

Two-dimensional joint inversion of DC Resistivity data sets collected along parallel lines.

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Direct current resistivity (DCR) data are generally collected along parallel lines and interpreted by the help of 2D inversion algorithms. Although, it is easy to collect resistivity data by the help of multi-channel and multi-electrode resistivity systems, 3D inversion of this data set is time consuming. We suggested 2D joint inversion of these parallel sounding-profiling data sets together. This is allowing us to get 3D resistivity image with less CPU time if one compare with 3D inversion. We generated synthetic data for two-sided three-electrode arrays by the help of 3D modeling algorithm. The 2D joint inversion and 3D inversion results of these synthetic data sets are compared according to accuracy and CPU time. We also compared 2D joint inversion and 3D inversion of the field data collected at archaeological, Alaca Höyük, Turkey.