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


Published in:
The astronomer's telegram

Citation for published version (APA):

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: http://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.
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) 

Distributed as an Instant Email Notice Transients
Credenital Certification: E. Bozzo (enrico.bozzo@unige.ch)

Subjects: X-ray, Neutron Star, Transient

Referred to by ATel #: 10835, 10891

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+/-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/cm²/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+/−4 mcrab in the 3-10 keV band and 17+/−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
9072 Outburst from low-mass X-ray binary GRS 1747-312 in Terzan 6
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 J1749.5-2021.
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.