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Broadband study of X-Per using Suzaku observations

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We present detailed broadband timing and spectral analysis of the persistent, low luminosity and slowly spinning pulsar 'X-per' using a Suzaku observation of the source. The spectrum is unusually hard with pulsations detected up to 70 keV. The spectrum also hosts several interesting features like evidence of a cyclotron line at 30 keV, and presence of a soft-excess below 2 keV. Considering these, the broadband Suzaku observation is ideal to study the energy dependence of the pulse profiles, and critically compare the different spectral models of accretion powered pulsars applicable to the source. The hardness ratio varies by more than a factor of two during the duration of the observation, and the change in spectral parameters are mapped by performing time resolved spectroscopy. The results are compared with other persistent Be accreting systems.

Author: MAITRA, Chandreyee (CEA Saclay)

Co-authors: Prof. PAUL, Biswajit (Raman Research Institute, India); Dr RAICHUR, Harsha (Nordic Institute for Theoretical Physics); Ms PRADHAN, Pragati (North Bengal University, India)

Presenter: MAITRA, Chandreyee (CEA Saclay)

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