



教师个人主页

大连理工大学 | 登录 | English | 手机版



首页

科学研究

教学研究

获奖信息

招生信息

学生信息

我的相册

教师博客



扫描手机二维码

欢迎您的访问

您是第 000087404 位访客

开通时间: 2016.10.8

最后更新时间: 2023.5.11



潘艳秋 (教授)

赞741

同专业博导

同专业硕导

个人学术主页

的个人主页 http://faculty.dlut.edu.cn/PANYANQIU/zh_CN/index.htm

教授 博士生导师 硕士生导师

任职: 化工学院教学指导委员会主任

论文成果

当前位置: 中文主页 >> 科学研究 >> 论文成果

Fuzzy comprehensive assessment of running condition for a large-scale centrifugal compressor set

点击次数: 120

论文类型: 期刊论文

第一作者: Sun, Yanji

通讯作者: Pan, YQ (reprint author), Dalian Univ Technol, Sch Chem Engrn, Dalian 116024, Peoples R China.

合写作者: Pan, Yanqiu,Zhou, Zhongliang,Li, Xin

发表时间: 2019-12-01

发表刊物: CHINESE JOURNAL OF CHEMICAL ENGINEERING

收录刊物: SCIE

卷号: 27

期号: 12

页面范围: 2979-2988

ISSN号: 1004-9541

关键字: Compressor; Condition assessment; Mathematical modeling; Maximal information coefficient; Dynamic deterioration degree; Prediction

摘要: A fuzzy comprehensive assessment method of running condition was constructed and applied to a large-scale centrifugal compressor set in a petrochemical corporation aiming at the monitoring and early warning of abnormal conditions in industry. The maximal information coefficient (MIC) correlation analysis of indexes was introduced to determine the independent indexes to be assessed, and the dynamic deterioration degree was calculated using the predicted independent indexes by the second-order Markov chain model. The fuzzy membership degree weighting method was employed to assess the running condition of all units in the set. Simple and direct radar chart was used to visualize condition assessment grades. Results showed that the proposed fuzzy comprehensive assessment method successfully assessed the running condition of the set. The constructed method achieved 10 min earlier alarm than the traditional threshold alarm occurred at the specific moment of 00:44 on April 7 of 2018. The method would provide a valuable tool and have a wide engineering application in ensuring the safety and reliability of industrial production. (C) 2019 The Chemical Industry and Engineering Society of China, and Chemical Industry Press Co., Ltd. All rights reserved.

上一条: “科教协同、虚实融合、教赛联通”, 提高化工类实验的“两性一度”

下一条: Low-cost electrochemical filtration carbon membrane prepared from coal via self-bonding

辽ICP备05001357号 地址: 中国·辽宁省大连市甘井子区凌工路2号 邮编: 116024

版权所有: 大连理工大学