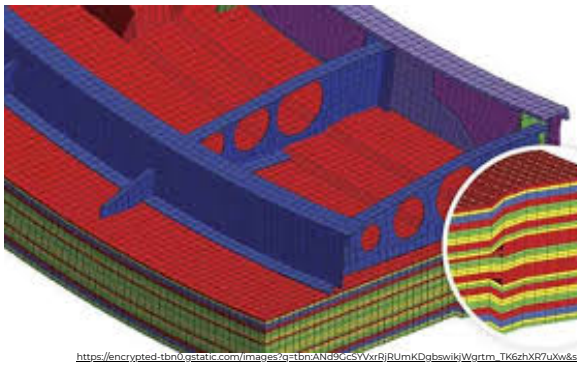


SUGGESTED TOPIC FOR SCIENTIFIC WORK

FEM Workflow





https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcSYVxrRjRUmKDqbswikjWqrtm_TK6zhXR7uXw&s

Our wings' internal structure is optimised with FEM to keep weight as low as possible. The aim is to build a faster, simpler workflow that shortens development time and supports new team members. The preferred tool for FEM simulation is Hypermesh. Due to CFRP's highly directional behaviour, the work is demanding. Smaller CFRP tests to improve our prepreg data may also be included. The workflow begins early, during the first steps of internal geometry design. Here, all preparations are defined, standardized, and carried out in the CAD. Ideally, Fibersim is used for this preparation, allowing quicker exports.

A standardized transfer to Hypermesh follows. There, a routine is to be created and expanded with automation and ready-made templates. Further improvement is possible through automated shuffle optimization.The topic is merely a suggestion and must be finalised with the institute.

Tasks:

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

Requirements:

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