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Type: **Invited talk in the parallel session**

High-Energy Emission from GRBs: Theoretical Perspectives

Wednesday, 7 July 2021 10:10 (20 minutes)

This talk will provide an overview of our current knowledge and understanding of high energy (~ 0.1 -100 GeV) emission from GRBs. Potentially relevant emission mechanisms will be discussed along with what we have learned from existing observations, most notably by Fermi, which has greatly contributed to our knowledge of GRB physics as well as in other areas. Fermi high-energy prompt GRB observations have shed light on its spectral and temporal properties (delayed and long-lived high-energy emission, distinct high-energy hard power-law spectral component, a possible quasi-thermal component), which bear on its emission mechanism. They have also provided valuable information on the outflow composition as well as on the Lorentz factor, location, and geometry of the emission region. GRB high-energy afterglow observations have probed the physics of relativistic collisionless shocks, and require changes to the standard picture. High-energy prompt GRB observations have also helped study fundamental physics, and in particular Lorentz Invariance Violation, as well as the Extra-galactic Background Light.

Primary author: Prof. GRANOT, Jonathan (The Open University of Israel)

Presenter: Prof. GRANOT, Jonathan (The Open University of Israel)

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