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# Spectral Models of Accreting Black Holes from Radiation Magnetohydrodynamic Simulations

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## Abstract

Detailed comparisons between observational spectra and standard disk models suggest that black hole X-ray binaries are well modelled by accretion disks, but a number of problems arise when the models are applied to AGN observations. I will briefly review the observational and theoretical considerations that might explain these discrepancies. These considerations strongly motivate radiation magnetohydrodynamic simulations, which are increasingly utilized to study accreting black hole systems. I will report on some of the surprising results from recent simulations and the spectral predictions that they make.

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