



Analysis of the interplanetary magnetic field observations at different heliocentric distances

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Multi-spacecraft measurements of the interplanetary magnetic field (IMF) from 0.29 AU to 5 AU along the ecliptic plane have demonstrated systematic deviations of the observed IMF strength from the values predicted on the basis of the Parker-like radial extension models (Khabarova, Obridko, 2012). In particular, it was found that the radial IMF component $|B_r|$ decreases with a heliocentric distance r with a slope of $-5/3$ (instead of r^{-2} expansion law).

The current investigation of multi-point observations continues the analysis of the IMF (and, especially, B_r) large-scale behaviour, including its latitudinal distribution. Additionally, examples of the mismatches between the expected IMF characteristics and observations at smaller scales are discussed. It is shown that the observed effects may be explained by not complete IMF freezing-in to the solar wind plasma.

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