

Direct and iterative automatic interpretation of resistivity sounding data

Slavko Vujević and Mate Kurtović

Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture, University of Split, R. Boškovića b.b., 21000 Split, CROATIA

SUMMARY

In this paper numerical procedure for efficient automatic direct as well as automatic iterative interpretation of resistivity sounding data are described. The earth is modelled by horizontally stratified layers.

In the direct interpretation, the layer parameters are computed successively layer by layer using approximation of the first part of the field resistivity transform curve by a two-layer model curve. After any layer parameters computation, resistivity transform is reduced to lower boundary plain using the Pekeris recurrence relation. In such a way the top layer in earth model is removed.

In the iterative interpretation, resistivity transform sample values computed from field observations are compared with those computed from the layered model parameters. Comparison is implemented using one variant of the Marquardt method.
