Nonlinear Vibrations of Aerospace Structures

Tutorial

Characterising Nonlinearity using ASM

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Application to a Real-life Structure: F-16 Fighter

F16 aircraft, Saffraanberg, Belgium.

Nonlinear connection instrumented on both sides.
Import LMS Measurement Geometry and Recorded Data
Some Extra Sensors Exist in the Geometry
You Visualise the Measurement Geometry of the F-16
Nonlinearity in the Back Connection of the Right Wing
Select ASM in the Solver List
How Do You Interpret the Observed Dynamics?
How Do You Interpret this Result?
Nonlinearities in complex structures can be visualised!

NI2D software provides a user-friendly platform to apply ASM (selection of the modes of interest, zero-velocity slices, …).
Further Readings


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