SPACE BASED CALORIMETERS: HEAVY ION SIMULATIONS

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The Advanced Cosmic-ray Composition Experiment for the Space Station (ACCESS) is baselined with an ionization calorimeter for high-energy cosmic ray composition measurements. We have developed simulation models of the instrument based on GEANT to study its performance. The original GEANT code was developed primarily for accelerator colliding proton beam experiments, so it doesn't handle heavy incident particles. Therefore, in order to study the detector response to heavy cosmic rays, we had to develop a separate code for heavy ion interactions and fragmentations to be interfaced with GEANT. We will present results of our simulations of the ACCESS baseline calorimeter response to heavy ions.