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عنوان مقاله:

BENDING ANALYSIS OF LAMINATED THICK CYLINDRICAL PANEL WITH VARIOUS BOUNDARY CONDITIONS USING GENERALIZED DIFFERENTIAL QUADRATURE METHOD.

محل انتشار:

پانزدهمین کنفرانس سالانه مهندسی مکانیک (سال: 1386)

تعداد صفحات اصل مقاله: 8

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خلاصه مقاله:

Bending analysis of thick laminated cylindrical panels with various boundary conditions is studied using Generalized Differential Quadrature (GDQ) method. Based on the first order shear deformation theory (FSDT), the governing equations of the problem include a system of fifteen first order partial differential equations consist of five equilibrium and ten constitutive equations in terms of unknown displacements, forces and moments. Presence of all panel variables in the governing equations provides a simple procedure to satisfy different boundary condition during application of the GDQ. The method provides accurate results with relatively small number of grid points. Various combinations of clamped, simply supported and free boundary condition are given to demonstrate the accuracy and convergence of the presented technique. Results are compared with those in the open literature and reasonably good agreement is achieved.

کلمات کلیدی:

Generalized Differential Quadrature، bending analysis، thick laminated cylindrical panel، free edge

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