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

GRBs: what do we know today that we did not know 10 years ago?

Thursday, 11 July 2024 15:35 (35 minutes)

In this talk, I will highlight some of the recent and most exciting theoretical and observational development in gamma-ray bursts (GRBs) that occurred in the past decade, alongside some new open questions that I anticipate would be at the forefront of GRB research in the next decade. In particular, I will discuss our current state of knowledge on: (1) jet structure, which became evident following GRB/GW170817; (2) the on-going debate about the origin of TeV emission, as was seen in few GRBs; (3) The ~ 10 MeV emission line seen in the BOAT GRB 221009A, and its implication on the prompt emission physics; (4) polarization measurements that show discrepancy between theory and data; and finally (5) indication that in many GRBs, the Lorentz factor is only a few tens, rather than few hundreds.

Presenter: PE'ER, Asaf (Bar Ilan University)

Session Classification: Gamma ray bursts relationships in multi-wavelengths as cosmological tools