

Leicester, 07 March 2012
EPIC Calibration Meeting

RESULTS FROM TYCHO SNR CALMEDIUM OBSERVATION

FABIO GASTALDELLO

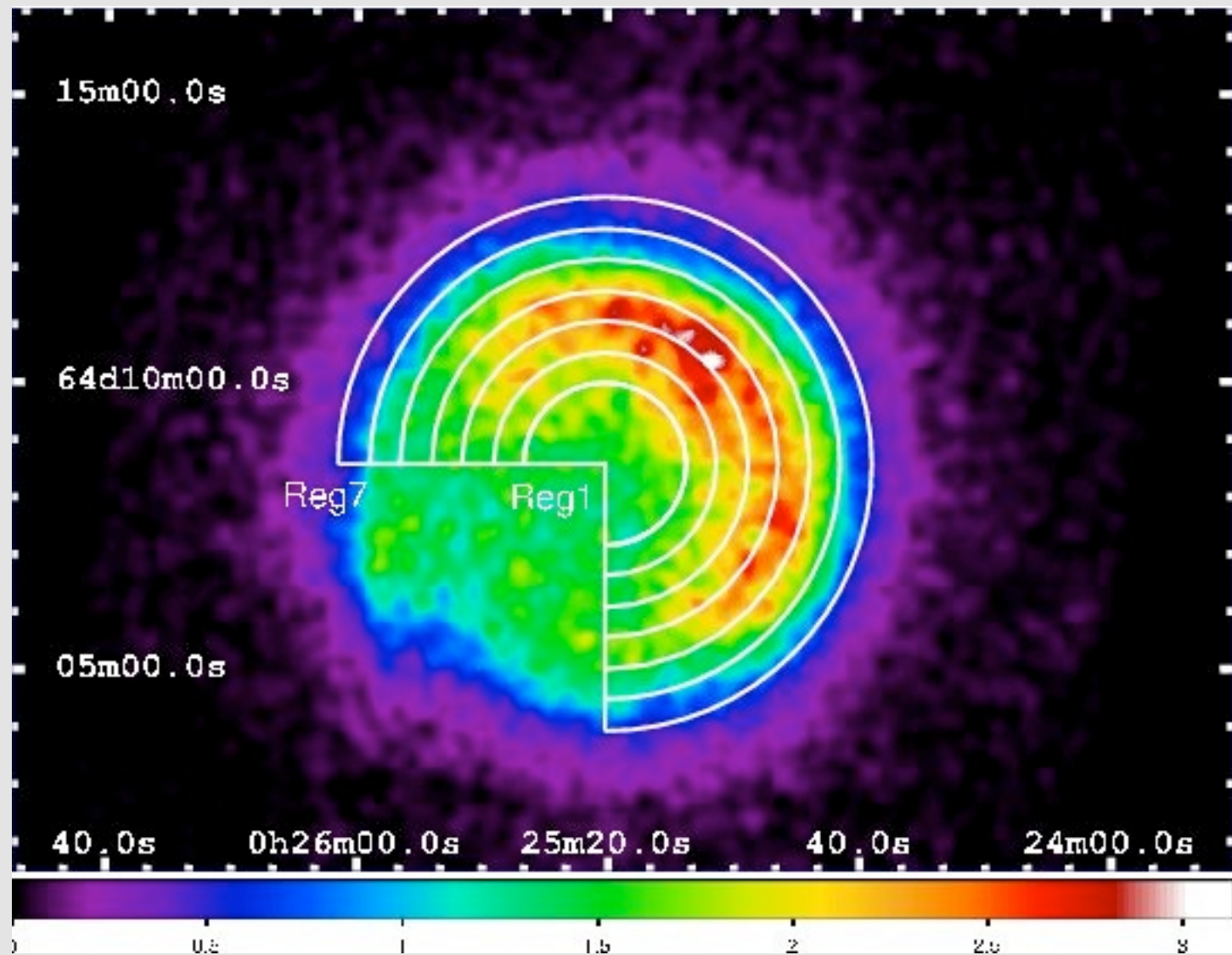
INAF, IASF-Milano

ANDREA TIENGO (IUSS Pavia, IASF-Milano)

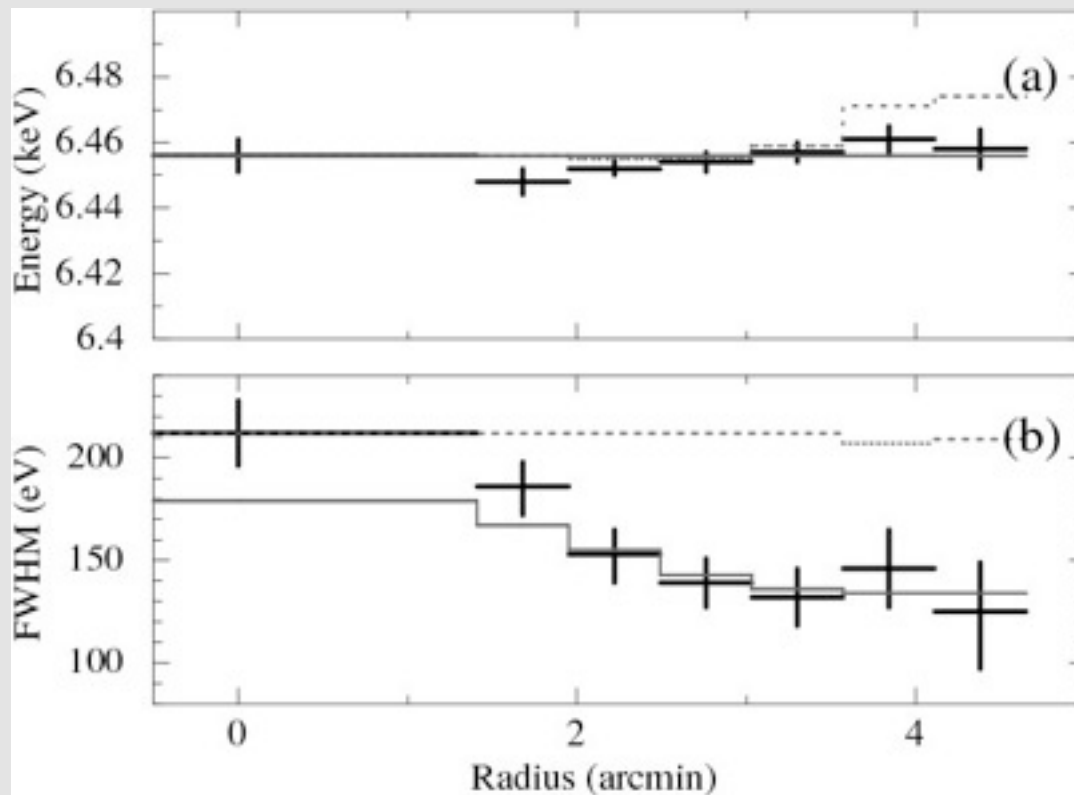
MOTIVATIONS

- **Decay of internal calibration source:** half-life of Fe^{55} : 2.7 yr meaning that 30 ks in 2000 corresponds to 1.4 Ms in 2015
- **New observing mode for guest observer ?**

SUZAKU RESULTS



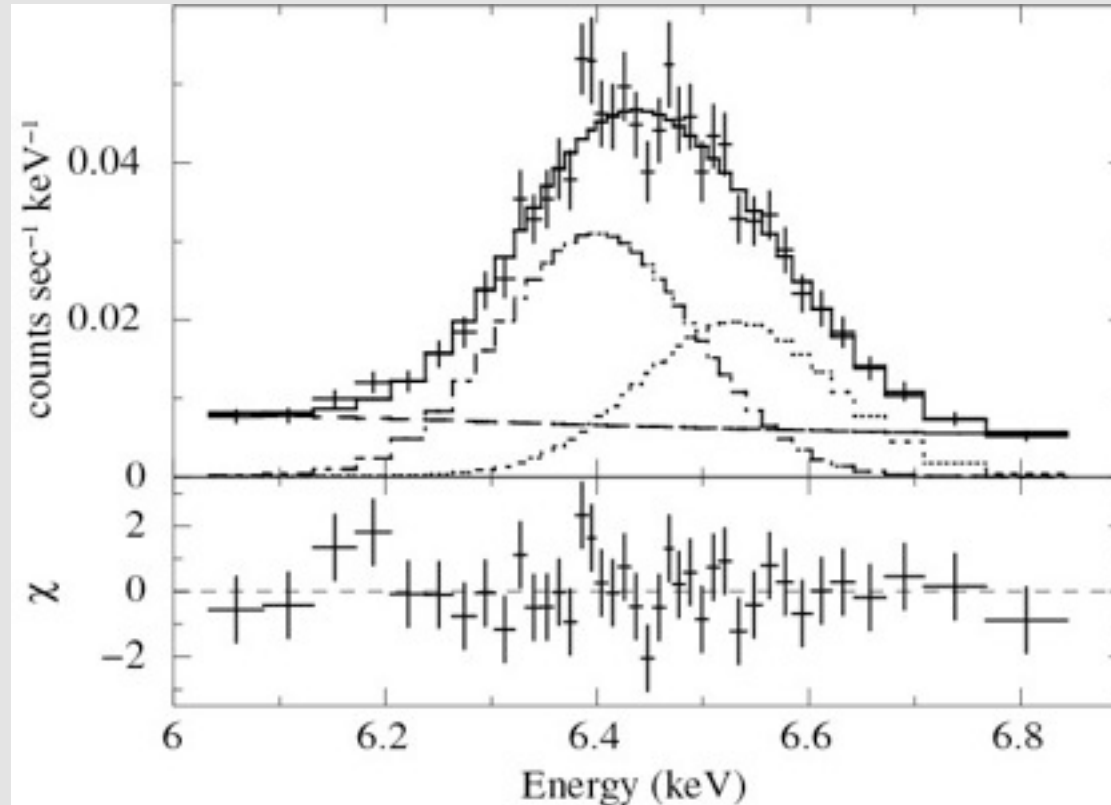
SUZAKU RESULTS



Furuzawa+09

- No variation of centroid of Fe line
- Decreasing FWHM of the line with radius

SUZAKU RESULTS



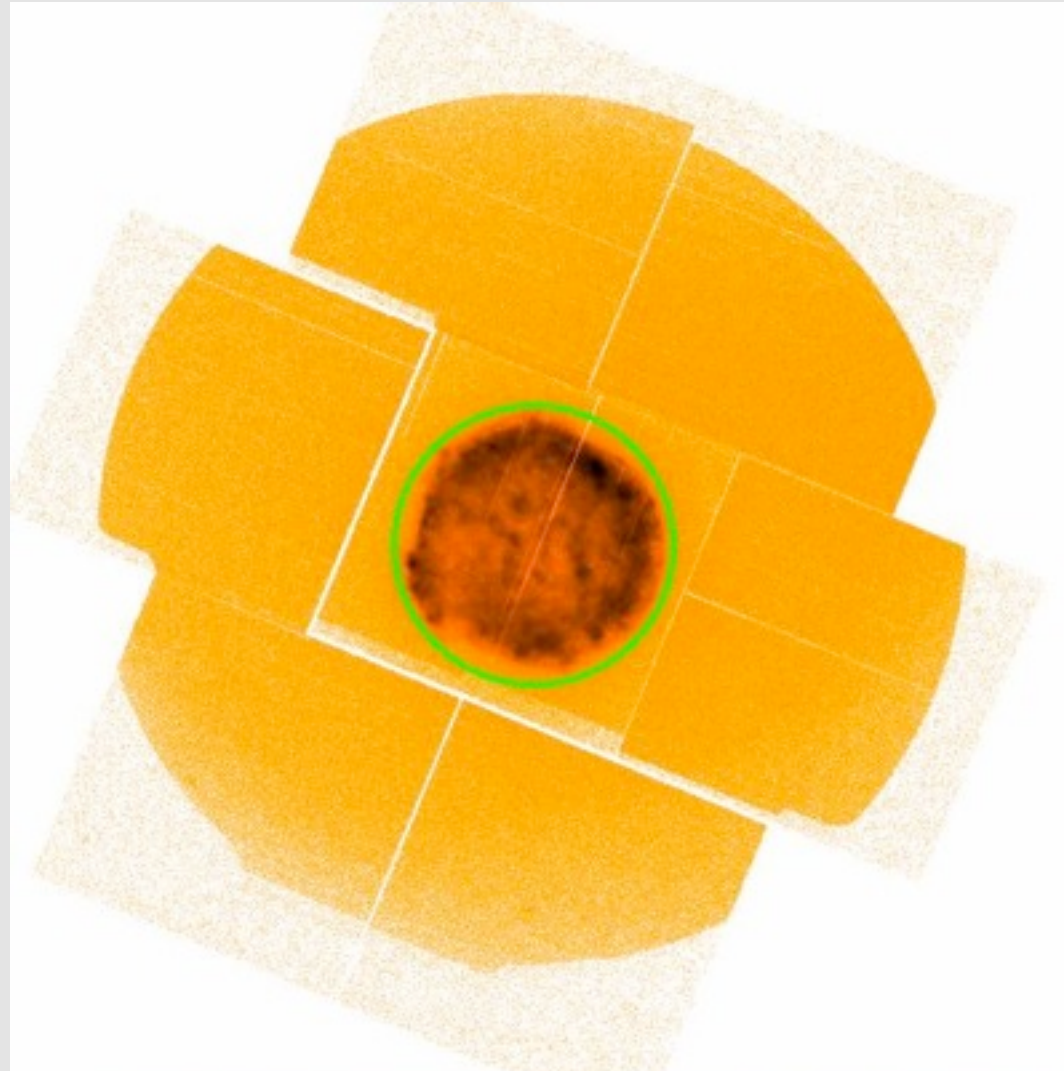
Furuzawa+09

Consistent with shell spherical expansion
Central high FWHM due to blue and redshifted lines

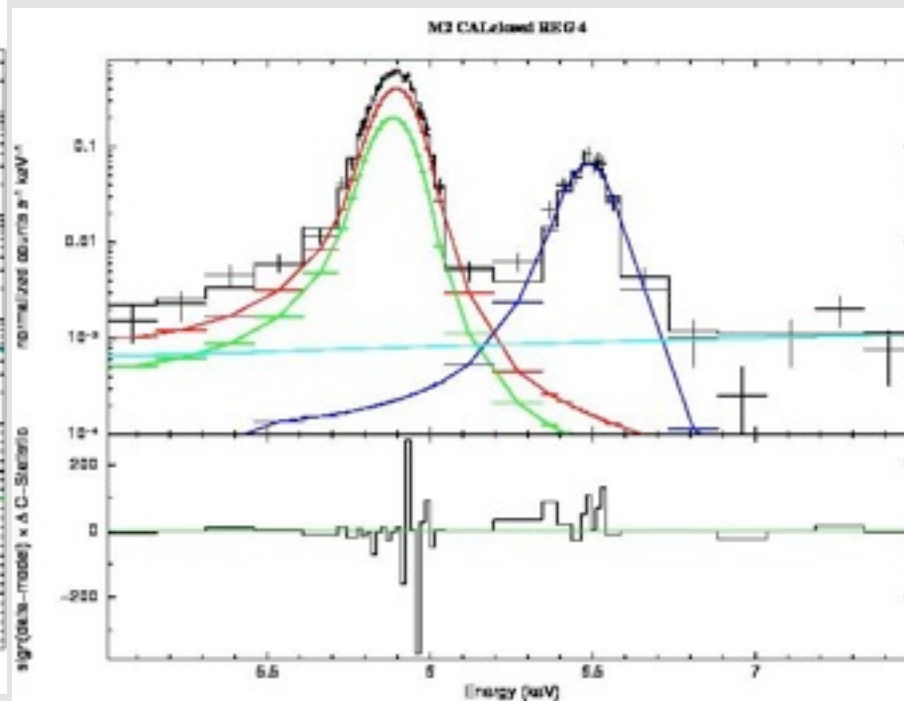
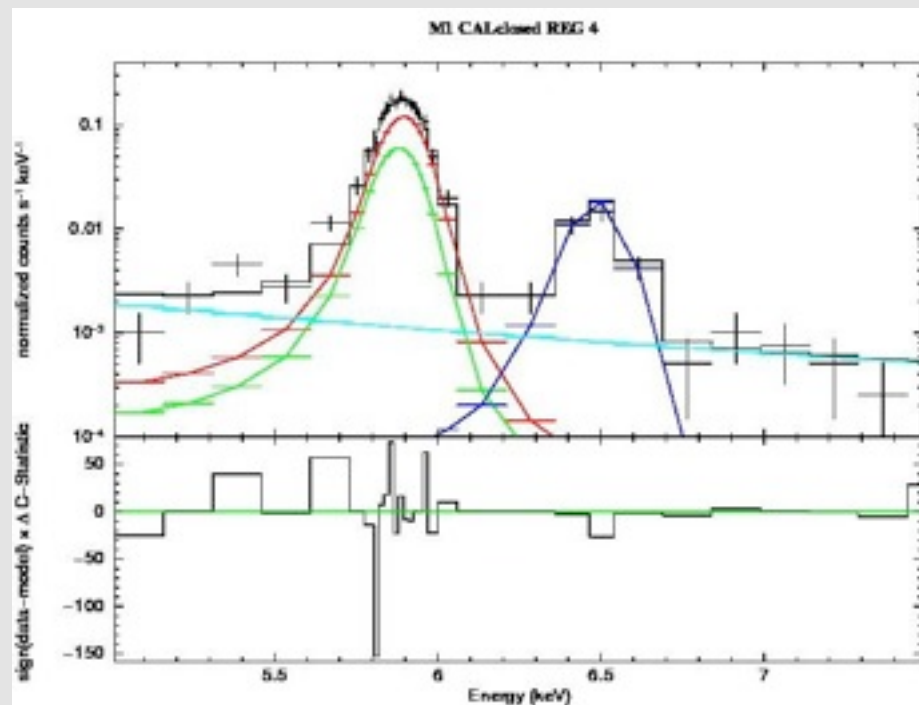
SET OF XMM OBSERVATIONS

3 observations of
Tycho SNR:

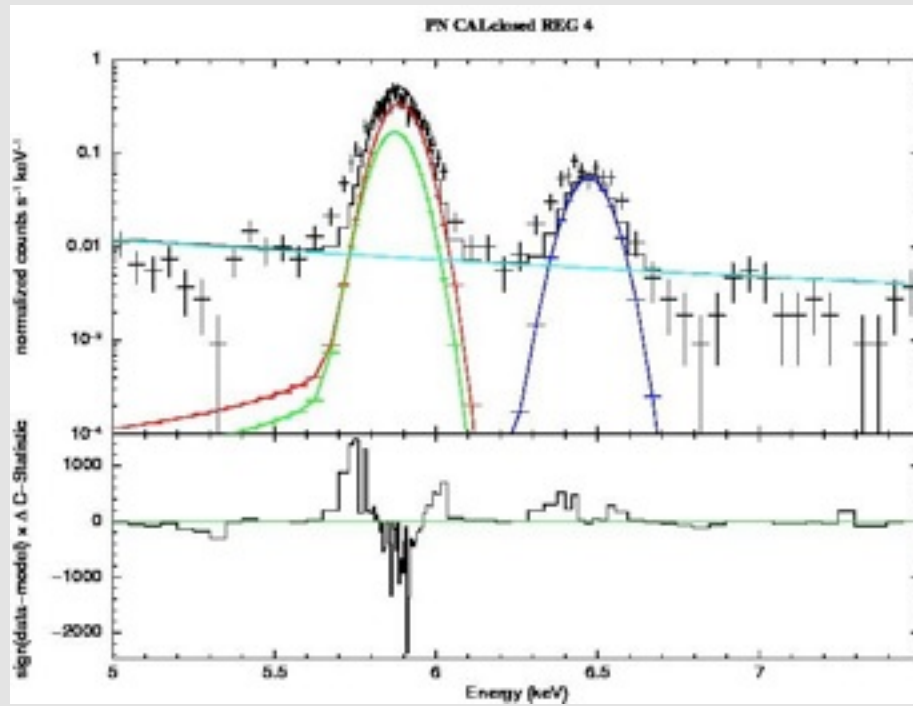
- **Medium** (30/12/07):
17-19-12 ks
- **CALmedium**
(01/01/08): 46-36-33
ks
- **CALclosed**
(03/0108): 26-26-22
ks



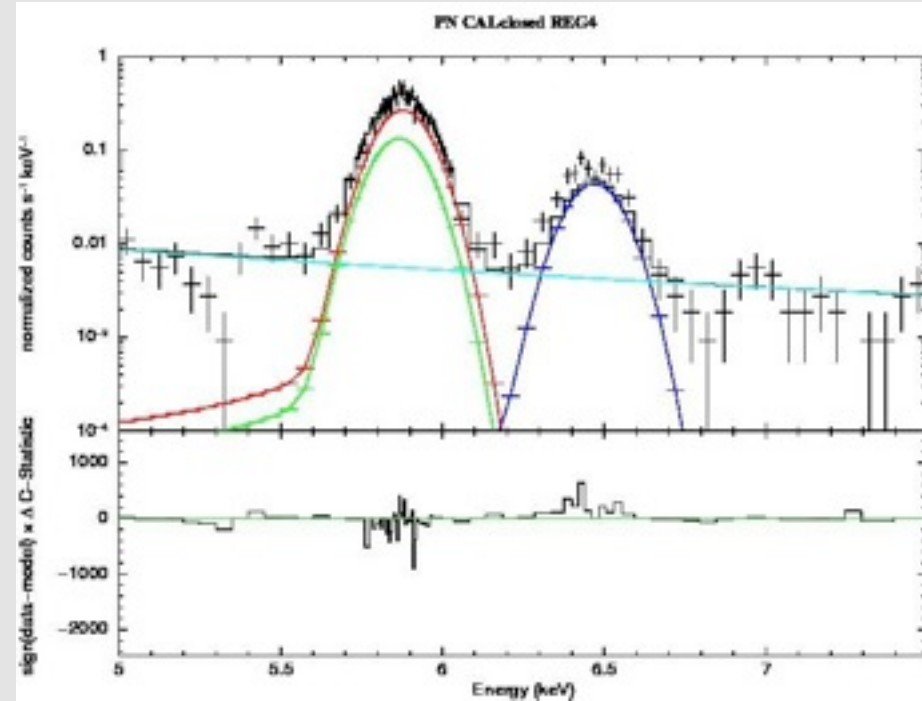
SPECTRAL MODELING



SPECTRAL MODELING

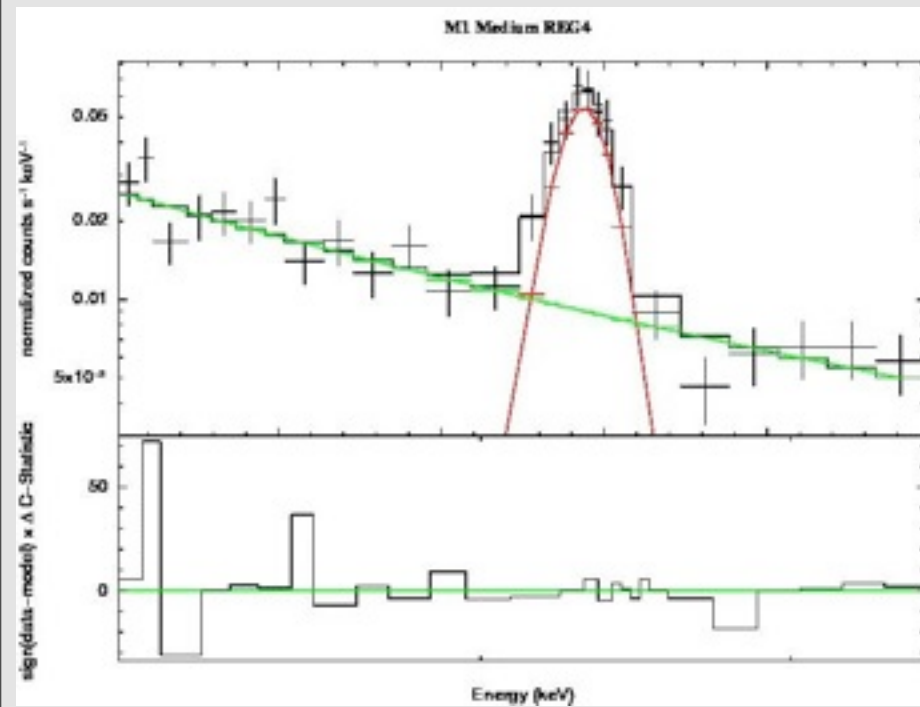


Zero width

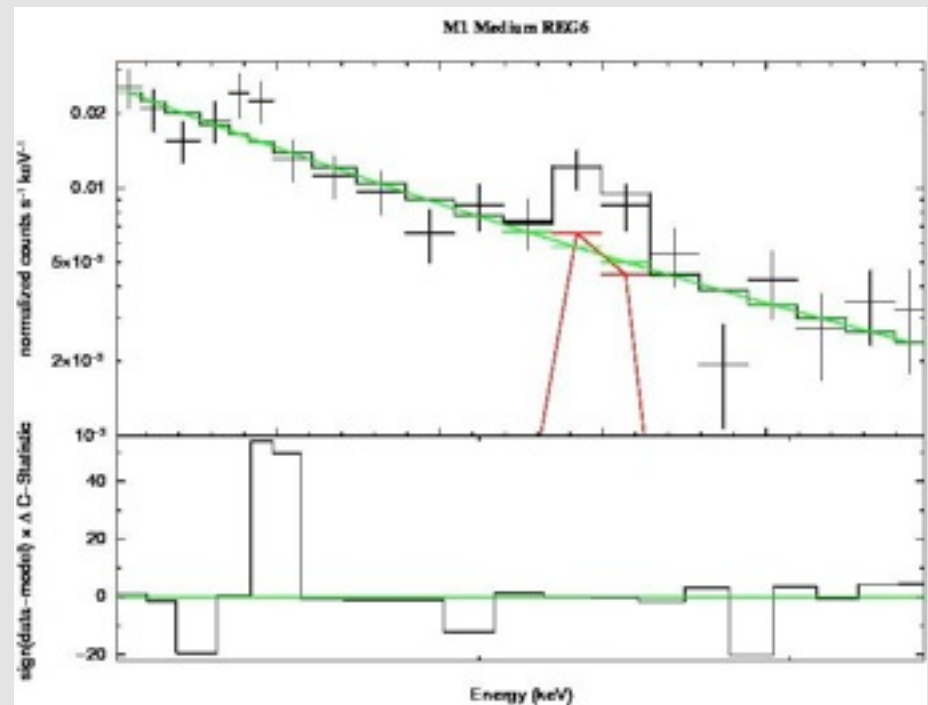


Free width

SPECTRAL MODELING

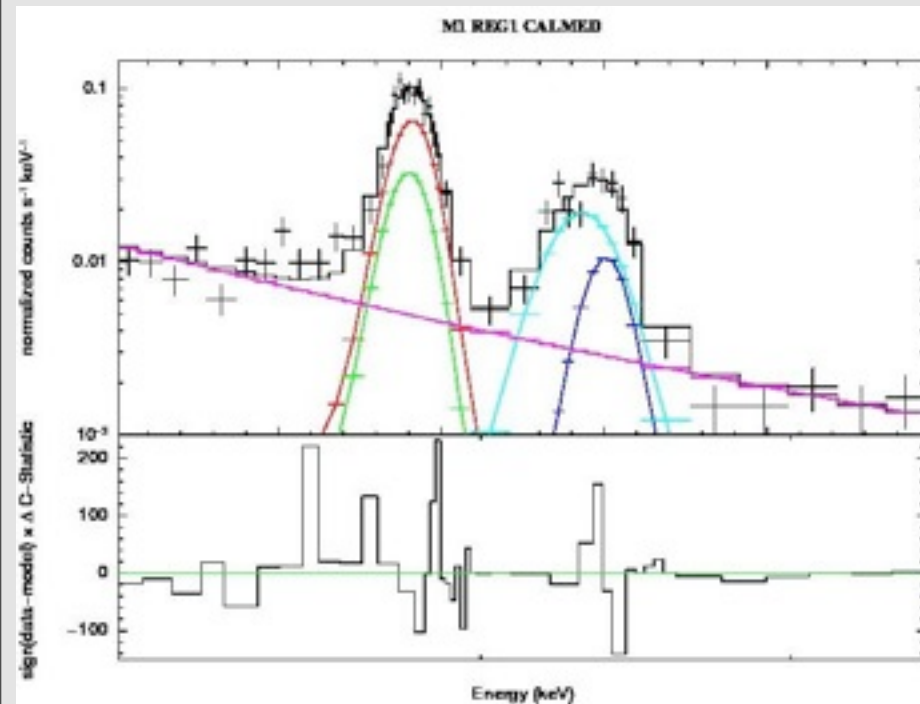


M1 REG4
(peak of emission)

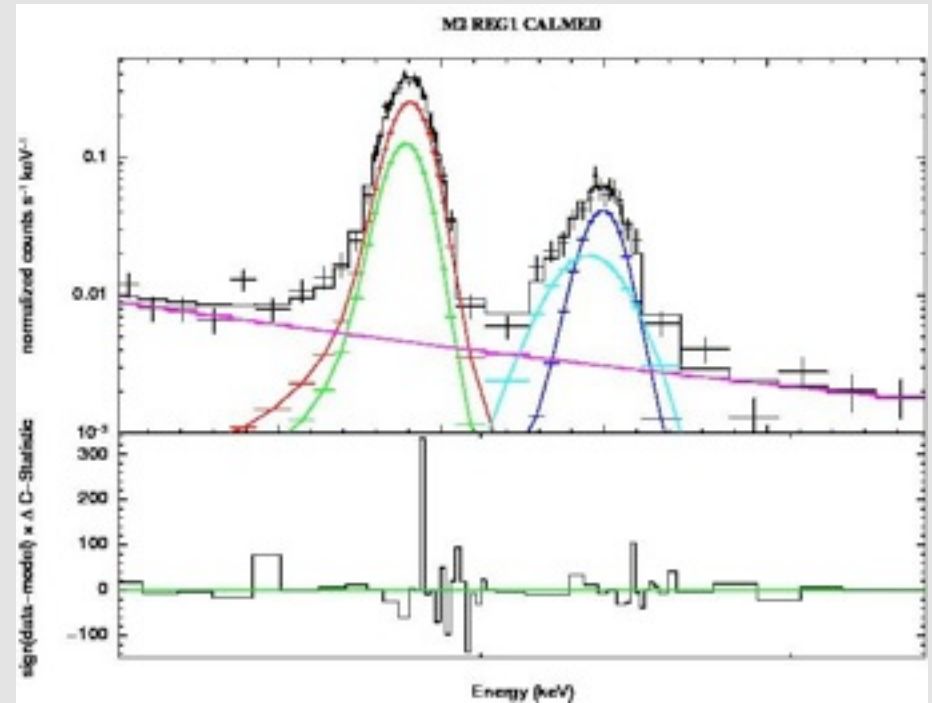


M1 REG6

SPECTRAL MODELING

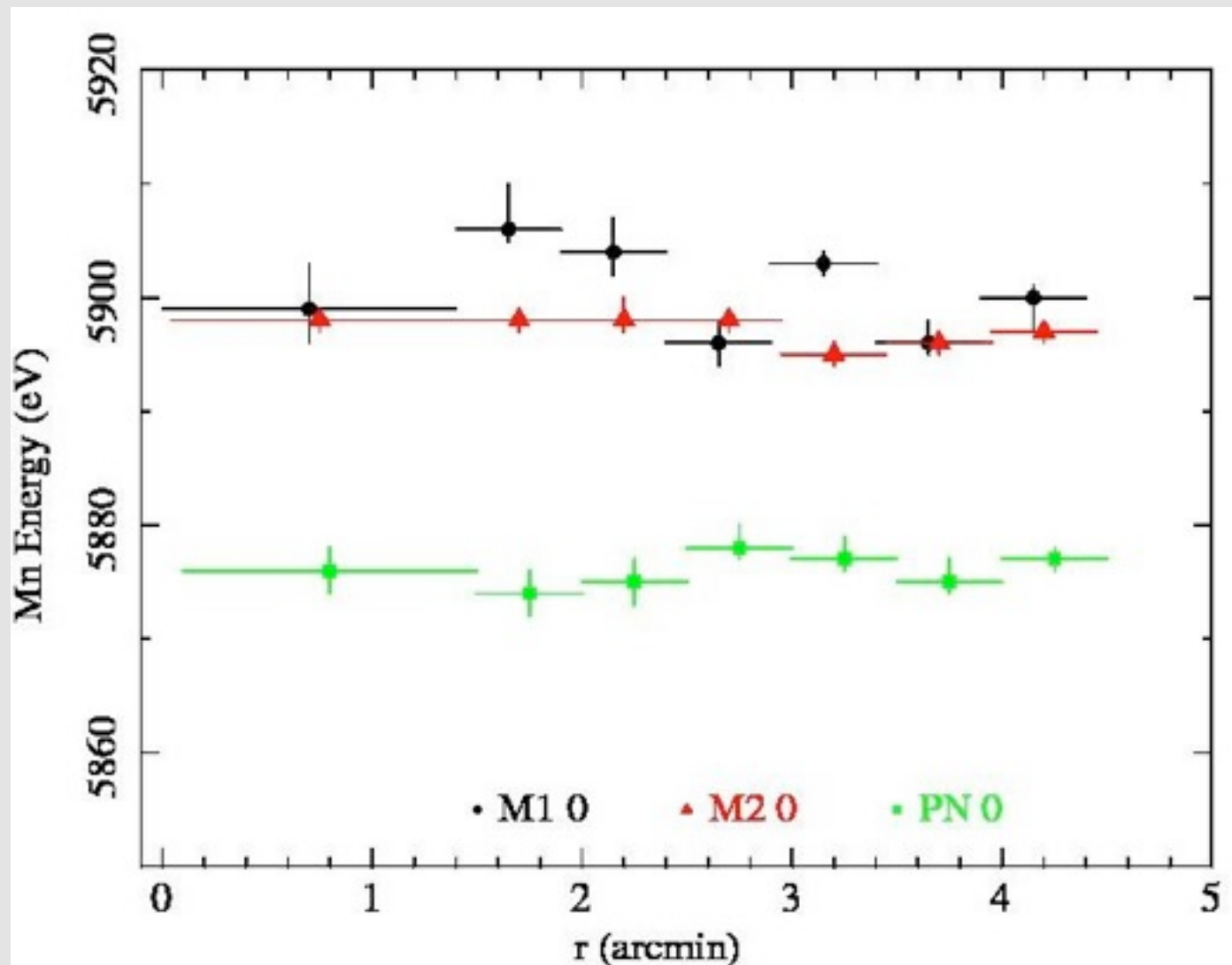


M1 REG1



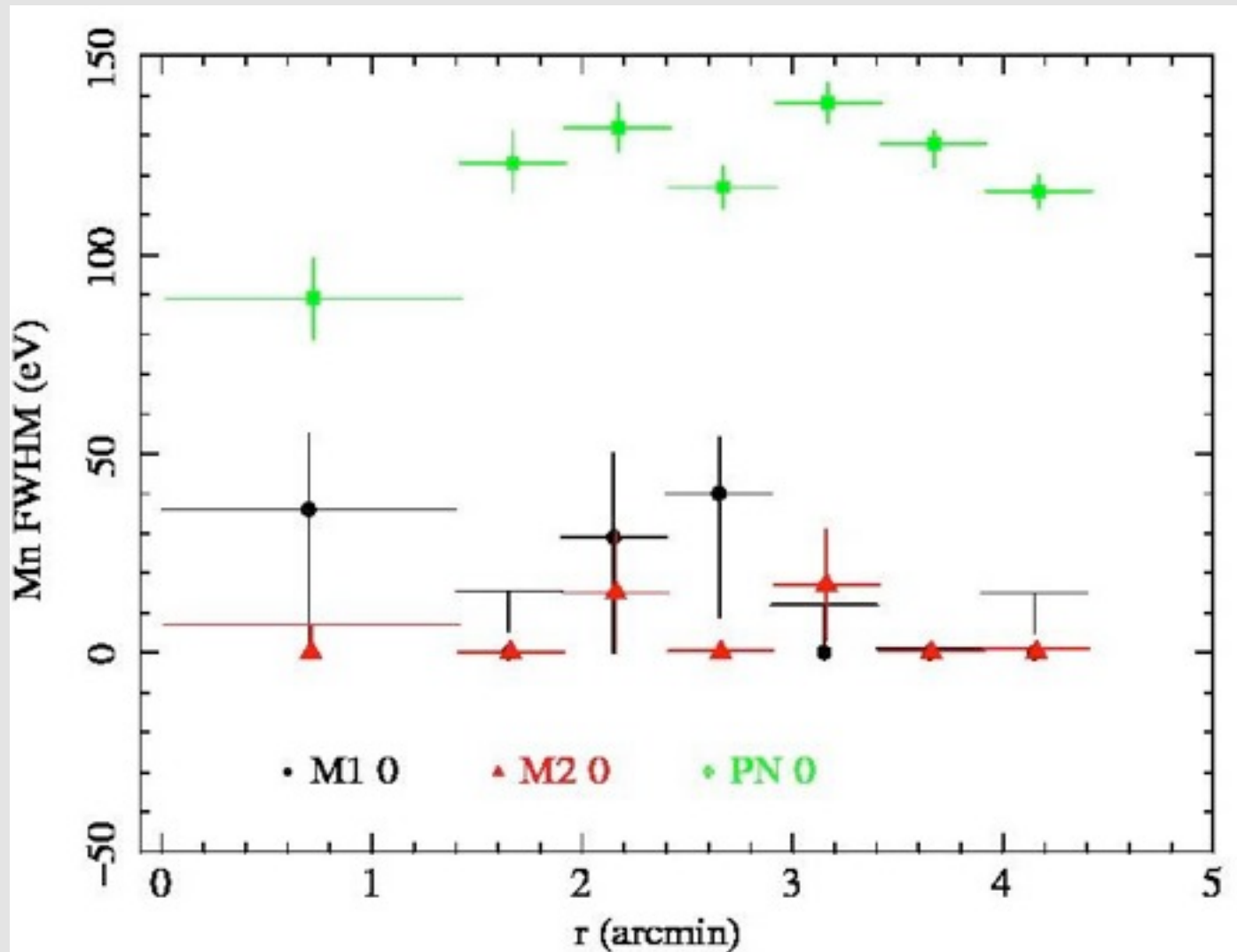
M2 REG1

RESULTS IN SUZAKU ANNULI



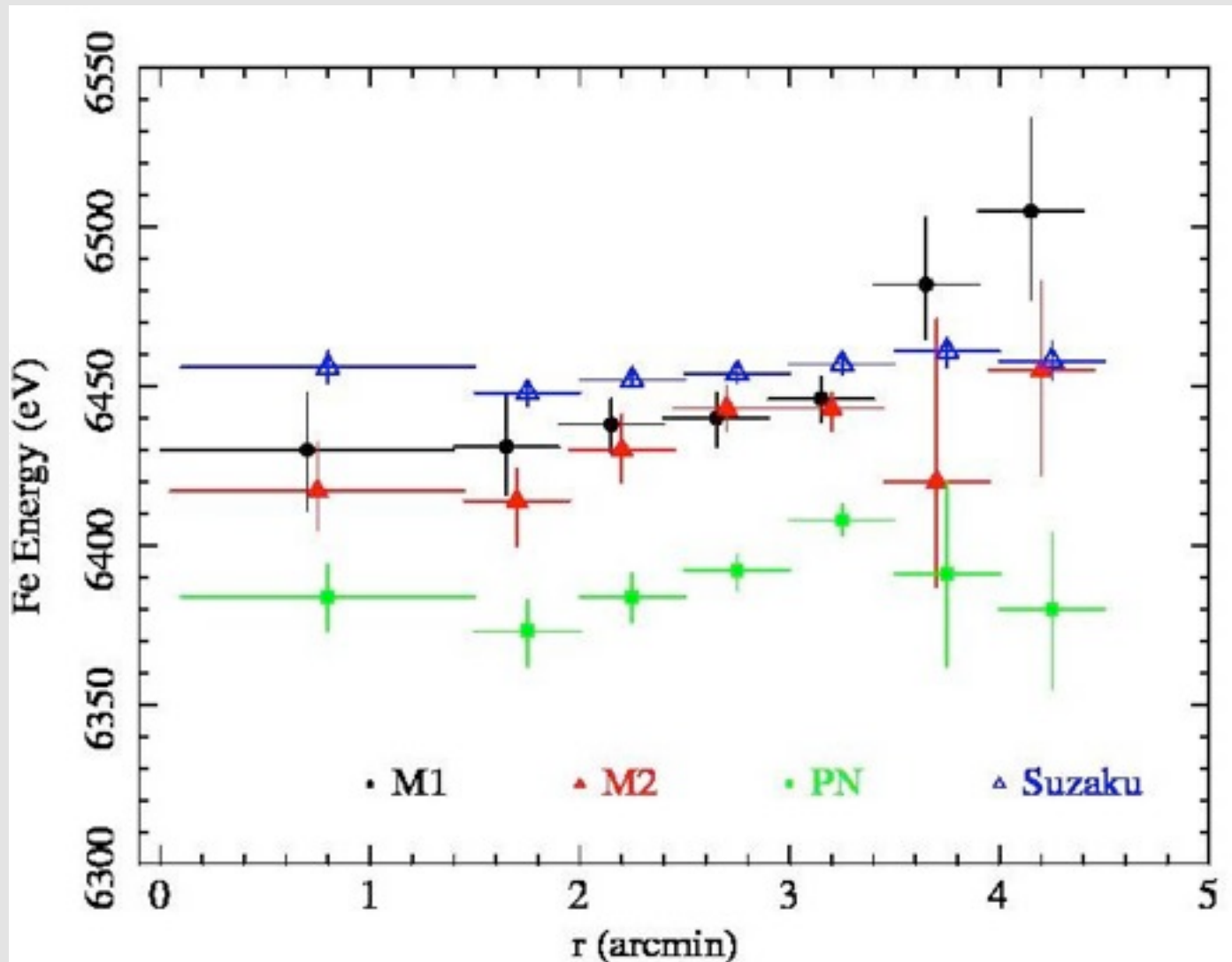
CALclosed

RESULTS IN SUZAKU ANNULI



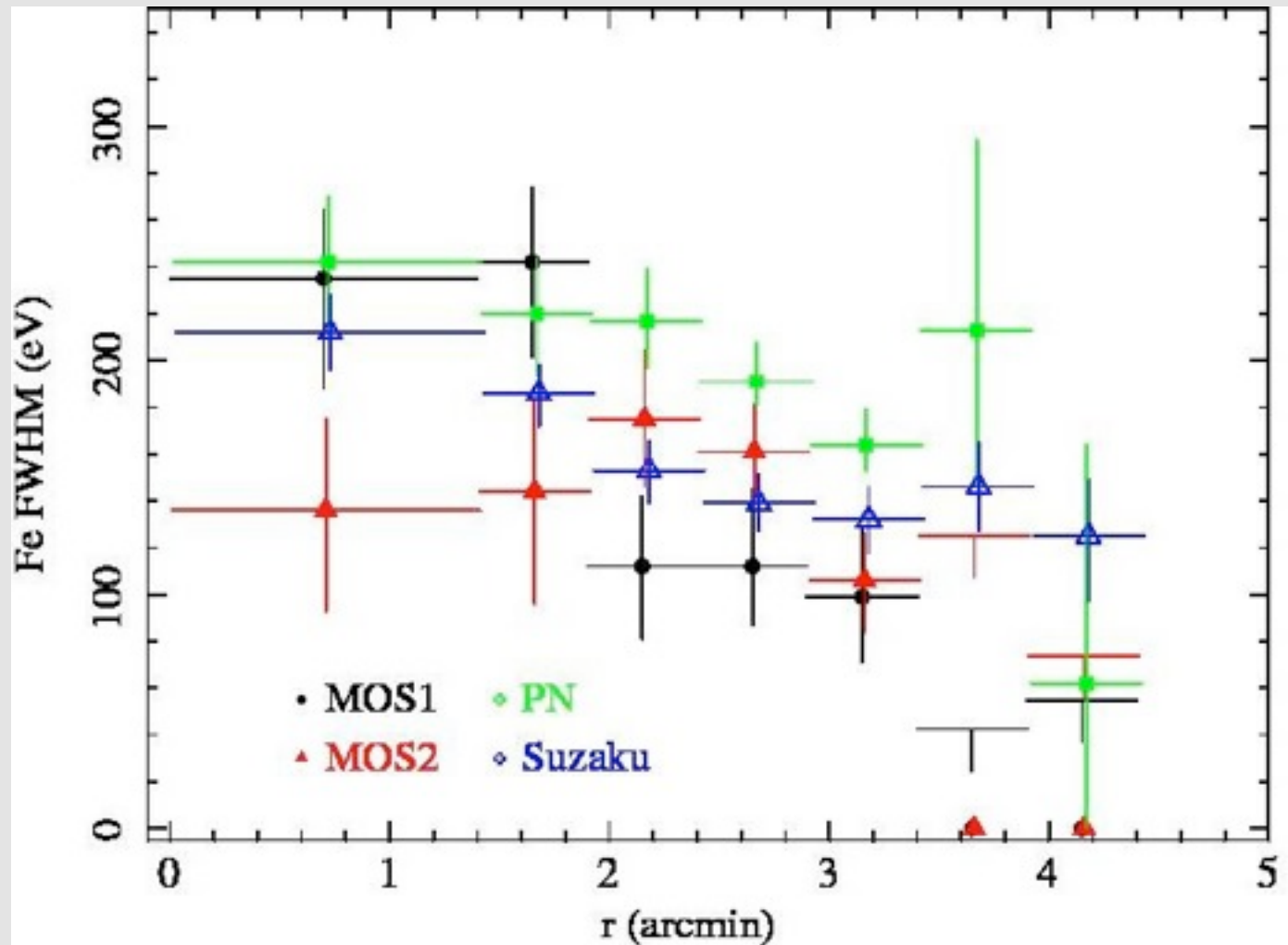
CALclosed

RESULTS IN SUZAKU ANNULI



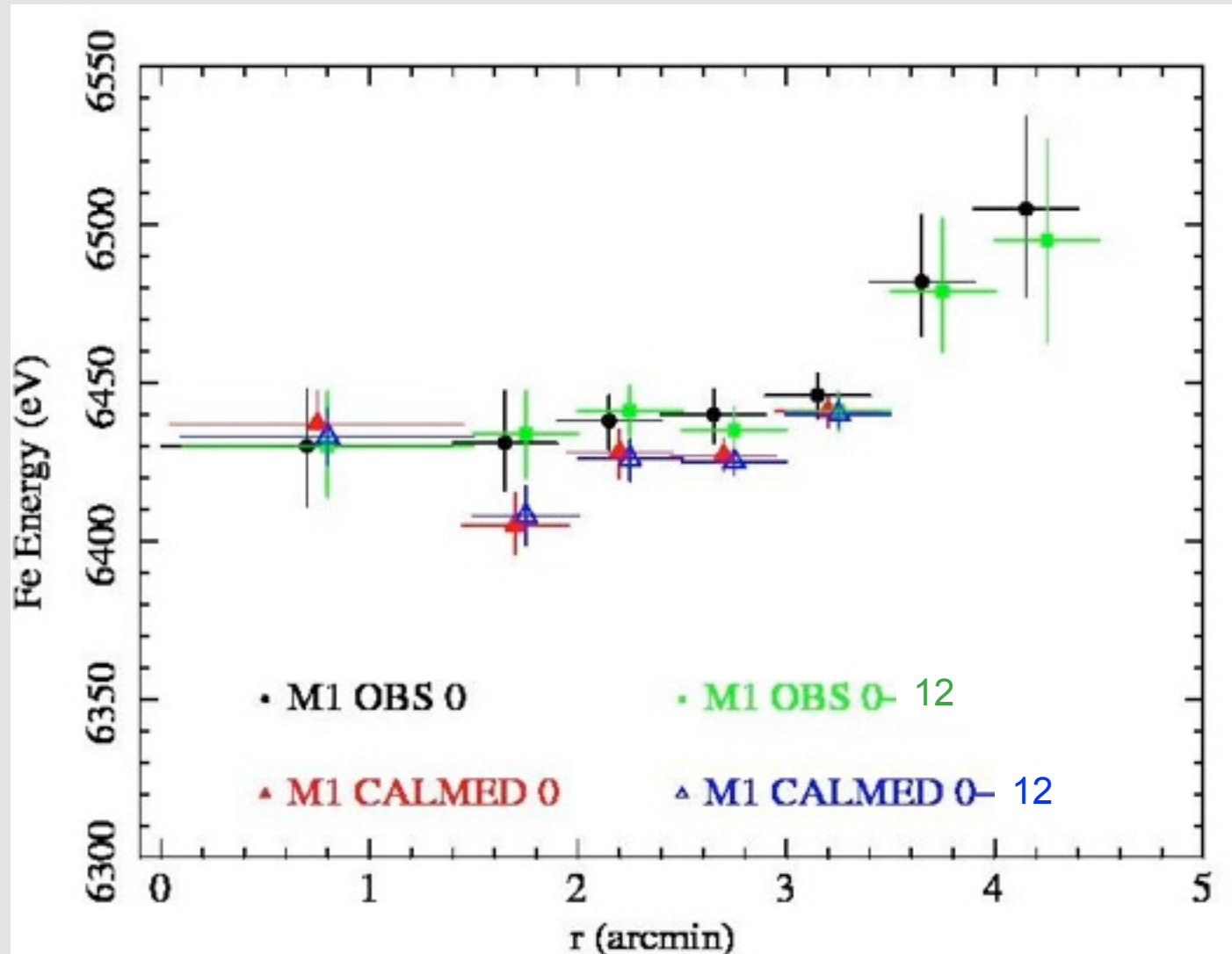
Medium

RESULTS IN SUZAKU ANNULI



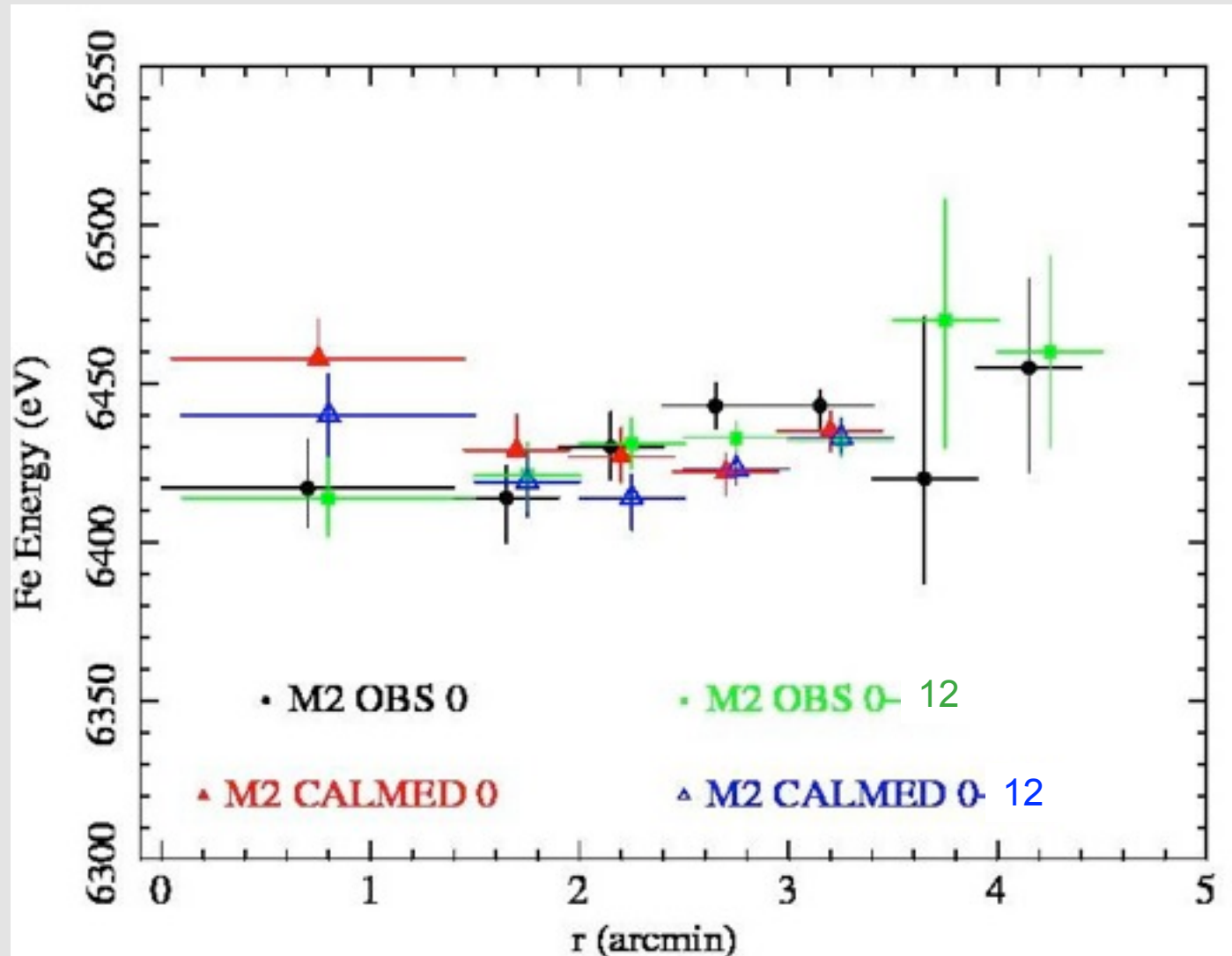
Medium

RESULTS IN SUZAKU ANNULI



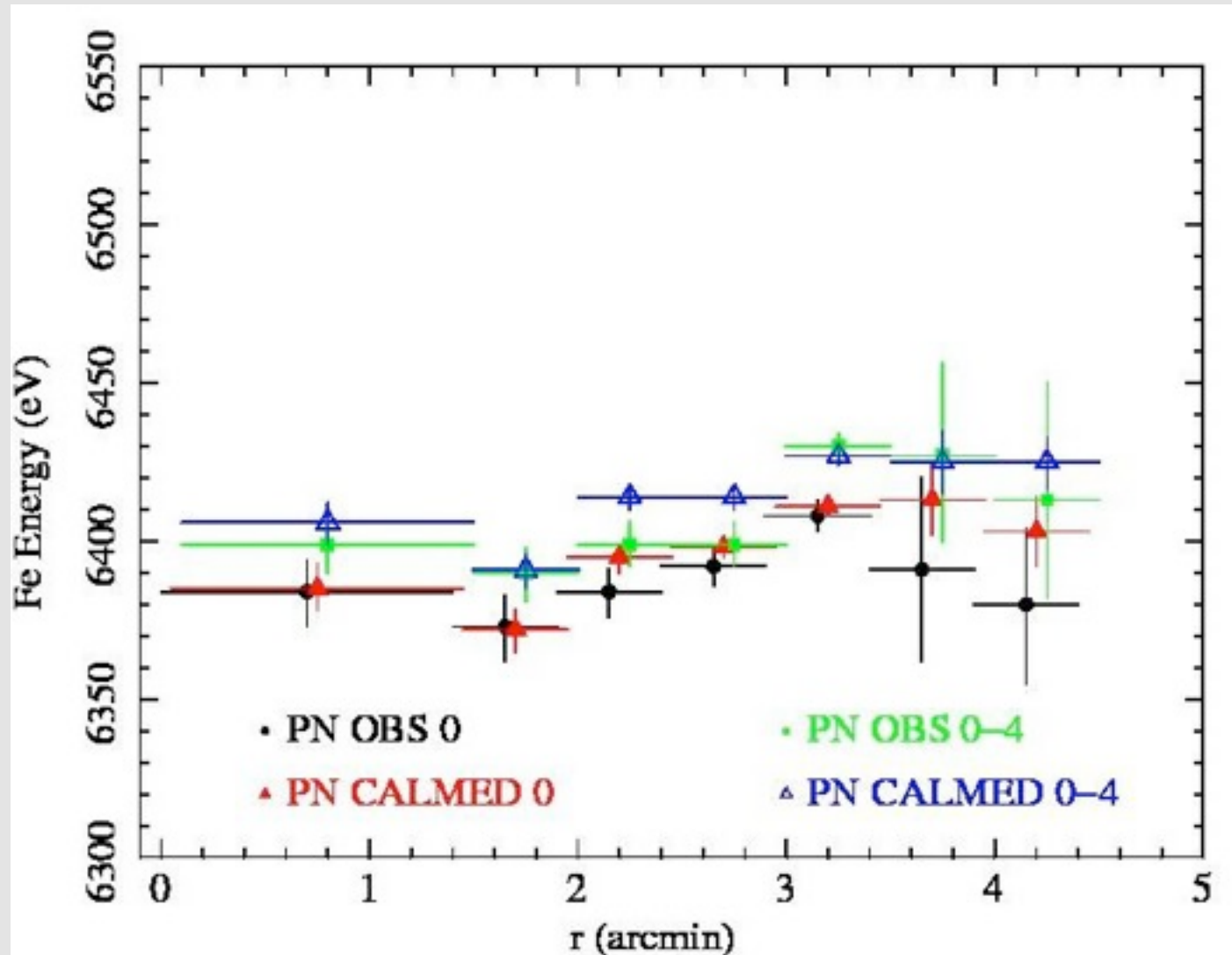
MOS 1 Medium and CALmedium

RESULTS IN SUZAKU ANNULI



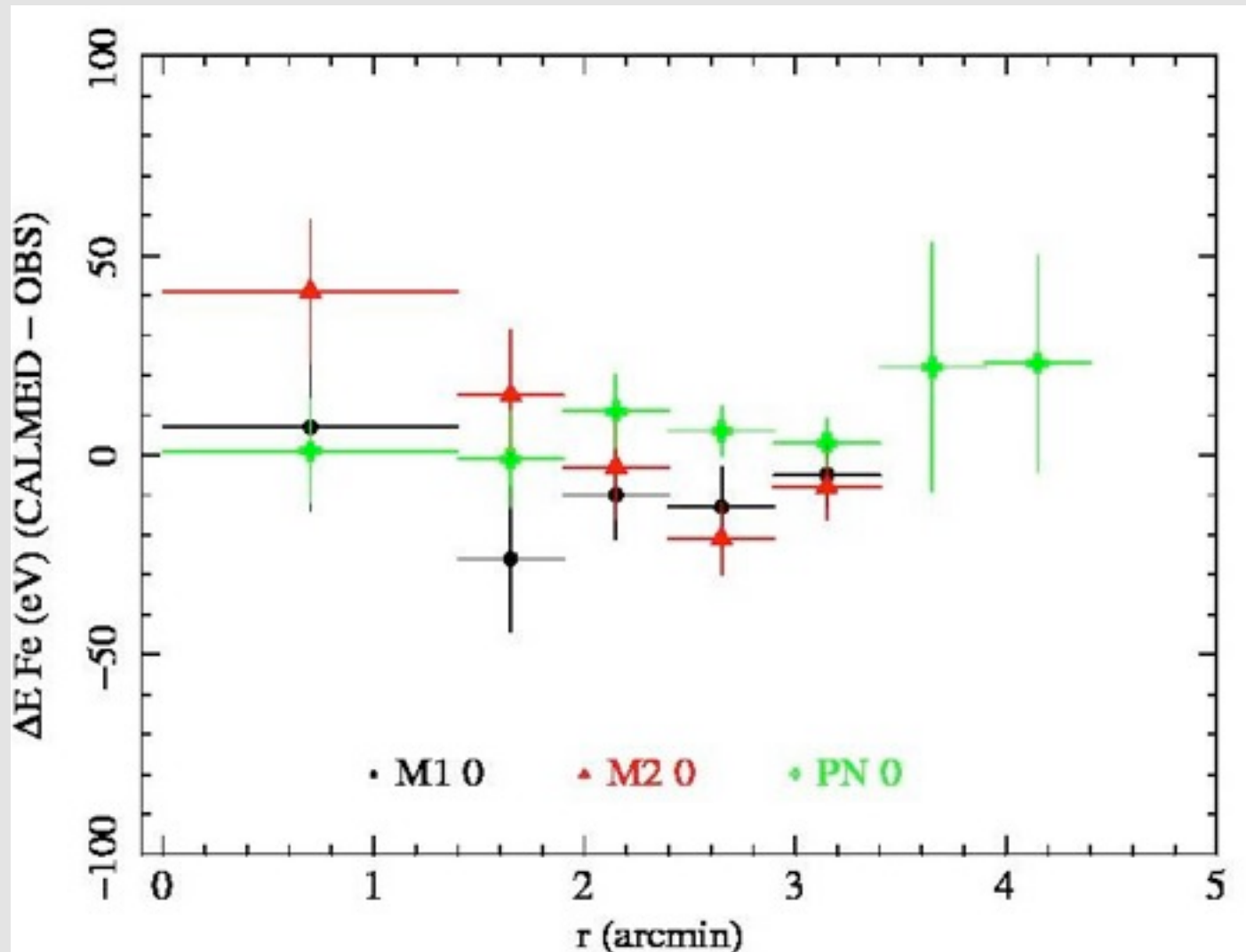
MOS 2 Medium and CALmedium

RESULTS IN SUZAKU ANNULI



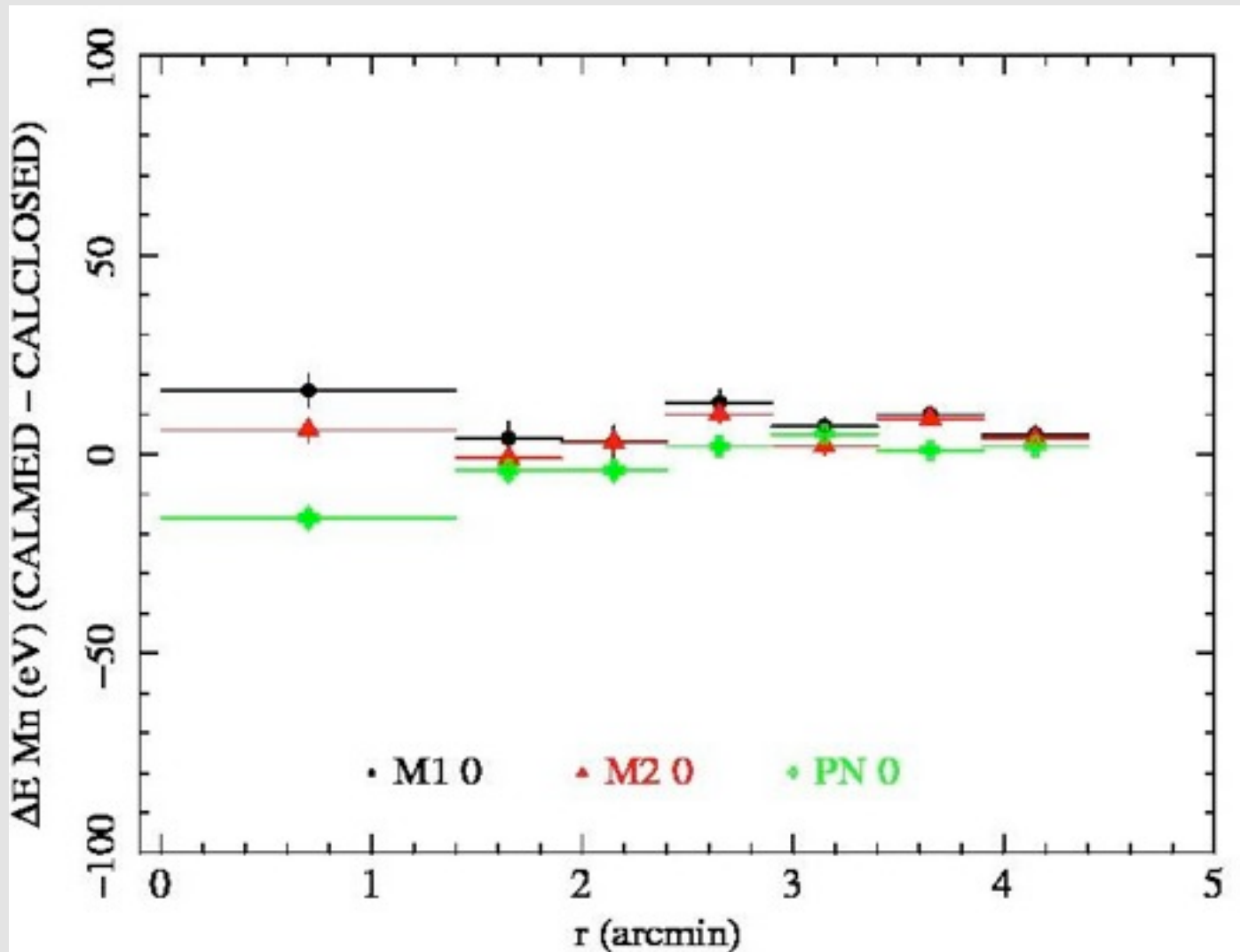
PN Medium and CALmedium

RESULTS IN SUZAKU ANNULI



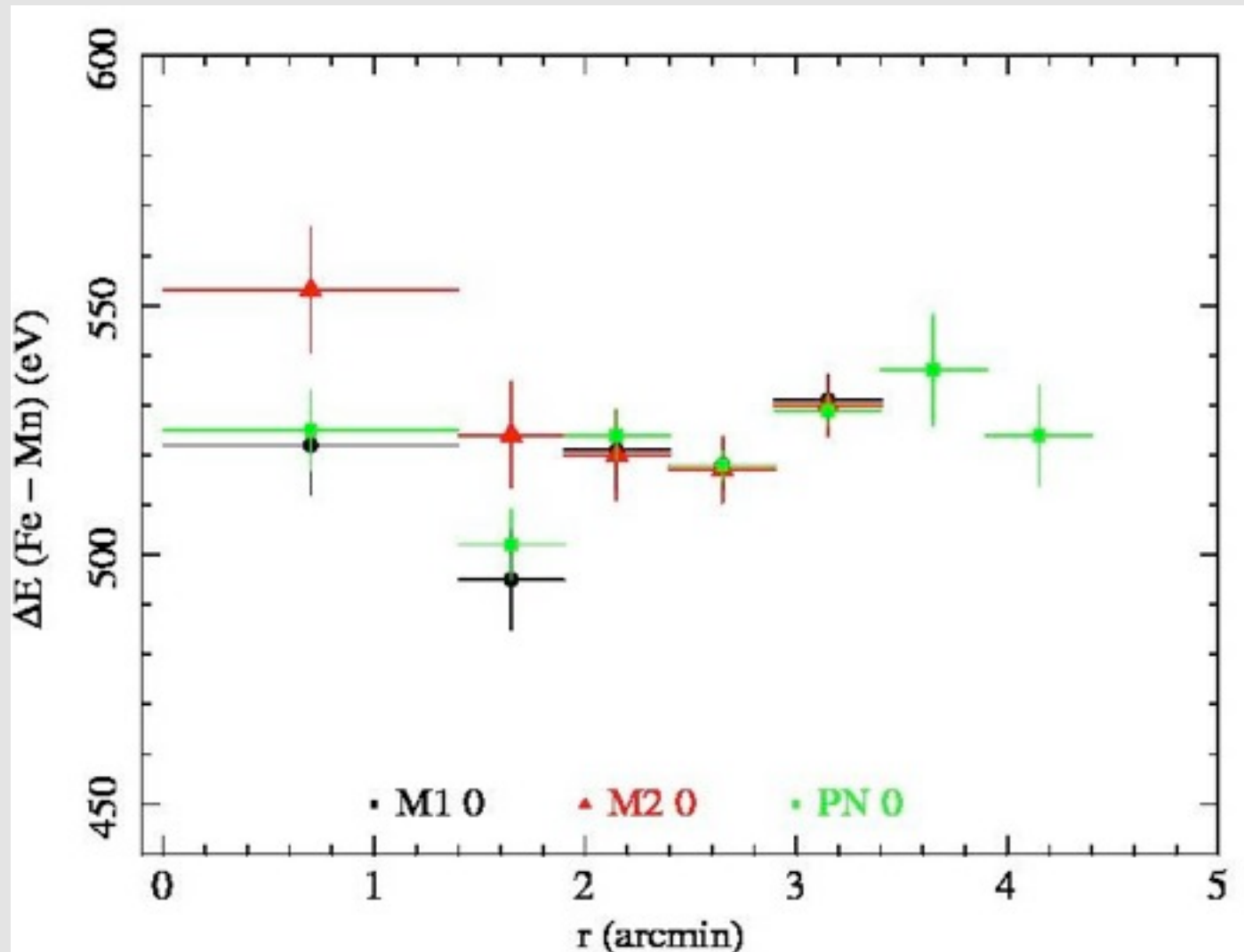
M1: -9 ± 12 eV M2: 5 ± 24 eV PN: 9 ± 10 eV

RESULTS IN SUZAKU ANNULI



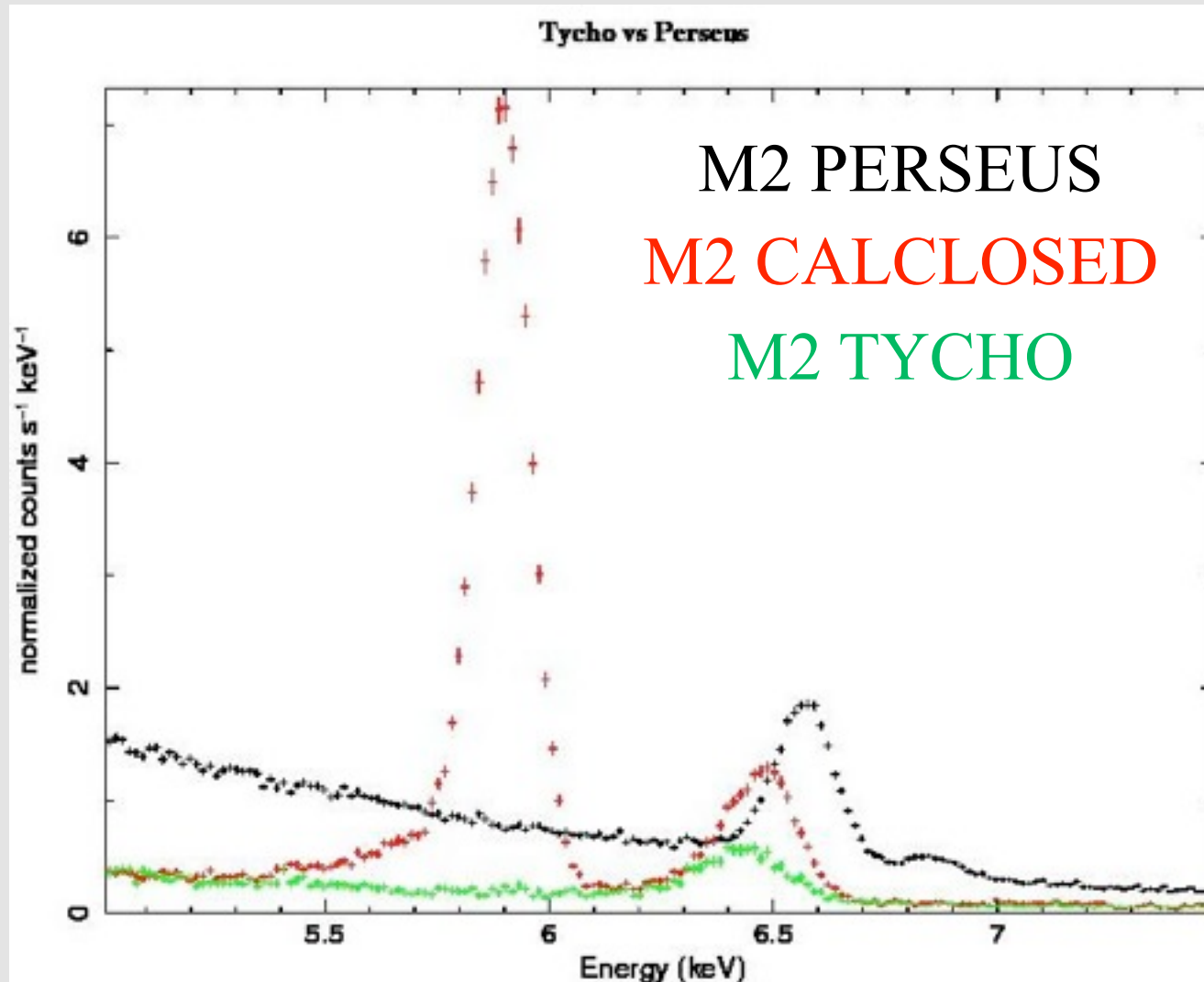
M1: 8 ± 5 eV M2: 5 ± 4 eV PN: -2 ± 7 eV

RESULTS IN SUZAKU ANNULI

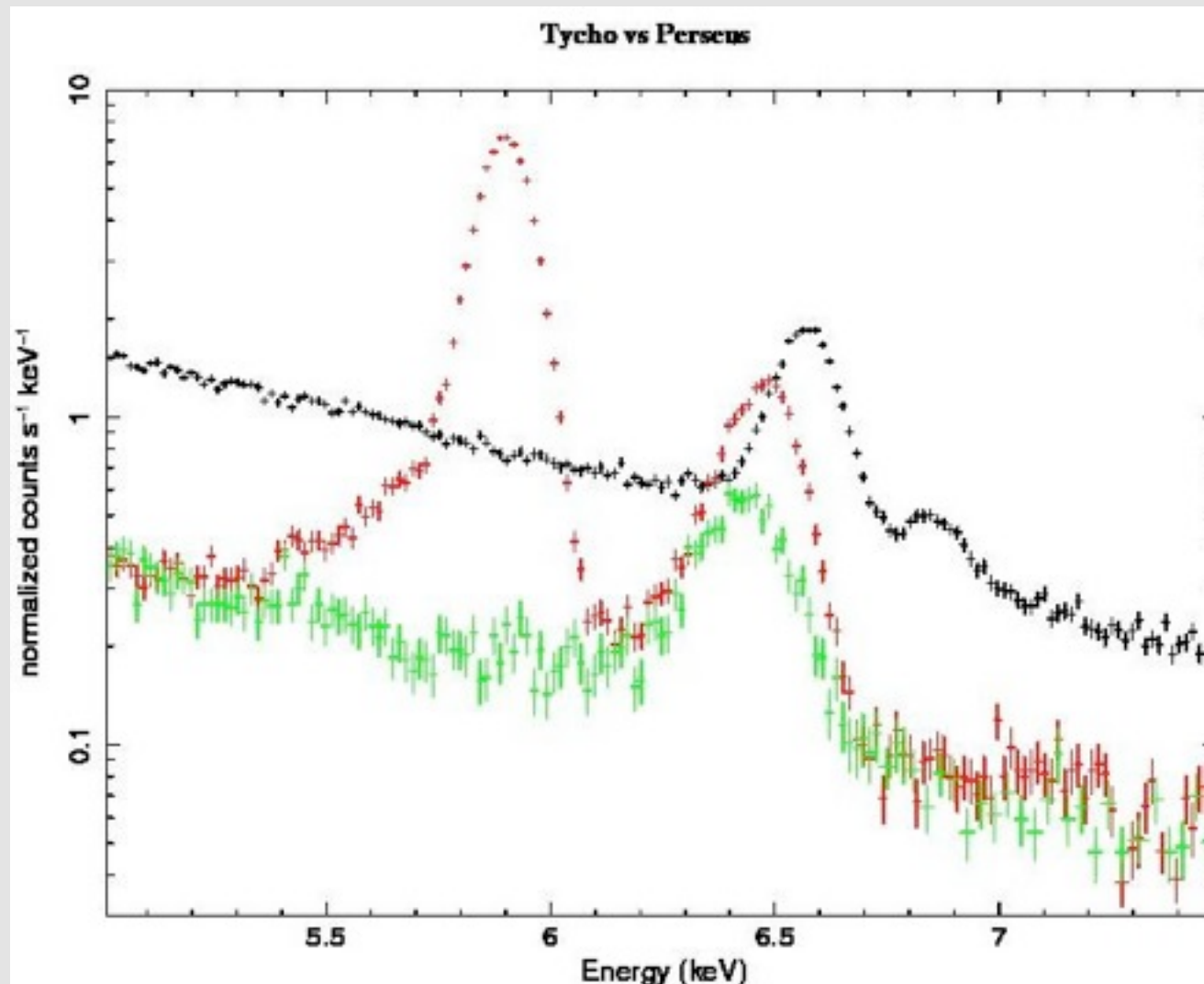


M1: 517 ± 13 eV M2: 529 ± 14 eV PN: 523 ± 11 eV

NEW NRCO ON PERSEUS ?



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