ID de Contribution: **26** Type: **Stage de M2 (5mois)**

Acoustic wave propagation in the near-surface Martian atmosphere

vendredi 11 juillet 2025 14:00 (20 minutes)

ÉTUDIANT 19 : Teotia Vaibhav
The present internship aims to investigate the impact of atmospheric absorption and turbulence on sound propagation in the Martian atmosphere using three-dimensional numerical simulations of the parabolic approximation of the wave equation. The study will examine the attenuation of acoustic waves due to vibrational relaxation in CO2 and the effects of temperature fluctuations and turbulence on wave scattering. Furthermore, a comparative analysis between Mars and Earth will highlight key differences in acoustic propagation due to variations in atmospheric composition and dynamics.

Master

Autre ou non applicable

Laboratoire d'accueil

LMFA

Composante ou Département Composante

Autre

Auteurs principaux: VAIBHAV, Teotia (Ecole Centrale de Lyon); SABATINI, Roberto (LMFA, Ecole Centrale de Lyon)

Co-auteur: DRAGNA, Didier (LMFA, Ecole Centrale de Lyon)

Orateurs: VAIBHAV, Teotia (Ecole Centrale de Lyon); SABATINI, Roberto (LMFA, Ecole Centrale de Lyon)

Classification de Session: Vendredi après midi