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*Published in:*

The astronomer's telegram

[Link to publication](#)

*Citation for published version (APA):*

Kuulkers, E., Eckert, D., Ferrigno, C., Chenevez, J., Alfonso-Garzon, J., Beckmann, V., Bird, A. J., Brandt, S., Del Santo, M., Domingo, A., Ebisawa, K., Jonker, P. G., Kretschmar, P., Markwardt, C. B., Oosterbroek, T., Paizis, A., Pottschmidt, K., Sanchez-Fernandez, C., & Wijnands, R. (2013). INTEGRAL detection of the neutron-star X-ray transient Swift J1734.5-3027. *The astronomer's telegram*, 5361. <http://www.astronomerstelegam.org/?read=5361>

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# INTEGRAL detection of the neutron-star X-ray transient Swift J1734.5-3027

ATel #5361; *E. Kuulkers (ESA/ESAC, Spain), D. Eckert, C. Ferrigno (ISDC, University of Geneva), J. Chenevez (DTU Space, Denmark), J. Alfonso-Garzon (CAB/INTA-CSIC, Spain), V. Beckmann (APC, France), A. J. Bird (Southampton, UK), S. Brandt (DTU Space, Denmark), M. Del Santo (INAF/IAPS Roma, Italy), A. Domingo (CAB/INTA-CSIC, Spain), K. Ebisawa (U of Tokyo, JAXA/ISAS, Japan), P. G. Jonker (SRON/CfA/RU), P. Kretschmar (ESA/ESAC, Spain), C. B. Markwardt (NASA/GSFC, USA), T. Oosterbroek (ESA/ESTEC, The Netherlands), A. Paizis (INAF-IASF Milano, Italy), K. Pottschmidt (CRESST/UMBC, NASA/GSFC, USA), C. Sanchez-Fernandez (ESA/ESAC, Spain) & R. Wijnands (UvA, The Netherlands)*

*on 4 Sep 2013; 16:12 UT**Credential Certification: Erik Kuulkers (Erik.Kuulkers@sciops.esa.int)*

Subjects: X-ray, Binary, Neutron Star, Transient, Variables

Referred to by ATel #: [5448](#), [5646](#)

INTEGRAL Galactic bulge monitoring (see ATel #[438](#)) observations performed between UT 2013 September 3 20:43 and September 4 00:25 clearly reveal the newly detected neutron star X-ray transient Swift J1734.5-3027 (ATel #[5354](#), GCN #[15157](#), #[15172](#)). The JEM-X and IBIS/ISGRI flux averages during the observations are 14 $\pm$ 3 mCrab (3-10 keV), 19 $\pm$ 6 mCrab (10-25 keV), 23 $\pm$ 2 mCrab (18-40 keV), and 17 $\pm$ 2 mCrab (40-100 keV). The average IBIS/ISGRI spectrum, with an effective exposure of about 9 ksec, can be well (reduced  $\chi^2=0.8$  for 9 degrees of freedom) fitted by a power-law with index 2.1 $\pm$ 0.4, with a 20-100 keV flux of about 3.7e-10 erg/s/cm<sup>2</sup>.

A re-analysis of the previous monitoring observations, performed between August 31 20:38 and September 1 00:19, shows that the source was already marginally detected by JEM-X and IBIS/ISGRI with fluxes of 7 $\pm$ 2 mCrab (3-10 keV; 4 sigma significance) and 14 $\pm$ 2 mCrab (18-40 keV; 6.6 sigma significance), respectively. The 10-25 keV JEM-X 6-sigma upper limit is about 4 mCrab, while the 40-100 keV IBIS/ISGRI 3-sigma upper limit is about 8 mCrab. The average IBIS/ISGRI spectrum for these observations, with an effective exposure of about 6.5 ksec, can be described by a power-law with index 2.3 $\pm$ 0.8 and a 20-100 keV flux of about 2.3e-10 erg/s/cm<sup>2</sup> (reduced  $\chi^2=1.5$  for 7 degrees of freedom).

We encourage further observations of this new X-ray transient, which showed a long Type I X-ray burst, possibly a superburst (ATel #[5354](#)), near the start of its current outburst, i.e., about 9 hours after the end of the INTEGRAL Galactic bulge observations on September 1.

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