

Abstract Submitted
for the 4CF07 Meeting of
The American Physical Society

From Earth to Mars, Radiation Intensities in Interplanetary Space KERAN O'BRIEN, Northern Arizona University — The radiation field in interplanetary space between Earth and Mars is rather intense. Using a modified version of the ATROPOS Monte Carlo code combined with a modified version of the deterministic code, PLOTINUS, the effective dose rate to crew members in space craft hull shielded with a shell of 2 g/cm² of aluminum and 20 g/cm² of polyethylene was calculated to be 51 rem/y. The total dose during the solar-particle event of September 29, 1989, GLE 42, was calculated to be 50 rem. The dose in a “storm cellar” of 100 g/cm² of polyethylene equivalent during this time was calculated to be 5 rem. The calculations were for conditions corresponding to a recent solar minimum.

Keran O'Brien
Northern Arizona University

Date submitted: 14 Sep 2007

Electronic form version 1.4