On spatial structures of FAIs studied by simultaneous interferometry observations with the MUR and the LTPR

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In the Sporadic E experiment over Kyushu-2 (SEEK-2) campaign, the Lower Thermosphere Profiler Radar (LTPR) observed FAIs moving at almost constant altitude across the radar beam by interferometry when typical QP striations were shown on RTI plots. To see if such FAIs moving at constant altitudes can explain QP striations observed by the MU radar of which transmitter power

(1 MW) is much more powerfull than that of the LTPR (20 kW) and of which beam width (3.6 degree) is about three times narrower than that of LTPR (10 degree), simultaneous interferometry observations of FAIs by the MU radar and LTPR were conducted.

An additional data taking system was attached to the MU radar to enable two-dimensional radar imaging interferometry with eight channels. The MU radar and the LTPR were pointed to the same direction.

On July 18, 2003, FAI echoes were observed by both the radars, although the echoes were not typical QP type. RTI plots obtained by the MU radar and LTPR looked very similar. Echoes observed by the MU radar were distributed almost within the Tx beam. Echoes observed by the LTPR were, however, distributed much wider area. Structures which seemed to be along the geomagnetic field line were also observed by the MU radar.

At the conference, spactial structures of the FAIs will be discussed with more precisely analysed data.