

GUILLAUME THÉMÈZE

PhD Candidate in Quantum Physics

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EDUCATION

2022 – 2025

PhD in Quantum Physics

✉ Institut d'Optique / Charles Fabry Lab

Out-of-equilibrium dynamics of one-dimensional bosonic gases.
Combined theoretical, numerical, and experimental approaches.

2018 – 2022

Magistère of Fundamental Physics

✉ Université Paris-Saclay

Specialization in Quantum, Light, Matter, Nanoscience (QLMN).
Also followed the MEEF Physics-Chemistry program at ENS Ulm (teacher training, agrégation preparation).

2015 – 2018

Preparatory Classes (MPsi/MP)

✉ Lycée Leconte de Lisle (Réunion) & Lycée La Martinière (Lyon)

SKILLS

Quantum Physics Quantum Gases Statistical Physics
Numerical Simulations General Relativity Experimental Physics
Theoretical Physics Mathematical Physics

Python Julia C++ LaTeX/TikZ HPC

Deep Learning Machine Learning Algorithm Optimization
Data Analysis

Django Flutter Web Dev (HTML, CSS, JS)

LANGUAGES

French
English



INTERESTS

Portrait Drawing Photography Drone Videography
Hiking Paragliding

RESEARCH EXPERIENCE

2022 – 2025

M2 Internship/PhD Research

✉ Institut d'Optique / LCF

Study of out-of-equilibrium dynamics of one-dimensional Bose gases. Theoretical modeling, numerical simulations, and comparison with experiments.

2020

M1 Internship

✉ Université Paris-Saclay

Bibliographic and numerical project: maximal expansion of Schwarzschild and Kerr black holes. Theoretical analysis and numerical simulations during COVID lockdown.

2019

L3 Internship

✉ École Polytechnique / Plasma Physics Lab

Study of electric discharges in plasmas.
Theoretical and numerical modeling.

TEACHING EXPERIENCE

2022 – 2025

Teaching Assistant

✉ Institut d'Optique / CentraleSupélec

- Tutorials in Quantum Mechanics and Signal Processing (BSc level).
- Practical classes in Lasers at Polytechnique (MSc level).
- More than 150 hours of teaching.

EXTRA TRAINING

- Advanced training in Quantum Gases.
- Software development (Django, Flutter, Web).

- Artificial Intelligence, Deep Learning, Algorithm optimization.

SELECTED PUBLICATIONS

- L. Dubois, G. Thémèze, F. Nogrette, J. Dubail, and I. Bouchoule, *Probing the local rapidity distribution of a 1D Bose gas*, (2025)
- L. Dubois, G. Thémèze, J. Dubail, and I. Bouchoule, *Experimental Investigation of a Bipartite Quench in a 1D Bose gas*, (2024)

REFEREES

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