Renewed activity of the Galactic center transient Swift J174535.5-285921 seen with Swift/XRT

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Renewed activity of the Galactic center transient Swift J174535.5-285921 seen with Swift/XRT

ATEl #13839; N. Degenaar, R. Wijnands (U. of Amsterdam), M. T. Reynolds, J. M. Miller (U. of Michigan), J. A. Kennea (PSU), on behalf of a larger collaboration

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Referred to by ATel #: 14378

Our daily Swift/XRT monitoring observations of the Galactic center (Degenaar et al. 2015) reveal new activity of a transient X-ray source located ~1.4' to the north-east of Sgr A*. The source is detected during two subsequent 1-ks observations performed on June 28 and June 29 (obsIDs 00095660082-83).

Utilizing the online XRT data products tool (Evans et al. 2007, 2009), we obtain a "standard" position (J2000) of R.A. = 17:45:35.76 and Dec. = -28:59:28.3 with an uncertainty of 3.5" (90% confidence). When the UVOT is used to derive the astrometry (see Goad et al. 2007; Evans et al. 2009), this yields an "enhanced" position (J2000) of R.A. = 17:45:35.65 and Dec. = -28:59:29.1 with an uncertainty of 2.6" (90% confidence). These XRT coordinates are consistent with the Chandra localisation of the unclassified very-faint X-ray transient Swift J174535.5-285921 (CXOGC J174535.4-285925; ATel #3525).

We also employed the online XRT tool to extract an average spectrum from the two observations performed on June 28 and 29. This spectrum can be fitted to an absorbed power-law model with Gamma = 1.4 +/- 0.8 and a hydrogen column density of NH = (8.8 +/- 3.8)E+22 cm^{-2} (1-sigma errors). The resulting unabsorbed 2-10 keV flux is (1.7 +/- 4.1)E-11 erg/cm^2/s. At a distance of 8 kpc, this translates into a luminosity of 1.3E+35 erg/s.

Swift J174535.5-285921 was seen active twice before since Swift/XRT started monitoring the Galactic center in 2006. Previous outbursts were observed in 2011 (ATEl #3472; Degenaar et al. 2015) and in 2016 (ATEl #9236). On both occasions the source remained continuously active for ~2 weeks, reaching a peak luminosity of ~1E+35 erg/s.
Apart from Swift J174535.5-285921, we detect ongoing activity of the two neutron star LMXBs AX J1745.6-2901 (active since 2019 September; ATEls #13150, #13453) and GRS 1741.9-2853 (in outburst since 2020 April; Atel #13683).

Swift/XRT observations of the Galactic center are performed daily and instant quick-look results posted at: http://www.swift-sgra.com.

References:
Degenaar et al. 2015, JHEA 7, 137
Goad et al. 2007, A&A 476, 1401
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