

Interhemispheric Similarities and Differences in the HF Radar Signatures around Dayside Ionosphere

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Previous work has shown that the equatorward edge of HF radar backscatter with large Doppler spectral widths is coincident with the footprint of cusp particle precipitation. This has enabled the spectral width boundary (SWB) in the HF radar observation to be used as a "proxy" for the location of the open/closed boundary (OCB). We investigated the HF radar data in both hemispheres (CUTLASS and SENSU, these radar pairs belong to SuperDARN) and compared the locations of SWB in both hemispheres. The locations of SWB in both hemispheres are quite similar and have same behavior toward IMF Bz component. These results strongly suggest that we can use the SWB in HF radar observation as a "proxy" of real OCB.

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