

A peek to GRB emission at VHE through 10 years of Fermi-LAT observations

Tuesday 3 December 2019 16:30 (15 minutes)

Very High Energy (VHE) emission is the next frontier of exploration of the extreme physics of Gamma-Ray Bursts (GRBs). Thanks to its wide field of view the Large Area Telescope (LAT) on board of the Fermi satellite is a continuous probe of the VHE component of GRBs. A systematic search spanning the first 10 years of the Fermi-LAT data results in the detection of 186 GRBs with energies $>30\text{MeV}$. The Fermi-LAT wealth of bursts provides a sample to study the VHE properties of GRBs with and unprecedented coverage. Furthermore the recent contemporaneous detections of two GRBs by Fermi-LAT and respectively H.E.S.S (GRB180720B). and MAGIC (GRB190114C) enrich our collection of two important events. In this contribution we present the features of this extreme emission emerging from the study of more of 10 years of data and of the two recent breakthrough in the GRB field. We will finally discuss the models to interpret the GRB VHE emission and the perspectives opened for future detections by VHE instruments.

Author: MORETTI, Elena (IFAE)

Presenter: MORETTI, Elena (IFAE)

Session Classification: Parallel

Track Classification: Gamma rays