

Abstract Submitted
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Investigating the horizontal characteristics of the short-period gravity waves over Bear Lake Observatory, Utah. DEEPAK SIMKHADA, MICHAEL TAYLOR, Center for Atmospheric Physics and Space Sciences, Physics Department, Utah State University, ROBERT STOCKWELL, Colorado Research Associates, Boulder, Colorado — The horizontal characteristics of short-period gravity waves were observed in the OH airglow layer at ~ 87 km during a one year period in 2002 from Bear Lake Observatory, Utah (41.90 N, 11.40 W). These waves typically have short periods (6-15 min) with short horizontal wavelengths (8-35 km) and horizontal phase speeds of (20-65 m/s). All the wave events fall into two groups, bands and ripples. The band structures appear as a train of wave fronts with a horizontal wavelength larger than 15 km and the ripples were small-scale structures with a horizontal wavelength less than 15 km. In summer, most waves propagated towards the N- NE, whereas, in winter, wave propagation directions were towards the NW and SW. The observation suggests that these waves were propagated from the lower atmosphere and filtered in the middle atmosphere by the mean background winds.

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