

Session E: Space and Terrestrial Environments

S. Bourdarie and R. Sharp

E-1 Cosmic-ray Heavy Ions Contribution to Radiation Effects in the Atmosphere.

Fan Lei, Alex Hands, Pete Truscott, Clive Dyer : QinetiQ

Although heavy ions constitute only ~1% of the total cosmic ray flux, they can make a significant contribution to the radiation field in the upper atmosphere. This contribution is assessed by MC simulations within the QARM.

E-2 In flight measurements of radiation environment on board the French satellite JASON-2.

Daniel Boscher, Sebastien Bourdarie, Didier Falguere, Didier Lazaro : ONERA/DESP
Philippe Bourdoux, Thomas Baldran : EREMS
Eric Lorfevre, Robert Ecoffet : CNES

We present particle flux measurements (protons and electrons) obtained with the detector ICARE-NG on board the JASON-2 satellite (1350 km, 63°). Comparison of measurements with the results of the AP8 model are given for protons.

E-3 JOSE: A new Jovian Specification Environment model.

Angelica Sicard-Piet, Sebastien Bourdaire : ONERA/DESP
Norbert Krupp : Max Planck Institute
Pete Truscott : QinetiQ
John Sorensen : ESA

This document presents a new Jovian Specification Environment model (JOSE), developed at ONERA, based on data measured in Jupiter's magnetosphere, in order to obtain an easy-to-use engineering model for Jupiter's environment.

Posters for Session E

PE-1 Geographic SEE Rate Predictions for the METOP Satellite.

Hugh Evans, Giovanni Santin : Rhea Group, ESA/TEC-EES
Eamonn Daly : ESA/TEC-EES
Simon Strijk : ESA/EOP-PLE
Frederic Stuesson : ESA/TEC-QEC

By considering geomagnetic shielding effectiveness and models of the trapped proton belt, the risk of upsets has been characterized for the METOP satellite. The SPENVIS software was modified to include GaAs components and the IGRF.

PE-2 FLUKA simulations for SEE Studies of Critical LHC Underground Areas.

Ketil Røed, Markus Brugger, Alfredo Ferrari, Daniel Kramer, Elias Lebbos,
Roberto Losito, Giovanni Spezia : CERN

FLUKA Monte Carlo simulations have been performed to identify particle energy spectra and fluences relevant for evaluating the risk of single event effects in electronics installed in critical LHC underground areas.

PE-3 Comparison between dose predictions and in-flight measurements on JASON-2 satellite.

Pierre-Francois Peyrard, Olivier Rony, Anna Canals, : TRAD
Francoise Bezerra, Robert Ecoffet, Eric Lorgevre : CNES

The TRAD space dosimeters onboard of JASON2 give the possibility to compare the in-flight dose measurements with the predicted deposited doses using various methods and radiation modelling approaches.