IGOSat Project

Internship Proposal - Spring 2019 Assembly, Integration and Test for the Qualification Model of the Scintillator instrument of IGOSat

Skills, Keywords : aerospace engineering, functional tests, qualification, AIT, scientific instrument

Level Wanted : 4th year, master degree **Duration :** 4 to 6 months **Stipend :** > $500 \in$ / mois **Contacts :** benhizia@apc.in2p3.fr , halloin@apc.in2p3.fr, laurent@apc.in2p3.fr

Project Description :

The Laboratory of Excellence (LabEx) UnivEarthS, set up by laboratories AIM (Astrophysique et Interations Multi-Echelles), APC (AstroParticule et Cosmologie) and IPGP (Institut de Physique du Globe de Paris) from Paris Diderot University, is carrying carrying transverse projects between those 3 laboratories.

Using the strong involvment of those laboratories in numerous space experiments and instrumentation, an educational nanosatellite project has begun in 2013, with the financial and technical support from CNES (Centre National d'Etudes Spatiales) and the Space Campus of Paris Diderot University.

More specifically, the project is to develop a scientific 3U CubeSat, and launch it in 2019. The satellite will carry 2 payloads, one to study the lonosphere and one to study the radiation belt.

Internship Description:

The purpose of the internship is to prepare and realize the assembly and testing of the Qualification model of the scintillator, which is made out of several PCB, numerous detectors, an a specific reading electronic. Functional tests on a bench have been done, and will need to be performed as well on the qualification model of the satellite, that will go through several tests such as vibration and thermal.

The scintillator payload is an innovative instrument developed within Paris Diderot University, that will demonstrate a new way to measure density of particles in the magnetosphere of the Earth. Those measurements have not be done enough in the past and new data would allow a better understanding of the physics of the Earth vicinity, and to improve existing models.

Within a team of students, engineers and scientists, the student need to be able to work autonomously as well as part of a team, have a sense of rigor especially in writing presentation, and already a global vision of information transmission.

This internship is a good opportunity to address numerous points of space engineering.

Website: http://www.igosat.fr