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Title:	Unveiling the nature of compact object in the LMXB MAXI J1957+032 using Swift-XRT
Authors:	Beri, A. (/jspui/browse?type=author&value=Beri%2C+A.)
Keywords:	Underwent Discovery Spectral analysis X-ray
Issue Date:	2019
Publisher:	Oxford Academic
Citation:	Monthly Notices of the Royal Astronomical Society, 486(2), pp.1620-1628.
Abstract:	MAXI J1957+032 is a transient low-mass X-ray binary (LMXB) that underwent four short outbursts in 1.5 yr since its discovery in 2015. The nature of the compact object in MAXI J1957+032 is not clear, but it was proposed to be a neutron star (NS) based on the short duration of its outbursts. Here, we report the results obtained after performing spectral analysis using data obtained with the X-ray telescope aboard the Neil Gehrels Swift satellite. When describing the spectrum with an absorbed power law, we found that the spectra softens (the power-law index increases from ~ 1.8 to 2.5) as the luminosity decreases. Near the end of its outbursts the observed value of power-law index (Γ) is ~ 2.5 . To identify the nature of the compact object in this system, we used Γ as a tracer of the spectral evolution with luminosity. We found that for the distance of 4 kpc, our results suggest that the source harbours a NS.
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