Spécialité de Master « Optique, Matière, Plasmas »

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

Proposition de stage (ne pas dépasser 1 page)

Date de la proposition :

Responsable du stage / *internship supervisor*:

Nom / *name*: Fuchs — Prénom/ *first name* : Julien

Tél : 01 69 33 54 07 — Fax :

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Nom du Laboratoire / *laboratory name*: **Laboratoire d'Utilisation des Lasers Intenses**

Code d'identification :UMR7605 — Organisme :CNRS

Site Internet / *web site*: http://www.luli.polytechnique.fr/accueil/les-themes-de-recherche/silampa/

Adresse / *address:* **Ecole Polytechnique, Palaiseau 91128**

Lieu du stage / *internship place*: **Ecole Polytechnique, Palaiseau 91128**

Titre du stage / *internship title*: **ETUDE EXPERIMENTALE DE LA RECONNEXION MAGNETIQUE AU MOYEN DE LASER DE PUISSANCE**

Résumé / *summary*

The intership will take place in the frame of "laboratory astrophysics", a young field of research that aims at taking advantage studying plasma processes with high-power lasers to help deciphering astrophysical phenomena. The project will be more precisely concerned with magnetic reconnection, a long standing problem in space plasmas. Most of our knowledge of collisionless reconnection comes from numerical studies and, to a smaller extent, from space observations where it is however difficult to measure all the relevant physical parameters and to follow their temporal evolution. Laboratory experiments, in particular laser experiments that offer small and versatile setups relevant for ICF, hence provide an interesting alternative to investigate reconnection. The intership will take advantage of an experiment planned in the frame of an LPP-LULI-CEA collaboration at the LULI2000 laser facility in June-July 2015 where strong magnetic field structures will be produced by such lasers and where their reconnection will be studied. The intern will participate to the experiment, take care of some diagnostics and analyze the data.

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*: **co-financement projet européen**

Lasers, Optique, Matière	**X**	Lumière, Matière, Interactions	**X**
Plasmas : de l'espace au laboratoire	**X**		

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