



Accurate state of charge and state of health estimation of a Formula Student race car

Green Innovation meets performance

Our Project

Formula Electric Belgium is a student-based race team that pushes green innovation to performance. We design and build our own electric race car each year to participate in the international Formula Student competitions. This year, we are looking for pioneers to challenge the status quo and bring our top-notch electric race car to the next level. As a Thesis student, you will have to research, design, prototype and test your systems together with a group of highly motivated, ambitious students. You will work together with our team members and companies to develop new innovations.

Description and objective

The State of Charge (SOC) and State of Health (SOH) of a battery are critical parameters for electric vehicles as they determine the vehicle's range and overall performance. In this thesis, you will focus on developing an accurate estimation of the battery SOC and SOH for our Formula Student race car.

This will involve exploring different estimation methods and comparing their accuracy in predicting the battery's charge and capacity. You will also investigate the impact of different driving scenarios on the battery's SOC and SOH, and develop strategies for optimizing the battery's performance while prolonging its lifespan. The ultimate goal is to provide our team with a reliable and accurate tool for monitoring the battery's health and optimizing its use during races.

Profile

- Bachelor Engineering Science or Technology
- Interest in battery technologies
- Not afraid of simulation software (Simulink)
- A creative out-of-the-box mindset with an eye for detail

Returns

- Experience in an unique field of expertise
- Gain exposure to cutting-edge technologies and industry-leading organizations
- Possibility to network and cooperate with international stakeholders
- Gain strong know-how of battery cells

Join our research team!



Mail your contact info and field of interest to recruitment@formulaelectric.be