

E-region irregularity observed by Tanegashima FAR and Yamagawa ionosonde during the SEEK-2 Campaign

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In the SEEK-2 (Sporadic E Experiment over Kyushu) campaign, we conducted the ionospheric observation during July-August 2002. The Tanegashima(30.8°N, 131°E)FAR radar and Yamagawa (31.2°N, 130.6°E) ionosonde were used to monitor the Es layer in the south of Kyushu. The FAR radar (24.5 MHz) recorded the echo power of a height range from 52.7 to 207.1 km, while the ionosonde provided the maximum frequency (foEs), the blanketing frequency (fbEs), and the lowest virtual height (h'Es) of Es layer. In this study, we compared the amplitude and height of FAR echo with foEs, fbEs, and h'Es of ionosonde. Results show that the appearance periods of the negative QP echoes of FAR may characterize a time delay with those of the enhancement of foEs-fbEs of ionosonde. Furthermore, the altitude distributions of the QP echoes are well correlated with h'Es.