



IGR J17503-2636: a new X-ray transient discovered by INTEGRAL and confirmed by Swift

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IGR J17503-2636: a new X-ray transient discovered by INTEGRAL and confirmed by Swift

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on 14 Aug 2018; 19:39 UT

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The X-ray monitor JEM-X on-board the INTEGRAL satellite has discovered a new X-ray transient source during the recent Galactic Bulge observation performed on August 11th (revolution 1986) from UTC 07:44 to 12:30 (ATel #[438](#), Kuulkers et al. 2007, A&A 466, 595, see also: <http://integral.esac.esa.int/BULGE>).

The source is detected at 7σ for an effective exposure time of 17.9 ks on the combined JEM-X mosaics from which we obtain the following fluxes:

12 ± 2 mCrab ($\approx 2.0 \times 10^{-10}$ erg/cm²/s) between 3-10 keV,

17 ± 3 mCrab ($\approx 1.9 \times 10^{-10}$ erg/cm²/s) between 10-25 keV.

JEM-X sees the source at the following position:

RA = 267.58°, Dec = -26.61° with an uncertainty of 1.5 arcmin

leading to the new source name: IGR J17503-2636.

The source is not detected by IBIS/ISGRI above 20 keV, and we estimate a $3\text{-}\sigma$ upper limit about 10 mCrab (20-40 keV).

Thanks to a 1-ks exposure with Swift/XRT in PC mode between August 13th 19:41-20:13 (UTC) we can refine the source position at:

RA = 267.57527° = 17h 50m 18.06s

Dec = -26.60458° = -26d 36m 16.5s.

The error radius is 2.2 arcsec (90% confidence) obtained with the enhanced method using Swift/UVOT provided by the on-line Swift/XRT data product tool (Evans et al. 2009, MNRAS 397, 1177).

The Swift/XRT 0.3-10 keV count rate was increasing between the two snapshots from 0.3 to 0.5 c/s. The average spectrum is highly absorbed with a derived absorption column between $(6.2\text{-}13.7) \times 10^{22}$ cm⁻² (for a galactic column density of 1.3×10^{22} cm⁻² in that direction). The observed 0.3-10 keV flux is estimated between $(2.0\text{-}8.3) \times 10^{-11}$ erg/cm²/s.

The next INTEGRAL observations of the Galactic Bulge region are currently scheduled on August 17th and will continue at a rough cadence of one-two observations per week until October 20th. Multi-wavelength follow-up observations are encouraged to unveil the nature of IGR J17503-2636. We thank the Swift Team for scheduling the ToO observation with short notice.

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