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摘要:

针对地下隐伏资源勘查对大深度、多参量电磁法技术的发展要求,利用天然场音频大地电磁的大深度探测及人工场激电法的多参量探测,在对分布式的场量接收和大功率的发射仪器硬件研制,以及数据处理资料解释研究基础上,成功研制了阵列天然场电磁法探测技术及混场源电磁法探测技术系统。经矿区试验应用表明,阵列天然场电磁法探测技术系统具有轻便高效大深度探测的特点,适宜于不同地貌景观尤其是困难条件下隐伏资源的大深度探测,而混场源电磁法探测技术系统不仅可获取大深度的天然场电阻率信息,还能获取人工场激电信息,可广泛应用于金属矿资源、地下水资源及油气资源的勘查。

关键词: [音频大地电磁](#) [人工场激电](#) [分布式多参量探测](#) [混场源电磁法](#)

The Research of Integrated Electromagnetic Method System [Download Fulltext](#)

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Fund Project:

Abstract:

To meet the needs of electromagnetic method, which is used for large depth and multi-parameter survey in perdu resources exploration, audio magnetotelluric method (AMT) and it's feature of larger depth, controlled source induced polarization (IP) and it's multi-parameter feature are both utilized. On the basis of developing distributed receiving system & high power transmitter, and data processing & interpretation technology, the array system for natural source electromagnetic method and the system for multi-source electromagnetic method have been developed. Experiments and applications on orefields manifest: (a) Arrayed audio magnetotelluric system has the following advantages, e.g., portability, high efficiency and large surveying depth, it is suitable to do survey in many different landforms, especially for large depth survey in difficult conditions and perdu resources exploration. (b) Integrated multi-source electromagnetic system has many advantages, not only can it obtain resistivity information of natural source in large depth, but also can obtain IP information. The integrated system can be used in metal ore resource, underground water resource, oil & gas resource exploration widely.

Keywords: [audio magnetotelluric method](#) [controlled source induced polarization](#) [distributed multi-parameter survey](#) [multi-source electromagnetic method](#)

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