## Seventeenth Marcel Grossmann Meeting



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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.

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