

## **MULTIRESOLUTION ANALYSIS OF PROMPT PENETRATION ELECTRIC FIELDS: CASES STUDY**

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Based on Interplanetary Electric Field (IEF) measurements made at ACE spacecraft and ionospheric electric field inferred by magnetometers, we analyze the daytime efficiency of the penetration of interplanetary electric fields (PPEF) to the equatorial ionosphere. We derived the ratio of change in the interplanetary electric field (IEF) to the ionospheric electric field in the scale-by-scale decomposed time series through Wavelet Multiresolution Analysis. Two cases of PPEF are analyzed: March 31, 2001, and April 17, 2002. The preliminary results show that the effect of penetration in the time scale range between 1h30 and 3h is maximized in relation to other scales.

Ionospheric Physics, Magnetosphere-Ionosphere Coupling, Wavelet Analysis

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