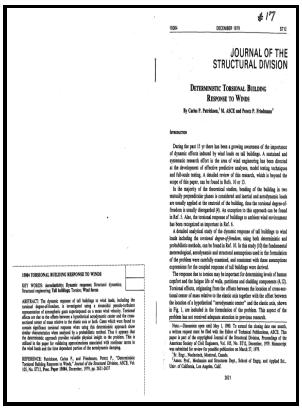
Predicted effect of aerodynamic detuning of coupled bending-torsion unstalled supersonic flutter

National Aeronautics and Space Administration, Lewis Research Center - Effect of Structural Nonlinearity on the Dynamic Response of a Coupled Acoustic


JOURNAL OF THE STRUCTURAL DIVISION

DETERMINISTIC TORSIONAL BUILDING RESPONSE TO WINDS

Description: -
-
Workers compensation -- California.
Arguedas, José María, -- 1911-1969 -- Criticism and interpretation.
Tillich, Paul, -- 1886-1965 -- Correspondence.
Wŏnju-gun (Korea) -- History -- Sources.
Tuning.
Torsion.
Supersonic flutter.
Rotor blades (turbomachinery)
Coupled modes.
Bending.
Aerodynamics, Supersonic.
Flutter (Aerodynamics)predicted effect of aerodynamic detuning of coupled bending-torsion unstalled supersonic flutter
-
NASA technical memorandum -- 87240.predicted effect of aerodynamic detuning of coupled bending-torsion unstalled supersonic flutter
Notes: Microfiche. [Washington, D.C. : National Aeronautics and Space Administration], 1986. 1 microfiche.
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Unsteady Aerodynamics, Aeroacoustics, and Aeroelasticity of Turbomachines and Propellers

Simulation results indicate good dynamic performance. We later built and adapted this to the classroom demonstration model illustrated in figure 2. The main factor is a deteriorating center of balance due to declining physical performance.

Effect of Structural Nonlinearity on the Dynamic Response of a Coupled Acoustic

The results com- pare favorably. This method provides a powerful tool in 119 modal response analysis of random as well as impulse response data in the frequency domain.

Forced response prediction for industrial gas turbine blades

Where response information only is available, the autocorrelation approach or equivalently, the spectrum of the response should, of course, be used. System Identification With respect to the problem of obtaining a measurement of the complex structural transfer function either in a laboratory environment or a wind tunnel or flight environment, the Fourier analyzer has demonstrated its speed and dynamic range superiority over sine steady-state test methods.

ThinkingObliquely

. Thus at any given angle of at- tack beyond the flaperon saturation point, the only differ- ence between the two maneuvers should be the canard po- sition.

Effect of Interblade Phase Angle and Incidence Angle on Cascade Pitching Stability

The stability of the system is analysed using the Nyquist plot. The next section deals with experiment research including earlier activities performed,

particularly from the sixties, as well as recent developments. The results show that the full-order moving crowd model can be well approximated by a reduced-order model whereby the interaction with the pedestrians in the crowd is modelled using a single equivalent SDOF system.

Related Books

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