

# **ON ONE CONTACT PROBLEM FOR A PIECEWISE-HOMOGENEOUS ORTHOTROPIC PLATE**

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The piecewise-homogeneous orthotropic plate, reinforced with a finite inclusion by a normal force of some intensity is considered. The inclusion has the form of a slightly cusped patch, it is assumed that it is rigidly coupled to the plate and bends as an ordinary beam. There is a condition of compatibility of vertical deformations of the inclusion and the elastic piecewise-homogeneous continuous plate, loaded with normal stresses. By using methods of the theory of analytic function, the problem is reduced to a singular integro-differential equation in a finite interval. Using an integral transformation a Riemann problem is obtained, the solution of which is presented in explicit form.