

Interactions of High Energy Solar Protons with Potential Shielding Materials

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❑ Motivation:

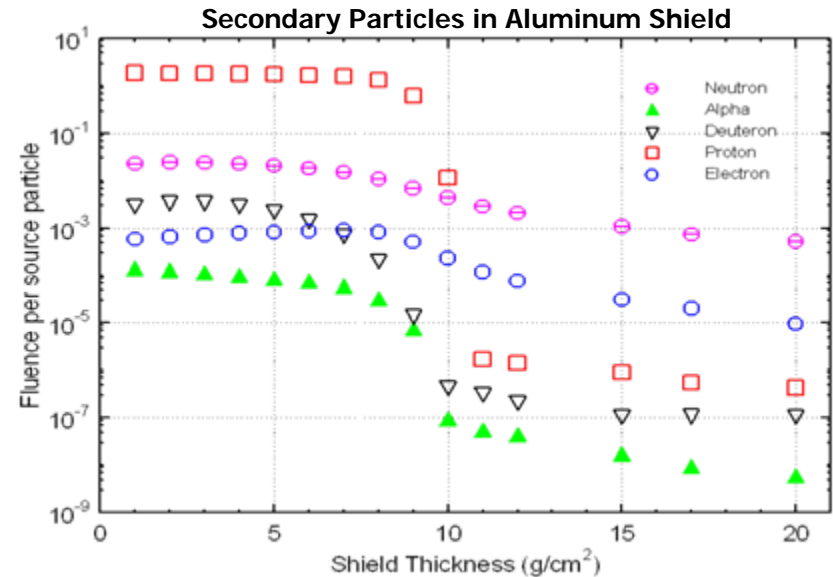
- Investigate radiation damage in materials
- Quantify the effectiveness of potential shielding materials

❑ Contribution/Results:

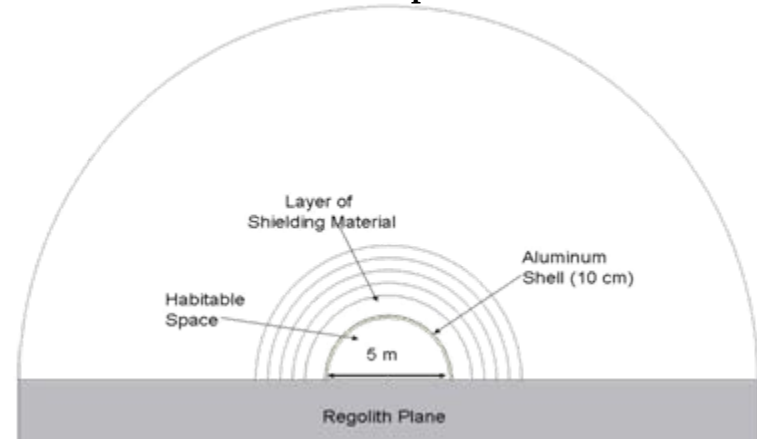
- Investigate primary and secondary particles produced from high energy protons interaction with materials
- Obtain fluence distribution for various particles
- Dose estimate for high energy solar particle event
- Obtain dose distribution

❑ Applications:

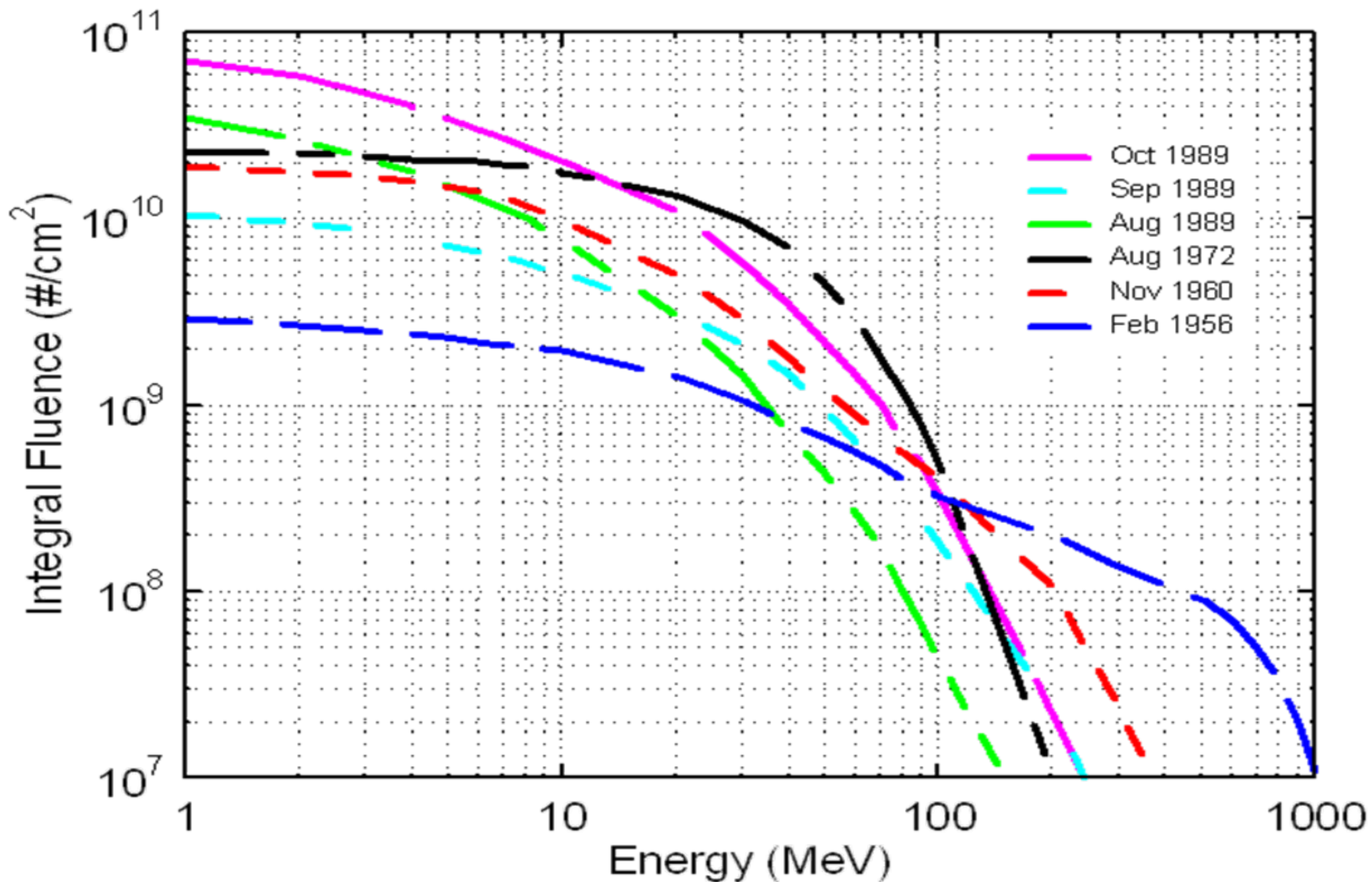
- Shielding Lunar Habitat from Solar Energetic Particles



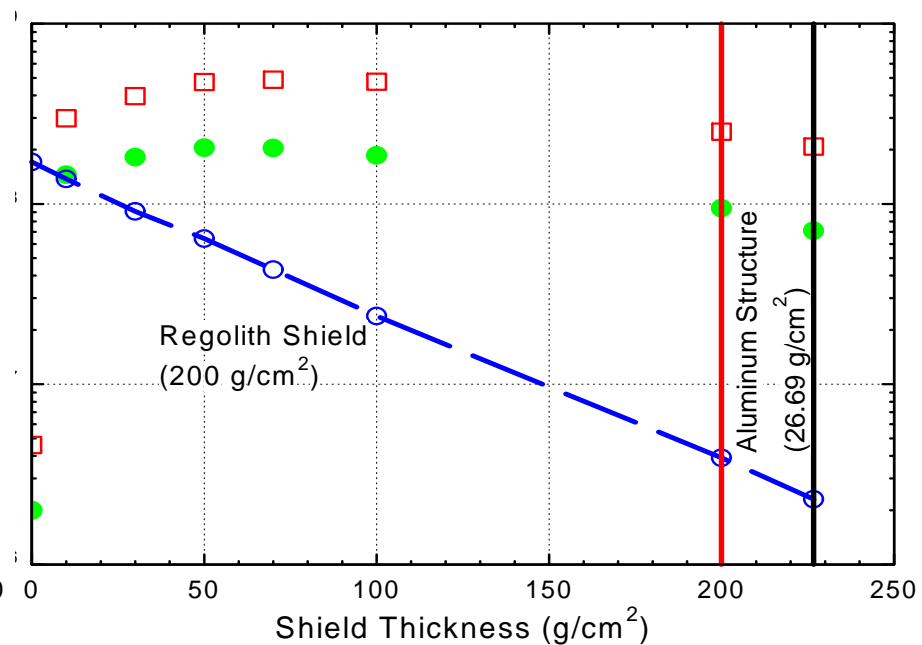
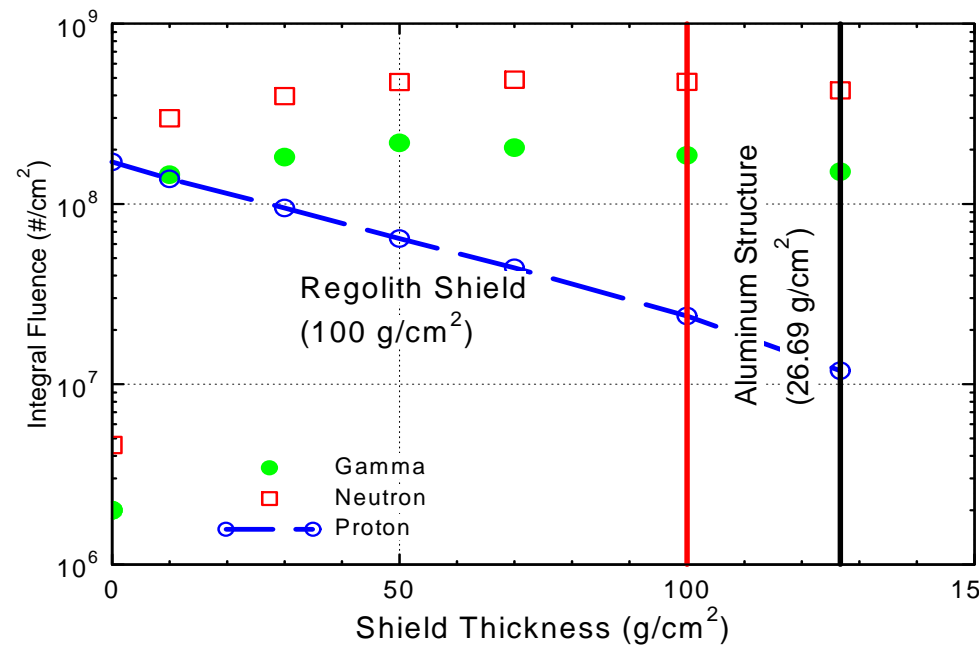
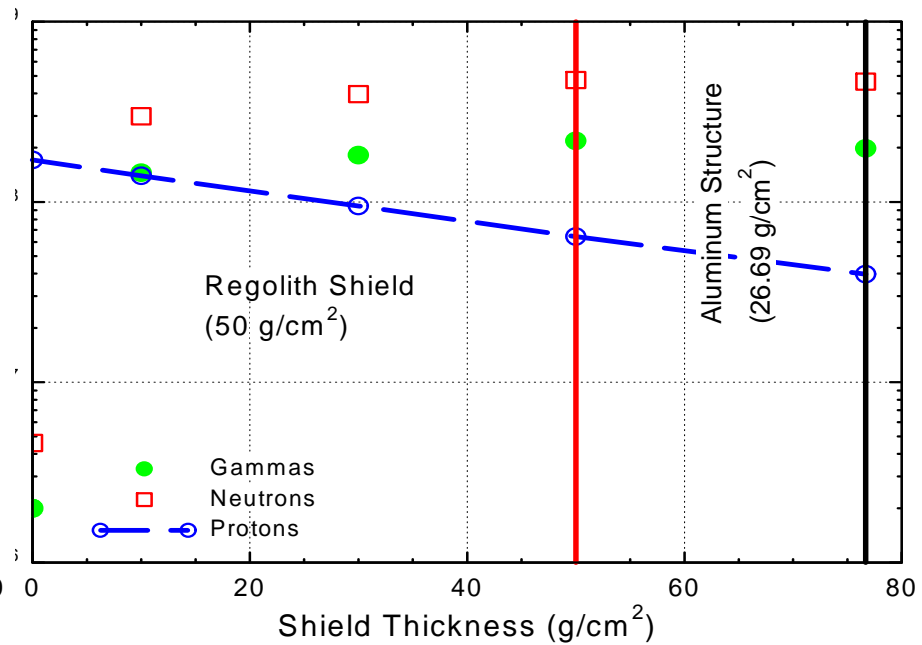
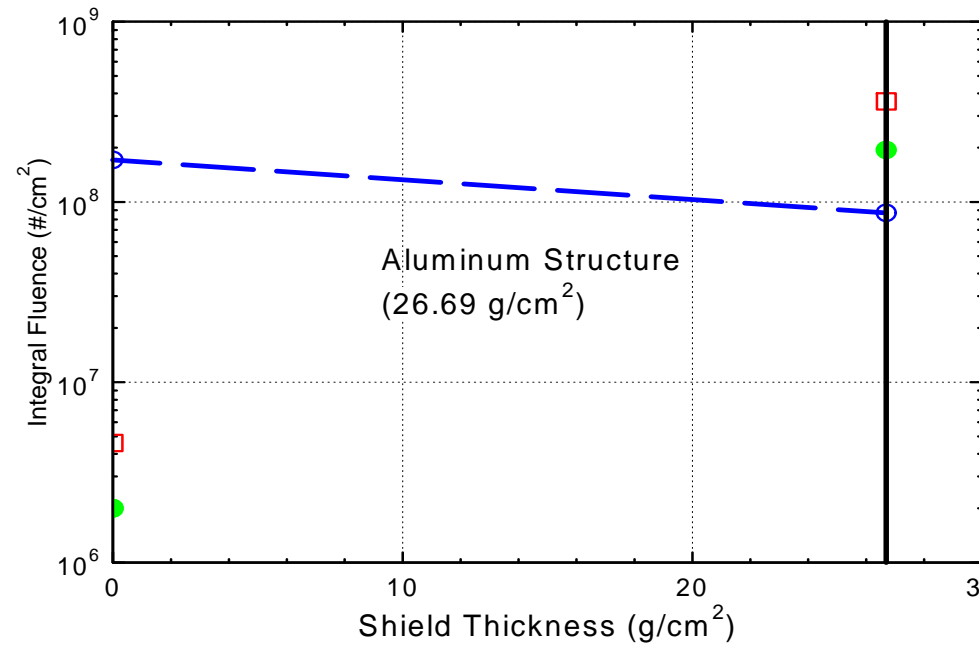
Lunar Habitat Computational Model



Spectra of Large Solar Particle Events

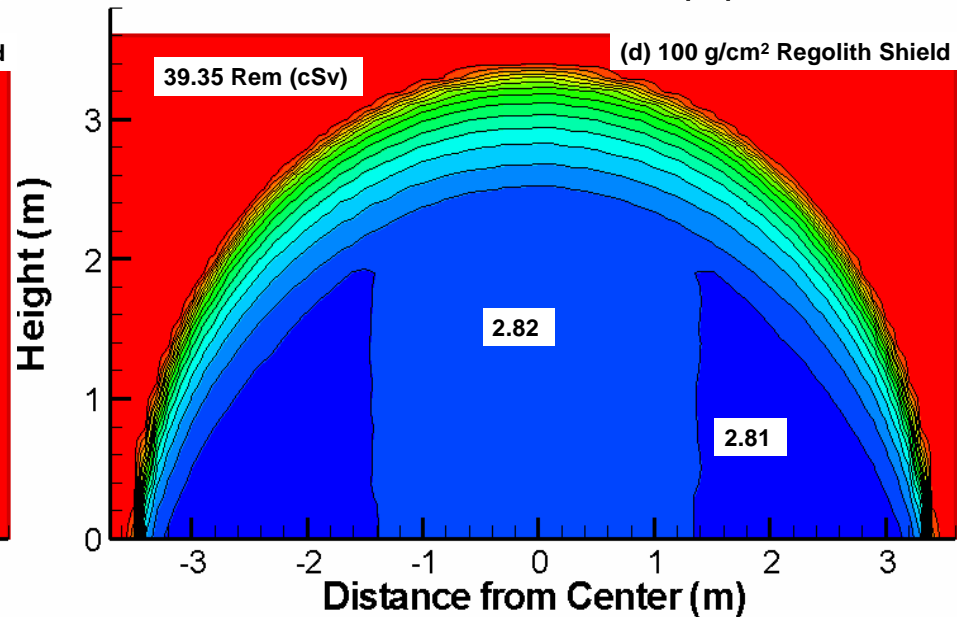
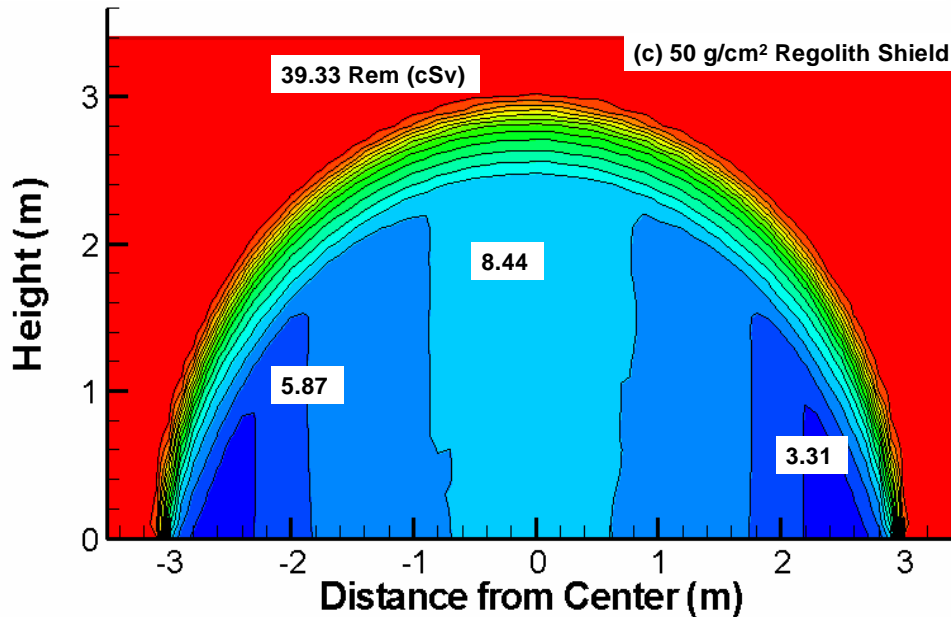
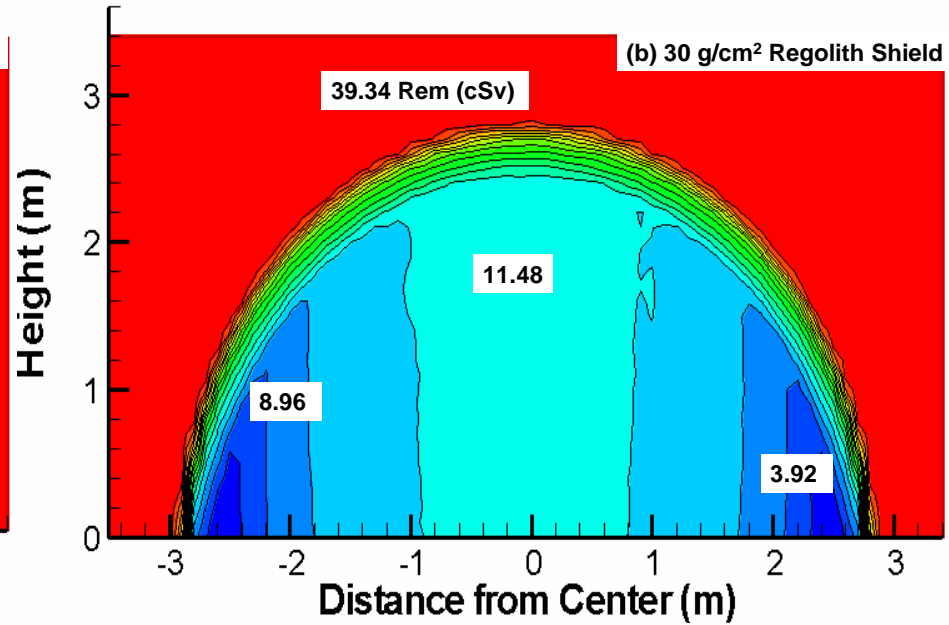
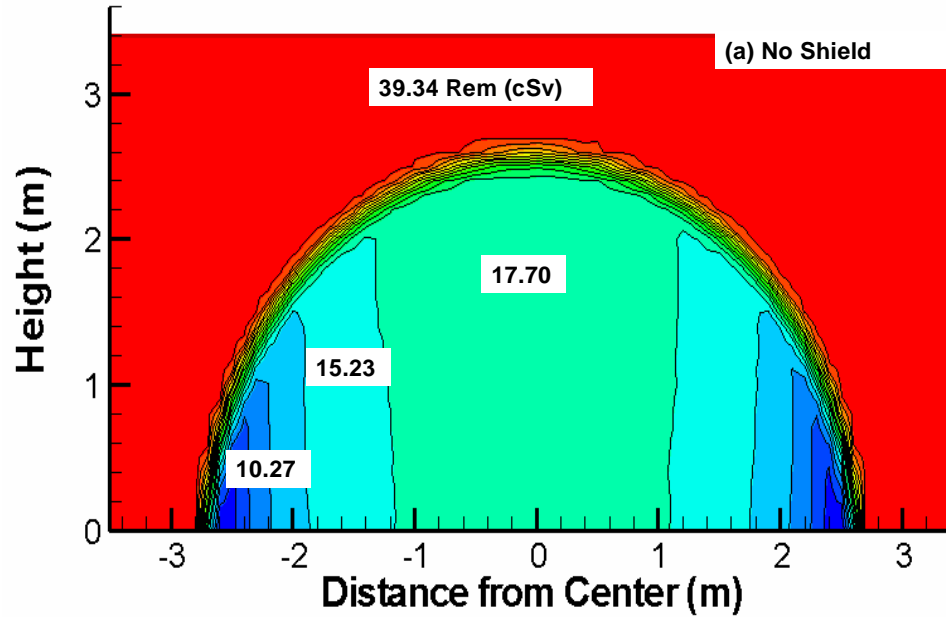


Effect of Shield Thicknesses



Dose Estimates in Lunar Habitat (Protons)

February 1956 Solar Event



Dose Estimates in Lunar Habitat (Secondary Neutrons)

February 1956 Solar Event

