

Sector boundaries and planar magnetic structure

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Relationship between sector boundaries of heliospheric magnetic field and planar magnetic structures has been re-examined by using NOZOMI and ACE observations of interplanetary magnetic field of the period from March 4, 1999 to December 25, 1999. The interplanetary magnetic field data were divided into 3-hour periods, out of which planar magnetic structures were detected automatically. Many of the planar magnetic structures were found at the sector boundaries. Some of them persisted more than 3 rotations of the Sun. A newly emerged sector boundary was also accompanied by a planar magnetic structure. Thus the planar magnetic structures are thought to be the magnetic structure of the contact surface of plasmas of different origins.