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

Degenaar, N.; Wijnands, R.; Reynolds, M.T.; Miller, J.M.; Kennea, J.A.

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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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 Credential Certification: *Nathalie Degenaar (degenaar@uva.nl)*

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

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  $\sim 1.4'$  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  $\Gamma = 1.4 \pm 0.8$  and a hydrogen column density of  $N_{\text{H}} = (8.8 \pm 3.8) \times 10^{22} \text{ cm}^{-2}$  (1-sigma errors). The resulting unabsorbed 2-10 keV flux is  $(1.7 \pm 4.1) \times 10^{-11} \text{ erg/cm}^2/\text{s}$ . At a distance of 8 kpc, this translates into a luminosity of  $1.3 \times 10^{35} \text{ erg/s}$ .

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  $\sim 2$  weeks, reaching a peak luminosity of  $\sim 1 \times 10^{35} \text{ erg/s}$ .

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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  
 Evans et al. 2007, A&A 469, 379  
 Evans et al. 2009, MNRAS 397, 1177  
 Goad et al. 2007, A&A 476, 1401

	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
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

	<b>Swift J174535.5-290135.6 and GRS 1741.9-2853 as observed with Swift/XRT</b>
<b>1005</b>	<b>Two active X-ray transients in the Galactic Center region as seen by INTEGRAL</b>
<b>892</b>	<b>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</b>
<b>756</b>	<b>INTEGRAL detects SWIFT J174535.5-290135.6</b>
<b>753</b>	<b>Swift/XRT detection of a transient source in the Galactic Center</b>

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[ **Telegram Index** ]

R. E. Rutledge, Editor-in-Chief

`rrutledge@astronomerstelegam.org`

Derek Fox, Editor

`dfox@astronomerstelegam.org`