

Study on scattered echoes from the mesosphere with the MU radar (2)

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Mesospheric echoes observed with the MU radar are considered to be induced by irregularities of electron density distribution due to the turbulence.

The maximum of echo intensity is at the altitude where the inner scale of turbulence is approximately equal to the Bragg scale of the radar.

It is suggested that the existence of mesospheric echoes is restricted by both electron density gradient and molecular viscosity.

In this paper, we analyzed the results of the observation conducted in July 1999. The echo layer appeared at the altitude 70 km perturbed in the vertical direction and

the echo layer at 80 km did not perturb and descended with the range rate 2km/h. We examine the characteristic of these perturbations and the relationship between echo layers.