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ON SOME SOLUTIONS OF STATICS OF THE ELASTIC TRANSVERSALLY ISOTROPIC BINARY MIXTURES

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The purpose of this paper is to consider three and two-dimensional version of statics of the theory of elastic transversally-isotropic binary mixtures, which is the simplest anisotropic one and for which we can do explicit computation.

There the fundamental and some other mixtures of singular and regular solutions are constructed for the equations of the statics of a transversally-isotropic elastic binary mixtures.

Using the fundamental matrix we will construct the simple and double layer potentials and study its properties.

Applying a special integral representation formula for the displacement vector the basic boundary value problems are reduced to a simple system of integral equations. By the aid of these equations Poisson type formulae of explicit solutions are constructed for the half-plane for all the considered BVPs.