Continuing outburst of Galactic transient IGR J17451-3022

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Continuing outburst of Galactic transient IGR J17451-3022

ATel #7028;  A. Bahramian, C. O. Heinke (Alberta), R. Wijnands (Amsterdam), D. Altamirano (Southampton)  
on 5 Feb 2015; 14:32 UT  
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Referred to by ATel #: 7096, 7570

IGR J17451-3022 is a transient X-ray source ~1.4 degree from the Galactic center. It was discovered early in its outburst in INTEGRAL JEM-X observations obtained between Aug. 28 & Aug 30, 2014 (ATel #6451). We monitored this source using the Swift/XRT telescope multiple times per week during September and October 2014 (ATels #6459, #6469, #6486). The source had relatively constant flux and maintained a soft, absorbed spectrum well-fit with either a blackbody, a disk blackbody or a powerlaw (ATel #6501).

This monitoring was interrupted due to Sun constraints from Nov. 2nd, 2014 to Feb. 1st, 2015. We observed this transient again on Feb. 2nd, 2015 with Swift/XRT in PC mode (ObsID 33439014) for 2 ks. IGR J17451-3022 is bright and therefore our observation is slightly piled-up. Thus, we extracted a spectrum from an annulus with inner radius of 8" and outer radius of 50". The spectrum can be described by a blackbody with a temperature of 1.1±0.1 keV, or a disk blackbody with inner disk temperature of 1.6±0.3 keV. A powerlaw with photon index of 2.8±0.4 also provides a good fit.

These results are consistent with previous observations of the source before entering the Sun constraint (ATel #6501), suggesting the source has remained in the same bright soft state for the last 4-5 months, showing no significant variations in brightness or spectrum.

The nature of this transient is still unknown, and both a low mass X-ray binary or a magnetar are among suggested identifications.

We thank the Swift team for scheduling our observations.
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A new X-ray transient, IGR J17451-3022, discovered by INTEGRAL/JEM-X near the Galactic Centre

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INTEGRAL catches a type-I X-ray burst from the unclassified X-ray source 1RXS J180408.9-342058

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