

## Contents

**371** Adaptive friction compensation for large diameter electro-hydraulic proportional valve cores based on LuGre

*Kong Xiangdong (孔祥东), Song Yu, Ai Chao, Li Yanpeng, Tian Dezhi*

**379** Design and validation of real-time dynamic spectrum management in OFDM-based HNPLC systems

*Liu Wenjing (刘雯静), Guo Jingbo, Yan Yanxin, Zhang Tongfei*

**388** Motion mechanism analysis of two contacting rollers

*Chu Hongyan (初红艳), Zhao Juntao, Cai Ligang*

**399** Development of two rescue robots for disaster relief operations in narrow debris

*Zang Xizhe (臧希喆), Wang Jibin, Liu Yixiang*

**407** Magnetometer calibration algorithm based on ellipsoid constraint

*Dong Mingjie (董明杰), Chou Wusheng, Fang Bin*

**414** Analysis and active control of low frequency booming noise in car

*Cao Youqiang (曹友强), Deng Zhaoxiang, Zhang Yu, Chen Dexin*

**422** A fault diagnosis method of reciprocating compressor based on sensitive feature evaluation and artificial neural network

*Xing Chenghong (兴成宏), Xu Fengtian, Yao Ziyun, Li Haifeng, Zhang Jinjie*

**429** Effect of laser heating on the microstructure and hardness of TRIP590 advanced high strength steel used for roll forming

*Wang Haibo (王海波), Jin Pengcheng, Yan Yu, Li Qiang*

**433** FEM simulation and experimental verification of roll forming and springback process under complex contact conditions

*Yan Yu (阎昱), Wu Qingyuan, Ai Zhengqing, Jia Fanghui*

**439** Analysis on traffic characteristics and transmission efficiency of instant messenger services

*Li Ke (李克), Li Wenfa, Su Limin, Chen Xiaodan*

**450** Investigation of human motion effects on 60GHz indoor office propagation

*Zhao Junhui (赵军辉), Liu Xu*

**457** Sealed model and computation of hazardous waste landfill high voltage DC leakage detection

*Yang Ping (杨萍), Tian Jinwen, Wang Yanni, Xue Lin*

**465** Two-stage DOA estimation method for passive radar based on sparse representation

*Liu Nan (刘楠), Song Wenlong, Dong Guanghui*

**471** Secure planar convex hull protocol for large-scaled point sets in semi-honest model

*Sun Maohua (孙茂华), Zhu Hongliang, Li Qi*

**479** Study and application of vibrating wire strain gauge in monitoring cable tension of FAST cable-net

*Sun Xiao (孙晓), Wang Qiming, Zhu Ming, Wu Mingchang*

**485** Service optimization in programmable cloud network

*Ding Hao (丁浩), Yang Yang, Mi Zhenqiang*

**494** Design of bilayer lengthened LDPC codes over expanded graph for relay channels

*Liu Yang (刘洋), Li Ying, Su Yuping*