

线性非平稳型农田土壤水分信息空间变异性及预测研究

Spatial Variability and Estimation of Information of Linear Nonstationary Soil Moisture in Farm Field

投稿时间: 1995-12-25 最后修改时间: 1996-6-20

稿件编号: 19960316

中文关键词: 土壤水分信息; 空间变异; 非平稳

英文关键词: Soil moisture information Spatial variability Nonstationary regional estimation

基金项目: 国家自然科学基金资助项目

| 作者 | 单位 |
|-----|---------|
| 史海滨 | 内蒙古农牧学院 |
| 陈亚新 | 内蒙古农牧学院 |

摘要点击次数: 9

全文下载次数: 13

中文摘要:

以中国东北春旱秋涝严重的西辽河灌区为背景, 用线性地质统计学理论探索 1 m 深农田土壤层内非平稳型 (含有漂移) 水分信息的空间分布特征。在采样区土壤水分信息空间结构性揭示基础上, 对土壤水分信息的空间漂移数据与观测尺度间的效应关系、区域化变量变差函数 $\gamma_Z(h)$ 与剩余变差函数 $\gamma_R(h)$ 间的差异性、普通克立格法与泛克立格法用于待估区域水分信息值的差异性进行了较深入研究。结果表明在最大滞后距范围 ($h \leq a$) 之内, 两种估值方法得到的结果与实验值均较吻合, 因而可用计算简单的普通克立格法对线性非平稳型土壤水分信息进行大面积区域墒情预测

英文摘要:

Taking Xiliao River Irrigation District, which is often drought in Spring and waterlogging in Autumn, as an example, this paper studied that the distribution characteristics of nonstationary soil moisture information with spatial drift at 5 different depths from 0 to 100 cm in the field by the geostatistics theory. On the basis of revealing of spatial structure of soil moisture information in the sampling area, the followings were studied deeply: (i) the effect relationship between the spatial drift data and the observed scale of the soil moisture information; (ii) the differences between $\gamma_Z(h)$ and $\gamma_R(h)$ and (iii) the differences of estimation regional soil moisture information between the Ordinary Kriging (OK) and Universal Kriging (UK) Method. The regional distribution estimations of the soilmoisture information by OK and UK are very closed to experiment values in $h \leq a$. So OK method which is simply and can be used for the estimation of linear nonstationary soil moisture information in a large area. It is broaden for the field of geostatistics theory to be applied in the agriculture engineering.

[查看全文](#)

[关闭](#)

[下载PDF阅读器](#)

您是第607235位访问者

主办单位: 中国农业工程学会 单位地址: 北京朝阳区麦子店街41号

服务热线: 010-65929451 传真: 010-65929451 邮编: 100026 Email: tcsae@tcsae.org

本系统由北京勤云科技发展有限公司设计