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The impact of the Calorimeter-only photons in the Fermi-LAT analysis of VHE sources

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Above tens of GeV, gamma-ray observations with the Fermi Large Area Telescope (LAT) are often dominated by statistical uncertainties due to the low source flux and the limited acceptance. The newly released Pass 8 analysis extended the acceptance of Fermi-LAT to ˜ 2.5 mˆ2 sr over 100 GeV, and made effective an event class that can improve the acceptance at these very high gamma-ray energies: the "Calorimeter-only (CalOnly)" event class. While the conventional event classes require information from the LAT tracker, the CalOnly event class, which is still under development, can recover ˜40-50% of events above 50 GeV without usable tracker information, at the expense of a worse angular resolution and larger cosmic-ray background. In the conference we will describe the working principle, and report on the performance of this new event class using Monte Carlo simulations and real data from astrophysical VHE sources from the recently-released catalog of LAT sources above 50 GeV (2FHL).

Primary author: Mr TAKAHASHI, Mitsunari (ICRR)

Co-authors: Dr SGRÒ, Carmelo (INFN Sezione di Pisa); Dr PANEQUE, David (Max Planck Institute for Physics); Dr CAPUTO, Regina (University of California Santa Cruz)

Presenter: Mr TAKAHASHI, Mitsunari (ICRR)

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