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

A different interpretation of GRB spectra: backscattering model to explain keV-MeV and proton-synchrotron for TeV emission

Monday, 8 July 2024 15:45 (15 minutes)

In this talk, I will present two recent models for explaining the observed GRB spectra.

As a GRB jet drills its way through the collapsing star, it traps a baryonic “cork” ahead of it. If the jet does not cross this cork, but rather photons that are emitted deep in the flow (e.g., by pair annihilation) are scattered by the cork, an observer close to the jet axis will see these photons due to light aberration. I will show that this model has several advantages, such as its ability to naturally explain both the high and low energy spectral slopes, the observed temporal peak evolution, the delay of the soft photons and the $E_{\text{pk}}\text{-E}_{\text{iso}}$ (“Amati”) relation, among others.

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Session Classification: Emission mechanisms in gamma-ray bursts