Some plane boundary value problems for a micropolar porous elastic body

Veriko Kekutia

e-mail: veriko.kekutia236@ens.tsu.edu.ge

Department of mathematics, Faculty of Exact and
Natural Sciences, I. Javakhishvili Tbilisi State
University, University str. 13, 0186 Tbilisi, Georgia

The static equilibrium of a micropolar porous elastic material. We assume that the body under consideration is an elastic Cosserat media with voids The two-dimensional system of equations corresponding to a plane deformation case is written in a complex form and its general solution is presented with the use of two analytic functions of a complex variable and two solutions of the Helmholtz equations. On the basis of the constructed general representation, specific boundary value problems are solved for a circle and an infinite plane with a circular hole.