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Radiation environment measurements with Alcriss project on board the International Space Station

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Abstract content

The Altcriss project aims perform long term measurement of the radiation environment in different points of the International Space Station. To achieve this goal, it employs an active silicon detector, Sileye-3/Alteino, to monitor nuclei up to Iron in the energy range above 40 MeV/n. Both long term modulation of galactic cosmic rays going toward solar minimum and solar particles events will be observed. A number of different dosimeters are being employed to measure the dose and compare it with the silicon detector data. Another aim of the project is to monitor the effectiveness of shielding materials in orbit: a set of polyethylene tiles is placed in the detector acceptance window and particle flux and composition is compared with measurements in the same locations without shielding. Dosimeters are thus placed behind the shielding material and in an unshielded location to cross-correlate this information. The observation campaign begun in December 2005 and is running continuously ever since. Active and passive data have been retreived at the end of expedition 13, 14 and Astrolab mission. In this work we will describe the experiment and the preliminary results.

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

ALTCRISS 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 489-492

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