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### ► To cite this version:

Ewen Jaffré, Christophe Bellisario, Philippe Keckhut, Pierre-Yves Froissart, Samuel Trémoulu, et al.. Gravity wave model validation using nightglow emission observations for lower ionosphere disturbance modelling. EGU General Assembly 2024, Apr 2024, Vienna, Austria. pp. EGU24-9840, 10.5194/egusphere-egu24-9840 . insu-04515560

**HAL Id: insu-04515560**

**<https://insu.hal.science/insu-04515560>**

Submitted on 30 May 2024

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EGU24-9840, updated on 30 May 2024

<https://doi.org/10.5194/egusphere-egu24-9840>

EGU General Assembly 2024

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## Gravity wave model validation using nightglow emission observations for lower ionosphere disturbance modelling

**Ewen Jaffré**<sup>1</sup>, Christophe Bellisario<sup>1</sup>, Philippe Keckhut<sup>3</sup>, Pierre-Yves Froissart<sup>1</sup>, Samuel Trémoulu<sup>4</sup>, Fabrice Chane-Ming<sup>4</sup>, Pierre Simoneau<sup>1</sup>, Alain Hauchecorne<sup>3</sup>, and Stéphane Saillant<sup>2</sup>

<sup>1</sup>ONERA/DOA, Chemin de la Hunière, 91120, Palaiseau, France

<sup>2</sup>ONERA/DEMR, Chemin de la Hunière, 91120, Palaiseau, France

<sup>3</sup>LATMOS-IPSL, CNRS/INSU, UMR 8190, Université Versailles St-Quentin, 78280 Guyancourt, France

<sup>4</sup>LACy, CNRS/Météo-France, UMR 8105, Université de la Réunion, 97744 Saint-Denis de La Réunion, France

Lower ionosphere is the theater of interactions between the ionized atmosphere and homogeneous atmosphere. Some phenomena such as gravity and acoustic waves which originate from the homogeneous atmosphere also impact the ionosphere and are suspected to be the source of sporadic disturbances in the E-region. Our goal is to correlate these disturbances to acoustic and gravity waves through modelling and ionosphere sounding. We first present the first steps towards this goal, a bi-dimensionnal, inviscid and compressible acoustic-gravity wave model coupled to a nightglow emission model (NEMO). Then subsequent cross-comparisons with acoustic and gravity waves seen in the OH nightglow emission layer using an infrared sensor and MRA (Multi-Resolution Analysis) are discussed. These comparisons will help to improve the model's rendering of wave impacts on their transportation medium, before extending the model's range to ionospheric heights and properties.