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Continuing outburst of Galactic transient IGR J17451-3022

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 on 5 Feb 2015; 14:32 UT
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Subjects: X-ray, Black Hole, Neutron Star, Transient

Referred to by ATel #: [7096](#), [7570](#)

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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 innerdisk 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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