## CHINESE JOURNAL OF MECHANICAL ENGINEERING

Vol. 27, No. 3, 2014

## Contents

437	Proceeding of Human Exoskeleton Technology and Discussions on Future Research  LI Zhiqiang, XIE Hanxing, LI Weilin, and YAO Zheng
448	Recursive Least Square Vehicle Mass Estimation Based on Acceleration Partition FENG Yuan, XIONG Lu, YU Zhuoping, and QU Tong
460	A Novel Estimating Method for Steering Efficiency of the Driver with Electromyography Sign LIU Yahui, JI Xuewu, HAYAMA Ryouhei, and MIZUNO Takahiro
468	An Improved Cooperative Adaptive Cruise Control (CACC) Algorithm  Considering Invalid Communication  WANG Pangwei, WANG Yunpeng, YU Guizhen, and TANG Tieqiao
475	Sensor Configuration and Test for Fault Diagnoses of Subway Braking System  Based on Signed Digraph Method  ZUO Jianyong and CHEN Zhongkai
483	Carbody Structural Lightweighting Based on Implicit Parameterized Model CHEN Xin, MA Fangwu, WANG Dengfeng, and XIE Chen
488	Prediction-based Manufacturing Center Self-adaptive Demand Side Energy Optimization in Cyber Physical Systems SUN Xinyao, WANG Xue, WU Jiangwei, and LIU Youda
496	Fatigue Crack Initiation Potential from Defects in terms of Local Stress Analysis ZHU Mingliang and XUAN Fuzhen
504	Impact of Heat Shield Structure in the Growth Process of Czochralski Silicon Derived from Numerical Simulation ZHANG Jing, LIU Ding, ZHAO Yue, and JIAO Shangbin
511	Disassemblability Modeling Technology of Configurable Product Based on Disassembly Constraint Relation Weighted Design Structure Matrix(DSM) QIU Lemiao, LIU Xiaojian, ZHANG Shuyou, and SUN Liangfeng
520	Review on Applications of 3D Inverse Design Method for Pump  YIN Junlian and WANG Dezhong
528	Pre-deformation for Assembly Performance of Machine Centers SUN Yongping, WANG Delun, DONG Huimin, XUE Runiu, and YU Shudong
537	Unified Coordinate System Model for Performance Calculation of Fix-pad Journal Bearing with Different Pad Preload  ZHU Aibin, YANG Yulei, CHEN Wei, and YUAN Xiaoyang

543	Surface Roughness and Roundness of Bearing Raceway Machined by Floating Abrasive
	Polishing and Their Effects on Bearing's Running Noise
	PANG Guibing, QI Xuezhi, MA Qinyi, ZHAO Xiujun, WEN Chunsheng, XU Wenji, and PENG Yanping
551	Rapid Springback Compensation for Age Forming Based on Quasi Newton Method
331	XIONG Wei, GAN Zhong, XIONG Shipeng, and XIA Yushan
558	Theoretical and Experimental Research on Error Analysis and Optimization of Tool Path
	in Fabricating Aspheric Compound Eyes by Precision Micro Milling
	CHEN Mingjun, XIAO Yong, TIAN Wenlan, WU Chunya, and CHU Xin
567	Effectiveness of a Passive-active Vibration Isolation System with Actuator Constraints
	SUN Lingling, SUN Wei, SONG Kongjie, and HANSEN Colin H
575	Unsteady Flow Simulations in a Three-lobe Positive Displacement Blower LIU Xiaomin and LU Jun
584	Overall Life Cycle Comprehensive Assessment of Pneumatic and Electric Actuator ZHANG Yeming and CAI Maolin
595	Theoretical Analysis and Experimental Verification on Valve-less Piezoelectric Pump
	with Hemisphere-segment Bluff-body
	JI Jing, ZHANG Jianhui, XIA Qixiao, WANG Shouyin, HUANG Jun, and ZHAO Chunsheng
606	Numerical and Experimental Study on Flow-induced Noise at Blade-passing Frequency
	in Centrifugal Pumps
	YANG Jun, YUAN Shouqi, YUAN Jianping, SI Qiaorui, and PEI Ji
615	Experimental Study of the Influence of Flow Passage Subtle Variation on Mixed-flow Pump
	Performance
	BING Hao and CAO Shuliang
622	Control of the Dielectric Microrods Rotation in Liquid by Alternating Current Electric Field
	REN Yukun, LI Bin, and JIANG Hongyuan
628	Analysis of the Flow Rate Characteristics of Valveless Piezoelectric Pump
	with Fractal-like Y-shape Branching Tubes
	HUANG Jun, ZHANG Jianhui, WANG Shouyin, and LIU Weidong
635	Numerical Simulation and Analysis of Power Consumption and Metzner-Otto Constant
	for Impeller of 6PBT
	LUAN Deyu, CHEN Qiao, and ZHOU Shenjie
641	A Task-oriented Modular and Agent-based Collaborative Design Mechanism
	for Distributed Product Development
	LIU Jinfei, CHEN Ming, WANG Lei, and WU Qidi
A1	Contents of Journal of Mechanical Engineering, Vol. 50, Nos. 1-3, 2014

DOI:

Abstrema category power critical

moti which hum Hav dray

to le be a fron

Key

sys

hui

1

are por

be or

an

mu

tha

fai

de

C