

# CHINESE JOURNAL OF MECHANICAL ENGINEERING

Vol. 26, No. 3, 2013

## Contents

- 427 **Thermal Influence of the Couette Flow in a Hydrostatic Spindle on the Machining Precision**  
CHEN Dongju, FAN Jinwei, LI Haiyong, WANG Xiaofeng, and ZHANG Feihu
- 437 **Deformation Behavior and Microstructure Evolution of Wrought Magnesium Alloys**  
WANG Shouren, SONG Linghui, KANG Sukbong, CHO Jaehyung, and WANG Yingzi
- 448 **Necking of Q&P Steel during Uniaxial Tensile Test with the Aid of DIC Technique**  
DING Lei, LIN Jianping, MIN Junying, PANG Zheng, and YE You
- 454 **Electro-elastic Fields of Piezoelectric Materials with An Elliptic Hole under Uniform Internal Shearing Forces**  
DU Yanliang, LIU Shuhong, DUAN Shijie, and LI Yanqiang
- 462 **Theory and Experimental Verification on Valveless Piezoelectric Pump with Multistage Y-shape Treelike Bifurcate Tubes**  
HUANG Jun, ZHANG Jianhui, XUN Xianchao, and WANG Shouyin
- 469 **Effects of Meridional Flow Passage Shape on Hydraulic Performance of Mixed-flow Pump Impellers**  
BING Hao, CAO Shuliang, TAN Lei, and ZHU Baoshan
- 476 **Effect of Geometrical Parameters on Submerged Cavitation Jet Discharged from Profiled Central-body Nozzle**  
YANG Minguan, XIAO Shengnan, KANG Can, and WANG Yuli
- 483 **Method of Electric Powertrain Matching for Battery-powered Electric Cars**  
NING Guobao, XIONG Lu, ZHANG Lijun, and YU Zhuoping
- 492 **Design and Optimization for the Occupant Restraint System of Vehicle Based on a Single Freedom Model**  
ZHANG Junyuan, MA Yue, CHEN Chao, and ZHANG Yan
- 498 **Skyhook-based Semi-active Control of Full-vehicle Suspension with Magneto-rheological Dampers**  
ZHANG Hailong, WANG Enrong, MIN Fuhong, SUBASH Rakheja, and SU Chunyi
- 506 **Tread Wear and Footprint Geometrical Characters of Truck Bus Radial Tires**  
LIANG Chen, WANG Guolin, AN Dengfeng, and MA Yinwei
- 512 **Performance Development Target Setting of Passenger Car Diesel Engine**  
ZHENG Guangyong, YU Xiumin, LIU Jiangwei, SONG Tao, and LI Wenxiang
- 518 **Multi-point Contact of the High-speed Vehicle-turnout System Dynamics**  
REN Zunsong
- 526 **Empirical Study of Classification Process for Two-stage Turbo Air Classifier in Series**  
YU Yuan, LIU Jiexiang, and LI Gang

- 532 **Load-sharing Characteristic of Multiple Pinions Driving in Tunneling Boring Machine**  
WEI Jing, SUN Qinchao, SUN Wei, DING Xin, TU Wenping, and WANG Qingguo
- 541 **Design Theory of Full Face Rock Tunnel Boring Machine Transition Cutter Edge Angle and Its Application**  
ZHANG Zhaohuang, MENG Liang, and SUN Fei
- 547 **Three-dimensional Tool Radius Compensation for Multi-axis Peripheral Milling**  
CHEN Youdong and WANG Tianmiao
- 555 **Prediction of Dynamic Cutting Force and Regenerative Chatter Stability in Inserted Cutters Milling**  
LI Zhongqun, LIU Qiang, YUAN Songmei, and HUANG Kaisheng
- 564 **Three-dimensional Finite Element Analysis of the Mechanical Properties of Helical Thread Connection**  
YANG Guoqing, HONG Jun, ZHU Linbo, LI Baotong, XIONG Meihua, and WANG Fei
- 573 **Reverse Engineering of Machine-tool Settings with Modified Roll for Spiral Bevel Pinions**  
LIU Guanglei, CHANG Kai, and LIU Zeliang
- 585 **Dexterity Analysis for Omni-directional Wheeled Mobile Manipulator Based on Double Quaternion**  
DU Bin, ZHAO Jing, and SONG Chunyu
- 594 **Rule- and PSO Algorithm-based Dynamic Spatial Rescheduling Method for Hull Curved Block Construction**  
ZHANG Zhiying, GU Jiayu, XU Chen, and LI Zhen
- 606 **Adaptive Multiscale Method for Two-dimensional Nanoscale Adhesive Contacts**  
TONG Ruiting, LIU Geng, LIU Lan, and WU Liyan
- 613 **Analysis on Collapse Strength of Casing Wear**  
LIANG Erguo, LI Zifeng, HAN Yong, LI Guoqin, and GUO Peipei
- 620 **Power Flow Response Based Dynamic Topology Optimization of Bi-material Plate Structures**  
XUE Xiaoguang, LI Guoxi, XIONG Yeping, and GONG Jingzhong
- A1 **Contents of Journal of Mechanical Engineering, Vol. 49, Nos. 4-6, 2013**