Swift/XRT detects a new outburst of the Galactic Center transient GRS 1741.9-2853

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Swift/XRT detects a new outburst of the Galactic Center transient GRS 1741.9-2853

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*on **28 Apr 2020; 21:44 UT***
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Referred to by ATel #: 13839, 14378

During our daily Swift/XRT monitoring observations of the Galactic Center (Degenaar et al. 2015, JHEAp, 7, 137), we detect renewed activity of a transient X-ray source located ~10 arcmin from Sgr A*. The location of this object is consistent with the position of the known neutron star low-mass X-ray binary (LMXB) and thermonuclear X-ray burster GRS 1741.9-2853. The source is first detected in a 0.9-ks XRT exposure obtained on 2020 April 25, in photon-counting (PC) mode, at a count rate of ~1E-2 c/s (obsID 00095660023). Over the past 2 days it brightened to ~9E-2 c/s.

We extracted an average spectrum for GRS 1741.9-2853 from the PC-mode data obtained on April 25-27 (obsIDs 00095660023, 00095660024, 00095660025). This spectrum can be described by an absorbed power-law model with an index of 2.8 +/- 1.0 and a hydrogen column density of (1.8 +/- 0.6)E+23 cm-2 (1-sigma errors). These spectral parameters are similar to those inferred from Swift/XRT data of previous outbursts of this source (see below). For this fit we infer a 2-10 keV unabsorbed flux of (1.6 +/- 0.6)E-11 erg cm-2 s-1, which translates into a luminosity of ~9.9E+34 erg s-1 at a distance of 7.2 kpc (deduced from its thermonuclear X-ray bursts; Trap et al. 2009).

Over the past 15 years, the Swift/XRT monitoring campaign has recorded several outbursts from GRS 1741.9-2853: in 2006, 2007, 2009, 2010, 2013, 2016 and 2017 (Degenaar & Wijnands 2009, 2010; Degenaar et al. 2013; ATels #8881,#9109,#10859, #11263). Its outbursts typically reach a 2-10 keV luminosity of ~1E+35-1E+37 erg s-1 and last a few weeks (Degenaar et al. 2015). Given the steady rise in XRT count rate during the past few days, and the luminosity inferred above, it is plausible that GRS 1741.9-2853 is currently in the rising phase of another bright

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outburst.

We report that apart from GRS 1741.9-2853, we detect ongoing activity from the transient neutron star LMXB AX J1745.6-2901. This source, located ~1.5 arcmin from Sgr A*, was detected in outburst in 2019 September-October (ATel #13150) and has remained active since the XRT monitoring observations resumed in 2020 Feb after the Sun-constrained window (ATel #13453).

Results of our ongoing daily Swift/XRT monitoring of the Galactic Center are automatically posted on http://www.swift-sgra.com.

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Degenaar et al. 2015, JHEA 7, 137
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X-ray transient Swift J174535.5-285921
9196 Continued Swift/XRT observations of the new Galactic center transients SWIFT J174540.2-290037 and SWIFT J174540.7-290015
9152 VVV near-infrared observations of the Swift J174540.2-290037 field
9109 Swift/XRT detection of another active X-ray transient close to Sgr A*
9000 Hard X-ray activity from the direction to Sgr A* revealed by INTEGRAL
8881 Swift/XRT detects renewed activity of the Galactic center transient GRS 1741-2853
8793 A Search for a Radio Counterpart to Swift J174540.7-290015
8746 Chandra Position of Galactic Center X-ray Transient Swift J174540.7-290015
8737 VVV near-infrared observations of the Swift J174540.7-290015 field
8729 Search for pulsed radio emission from SWIFT J174540.7-290015
8689 Near-IR source content of the error region for SWIFT J174540.7-290015
8684 INTEGRAL observations of Swift J174540.7-290015
8649 New Galactic Center X-ray Transient Detected by Swift: SWIFT J174540.7-290015
7023 Swift resumes X-ray monitoring observations of the Galactic center
5847 Swift/XRT observations of the Galactic center have resumed
5332 Report on (non-)activity in the Galactic bulge region as seen by INTEGRAL
5246 Swift/XRT detects activity of the Galactic center transient GRS 1741-2853
5226 New Swift/XRT observations confirm that the active Galactic center transient is AX J1745.6-2901
5222 Swift/XRT monitoring observations detect an active X-ray transient near the Galactic center
5020 NuSTAR discovery of a 3.76 second pulsar in the Sgr A* region
3529 IR counterpart candidates to the transient Swift J174535.5-285921 - UPDATE
3525 Chandra Localization of the Galactic Center X-ray Transient Swift J174535.5-285921
3508 The Galactic center transient Swift J174535.5-285921 has returned to quiescence
3481 IR counterpart candidates to the transient Swift J174535.5-285921
3476 Search for an IR counterpart to the newly discovered transient Swift J174535.5-285921
3472 Swift/XRT discovers a new X-ray transient near the Galactic center: Swift J174535.5-285921
1531 Chandra detects activity from the Galactic X-ray transients KS 1741-293, Swift J174535.5-290135.6 and CXOGC J174535.5-290124
1513 Chandra detects Swift J174535.5-290135.6 in a

	relatively bright state
1058	Long duration outbursts from the two X-ray bursters AX J1745.6-2901 and GRS 1741.9-2853 suggested by XMM-Newton observations
1006	Renewed activity of the Galactic center transients Swift J174535.5-290135.6 and GRS 1741.9-2853 as observed with Swift/XRT
1005	Two active X-ray transients in the Galactic Center region as seen by INTEGRAL
892	Renewed activity of the very faint X-ray transient CXOGC J174535.5-290124 and continued activity of the neutron-star X-ray transient SAX J1747.0-2853
756	INTEGRAL detects SWIFT J174535.5-290135.6
753	Swift/XRT detection of a transient source in the Galactic Center

[Telegram Index]

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