

土壤墒情信息采集与远程监测系统 Remote Collecting and Monitoring System of Soil Moisture Content Information

杨绍辉 杨卫中 王一鸣

集美大学

关键词: 土壤墒情 远程监测 GIS GPS GSM

摘要: 为提高传输距离和进行不间断连续监测,开发了土壤墒情信息采集与远程监测系统。详细讨论了系统的结构和原理,给出了系统的软硬件设计方案。系统利用太阳能进行充电,通过GSM网络进行土壤墒情数据无线传递,利用GPS系统进行采样点的卫星定位。通过GIS软件,系统能实时监测大面积区域内的土壤墒情状态并做出土壤墒情空间分布图。应用结果表明,该系统结构合理,可以为防旱、抗旱提供可靠的依据。 In order to heighten transmission distance and continuous monitoring, a remote collection and monitoring system of soil moisture content information was developed. Its structure and principle were described in detail, and the software and hardware design were given. The system can be charged by solar energy. Wireless transmission and satellite location of sample stations was realized by GSM net and GPS system. The large area real-time soil moisture content state was monitored and the spatial distribution map of soil moisture was drawn by a GIS software. The application results show that the proposed system is efficient. The established remote monitoring system provides reliable and foundation for fighting for drought.

[查看全文 \(请使用Adobe Acrobat 6.0版本浏览\)](#) [返回首页](#) [引用本文](#)