



ID de la contribución : 351

Tipo : Talk

The case for blazars as ultra-high-energy neutrino sources

miércoles, 5 de noviembre de 2025 16:45 (15)

Blazars are strong neutrino source candidates owing to their high intrinsic power and Doppler boost. However, in the sub-PeV range, where IceCube is most sensitive, blazars are inefficient neutrino emitters, and models seem to require extreme proton luminosities. In this talk, I present a new leptohadronic blazar model that captures the energetics and the extended nature of the relativistic jet. Magnetic turbulence can accelerate EeV protons just outside the broad line region, emitting 100 PeV neutrinos and describing the gamma-ray spectrum. Only a small fraction of the Eddington luminosity is carried by protons. The optical flux originates from a similar number of co-accelerated electrons and extends to the parsec scale. The model can describe both the quiescent emission and the 2017 flare of blazar TXS 0506+056 and the emission from PKS 0605-085, one of the blazars spatially associated with the UHE event KM3-230213A detected by KM3NeT. This suggests that some blazars should emit a hard UHE neutrino spectrum that will be within reach of future experiments.

Primary author(s) : RODRIGUES, Xavier (APC, Paris); RIEGER, Frank (IPP / Heidelberg University); BO-HDAN, Artem (IPP, Garching); PADOVANI, Paolo (ESO, Garching)

Presenter(s) : RODRIGUES, Xavier (APC, Paris)

Clasificación de la sesión : Neutrinos

Clasificación de temáticas : Neutrinos