INTERNSHIP OFFER

Title: Test and characterization of Satellite Communication System

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: CSUM is developing its new generation of Telemetry, Tracking and Control Subsystem (TT&C). The goal of this internship is to perform a complete set of tests to validate the correct performance/operation of the TT&C according to the specifications and requirements for CSUM's missions. Also, the intern will be in charge of characterizing the TT&C subsystem in terms of power consumption, thermal behavior, reliability and RF performance.
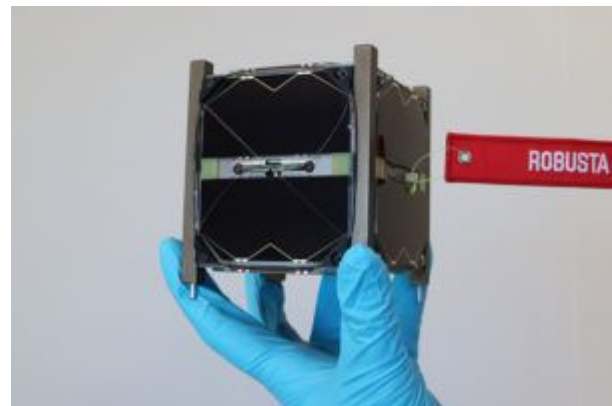

Figure 1: CSUM's upcoming 1U mission.

With that goal, the intern will be involved in the process of setting up the hardware to measure different parameters, installing and configuring the software tools to perform the tests. During this project, you will be in contact with the following technologies/topics:
- Python programming language;
- Radio Frequency in the UHF band;
- Software Defined Radio technologies and tools (ex: Gnuradio);
- Communications systems for space applications;
- GIT and Continuous Integration tools

Skills/Languages: General Knowledge of any programming language (C, C++, Python, etc...)

Plus (not required):

- Communications Systems

- RF Systems

- GIT and Continuous Integration tools

Location: Montpellier - France

Preferred starting date: 08/03/2021 (flexible)

Duration: 3 to 6 months

Supervisor, Function at CSUM: Rafael DUARTE - Ground to Space Division Manager

THIS IS A REMUNERATED INTERNSHIP.

3   CONTACT

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