

## عنوان مقاله:

Analysis of Thick Laminated Composite Plates on Elastic Foundations by Exponential Basis Functions; A Meshfree Approach

## محل انتشار:

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## خلاصه مقاله:

This paper presents a meshfree approach for the analysis of symmetrically laminated thick plates resting on Winkler elastic foundations using a first order shear deformation theory. In this method, the total solutions for the unknown generalized displacements are composed of a homogenous and a particular part. The homogenous solution is approximated by summation of an appropriately selected set of exponential basis functions (EBFs) with unknown coefficients. The imposition of the boundary conditions and determination of the unknown coefficients are performed by a collocation method with the aid of a consistent and complex discrete transformation technique. The particular solution for treating transverse loads is derived using the discrete transformation and another series of EBFs. A sample problem is presented to illustrate the applicability, efficiency and simplicity of the method.

## کلمات کلیدی:

symmetrically laminated thick plate; Winkler elastic foundation; exponential basisfunction; first order shear deformation theory; discrete transformation

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/102778>

