

Design of an active roll actuator for a formula student car



We are looking for motivated master students Engineering Technology

Project description:

Formula Electric Belgium (**FEB**) is a team of highly motivated engineering students that build an electric formula student race car. Just like Formula 1 the team builds a brand-new car each year to compete in multiple international competitions during the race season. Formula Student is the largest international engineering and design competition in the world. The competition is characterized by combustion vehicles, electric vehicles and since recently also autonomous vehicles. Formula Electric Belgium strives towards innovations and the raw performance of technologies. It is for this reason that the team will focus on the autonomous/electric race cars. Research and development applications will be made by postgraduate students in collaboration with thesis students from the KU Leuven and bachelor students from Thomas More.

Thesis description:

This thesis is about the implementation of an active roll actuator in a Formula Student car. First, a literature study will be done on the operation and the advantages and disadvantages of an active roll system. Several possible concepts should be mentioned. After this, a final design will be drawn up on the basis of the acquired knowledge.

Thesis objective:

The global goal of a Formula Student competition is to win the competition through good design and performance. An active roll actuator should improve the handling and the performance of the car. The design must be feasible to implement on a Formula Student car. Lightness, simplicity, usability and compatibility are key. The finished product must be a fully finished design, ready for implementation the following year.

Profile:

- Interested in vehicle dynamics
- Can work in iteratively
- Creative
- Teamplayer

What do you gain?

- A unique engineering- and team experience where hard work and team atmosphere are central.
- Work with innovative technologies in a realistic environment/application.
- Create added value for your curriculum and the team

Are you interested? Please send your resume with accompanying motivation to:

recruitment@formulaelectric.be

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