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Extended Blazar Observations by VERITAS and Implications for the Extragalactic Background Light

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The VERITAS Collaboration has been conducting long-term observations of several TeV blazars at a variety of redshifts to characterise their temporal and spectral properties. The very high energy (VHE, >100 GeV) spectra of TeV blazars are expected to show energy-dependent absorption that increases with redshift due to the interaction of VHE photons with infra-red photons of the extragalactic background light (EBL), hence allowing insight into the intensity of the EBL. We present the VERITAS results (spectra and light curves) of eight TeV blazars: 1ES 0229+200, 1ES 0414+009, 1ES 1218+304, 1ES 1959+650, 1ES 2344+514, H 1426+428, PG 1553+113 and RGB J0710+591 along with high-energy (100 MeV - 100 GeV) archival observations by the Fermi LAT, where EBL absorption is negligible. The VHE spectra of these blazars are shown to have hard slopes despite their cosmological redshifts.

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