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Nuclear Fragmentation (II): Ablative Evaporation for Abrasion-Ablation Model WOUTER DE WET, WILLIAM FORD, LAWRENCE TOWNSEND, University of Tennessee, Knoxville, CHARLES WERNETH, NASA Langley, KHIN MAUNG, University of Southern Mississippi — One of the many potentially limiting factors for extraterrestrial operations involving manned missions is the dose received by crew in the harsh space radiation environment. In order to sufficiently understand the radiation dose delivered to astronauts behind shielding, the radiation transport codes used to calculate these doses require accurate nuclear fragmentation cross sections. The fragmentation process can be divided in to two steps: a fast step (abrasion), and a slower evaporation step (ablation). This talk will focus on the ablation cross section, which is calculated by a Monte Carlo process via the updated evaporation code EVA based on Dostrovsky et. al. Phys. Rev. 116, 683 (1959). The code has been updated and completely modernized. Efforts are under way for potential improvements to the model and preliminary results will be presented.

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