30th International Cosmic Ray Conference

Contribution ID : **578** Type : **Poster**

Geant4 applications in the heliospheric radiation environment

Wednesday, 4 July 2007 14:45 (0:00)

Abstract content

The high energy ionizing radiation environment in the solar system consists of three main sources: the radiation belts, galactic cosmic rays and solar energetic particles. Geant4 is a Monte Carlo radiation transport simulation toolkit, with applications in areas as high energy physics, nuclear physics, astrophysics or medical physics research. In this poster, Geant4 applications to model and study the effects of the heliospheric radiation environment are presented. Specific applications are being developed to study the effect of the radiation environment on detector components, to describe the response and to optimise the design of radiation monitors for future space missions and to predict the radiation environment in Mars surface, orbits and moons.

If this papers is presented for a collaboration, please specify the collaboration

Summary

Reference

Proceedings of the 30th International Cosmic Ray Conference; Rogelio Caballero, Juan Carlos D'Olivo, Gustavo Medina-Tanco, Lukas Nellen, Federico A. Sánchez, José F. Valdés-Galicia (eds.); Universidad Nacional Autónoma de México, Mexico City, Mexico, 2008; Vol. 1 (SH), pages 75-78

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Session Classification : Posters 1 + Coffee

Track Classification : SH.1.4