Swift Bulge Survey detections of the X-ray transients SAX J1750.8-2900 and IGR J17445-2747


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Swift Bulge Survey detections of the X-ray transients SAX J1750.8-2900 and IGR J17445-2747

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We have begun a second installment of our Swift Bulge Survey (Atels #10265,#10273,#10305,#10355,#10419,#10422,#10428), a rapid shallow mapping of ~16 square degrees of the Galactic Bulge. Each tile is observed for 120 seconds with the XRT and UVOT aboard the Neil Gehrels Swift satellite, enabling X-ray sensitivity down to 4-10e34 erg/s, depending on extinction, for sources near the Galactic Center. A two-week cadence (when Swift planning allows) enables the detection of very faint X-ray transients as far as the Galactic Bulge. Our first three sets of observations in 2019 were taken on April 4, April 18, and May 8-9.

We report the detection of SAX J1750.8-2900 in each epoch, with 0.5-10 keV unabsorbed fluxes rising from 3.2e-11 (April 4), to 2e-10 (April 18), to 7e-10 ergs/cm^2/s (May 9, 2019), assuming an absorbed power-law with N_H=3e22 and photon index 2 (e.g. Atel #1490). SAX J1750.8-2900 was last seen in Sept. 2018 by INTEGRAL (Atel #12048), and there have been no further observations until our April 4 observation. Its previous outbursts have tended to last years (see Parikh & Wijnands 2017, MNRAS, 472, 2742), but the rapid rise we observe suggests that this is the beginning of an outburst, not a continuation of the 2018 outburst.

In our May 8 observation set, we detect a new outburst of IGR J17445-2747 (Atel #10256,#10265,#10272,#10273,#10305,#10395), a known X-ray burster (Mereminsky et al. 2017, Astr. Lett., 43, 656) with a likely giant star companion (Shaw et al. in prep). We detect 5 photons in a 122 s exposure, suggesting an X-ray flux F_X(0.5-10 keV, unabsorbed)=1e-11 ergs/cm^2/s for N_H=6e22, photon index=2, and thus, for an 8 kpc distance, L_X~7e34 ergs/s. In our two April 2019 observations, there are no photons within 2' of IGR J17445-2747, suggesting...
a 1-sigma upper limit of $F_X < 1.8 \times 10^{-12}$ ergs/cm$^2$/s, or $L_X < 1.3 \times 10^{34}$ erg/s. This source had not been detected since an outburst recorded by INTEGRAL and our prior Swift Bulge Survey observations, which was observed until May 13, 2017.

Our Swift/XRT survey will continue biweekly through Sept. 2019. We thank the Swift team for their support of these observations.
Chandra detects activity from the Galactic X-ray transients KS 1741-293, Swift J174535.5-290135.6 and CXOGC J174535.5-290124

Chandra detects Swift J174535.5-290135.6 in a relatively bright state

On the infrared counterpart to XTE J1810-189

Chandra Positions for the Neutron Star X-ray Transients XTE J1810-189 and SAX J1750.8-2900

A candidate near-infrared counterpart to SAX J1750.8-2900

NIR counterparts in the Swift error circles of the active transients SAX J1750.8-2900 and XTE J1810-189

XTE J1810-189 is a Neutron Star

Further Swift observations of XTE J1810-189

INTEGRAL detection of the outburst of SAX J1750.8-2900

Swift/XRT reports an improved position for XTE J1810-189

Swift localisation of SAX J1750.8-2900

SuperAGILE detects the new outburst of SAX J1750.8-2900 a hard X-rays

Swift/BAT reports increased activity from three galactic sources

RXTE PCA detects a new outburst of SAX J1750.8-2900

RXTE PCA detects a new transient, XTE J1810-189

Swift/XRT observations of INTEGRAL sources

The neutron star transient SAX J1810.8-2609 going back to quiescence

Near-infrared counterpart candidate to SLX 1746-331

Swift/XRT localization of SLX 1746-331

SLX 1746-331 In Outburst

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

Further Chandra observations of SAX J1747.0-2853 and the region around Sgr A*
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