



# X-RAY ASTRONOMY 2019

*Current Challenges and New Frontiers in the Next Decade*

8-13 September 2019  
CNR/INAF Research Area, Bologna, Italy

Contribution ID: 212

Type: **Poster**

## Observation of the supernova remnant RX J1713.7-3946 in hard X-rays with INTEGRAL

During Galactic Center survey program by IBIS telescope on-board INTEGRAL the supernova remnant RX J1713.7-3046 was observed in hard X-ray band (17-60 keV) for the first time. The surface brightness maps of the supernova remnant in 17-27-36-50-120 and 17-60 keV energy bands will be presented in this talk. The spectra of two brightest clumps of RX J1713.7-3946 are characterized by a power law spectrum with photon index  $\sim 3$ . The surface brightness map of RX J1713.7-3946 in soft X-ray band (1-10 keV), based on the XMM-Newton observations (2001–2017), demonstrates good agreement with that obtained by IBIS telescope, which points out to a single mechanism working in soft and hard X-rays. The XMM-Newton spectrum of RX J1713.7-3046 in the 0.8-10 keV band is well described by the power-law model with photon index  $\sim 2$ , which indicates a change of the spectral slope somewhere between 10 and 17 keV. The value of the slope change (or high-energy cutoff) contains important information about the acceleration efficiency of cosmic ray particles in the supernova remnant.

### Topic

Compact and diffuse sources in galaxies and in the Galactic Center

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**Session Classification:** POSTER SESSION