



INTEGRAL observation of the Galactic transient Swift J174510.8-262411

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Published in:

The Astronomer's Telegram : ATel

Publication date:

2012

Document Version

Publisher's PDF, also known as Version of record

[Link back to DTU Orbit](#)

Citation (APA):

Vovk, I., Ferrigno, C., Bozzo, E., Drave, S. P., Sanchez, C., Kuulkers, E., ... Watanabe, K. (2012). INTEGRAL observation of the Galactic transient Swift J174510.8-262411. The Astronomer's Telegram : ATel, ATel #4381.

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INTEGRAL observation of the Galactic transient Swift J174510.8-262411

ATel #4381; [I. Vovk, C. Ferrigno, E. Bozzo \(ISDC, Switzerland\), S. P. Drave \(Univ. of Southampton, UK\), C. Sanchez, E. Kuulkers \(ESAC/ESA, Spain\), A. Bazzano, M. Del Santo, M. Focci, L. Natalucci, A. Tarana \(IAPS/INAF, Italy\), J. Caballero, D. Goetz \(CEA Saclay, France\), J. Chenevez \(DTU, Denmark\), P. den Hartog \(Stanford University HEPL/KIPAC, USA\), L. Kuiper \(SRON, The Netherlands\), K. Watanabe \(Florida Gulf Coast University, USA\)](#)

on 17 Sep 2012; 16:44 UT

Credential Certification: Carlo Ferrigno (Carlo.Ferrigno@unige.ch)

Subjects: X-ray, Gamma Ray, Binary, Transient

Referred to by ATel #: [4394](#), [4401](#), [4450](#)

During the INTEGRAL observations in direction of IGR J17544-2619 and the Galactic bulge performed from 2012-09-16T01:15 to 2012-09-17 05:34 UTC, a bright new transient is detected at coordinates RA=266.29, Dec=-26.40 with a 0.6 arcmin, 90% c.l. confinement radius. The location of the INTEGRAL source is consistent with the newly discovered transient Swift J174510.8-262411 (GCN #[13774](#), GCN #[13775](#), ATEL #[4380](#)).

The average broad band 5-500 keV JEM-X (61.6 ks) plus IBIS/ISGRI (63.9 ks) spectrum can be well fit by a power-law with exponential cut-off at high energy: $\Gamma=1.29\pm0.04$, $E_{\text{cut}}=(122\pm10)$ keV ($\chi^2=0.9$ for 19 d.o.f., 1% systematic uncertainty). The 5-100 keV flux is $(8.3\pm0.3)\times10^{-9}$ erg/s/cm². No significant features appear in the 3-35 keV JEM-X light curve (time bins 2 s-10 min).

The source presents a monotonically increasing flux in all bands: the continuous coverage by IBIS/ISGRI shows that the 20-40 keV flux at the beginning of the observation was 63 ± 4 mCrab and reached 617 ± 26 mCrab at its end. By comparing the corresponding rise in the harder 40-80 keV band from 78 ± 5 to 805 ± 40 mCrab and performing a linear fit to the hardness ratio, we found significant evidence ($\sim 8\sigma$ c.l.) of a spectral softening with time.

On the base of the rapid flux increase, the high value of the energy cut-off and the absence of thermonuclear bursts, we argue that Swift J174510.8-262411 might be a new black-hole transient.

Further observations at all wavelengths are encouraged to unveil the nature of this source.

We thank the INTEGRAL Galactic bulge monitoring group for their collaboration.



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rrutledge@astronomerstelegram.org
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