# SOFTWARE FOR SOLVING THE INVERSE PROBLEMS OF ELECTROMAGNETOELASTICITY

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The Maxewell and Lame systems are considered in the case when the electromagnetic field is generated by elastic oscillation. We neglect the reverse influence of the electromagnetic field on the elastic oscillation. The influence of electromagnetic field on the deformation field is considered as a result of the Lorentz forces.

We consider the problem of recovering some elastic and electromagnetic parameters of a layered medium from a weakly coupled linearized set of equation of electromagnetoelasticity. Some numerical methods for solution of invers and direct problems for electromagnetoelasticity equations are proposed.

The software package is written on the language Watcom C++ with enhanced graphical interface, this package permiting to reconstruct the functions of speed of longitudinal, transverse waves and electroconductivity of the medium in interactive mode employing the optimizational approach.

To organize the interactive process of search for the minimum points of the objective functionals various optimization methods are used.