

Spécialité de Master « Optique, Matière, Plasmas »

Stage de recherche (4 month minimum, from beginning of Mars)

Proposition de stage - 1 page max

Date de la proposition :

Responsable du stage / internship supervisor:

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Fax :

Nom du Laboratoire / laboratory name:

Code d'identification :

Site Internet / web site: www.exphy.uni-duesseldorf.de

Adresse / address: Universitätsstr. 1, Institut für Experimentalphysik

Lieu du stage / internship place: 40225 DÜSSELDORF – Allemagne

Organisme : Heinrich-Heine-Univ. Düsseldorf

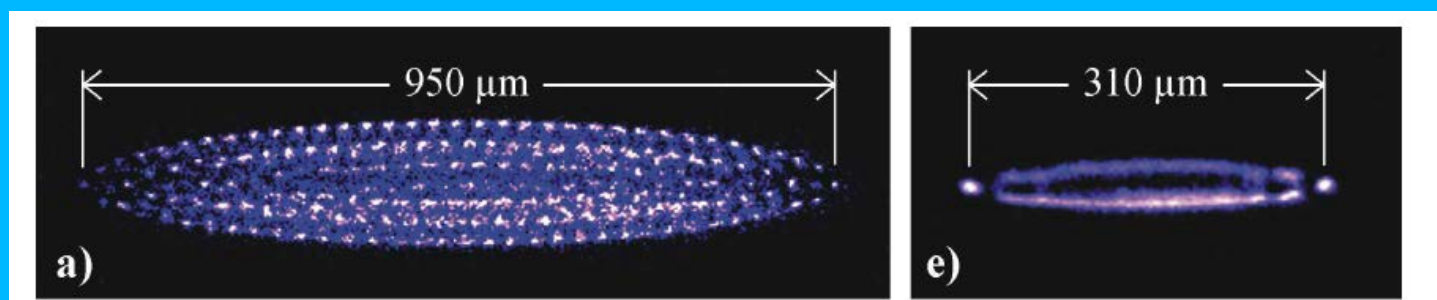
Titre du stage / internship title:

Résumé / summary

The student will be involved in an experiment on cooling, trapping, and manipulating molecular ions by means of lasers. The goal of the experiment is to precisely measure the vibrational spectrum of the molecular hydrogen ion.

The experiment is working and several studies are being made with it.

The experiment involves several laser sources (in the ultraviolet, near-infrared, and mid-infrared spectral ranges), which are frequency-stabilized in order to allow for stable and accurate operation. The student will be exposed to techniques of laser control, laser cooling, photon counting, ultra-high vacuum, and will also learn about some theoretical issues connected with the understanding of light-molecule interaction.



The figures show two ion clusters of laser-cooled Beryllium ions in an ion trap in a vacuum chamber. They contain, at the center, a few molecular hydrogen ions. On such ensembles the spectroscopy of the molecular ions is performed.

Ce stage pourra-t-il se prolonger en thèse ? Possibility of a PhD ? : YES

Si oui, financement de thèse envisagé/ financial support for the PhD: ITN ComiQ PhD grant

<http://itn-comiq.eu/welcome-to-comiq/>

Lasers, Optique, Matière	X	Lumière, Matière : Mesures Extrêmes	X
Plasmas : de l'espace au laboratoire			

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