Nonlinearity in Structural Dynamics For Researchers - Third Edition

September 11 – 13, 2017 **University of Liège, Belgium**

Course fee: 400 EUR (including lunches and coffee breaks)
Applications to be sent to training@nolisys.com by June 1, 2017

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Course Description

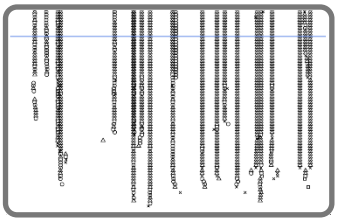
The course is intended to provide deep insights into the impact of nonlinearities in structural dynamics. The originality of this course is to cover the various aspects of the vibration engineering practice, from raw data measurement to advanced system design. Rigorous theoretical, numerical and experimental approaches are described to teach the participants how to model, understand and exploit nonlinear behavior. Hands-on practice in Matlab helps attendees gain experience with the new concepts and tools.

2nd edition in Sep. 2016

Course Outline

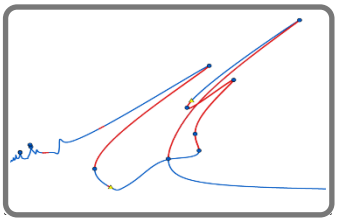
The course is structured according to the 3 major steps of a nonlinear analysis, namely identification, simulation and understanding. Classical lectures illustrated using real-life applications alternate with training sessions based on the NI2D® software developed by NOLISYS.

Day 1: Identify



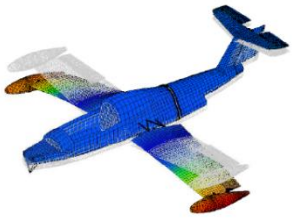
- Nonlinear measurements
- Detection
- Characterization
- Subspace identification

Day 2: Simulate



- Newmark
- Shooting
- Harmonic balance
- Arclength continuation

Day 3: Understand



- Nonlinear normal modes
- Nonlinear FRFs
- Bifurcations
- Nonlinear design

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