



GCN CIRCULAR 23689: INTEGRAL observation of IceCube-190104A

Savchenko, V.; Ferrigno, C.; Bozzo, E.; Courvoisier, T.; Kuulkers, E.; Sanchez, C.; Mereghetti, S.; Rodi, James C.; Bazzano, A.; Natalucci, L.

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FROM: Volodymyr Savchenko at ISDC,U of Geneve <savchenk@in2p3.fr>

V. Savchenko, C. Ferrigno, E. Bozzo, T. Courvoisier (ISDC/UniGE, Switzerland)
E. Kuulkers (ESTEC/ESA, The Netherlands)
C. Sanchez (ESAC/ESA, Spain)
S. Mereghetti (INAF IASF-Milano, Italy)
J. Rodi, A. Bazzano, L. Natalucci, F. Panessa, P. Ubertini (IAPS-Roma, Italy)
J. Chenevez, S. Brandt (DTU, Denmark)
R. Diehl, A. von Kienlin (MPE, Germany)
D. Gotz, Ph. Laurent, A. Goldwurm (DRF/Irfu/DAP Saclay/CEA, France)
A. Coleiro (APC, France)
L. Hanlon, A. Martin-Carrillo (UCD, Ireland)
J.-P. Roques, E. Jourdain, P. von Ballmoos (IRAP, France)
A. D. Garau, M. M. Hesse (CSIC-INTA, Spain)
A. Lutovinov, R. Sunyaev (IKI, Russia)
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Using INTEGRAL we have performed a search for a prompt gamma-ray counterpart of the cosmic neutrino candidate IceCube-190104A (GCN 23605).

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At the time of the event (2019-01-04 08:34:38 UTC, hereafter T0), INTEGRAL was operating in nominal mode. The peak of the neutrino localization probability was at an angle of 92 deg with respect to the spacecraft pointing axis. This orientation implies strongly suppressed response of IBIS and near-optimal response of SPI-ACS.

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The background within +/-300 seconds around the event was very stable.Â We do not detect any significant counterparts and estimate a 3-sigma upper limit on the 75-2000 keV fluence of $2.1e-07$ erg/cm² for a burst lasting less than 1 s with a characteristic short GRB spectrum (an exponentially cut off power law with $\alpha=-0.5$ and $E_p=600$ keV) occurring at any time in the interval within 300 s around T0.

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For a typical long GRB spectrum (Band function with $\alpha=-1$, $\beta=-2.5$, and $E_p=300$ keV), the derived peak flux upper limit is $\sim 2.4e-07$ ($7.4e-07$) erg/cm²/s at 1 s (8 s) time scale in 75-2000 keV energy range.