

45th SYMPOSIUM ON SAFETY AND QUALITY IN SPACE ACTIVITIES (D5)
Space Weather and Effects: Prediction, Analysis and Protection (3)

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MODELING SOLAR RADIATION

Abstract

Our star is an immense source of power that supports life on earth. In space, however, the radiation from our sun is damaging to astronauts. Radiation protection is a necessary endeavor when considering a permanent human presence in space. In NASA Johnson Space Center's Space Radiation Analysis Group I will be working on statistical models to predict the chaotic behavior of solar activity, along with simulating how much energy from the sun reaches astronauts. The SRAG is an operational lab which means it is focused on results and warning to space station inhabitants. When a harmful solar flare will deliver a dangerous dose of radiation to the astronauts, this group tells the astronauts when and where to go in the International Space Station to be more protected. Through statistical analysis and Monte Carlo simulations, this research hopes to give the astronauts advanced knowledge to protect human life in the harsh conditions of space.