

## Advanced CubeSat sensor characterization

### Internship offer

### University Space Center of Montpellier (CSUM)

The University Space Center of Montpellier 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.

### Internship description

In a satellite, the ADCS subsystem is in charge of the control of the attitude (orientation) of the satellite. To maintain requested attitude the 3U-CubeSat developed at CSUM relies on actuators (reaction wheels and magnetorquers) and sensors (Sun sensors, magnetometer, gyroscope).

Previous students worked on those actuators and sensors characterization as stand alone components.

This internship will push forward the studies of these essential components by focusing on possible interactions between them and the rest of the satellite (eg. reaction wheel vibrations disturbing gyroscope measurements, satellite body frame remanent magnetic field and magnetometer measurements, ...).

The student will have to propose measurement protocols and write result reports about every possible interactions between actuators and sensors.

Skills/Knowledge: Metrology

Level: 2<sup>nd</sup> year of IUT or equivalent

Languages: English – being able to have a technical discussion with experts

Duration: 2 to 4 months

Preferred starting date: Position open immediately

This internship is remunerated.

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

Supervisor, Function at CSUM: Benoît Heintz, ADCS engineer

### Contact

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