Contrats doctoraux 2026

Titre du projet de thèse : Fourier transform millimeter wave spectroscopy of pulsed laser photolysis products for atmospheric and astrophysical applications

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Résumé du projet de thèse (en 20 lignes maximum) :

Earth's atmosphere, the atmospheres of other planets, and the interstellar medium all contain transient gas phase molecules, whose detection can give clues to the chemistry and physics of those environments. In particular, remote sensing through spectroscopy can reveal much information when done in conjunction with physical-chemical models. Over the course of this thesis, transient molecules, including radicals, will be investigated using the new Fourier transform millimeter wave spectrometer coupled to pulsed laser photolysis. Initially, the spectroscopy of these species will be assigned to aid in remote sensing detection and compared against *ab initio* calculations of their structure. Collisions of these species, reactive and non-reactive, will then be investigated in to test theoretical predictions of their rates coefficients and better inform physical and chemical models. Through this combined effort, the spectroscopy, physics, and chemistry of transient molecular species can be better constrained for atmospheric and astrophysical sciences.

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Remarques/commentaires supplémentaires :