Geophysical Research Abstracts, Vol. 7, 01851, 2005
SRef-ID: 1607-7962/gra/EGU05-A-01851

Simultaneous two DMSP satellite encounters with auroral electron acceleration events

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A satellite coincidence program was used to identify instances of two or more DMSP satellites passing within 50 km of one another while inside the nightside oval. In the best cases, satellites reached to within 1 km of one another. Thirteen instances were identified in which the two satellites observed the same large-scale electron acceleration events (LSEAs, often misleadingly called "inverted Vs"). These 13 events were examined for the stability of the potential structures between the two satellites. The goal is to learn whether the large-scale potential patterns are more or less stable than the fine structure observed from the ground. The size of the maximum potential drop, the shape of the potential structure (e.g., "inverted-V", flat, etc.), and the spectral characteristics (monoenergetic, broadband, etc) were considered. The PRELIMINARY results show a general trend toward stability, but instances can be found in which the shape of the potential structure, and even its spectral characteristics change over surprisingly short spatial and temporal distances.