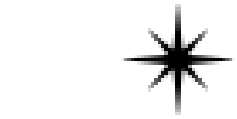

Contribution ID: **45** Type: **Poster (virtual)**

AstroSAt observed broad-band Thermonuclear X-ray (Type-1) Bursts: 4U 1702-429

We present the detection of 3 thermonuclear type-1 X-ray bursts in the LMXB neutron star 4U 1702-429. The data with the AstroSat payload SXT and LAXPC instruments. It is characterized by the bursts having a sharp rise and slow decay, representing the burning of H/He mixed fuel. We perform the time-resolved spectroscopy of bursts. We used three different techniques to analyze the bursts spectra. In the beginning, the assumptions have been followed that the presistent spectra remain constant during the bursts and reveal Planck's feature black body temperature and flux throughout the bursts. Further, we used the scaling factor to the persistent emission (fa method) and found the fa value significantly immense at peak emission of the bursts. The elevation of fa indicates the expansion of pre-burst emission, especially near the peak. The flux ratio in both of phenomena introduce the new component in bursts emission. At last, we employed a thermal comptonization model to show the emission may be reprocessed from the star's corona and disk.

Author: BHULLA, Yashpal

Co-author: Dr ROY, Jayashree (IUCAA)

Presenter: BHULLA, Yashpal