



ÉLODIE MINJOU

Second-year PhD student

Contact

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Expertise

Plasma Physics, Optics
Hands-on experimental work
PIC and hydro-radiative simulations
Python, MATLAB, LaTeX

Language

French: Native
English: Advanced
Spanish: Intermediate

Hobbies

Cinema, Photography
Astronomy
Rugby, Pádel

Education

PhD in Astrophysics, Plasma and Nuclear Physics

2024 – Present | University of Bordeaux, Doctoral School of Physics and Engineering Sciences
– Commissariat à l'Energie Atomique et aux Energies Alternatives (CEA) –
Centre Laser Intenses et Applications (CELIA) – Laboratoire de Physique des 2 infinis (LP2i)

PhD subject: Ion acceleration through laser-plasma interaction in near-critical-density gas targets

Supervised by Prof. João Jorge Santos, Dr. Medhi Tarisien and Dr. Laurent Gremillet

- High-power multi-PW laser facilities; laser-plasma interaction
- Optical shaping of gaseous targets
- PIC CALDER and radiation-hydrodynamics FLASH simulations
- Teaching Experience (32 hours): Fourier Optics tutorials for third-year undergraduate physics students, Plasma Physics tutorials for first-year Master's students in Fundamental Physics.

Master's Degree in Fundamental Physics and Applications – Nuclear, Particle and Universe – with Honors

2022 – 2024 | University of Bordeaux

Bachelor Degree in Physics – with Honors

2019 – 2022 | University of Bordeaux

Scientific Baccalaureate (European Section) – with Honors

2019 | Jean Dupuy Highschool – Tarbes

Experiences in Laboratory

Master 2 Internship: Optical shaping of a high-density gas jet for high-repetition-rate laser-plasma acceleration

January to July 2024 | LP2i, Laser-Driven Nuclear Excitations Group | Gradignan, France
Supervised by Dr. Medhi Tarisien and Dr. Antoine Maitrallain

- High-intensity lasers, near-critical gas targets, plasma diagnostics
- Laser and plasma physics, experimental physics

Master 1 Internship: Study of an X-ray radiation source produced by laser-plasma interaction

May to July 2023 | CELIA, PETRUX Group | Talence, France

Supervised by Dr. Fabien Dorches

- High-intensity laser alignment, X-ray spectroscopy, data analysis using MATLAB
- Plasma and warm dense matter physics

Bachelor Internship: Study of air-water interfacial rheology through thermal fluctuation measurement

May 2022 | Laboratoire Ondes et Matières d'Aquitaine (LOMA) – Soft Matter and Biophysics Group | Talence, France

Supervised by Dr. Abdelhamid Maali

- Hands-on experience with AFM and microscopes, data analysis using Kaleidagraph
- Fluid mechanics and hydrodynamics

Certifications

Linguaskill from Cambridge Level C1+ (CEFR)

2022 | University of Bordeaux

Cambridge English Certificate Level B2 (CEFR)

2019 | Jean Dupuy Highschool – Tarbes