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Swift/XRT detects renewed activity of the Galactic center transient CXOGC J174540.0-290005

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Swift/XRT detects renewed activity of the Galactic center transient CXOGC J174540.0-290005

ATel #10175; *N. Degenaar (U. of Amsterdam), M. T. Reynolds (U. of Michigan), R. Wijnands (U. of Amsterdam), J. M. Miller (U. of Michigan), J. A. Kennea (PSU), on behalf of a larger collaboration*

on 16 Mar 2017; 20:34 UT

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

In our daily Swift/XRT monitoring observations of the Galactic center (Degenaar et al. 2015, JHEAp, 7, 137) we detect X-ray activity of a transient source located $\sim 20''$ to the north of Sgr A*, at a position consistent with that of the known X-ray transient CXOGC J174540.0-290005/Swift J174540.2-290005. It is first clearly seen during a 1-ks pointing performed on March 6 and continued to be detected over the past 10 days.

The source is detected at a roughly constant count rate of $\sim 1\text{E}-2$ c/s and we therefore extracted an average spectrum from the 10 XRT/PC-mode observations of March 6-16. This spectral data can be described by an absorbed power-law model with a hydrogen column density of $N_{\text{H}} = (2.5 \pm 1.2)\text{E}23$ cm⁻², and an index of 3.3 ± 1.3 . The inferred unabsorbed 2-10 keV flux is $(1.9 \pm 1.5)\text{E}-11$ erg/cm²/s, which translates into a luminosity of $(1.5 \pm 1.1)\text{E}35$ erg/s at a distance of 8 kpc.

CXOGC J174540.0-290005 exhibited at least two previous outbursts; in 2003 (Muno et al. 2005, ApJ 622, L113) and in 2006 (ATel #920). In 2003, the source was found active during a single Chandra observation, when it was detected at a 2-10 keV luminosity of $\sim 3\text{E}34$ erg/s. During its 2006 outburst, the Galactic center was monitored daily with Swift/XRT and this showed that the source remained active for ~ 2 weeks, reaching a peak luminosity of $\sim 2\text{E}35$ erg/s (Degenaar & Wijnands 2009, A&A 495, 547). Its current level of activity is thus similar to that observed with Swift/XRT during its 2006 outburst.

The results of our daily Swift/XRT monitoring campaign of the Galactic center can be found at <http://www.swift-sgra.com>

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