

CAMILLE LEFOUR

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EDUCATION

Second year PhD student **October 2024 - September 2027**

Laboratoire d'Astrophysique de Bordeaux, France

Supervisor: Thibault Cavalié (thibault.cavalié@u-bordeaux.fr)

- Title: "Observations of the atmospheric chemistry in the polar and non polar regions of Jupiter to prepare the JUICE mission".
- mm and submm observations with ALMA of molecular lines in Jupiter's stratosphere.
- Radiative transfer modeling and inversion algorithm.
- Member of the Submillimetre Wave Instrument (SWI) team of the JUper ICy moons Explorer (JUICE) mission.

MSc degree in Physics and Astrophysics **2022 - 2024**

Université de Bordeaux, France

Obtained with High Distinction

WORK EXPERIENCE

MSc internship **January - July 2024**

Laboratoire d'Astrophysique de Bordeaux, France

Supervisor: Thibault Cavalié (thibault.cavalié@u-bordeaux.fr)

- Title: "Temporal evolution of stratospheric water vapor during the last Great Storm of Saturn from 2011 to 2013".
- Submm observations with the Photodetector Array Camera and Spectrometer (PACS) instrument of the Herschel observatory of water lines in Saturn's stratosphere and radiative transfer modeling.

TEACHING EXPERIENCE

Assistant Lecturer (32h) **December 2025 - January 2026**

Institut Universitaire de Technologie - Mesures Physiques, Gradignan, France

Supervisor: Pierre Monneyron (pierre.monneyron@u-bordeaux.fr)

- Practical laboratory sessions for undergraduate first year students in thermodynamics.

Astronomy Outreach project in a primary school (32h) **January - February 2025**

Jean Moulin primary school (Grades 4–5), Bergerac, France

Organiser: Maison pour la Science en Aquitaine

- Interactive lessons and hands-on activities on Solar System objects, astronomical scales, and Moon phases.
- Communication of scientific concepts to students, teachers, and accompanying adults in an accessible way.

PUBLICATIONS

C. Lefour, T. Cavalié, R. Moreno, E. Lellouch, T. Fouchet, P. Hartogh, *A new derivation of the $^{12}\text{C}/^{13}\text{C}$ and $^{15}\text{N}/^{14}\text{N}$ isotopic ratios in the stratosphere of Jupiter revealed by ALMA*, EPSC-DPS Joint Meeting 2025, id: EPSC-DPS2025-248, doi: 10.5194/epsc-dps2025-248

C. Lefour, T. Cavalié, H. Feuchtgruber, R. Moreno, L. N. Fletcher, T. Fouchet, E. Lellouch, E. Barth, P. Hartogh, *Observations of the temporal evolution of Saturn's stratosphere following the Great Storm of 2010–2011: I. Temporal evolution of the water abundance in Saturn's hot vortex of 2011–2013*, Astronomy & Astrophysics, Volume 698, id.A66, 20 pp., 2025, doi: 10.1051/0004-6361/202453029

C. Lefour, T. Cavalié, H. Feuchtgruber, T. Fouchet, E. Lellouch, R. Moreno, P. Hartogh, L. N. Fletcher, E. Ducreux, M. Gurwell, F. Gueth *Saturn stratospheric composition and dynamics during its 2010-2013 Great Storm: I. Oxygen species*, AAS Division for Planetary Sciences meeting #56, id. 210.04., 2024

T. Cavalié, B. Benmahi, C. Lefour, R. Moreno, T. Fouchet, E. Lellouch, F. Gueth *Saturn stratospheric composition and dynamics during its 2010-2013 Great Storm: II. Direct wind measurements*, AAS Division for Planetary Sciences meeting #56, id. 210.05., 2024