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环境工程 地理学

# 长江中下游河流沉积物磁性特征初探

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摘要 通过多参数磁性测量分析，探讨长江中下游干、支流河流沉积物的磁性特征，为研究长江水沙环境积累基础资料. 研究结果表明，长江中下游干、支流河流沉积物中，磁性矿物类别均以磁铁矿为主，晶粒均以假单畴-多畴为主. 与干流相比，支流沉积物中不完整反铁磁性物质含量较多，晶粒较细，X值仅是干流的1/10. 随着支流泥沙的汇入，入江口以下江段沉积物的磁性特征相应发生变化. 支流泥沙物源贡献的研究是探讨长江中下游干流沉积物环境特征的主要因子.

关键词 环境磁学；沉积物；长江中下游

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# Magnetic properties of sediments in the middle and lower reaches of the Yangtze River

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**Abstract**

The environmental magnetic properties of sediments from the middle and lower reaches of the Yangtze River were investigated for the study of environmental information of Yangtze River basin. The results show that magnetic properties of the sediments in both the mainstream and tributaries are affected by ferrimagnetic magnetite, with the magnetic domain being pseudo single domain (PSD) - multi-domain (MD). Compared with the sediments of the mainstream, the contents of imperfect anti-ferromagnetic material are higher and ferrimagnetic mineral particles are finer in those of the tributaries. With material from the tributaries into the mainstream, magnetic properties of sediments in the estuary and lower reaches of the Yangtze River change correspondingly.The contribution of the tributary sources may be the main factor controlling the regional differences of sedimentary magnetic properties in the middle and lower reaches of the Yangtze River.

**Key words** environmental magnetism sediment the middle and lower reaches of the Yangtze River

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