

## عنوان مقاله:

The Effects of the Moving Load and the Attached Mass-Spring-Damper System Interactions on the Dynamic Responses of the Composite Plates: An Analytical Approach

## محل انتشار:

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## خلاصه مقاله:

In the current study, the effects of interactions of the moving loads and the attached mass-spring-damper systems of the composite plates on the resulting dynamic responses are investigated comprehensively, for the first time, using the classical plate theory. The solution of the coupled governing system of equations is accomplished through tracing the spatial variations using a Navier-type solution and the time variations by means of a Laplace transform. Therefore, the results are exact. The effects of various material, stiffness, and kinematic parameters of the system on the responses are investigated comprehensively and the results are illustrated graphically. Apart from the novelties presented in the modeling and solution stages, some practical conclusions have been drawn such as the fact that the amplitude of vibration increases for both the free and forced vibrations of the plate and the suspended mass, when the magnitude of suspended mass increases.

## کلمات کلیدی:

Composite plate, Dynamic response, Laplace transform, Attached mass-spring system Moving load

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