Sixteenth Marcel Grossmann Meeting



Contribution ID: 714

Type: Invited talk in the parallel session

Observations of GRB 190829A at VHE with H.E.S.S.

Monday, 5 July 2021 17:30 (20 minutes)

Major advancements in the study of gamma-ray bursts (GRBs) have arisen in the last few years thanks to the recent detections at very high energy (VHE). In this contribution, the observation of GRB 190829A at VHEs with H.E.S.S. is presented. This GRB is one of the closest-ever detected with a redshift z~0.08, a characteristic that allowed an extended temporal detection from 4 hours to 56 hours after the GRB onset over a broad energy range of 0.18 to 3.3 TeV. This proximity opened the possibility to accurately measure the intrinsic spectra, provided a relatively small absorption of photons through their travel to Earth. The H.E.S.S. detection of the afterglow shows similar temporal and spectral characteristics when compared to the observations in the X-ray band with Swift-XRT. We will discuss how these characteristics challenge the standard framework for VHE afterglows in GRBs.

Primary authors: RUIZ-VELASCO, Edna (MPIK); ZHU, Sylvia (DESY); TAYLOR, Andrew (DESY); Prof. AHARONIAN, Felix (Dublin Institute for Advanced Studies, Max-Planck-Institut für Kernphysik); ROMOLI, Carlo (MPIK); KHANGULYAN, Dmitry (Rikkyio); SCHÜSSLER, Fabian (IRFU / CEA Paris-Saclay)

Presenter: RUIZ-VELASCO, Edna (MPIK)

Session Classification: High and Very High Energy Emission from Gamma-Ray Bursts

Track Classification: Fast Transients: High and Very High Energy emission from Gamma Ray

Bursts