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## FORWARD AND INVERSE PROBLEMS OF MAGNETOTELLURICS

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### Abstract

*The article proposes a mathematical model for a horizontally stratified medium. We consider forward and inverse problems of magnetotellurics for preset multilayered medium parameters. We solved the magnetotellurics problem for a three-layer medium with various parameters. We supply results of solving the forward and inverse problems that allowed us to detect the specifics of each method and compare the algorithms implemented. The software package developed can be used for solving problems based on various medium models*

### Keywords

*Electrical prospecting, magnetotellurics, apparent resistivity, Tikhonov — Cagniard model, horizontally stratified medium, resistivity, forward problem, inverse problem*

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