

Abstract Submitted  
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**Geant4 predictions of energy spectra in typical space radiation environment** M.S. SABRA, NASA Postdoctoral Program Fellow, Marshall Space Flight Center, Huntsville, AL 35805, A.F. BARGHOUTY, Astrophysics Office, NASA-Marshall Space Flight Center, Huntsville, AL 35812 — Accurate knowledge of energy spectra inside spacecraft is important for protecting astronauts as well as sensitive electronics from the harmful effects of space radiation. Such knowledge allows one to confidently map the radiation environment inside the vehicle. The purpose of this talk is to present preliminary calculations for energy spectra inside a spherical shell shielding and behind a slab in typical space radiation environment using the 3D Monte-Carlo transport code Geant4. We have simulated proton and iron isotropic sources and beams impinging on Aluminum and Gallium arsenide (GaAs) targets at energies of 0.2, 0.6, 1, and 10 GeV/u. If time permits, other radiation sources and beams ( $\alpha$ , C, O) and targets (C, Si, Ge, water) will be presented. The results are compared to ground-based measurements where available.

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