Swift resumes X-ray monitoring observations of the Galactic center after Sun constraints

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

Publication date
2021

Document Version
Final published version

Published in
The astronomer's telegram

The Astronomer's Telegram

Post | Search | Policies
Credential | Feeds | Email

2 May 2022; 14:37 UT

[Previous | Next | ADS]

Swift resumes X-ray monitoring observations of the Galactic center after Sun constraints

ATel #14378; ***N. Degenaar, R. Wijnands (University of Amsterdam), M. T. Reynolds, J. M. Miller (University of Michigan), J. A. Kennea (Penn State University), on behalf of a larger collaboration***
*on **8 Feb 2021; 15:06 UT***
Credential Certification: Nathalie Degenaar (degenaar@uva.nl)

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

Tweet

Starting on 2021 February 4, Swift resumed its X-ray monitoring campaign of the Galactic center during which daily 1.0-ks exposures are obtained (see Degenaar et al. 2015 for a description of the program). The ~20x20 arcmin region around Sgr A* that is covered by our campaign currently does not contain any active X-ray transients. For a distance of 8 kpc, the sensitivity limit of our daily ~1-ks XRT exposures convert to an approximate luminosity of ~1E34 erg/s.

In the last observation before the Sun-constrained window, performed on 2020 November 2, there was one transient active: the neutron star low-mass X-ray binary (LMXB) AX J1745.6-2901. This source had entered an outburst in 2019 September (ATel #13150) and remained active since (see ATels #13683 and #13839). Its long outburst must have thus ended between November 2 and February 4.

We also report that the transient neutron star LMXB GRS 1741-2853 returned to quiescence just before the Sun-constrained window. It was last detected in the observation performed on 2020 October 26. This outburst had started around 2020 April 25 (ATel #13683) and thus had a duration of 6 months. Since the beginning of our program in 2006, numerous outbursts of this source have been detected (e.g., Degenaar & Wijnands 2009, 2010, 2014; Degenaar et al., 2015; ATels #8881, #10859), but typically these lasted only for 20-40 days. The 2020 outburst is thus by far the longest one that has been observed for this source over the past 15 years.

Quick-look results of our daily Swift/XRT observations of the Galactic center are immediately posted at the Swift Sgr A* Monitoring Campaign Website.

References:

Related
14788 Swift/XRT detects a new accretion outburst from the Galactic center X-ray transient AX J1745.6-2901
14378 Swift resumes X-ray monitoring observations of the Galactic center after Sun constraints
13839 Renewed activity of the Galactic center transient Swift J174535.5-285921 seen with Swift/XRT
13683 Swift/XRT detects a new outburst of the Galactic Center transient GRS 1741.9-2853
13453 Swift/XRT detects (continued) activity of the Galactic center transient AX J1745.6-2901
13150 Swift/XRT detects a new outburst of the Galactic Center transient AX J1745.6-2901
11313 X-ray Flare from Galactic Center Detected by Swift
11263 Swift resumes X-ray monitoring observations of the Galactic center in 2018
10900 Swift/XRT detects activity of a very-faint X-ray transient, likely the neutron star X-ray binary AX J1745.6-2901, near Sgr A*
10859 Swift/XRT detects a new accretion outburst of the Galactic center neutron star transient GRS 1741-2853
10323 Swift/XRT detects renewed activity of the Galactic center transient AX J1745.6-2901
10089 Swift resumes X-ray monitoring observations of the Galactic center in 2017
9551 Swift/XRT detects renewed activity of the Galactic center transient XMM J174457-2850.3
9236 Swift/XRT detects renewed activity of the Galactic center 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

Degenaar & Wijnands 2009, A&A 495, 547
Degenaar & Wijnands 2010, A&A 524, 69
Degenaar et al. 2014, IAU conf. proc. 303, 315
Degenaar et al. 2015, JHEA 7, 137

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]

R. E. Rutledge, Editor-in-Chief rrutledge@astronomerstelegram.org
Derek Fox, Editor dfox@astronomerstelegram.org