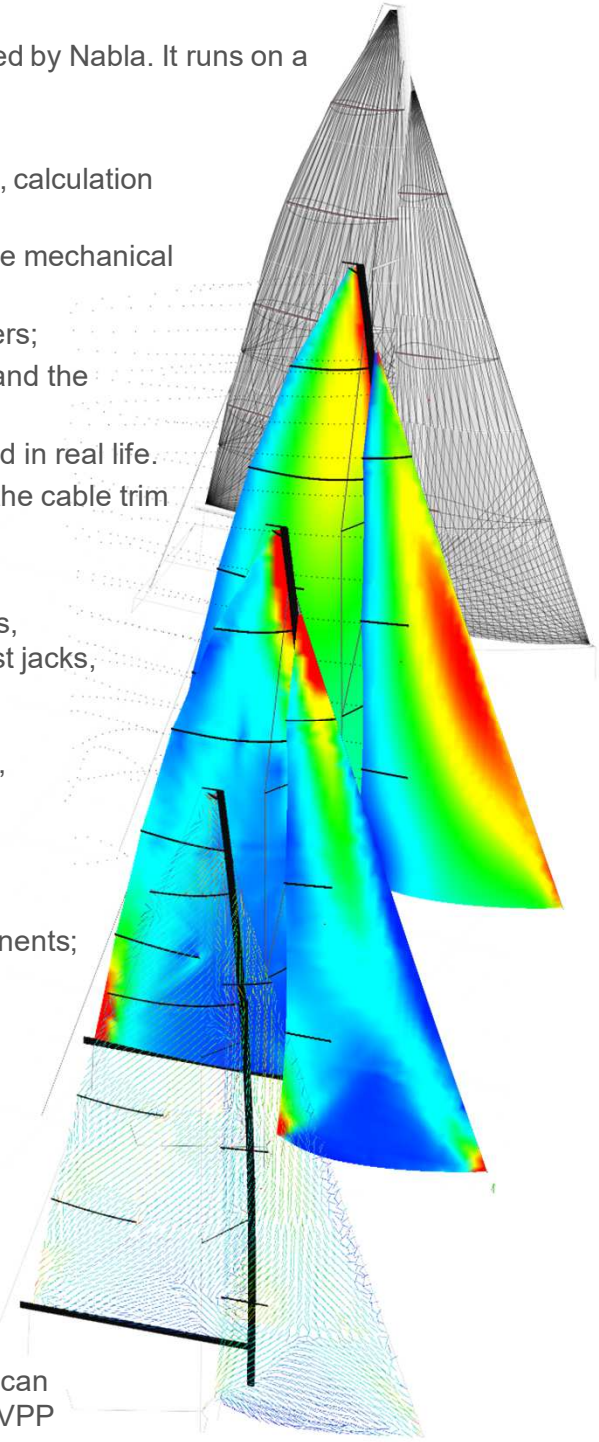
SailPack FSI
Fluid & Structural Analysis
V. 26.1

SailPack – Fluid Structure Interaction Analysis

- SailPack FSI is one of the most advanced and accurate solutions for fluid-structure interaction (FSI) calculations. Developed over many years and validated through full-scale testing, it is a true scientific tool for optimizing your sail and rig designs.

- SailPack FSI is powered by OptiSail, the FSI solver developed by Nabla. It runs on a standard Windows PC.

- SailPack provides a single user interface for model definition, calculation control and results analysis.
- To prepare your model for an FSI study, you simply define the mechanical properties of the sails and rig:
  - Properties and stiffness of the sailcloth, battens and fibers;
  - mechanical properties of tubes, spreaders and cables, and the connection types between rig elements.
- A dock-tuning process lets you tune your rig just as you would in real life.
- Then define the sailing conditions (wind, boat speed…) and the cable trim settings, and you are ready to run an FSI calculation.



- Almost any rig configuration can be modeled: sloops, ketches, rotating wing masts, outriggers, keel-stepped masts with mast jacks, backstay deflectors, barber haulers, inhaulers…

- Results are displayed in the SailPack 3D view: flying shapes, pressure distribution, loads, strains (values and principal directions), wrinkles…

- A wide range of data is extracted from the results:
  - loads and strains in cables, beams and other rig components;
  - resultant forces and moments acting on the model;
  - sail flying shape data and rig deflections.

- The built-in flow solver (inviscid) is limited to upwind conditions. For other conditions, CFD calculations can be carried out by specialist CFD providers (list available on request). OptiSail can then apply the CFD pressure distribution to the sails using the pressure files generated by the CFD calculation.

- Originally created for sail designers, this tool is also suited to naval architects, mast builders, batten manufacturers… who can use it to obtain realistic load data for their design process or VPP tools, and to improve their collaboration with sailmakers.

Additional Information:

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