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Title:	The black hole X-ray transient Swift J1357.2–0933 as seen with Swift and NuSTAR during its 2017 outburst
Authors:	Beri, A. (/jspui/browse?type=author&value=Beri%2C+A.)
Keywords:	Accretion, Accretion discs Stars: black holes Black hole physics,
Issue Date:	2019
Publisher:	Oxford Academic
Citation:	Monthly Notices of the Royal Astronomical Society,485(3),pp.3064-3075.
Abstract:	We report on observations of black hole Swift J1357.2–0933, a member of the modest population of very faint X-ray transients. This source has previously shown intense dips in the optical light curve, a phenomena that has been linked to the existence of a 'unique toroidal structure' in the inner region of the disc, seen at a high inclination. Our observations, carried out by the Neil Gehrels Swift and NuSTAR X-ray observatories, do not show the presence of intense dips in the optical light curves. We find that the X-ray light curves do not show any features that would straightforwardly support an edge-on configuration or high inclination configuration of the orbit. This is similar to what was seen in the X-ray observations of the source during its 2011 outburst. Moreover, the broad-band spectra were well described with an absorbed power-law model without any signatures of cut-off at energies above 10 keV, or any reflection from the disc or the putative torus. Thus, the X-ray data do not support the unique 'obscuring torus' scenario proposed for J1357. We also performed a multiwavelength study using the data of X-ray telescope and Ultraviolet/Optical Telescope aboard Swift, taken during the ~4.5 months duration of the 2017 outburst. This is consistent with what was previously inferred for this source. We found a correlation between the simultaneous X-ray and ultraviolet/optical data and our study suggests that most of the reprocessed flux must be coming out in the ultraviolet.
Description:	Only IISERM authors are available in the record.
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