

Impact wave propagation in a thin elastic isotropic plate

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Abstract: Abstract: The paper deals with the theory of solution of transverse shock wave propagation in thin plane elastic isotropic plate. The solution is made for various material and geometric models of the plate. The calculation is performed analytically for Kirchhoff and Rayleigh geometric models. The plate is fixed around its perimeter. The plate is loaded continuously or by the solitary force acting on the upper facial surface in the perpendicular direction to the midline surface of the unloaded plate. The paper presents the relations and results for transverse displacement, velocity and voltage. Analytical results are compared with the experiment.

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