

论文与报告

FUZZY控制理论在水泥机立窑煅烧过程的应用

袁铸钢,王孝红,孟庆金,景绍洪,高云深

山东建材学院信息与控制工程系,济南

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摘要

针对水泥机立窑数学模型过于复杂且难以建立的特点,提出了以稳定底火为目标的微机模糊控制方案.对立窑底火进行了系统划分,给出了底火状态的模糊定义,并提出了一种多变量多级混合模型的识别方法.在总结人工操作经验的基础上经优化处理制定了稳定底火的模糊控制规则.为了简化计算过程,采用一种简单实用的模糊推理合成算法.计算机控制系统的实际运行表明了该控制方案的正确性和实用性.

关键词 [水泥立窑](#) [FUZZY控制](#) [底火](#) [FUZZY子集](#) [推理合成](#)

分类号

The Application of Fuzzy Control Theory for Burning Process in Mechanized Shaft Cement Kiln

YUAN Zhugang, WANG Xiaohong, MENG Qingjin, JING SHohong, GAO Yunshen

Dept. of Information and Control Engineering, Shandong Institute of Building Materials, Jinan

Abstract

Since the math model of mechanized cement kiln is very complicated and difficult to establish, a fuzzy control scheme with microcomputer for a steady burning zone is proposed in this paper. The burning zone's state is systematically divided and it's definition is given in terms of fuzzy concept. In order to determine the burning zone's state, an identification method of multivariable and multigrade mixed fuzzy model is presented. Based on generalization and summation of human operatinexperience, the fuzzy control regulations of stabilizing the burning zone's state are obtained by optimization. To simplify the calculation, a simple and practical fuzzy reasoning method is put forward. By practical operating result of the control system with microcomputer, the correctness and practicability of this fuzzy control project are testified.

Key words [Shaft cement kiln](#) [fuzzy control](#) [burning zone](#) [fuzzy subset](#) [fuzzy reasoning](#)

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通讯作者

作者个人主

页 [袁铸钢](#); [王孝红](#); [孟庆金](#); [景绍洪](#); [高云深](#)

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