



Design and implementation of an electric power system and data controller for a black box of a re-entry CubeSat

We are looking for two motivated Electronics and ICT 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 main satellite already has an electric power system and data controlling unit for the whole satellite. The idea of the black box is to hold a redundant, independent mini power and data handling system that prevents data and power loss, in case the main satellite would not survive re-entry.

Thesis objective

The thesis requires a literature study of existing systems, including the already designed main power and data system of the CubeSat itself. Thereafter, the thesis will encompass the design, build and testing of a redundant electric power system and data controller for a black box of a re-entry CubeSat.

Profile

- Knowledge of power electronics
- Interested in hardware design and software implementation combination.
- Knowledge and experience with programming microcontrollers (C)
- Interest in exploring redundant software/hardware data storage systems.

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.
- Connection to a wide network of aerospace companies

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