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Discovering Knowledge

DEVELOPING A LOW COST RESISTIVITY METER

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ABSTRACT

Electrical resistivity is an important parameter in exploration of earth layers; therefore, the need of instrument to calculate is great for geophysicist and geologist. Our aim is to develop a cost effective device, which can help recipient to the maximum, as the one available in market is expensive. Resistivity meter measure the resistance of earth. Resistivity of an earth in this case depends upon the electrode configuration and the amount of current flowing through the earth via electrodes. By multiplying, the obtained resistance with the geometrical factor, we get the resistivity. The result obtained by the device will help geologist, geophysicist, and archaeologist to determine soil condition, water exploration and underground surveying. The software and hardware features are combined in this project making it efficient and user friendly. The values obtained from the test conducted with the device are close to the theoretical values, we have completed the first phase of development and further, future work is required. The feature which make our device different is its cost effectiveness and additional features such as calculation of resistivity on board and display of result on LCD as well as on mobile phone via Bluetooth, makes it significant amongst the one available in the market. Its effects on market would be highly remarkable, because an instrument of such a calibre can change the course in field of geophysics.

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