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Swift refined location points to the neutron star transient EXO 1745-248 as the source currently active in Terzan 5

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 on 18 Mar 2015; 19:29 UT

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Subjects: X-ray, Binary, Globular Cluster, Neutron Star, Transient

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We have obtained an improved position for the transient currently active in the globular cluster Terzan 5 (ATels #[7240](#), #[7242](#)), using the method of Evans et al. (2009, MNRAS, 397, 1177) to reduce the systematic astrometric uncertainty. We obtain a UVOT-enhanced position using the observation taken on 2015-03-17 of RA,DEC(J2000,deg): 267.02185, -24.77973, with a 2.2 arcsec error radius (90% confidence).

The new location is centered around EXO 1745-248 (source CX3 in Heinke et al. 2006, ApJ, 651, 1098), strongly suggesting that this burster and neutron star transient is active again (after at least other two outbursts in 2000 and 2011; Degenaar et al. 2012, MNRAS, 422, 581). Our location is marginally consistent with (2.2 arcsec away from) an unidentified source from Heinke et al. (2006; CX24 or CXOGb J174805.1 -244645). Hence at the moment we cannot rule out that this (or another, previously unknown) source is the origin of the outburst. The 11 Hz pulsar and burster IGR J17480-2446 (T5X2; Linares et al. 2012, ApJ, 748, 82) is excluded by this Swift location, as it lies 6 arcsec away from its center (see linked Figure of [Terzan 5's core](#)).

This work made use of data supplied by the UK Swift Science Data Centre at the University of Leicester.

Terzan 5's core

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