



RESEARCH THESIS

FEM Workflow

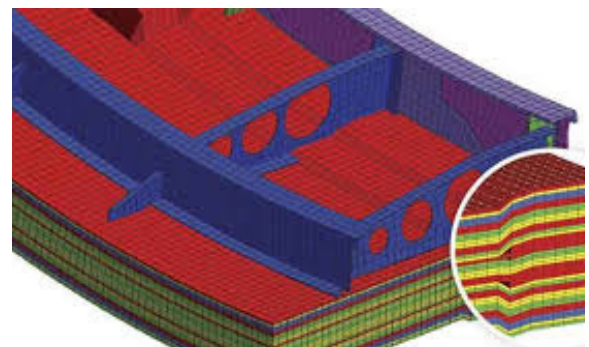
We optimize our wings internal structure with FEM to reduce our cars weight as much as possible. The objective is a new workflow for significant acceleration and simplification to reduce development time and simplify the entry for newcomers.

The FEM simulation would preferably be done in Hypermesh. Working with CFRP and its extremely anisotropic properties makes this especially challenging. Some minor CFRP testing to refine our data for our prepreg can be a part of this thesis.

The workflow is supposed to start right away when starting the internal design of a geometry. At this stage, preparations are to be defined, standardized and done within the CAD.

Ideally, this preparation would be done in fibersim which allows a combination with accelerated exports.

Then a standardized transfer to our simulation tool Hypermesh is necessary. In Hypermesh, a routine is established first and then developed with automations and predeveloped templates. This process can be taken further with automatized shuffle optimizations.



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Tasks:

- Prep Geometries in CAD
- Develop FEM Template
- Automate with Programming

Requirements:

- Basic CAD Skills
- FEM experience
- Ideally CFRP experience
- Become team member