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Cosmic Ray Energetics And Mass (CREAM): Study of backscatter effect

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Abstract. The Cosmic Ray Energetics And Mass (CREAM) ultra long duration balloon-borne instrument is configured with an ionization calorimeter, a transition ra-diation detector (TRD), and a charge identification module. This mission will provide the first in- ight calibration of a TRD and a calorimeter. We will present results of simulations of this hybrid instrument based on GEANT4. In particular, we will address the impact of splash back from albedo particles generated in the calorimeter on charge measurements with the timing-based charge detector and velocity measurements with the TRD.

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