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摘要:采用离子交换法和原子吸收分光光度法研究了黄河游水体中固体粒子(表层沉积物)与铅、铜、锌、镉液-固界面的相互作用,及各种环境因素对颗粒表面吸附作用的影响,绘制了离子交换率E(%) - pH曲线。实验结果为:1)铜、铅、锌、镉均以一价络离子形式在固体粒子表面进行阳离子交换反应;2)pH值是控制金属离子向固相迁移的主要因素,且E(%)随pH升高而增大。在天然黄河水pH范围(8.0-8.5)内,四种金属离子的E(%)可达80-100%;3)E(%) - pH曲线会随金属离子浓度的增高而向高pH方向移动,表明E(%)下降;4)随固体粒子浓度增大,E(%)就会增高,使E(%) - pH曲线向小pH方向移。

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Study on E(%) - pH Curves of the Interaction of the Solid Particles to the Heavy Metals in the Yellow River

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Abstract: The curves of ion exchange ratio E(%) - pH of the interaction of the solid particles with Pb, Cu, Zn, Cd respectively and affection of different environmental factors on it in the Yellow River have been studied. The results showed that 1) The movement and transformation of heavy metal ions in the Yellow River were strongly pH-dependent of the Yellow River, and the amount of total adsorption increase with the growth of pH; 2) The E(%) - pH curves of the interaction of solid particles with heavy metals have been

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