



Investigation of infrasound signature and gravity wave studies using OH airglow and Rayleigh lidar instruments at Haute-Provence Observatory

Thurian Le Du, Alain Hauchecorne, Philippe Keckhut, and Pierre Simoneau
ONERA, Essonne, Palaiseau, France (thurian.ledu@icloud.com)

In the frame of the EC-H2020 project ARISE, a short wave infrared (SWIR) InGaAs camera have been operated at the Haute-Provence Observatory, during the night of the 12 December 2017 and 12 June 2018. This camera allow a continuous observation during clear-sky nighttime of the OH airglow layer centered at 87 km. The propagation of atmospheric gravity wave packets is clearly identified in the images, the collocated Rayleigh lidar provides vertical profiles of the temperature from the lower stratosphere to the altitude of the OH layer around the mesopause. The combination of Rayleigh lidar and OH airglow observations allows a better characterization of the propagation conditions from the lower atmosphere to the mesopause.

A research of the infrasound signature has been realized and a possible detection of infrasonic wave generated by Ocean wave has been found.