



A. Dixit, S. Hanagud

# Verification of Unified Framework for Plate Structures Using Kirchhoff's Plate Theory

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In this paper the Unified Framework which models structures with damages to obtain their vibration characteristics, is applied to plates. There are two inputs to the Unified Framework, the damage model and the modes and natural frequencies of the undamaged structure. The damage model is presented for a damage of arbitrary shape and size. Examples of damages for four different types of damages are presented, a point damage, a line damage, a curve shaped damage and a 2 dimensional rectangular shaped damage. Although, Unified Framework is applicable to any arbitrary set of boundary conditions of an overall self adjoint system, for plates, only boundary conditions which have at least two opposite ends simply supported has been solved in literature.

**Ключевые слова:**

**Содержание.**

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