

Multiwavelength study of the intermittent extreme HBL 1ES2344+514

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1ES2344+514 is a nearby HBL (Extreme high-frequency peaked) BL Lac object, located at a redshift of $z=0.044$. This source was discovered in VHE by the Whipple 10m telescope during a bright flare in December 1995. Following the event, few multi wavelength (MWL) campaigns have been organised to obtain a better understanding of the source. The extreme nature of the 1ES2344+514 in the X-ray band was observed in 1998 during a bright outburst in the X-ray band detected by Beppo-SAX. After that, several observations found the source in low activity in X-ray and VHE gamma-ray bands. Multiwavelength observations carried out in 2007 and 2008 yielded

a strong flaring activity of the source in both VHE and X-ray bands. In 2016 the source presented again an extreme behavior during a flare in the VHE range which was detected by MAGIC and FACT. During this period, the broadband modelling of the source was carried out using both leptonic and hadronic models and both the models were found to successfully describe the data. In our current work we carried out the longest multiwavelength campaign till date (over a period of 3 years between 2019 and 2021) which includes VHE ($E>100$ GeV) gamma-ray data from the MAGIC telescopes and near-simultaneous observations with Fermi-LAT, XMM-Newton, NuSTAR, Astrosat, Swift-XRT, Swift-UVOT, WEBT, KAIT and OVRO. Our broadband spectral energy distribution (SED) modelling confirms the extreme nature of the source and also shows that the emission spectrum can be explained by a two-component time dependent leptonic model.

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