Swift Confirmation of new transient activity in NGC 6440


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ATel #10826; A. Bahramian (MSU), J. A. Kennea (PSU), D. Altamirano, Aru Beri (Southampton), C. O. Heinke, G. R. Sivakoff, A. J. Tetarenko (UAlberta), Rudy Wijnands, Nathalie Degenaar (Amsterdam)
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Credential Certification: Arash Bahramian (bahramian@pa.msu.edu)

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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 with 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.

| 2377 | ongoing transient event in NGC 6440 |
| 2360 | MAXI/GSC detection of an X-ray outburst from NGC6440 |
| 2223 | Strong Millimeter-Band Flaring of 3C454.3 Continues |
| 2182 | Discovery of a ~205 Hz X-ray pulsar in the globular cluster NGC 6440 |
| 2180 | NGC 6440 active again |
| 2143 | New NGC 6440 transient declining rapidly |
| 2139 | New transient LMXB in the globular cluster NGC 6440 |
| 495  | 4U 1715-390 and NGC 6440 in Outburst |

[Telegram Index]

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rrutledge@astronomerstelegram.org
dfox@astronomerstelegram.org
mansi@astronomerstelegram.org