

Post-doctoral position
High-repetition rate single-cycle THz sources for high-resolution 4D
microscopy and spectroscopy

Starting date: From 01.03.2021

Duration: 12 months

Research team: CORIA, Optics & Lasers Department – University of Rouen, Normandy - FRANCE

The CORIA laboratory is inviting applications for a postdoctoral position in the field of ultrashort THz pulse generation and applications. The position is funded within project HAITY which gathers experts in light-matter interactions in the ultrafast regime, laser physics and atom probe tomography from the CORIA and GPM laboratories. This multidisciplinary project aims at developing a novel high-resolution 4D microscopy platform by using high-intensity single-cycle THz pulses to tailor atoms evaporation in an APT (atom probe tomography) instrument.

Project description:

This post-doctoral position concerns the development of ultrafast THz sources and aims at exploring different routes for the generation of strong field THz pulses at high-repetition rates in relatively compact set-ups. Our approach for strong and broadband THz generation consists in exploiting optical rectification in organic nonlinear crystals using high-repetition rate ultrafast solid-state lasers. Different pumping laser architectures will be studied to fulfill the requirement for efficient THz generation in organic crystals.

Job profile:

The applicant should hold a PhD in the fields of optics or applied physics, with theoretical and experimental skills in laser physics and nonlinear optics. Experience in ultrafast lasers and/or THz science will be appreciated. The project involves the design and building of ultrafast laser systems and THz generation benches as well as data collection and analysis within a collaborative project. The candidate should then have an affinity for working in multidisciplinary teams. He/She will indeed have an active role in this collaboration by interacting with the different partner laboratories.

Contacts:

Please submit your application (including a cover letter and a detailed CV) by e-mail.

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