

DESIGN OF NANOSATELLITE PLATFORM FLAT SAT

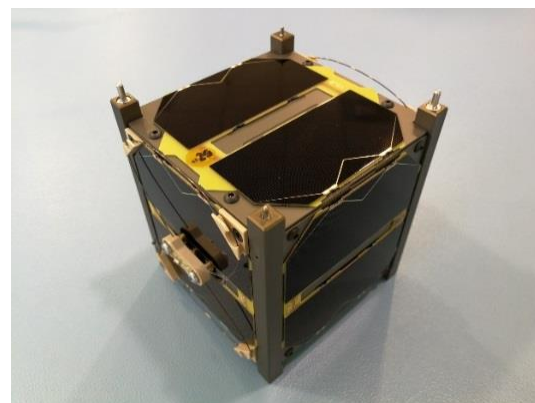
Internship offer

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

The ROBUSTA 1U platform now has flight heritage and is well qualified, but the need to perform tests on ground on the system and the sub-systems is always present and required for further development or troubleshooting. The CSUM has in its facilities Engineering Models of the CubeSats, meaning flight-like satellites that can be used to perform all kind of tests. Nonetheless, for all kind of reasons, these models are not always the best solution for an exhaustive and deep testing, and the need to have a "flat-sat" has risen. Flat-sat model are non-representative of the Flight Model as they do not need to be in the form factor, nor need to sustain space environment. They consist of interfacing all sub-systems and parts of the satellite "on the table", so that all the electronics and equipments of the satellite are individually available and accessible for testing and measurements.



The internship will consist in studying the relevance of the flat-sat model, based on a functional analysis of the satellite and the system, as well as the feasibility of this model. A preliminary design will be proposed by the candidate, considering the mechanical assembly and layout of the sub-systems, the definition of harnesses and all others interfaces. Once the design validated the procurements and manufacturing of pieces will be done so that the integration of a prototype could be made in the workshop.

Skills/Languages:

- English – being able to have a technical discussion with sub-systems managers and writing technical documentation
- Solidworks or equivalent CAD Software basics
- Intermediates skills in electronics (analogic and digital)
- AIT / System Engineering skills would be plus

Level: 3rd year of BSc, 1st/2nd year of MSc or equivalent

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

Duration and period: 3 to 6 months, position starting now

Supervisor, Function at CSUM: Tristan ALLAIN, System Engineer

This internship is remunerated.

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