

Abstract Submitted
for the APR18 Meeting of
The American Physical Society

Combined Automated Geophysical Field Calculator for Wenner, Schlumberger and Dipole Dipole Electrode System. DANNITY ISIWELE, Samuel Adegboyega University, Ogwa, Edo State, Nigeria, MONDAY ALILE, University of Benin, Benin City, Nigeria, ELMER ISIWELE, Deep Green Geophysical Ltd — This research is a fast and direct approach for solving the geometric factor (k) and the Apparent Resistivity (ρ_a) for the combined Schlumberger, Wenner, and Dipole Dipole electrode configurations in geo-electric field surveys, using the measured quantities of the current electrode and potential electrode spacing respectively. The main features are the potential electrode spacing (M, N), current electrode spacing (A, B), the instant resistance reading (V/I) (is the reading from the measuring device, usually a resistivity meter), the Geometric factor (k) and the Apparent Resistivity (ρ). The ability of the program to modify basic quantities like current electrode spacing, the potential electrode spacing and the V/I to suit individual field practice with respect to the lateral and vertical variations in the inhomogeneous media made it a unique program. On execution of the program, it was found that both the geometric factor (k) and the apparent resistivity (ρ_a) values are automatically displayed once the respective field data were inputted and the execute button clicked accordingly. The program and model is well suited for any field work in the realm of Schlumberger, Wenner and the Double dipole electrode configurations.

Dannity Isiwele
Samuel Adegboyega University, Ogwa, Edo State, Nigeria

Date submitted: 12 Jan 2018

Electronic form version 1.4