黄河三角洲滨海湿地表层土壤稀土元素分布特征

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中文摘要:通过对黄河三角洲北部滨海湿地49个站位表层土壤样的稀土元素(REE)分布特征及其生态效应的研究,笔者认为:研究区表层土壤ΣREE含量为143.14~251.78mg/kg,平均含为182.98mg/kg;REE分馏程度均低于黄河流域沉积物和长江流域沉积物的REE分馏程度;研究区δEu和δCe与黄河流域和长江流域沉积物亦有一定差异。REE经球粒陨石和北美页岩准化后显示,研究区表层土壤与现代黄河流域沉积物的REE总体配分曲线相近,但其REE的总体含量均高于黄河流域沉积物中REE的含量,尤其HREE更为明显;不同植被区,表层土壤中E、LREE平均含量均为芦苇地<光滩<柽柳地<翅碱蓬地,而HREE平均含量为芦苇地<翅碱蓬地<柽柳地<光滩,其分馏程度芦苇地<光滩<柽柳地<翅碱蓬地,δEu和δCe平均值亦相对较测可能在湿地,特别是芦苇地里REE更多地参与了生物地球化学循环。

中文关键词:黄河三角洲 湿地 表层土壤 REE

REE Distribution Characteristics of Coastal Wetlands Surface Soil from the Yellow River Delt

Abstract:This paper has studied REE distribution characteristics and ecological effects of 49 surface soil samples collected from the coastal wetlands of Yellow River Delta results indicate that REE contents in surface soil of this area range from 143.14 to 251.78 mg/kg,with an average of 182.98 mg/kg. The fractionation degree of the REE is low than that of the Yellow River drainage area and the Yangtze River drainage area. δEu and δCe are also different from those in sediments of the above two areas. Chondrite-normalized and NASC-normalized patterns of REE show that sediments of the study area have the same fractionation pattern as sediments of the Yellow River drainage are Nevertheless, REE contents, especially HREE contents,in surface soil sediments of this area are higher than those in the Yellow River drainage area. In different vegetation areas,the average content of ΣREE and LREE is in order of common reed < bare < Chinese Tamarisk < seablite, the average content of HREE is common reed < seablite < Chinese Tamarisk < bare, and the fractionation degree of REE is common reed < bare < Chinese Tamarisk < seablite. The average values of δEu and δCe in reed area sediments are also relatively lower. The authors thus consider that the REE might have taken a more important part in geochemical cycle in common reed land than in other places.