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INTEGRAL detection of a hard X-ray transient in NGC 6440

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Subjects: Binary, Globular Cluster, Neutron Star, Transient, Variables, Pulsar

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During INTEGRAL Galactic bulge monitoring (e.g., ATel #[438](#)) observations performed on UT 2015 February 17 at 12.53-16:45, IBIS/ISGRI detected renewed activity at hard X-rays from a transient within the Globular Cluster NGC 6440. The best determined position is: RA, Dec (J2000) = 267.208, -20.314 degrees, with an error radius of 2.4 arcmin (90% c.l.). Formally, there is no known X-ray source within the error circle, so we label the source as IGR J17488-2018.

The hard X-ray transient is detected at a significance of 11 (6.5) sigma on the IBIS/ISGRI mosaic in the 20-40 keV (40-80 keV) energy band. The IBIS/ISGRI spectrum (total exposure time of 12 ks) provides a photon index of 2.4 +/- 0.5 and a 20-100 keV flux of 4.8E-10 ergs/cm²/s.

NGC 6440 was outside the JEM-X field-of-view for the entire observation.

The Globular Cluster NGC 6440 is known to host millisecond X-ray pulsars (see, e.g., ATel #[2672](#)), so it is possible that INTEGRAL detected an outburst from one of these sources. We can not rule out that one of the known X-ray sources just outside the error circle (such as MXB 1746-20 aka H1745-203) is experiencing an outburst. Note that Swift/BAT also detects enhanced activity from H1745-203 over the last days.

Further INTEGRAL observations in the direction of NGC 6440 are planned for the coming weeks. Swift ToO follow-up observations have been requested. Observations at other wavelengths are encouraged.

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R. E. Rutledge, Editor-in-Chief

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