

**REFINED THEORY FOR FLEXURAL MOTIONS OF ISOTROPIC ELASTIC
PLATES.**

Voyiadjis G.Z., Baluch M.H.
Journal of Sound and Vibration
Vol. 76, Issue.1, 1981

Abstract: A technical theory for the flexural motions of isotropic elastic plates has been developed, taking into account the influence of transverse normal strain and transverse normal stress, together with rotatory inertia and transverse shear. The theory is tested by studying the classical wave propagation problem and results indicate the influence of the transverse normal strain on the wave speed at large values of h/λ . In addition, a constant magnitude for the shear coefficient k^2 equals $5/6$ is obtained, which is in contrast to an undetermined coefficient form in previous flexural motion formulations but consistent with the value obtained in the Reissner static technical theory of plate bending.