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Discontinuities in the solar wind from multispace observations

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Present paper is dedicated to the analysis of data, which are obtained by simultaneous measurements carried out onboard five satellites (WIND, ACE, INTERBALL, Geotail, IMP8) in the solar wind. The attention is focused on geometrical structure and physical parameters of the discontinuities. Three different techniques are used to determine the discontinuity normals. It is shown that in overwhelming number of observations the tangential discontinuity is the best approximation to observations. The minimum variance technique has certain limitations in its application for analysis of solar wind disturbances, although in individual cases it still can be usable. Geometry of the fronts is found to be planar; discontinuities are "frozen" in the solar wind. The angle between Sun-Earth line and surface normal constitutes, in average, 40 degrees.

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