

## INTERNSHIP OFFER

### Title: S-Band Ground Station Test and Validation

## 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



Figure 1: S-Band communications chain in upcoming CSUM's missions.

Description of the tasks: The upcoming CSUM missions will include an S-Band transceiver for high data rate transmission between earth and space. This internship focuses on the test and validation of the complete data link between satellite and Ground Station in S-Band. It will also include the implementation of the data interfaces between the S-Band Ground Systems and the Mission Control Software, used to operate and monitor the satellite in orbit.

During this project, you will be in contact with the following technologies/topics:

- Python programming language;
- Linux Operating System;
- Radio Frequency in the S-Band band;
- Communications systems for space applications;
- Professional for Earth-Space Communications;
- Responsible for planning and implementing agreed test strategies during development.
- Creation and execution of tests on demand from analysis, requirements.
- Provide design feedback according to testing results.
- Provide support to the satellite operations and design team.

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

**Plus (not required):**

- Communications Systems
- RF Systems
- Linux

**Location:** Montpellier - France

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

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Author: DUARTE Rafael



**Duration:** 6 months

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

**THIS INTERNSHIP IS REMUNERATED.**

### **3 CONTACT**

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