



## UvA-DARE (Digital Academic Repository)

### Swift/XRT detects renewed activity of the Galactic center transient GRS 1741-2853

Degenaar, N.; Wijnands, R.; Reynolds, M.T.; Miller, J.M.; Kennea, J.A.; Gehrels, N.; Ponti, G.; Haggard, D.

**Publication date**

2016

**Document Version**

Final published version

**Published in**

The astronomer's telegram

**License**

Unspecified

[Link to publication](#)

**Citation for published version (APA):**

Degenaar, N., Wijnands, R., Reynolds, M. T., Miller, J. M., Kennea, J. A., Gehrels, N., Ponti, G., & Haggard, D. (2016). Swift/XRT detects renewed activity of the Galactic center transient GRS 1741-2853. *The astronomer's telegram*, 8881. <http://www.astronomerstelegam.org/?read=8881>

**General rights**

It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

**Disclaimer/Complaints regulations**

If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: <https://uba.uva.nl/en/contact>, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.

*UvA-DARE is a service provided by the library of the University of Amsterdam (<https://dare.uva.nl>)*

22 Jul 2020; 09:20 UT

This space for free for your conference.

## Outside

GCN  
IAUCs

## Other

ATel on [Twitter](#) and [Facebook](#)  
ATELstream  
ATel Community Site[ [Previous](#) | [Next](#) | [ADS](#) ]

## Swift/XRT detects renewed activity of the Galactic center transient GRS 1741-2853

ATel #8881; *N. Degenaar (Cambridge), R. Wijnands (UvA), M. T. Reynolds, J. M. Miller (Michigan), J. A. Kennea (PSU), N. Gehrels (GSFC), G. Ponti (MPE) and D. Haggard (McGill), on behalf of a larger collaboration*

on 30 Mar 2016; 09:01 UT

Credential Certification: [Nathalie Degenaar \(degenaar@ast.cam.ac.uk\)](mailto:degenaar@ast.cam.ac.uk)

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

Referred to by ATel #: [9109](#), [9551](#), [10859](#), [13683](#)

Regular monitoring observations of the Galactic center with the Swift/XRT reveal renewed activity of the transient neutron star low-mass X-ray binary GRS 1741-2853. This known thermonuclear X-ray burster is located  $\sim 10$  arcmin NW of Sgr A\*. It is first detected during a  $\sim 1$  ks PC-mode observation performed on 2016 March 23, at a net count rate of  $\sim 0.015$  counts/s. Five subsequent observations obtained between March 24 and 28 show that the source brightened to  $\sim 0.25$  counts/s, indicating that it is entering a new outburst.

An averaged spectrum extracted from three PC-mode observations performed between March 26 and 28 (during which the source was detected at similar count rates), can be described by an absorbed power-law model with a photon index of  $1.7 \pm 0.5$  and a hydrogen column density of  $(1.6 \pm 0.4) \times 10^{23} \text{ cm}^{-2}$  (using tbabs with wilm abundances and vern cross-sections). The inferred 2-10 keV unabsorbed flux is  $\sim 8.7 \times 10^{-11} \text{ erg/cm}^2/\text{s}$ , which corresponds to a luminosity of  $\sim 5.4 \times 10^{35} \text{ erg/s}$  for a distance of 7.2 kpc (Trap et al. 2009).

GRS 1741-2853 is frequently active; previous outbursts were detected during the Swift/XRT Galactic center monitoring campaigns in 2006, 2007, 2009, 2010, and 2013 (Degenaar & Wijnands 2009, 2010; Degenaar et al. 2013). The outbursts typically last a few weeks and reach a 2-10 keV luminosity of  $\sim 1 \times 10^{35}$ - $1 \times 10^{37} \text{ erg/s}$  (Degenaar et al. 2015).

In addition to GRS 1741-2853, we detect ongoing activity from the transient neutron star low-mass X-ray binary AX J1745.6-2901 (which has been active since mid-July 2013; Degenaar et al. 2013, 2015; Ponti et al. 2015), and the new transient Swift J174540.7-290015 (which was first detected in early-February 2016; ATels #8684, #8689, #8729, #8737, #8746, #8793). We do note that the XRT count rate of both these sources has decreased by a factor of  $\sim 2$  over the past month.

## Related

- [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

Daily X-ray observations of the Galactic center with Swift are ongoing.

The Swift Monitoring Campaign website can be found at: <http://www.swift-sgra.com>

#### References:

- Degenaar & Wijnands 2009, A&A 495, 547  
 Degenaar & Wijnands 2010, A&A 524, 69  
 Degenaar et al. 2013, IAU conf. proc. 303, 315  
 Degenaar et al. 2015, JHEA 7, 137  
 Ponti et al. 2015, MNRAS 446, 1536  
 Trap et al. 2009, A&A 504, 501

	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
5095	Chandra confirmation of transient X-ray activity from CXOGC J174540.0-290005 north of the Galactic Center
5076	Detection of radio pulsations at 22 GHz from the Magnetar PSR J1745-2900 in the archival data from 2011
5074	Swift/XRT detection of an active X-ray transient near the Galactic center
5073	NuSTAR detection of a transient in outburst north of Sgr A*
5070	Search for pulsed radio emission from PSR J1745-2900 at 1 GHz with the GMRT
5064	Polarisation profiles and rotation measure of PSR J1745-2900 measured at Effelsberg
5058	On-going radio observations of PSR J1745-2900 at Effelsberg, Nancay, and Jodrell Bank: flux density estimates, polarisation properties, spin-down measurement, and the highest dispersion measure measured.
5053	Detection by Sardinia Radio Telescope of radio pulses at 7 GHz from the Magnetar PSR J1745-2900 in the Galactic center region
5046	Spin-down Measurement of PSR J1745-2900: a New Magnetar
5043	Further radio pulsations from the direction of the

	<b>NuSTAR 3.76-second X-ray pulsar, and a dispersion measure estimate.</b>
<b>5040</b>	<b>Detection of radio pulsations from the direction of the NuSTAR 3.76 second X-ray pulsar at 8.35 GHz</b>
<b>5037</b>	<b>Swift-BAT monitoring for additional bursts from SGR J1745-29 (Trigger 554491)</b>
<b>5035</b>	<b>Detection of radio pulsations from the direction of the Galactic center Soft Gamma-ray Repeater with Parkes and the GBT</b>
<b>5033</b>	<b>Searches for Dispersed Radio Pulsar Emission from the Sag A* SGR</b>
<b>5032</b>	<b>Chandra localization of the soft gamma repeater in the Galactic Center region</b>
<b>5027</b>	<b>Searches for radio pulsations from the 3.76 second NuSTAR X-ray pulsar in the Galactic centre.</b>
<b>5025</b>	<b>Limits on Radio Frequency Flux Density Changes in Sgr A*</b>
<b>5020</b>	<b>NuSTAR discovery of a 3.76 second pulsar in the Sgr A* region</b>
<b>5016</b>	<b>Continued Swift Monitoring of the Galactic Center Flare</b>
<b>5014</b>	<b>Brightening of Sgr A* at 32 GHz from VLA observations</b>
<b>5013</b>	<b>Possible brightening at 22 GHz of Sgr A*</b>
<b>5011</b>	<b>Swift XRT spectrum of transient X-ray source at Sgr A*'s position</b>
<b>5009</b>	<b>Swift/BAT detection of an SGR-like flare from near Sgr A*</b>
<b>5008</b>	<b>Ongoing X-ray activity from Sgr A*</b>
<b>5006</b>	<b>Large Flare from Sgr A* Detected by Swift</b>
<b>3525</b>	<b>Chandra Localization of the Galactic Center X-ray Transient Swift J174535.5-285921</b>
<b>3472</b>	<b>Swift/XRT discovers a new X-ray transient near the Galactic center: Swift J174535.5-285921</b>
<b>1513</b>	<b>Chandra detects Swift J174535.5-290135.6 in a relatively bright state</b>

---

[ [Telegram Index](#) ]

Derek Fox, Editor

Mansi M. Kasliwal, Co-Editor

[dfox@astronomerstelegam.org](mailto:dfox@astronomerstelegam.org)

[mansi@astronomerstelegam.org](mailto:mansi@astronomerstelegam.org)