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Constraints on secondary 10-100 EeV gamma ray flux in the minimal bottom-up model of Ultra High Energy Cosmic Rays

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Abstract content

In a recently proposed model the cosmic rays spectrum at energies above EeV can be fitted with a minimal number of unknown parameters assuming that the extragalactic cosmic rays are only protons with a power law source spectrum. Within this minimal model, after fitting the observed HiRes spectrum with four parameters (proton injection spectrum power law index, maximum energy, minimum distance to sources and evolution parameter) we compute the flux of ultra-high energy photons due to photon-pion production and e+e- pair production by protons for several radio background models and a range of average extragalactic magnetic fields.

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. 4 (HE part 1), pages 491-494

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