

**J41a      A Closer Look at Super-critical Accretion Flow in GRS 1915+105**

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GRS 1915+105 is the only system in our Galaxy whose black hole mass is known to be  $14 \pm 4M_{\odot}$  from dynamical estimation. In addition, its mass accretion rate is persistently close to or higher than the Eddington limit. Therefore, this is the best source in our Galaxy to test the present theories on extragalactic X-ray sources with similar characteristics such as the ultraluminous X-ray sources (ULXs). A detailed study on the relation between X-ray spectra and mass (and  $\dot{M}$ ) is thus crucial. For this purpose, we systematically study the broad band spectra in the 3 – 25 keV band, using the RXTE PCA data, by taking into account a Comptonization component. As the first step of our study, we concentrate on the state where the thermal disk component dominates. We found a clear evidence of reflection from the disk in the fitting residual. We also obtained incredibly small radius from the fitting, about 25 km, much less than three Schwarzschild radius, in agreement with some previous results by others, which may strongly support the idea of the existence of a fast rotating black hole in the center of this system. Alternatively, it may be simply due to the effect of the supercritical accretion. The low electron temperature that we found indicates that the corona in this system has different characteristic from those of the other Galactic black hole candidates.