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基于RS—LS-SVM的建筑物室内空气品质评价研究

于军琪[1], 王 佳[2]
1.西安建筑科技大学 信息与控制工程学院，西安 710055
2.北京市住宅建筑设计研究院有限公司 项目设计部，北京 100005

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摘要 提出一种基于粗糙集（Rough Set，RS）—最小二乘支持向量机（Least-squares-Support Vector Machine，LS-SVM）复合的建筑物室内空气品质评价方法，选取描述室内空气品质的六项监测指标作为评价因子，利用RS理论，对室内空气品质监测数据进行属性约简，消除冗余信息，用约简后的规则集对LS-SVM进行训练，使其达到满意精度。实验仿真表明：该复合方法具有良好的收敛速度与非线性逼近能力，能对室内空气品质进行实时、准确的评价，为建筑物室内空气品质监测、环境污染治理提供科学依据。

关键词 粗糙集 最小二乘支持向量机 室内空气品质评价
分类号

Evaluation of building indoor air quality based on RS—LS-SVM

YU Jun-qi[1],WANG Jia[2]

1.School of Information and Control Engineering，Xi’an University of Architecture and Technology，Xi’an 710055，China
2.Department of Project Design，Beijing Institute of Residential Building Design & Research Co.，Ltd，Beijing 100005，China

Abstract
An arithmetic for evaluation of indoor air quality was proposed based on composite of Rough Set（RS）—Least-Squares Support Vector Machine（LS-SVM）.Six monitoring indexes of indoor air quality are utilized as the evaluation items，use the RS to reduce the properties of indoor air quality monitoring data，eliminate the redundant information，and use the reductive regulations to train the LS-SVM，achieve the satisfactory precision.The simulation results indicate that the method has better performance of convergence speed and nonlinear approaching，and gives a real-time and accurate result of evaluation of indoor air quality，it provides a scientific basis for building indoor environment monitor and pollution control.

Key words Rough Set（RS） Least-Squares Support Vector Machine（LS-SVM） evaluation of indoor air quality

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通讯作者 于军琪 xiaoljia@163.com