



Very high resolution observations of waves in the OH airglow at low latitudes.

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Vibrationally excited hydroxyl (OH) is produced in the mesosphere by the reaction of atomic hydrogen and ozone. This excited OH radiates a strong, near-infrared airglow emission in a thin (~8 km thick) layer near 87 km. In the past, remote sensing of perturbations in the OH Meinel airglow has often been used to observe gravity, tidal and planetary waves travelling through this region. However, information on the highest frequency gravity waves is often limited by the temporal and spatial resolution of the available observations. In an effort to expand the wave scales present near the mesopause, we present a series of observations of the OH Meinel (9,7) transition that were executed with the Nordic Optical Telescope on La Palma (18°W, 29°N). These measurements are taken with a 10 s integration time (24 s repetition rate), and the spatial resolution at 87 km is as small as 10 m, allowing us to quantify the transition between the gravity and acoustic wave domains in the mesosphere.