

SUMMARY OF NEW CONTRIBUTIONS OF THE THESIS

Title: *Dynamic Analysis of Piezoelectric Stiffened Reinforced Composite Plates Subjected to Aerodynamic Loads*

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The New Findings of the Research

1, Building the algorithm and the calculation program SMART_STIFFENED_PLATE_2018 by using first order shear deformation plate theory and finite element method to dynamic nonlinear analysis of piezoelectric stiffened reinforced composite plates subjected to aerodynamic load, which has the overall damping of the system is considered. In addition to determining the dynamic nonlinear response, the algorithms and calculation programs also allows for consideration of plate's stability. The calculation program has been verified and proven to be reliable.

2, The results of numerical with the parameters: structural parameters, loads, obstructions, links, voltages, piezoelectric plates changes, making comments, intentional quantitative assessments scientific and practical meaning in the field of engineering. Based on the parameter pairs (core and voltage angle, ton angle and airflow velocity) change, the dynamic stabilization domain of the piezoelectric stiffened composite plate is built, allowing the selection of parameter pairs. Reasonable for the purpose of increasing stability and reducing vibration for the plate.

3, Experimental data on the the dynamic response of the stiffened composite plate under airflow forces, allowing to check the accuracy of the algorithm and calculation program above.

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