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

Cosmology through the $E_{p,i}$ - E_{iso} correlation of Gamma-Ray Bursts

Wednesday, 7 July 2021 07:00 (20 minutes)

The correlation between the photon energy at which the νF_ν spectrum in the cosmological rest-frame peaks, $E_{p,i}$, and the isotropic-equivalent radiated energy, E_{iso} , is one of the most investigated observational properties of Gamma-Ray Bursts (GRB). In addition to its relevance for understanding the physics of prompt emission, identifying sub-classes of GRBs, shedding light on jet structure and viewing angle, the $E_{p,i}$ - E_{iso} correlation provides us with the possibility of using GRBs for measuring cosmological parameters. I provide an overview of the observational status of the correlation, of the methods most used worldwide for exploiting it as a cosmological tool and the perspective advancement expected thanks to next generation facilities.

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Session Classification: Gamma-Ray Burst Correlations: Observational Challenges and Theoretical Interpretation

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