CHINESE JOURNAL OF MECHANICAL ENGINEERING

Vol. 29, No. 1, 2016

Contents

Mechanism and Robotics

- Over-Constraints and a Unified Mobility Method for General Spatial Mechanisms
 Part 2: Application of the Principle
 LU Wenjuan, ZENG Daxing, and HUANG Zhen
- Dynamic Bending of Bionic Flexible Body Driven by Pneumatic Artificial
 Muscles(PAMs) for Spinning Gait of Quadruped Robot
 LEI Jingtao, YU Huangying, and WANG Tianmiao
- 21 Evaluation Method on Steering for the Shape-shifting Robot in Different Configurations CHANG Jian, LI Bin, WANG Chong, ZHENG Huaibing, and LI Zhiqiang
- 33 Kinetostatic Modeling and Analysis of an Execton Parallel Kinematic
 Machine(PKM) Module
 ZHAO Yanqin, JIN Yan, and ZHANG Jun
- 45 Biped 4R2C Six-bar Mechanism with Inner and Outer Feet LIU Chao, WANG Hao, and YAO Yan-an
- 56 Algebraic Solution for the Forward Displacement Analysis of the General 6-6 Stewart Mechanism WEI Feng, WEI Shimin, ZHANG Ying, and LIAO Qizheng

Advanced Manufacturing and Intelligence Materials

- 63 Optimization of the Dressing Parameters in Cylindrical Grinding Based on a Generalized Utility Function

 ALEKSANDROVA Irina
- 74 Welding Deviation Detection Algorithm Based on Extremum
 of Molten Pool Image Contour
 ZOU Yong, JIANG Lipei, LI Yunhua, XUE Long, HUANG Junfen, and HUANG Jiqiang
- 84 Friction Behavior of Magnetorheological Fluids with Different Material Types
 and Magnetic Field Strength

 ZHANG Peng, LEE Kwang-Hee, and LEE Chul-Hee
- 91 Fabrication of Nanoscale Step Height Structure Using Atomic Layer Deposition Combined with Wet Etching WANG Chenying, YANG Shuming, JING Weixuan, REN Wei, LIN Qijing, ZHANG Yijun, and JIANG Zhuangde

Experiment, Simulation and Calculation

	Experiment, Simulation and Calculation
98	Voronoi Based Discrete Least Squares Meshless Method for Heat Conduction Simulation in Highly Irregular Geometries
	LABIBZADEH Mojtaba
112	3D Two-way Coupled TEHD Analysis on the Lubricating Characteristics of Thrust Bearings in Pump-turbine Units by Combining CFD and FEA ZHAI Liming, LUO Yongyao, WANG Zhengwei, and LIU Xin
124	Dynamic Topology Multi Force Particle Swarm Optimization Algorithm and Its Application CHEN Dongning, ZHANG Ruixing, YAO Chengyu, and ZHAO Zheyu
136	Influence of Magnetic Reluctances of Magnetic Elements on Servo Valve Torque Motors LIU Changhai and JIANG Hongzhou
145	Load Reduction Test Method of Similarity Theory and BP Neural Networks of Large Cranes YANG Ruigang, DUAN Zhibin, LU Yi, WANG Lei, and XU Gening
	Dynamics and Vehicle Engineering
152	A Hybrid Approach to Modeling and Control of Vehicle Height for Electronically Controlled Air Suspension SUN Xiaoqiang, CAI Yingfeng, WANG Shaohua, LIU Yanling, and CHEN Long
163	Four-Beam Model for Vibration Analysis of a Cantilever Beam with an Embedded Horizontal Crack LIU Jing, ZHU Weidong, CHARALAMBIDES Panos G, SHAO Yimin, XU Yongfeng, WU Kai, and XIAO Huifang
180	Characteristic of Torsional Vibration of Mill Main Drive Excited by Electromechanical Coupling ZHANG Yifang, YAN Xiaoqiang, and LIN Qihui
188	Simulation and Experiment for Oxygen-enriched Combustion Engine Using Liquid Oxygen to Solidify CO ₂ LIU Yongfeng, JIA Xiaoshe, PEI Pucheng, LU Yong, YI Li, and SHI Yan
	Measurement, Fault Diagnosis and Signal Processing
195	Multi-objective Optimal Design of High Frequency Probe for Scanning Ion Conductance Microscopy GUO Renfei, ZHUANG Jian, MA Li, LI Fei, and YU Dehong
204	Improved CICA Algorithm Used for Single Channel Compound Fault Diagnosis of Rolling Bearings CHEN Guohua, QIE Longfei, ZHANG Aijun, and HAN Jin
212	Measurement Uncertainty Evaluation of Conicity Error Inspected on CMM

WANG Dongxia, SONG Aiguo, WEN Xiulan, XU Youxiong, and QIAO Guifang

DOI:

O

Abst theorexten motion is footnew in

even closu

loop resea comp be va

Keyv

innov

It

offer

comp applie calcul the dy impor sustai derive

In

Based mobile those parale extern

> Sup 51005 Educa © Chi

mech