

ACCELERATOR MEASUREMENTS DESIRED TO IMPROVE COSMIC RAY MONTE CARLOS

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The Monte Carlo models which are the basis for the interpretation of ground-based cosmic ray observations in terms of primary composition and the physics of the primary interaction are mostly based on data from accelerator experiments in the range of 100 GeV. The extrapolation to the PeV energies of cosmic rays in the knee region is certainly suspect, as the broad spectrum of conclusions regarding composition, for example, illustrates. With the operation of the Fermilab Tevatron, the Brookhaven Relativistic Heavy Ion Collider, and (in about 5 years) the CERN Large Hadron Collider, it should be possible to collect data on interactions which would greatly improve these models. However our cosmic ray community must clearly articulate the measurements which are necessary and work with the accelerator community to obtain these desired data. This presentation is an attempt to initiate such a discussion.