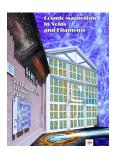
Cosmic Magnetism in Voids and Filaments



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Intergalactic magnetic field constraints with VERITAS

Wednesday, 25 January 2023 14:00 (30 minutes)

A non-zero intergalactic magnetic field (IGMF) is predicted to produce detectable effects on GeV-TeV gamma-ray cascade emission from blazars. Depending on the strength of the IGMF, cascade emission may be time-delayed or angularly broadened compared to the blazar's primary, unscattered emission. Ground-based imaging atmospheric-Cherenkov telescopes, such as VERITAS, have the precise angular resolution needed to search for magnetically broadened emission. We present VERITAS results on the search for extended gamma-ray emission, based on observations of seven strongly detected TeV blazars at a range of redshifts. The consequent constraints on the strength of the IGMF are discussed. Prospects for future studies are also considered.

Presenter: PUESCHEL, Elisa (DESY)
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