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Title:	NuSTAR and AstroSat observations of thermonuclear X-ray bursts with short-recurrence times in 4U 1636–536
Authors:	ROY, PINAKI (/jspui/browse?type=author&value=ROY%2C+PINAKI) BERI, ARU (/jspui/browse?type=author&value=BERI%2C+ARU)
Keywords:	NuSTAR and AstroSat thermonuclear X-ray
Issue Date:	2022
Publisher:	Springer Nature
Citation:	Journal of Astrophysics and Astronomy, 43(2), 09825-8.
Abstract:	We report results from the spectro-timing analysis of the atoll source 4U 1636–536 observed with NuSTAR and AstroSat during its hard spectral state. In three observations of 207 ks total exposure, we identify 31 thermonuclear X-ray bursts including five doublets and a triplet. Recurrence time as short as 3.8 min is seen in one of the doublets. To the best of our knowledge, this is the shortest recurrence time known for this source. Our time-averaged spectroscopy during the bursts indicates the presence of an additional power-law or a blackbody component in a few cases, perhaps due to varying temperatures during bursts or plausible deviation from ideal blackbody behavior; however, it is difficult to probe this using the time-resolved spectroscopy owing to limited statistics. Time-resolved bursts are well fit using an absorbed blackbody model with temperatures varying between 1.7 and 2.2 keV. Burst oscillations around 581 Hz are detected with 3 σ confidence during the decay phase in two of the X-ray bursts. One of the burst oscillations is seen at 582 Hz, a frequency observed during the 2001 superburst in this source.
Description:	Only IISER Mohali authors are available in the record.
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