Synthetic Spectra of Accretion Disk Coronae and Comparison with Observations

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Abstract

We present models of X-ray emission and reprocessing in the vicinity of an accretion disk in low mass X-ray binaries. These models include treatments of both the multi-dimensional hydrodynamics and radiation transport and the physics of X-ray heating, cooling and the associated emission and absorption/scattering spectrum. The gas structures include both hydrostatic bound regions and thermal and radiation pressure driven outflows. The inclination dependent spectral features are presented and compared with recent observations of high-inclination systems.

CATEGORY: BLACK HOLE AND NEUTRON STAR BINARIES