

System modeling for a hundreds kW flying fuel cell system

Description

Smart mobility, with keywords: electrification, hydrogen, and fuel cells, will continue being a major German and European strategy (e.g., Climate Action Plan 2050) for the next a few decades. Planned in an EU-Horizon project newly started at ivb, a hundreds-kWs fuel cell system for aircraft will be built and tested out. Prior to all the experimental work, a system model will be established for detailed designing the system architecture, as well as accurately sizing all the components for the upcoming procurement and system construction steps.

Within this thesis work, the system model will start off from an already well-built in-house model, which has been consistently refined in the past 4 years. Experts and expertise could also be reached on the daily basis during your carrying out the work.

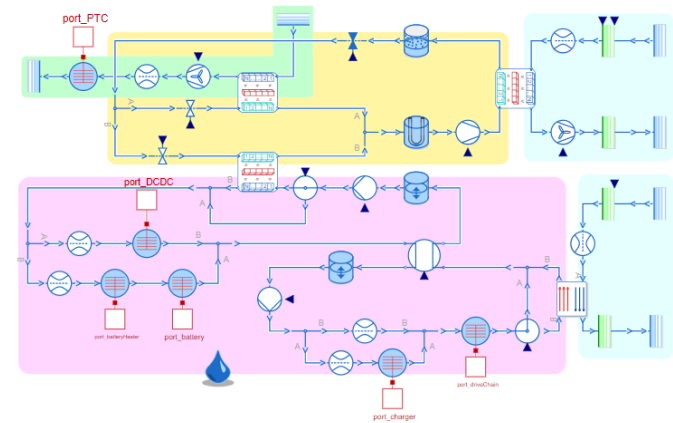
Your responsibilities

- Literature survey on ongoing flying fuel cell projects and existing system models
- System modeling for a hundreds kW flying fuel cell system
- Operational studies and optimization of the fuel cell system by modeling
- Documentation on all the project activities
- Participation in regional conferences/workshops is also encouraged

Prerequisites

- Working independently with teamwork mindset
- Basic knowledge in Matlab, Modelica or Python would be helpful
- Very good knowledge of English, both written and spoken

Die TU Braunschweig strebt in allen Bereichen und Positionen an, eine Unterrepräsentanz im Sinne des NGG abzubauen. Daher sind Bewerbungen von Frauen besonders erwünscht und können nach Maßgabe des §11 NGG bevorzugt berücksichtigt werden. Schwerbehinderte werden bei gleicher Eignung bevorzugt. Ein Nachweis ist beizufügen. Zu Zwecken der Durchführung des Bewerbungsverfahrens werden personenbezogene Daten gespeichert.



Source: <https://github.com/DLR-SR/ThermofluidStream>

Starting: As soon as possible

Contact

Xin Gao, Dr.-Ing.,
Senior scientist, PI



Hermann-Blenk-Str. 42
Room: 110

Telefon: +49 531 / 391 66925
Mail: xin.gao@tu-braunschweig.de

- | | |
|---|---|
| <input checked="" type="checkbox"/> Bachelor Thesis | <input checked="" type="checkbox"/> theoretical |
| <input checked="" type="checkbox"/> Student Thesis | <input checked="" type="checkbox"/> simulative |
| <input checked="" type="checkbox"/> Master Thesis | <input type="checkbox"/> experimental |