

P06 X-ray analysis of the magnetar SGR 1900+14 with NuSTAR and XMM-Newton

Monday, 19 November 2018 17:20 (1 minute)

“Magnetars are pulsars with extremely strong magnetic fields 10^{14-15} G and thought to be powered by dissipation of their magnetic energies. The mechanism of converting their magnetic energies to the X-ray radiations is still a mystery, so that X-ray observations of magnetars are very important.

We observed one of the famous magnetars SGR 1900+14 with NuSTAR and XMM-Newton simultaneously on 2016 October. In the timing analysis, we found the rotation period on 2016 October was 5.2267(1) s and the period derivative fluctuated more than 50 % in these 20 years. We also discovered the shape of pulse profiles changes at ~ 10 keV. In the spectral analysis, we determined the hard-tail photon index very precisely, $\Gamma = 1.13(8)$, and also discovered the photon index varies depending on the rotation phase. Furthermore, we discuss the potentiality of HXMT to target SGR 1900+14, making full use of its broad-band observation up to 250 keV.”

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Session Classification: Poster Short Presentations