

Spécialité de Master « Optique, Matière, Plasmas »

Stage de recherche (4 mois minimum, à partir de début mars 2012)

Proposition de stage pour l'année 2011-2012 (**ne pas dépasser 1 page**)

Date de la proposition :

Responsable du stage / internship supervisor:			
Nom / name:	Fuchs	Prénom/ first name :	Julien
Tél :	0169335407	Fax :	0169335482
Courriel / mail:	Julien.fuchs@polytechnique.fr		
Nom du Laboratoire / laboratory name: LULI			
Code d'identification :	UMR7605	Organisme :	CNRS/CEA/Ecole Polytechnique/UPMC
Site Internet / web site:	http://www.luli.polytechnique.fr/		
Adresse / address:	Ecole Polytechnique, Palaiseau		
Lieu du stage / internship place:	LULI (Palaiseau), CENBG (Bordeaux), LLNL (Californie, USA)		

Titre du stage / internship title:
Résumé / summary
<p>The scientific background of the proposed work is to study the interaction of ions with so-called "warm dense matter" (matter at solid or higher density, and having temperature of 1-100 eV). More specifically, we are interested in two areas that have an extensive theoretical and experimental history, but with little knowledge in the warm dense matter regime: ion stopping power and charge equilibrium. To be able to reach these goals, we have developed over the last few years a technique to produce such "warm dense matter" using short pulse lasers generated broadband ion beams [A. Mancic et al., Phys. Rev. Lett. 104, 035002 (2010)]. The same ion beams are used to probe those plasmas. To characterize the ion beams, before and after interaction with the matter, we use a suite of diagnostics, namely a Thomson parabola and time-of-flight. The latter is based on having the ions depositing their energy in a scintillator and the fluorescence of which is collected by an optical detector (a photo-multiplier tube). The goals of the internship will be: (1) to calibrate such detector on an ion accelerator facility (CENBG, Bordeaux), then to field it (in parallel with other diagnostics) on a laser experiment that will be conducted in August 2012 at the LLNL "Titan" laser facility (California, USA).</p>
Toutes les rubriques ci-dessous doivent obligatoirement être remplies

Ce stage pourra-t-il se prolonger en thèse ? Possibility of a PhD ? : oui			
Si oui, financement de thèse envisagé/ financial support for the PhD: école doctorale ou co-financement CEA (suivant candidat)			
Lasers et matière	<input checked="" type="checkbox"/>	Lumière, Matière : Mesures Extrêmes	<input type="checkbox"/>
Optique de la science à la technologie	<input type="checkbox"/>	Plasmas : de l'espace au laboratoire	<input checked="" type="checkbox"/>

Fiche à transmettre (fichier pdf **obligatoirement**) sur le site <http://stages.master-omp.fr>