INTERNSHIP PROGRAM FOR INTERNATIONAL STUDENTS

INTERNSHIP SUBJECT FORM

Name of the Host Laboratory	LULI
Website of the Host Laboratory	https://luli.ip-paris.fr/
Research Group	SPRINT
Internship Supervisor	J. Fuchs
Internship Subject	**Investigation of laser-produced particle transport in a magnetized plasma**
Student's level	☒ Advanced Undergraduate Students (3rd or 4th year) ☒ Master's students (1st or 2nd year) ☐ PhD students
Proposed Duration	☒ 3 months ☒ 4 months ☒ 5 months ☒ 6 months
Prerequisites	knowledge in general physics and mathematics / skills and interest in computational development and simulations
Internship description (max. 15 lines)	The internship is part of an ongoing effort of investigating laser-produced plasmas in a magnetic field of tens of Tesla via high-power lasers and numerical modelling (i.e., using large-scale three-dimensional magneto-hydrodynamic simulations). During the internship, the student will contribute to: - Experimental data analysis (e.g., energy spectrum of the energetic ions from Thomson parabola and the electromagnetic fields from proton radiographs). - Computational development of a Particle module within the GORGON framework that describes the interaction between charged particles and magnetized plasma environments, e.g., the implementation of a Coulomb collision algorithm between the charged particles and the thermal plasmas.

The boxes marked with cross implies eligible