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Virtual Cosmic Ray Observatory (ViCRO)

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Abstract content

The Virtual Cosmic Ray Observatory (ViCRO) is proposed to extend planned capabilities of NASA's existing or developing heliophysics virtual observatories with a collection of important cosmic ray datasets with an initial focus on interplanetary solar and heliospheric science applications. Recent work from the Advanced Composition Explorer (ACE) and Voyager spacecraft shows the science value of intercalibrated flux and cumulative fluence spectra from multiple sensors with contiguous energy coverage. These data can be applied to investigation of solar flare and coronal mass ejection events, acceleration and transport of interplanetary particles within the inner heliosphere, cosmic ray interactions with planetary surfaces and atmospheres, sources of anomalous cosmic ray ions in the outer heliosphere, and solar cycle modulation of galactic cosmic rays. Data resources include operational and legacy missions with appropriate instruments throughout the heliosphere and geospace that provide relevant datasets for solar, heliospheric, and galactic cosmic ray particles. Core operational data sources include the Heliospheric Network (HN) spacecraft. We will collaborate with HN data providers to ensure availability through a common middleware interface to the distributed holdings of providers and the availability of both documentation and science expertise to support the use of data by the heliophysics and other related research communities.

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'Olive, 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 635-638

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