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[Hardware System Design of Radionuclide Monitoring in Seawater](#)1918
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Huali Fan, Hegen Xiong, Guozhang Jiang and Gongfa Li

[Research on BP Algorithm-based SOFC System Temperature Model](#)1932
Ying Zhang, Yingying Zhang, Guangli Hou and Pingping Fan

[Research and Realization of Passive Location Technology Based on Four-element Cross Matrix](#)1936
Qiang Zhu and Ling Zhang

[Urban Route Planning Considering Traffic Flows](#).....1940
Zhichao Song, Siyang Zhou, Hong Duan and Xiaogang Qiu

[A Solution of Speed-stability Problem in Noncoupled Neural Network Algorithms](#).....1945
Xiaowei Feng, Xiangyu Kong, Hongguang Ma and Jun Ren

[Inventory Management for Spare Parts on Engineering Machinery](#)1951
Fei Zhang and Zailin Guan

[Synchronization of Chaos in RCL-shunted Josephson Junctions Array](#).....1956
Chunxi Lu, Aimin Liu, Ma Ling and Enlai Dong

[An Improved Algorithm of Search for Compressive Sensing Image Recovery Based on \$l_p\$ Norm](#).....1962
Yuan Jiang, Pei Shen, Ping Zhao, Jiyang Dai and Zhen Chen

[Design of FlexRay-based Communication on Triplex Redundancy Flight Control Computer](#)1969
Junhua Chen, Dong Cao and Xunhong Lv

[Random Swithing Frequency Pulse Width Modulation: Analysis, Design and Simulation](#)1975

Jie Xu, Ziling Nie and Junjie Zhu

[Research on the Structure Design and Flight Performance of a Small Tilt Rotor Unmanned Aircraft](#)1979

Husheng Wu, Weizong Lu and Yulong Wang

[Research on the Influence of Deformation of I-shaped Ridge Waveguide on the Transmission Characteristics](#).....1986

Xia Zhao and Xiaoqiang Chen

[Data-driven Design for Static Model-based Fault Diagnosis](#)1989

Zhangming He, Jiongqi Wang, Chen Yin, Haiyin Zhou, Dayi Wang and Yan Xing

[D34MB-A FDI Toolbox with New Features](#).....1995

Zhangming He, Shuxing Li, Chen Yin, Haiyin Zhou and Jiongqi Wang

[Event-triggered Dynamic Output Feedback \$H_\infty\$ Control via Bilateral Network](#).....2001

Dawei Zhang, Xiaolei Hao and Xinchun Jia

[Event-triggered Dissipative Control for Model-based Networked Control Systems: an Impulsive System Approach](#).....2007

Dawei Zhang, Yingxia Wang and Xinchun Jia

[Based on the Triple Frequency Geometry-free Phase and Ionosphere Residual Method of Cycle Slip Detection and Repair](#)2013

Fenhua Bai and Jinhui Zou

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