

ON INTERPRETATION OF BSS LEADING EDGES

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ABSTRACT

Backscatter sounders (BSS) sample the ionosphere over large geographic regions but the propagation details are frequently difficult to interpret for inclusion into models of the ionosphere. Oblique incidence ionospheric sounders (OIS) provide more easily interpreted information regarding the ionosphere along their better defined propagation paths. When these are within the coverage of the BSS they provide a means to validate BSS ionogram interpretation.

Here we describe examples of matching information from Jindalee Operational Radar Network (JORN) OIS and BSS sensors and the extent to which the OIS ionograms explain the features visible in BSS ionograms. Differences between positions of BSS leading edges (LE) and corresponding features of OIS ionograms can largely be accounted for through consideration of ionospheric azimuthal variation, sporadic E, the BSS bistatic geometry, and mixed propagation paths.