



UvA-DARE (Digital Academic Repository)

Swift/XRT follow up of the X-ray transient in the globular cluster Terzan 5

Bahramian, A.; Altamirano, D.; Heinke, C.; Sivakoff, G.; Linares, M.; Patruno, A.; Wijnands, R.; Degenaar, N.; Sanna, A.

Publication date

2015

Document Version

Final published version

Published in

The astronomer's telegram

[Link to publication](#)

Citation for published version (APA):

Bahramian, A., Altamirano, D., Heinke, C., Sivakoff, G., Linares, M., Patruno, A., Wijnands, R., Degenaar, N., & Sanna, A. (2015). Swift/XRT follow up of the X-ray transient in the globular cluster Terzan 5. *The astronomer's telegram*, 7242. <http://www.astronomerstelegam.org/?read=7242>

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.

24 Dec 2015; 10:03 UT

Outside

[GCN](#)
[IAUCs](#)

Other

ATel on [Twitter](#) and [Facebook](#)
[ATELstream](#)
[ATel Community Site](#)
MacOS: [Dashboard Widget](#)

Your Conference Here

This space for free for
conference advertising.[\[Previous](#) | [Next](#) | [ADS \]](#)

Swift/XRT follow up of the X-ray transient in the globular cluster Terzan 5

ATel #7242; *A. Bahramian (Alberta), D. Altamirano (Southampton), C. Heinke, G. Sivakoff (Alberta), M. Linares (IAC), A. Patruno (Leiden), R. Wijnands (Amsterdam), N. Degenaar (Cambridge), A. Sanna (UniCA)**on 17 Mar 2015; 23:38 UT**Credential Certification: Arash Bahramian (bahramia@ualberta.ca)*

Subjects: X-ray, Binary, Black Hole, Cataclysmic Variable, Globular Cluster, Neutron Star, Transient

Referred to by ATel #: [7247](#), [7262](#), [7430](#)

Tweet

Recommend

1

Following the report of a new outburst (ATel #[7240](#)), Swift-XRT observed the globular cluster Terzan 5 on 2015-03-17 17:41 UT, for 2 ksec.

One bright source is detected in the core of Terzan 5, at a count rate of about 1.3 cts/s with no indication of bursts or dips. The unenhanced XRT location is RA, DEC (J2000): 267.0207, -24.779, with an error radius of 3.5". This position is marginally consistent with two of the known transients in Terzan 5: EXO 1745-248 (2000 outburst) and Terzan 5 X2 (2010 outburst), but not with Terzan 5 X3 (2012 outburst; being 9.5" away). The 2015 transient position is also consistent with CXOGb J174804.8-244644 (a quiescent NS LMXB candidate), CXOGb J174805.0-244641 (a known radio MSP), and CXOGb J174805.1-244645, CXOGb J174804.7-244642, CXOGb J174804.9-244642 from Heinke et al. (2006, ApJ, 651, 1098).

Due to the high level of pile-up, we extracted a spectrum from an annulus of 13"-60" radii. The spectrum can be well-described by an absorbed powerlaw with N_H of $(4 \pm 0.8) \times 10^{22} \text{ cm}^{-2}$ and (a relatively hard) photon index of 1.0 ± 0.2 . The N_H value is higher than the value found for the cluster (Bahramian et al. 2014, ApJ, 780, 127), which suggests the presence of intrinsic absorption in this transient. The source is currently at $\sim 1e36 \text{ erg/s}$ (0.5-10 keV band, assuming a distance of 5.9 kpc to Terzan 5).

EXO 1745-248 is known to show enhanced N_H (Kuulkers et al. 2003 A&A, 399, 663). Thus the enhanced N_H we observed may suggest EXO 1745-248 as the source of this transient event.

More observations have been requested to follow up the outburst evolution. We thank the Swift team for rapidly scheduling our observations.

[\[Telegram Index \]](#)

R. E. Rutledge, Editor-in-Chief

Derek Fox, Editor

rrutledge@astronomerstelegram.orgdfox@astronomerstelegram.org

Related	
7470	Optical identification of the X-ray burster EXO 1745-248 in Terzan 5
7430	A hard-to-soft state transition is going on in neutron star transient EXO 1745-248
7262	VLA observations identify the currently active source in Terzan 5 as the neutron star transient EXO 1745-248
7247	Swift refined location points to the neutron star transient EXO 1745-248 as the source currently active in Terzan 5
7242	Swift/XRT follow up of the X-ray transient in the globular cluster Terzan 5
7240	Swift/BAT detects an outburst from an X-ray transient in the globular cluster Terzan 5

Mansi M. Kasliwal, Co-Editor

mansi@astronomerstelegam.org