



## UvA-DARE (Digital Academic Repository)

### INTEGRAL detection of the on-going outburst from NGC 6440 and a new outburst likely from GRS 1747-312 in Terzan 6

Di Gesu, L.; Bozzo, E.; Kuulkers, E.; Bazzano, A.; Beckmann, V.; Bird, T.; Bodaghee, A.; Chenevez, J.; Del Santo, M.; Domingo, A.; Jonker, P.; Kretschmar, P.; Markwardt, C.; Paizis, A.; Pottschmidt, K.; Sánchez-Fernández, C.; Wijnands, R.

**Publication date**

2017

**Document Version**

Final published version

**Published in**

The astronomer's telegram

**License**

Unspecified

[Link to publication](#)

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

Di Gesu, L., Bozzo, E., Kuulkers, E., Bazzano, A., Beckmann, V., Bird, T., Bodaghee, A., Chenevez, J., Del Santo, M., Domingo, A., Jonker, P., Kretschmar, P., Markwardt, C., Paizis, A., Pottschmidt, K., Sánchez-Fernández, C., & Wijnands, R. (2017). INTEGRAL detection of the on-going outburst from NGC 6440 and a new outburst likely from GRS 1747-312 in Terzan 6. *The astronomer's telegram*, 10832.

<http://www.astronomerstelegram.org/?read=10832>

**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>)

**Outside**

GCN  
IAUCs

**Other**

ATel on [Twitter](#) and [Facebook](#)  
[ATELstream](#)  
[ATel Community Site](#)

[ [Previous](#) | [Next](#) | [ADS](#) ]

## INTEGRAL detection of the on-going outburst from NGC 6440 and a new outburst likely from GRS 1747-312 in Terzan 6.

ATel #10832; *L. Di Gesu, E. Bozzo (ISDC, Switzerland), E. Kuulkers (ESA/ESAC, Spain), A. Bazzano (INAF/IAPS, Italy), V. Beckmann (CNRS/IN2P3, France), T. Bird (Southampton, UK), A. Bodaghee (GCSU, USA), J. Chenevez (DTU Space, Denmark), M. Del Santo (INAF/IASF-Pa, Italy), A. Domingo (CAB/INTA-CSIC, Spain), P. Jonker (SRON, The Netherlands), P. Kretschmar (ESA/ESAC, Spain), C. Markwardt (GSFC, USA), A. Paizis (INAF/IASF-Mi, Italy), K. Pottschmidt (UMBC/NASA GSFC, USA), C. Sánchez-Fernández (ESA/ESAC, Spain), R. Wijnands (UvA, The Netherlands)*

on 9 Oct 2017; 13:02 UT

Distributed as an Instant Email Notice Transients

Credential Certification: *E. Bozzo (enrico.bozzo@unige.ch)*

Subjects: X-ray, Neutron Star, Transient

Referred to by ATel #: [10835](#), [10891](#)

[Tweet](#)

During the observations performed in the direction of the Galactic Bulge (Atel #438), INTEGRAL detected hard X-ray emission from the direction of the Globular Clusters NGC 6440 and Terzan 6.

The source undergoing an outburst in NGC 6440 has been recently reported to be likely the neutron star low mass X-ray binary SAX J1748.9-2021 (Atel #10821, #10826, #10827). The source is detected in the IBIS/ISGRI mosaic with a significance of 10 sigma (20-40 keV) and a flux of 30 $\pm$ 3 mCrab. The IBIS/ISGRI spectrum (effective exposure time 7.7 ks) could be reasonably well fit by using a power-law model with a photon index of 2.2(-0.7,+1.0). The 20-100 keV flux estimated from the spectral fit was 3.7E-10 erg/cm<sup>2</sup>/s. The source was outside the JEM-X field of view for the entire observational period.

A new outburst from a source likely located within Terzan 6 was discovered during the same observations in the JEM-X data (and also confirmed by MAXI; see <http://maxi.riken.jp/pipermail/x-ray-star/2017-October/002657.html>). Comparing the two independent detections in JEM-X1 and JEM-X2, the best obtained source position is at RA=267.694 and DEC=-31.280, with an associated uncertainty of 1.5 arcmin at 90% c.l. (J2000). This is consistent with the position of Terzan 6, likely indicating that the known neutron-star low-mass X-ray binary GRS 1747-312 is again in outburst. The estimated flux of the source from the two JEM-X mosaics is 22 $\pm$ 4 mcrab in the 3-10 keV band and 17 $\pm$ 4 mcrab in 10-25 keV band.

### Related

- 10891 [Chandra Observation of the MAXI J1749-200 Field](#)
- 10843 [Radio Non-Detection of the Currently Outbursting Transient Source in NGC 6440](#)
- 10835 [Swift/XRT observation of the on-going outburst from Terzan 6](#)
- 10832 [INTEGRAL detection of the on-going outburst from NGC 6440 and a new outburst likely from GRS 1747-312 in Terzan 6.](#)
- 10827 [MAXI/GSC detection of an X-ray burst probably from SAX J1748.9-2021](#)
- 10826 [Swift Confirmation of new transient activity in NGC 6440](#)
- 10821 [MAXI/GSC detection of weak X-ray enhancement from the direction of NGC 6440](#)
- 9072 [Outburst from low-mass X-ray binary GRS 1747-312 in Terzan 6](#)
- 7183 [Chandra identification of the current X-ray transient in NGC 6440](#)
- 7136 [INTEGRAL/JEM-X detection of type-I X-ray bursts from IGR J17488-2018](#)
- 7106 [Swift/XRT observations of the X-ray transient in NGC6440](#)
- 7098 [INTEGRAL detection of a hard X-ray transient in NGC 6440](#)
- 4915 [Confirmation of GRS 1747-312 as the active transient in Terzan 6](#)
- 2672 [New outburst of the accreting millisecond X-ray pulsar NGC 6440 X-2 and discovery of a strong 1 Hz modulation in the light-curve](#)
- 2500 [New outburst of the accreting-millisecond X-ray pulsar NGC 6440 X-2](#)
- 2426 [Discovery of kilohertz QPOs in RXTE observations of SAX J1748.9-2021.](#)
- 2407 [Detection of pulsations and identification of SAX J1748.9-2021 as the X-ray transient in NGC 6440. Radio follow-up of the](#)

No X-ray bursts have been detected in the JEM-X lightcurves. The source was not detected in the IBIS/ISGRI mosaic.

Further INTEGRAL observations of the fields around the two Globular Clusters NGC 6440 and Terzan 6 are already planned in the coming weeks.

<b>2377</b>	<b>ongoing transient event in NGC 6440</b>
<b>2360</b>	<b>MAXI/GSC detection of an X-ray outburst from NGC6440</b>
<b>2223</b>	<b>Strong Millimeter-Band Flaring of 3C454.3 Continues</b>
<b>2182</b>	<b>Discovery of a ~205 Hz X-ray pulsar in the globular cluster NGC 6440</b>
<b>2180</b>	<b>NGC 6440 active again</b>
<b>2143</b>	<b>New NGC 6440 transient declining rapidly</b>
<b>2139</b>	<b>New transient LMXB in the globular cluster NGC 6440</b>
<b>495</b>	<b>4U 1715-390 and NGC 6440 in Outburst</b>

---

[ **Telegram Index** ]

R. E. Rutledge, Editor-in-Chief

Derek Fox, Editor

Mansi M. Kasliwal, Co-Editor

`rrutledge@astronomerstelegram.org`

`dfox@astronomerstelegram.org`

`mansi@astronomerstelegram.org`