



Sudden Impulses: the propagation time and the discrimination between magnetospheric and ionospheric contributions in ground manifestations.

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A comparison between interplanetary, magnetospheric observations at geostationary orbit and geomagnetic arrays allows to estimate the propagation speed of SI disturbances through the dayside magnetosphere and to discriminate between magnetospheric and ionospheric contribution in ground SI manifestations. The splitting between the magnetospheric and ionospheric contribution is made by a comparison between the observations at geostationary orbit and the predictions of the Tsyganenko model. It allows to subtract from ground measurements, the expected DL field (of magnetospheric origin), in order to obtain a confident estimate of the residual DP field of ionospheric origin at different latitudes and local times (LT). The evaluation of propagation times of disturbances related to SI is made by a comparison between experimental observations along geostationary orbit at different LT.