

Direction of the Interstellar Magnetic Field in the Solar Vicinity

Saturday, 29 October 2011 16:30 (20 minutes)

Similar directions are obtained for the local interstellar magnetic field (ISMF) by comparing diverse data that sample five orders of magnetic in spatial scales. The direction of the ISMF that shapes the heliosphere, and that is traced by the ribbon of energetic neutral atoms discovered by the Interstellar Boundary Explorer (IBEX) mission, is compared to the ISMF direction obtained from linearly polarized light from nearby stars, the ISMF of the Loop I superbubble that has expanded to the solar vicinity, and the ISMF direction towards pulsars within 100-300 pc. Together these data suggest that the local ISMF direction is correlated over spatial scales of about 100 pc, such as would be expected for the interarm region of the galaxy.

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Session Classification: Heliosphere and Local ISM II