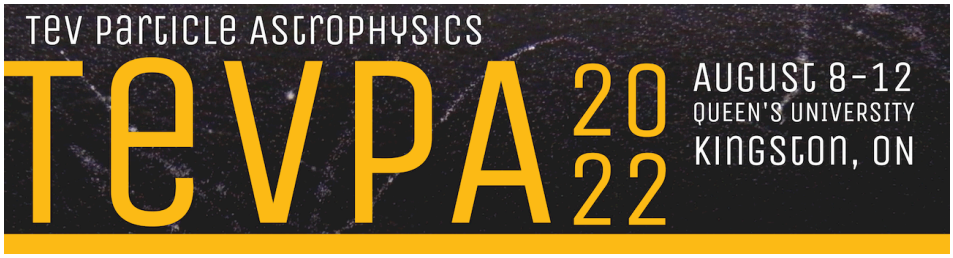

Contribution ID: **52** Type: **Parallel Talk**

A multi-wavelength spectral characterization of gamma-ray emitting extreme BL Lacertae blazar candidates hidden in Fermi-LAT data.

Monday 8 August 2022 15:50 (20 minutes)

Blazars are key-elements in the understanding of the extragalactic Universe from the astroparticle physics point of view. These sources are jetted radio-loud active galactic nuclei dominated by non-thermal emission that extends across the electromagnetic spectrum. Their emission is a proof of cosmic particle acceleration and the production of ultra-relativistic particles within their physical structure. An intriguing subset of blazars is known as extreme high-synchrotron-peak (EHSP) blazars, whose gamma-ray emission is expected to peak at TeV energies, yet surprisingly their numbers are scarce in very high energy source catalogs. In this talk, we show a model-driven methodology to search for classical EHSP blazars based on data from NASA's Fermi Gamma-ray Space Telescope in addition to archival radio, optical, and X-ray data. This strategy allows us to study their physical properties. Our main results are (1) finding 17 new EHSP blazars, increasing significantly their number, (2) that only 2 of them seem to be detectable by TeV telescopes, and (3) interestingly, these 2 objects are outliers relative to their magnetic versus kinetic energy density. We discuss some interpretations of these results.

Collaboration name

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