Swift/XRT detects a bright X-ray flare from Sgr A*

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*on **16 May 2019; 09:52 UT***
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Starting on 2019 February 3, Swift resumed its monitoring program of the Galactic center, providing daily ~1 ks XRT snapshots of a ~20 x 20 arcmin region around the supermassive black hole Sgr A* (see Degenaar et al. 2015 for an overview of the program).

We report on the detection of an X-ray flare, at a location nominally consistent with the position of Sgr A*, during a ~0.9 ks observation performed on May 14 (starting at 08:33 UT; obsID 00095329035). During this observation, the XRT count rate at the position of Sgr A* was ~8E-2 c/s, whereas in both the preceding (May 13, starting at 14:55 UT) and subsequent (May 15, starting at 08:27 UT) XRT observations, the count rate was consistent with the long-term average level at the position of Sgr A* (~1E-2 c/s; Degenaar et al. 2013).

The XRT spectrum of the X-ray flare can be fitted to a simple absorbed power-law model with a fixed hydrogen absorption column density of NH=9.1E+22 cm-2 and a power-law index of 1.5+/-0.4. The resulting 2-10 keV absorbed flux is = (1.9+0.1-1.0)E-11 erg/cm2/s, which translates into a luminosity of ~1.5E+35 erg/s at a distance of 8 kpc (1 sigma uncertainties). These properties are similar to those of previous bright X-ray flares detected from Sgr A* with Swift/XRT (Degenaar et al. 2013; 2015; Reynolds et al. 2018). Combined with the fact that there is no sustained activity detected in our XRT observations, we consider it likely that we detected another X-ray flare from Sgr A*.

There are currently no transient X-ray binaries active within the FOV of our Swift/XRT monitoring observations. Our campaign will continue throughout 2019 and updates of new observations are immediately posted at the Swift Sgr A* Monitoring Campaign Website.

References:

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Degenaar et al. 2013, ApJ 769, 155
Degenaar et al. 2015, JHEA 7, 137
Reynolds et al. 2018, ATel #11313

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