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Model-Free Control Using Nonlinear Extended State Observer and Non-singular Fast Terminal Sliding Mode for Quadrotor Position and Attitude ..... HE Dingxin, WANG Haoping, TIAN Yang 1891
Robust Immersion and Invariance Adaptive Control of Linear Motor System ..... WANG Kangjun, LIU Xiangbin, LIU Jiaqi 1897
Learning Control for Robotic Manipulator with Free Energy ..... HU YAZHOU, WANG Wenxue, YU Peng, YAO Chen, LIU Lianqing 1903
Robust I & I Adaptive DSC with Disturbance Observer for Maglev Systems with Output Constraint ..... LIU Jiaqi, LIU Xiangbin, SU Hongye 1909
A New Control System Based on an Improved PID Neural Network Controller for Landslide System Control ..... ZHANG Ying, SUN Shu, CHENG Lian, WANG Xiaoping 1917
Vibration Suppression of a Flexible Beam Based on a Color Tracking Camera and ADC Method ..... ZHANG Ze, ZHANG Tao, ZHU Yongting, WEI Zhaowei, ZHANG Yuanming 1923
Optimal Robust Control of Nonlinear Uncertain System via Off-Policy Integral Reinforcement Learning ..... WANG Xiaoyang, YE Xiufen 1928
Improved Adaptive Critic for Neural Optimal Control of Constrained Nonlinear Discrete-Time Systems ..... ZHAO Mingming, WANG Ding, HA Mingming 1934
An Improved Model-Free Adaptive Control Algorithm and the Application in Aero-engines ..... LIU Xiao-Yu, SUN Xi-Ming, ZHANG Yongliang, WANG Xuefang, WEN Si-Xin 1940
Computationally Inexpensive Robust Adaptive Control of Nonlinear Systems ..... ZHOU Yongcheng, ZHOU Mingliang, ZHAO Kai, CHEN Long 1946
Value-Iteration-Based Neuro-Optimal Tracking Control for Affine Systems with Completely Unknown Dynamics ..... HA Mingming, WANG Ding, LIU Derong 1951
Collaborative Tracking Systems Using Decentralized Iterative Learning Control ..... SHEN Dong, LIU Yanze, SONG Qijiang 1957
Adaptive Neural Networks Control for Markov Jump Nonlinear Systems with Nonstrict-Feedback Form and Uncertain Transition Rate ..... CAO Boqiang, NIE Xiaobing 1963
Velocity Regulation for Automatic Train Operation via Meta-Reinforcement Learning ..... ZHAO Feiran, YOU Keyou, FAN Yunxin, YAN Gang 1969
Adaptive Neural Control of Uncertain MIMO Nonlinear Systems with Time-Varying Output Constraints ..... HUA Yu, ZHANG Tianping, XIA Meizhen, WU Ziwen 1975
Adaptive Backstepping Control with Extended State Observer for Wheeled Mobile Robot ..... WANG Ke, LIU Yong, HUANG Chengwei, PENG Cheng 1981

Fuzzy-Logic-Based Adaptive Internal Model Control for Load Frequency Control Systems with Electric Vehicles ..... SONG Dongyi, SHAO Yunfeng, ZOU Suli, ZHAO Xin, LI Shicai, MA Zhongjing 1987
A New Reinforcement Learning Algorithm Based on Counterfactual Experience Replay ..... LI Meng-Lin, CHEN Jing, CHEN Shaofei, GAO Wei 1994
Finite-time Reduced Order Synchronization of Uncertain Chaotic Systems with Input Nonlinearities via Adaptive Control ..... LUO Jing, CHEN Xue, ZHANG Hongrui, TIAN Yuan 2002
ODE Compensation for an Unstable Heat Equation ..... YU Xiu-Fang, WANG Jun-Min 2008
Research on Temperature Control System Based on IPSO Optimized Fuzzy PID ..... GAO Long, YANG Yi, REN Xiaolin, GU Haiqin, HAN Qingqing, YU Jingya 2014
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