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Neutrino Emission from Bright Blazar Flares

Friday 28 February 2025 11:15 (30 minutes)

This talk will discuss recent work on the connection between blazar flares and high-energy astrophysical neutrinos. Using the time-dependent lepto-hadronic code *OneHaLe*, we analysed the spectral energy distributions and light curves of several bright γ-ray flares observed by the Fermi Large Area Telescope. The results indicate that the calorimetric estimates for neutrino production rates used in Kreter et al. (2020) may overstate the increase in neutrino production when applied to proton-synchrotron blazar models but do correctly predict the general trend. Additionally, we show that while the lack of detection of these neutrinos with current observatories is not inconsistent with their presence, future detectors may indeed be able to confirm their existence or the lack thereof.

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