

[SO03] Magnetic helicity of magnetic cloud near the Earth

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In this work we have performed a study of the magnetic clouds (MCs) near the Earth. One of the most important physical quantities in MCs is magnetic helicity. Helicity is approximately conserved in the solar atmosphere and the heliosphere, and it is very useful to link solar phenomena with their interplanetary counterpart. To determine the content of helicity in MCs, we have to know their structure. We present a method to determine the MC's orientation using the minimum variance analysis (MVA). We also estimate the magnetic helicity per unit length assuming a cylindrical symmetry for the magnetic field configuration in the observed cross-section of the clouds.

[SO04] Progress Report of Korean Solar Radio Burst Locator

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KASI is developing Korean Solar Radio Burst Locator (K-SRBL) in cooperation with New Jersey Institute of Technology. K-SRBL is a single dish radio spectrograph which records the spectra of microwave (0.5 - 18 GHz) bursts and locates their positions on the solar disk. The conceptual design has been completed with the following specifications: 1 MHz frequency resolution, 25 ms time resolution, and 0.2 s time cadence for complete spectrum. Site survey was performed in the perspective of observation time and artificial radio signals. We are also examining the spectral characteristics of solar microwave bursts using SRBL data. Finally, we introduce current works to improve the locational accuracy of the SRBL. The fabrication of RF and digital system will begin shortly, and K-SRBL system will begin to be installed in 2008.