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Title: Interferometric Measurement of Ionospheric Field-Aligned Irregularities for the Purpose of ROCSAT-3/COSMIC Project

Abstract:

Accurate determination of the locations of the ionospheric field-aligned irregularities is essential to the investigations of the effects of the ionospheric irregularities on the beacon signals of the ROCSAT-3/COSMIC satellite through the ionosphere. With IGRF model, we develop an interferometry method to accurately position the field-aligned irregularities in the sporadic E region. In addition to their locations, the three dimensional structures of the irregularities can also be reconstructed by using the interferometry method. The spatial structure of the quasi-periodic (QP) echoes from Es region was reconstructed by using the interferometry method. We found that the geometry of the spatial structure responsible for the QP echoes is not in a linear form with major axis aligned in the east-west direction as reported by the earlier investigators. From interferometry measurement, we believe the structures are in an anisotropic shape with major axis directed appreciably off E-W direction.

Presentation Mode:

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