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Ultra High Energy Comic Rays in the Cosmic Microwave Background

W-Y. Pauchy Hwang, Bo-Qiang Ma

(Submitted on 22 Jul 2011)

We consider the propagation of ultra high energy cosmic rays (UHECR), for energies greater than E > 10^{14} eV but less than E < 10^{26} eV, in the cosmic medium of the Cosmic Microwave Background (CMB). We find that the CMB plays a pivot role in this energy range. As example, the observed "knee (s)" and the "ankle" could be understood in reasonable terms. What we may observe at energy near 10^{25} eV (W^\pm bursts or Z^0 bursts) is also briefly discussed.

Subjects: **High Energy Astrophysical Phenomena (astro-ph.HE)**; Nuclear Theory (nucl-th)

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