

Spectral study of an odd Seyfert 1: H0557-385

Goals:

- 1) To study the source absorption properties during the low state;
- 2) To study the Fe complex during the low state (and estimate the size of the production region);
- 3) Optional: do the same during the high state.

Low state

- 1a) Extract a spectrum of the source, and fit the overall X-ray ($E=0.3-10$. keV) continuum.
- 1b) Using a simple power-law model, try to identify the major spectral features
- 1c) Model the cut-off at $E \approx 5$ keV using partial covering models
- 1d) Model the residuals below ≈ 3 keV using warm components
- 1e) Estimate the distance (in units of gravitational radii) of the lines production regions from the central black hole (suggestion: use Virial Theorem and assume the lines are Doppler broadened)

Optional: high state.....

- 1a) Extract a spectrum of the source, and fit the overall X-ray ($E=0.3-10$. keV) continuum?
- 1b) Using a simple power-law model, try to identify the major spectral features?
- 1c) Model the cut-off at $E \approx 5$ keV using partial covering models?
- 1d) Model the residuals below ≈ 3 keV using warm components?
- 1e) Estimate the distance (in units of gravitational radii) of the lines production regions from the central black hole (suggestion: use Virial Theorem and assume the lines are Doppler broadened)?

H0557-385

References:

- Coffey et al. 2014, MNRAS, 443, 1788
- Longinotti et al. 2009, MNRAS, 394, L1
- Ashton et al. 2006, MNRAS, 366, 521
- Quadrelli et al. 2003, A&A, 411, 77

Source INFO:

Classification: Seyfert 1.2

Z=0.03387

M=5x10⁷ M_⊙