B15: Dynamic Response of Non-Prismatic Damped Beam subjected to Travelling Load with Time Dependent Speeds

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Abstract

The dynamic response of non- prismatic damped beam under travelling load with time dependent speeds is investigated in this paper. In order to obtain solution to the dynamical problem, a technique based on the method of Galerkin and Laplace transformation techniques in conjunction with convolution theory. The displacement response for moving load model for the dynamical problem is calculated for various time t and presented in plotted curves. Analyses shows that increase in the values of the structural parameters such as axial force N, CT is the damping due to resistance of transverse velocity, CB is the damping due to resistance of strain velocity, and foundation stiffness K reduces the response amplitudes of non- prismatic damped beam under moving loads. The resonance condition of the dynamical systems is also established.

Keywords: non- prismatic, damped beam, resonance, foundation stiffness, transverse response, Galerkin's method.

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B16: A Decomposition Approach for Magnetohydrodynamics Stagnation Point Flow over an inclined Shrinking/Stretching Sheet with Suction/injection

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Abstract

In this paper, the approximate solution to Magnetohydrodynamics Stagnation Point Flow over an inclined Shrinking/Stretching Sheet with Suction/injection was analyzed via the Adomian Decomposition. The governing partial differential equations (PDEs) were reduced with the help of similarity variables to non linear coupled ordinary differential equations (ODEs). The effects of various pertinent parameters were presented numerically and graphically. Numerical comparisons were carried out with the existing literature and a good agreement was established. The angle of inclination was found to enhance the velocity profile.

Keywords: Angle of inclination, Stagnation point, Magnetohydrodynamics and Adomian Decomposition Method.

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