

Hunting for extreme blazars in the TeV band

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Blazars are a particular class of active galactic nuclei with their relativistic jets pointing close to the line of sight of the observer. Their spectral energy distributions are dominated by non-thermal emission from the jet, consisting of two main bumps. For the so-called extreme blazars, these components each peak in the X-ray and GeV-TeV bands.

Recent observations have revealed that in a few of these objects, the energy of the second peak exceeds several TeV (e.g. 1ES 0229+200). These intriguing objects have been suggested as sources of hadronic gamma-ray emission as well as high-energy neutrinos. Their hard TeV spectra are also valuable for indirectly probing the extragalactic background light and the intergalactic magnetic field.

In this contribution, we present the results of our observing campaign on ten promising targets performed in very-high-energy gamma rays with the MAGIC telescopes. Modelling of their broadband spectra is also discussed. Furthermore, we propose new targets for current and future TeV gamma-ray telescopes, selected on the basis of hard X-ray and GeV gamma-ray emission.

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