

GALACTIC MAGNETIC FIELD STRUCTURE AND ULTRA HIGH ENERGY COSMIC RAY PROPAGATION

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We consider the effects of different configurations of the Galactic magnetic field on the propagation of ultra high energy cosmic rays (UHECRs). We simulate proton and iron primaries propagating in Galactic fields consisting of a large-scale regular component, an azimuthal Galactic wind-induced component, and a random component associated with localized high-field regions. By incorporating these three components into one simulation, we are able to study the competition between the influence of the regular field and the diffusive effect of the wind and random fields. The resulting trajectories imply some interesting constraints on typical UHECR propagation through the Galaxy.