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Magnetic trapping acceleration in interplanetary plasmas

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Abstract content

The magnetic trapping acceleration is a new type of particle trapping and acceleration in which, in principle, test particles are accelerated indefinitely. A model of magnetized plasma clouds is used to simulate a shock-type wave. The attainable energies of test particles trapped by the moving magnetic neutral sheets are investigated by analytical and numerical methods. To account for the high energy of cosmic rays, this mechanism would make an important role in magnetic field reconnections and shock surfing accelerations in interplanetary plasmas.

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. 2 (OG part 1), pages 243-246

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