



Mars neutron radiation environment from HEND/Odyssey and DAN/MSL observations

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High Energy Neutron Detector (HEND) onboard orbital Mars Odyssey mission and Dynamic Albedo of Neutrons (DAN) onboard Curiosity rover are measuring neutron albedo of Mars produced by Galactic Cosmic Rays (GCR). The numerical simulations of GCR flux and HEND/Odyssey and DAN/MSL measurements for the different periods of time (2002-2018) has been implemented in our study. The comparison between model predictions and experimental data has been made to unfold Mars neutron spectra both on orbit and surface and evaluate biological impact contributed by neutrons. The minimal and maximal neutron fluxes and neutron equivalent dose rates observed during solar cycle (solar modulation of GCR flux) have been estimated both on Mars orbit and surface.