

Polarization electric field generated by medium-scale traveling ionospheric disturbances observed with the Arecibo radar

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ory, Nagoya University was installed in Culebra island, Puerto Rico (18.2N, 65.2W) to observe the airglow structure with 630nm band and 777.4nm band filters between July 9 and 22, 2001. Arecibo radar made the ionospheric observation between July 13 and 19 with its dual-beam. On July 15, an MSTID was detected by all-sky CCD camera to travel to southwest in the northwest of the Arecibo radar site. Arecibo radar observed intense plasma drift corresponding to this airglow structure that travel to southwest in about 100m/s of propagation velocity. This plasma intense plasma drift indicates that about 3m/V of the polarization electric field was generated inside the MSTID and mapped along the geomagnetic filed l