

Design of a "black box" that can survive the extreme conditions of atmospheric re-entry and can be located afterwards



We are looking for two motivated EA master students.

Project Description :

The Aether Student CubeSat team brings together young Belgian engineers who are passionate about space technology. We are designing a CubeSat: a nano-satellite small enough to hold in your hand. In the past decade, the CubeSat standard has enabled countless new innovations in the space industry, and we are determined to uphold this tradition!

Aether is focusing on the area of re-entry: creating the technology that will allow future CubeSats to safely re-enter the atmosphere and land on Earth after carrying out their experiments in orbit. This will allow scientists to analyze samples and get even more results out of their experiments, and all this with the affordability and accessibility that come with the CubeSat platform!

Thesis description :

The design of a box (10x10x10cm) and localization system that is able to withstand the extreme temperatures and vibrations of an atmospheric re-entry and is able to survive touchdown, whereafter the box needs to be located, so all important experiment data can be retrieved.

Thesis objective :

The focus of this thesis is purely electronical; the mechanical "black box" can be considered as a given.

The main objective of this thesis consists of designing a suited stand-alone power system and the integration of a GPS-module, microcontroller and bus-interface to connect to the main satellite to retrieve and save the results of the onboard experiments.

Profile :

- Microcontrollers
- Power electronics
- Data capturing/interface design

What do you gain ?

- A unique engineering experience within an exciting space mission.
- Create added value for your CV and the team.
- A team of students willing to help in any way possible.
- Be part of the team that will revolutionize the CubeSat platform.

If you are interested? Please contact us at recruitment@aetherspace.be .

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