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A Chaotic Behavior Decision Algorithm Based on Self-Generating Neural Network for Computer Games 1912
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A New Method for Classification of Power Quality 1916
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A Smart Design of Coolant Tank Leak Testing Equipment in Car Manufacture Using Fault Detection and Isolation Observer Based Method 1925
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A Class of Model Reference Adaptive Decouple Control Based on RBF Neural Network in Deaerator System 1929
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Study of the Spatial Object's Exterior Attitude Measurement Based on Multi-Linear CCD 1945
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Color Context Analysis based Efficient Real-time Flame Detection Algorithm 1953
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Compensation for the Negative-sequence Currents of Electric Railway Based on SVC 1958
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Research on the Application of PFC Technology in Cascade Speed Control System 1964
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A Power Quality Disturbance Classification Method Based on PQ Transform and aß Transform Analysis 1970
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A New Architecture for Digital Copyright Protection System Based on Mobile Agent 1976
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Modeling of Distortion for Arbitrary Packet Loss Patterns in Video Transmission 1983
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A Speaker Recognition System Based on VQ 1988
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NSIS Resource Reservation Mechanism Based On the Crossover Node in the Mobile IPv6 Environment1 1991
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Comprehensive Information Integration of Power Plants in WAN Based on Web Services 1997
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Performance Analysis of Multicast Polling Based Bandwidth Request in IEEE 802.16 Networks 2001
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A RSVP Extension Scheme and Simulation for Mobile IP Networks 2005
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A Sequencing Algorithm for Filtering Fields of Firewall 2009
Bowen Liu, Weiping Wang, Rong Ji, Hao Shao, Jiayao Chen, Heran Chen, Rui Xu

Supporting Dynamic Distributed Computing for Industrial Devices and Applications 2013
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