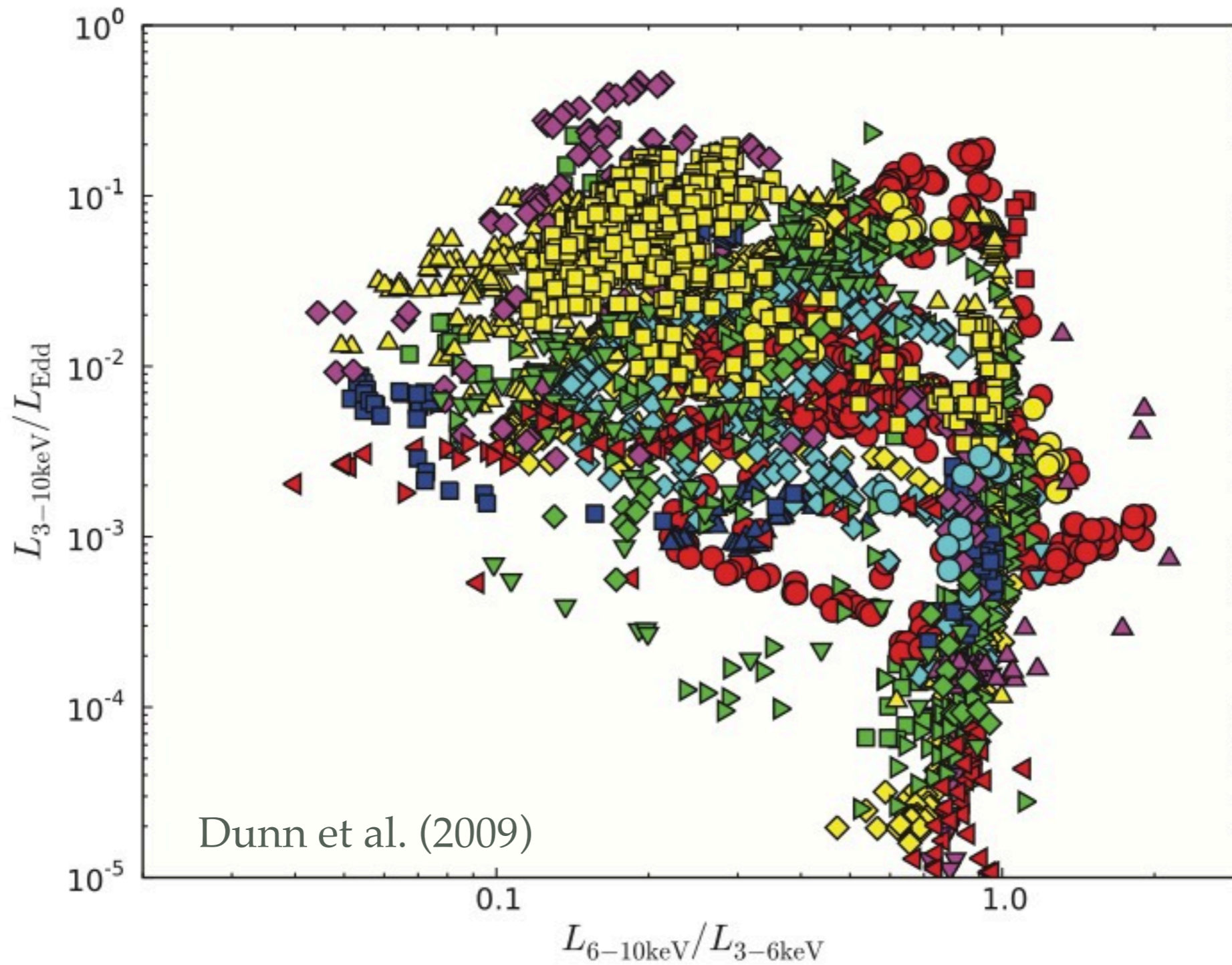
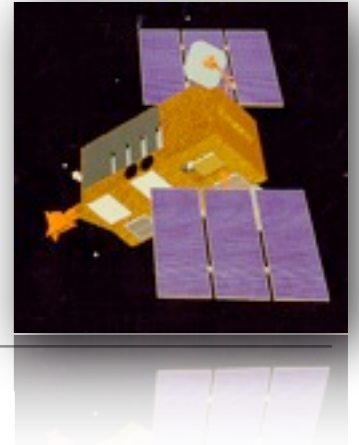


Ebisawa et al. (1994)

RXTE changed the whole picture



Coverage is everything

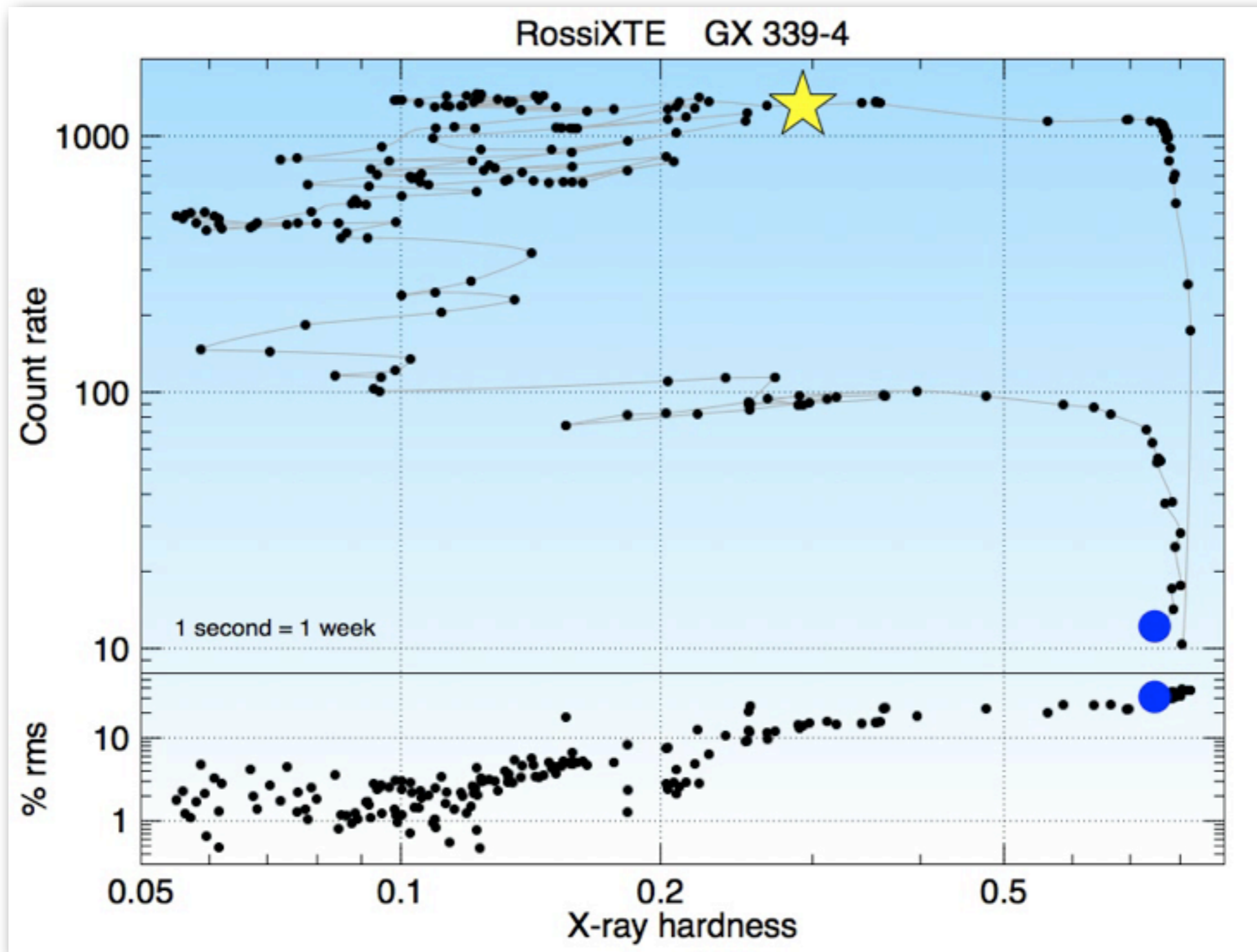


An outburst with the good diagrams

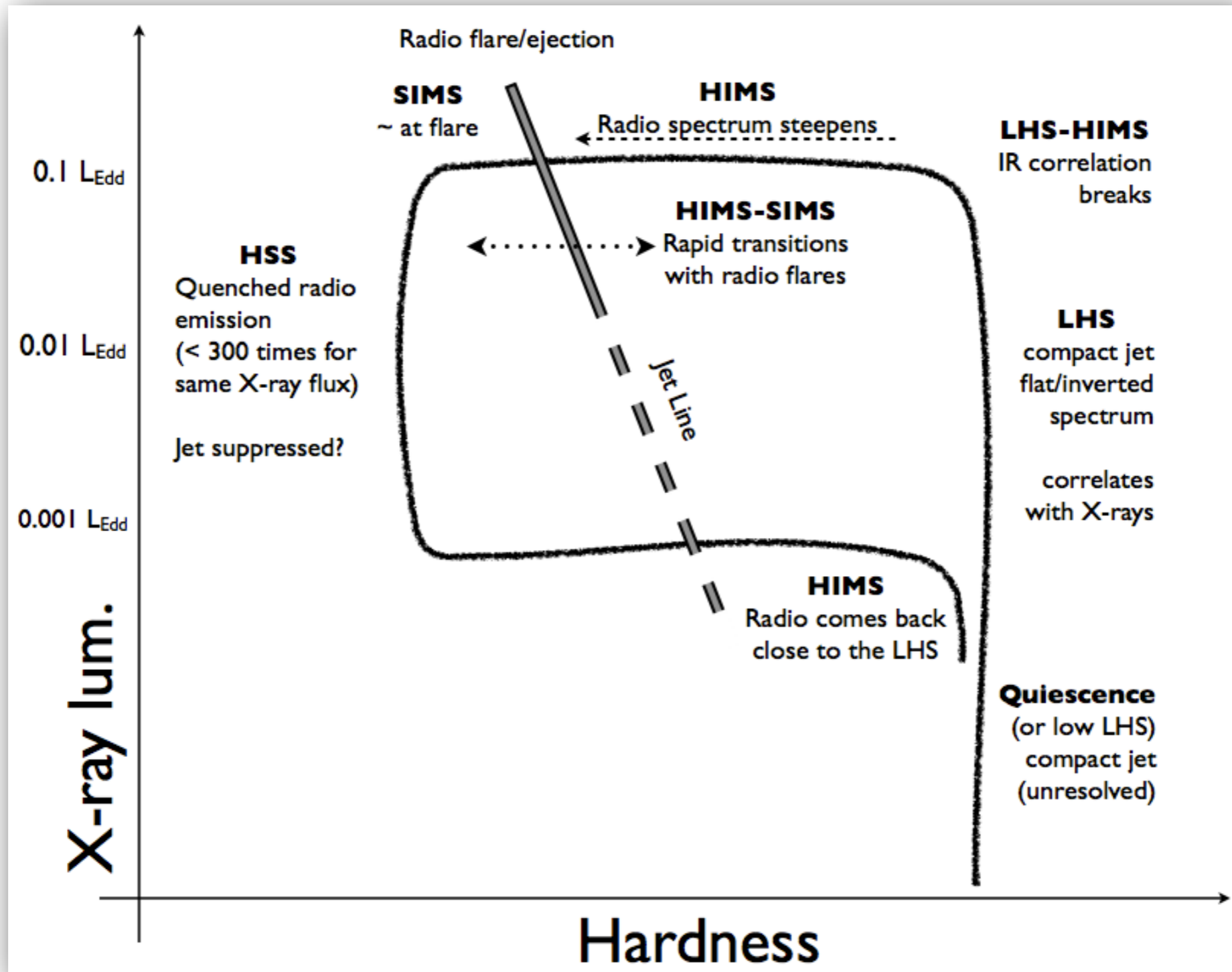
Fender & Belloni, Science, in prep.

An outburst with the good diagrams

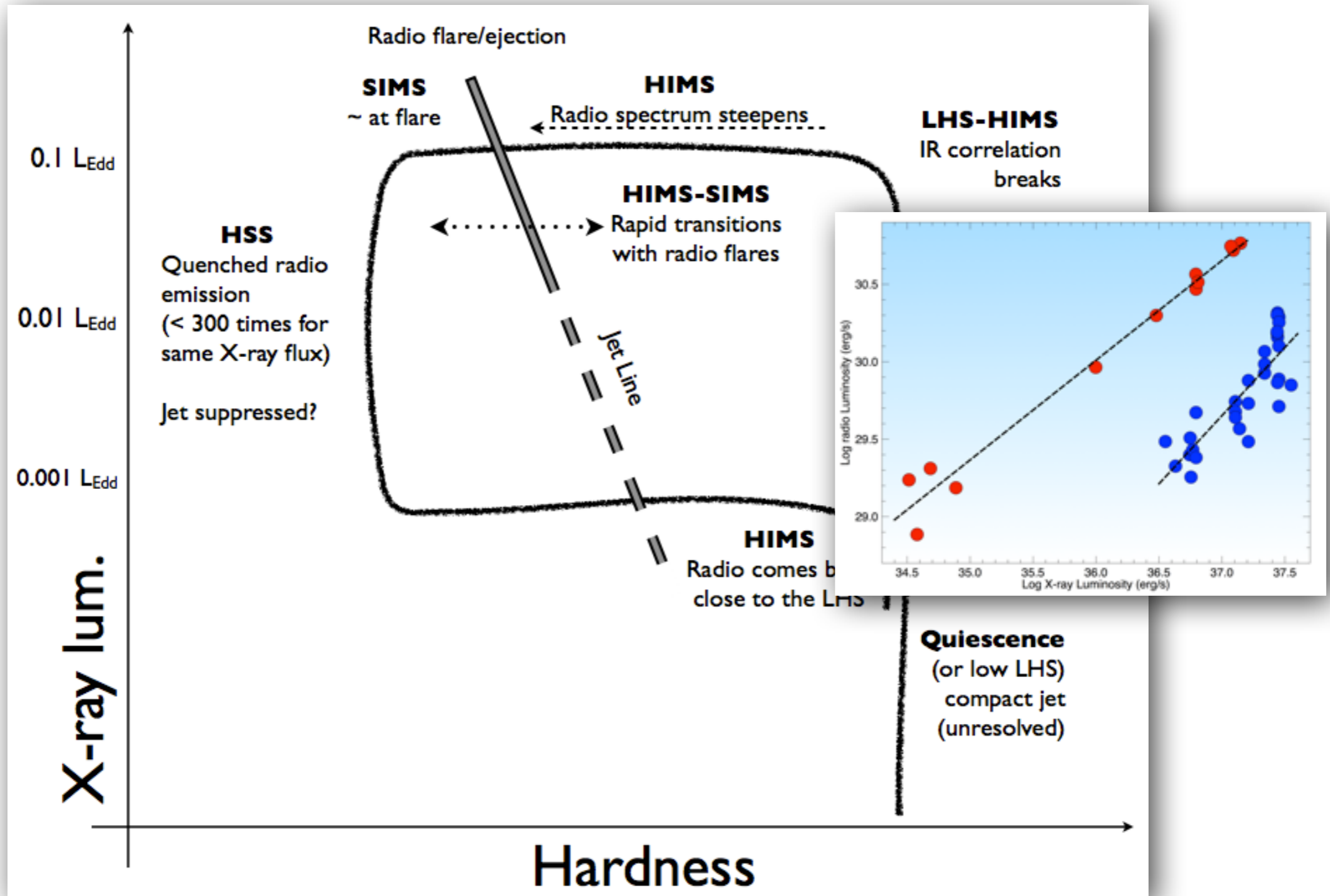
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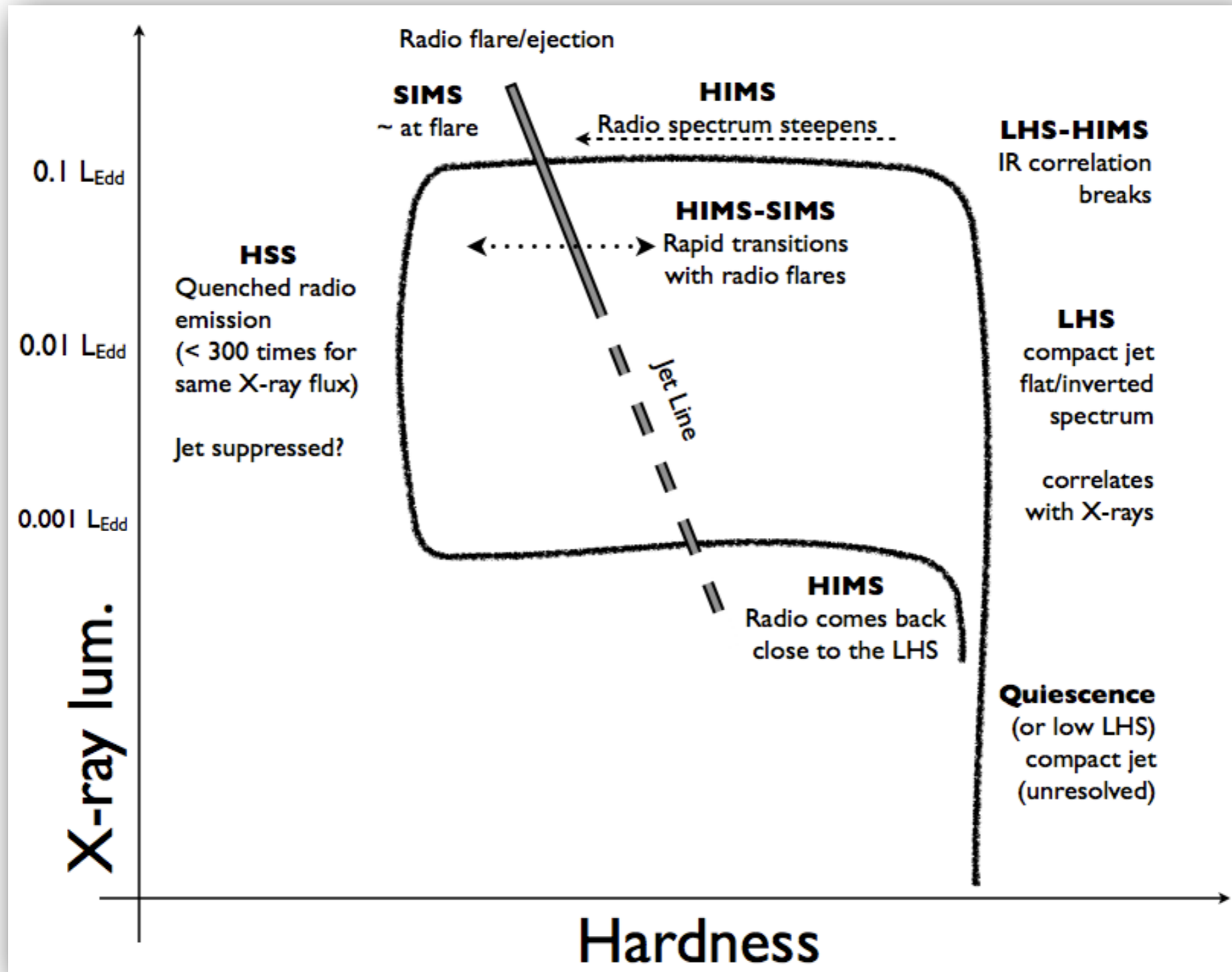
The big picture



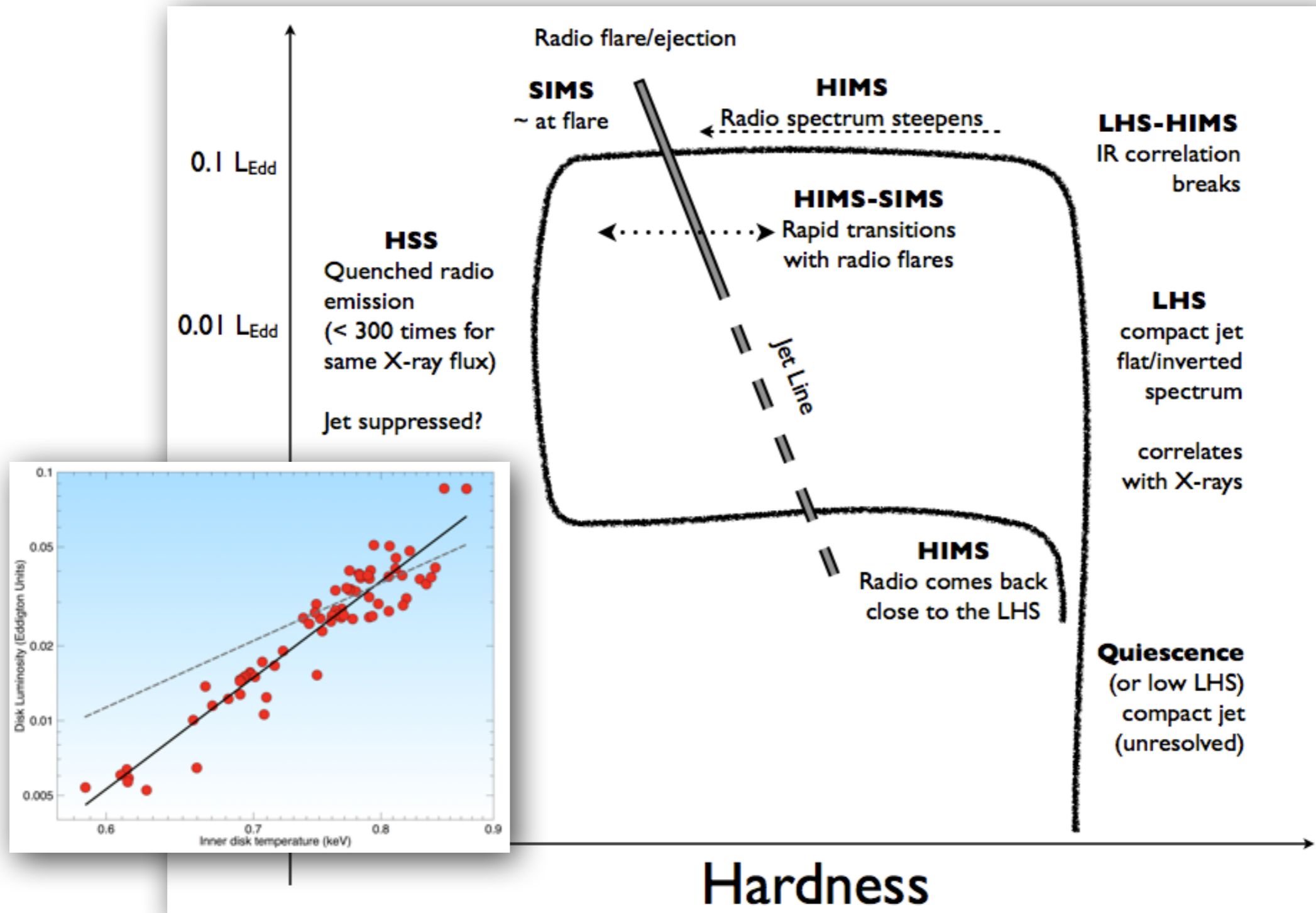
The big picture



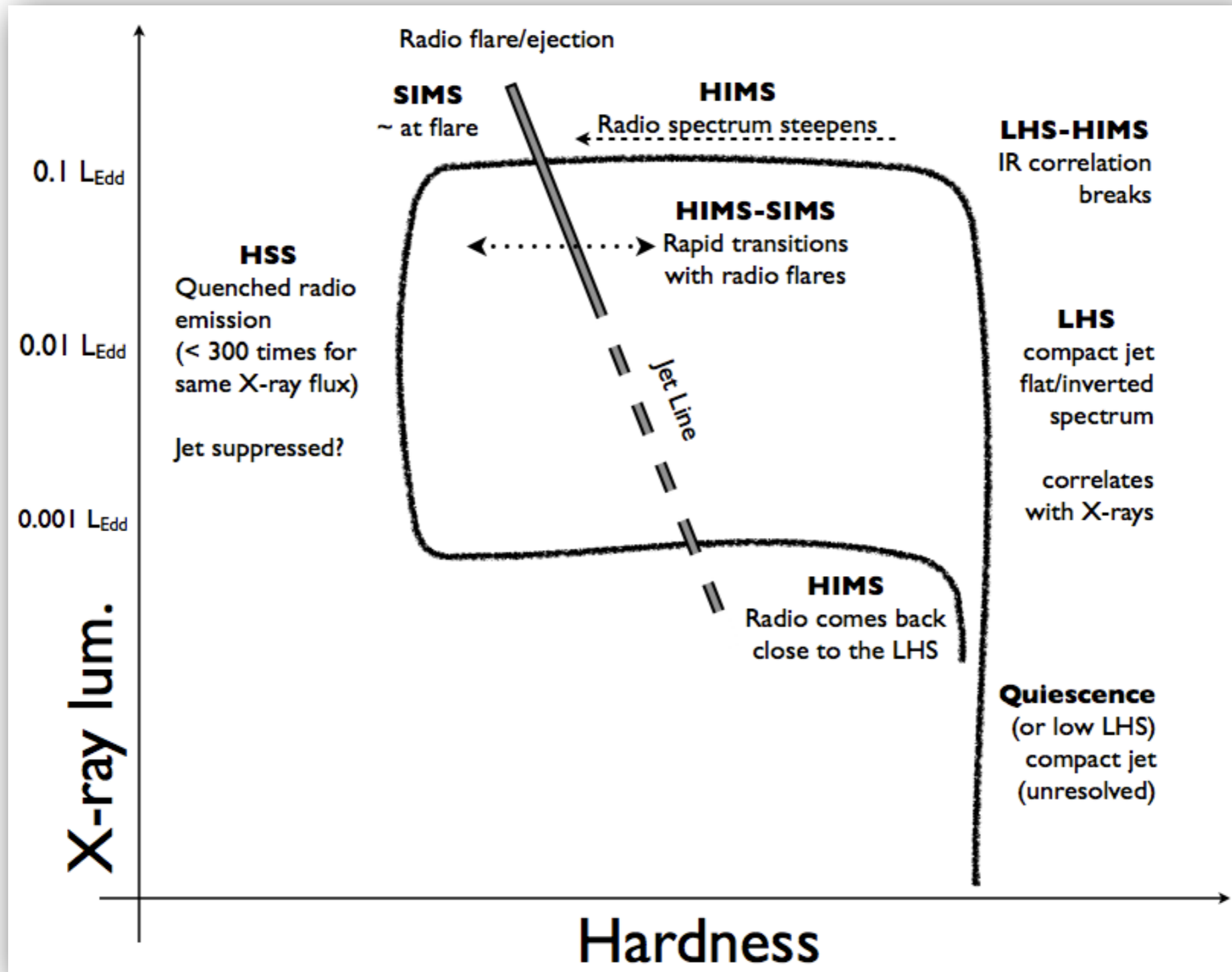
The big picture



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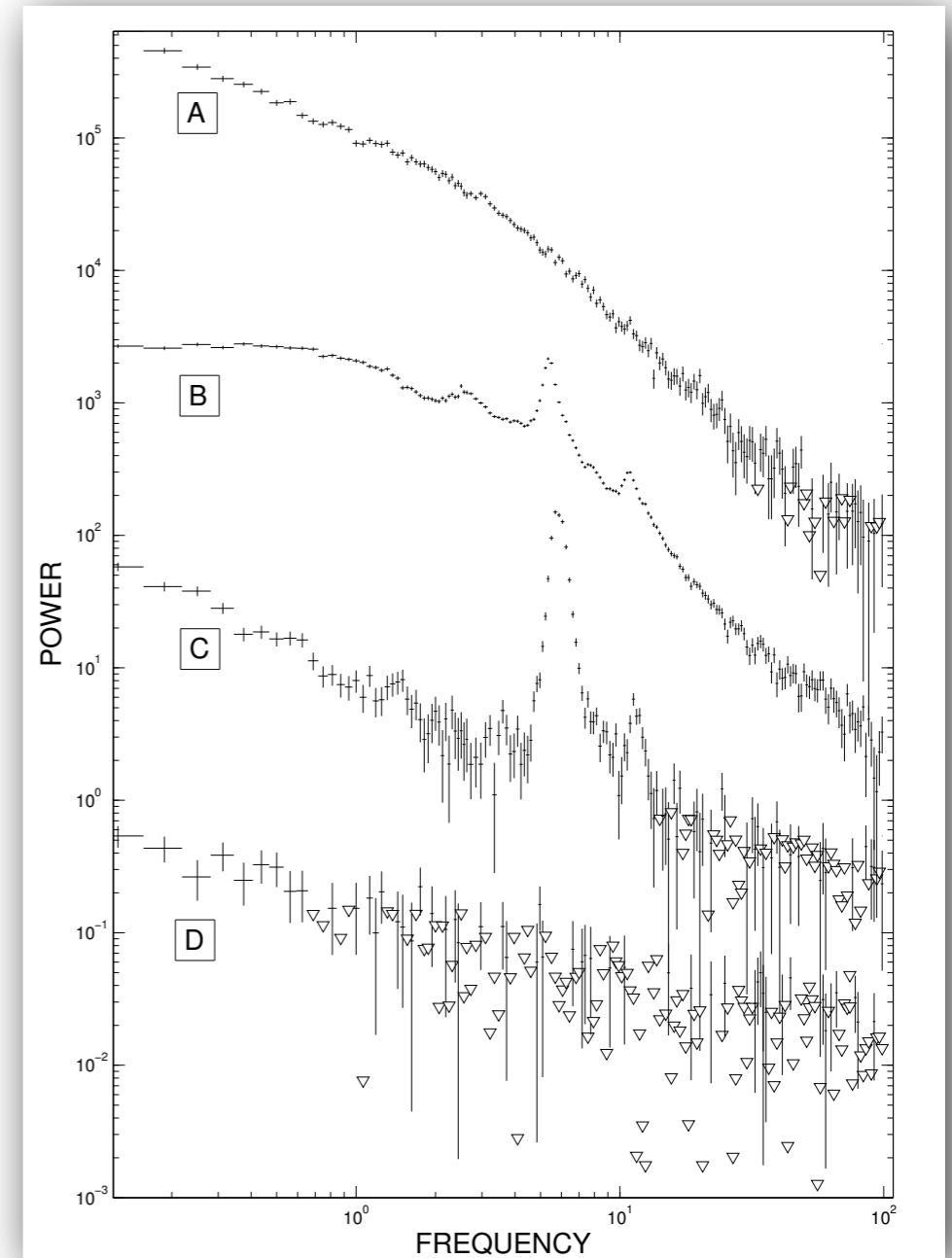
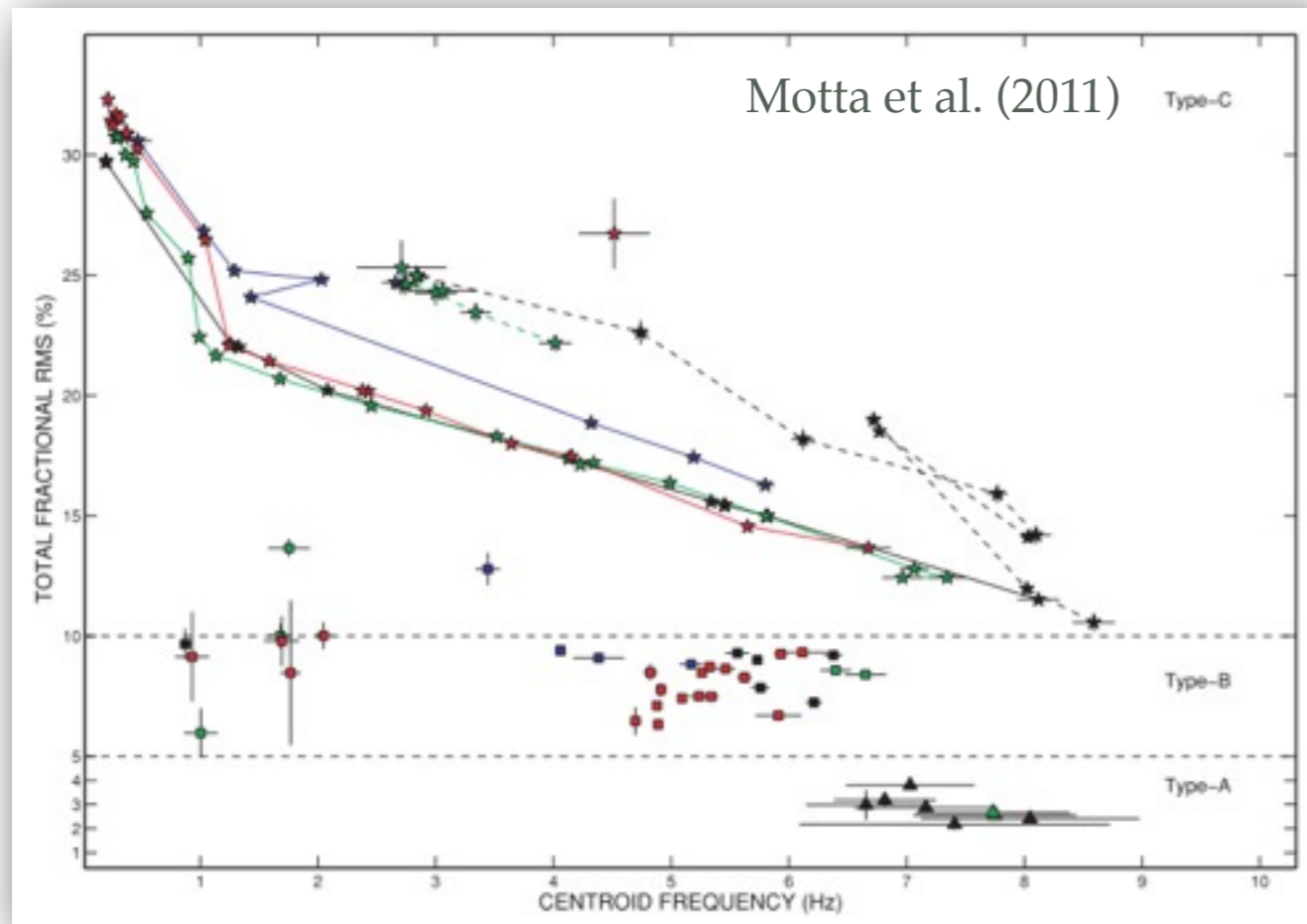


The big picture



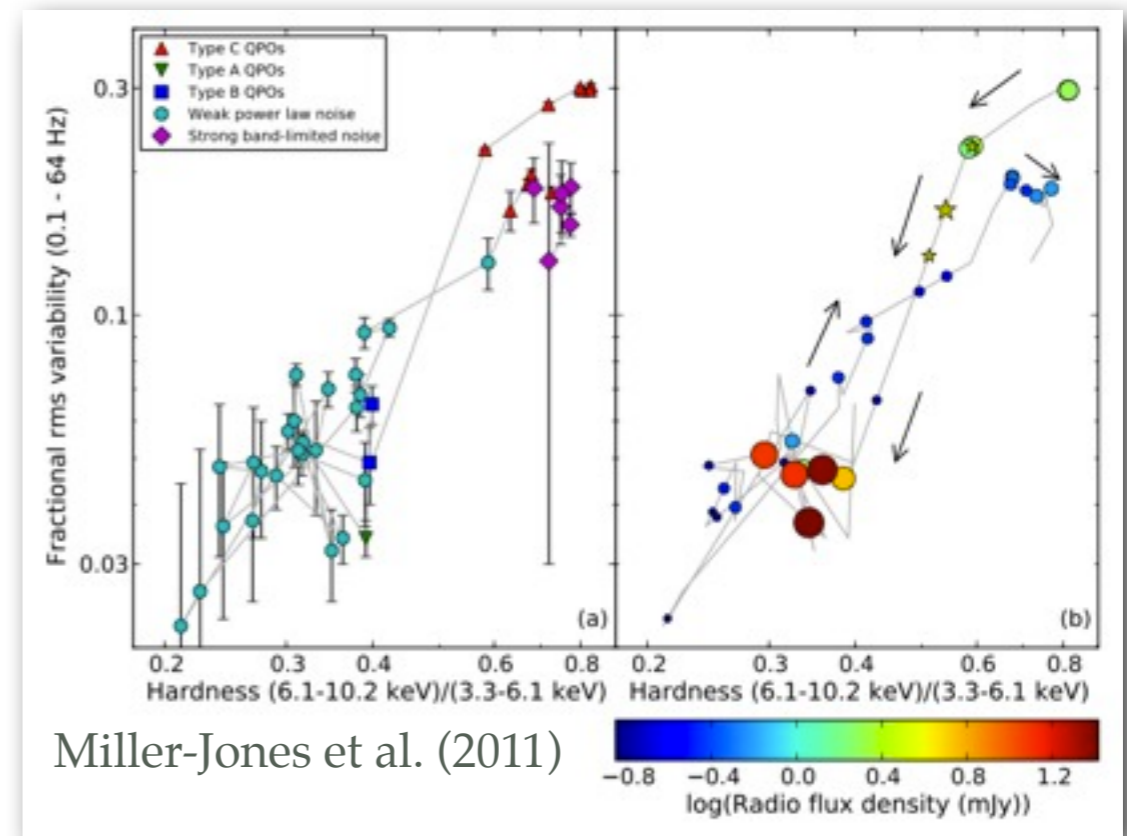
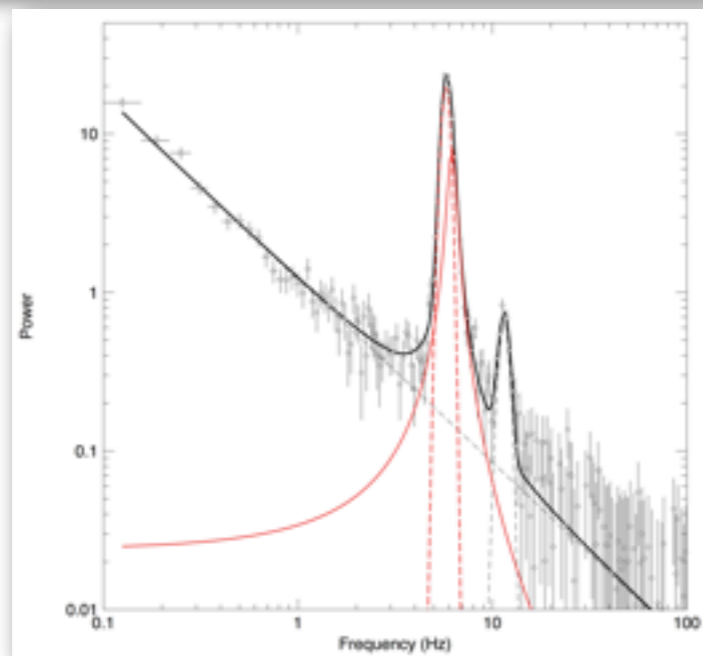
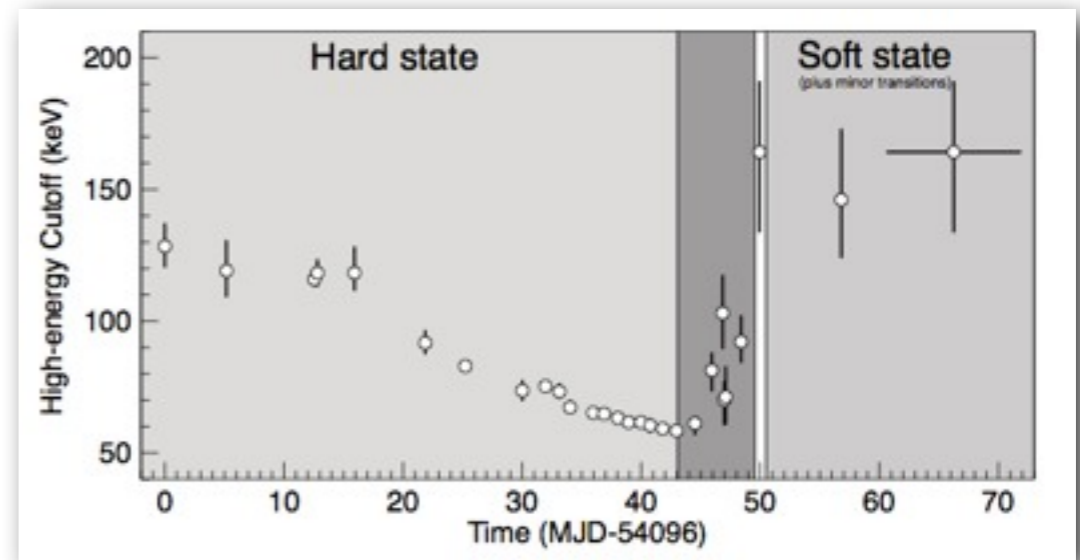
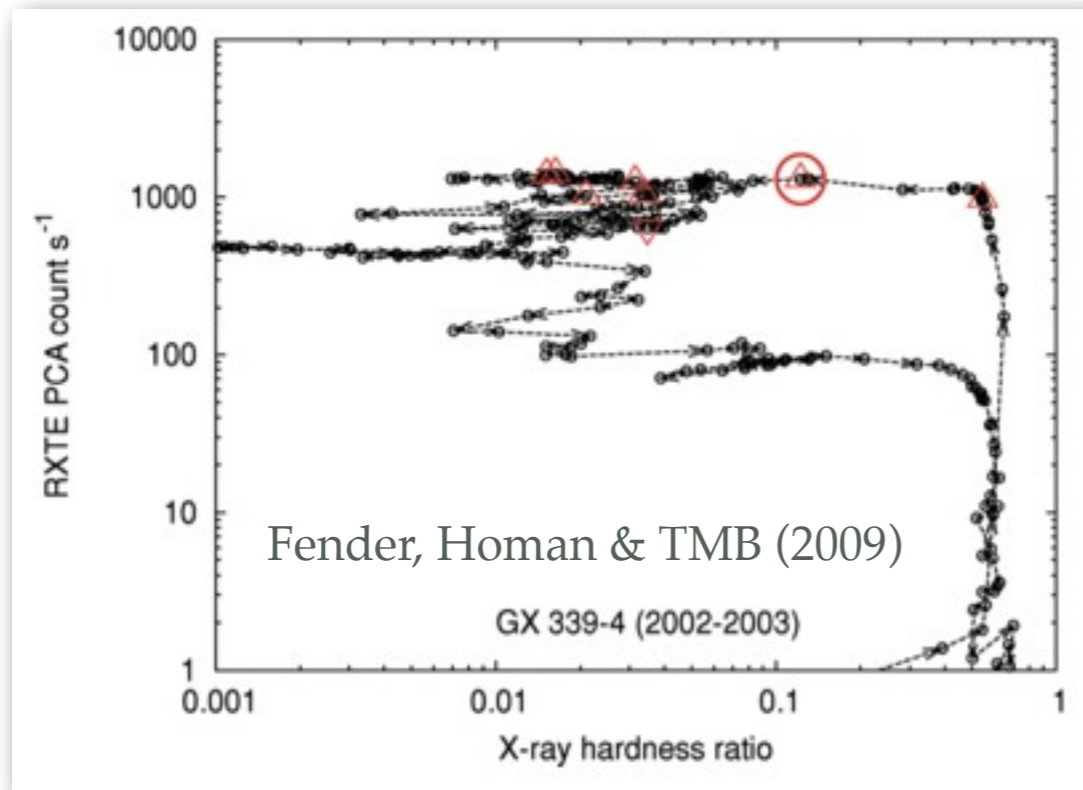
Aperiodic variability: a clear pattern too

Noise + 3 types of QPO
Frequencies correlate
Flux/hardness correlations



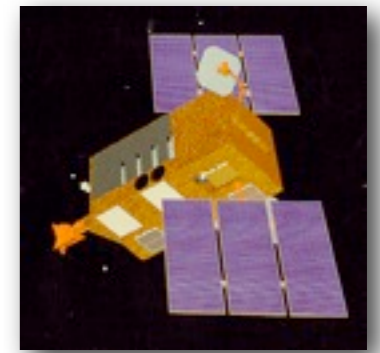
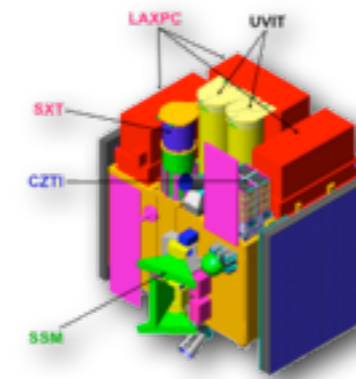
TMB, Motta & Muñoz-Darias (2012)

Fast transitions: spectra/timing/radio

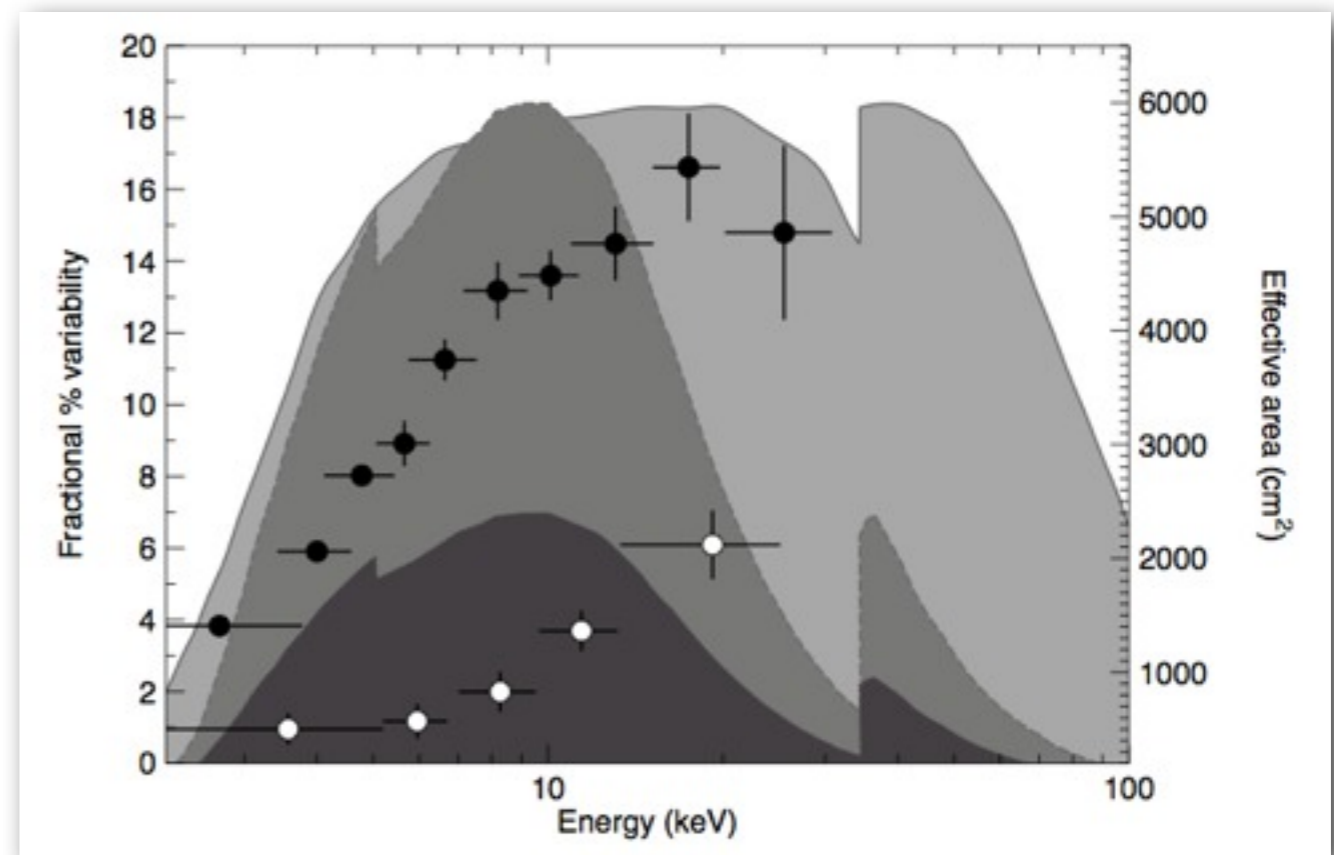
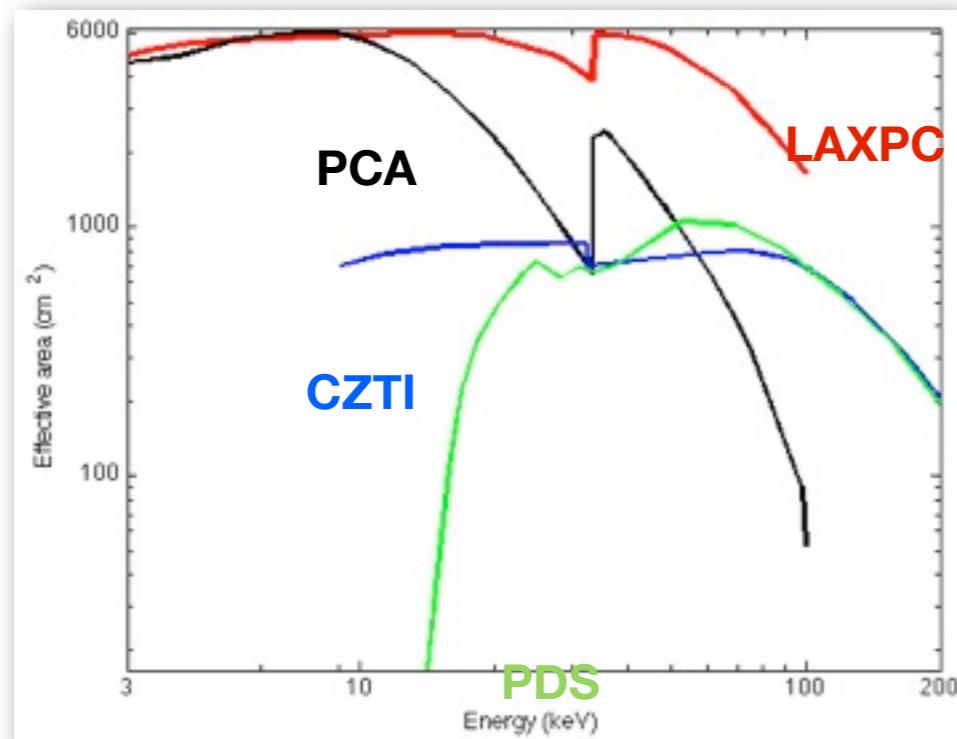


Miller-Jones et al. (2011)

RXTE and THE FUTURE



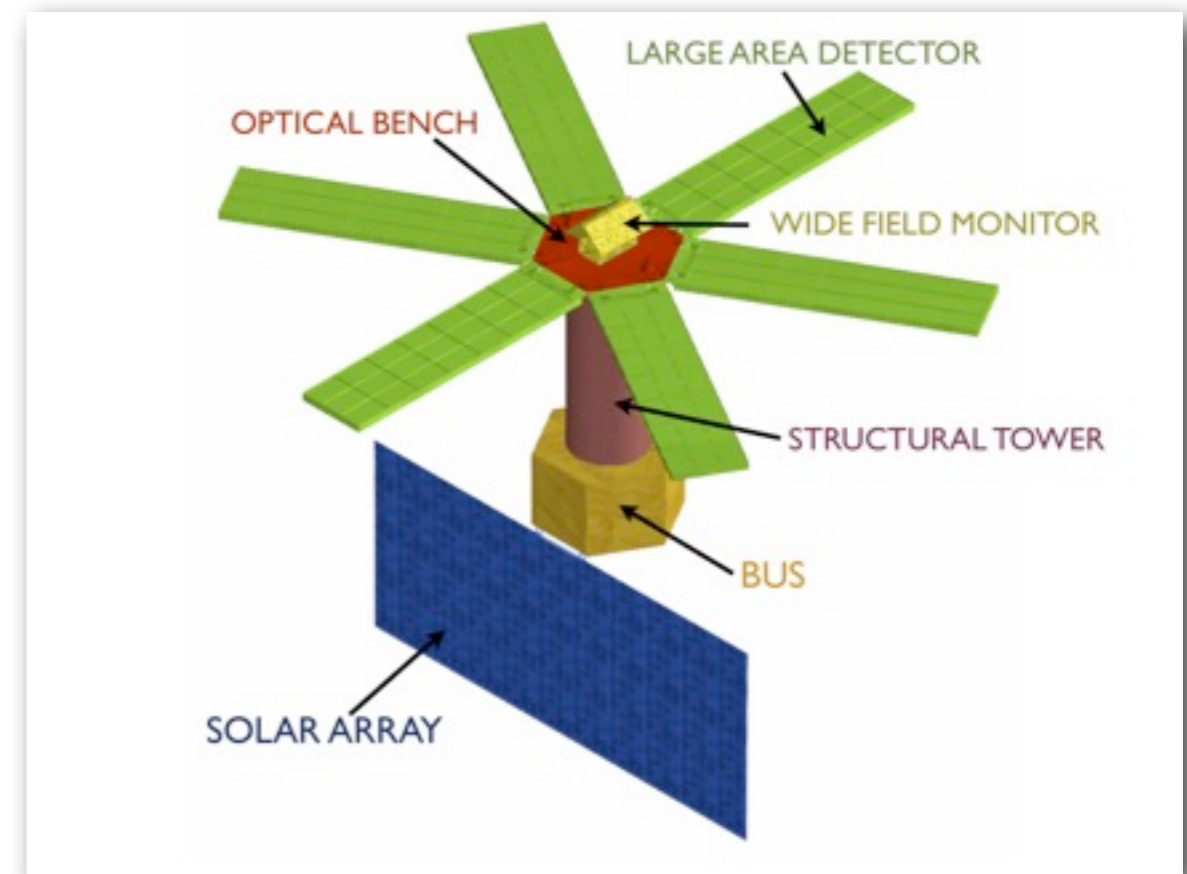
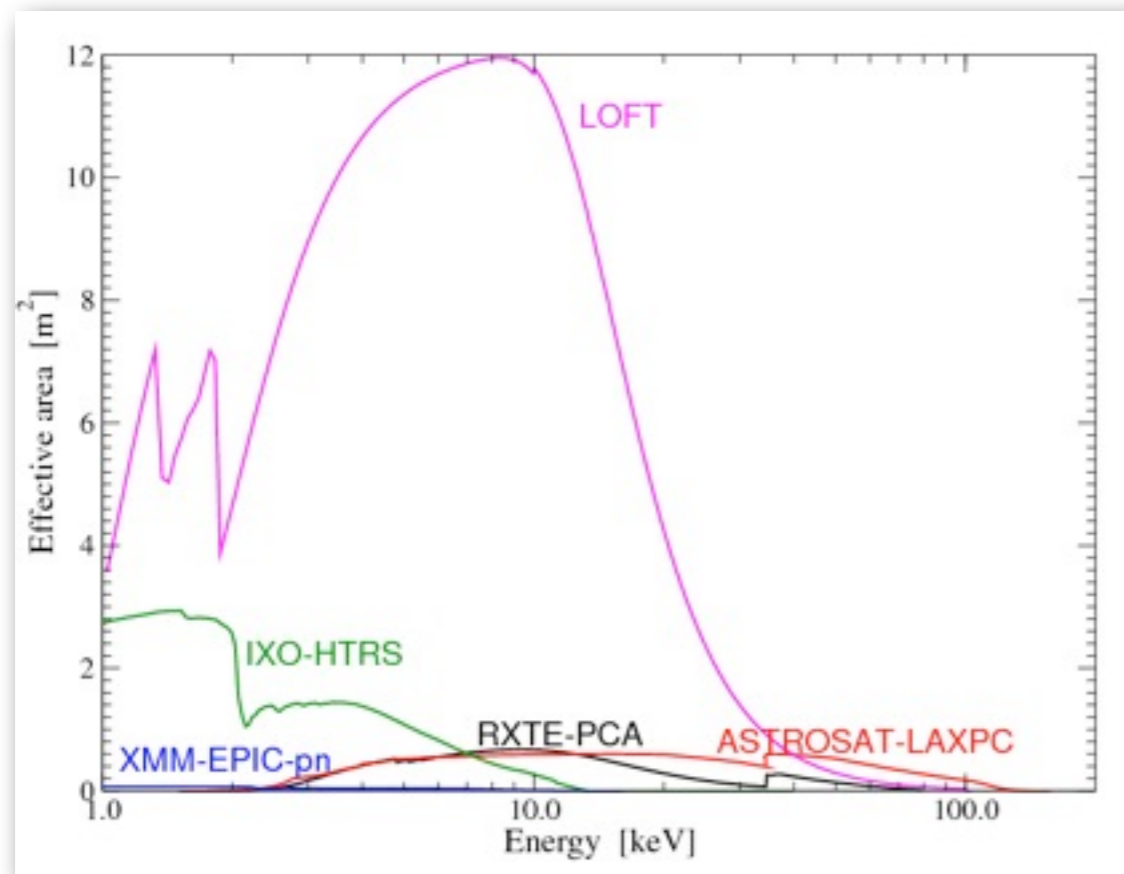
- The near future: **ASTROSAT** (2013?)
- Better than RXTE above > 20 keV
- Coverage?



LOFT



- Selected for assessment by ESA
- Launched in 2020+ ?
- 12 m² effective area



THANK YOU RXTE!

