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Recent developments in the direct-current geoelectrical imaging method

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Abstract

There have been major improvements in instrumentation, field survey design and data inversion techniques for the geoelectrical method over the past 25 years. Multi-electrode and multi-channel systems have made it possible to conduct large 2-D, 3-D and even 4-D surveys efficiently to resolve complex geological structures that was not possible with traditional 1-D surveys. Continued developments in computer technology, as well as fast data inversion techniques and software, have made it possible to carry out the interpretation on commonly available microcomputers. Multi-dimensional geoelectrical surveys are now widely used in environmental, engineering, hydrological and mining applications. 3-D surveys play an increasingly important role in very complex areas where 2-D models suffer from artifacts due to off-line structures.

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