CENTRE SPATIAL DE L'UNIVERSITÉ DE MONTPELLIER

Internship offer

ADCS Engineer on 12U Platform

Context

The University Space Center of Montpellier (CSUM) is the French leader in the development and operation of nanosatellites developed by students. It has acquired in-depth competences in the field of design, manufacturing, testing and operation of nanosatellites and their subsystems, as well as in the area of space project management and product assurance in the framework of university space projects. The CSUM has an AIT (Assembly Integration and Test) Facility, a CDF (Concurrent Design Facility) and both UHF and S-band Ground Stations. The CSUM develops its own 1U to 12U CubeSat nanosatellite platforms with the support of the Van Allen Foundation and the French and European space agencies.

Internship description

Objectives: CSUM is developing and currently in phase B of a 12U platform designed to accommodate complex payloads from our partners. A team of interns will contribute to finalizing the preliminary design of the platform by capitalizing on the lessons learned from CSUM's numerous missions and will support the development of subsystems up to the implementation of a first functional model called FlatSat. This offer focuses on the Attitude Determination and Control System (ADCS).

Main activities related to your mission:

- Contribute to ROBUSTA-3A feedback, CSUM's first 3U CubeSat with attitude control
- Assist ADCS SoM development for the 12U platform
- Test ADCS sensors and actuators for the 12U platform (Sun sensor, magnetometer, gyroscope, star tracker, reaction wheel, magnetorquer)
- Write and run dedicated tests of ADCS sensors and actuators for the 12U platform (Sun sensor, magnetometer, star tracker, reaction wheel, magnetorquer)
- Integrate ADCS in the 12U FlatSat (electrical, communication…)
- Perform functional tests of the ADCS within the 12U FlatSat

Level: 2nd year of Master Degree or equivalent.

Duration: 4 to 6 months

Skills (it is not mandatory to have all of them)

- Knowledge about CubeSats, attitude determination and control, control systems and filters
- Experience in test benches
- Knowledge in MATLAB/Simulink, Python, C
- Experience with GIT or similar version control system, VTS (Visualization Tool for Space data)
- English – minimum: being able to have a technical discussion with experts and to write documentation
- Ability to produce clear technical reports and presentations

Location : Centre Spatial Universitaire de Montpellier, Campus Saint-Priest, Montpellier, France.

Stipend: 4.50 euros/worked hours for duration between 308 and 924 hours, 35 hours/week.

Preferred starting date: March 2027

Supervisor: Gary Quinsac - AOCS Command and Control Manager
gary.quinsac@umontpellier.fr

How to Apply?: https://csum.umontpellier.fr/emplois-stages/

(Use the form to submit your CV and cover letter)