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## Extreme blazars and their TeV gamma-ray emission: are they a unique population?

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The spectral energy distribution of blazars is dominated by non-thermal emission from the jet and consists of two main broad humps. For the extreme blazars, these two components peak in the X-ray and GeV-TeV bands, respectively. Although the number of TeV detected extreme blazars is currently very limited, recent observations have revealed that in a few of them the energy of the second peak exceeds several TeV (e.g. 1ES 0229+200).

In this contribution, we present a study of the TeV spectra of EHBLs, showing that a possible zoology could emerge in this category of objects.

Furthermore, we show the results of a search for new EHBL candidates aimed at increasing their statistics. We selected them on the basis of hard X-ray and GeV gamma-ray emission, studying their detectability for current and future TeV gamma-ray telescopes.

Primary author: FOFFANO, Luca (PD)

Co-authors: FRANCESCHINI, Alberto (P); Dr PRANDINI, Elisa (Padova University and INFN); PAIANO,

Simona (PD)

Presenter: FOFFANO, Luca (PD)

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