

Sound Field Visualization of Jet Noise

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Sponsored by Rolls Royce and Indiana 21st Century R&T Fund

Objectives

- Identify location and strength of flow and combustion noise sources
- Prediction of farfield radiation from test stand measurements

Methods

- Nearfield acoustical holography
- Microphone array measurements in jet nearfield
- Array signal processing

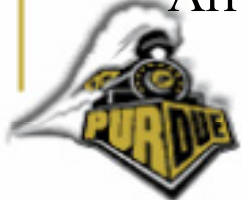
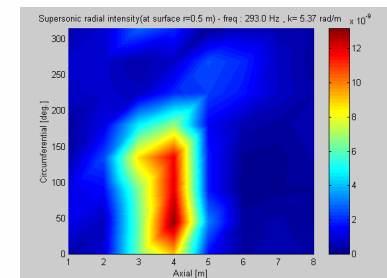
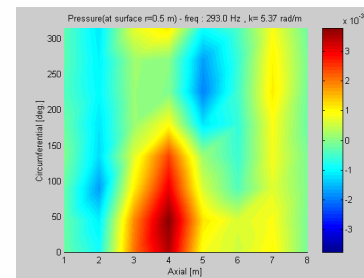
Results

- Simulation for a low speed fan

test set-up



calculated sound field



Sound Transmission of Layered Media

Professor J. Stuart Bolton & Jeongwoo Kim
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Objectives

- Identify and improve the acoustical characteristics of honeycomb panels

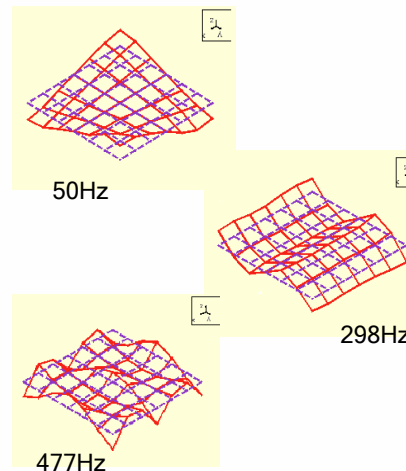


Honeycomb panel is widely used in aircraft structure

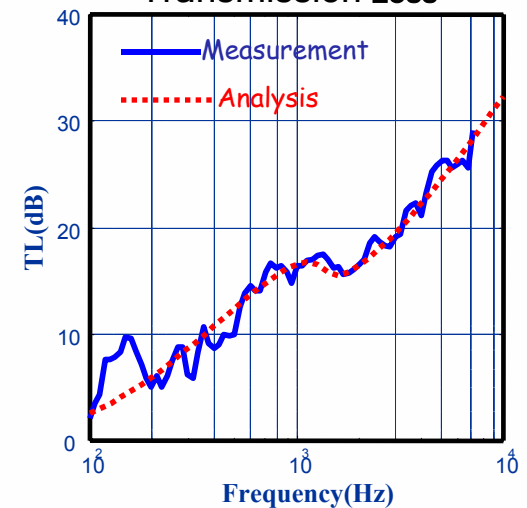
Methods

- Flexural mode measurement
- TL loss measurement
- Anisotropic analytic model
- FEM analysis

Flexural modes



Transmission Loss



Purdue University - School of Mechanical Engineering

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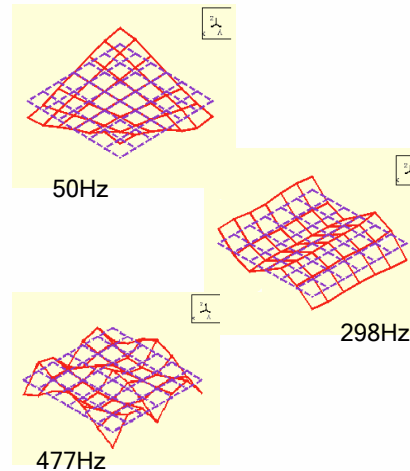


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Transmission Loss

