Swift Confirmation of new transient activity in NGC 6440


Published in:
The astronomer's telegram

Link to publication

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Citation for published version (APA):
Swift Confirmation of new transient activity in NGC 6440

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on 6 Oct 2017; 07:43 UT

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Subjects: X-ray, Binary, Black Hole, Neutron Star, Transient

Referred to by ATel #: 10827, 10832, 10843, 10891

Following report of enhanced X-ray brightness from the direction of the globular cluster NGC 6440 (ATel #10821), we observed this cluster on 2017-10-05 18:52:35 UT for 1.5 ks with Swift/XRT in Photon Counting mode. We detected an X-ray source with vertical localization:

RA (J2000): 17:48:52.34
Dec (J2000): -20:21:32.2


We extracted a spectrum that was corrected for pile up. The spectrum is moderately well-described by an absorbed power-law (reduced chi^2 of 1.3 for 72 degrees of freedom), with a hydrogen column density of 1.2(+/-0.1)e22 cm^-2 (TBABS model in Xspec, assuming abundances from Wilms et al. 2000, ApJ 542, 914), a photon index of 1.2(+/-0.1) and an unabsorbed flux of 7.1(+/-0.2)e-10 erg/s/cm2 in the 0.5-10 keV band. Assuming a distance of 8.5 kpc (distance to NGC 6440, Harris catalog), this translates to a luminosity of 6.1e36 erg/s.

Extracting a lightcurve, we also notice a possible type 1 X-ray burst which indicates the compact object in this system is a neutron star.

Further Swift and VLA observations are planned. Other multi-wavelength observations are encouraged.

We thank the Swift team for rapidly scheduling this observation.

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