Invited Lecture

HOW DO SPECTRAL LINE SHAPES GET ALONG WITH ACCRETING BLACK HOLES?

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I investigate the appearance of spectral lines emitted by accreting black hole systems at different wavebands. The talk presents selected observations and modeling results linking the profile and time evolution of spectral emission and absorption lines to the accretion and ejection paradigm in active galactic nuclei and black hole X-ray binaries. I focus, in particular, on the velocity information contained in the line profile and I investigate agreements and possible contradictions of line observations across different wavebands. Conclusions are drawn on for the flow geometry and dynamics we expect around accreting black holes.