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A new hard X-ray transient discovered by INTEGRAL: IGR J17559-2612

ATel #4309; [V. Esposito, C. Ferrigno, E. Bozzo \(ISDC - University of Geneva, Switzerland\), J. Chenevez \(DTU Space, Denmark\), S. P. Drave \(Univ. of Southampton, UK\), M. Del Santo \(INAF/IAPS, Italy\), K. Watanabe \(Florida Gulf Coast University, USA\)](#)

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*Distributed as an Instant Email Notice Transients
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Referred to by ATel #: [4322](#), [4342](#)

INTEGRAL discovered a new hard X-ray transient, IGR J17559-2612, during the Galactic center observations performed from 2012-08-14 00:02:14 to 2012-08-14 14:45:54 UTC.

The source is detected in the IBIS/ISGRI mosaic at a significance level of 8σ (observation good time: 50 ks) both in the 20-40 keV and the 40-80 keV energy bands. The corresponding fluxes are 11.9 ± 1.4 mCrab and 17.5 ± 2.1 mCrab ($9.2 \pm 1.1 \times 10^{-11}$ and $1.21 \pm 0.14 \times 10^{-10}$ erg/s/cm², uncertainties are at 68% c.l.).

Due to off-axis pointing, the source is not detected in the combined mosaic of the two JEM-X units with a 3σ upper limits of 15 and 20 mCrab in the 3-10 keV and 10-20 keV energy bands, respectively.

The best source position determined with IBIS is

RA= 268.99 (17h 55m 58s)

Dec= -26.21 (-26d 12' 36")

(J2000) with an associated pointing uncertainty of 3.5 arcmin at 90% c.l. (the Galactic coordinates are $l = 3.515$ $b = -0.572$).

The IBIS/ISGRI spectrum can be described ($\chi^2_{\text{red}}/\text{d.o.f.} = 0.4$ for 8 d.o.f.) by a power-law ($\Gamma = 1.6 \pm 0.3$, uncertainty at 90% c.l.). The 20-100 keV flux estimated from the spectral fit is 3.0×10^{-10} erg/s/cm² (18 mCrab).

Multi-wavelength follow-up observations are encouraged to unveil the nature of this transient.



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