

Study of two Low Mass X-ray Binaries X1254-69 and Ser X-1

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We present the results of ASCA observation of a dipping and bursting source X1254-69 and of EXOSAT observation of a bursting source Ser X-1. The spectral fits for X1254-69 using a model of power-law with exponential cutoff give photon index $a=0.97\pm 0.04$ and absorption column density $NH (2.54\pm 0.08) \times 10^{21} \text{ cm}^{-2}$. These are very similar to that of observed by EXOSAT. In addition, we find also that the calculated flux, $\sim 8.1 \times 10^{-10} \text{ ergs cm}^{-2} \text{ s}^{-1}$, is comparable with the result of EXOSAT in the same energy band of 1-10 keV. However, no significant features associated with the intensity dip as well as with the burst are detected in the present observation. This means that depth of the dip is highly variable. We suggest that the size of blocking material is not related in a simple manner to the mass accretion rate. From the combined analysis of the spectral and fast variability properties, we show also that Ser X-1 is an atoll source in the banana state during the observations. The spectra of Ser X-1 are described well by the two-component model composed of a power-law with an exponential cutoff and a blackbody, similar to other atoll sources in the banana state. In addition, we investigated the spectral features of the bursts, which were overlooked in the previous studies.