

GRB 190114C: from prompt to afterglow?

Wednesday, April 14, 2021 7:57 AM (12 minutes)

I will present the interesting case of GRB 190114C, the first GRB ever detected by MAGIC at Very High Energy (VHE). We analyzed the spectral evolution of its gamma-ray emission as detected by the Fermi Gamma-Ray Burst Monitor (GBM) up to ~ 60 s. We revealed the presence of an extra component starting on ~ 4 s post-trigger. This extra component rises and decays quickly (peaking at ~ 6 s) and it is characterized by a non-thermal spectrum that can be fit by a power law. We interpret this additional component as due to the afterglow of the burst. The onset time allows us to estimate the initial jet bulk Lorentz factor Γ_0 which is $\sim 130-700$, depending on the assumed circum-burst density profile.

Primary author: RAVASIO, Maria Edvige

Presenter: RAVASIO, Maria Edvige

Session Classification: Gamma-ray Bursts/SN/Instrumentation-2

Track Classification: Gamma-ray Bursts