

Post-doctoral position (18 months)

Keywords : spatial light modulator, laser, ultrafast

Localisation : Institut de physique de Nice, INPHYNI, 17 rue Julien Lauprêtre, 06200 Nice, France
<https://inphyni.univ-cotedazur.fr/>

PROJECT

Demonstration of a high-aperture thermo-optical spatial light modulator for versatile shaping of intense femtosecond pulses

CONTEXT

The ANR-SPLASH project aims to develop a new generation of thermo-optically addressed spatial light modulators (TOA-SLMs) capable of operating under intense femtosecond laser irradiation, beyond the capabilities of existing SLM technologies. The goal is to open new opportunities for the spatiotemporal control of high-power laser beams, combining programmable liquid-crystal technology with advanced optical systems.

OBJECTIVES

The postdoctoral researcher will contribute to the development and characterization of a large-aperture TOA-SLM, with a focus on phase and amplitude shaping under high-intensity irradiation. The work will involve optimizing liquid-crystal cells and optical addressing, developing thermal management strategies, and experimentally validating the device's shaping capabilities, and laser-induced damage threshold. Beyond device development, the project will explore innovative beam-shaping strategies, combining the TOA-SLM with other optical components to generate tailored spatiotemporal effects. The researcher will also participate in application experiments at the partner laboratories LOA and CELIA, for advanced laser-matter interaction experiments.

REQUIREMENTS

A PhD in optics, photonics, applied physics or a related field is required. Strong experience in experimental optics and laser-based measurements is expected. A background in ultrafast optics, high-power laser systems, spatial light modulation or optical wavefront shaping would be an asset. The candidate should demonstrate scientific curiosity, experimental creativity, and the ability to work both independently and collaboratively within an interdisciplinary research environment.

GENERAL INFORMATION

CNRS contract for 18 months

Starting date : early 2027

Salary will be determined based on the candidate's experience (typ. gross salary of 3131€/month to 4143 €/month depending on experience).

This position falls within an area covered by France's Protection of Scientific and Technical Potential (PPST) framework. Accordingly, in compliance with applicable regulations, your appointment is subject to authorization by the competent authority of the French Ministry of Higher Education and Research (MESR).

CONTACT

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Apply (CV with publication and conference participation list, and cover letter) on:

<https://emploi.cnrs.fr/Offres/CDD/UMR7010-AURJUL-004/Default.aspx>

Recommendation letters can be sent to : Aurélien Jullien, aurelie.jullien@inphyni.cnrs.fr,