

Vibrations et Identification des Structures

Teaching Activities

List of courses

MECA030-0 Dynamics of mechanical systems
MECA029-0 Theory of vibrations: application to structural dynamics
AERO015-0 Mechanical design of turbomachinery
MECA062-0 Vibration testing and modal identification



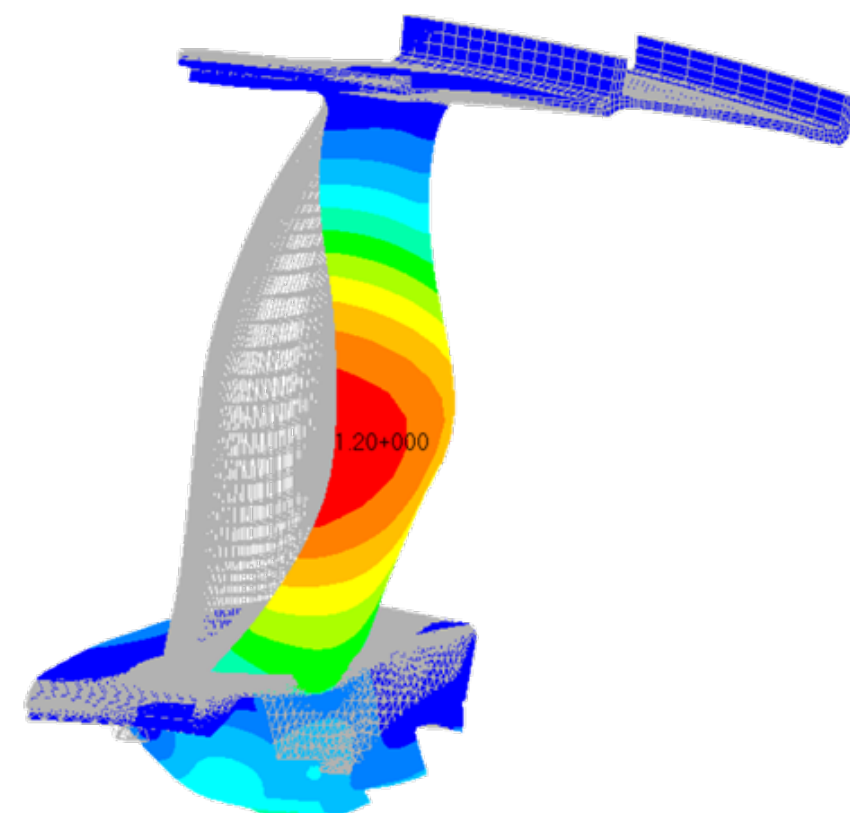
3 nodal diameter pattern in a disk
(©tilt ulg dr – Labo Golinval)



Modal testing of an airplane mock-up

Research Activities

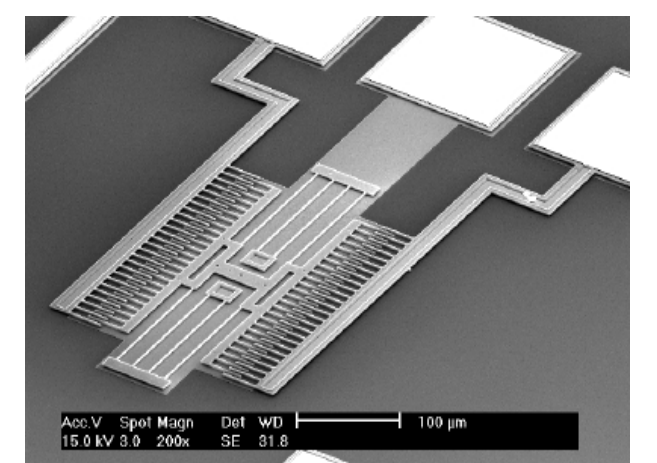
The LTAS-VIS lab carries out research in the field of **structural dynamics**, **mechanical vibrations** and **rotordynamics**.



Finite element model of a single stator blade using cyclic symmetry (1F bending mode)

The main topics on which LTAS-VIS has developed a strong research as well as teaching expertise are the following:

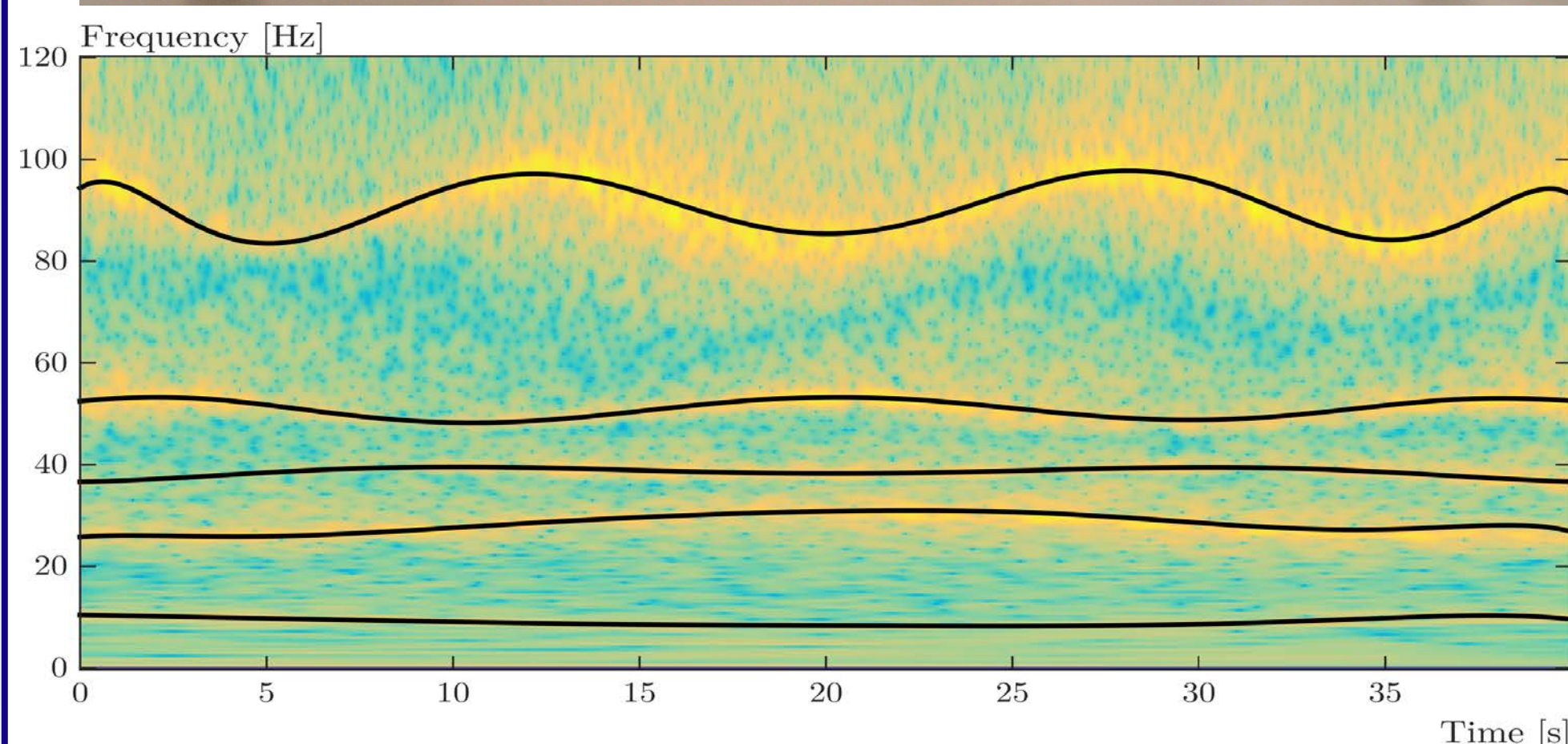
- Vibration testing and experimental modal analysis;
- Identification of linear and nonlinear mechanical structures;
- Operational modal analysis and structural health monitoring



Dynamic analysis of MEMS

Experimental and Operational Modal Analysis

Ph.D. thesis: Identification of linear time-varying systems



Topics for Master and Ph.D. thesis

- Testing and identification of dynamic systems.
- Dynamics of rotors in presence of nonlinear contact forces.

These topics are very broad and have to be discussed with interested candidates. Other proposals in cooperation with industry are also welcome!

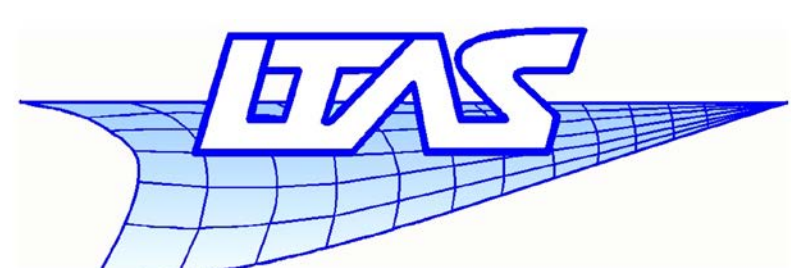
Environmental Vibration Testing



Services to the industry

Vibration testing facilities and equipments are shared with the V2i start-up company which was created in 2004 to provide services to industry.

Fatigue testing on electro-dynamic shaker



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