



**UvA-DARE (Digital Academic Repository)**

**Swift observations of the ongoing outburst of IGR J17451-3022**

Altamirano, D.; Wijnands, R.; Heinke, C.O.; Bahramian, A.

*Published in:*  
The astronomer's telegram

[Link to publication](#)

*Citation for published version (APA):*  
Altamirano, D., Wijnands, R., Heinke, C. O., & Bahramian, A. (2014). Swift observations of the ongoing outburst of IGR J17451-3022. *The astronomer's telegram*, 6469.

**General rights**

It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

**Disclaimer/Complaints regulations**

If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: <https://uba.uva.nl/en/contact>, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.

*UvA-DARE is a service provided by the library of the University of Amsterdam (<http://dare.uva.nl>)*

17 Apr 2015; 07:35 UT

## Outside

GCN  
IAUCs

## Other

ATel on [Twitter](#) and [Facebook](#)  
ATELstream  
ATel Community Site  
MacOS: [Dashboard Widget](#)This space for free for your  
conference.[ [Previous](#) | [Next](#) | [ADS](#) ]

## Swift observations of the ongoing outburst of IGR J17451-3022

ATel #6469; *D. Altamirano (Southampton), R. Wijnands (Amsterdam), C. O. Heinke, A. Bahramian (Alberta)*

on 15 Sep 2014; 09:25 UT

Credential Certification: *Diego Altamirano (d.altamirano@soton.ac.uk)*

Subjects: X-ray, Transient

Referred to by ATel #: [6486](#), [6501](#), [6533](#), [7028](#)



We report Swift/XRT followup observations of the new transient IGR J17451-3022 recently discovered in JEM-X observations and followed up by three Swift/XRT observations (ATEL #[6451](#), #[6459](#)). The new Swift/XRT observations were performed in Windowed Timing Mode on September 10th and 11th (starting at UT 18:30:28 and UT 16:47:33, respectively). We clearly detected the source in our observations.

We extracted source spectra following Evans et al. (2009, MNRAS, 397, 1177) and model them in the 1.0 - 10.0 keV range. We note that we had to exclude photons with energies below 1 keV due to the expected low energy spectral residuals which appear in the windowed timing mode observations of heavily absorbed sources (e.g., see XRT Calibration Status at Leicester XRT digest). To compare with the results reported in ATEL #[6459](#), we fitted the spectra in XSPEC with an absorbed (TBABS, using the abundances of Wilms et al., 2000, ApJ, 542, 914) blackbody (bbodyrad) model. Allowing the absorption, temperature, and radius to vary provided a good fit in both cases (reduced chi-squared of 1.10 for 100 dof and 0.98 for 155 dof for Sep 10th and 11th, respectively). Our best fit parameters are

$N_H = (4.0 \pm 0.5) \times 10^{22} \text{ cm}^{-2}$ ,  $kT = (0.94 \pm 0.05) \text{ keV}$ ,  $BB_{\text{norm}} = 19 \pm 5$  and 2-10 keV unabsorbed flux of  $(1.2 \pm 0.1) \times 10^{-10} \text{ erg/sec/cm}^2$

and

$N_H = (4.5 \pm 0.3) \times 10^{22} \text{ cm}^{-2}$ ,  $kT = (0.85 \pm 0.03) \text{ keV}$ ,  $BB_{\text{norm}} = 45 \pm 10$  and 2-10 keV unabsorbed flux of  $(1.9 \pm 0.2) \times 10^{-10} \text{ erg/sec/cm}^2$

for Sep 10th and Sep 11th observations, respectively. These results are broadly consistent with those reported in ATEL #[6459](#).

These observations were taken in windowed timing mode to allow for pulsation searches. We produced standard 1.0-10.0 keV power spectra and found no evidence for coherent pulsations. The 3 sigma upper limits on pulsations in the frequency range 0.01-280 Hz are typically 10% (1.0-10.0 keV energy range). One of the suggestions about the nature of this source was that it could be a magnetar in outburst. Although our upper limits are lower than the usual 15%-30% amplitude reported in the literature (and therefore this would argue against a magnetar

## Related

- [7361](#) **Discovery of eclipses in the X-ray transient IGR J17451-3022**
- [7096](#) **INTEGRAL detection of the on-going outbursts from 1RXS J180408.9-342058 and GRO J1750-27**
- [7039](#) **Swift observations of 1RXS J180408.9-342058**
- [7028](#) **Continuing outburst of Galactic transient IGR J17451-3022**
- [7008](#) **MAXI/GSC observation of 1RXS J180408.9-342058 in outburst**
- [6997](#) **Swift/BAT detects an outburst from the neutron star binary 1RXS J180408.9-342058**
- [6839](#) **New Outburst of the Be/X-ray Transient GRO J1750-27 Detected with Fermi/GBM**
- [6602](#) **INTEGRAL/JEM-X sees enhanced activity in the Galactic center region: SAX J1747.0-2853 and IGR J17454-2919**
- [6574](#) **Hard X-ray spectral and timing properties of IGR J17454-2919 consistent with a black hole in the hard state**
- [6533](#) **Chandra Localization of IGR J17451-3022**
- [6530](#) **IGR J17454-2919: a new X-ray transient found by INTEGRAL/JEM-X close to the Galactic Center**
- [6501](#) **New Galactic transient IGR J17451-3022 still soft**
- [6486](#) **Detection of spectral hardening in IGR J17451-3022; evidence for a LMXB**
- [6469](#) **Swift observations of the ongoing outburst of IGR J17451-3022**
- [6459](#) **Soft, absorbed X-ray spectra of the new transient IGR J17451-3022**
- [6451](#) **A new X-ray transient, IGR J17451-3022, discovered by INTEGRAL/JEM-X near the Galactic Centre**
- [1400](#) **Further observations of GRO J1750-27 (AX J1749.1-2639) with INTEGRAL**
- [1385](#) **INTEGRAL Galactic bulge monitoring observations of GRO J1750-27 (AX J1749.1-2639), H1743-322 and SLX 1746-331**

interpretation), we cannot conclusively rule out that the source is indeed a magnetar. Observations with higher sensitivity are needed to confirm the absence of pulsations.

We also do not find evidence for quasi-periodic oscillations nor timing noise in the 0.01-280 Hz range, with a 60% (3 sigma) upper limit in the fractional rms amplitude of the 0.04-5.0 Hz broad band noise.

The nature of IGR J17451-3022 remains unclear and therefore multi-wavelength follow-up observations are encouraged to help identify its nature. Higher statistic X-ray data (e.g., from XMM-Newton observations) are needed to detect (or better constrain the upper limits on) coherent pulsations or aperiodic variability.

We thank the Swift team for their rapid scheduling of these observations.

---

[ **Telegram Index** ]

R. E. Rutledge, Editor-in-Chief

`rrutledge@astronomerstelegam.org`

Derek Fox, Editor

`dfox@astronomerstelegam.org`

Mansi M. Kasliwal, Co-Editor

`mansi@astronomerstelegam.org`