

Variations of tweek reflection height at solar minimum of the cycle 21

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The purpose of this study is to reveal variations of tweek reflection height at solar minimum of the cycle 21. Typical tweek atmospherics are reflected at a height where the equivalent electron densities are $\sim 20 - 30 \text{ cm}^{-3}$. Descent (rise) of the reflection height corresponds to increase (decrease) in electron density in the ionospheric D- and lower E-regions. It is well known that electron density in the sub-ionosphere depends on solar activities, although the detailed investigation has not been sufficiently performed yet. An advantage of using tweeks is to be able to monitor variations of electron density along long propagation paths (several thousands of km). From cut-off frequency for the first order mode on dynamic spectrum, we can estimate the reflection height. We use tweek data obtained at Kagoshima (31.5N, 130.7E), Japan, on magnetically quiet days in 1976. The average reflection height was 93.97 km during that time. In the presentation, we will compare our results with the IRI model.