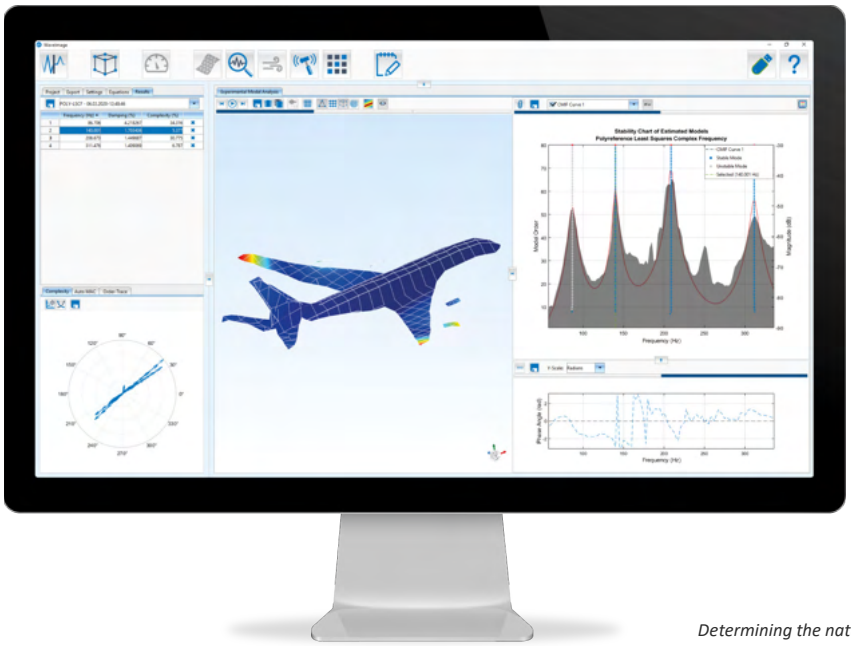
WaveImage

WaveImage Modal

MEASUREMENT, ANALYSIS AND MONITORING OF STRUCTURE- AND AIR-BORNE SOUND



Software WaveImage:
Determining the natural vibration of an aircraft model

WaveImage Modal is a software that allows determining vibrational properties via known **Experimental (EMA)** and **Operational Modal Analysis (OMA)** methods. The software features a unique combination of modal analysis algorithms.

Furthermore, WaveImage Modal features **Operating Deflection Shapes Analysis (ODS)**, which is used to calculate vibrational properties under actual operating conditions.

To analyse rotational structures, WaveImage Modal offers algorithms for **Order Analysis (OA)**. Order analysis is the analysis of noise or vibrations of rotating structures. In contrast to frequency analysis, the energy content of sound is not plotted against frequency but against the order. The order is a multiple of the speed.

In addition to data-based modal analysis, WaveImage Modal offers a **Finite Element Analysis (FEA)** component for simulating vibrational properties based on structural geometry and material properties. To adjust the FE model to measured data-based modal results (through OMA and EMA) a **Structural Dynamics Modification (SDM)** is also available.

Measurement data for dynamic structure analysis can be recorded by means of acceleration, speed and displacement transducers and processed using WaveImage Modal.

BENEFITS

- ✓ Full solution from simulation, measurement, analysis to report
- ✓ Intuitive graphical user interface to ensure easy handling
- ✓ Fast upload and analysis of large files with several thousand measurement points

gfai tech GmbH
Volmerstraße 3
12489 Berlin | Germany

Tel.: +49 30 814563-750
Fax: +49 30 814563-755
E-Mail: info@gfaitech.de

www.gfaitech.com
www.wave-image.com

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MODULES

Experimental Modal Analysis (EMA)
Component for structures with measurable and targeted excitation (artificial excitation via WaveImage possible)

Operational Modal Analysis (OMA)
Component for structures with stochastic or ambiental excitation, where a measurable excitation is complicated or impossible

Operating Deflection Shapes (ODS)
Component for calculating vibrational properties under operating conditions

Order Analysis, Filtering and Tracking (OA)
Component for the analysis of rotating structures with constant or variable speed. Displays information on harmonic oscillations which can not be detected by the standard modal analysis algorithms due to speed changes during the measurement (e.g. motors, pumps).

Finite Element Analysis (FEA)
Component for FE simulation of vibrational properties on the basis of structural geometry and material properties

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