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Detecting a unique EBL signature with TeV Gamma Rays

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Abstract content

We discuss the prospect of detecting a spectral break in the gamma-ray spectra of blazars due to the extragalactic background light in the near to mid-IR. A measurable break in the TeV spectra could arise from the drop in the EBL density above $\sim 1\mu\text{m}$. This change in the spectral index is mediated by the ratio of the near to mid-IR density of EBL. A detection of such a spectral feature could be understood as an unambiguous proof of EBL absorption, whereas the non-detection could be interpreted as a constraint to the EBL spectrum. We present results from simulations of blazars at a range of redshifts and discuss the sensitivity of current TeV telescopes for detecting a break.

If this papers is presented for a collaboration, please specify the collaboration

Summary

Reference

Proceedings of the 30th International Cosmic Ray Conference; Rogelio Caballero, Juan Carlos D'Olivo, Gustavo Medina-Tanco, Lukas Nellen, Federico A. Sánchez, José F. Valdés-Galicia (eds.); Universidad Nacional Autónoma de México, Mexico City, Mexico, 2008; Vol. 3 (OG part 2), pages 981-984

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