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研究报告

区域土壤电阻率参数的空间分析软件开发与应用

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摘要: 应用Kriging空间分析方法, 对大庆油田某区域现场实测的土壤腐蚀特性参数进行空间分析, 并开发出土壤环境数据的空间分析软件。应用分析软件对试验区取得的300组现场测试数据进行分析, 获得基于土壤电阻率评价指标的土壤腐蚀性分级图。介绍土壤腐蚀试验中应用Kriging方法的基本程序、软件开发及应用情况。

关键词: Kriging方法 空间分析 土壤电阻率 腐蚀性分级 软件开发

DEVELOPMENT AND APPLICATION OF SPATIAL ANALYSIS SOFTWARE FOR REGIONAL SOIL RESISTIVITY PARAMETERS

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Abstract: Relativity analysis of regional soil property is useful for the soil corrosion estimation on the basis of certain appropriate indicators. This is significantly important for the corrosion control of oil & gas pipeline engineering. However, as we all know, soil properties is extremely complicated in natural environment. Large data dispersion error of the *in-situ* soil property measurement has been found out. Obviously, routine data statistical methods can not be used in such situation. The Kriging method of spatial data analysis has been applied on the project of typical soil property data according to the field measurement. At the same time, the data analysis software has been developed to deal with the soil characters specified. 300 on-site data have been processed, and the corrosion classification map has been founded based on the evaluation indicators of soil resistivity. This paper described the principle and basic procedures of Kriging method used in soil corrosion assessment, as well as relevant software development and its application.

Keywords: Kriging method spatial analysis soil resistivity corrosion classification software development

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