



Contribution ID: 490

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

Theory of photon scattering in shearing plasma: Applications to GRBs

Monday, 8 July 2024 15:15 (15 minutes)

We investigate the photon analogue of Fermi acceleration where a photon scatters within the shearing layers of a relativistic plasma and produces power-law-shaped spectra at high energies. It is an alternative to existing explanations of power law spectra such as synchrotron process or inverse Comptonization. Among several potential applications of this phenomenon, I will describe its application to Gamma-ray bursts (GRBs) jets where we explain the high energy spectra of the GRB prompt phase. I will briefly touch upon other applications to the work in Active Galactic nuclei (AGNs) jets as well as in accretion discs around black holes.

Primary author: Dr VYAS, Mukesh Kumar (Bar Ilan University, Ramat Gan, Israel)

Co-author: Prof. PE'ER, Asaf (Bar Ilan University, Ramat Gan, Israel)

Presenter: Dr VYAS, Mukesh Kumar (Bar Ilan University, Ramat Gan, Israel)

Session Classification: Emission mechanisms in gamma-ray bursts

Track Classification: Gamma-Ray Bursts (GB): Emission mechanisms in gamma-ray bursts