

Inverse Problem in Resistivity Well-Logging

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Abstract

In this paper, we consider the inverse problem in resistivity well-logging. We want to determine the resistivity of the layers by measuring the potential on the electrodes. We obtain the expression of the derivative functions of the potential on the electrodes with respect to the resistivity of the layers. Then we solve the single parameter identification problem and two parameters identification problem in a special case. Finally, we give some numerical examples.