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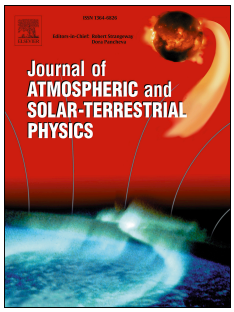

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Estimation of ionospheric sporadic E intensities from GPS radio occultation measurements

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Abstract

The radio occultation experiment aboard the FORMOSAT-3/COSMIC satellites enables the observation of phenomena in Earth's ionosphere on a global scale. Numerous radio occultation profiles are used to analyse the occurrence of sporadic E layers as well as its properties. We will present a new method to approach additionally to the presence of sporadic E also its intensity which is closely related to the blanketing frequency ($fbEs$) provided by ionosondes. We observed that the sporadic E occurrence and its intensity show a highly developed annual cycle with high occurrence rates and intensities in the actual summer hemisphere. The global latitude/longitude distribution of both parameters is strongly related to Earth's magnetic field which is reflected by the missing of sporadic E observations along the magnetic equator.

Keywords: Ionosphere, Sporadic E layer, Radio Occultation, FORMOSAT-3/COSMIC