INTERNSHIP OFFER

Title: Test and validation of a 3U CubeSat's ADCS

1 UNIVERSITY SPACE CENTER OF MONTPELLIER

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 and 3U CubeSat nanosatellite platforms with the support of the Van Allen Foundation and both the French and the European space agencies.

2 INTERNSHIP DESCRIPTION

Description of the tasks:
ROBUSTA-3A is a 3U CubeSat which will be able to aim at a specific point on Earth to collect environmental data. These data will be transmitted to Météo France, for them to improve the forecasting of severe storms that hit the region. The CSUM is looking for **two interns** to be part of the test and validation campaign of the CubeSat's Attitude Determination and Control System (ADCS). The identified tasks are the following:

- Develop an overall strategy (with test plans and procedures) for the ADCS validation (objective, means, methods...) including:
  - Sensors and actuators performance testing based on previous works
  - Subsystem functional testing using the "flat sat"
  - Verification at satellite level (sign tests...)
- Perform test and validation based on this strategy
- Make test reports

The intern will be part of a team of engineers with a variety of profiles, all dedicated to the AIT/AIV phase of the project.

Figure 1: Logo of the ROB3A mission.

Skills/Languages:

- 1st/2nd year of Master of Science (MSc) or equivalent in electronics, embedded software, applied physics or aerospace engineering
- Knowledge of hardware/software testing, functional testing, MATLAB/Simulink, C, Git, ADCS
- Advanced English

Level: 1st/2nd year (preferred) of Master of Science (MSc) or equivalent

Preferred starting date: September 2022 **Duration:** 4-6 months

Supervisor, Function at CSUM: QUINSAC Gary, AOCS Command and Control Engineer

Location of the internship: University of Montpellier - University Space Center 34090 MONTPELLIER

3 CONTACT

Please upload your application at: https://csum.umontpellier.fr/en/job-offers-internship/