



Contribution ID: 110

Type: **not specified**

Neutron star metamorphosis: from sub-luminous accretion to rotation-powered quiescence

Tuesday 25 March 2014 18:15 (15 minutes)

The X-ray transient IGR J18245-2452 contains the first neutron star (NS) seen to switch between rotation-powered and accretion-powered pulsations. We present Swift and Chandra observations that reveal a spectral transition when the X-ray luminosity was as low as 0.01% of the Eddington limit. We also find a striking variability pattern in the 2008 quiescent Chandra light curves: rapid switches between a high-luminosity 'active' state and a low-luminosity 'passive' state, with no detectable spectral change. We discuss these results in the context of slowly accreting compact objects and millisecond radio pulsars, and propose a scenario where the observed mode switches in quiescence are caused by fast transitions between the magnetospheric accretion and pulsar wind shock emission regimes.

Author: LINARES, Manuel (I)

Co-authors: PATRUNO, Alessandro (U. of Leiden); BAHRAMIAN, Arash (U. of Alberta); HEINKE, Craig (U. of Alberta); POOLEY, David (SHSU); ALTAMIRANO, Diego (U. of Southampton); HOMAN, Jeroen (MIT); WIJNANDS, Rudy (U. of Amsterdam); BOGDANOV, Slavko (CAL)

Presenter: LINARES, Manuel (I)

Session Classification: Evening session - Parallel A