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

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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)

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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 ~ 10 arcmin NW of Sgr A*. It is first detected during a ~ 1 ks PC-mode observation performed on 2016 March 23, at a net count rate of ~ 0.015 counts/s. Five subsequent observations obtained between March 24 and 28 show that the source brightened to ~ 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 ± 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 ~ 2 over the past month.

Related

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- [13453](#) Swift/XRT detects (continued) activity of the Galactic center transient AX J1745.6-2901
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- [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

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Derek Fox, Editor

Mansi M. Kasliwal, Co-Editor

dfox@astronomerstelegam.org

mansi@astronomerstelegam.org