

The features of a non-stationary state of stress in the elastic multisupport construction

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Abstract: The paper deals with the problem of propagation of unsteady elastic waves in an elastic multisupport construction, which is a rectangular strip. The mixed problem is formulated in terms of the stress and velocity and is numerically modeled using an explicit difference scheme through computation based on the method of spatial characteristics. The main objective of this study is to analyze the impact of the gap in the boundary conditions on the propagation of wave processes in the internal points of the studied elastic medium. The concentration of dynamic stresses was investigated in the vicinity of the gap of the boundary conditions. The results of the study were brought to the numerical solution.[1-8]

Keywords: Speed, voltage, load, plane strain, stress concentration, numerical solution, wave propagation

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