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DISTRIBUTED MOVING LOAD ON NON-UNIFORM BERNOULLI-EULER BEAM RESTING ON BI-PARAMETRIC FOUNDATIONS

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ABSTRACT

This paper concerned with the dynamic analysis of non-uniform Bernoulli-Euler beam resting on bi-parametric foundations and traversed by constant magnitude moving distributed load with simply supported ends conditions. Damping term effect is incorporated into the model. The solution technique employed is based on Galerkin method and integral transformation in conjunction with the convolution theorem. The deflection of the beam under moving loads is calculated for several values of damping coefficient (ε), shear modulus (G), axial force (N) and foundation modulus (K). The results are shown graphically as a function of time.

KEYWORDS: *Non-Uniform Beam, Bi-Parametric Foundations, Axial Force, Shear Modulus, Foundation Modulus, Damping Coefficient, Galerkin Method, and Simply Supported Conditions*