



## 1ES 0033+595 found in a very high state by INTEGRAL

**Bassani, L.; Malizia, A.; Chenevez, J.; Fiocchi, M.; Bazzano, A.; Ubertini, P.; Natalucci, L.; Sguera, A.; Kuulkers, E.; Bird, A. J.**

*Publication date:*  
2014

*Document Version*  
Publisher's PDF, also known as Version of record

[Link back to DTU Orbit](#)

*Citation (APA):*  
Bassani, L., Malizia, A., Chenevez, J., Fiocchi, M., Bazzano, A., Ubertini, P., Natalucci, L., Sguera, A., Kuulkers, E., & Bird, A. J. (2014, Dec 4). 1ES 0033+595 found in a very high state by INTEGRAL. The Astronomer's Telegram No. ATel #6781 <http://www.astronomerstelegam.org/?read=6781>

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## 1ES 0033+595 found in a very high state by INTEGRAL

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on 4 Dec 2014; 14:15 UT

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Subjects: X-ray, AGN, Blazar

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During recent Galactic Plane Scan survey observations (GPS, PI: A. Bazzano) performed between Dec 2, 2014 (08:47 UTC) and Dec 3, 2014 (00:26 UTC), INTEGRAL detected 1ES 0033+595 with both JEM-X and IBIS/ISGRI instruments. 1ES 0033+595 is a blazar near the Galactic plane belonging to the BL Lac type; the source has recently been reported as one of the 50 or so blazars detected at TeV energies (Aleksic et al. 2014, <http://arxiv.org/abs/1410.7059v1>). 1ES 0033+595 was found in the combined JMX1+2 mosaic (effective exposure of 3.1 ksec, 3-10 keV band) with a flux of  $20 \pm 2$  mCrab ( $3.4 \times 10^{-10}$  erg/cm<sup>2</sup>/s) corresponding to a 10 sigma significance. It is also detected at higher energies ((in JEM-X2 only), with a flux of  $21 \pm 5$  mCrab (or  $2.5 \times 10^{-10}$  erg/cm<sup>2</sup>/s) at 4 sigma level (effective exposure of 1.2 ksec, 10-25 keV band). At even higher energies, IBIS/ISGRI found 1ES 0033+595 at a flux level of  $13.6 \pm 2$  mCrab ( $10^{-10}$  erg/cm<sup>2</sup>/s) in the 18-40 keV band (13 sec, about 7 sigma) while a 3 sigma upper limit of 11 mCrab ( $10^{-10}$  erg/cm<sup>2</sup>/s) is provided in the 40-100 keV band.

Using data collected from the ASDC SED Builder tool (<http://tools.asdc.asi.it/SED/>) we notice that this is the highest X-ray flux so far reported for this BL Lac object. The source is routinely monitored by various instruments including the Swift/XRT telescope: an observation performed on Nov 23 2014 gives a 2-10 keV flux around  $10^{-10}$  erg/cm<sup>2</sup>/s indicating that 1ES0033+595 has been in a high flux state for sometime now. Multiwaveband observations of the source are strongly encouraged.

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