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Optical, X, Gamma-ray activity of the FSRQ PKS 1313-333

ATel #8483; **Luigi Pacciani**
on **31 Dec 2015; 14:39 UT**

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Subjects: Optical, Ultra-Violet, X-ray, Gamma Ray, >GeV, Blazar

Referred to by ATel #: **8533**

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We asked a Swift ToO campaign on the FSRQ PKS 1313-333 ($z=1.21$), triggered by prolonged High Energy activity detected with FERMI-LAT. The trigger method detected activity at $E > 20\text{GeV}/(1+z)$ with $TS \sim 79$ from 2015-12-10 to 2015-12-30, following the prescription of Pacciani et al. 2014, ApJ, 790, 45.

FERMI-LAT detected Two Gamma-ray photons of about 50 GeV within the last week.

The flux integrated on the whole period is $(7.9 \pm 1.7) \times 10^{-9} \text{ ph cm}^{-2} \text{ s}^{-1}$ ($E > 3 \text{ GeV}$), to be compared to a catalog flux of $(0.47 \pm 0.07) \times 10^{-9} \text{ ph cm}^{-2} \text{ s}^{-1}$ ($E > 3 \text{ GeV}$).

The Swift Follow-up revealed the source in high state in optical/UV and X-ray.

The preliminary Swift-UVOT photometry on 2015-12-27 is (in AB photometric system):

v: 15.86 ± 0.03

b: 16.20 ± 0.02

u: 16.60 ± 0.02

w1: 17.33 ± 0.02

m2: 17.51 ± 0.03

w2: 17.85 ± 0.02

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Magnitudes have not been corrected for Galactic extinction.

These photometric data correspond to the brightest obtained with Swift-uvot observations.

On 2015/12/29 the source showed a flux about 20% fainter in optical/UV.

For comparison, on 2005/09/07, the UVOT measured magnitudes were:

v: 18.59+-0.18

b: 19.60+-0.27

u: 19.87+-0.13

w1: 20.62+-0.12

m2: 20.87+-0.11

w2: 21.07+-0.09

The simultaneous Swift-XRT observation on 2015/12/27 gives a photon index 1.44 ± 0.21 (90% c.l.), an unabsorbed flux of $(2.5 \pm 0.3) \times 10^{-12}$ erg/cm²/s which is the brightest detected with swift-XRT.

We encourage further multi-wavelength observations. We thank the Swift team and Swift Observatory Duty Scientist for rapidly scheduling our observations.

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