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The Research of Automatic Monitoring Devices for Circulating Cooling Water M.J. Sun, S. Liu and X.S. Wei	1940
The Research Progress of High Efficiency Energy-Saving Grinding Equipment F.K. Yan and Q.F. Xiao	1944
Study on Information Service System for Manufacturing Industry Cluster: Evidence from	
Wuhan City Y. Cui, X.Q. Ge, J. Zhang and H. Jiao	1952
<b>Application of SIFT Algorithm in 3D Scene Reconstruction</b> B.F. Zhang, J.L. Li and X.L. Zhang	1956
The Design of the Temperature Auto-Monitoring System Based on GPRS Y. Zhan, F.Y. Duan and L.M. Chang	1961
Parameters Choice of Active Infrared Night Vision System to Vehicles H.S. Xin, H.J. Yue and D.M. Liang	1965
Lumped Mass Matrix of Three-Node Beam Element L.Z. Ma, J. Liu, X.D. Jia and Y.Q. Yan	1969
Design of a New Drainpipe Robot Based on STM32 H. Cheng, D.A. Zhao and J. Zhang	1974

Process Optimization Studies Based on BP Neural Network in Electroless Plating of Ni-Fe- Co-P on Carbon Fiber	
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Analyzing the Success Factors on the Implementation of Product Data Management: A Case Study of Electronic Manufacturing Industry H.H. Chen, S.C. Liu, S.C. Chen, S.H. Yeh, Y.T. Lin and N.Y. Kuan	1984
Design Planetary Gear Reducer of ROV Thruster Using Evidence Theory	1984
S.Q. Yang, B. Huang and L.P. Mao	1988
On-Line Detection Method for Automobile Frame Side Rail Process Holes Y.Z. Men, H.B. Yu, H. Wang, J.G. Gao and X. Pan	1993
The Design and Realization of Intelligent Fire-Fighting Mobile Robot X. Li, G. Du, Y. Yuan, L.Z. Wei and J.H. Li	1997
Kinematic Analysis and Optimization Design of Vehicle Suspension System Y.Z. Men and H.B. Yu	2001
Antifriction Wear-Resistant Composite Materials and Details Made from them for Working Bodies of Cotton Machines and Mechanisms N.S. Abed Negmatova, S.S. Negmatov, G. Gulyamov and J.N. Negmatov	2005
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