



万方数据

计算机集成制造系统

第 27 卷第 12 期

2021 年 12 月

目 次

数字化/网络化/智能化制造技术

工业数字孪生系统的概念、系统结构与运行模式	李 浩,王昊琪,刘 根,王军令,Steve Evans,李琳利,王晓丛,Shuai Zhang,文笑雨,聂福全,王新昌,郝 兵,姜 伟,刘永光 (3373)
基于数字孪生的多轴数控机床轮廓误差抑制方法	张 雷,刘检华,庄存波,王 勇 (3391)
基于熔池运动特征的选区激光熔融过程状态检测方法	朱锐鹏,王齐胜,林 昕,傅盈西 (3403)
基于深度强化学习的流水线预测性维护决策	崔鹏浩,王军强,张文沛,李 洋 (3416)
基于主轴驱动电流杂波的立铣刀复杂工况下磨损状态辨识	王 民,刘利明,宋铠钰,杨 斌,王 琛 (3429)
基于二维二元语义和前景理论的改进 FMEA 法	孙延浩,张 琦,袁志明,李 智 (3439)
基于迁移学习的民航发动机小样本故障诊断	付 松,钟诗胜,林 琳,张永健 (3450)
检测数据和专家知识混合驱动的小样本飞机结构件装配粗差判定	朱永国,邓 斌,霍正书,马国祥 (3462)
基于参数化建模的球杆仪安装误差与直线轴几何误差分离方法	何 坤,何晓虎,徐 凯,王时龙,廖承渝 (3475)
基于模板匹配的孔位与法矢检测算法	庄志炜,田 威,李 波,石瀚斌,杜兴华 (3484)
基于退化数据和非线性伽马过程的光伏组件现场寿命评估	刘卫东,文 根,鄢伟安,罗 吉,姜小华 (3494)
基于高斯噪声发散的协作机器人路径优化及避障	胡玉蝶,周 勇,王宇琦,李卫东 (3503)
气动声学导流片数值计算与声学特性分析	伍宗效,李家春,杨 涛,阳启航,张建明 (3511)
面向高效低碳的切削参数与柔性作业车间调度集成建模与优化	詹欣隆,张超勇,孟磊磊,连裕翔,薛燕社 (3519)
基于元胞机与强化学习的多扰动车间调度算法	陈 勇,王昊天,易文超,裴 植,王 成,吴光华 (3536)
基于动态精度评估机制的自适应定位方法	谭高山,张 涛,张丽艳,李 博 (3550)
多股张力均衡的捻制装备自适应控制技术	孙 毅,俞 越,单继宏,包冠宁,印鑫龙 (3559)
基于元胞自动机的部门间复杂合作的推广仿真	王先甲,曾冠天,陈振颂 (3570)
面向圆形布局位置选择的蚁群劳动分工算法	王英聪,张 领,肖人彬 (3578)

产品设计与开发技术

基于社交网络效应的产品设计研究	魏 莹,刘 冠,李 锋 (3591)
需求驱动的云平台产品关键设计特征识别方法	苏兆婧,余隋怀,初建杰,于明玖,宫 静,黄悦欣 (3604)
基于改进质量功能展开的产品可持续设计模块重要度判定	张 妮,赵晓冬 (3614)
面向特征考虑用户创新偏好的软件产品创新机会识别及优先级分析	冯立杰,李子宇,王金凤,张 珂,刘 鹏 (3625)

现代制造服务技术

考虑稀缺服务与质量损失云制造服务组合问题	胡 杨,吴 锋,王红涛 (3639)
云计算环境下复杂产品价值链合作伙伴选择研究	潘燕华,王 克,王 平 (3651)
基于需求/服务模式的大规模个性化网络服务定制方法	陈春荣,何 霆,廖永新,李海波,黄双喜 (3659)
基于 SIR-HCA 模型的自主品牌汽车企业负面口碑扩散研究	周福礼,叶正梗 (3669)
基于魏朱理论的联合研制交易结构设计	高庆一,范家琛,朱武祥 (3682)
《计算机集成制造系统》2021 年度优秀审稿专家	(3669)
《计算机集成制造系统》2020 年度优秀论文	(3668)
《计算机集成制造系统》2021 年总目次	(3693)

Computer Integrated Manufacturing Systems

Vol.27 No.12 Dec.2021

Contents

Concept ,system structure and operating mode of industrial digital twin system	LI Hao , WANG Haoqi , LIU Gen , WANG Junling , STEVE Evans , LI Linli , WANG Xiaocong , SHUAI Zhang , WEN Xiaoyu , NIE Fuquan , WANG Xinchang , HAO Bing , JIANG Wei , LIU Yongguang (3373)
Contour error reduction method for multi-axis CNC machine tools based on digital twin	ZHANG Lei , LIU Jianhua , ZHUANG Cunbo , WANG Yong (3391)
Selective laser melting process state monitoring method based on motion feature of melt pool	ZHU Kunpeng , WANG Qisheng , LIN Xin , FUH Yinghsi (3403)
Predictive maintenance decision-making for serial production lines based on deep reinforcement learning	CUI Penghao , WANG Junqiang , ZHANG Wenpei , LI Yang (3416)
Wear status identification of end milling cutter under complex cutting conditions based on clutter signal of spindle current	WANG Min , LIU Liming , SONG Kaiyu , YANG Bin , WANG Chen (3429)
Improved FMEA based on 2-dimension 2-tuplelinguistic and prospect theory	SUN Yanhao , ZHANG Qi , YUAN Zhiming , LI Zhi (3439)
Gas turbine fault diagnosis method under small sample based on transfer learning	FU Song , ZHONG Shisheng , LIN Lin , ZHANG Yongjian (3450)
Assembly gross error identification of small sample aircraft structure driven by inspection data and expert knowledge	ZHU Yongguo , DENG Bin , HUO Zhengshu , MA Guoxiang (3462)
Separation method for installation errors of double ball bar and geometric errors of linear axes based on parametric modeling	HE Kun , HE Xiaohu , XU Kai , WANG Shilong , LIAO Chengyu (3475)
Detection algorithm of hole position and normal based on template matching	ZHUANG Zhiwei , TIAN Wei , LI Bo , SHI Hanbin , DU Xinghua (3484)
Field lifetime assessment of photovoltaic modules based on degradation data -driven and nonlinear Gamma processes	LIU Weidong , WEN Gen , YAN Weian , LUO Ji , JIANG Xiaohua (3494)
Pathoptimization and obstacle avoidance of collaborative robots based on Gaussian noise divergence	HU Yudie , ZHOU Yong , WANG Yuqi , LI Weidong (3503)
Numerical calculation and acoustic characteristics analysis of aeroacoustic guide vanes	WU Zongxiao , LI Jiachun , YANG Tao , YANG Qihang , ZHANG Jianming (3511)
Integrated optimization of cutting parameters and flexible job shop scheduling based on improved discrete gravity search algorithm	ZHAN Xinlong , ZHANG Chaoyong , MENG Leilei , LIAN Yuxiang , XUE Yanshe (3519)
Scheduling algorithm for multi-disturbance job-shop based on cellular automata and reinforcement learning	CHEN Yong , WANG Haotian , YI Wenchao , PEI Zhi , WANG Cheng , WU Guanghua (3536)
Adaptive localization method based on dynamic accuracy assessment mechanism	TAN Gaoshan , ZHANG Tao , ZHANG Liyan , LI Bo (3550)
Multi-strand tension balance with self-adaptive control in twisting equipment	SUN Yi , YU Yue , SHAN Jihong , BAO Guanning , YIN Xinlong (3559)
Cellular automata based research on complicated cooperational evolution between departments	WANG Xianjia , ZENG Guantian , CHEN Zhensong (3570)
Ant colony labor division algorithm for position selection in circle packing problem	WANG Yingcong , ZHANG Ling , XIAO Renbin (3578)
Product design with social network effects	WEI Ying , LIU Guan , LI Feng (3591)
Requirement-driven recognition method for key design features of products in cloud platform	SU Zhaojing , YU Suihuai , CHU Jianjie , YU Mingjiu , GONG Jing , HUANG Yuexin (3604)
Importance degree determination for product sustainable design modules based on improved QFD	ZHANG Ni , ZHAO Xiaodong (3614)
Feature-oriented identification and prioritization of software product innovation opportunities considering the innovation preferences of customers	FENG Lijie , LI Ziyu , WANG Jinfeng , ZHANG Ke , LIU Peng (3625)
Incorporating service scarcity and quality loss into cloud manufacturing service composition	HU Yang , WU Feng , WANG Hongtao (3639)
Partner selection of complex product value chain in cloud computing	PAN Yanhua , WANG Ke , WANG Ping (3651)
Customization method to massive network service based on requirement /service pattern	CHEN Chunrong , HE Ting , LIAO Yongxin , LI Haibo , HUANG Shuangxi (3659)
Negative word-of-mouth diffusion study for Chinese domestic automotive enterprises based on SIR-HCA model	ZHOU Fuli , YE Zhenggen (3669)
Transaction structure design of jointly development based on Wei Zhu business model theory	GAO Qingyi , FAN Jiachen , ZHU Wuxiang (3682)