

论文

鞍山市铁矿区复垦土壤重金属污染评价

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摘要:

在鞍山铁矿复垦区生态环境调查基础上,进行了土壤采样和测试,并选择镉、汞、铅、铜、铬和锌6项作为土壤重金属污染评价指标。鉴于土壤重金属污染评价指标的多样性和由单指标给出评价结果的不相容性,从物元分析和可拓集合的理论出发,建立了基于物元可拓法的土壤重金属污染评价模型,对鞍山铁矿复垦区土壤进行重金属污染评价。结果表明:铁矿区复垦土壤处于清洁和尚清洁2级,污染度较低。通过与模糊综合评判法的评价结果对比,验证了该评价模型的可靠性。物元模型可以消除评价过程中人为因素的影响,提高评价精度,是进行土壤重金属污染评价的理想方法。

关键词: 土壤重金属 污染评价 物元可拓 鞍山铁矿

Evaluation of Heavy Metal Pollution of Reclaimed Soil in Anshan Iron Mine Region

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Abstract:

Based on the investigation of ecological environment in reclaimed soil of iron mine regions, soil samples were collected and tested. Cd, Hg, Pb, Cu, Cr and Zn were chosen as the evaluation indexes. In view of the diversity of the heavy metal pollution evaluation indexes and incompatibility of evaluating results given by single index, the authors establish the heavy metal pollution evaluation model using the matter element and extension method. The results show that the reclaimed soil of iron mine regions is at clean or good level, lower pollution. By comparing the matter element and extension means with fuzzy comprehensive assessment, the reliability of the evaluation model is verified. The matter element model can eliminate the artificial factors in evaluation process, which increases the precision in the evaluation. The study illustrates that using matter element model for the heavy metal pollution evaluation of soil is a better way.

Keywords: soil heavy metal pollution evaluation matter element and extension Anshan iron mine

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