

SCIS 控制科学精选文章目录

◇ 热点专题.....	- 1 -
Special Focus on Control and Analysis for Stochastic Systems.....	- 1 -
Special Focus on Cyber-Physical Systems.....	- 1 -
Special Topic: Entanglement of Control and Optimization.....	- 2 -
◇ 人工智能系统.....	- 2 -
◇ 复杂网络与系统.....	- 4 -
◇ 分布式控制与优化.....	- 5 -
◇ 故障诊断与控制系统安全.....	- 8 -
◇ 滤波、估计与参数辨识.....	- 11 -
◇ 导航、制导与控制.....	- 12 -
◇ 网络化控制系统.....	- 14 -
◇ 非线性系统与控制.....	- 16 -
◇ 机器人与无人系统.....	- 21 -
◇ 鲁棒控制与自适应控制.....	- 24 -
◇ 随机系统与控制.....	- 27 -



<识别二维码查看网页版>

✧ **热点专题**

Special Focus on Control and Analysis for Stochastic Systems

Guest Editors: Xuejun XIE, Hiroaki MUKAIDANI, Weihai ZHANG

Fault estimation and fault-tolerant control for linear discrete time-varying stochastic systems

Tianliang ZHANG, Feiqi DENG, Yuan SUN & Peng SHI

Sci China Inf Sci, 2021, 64(10): 200201

Robust SOF Stackelberg game for stochastic LPV systems

Hiroaki MUKAIDANI & Hua XU

Sci China Inf Sci, 2021, 64(10): 200202

Keywords: stackelberg games; linear parameter varying stochastic systems; lpv; lpv stochastic systems; cross-coupled matrix equations; ccmes

Adaptive state-feedback stabilization of state-constrained stochastic high-order nonlinear systems

Rongheng CUI & Xuejun XIE

Sci China Inf Sci, 2021, 64(10): 200203

Event-triggered fault detection for nonlinear discrete-time switched stochastic systems: a convex function method

Xiushan JIANG & Dongya ZHAO

Sci China Inf Sci, 2021, 64(10): 200204

Special Focus on Cyber-Physical Systems

Guest Editors: Shiyang HU, Changliu LIU, Vincenzo PIURI

Advanced virtual prototyping for cyber-physical systems using RISC-V: implementation, verification and challenges

Vladimir HERDT & Rolf DRECHSLER

Sci China Inf Sci, 2022, 65(1): 110201

Event-triggered robust MPC of nonlinear cyber-physical systems against DoS attacks

Qi SUN, Jicheng CHEN & Yang SHI

Sci China Inf Sci, 2022, 65(1): 110202

Label propagation dictionary learning based process monitoring method for industrial process with between-mode similarity

Keke HUANG, Shijun TAO, Yishun LIU, Chunhua YANG & Weihua GUI

Sci China Inf Sci, 2022, 65(1): 110203

Wireless/wired integrated transmission for industrial cyber-physical systems: risk-sensitive co-design of 5G and TSN protocols

Yajing ZHANG, Qimin XU, Xinping GUAN, Cailian CHEN & Mingyan LI

Sci China Inf Sci, 2022, 65(1): 110204

Special Topic: Entanglement of Control and Optimization

Guest Editors: Zhong-Ping JIANG, Tengfei LIU

Reinforcement learning for optimal tracking of large-scale systems with multitime scales

Jinna LI, Hao NIE, Tianyou CHAI & Frank L. LEWIS

Sci China Inf Sci, 2023, 66(7): 170201

Data-driven cooperative optimal output regulation for linear discrete-time multi-agent systems by online distributed adaptive internal model approach

Kedi XIE, Yi JIANG, Xiao YU & Weiyao LAN

Sci China Inf Sci, 2023, 66(7): 170202

Reinforcement learning-based unknown reference tracking control of HMASs with nonidentical communication delays

Yong XU, Zheng-Guang WU, Wei-Wei CHE & Deyuan MENG

Sci China Inf Sci, 2023, 66(7): 170203

Predefined-time distributed multiobjective optimization for network resource allocation

Kunpeng ZHANG, Lei XU, Xinlei YI, Zhengtao DING, Karl H. JOHANSSON, Tianyou CHAI & Tao YANG

Sci China Inf Sci, 2023, 66(7): 170204

On the reinforcement learning extended state observer for a class of uncertain sampled-data control systems

Guojie TANG, Wenchao XUE, Haitao FANG & Kun ZHANG

Sci China Inf Sci, 2023, 66(7): 170205

Optimal output regulation for PMSM speed servo system using approximate dynamic programming

Zhaowu PING, Yingjie JIA, Bangguo XIONG, Hongwei ZHANG & Jun-Guo LU

Sci China Inf Sci, 2023, 66(7): 170206

✧ 人工智能系统

Chen H, Yuan K, Huang Y J, et al. **Feedback is all you need: from ChatGPT to autonomous driving.**

Sci China Inf Sci, 2023, 66(6): 166201

Keywords: feedback; human feedback; ChatGPT; autonomous driving; autonomous intelligent systems

Chen X Q, Gong Z Q, Zhao X Y, et al. **A machine learning surrogate modeling benchmark for temperature field reconstruction of heat source systems.** Sci China Inf Sci, 2023, 66(5): 152203

Keywords: temperature field reconstruction; heat-source systems; computational modeling; temperature field reconstruction dataset; machine learning surrogate modeling; deep learning

Hou Z P, Zhou M, Roberts C, et al. **Cuckoo search approach for automatic train regulation under capacity limitation.** Sci China Inf Sci, 2023, 66(4): 149204

Keywords: automatic train regulation; capacity limitation; cuckoo search algorithm; passenger flow information ; Train dwell time model

Zhang Y, Yang C G, Xu S, et al. **Obstacle avoidance in human-robot cooperative transportation with force constraint.** Sci China Inf Sci, 2023, 66(1): 119205

Keywords: human-robot interaction; dynamic movement primitives; Gaussian mixture regression; GMR; collision avoidance; force constrain

Wu Y N, Fang Y C, Fan Z, et al. **A novel frequency-dependent hysteresis model based on improved neural Turing machine**. Sci China Inf Sci, 2023, 66(1): 119203

Keywords: piezoelectric actuator; hysteresis model; frequency-dependence; neural Turing machine; neural network

Gao F, Cai Y Y, Deng F, et al. **Prior area searching for energy-based sound source localization**. Sci China Inf Sci, 2022, 65(12): 222204

Keywords: prior area searching; sound source localization; adaptively initialization; iterative search; indoor environment

Zhang S M, Liu Z L, Chen C L P. **Broad learning system based on the quantized minimum error entropy criterion**. Sci China Inf Sci, 2022, 65(12): 222203

Keywords: broad learning system; quantized minimum error entropy; robustness; minimum error entropy; convergence

He S D, Dai S L, Dong C. **Adaptive synchronization control of uncertain multiple USVs with prescribed performance and preserved connectivity**. Sci China Inf Sci, 2022, 65(9): 199201

Keywords: synchronization tracking control; unmanned surface vehicles; connectivity preservation; prescribed performance; adaptive control

Deng X T, Lei Z W, Wang Y, et al. **Learning ultrasound scanning skills from human demonstrations**. Sci China Inf Sci, 2022, 65(8): 184201

Keywords: robotic ultrasound; robotic skill learning; learning from demonstration; force control; compliant manipulation

Lou B C, Li Y F, Lu X D, et al. **Car-following behavior modeling driven by small data sets based on mnemonic extreme gradient boosting framework**. Sci China Inf Sci, 2022, 65(6): 169203

Keywords: car-following model; sparse data learning; xgboost; lstm; dynamic constraints

Cai J Q, Peng Z H, Liao S J, et al. **A multi-mode multi-skill project scheduling reformulation for reconnaissance mission planning**. Sci China Inf Sci, 2022, 65(6): 169201

Keywords: reconnaissance; rcpsp; multi-mode; multi-skill; scheduling; multi-agent system

Zhang D, Li T S, Chen C L P, et al. **Target tracking algorithm based on a broad learning system**. Sci China Inf Sci, 2022, 65(5): 154201

Keywords: target tracking; broad learning system; selective search algorithm; multi-cue tracking; tracking adaptability

Yuan Y, Qu Q L, Cao W H, et al. **Modeling for coke quality prediction using Gaussian function and SGA**. Sci China Inf Sci, 2022, 65(1): 119202

Keywords: coke quality; gaussian function; prediction model; selection gene algorithm; vitrinite reflectance

Yu J P, Shi P, Chen X K, et al. **Finite-time command filtered adaptive control for nonlinear systems via immersion and invariance**. Sci China Inf Sci, 2021, 64(9): 192202

Keywords: adaptive control; finite-time control; command-filtered backstepping; immersion and invariance

Zhao J, Chen L, Wang Y N, et al. **A review of system modeling, assessment and operational optimization for integrated energy systems**. Sci China Inf Sci, 2021, 64(9): 191201

Keywords: ies; system modeling; assessment; operational optimization; data-driven

Feng S, Chen C L P. **Performance analysis of fuzzy BLS using different cluster methods for classification**. Sci China Inf Sci, 2021, 64(4): 149205

Keywords: fuzzy broad learning system; clustering; fuzzy c-means; classification; tsf fuzzy system

Si J N, Zhang X, Li M, et al. **Wearable wireless real-time cerebral oximeter for measuring regional cerebral oxygen saturation**. Sci China Inf Sci, 2021, 64(1): 112203

Keywords: near-infrared spectroscopy; cerebral oxygen saturation; oximeter; rso2; wearable

❖ 复杂网络与系统

Xu W K, Wang L, Sun S W, et al. **A novel policy iteration algorithm for solving the optimal consensus control problem of a discrete-time multiagent system with unknown dynamics**. Sci China Inf Sci, 2023, 66(8): 189204

Keywords: discrete-time multiagent system; unknown dynamics; optimal consensus control; β -PI algorithm; reinforcement learning

Cheng S S, Lei J L, Zeng X L, et al. **Effective distributed algorithm for solving linear matrix equations**. Sci China Inf Sci, 2023, 66(8): 189202

Keywords: distributed algorithm; linear matrix equation; linear rate; least squares solution; optimization

Wang S L, Li H T. **Aggregation method to reachability and optimal control of large-size Boolean control networks**. Sci China Inf Sci, 2023, 66(7): 179202

Keywords: semi-tensor product of matrices; Boolean control networks; reachability; Mayer-type optimal control; aggregation method

Wang Y, Yan J J, Huang W, et al. **Variable-order fractional derivative rutting depth prediction of asphalt pavement based on the RIOHTrack full-scale track**. Sci China Inf Sci, 2023, 66(5): 152205

Keywords: RIOHTrack full-scale track; Caputo fractional derivative; variable-order fractional; modified Burgers model; rutting prediction

Li Z T, Guo Y Q, Gui W H. **Asymptotical stability of continuous-time probabilistic logic networks based on transition rate**. Sci China Inf Sci, 2023, 66(3): 132201

Keywords: asymptotical stability; continuous-time probabilistic logic network; semi-tensor product of matrices; set stability

Chen J, Li X. **Toward the minimum vertex cover of complex networks using distributed potential games**. Sci China Inf Sci, 2023, 66(1): 112205

Keywords: minimum vertex cover; Nash equilibrium; convergence rate; scale-free network; random graph

Liu H J, Cao J D, Huang W, et al. **Complex network approach for the evaluation of asphalt pavement design and construction: a longitudinal study**. Sci China Inf Sci, 2022, 65(7): 172204

Keywords: complex network; asphalt pavement; structure evaluation; longitudinal; RIOHTrack

Li X-J, Li C, Li X. **The impact of information dissemination on vaccination in multiplex networks**. Sci China Inf Sci, 2022, 65(7): 172202

Keywords: evolutionary game theory; epidemic modeling; network dynamics

Liu Y, Zhong J, Ho D W C, et al. **Minimal observability of Boolean networks**. Sci China Inf Sci, 2022, 65(5): 152203

Keywords: boolean networks; minimal observability; semi-tensor product

Hou N, Li J H, Liu H J, et al. **Finite-horizon resilient state estimation for complex networks with integral measurements from partial nodes**. *Sci China Inf Sci*, 2022, 65(3): 132205

Keywords: complex networks; finite-horizon h_∞ partial-nodes-based state estimation; gain variations; backward recursive riccati difference equations; integral measurements

Zhou R P, Guo Y Q, Liu X Z, et al. **Stabilization of Boolean control networks with state-triggered impulses**. *Sci China Inf Sci*, 2022, 65(3): 132202

Keywords: boolean control networks; set stabilization; state-triggered impulses; hybrid-index model; semi-tensor product of matrices

Cheng C, Yu C B. **Social conformity creates consensus and strong diversity of Hegselmann-Krause opinion dynamics**. *Sci China Inf Sci*, 2022, 65(2): 129202

Keywords: opinion dynamics; hegselmann-krause model; social network; conformity; multi-agent systems

Su W, Wang X-Q, Chen G, et al. **Quasi-synchronization of bounded confidence opinion dynamics with a stochastic asynchronous rule**. *Sci China Inf Sci*, 2022, 65(1): 119203

Keywords: opinion dynamics; multi-agent systems; social network; complex network; stochastic systems; swarm intelligence

Wang Y, Cao J D. **Final size of network epidemic models: properties and connections**. *Sci China Inf Sci*, 2021, 64(7): 179201

Keywords: epidemic models; complex networks; final size; degree distribution; control effort

Xing Y, Hong Y G, Fang H T. **A novel opinion model for complex macro-behaviors of mass opinion**. *Sci China Inf Sci*, 2021, 64(2): 129205

Keywords: social networks; opinion dynamics; degroot model; friedkin-johnson model; mass opinion; macro-behavior

Kao Y G, Li H. **Asymptotic multistability and local S-asymptotic ω -periodicity for the nonautonomous fractional-order neural networks with impulses**. *Sci China Inf Sci*, 2021, 64(1): 112207

Keywords: fractional-order neural networks; local s-asymptotic omega-periodicity; asymptotic multistability; impulse; nonautonomous

◇ 分布式控制与优化

Wang Y H, Zeng X L, Zhao W X, et al. **A zeroth-order algorithm for distributed optimization with stochastic stripe observations**. *Sci China Inf Sci*, 2023, 66(9): 199202

Keywords: distributed algorithm; stochastic; stripe observations; zeroth-order method; distributed optimization

Zhang Y, Su Y F. **Consensus of hybrid linear multi-agent systems with periodic jumps**. *Sci China Inf Sci*, 2023, 66(7): 179204

Keywords: Multi-agent systems; Consensus; Hybrid systems; Hybrid output feedback; Cooperative control

Zhang Z X, Song H F, Wang H W, et al. **A model predictive control strategy with switching cost functions for cooperative operation of trains**. *Sci China Inf Sci*, 2023, 66(7): 172206

Keywords: cooperative control; switching cost functions; model predictive control; automatic train operation; railway train

Zhang K P, Xu L, Yi X L, et al. **Predefined-time distributed multiobjective optimization for network resource allocation**. *Sci China Inf Sci*, 2023, 66(7): 170204

Keywords: distributed optimization; multiobjective optimization; predefined-time algorithms; time-based generators; weighted Lp preference index

Xu Y, Wu Z-G, Che W-W, et al. **Reinforcement learning-based unknown reference tracking control of HMASs with nonidentical communication delays**. *Sci China Inf Sci*, 2023, 66(7): 170203

Keywords: heterogeneous multiagent systems; HMAS; reinforcement learning; RL; optimal output syn-chronization; communication delays

Xie K D, Jiang Y, Yu X, et al. **Data-driven cooperative optimal output regulation for linear discrete-time multi-agent systems by online distributed adaptive internal model approach**. *Sci China Inf Sci*, 2023, 66(7): 170202

Keywords: adaptive dynamic programming; cooperative control; distributed adaptive internal model; multi-agent systems; optimal output regulation

Li J N, Nie H, Chai T Y, et al. **Reinforcement learning for optimal tracking of large-scale systems with multitime scales**. *Sci China Inf Sci*, 2023, 66(7): 170201

Keywords: reinforcement learning; singular perturbation; multitime scales; data-driven control

Chang Z Z, Song W H, Wang J J, et al. **Fully distributed event-triggered affine formation maneuver control over directed graphs**. *Sci China Inf Sci*, 2023, 66(6): 164201

Keywords: formation control; event-triggered control; multi-agent systems; fully distributed control; directed graph

Bao Z, Tang C B, Lin F L, et al. **Rating-protocol optimization for blockchain-enabled hybrid energy trading in smart grids**. *Sci China Inf Sci*, 2023, 66(5): 159205

Keywords: blockchain; smart grid; rating protocol; incentive mechanism; hybrid trading

Fu J J, Lv Y Z, Yu W W. **Robust adaptive time-varying region tracking control of multi-robot systems**. *Sci China Inf Sci*, 2023, 66(5): 159202

Keywords: multi-robot system; region tracking; robust control; adaptive control; distributed control

He J, Liang Y, Hao X H, et al. **A quadratic convex framework with bigger freedom for the stability analysis of a cyber-physical microgrid system**. *Sci China Inf Sci*, 2023, 66(2): 122202

Keywords: cyber-physical microgrid; load frequency control; quadratic convex framework; stability analysis

Xie S Y, Wang L Y, Nazari M H, et al. **Distributed optimization with Markovian switching targets and stochastic observation noises with applications to DC microgrids**. *Sci China Inf Sci*, 2022, 65(12): 222205

Keywords: constraint optimization; noisy observation; output variation; Markovian switching target; distributed algorithm; DC microgrid

Xiong M H, Zhang B Y, Yuan D M, et al. **Distributed quantized mirror descent for strongly convex optimization over time-varying directed graph**. *Sci China Inf Sci*, 2022, 65(10): 202202

Keywords: distributed convex optimization; strongly convex optimization; mirror descent; quantized communication; Bregman divergence

Zhou Z, Liu Z T, Su H Y, et al. **Multi-objective optimization for 10-kW rated power dynamic wireless charging systems of electric vehicles**. *Sci China Inf Sci*, 2022, 65(10): 202201

Keywords: dynamic wireless charging; electric vehicles; multi-objective optimization; constrained adaptive particle swarm optimization

Zhang J, Liu S, Zhang X F. **Observer-based distributed consensus for nonlinear multi-agent systems with limited data rate**. *Sci China Inf Sci*, 2022, 65(9): 192204

Keywords: nonlinear multi-agent systems; uniform quantizer; logarithmic quantizer; dynamic gain; δ -asymptotic distributed consensus

Lv Y Z, Li Z K. **Is fully distributed adaptive protocol applicable to graphs containing a directed spanning tree?**. Sci China Inf Sci, 2022, 65(8): 189203

Keywords: multi-agent system; consensus; fully distributed adaptive protocol; directed spanning tree; robust protocol design

Sun Q Y, Wang B Y, Feng X M, et al. **Small-signal stability and robustness analysis for microgrids under time-constrained DoS attacks and a mitigation adaptive secondary control method**. Sci China Inf Sci, 2022, 65(6): 162202

Keywords: microgrid; hierarchical control architecture; cyber-physical system security; denial-of-service attack; adaptive secondary frequency control

Gao J, Liu X-W, Dai Y-H, et al. **Achieving geometric convergence for distributed optimization with Barzilai-Borwein step sizes**. Sci China Inf Sci, 2022, 65(4): 149204

Keywords: distributed optimization; multi-agent network; barzilai-borwein step sizes; optimization algorithms; convergence rate

Jiang K C, Wang J H. **Stabilization of a class of congestion games via intermittent control**. Sci China Inf Sci, 2022, 65(4): 149203

Keywords: semi-tensor product of matrices; weighted congestion game; evolutionary dynamics; intermittent control; nash equilibrium

Geng X X, Zhao W X. **Randomized difference-based gradient-free algorithm for distributed resource allocation**. Sci China Inf Sci, 2022, 65(4): 142205

Keywords: resource allocation; distributed algorithm; randomized difference

Wang D, Wang Z, Wu Z J, et al. **Distributed convex optimization for nonlinear multi-agent systems disturbed by a second-order stationary process over a digraph**. Sci China Inf Sci, 2022, 65(3): 132201

Keywords: distributed optimization; random differential equations; stationary process; noise-to-state exponential stability

Wang X H, Su Y F, Xu D B. **Nonlinear output-feedback tracking in multiagent systems with an unknown leader and directed communication**. Sci China Inf Sci, 2021, 64(12): 222202

Keywords: multiagent systems; internal model; unknown leaders; output regulation; output-feedback

Sun H, Liu Y G, Li F Z. **Distributed optimal consensus of second-order multi-agent systems**. Sci China Inf Sci, 2021, 64(10): 209201

Keywords: multi-agent systems; leader-following; consensus; global optimization; distributed optimal protocol

Chen L, Xin B, Chen J. **Interactive multiobjective evolutionary algorithm based on decomposition and compression**. Sci China Inf Sci, 2021, 64(10): 202201

Keywords: multiobjective optimization; interactive decision making; preference incorporation; decomposition; compression

Yang Z Q, Zhang Q, Chen Z Q. **Finite-time distributed projection scheme for intersections of convex sets**. Sci China Inf Sci, 2021, 64(9): 199203

Keywords: multi-agent systems; intersections of convex sets; distributed optimization; finite-time; consensus

Khan A T, Cao X W, Li S, et al. **Quantum beetle antennae search: a novel technique for the constrained portfolio optimization problem**. *Sci China Inf Sci*, 2021, 64(5): 152204

Keywords: quantum computing; beetle antennae search; portfolio selection; optimization; finance problem

Guo L H, Liu Z X, Chen Z Q. **The greedy crowd and smart leaders: a hierarchical strategy selection game with learning protocol**. *Sci China Inf Sci*, 2021, 64(3): 132206

Keywords: multi-agent system; reinforcement learning; game theory; complex network; bipartite graph

Chai X F, Liu J, Yu Y, et al. **Observer-based self-triggered control for time-varying formation of multi-agent systems**. *Sci China Inf Sci*, 2021, 64(3): 132205

Keywords: multi-agent systems; time-varying formation; states observer; event-triggered

Wang Y Y, Jiao X H. **Multi-objective energy management for PHEV using Pontryagin's minimum principle and particle swarm optimization online**. *Sci China Inf Sci*, 2021, 64(1): 119204

Keywords: plug-in hybrid electric vehicle; energy management strategy; multi-objective; pontryagin's minimum principle; particle swarm optimization

Wang K, Fu Z, Xu Q, et al. **Distributed fixed step-size algorithm for dynamic economic dispatch with power flow limits**. *Sci China Inf Sci*, 2021, 64(1): 112202

Keywords: dynamic economic dispatch; distributed optimization; discrete-time algorithm; active power flow limit; transmission line loss

❖ 故障诊断与控制系统安全

An L W, Yang G-H. **Attack detectability and stealthiness in distributed optimal coordination of cyber-physical systems**. *Sci China Inf Sci*, 2023, 66(9): 199204

Keywords: cyber-physical systems; attack detection and identification; distributed optimization; security analysis; cyber attacks

Zhu Z R, Huang P F, Zhang X M, et al. **First attempt of barrier functions for Caputo's fractional-order nonlinear dynamical systems**. *Sci China Inf Sci*, 2023, 66(7): 179205

Keywords: barrier functions; safety; safety-and-stability; Caputo's fractional-order systems; nonlinear dynamical system

Tan Y W, Weng P D, Chen B, et al. **Nonlinear fusion estimation for false data injection attack signals in cyber-physical systems**. *Sci China Inf Sci*, 2023, 66(7): 179203

Keywords: false data injection attacks; sensor fusion; estimation; nonlinear filter; cyber-physical systems

Tian Y M, Chai Y, Feng L, et al. **Fault estimator design based on an iterative-learning scheme according to the forgetting factor for nonlinear systems**. *Sci China Inf Sci*, 2023, 66(7): 179201

Keywords: fault estimation; potential factor; Bellman-Gronwall theory; iterative learning scheme; norm theory

Zhang Z, He X. **Fault detection and isolation for linear parameter-varying systems with time-delays: a geometric approach**. *Sci China Inf Sci*, 2023, 66(7): 172202

Keywords: time-delay LPV systems; geometric approach; fault detection; fault isolation; exact-memory; rough-memory

Zhou Y R, Chen Z Q, Liu Z X, et al. **Strong fault prognosability of partially-observed discrete event systems**. *Sci China Inf Sci*, 2023, 66(3): 139202

Keywords: strongly fault prognosability; decentralized fault prognosis; fault prediction and isolation; discrete event systems; partially-observed discrete event systems

Huang D R, Hua X X, Mi B, et al. **Incipient fault diagnosis on active disturbance rejection control**. Sci China Inf Sci, 2022, 65(9): 199202

Keywords: active disturbance rejection control; fault diagnosis; disturbance; abrupt incipient fault; soft incipient fault

Feng L, Xu S Q, Zhang K, et al. **Fault estimation based on high order iterative learning scheme for systems subject to nonlinear uncertainties**. Sci China Inf Sci, 2022, 65(7): 179202

Keywords: fault estimation; high order iterative learning scheme; nonlinear system; nonlinear uncertainties; iterative learning control

Pei H, Si X S, Hu C H, et al. **Prognostics based on the generalized diffusion process with parameters updated by a sequential Bayesian method**. Sci China Inf Sci, 2022, 65(6): 162206

Keywords: generalized diffusion process; stochastic model parameters; remaining useful life; maximum likelihood estimation; sequential Bayesian methods

Guo B, Dian S Y, Zhao T. **Active event-driven reliable defense control for interconnected nonlinear systems under actuator faults and denial-of-service attacks**. Sci China Inf Sci, 2022, 65(6): 162205

Keywords: interconnected nonlinear system; actuator fault; DoS attack; disturbance; fault-tolerant control; event-driven control

Huo S C, Huang D L, Zhang Y. **Secure output synchronization of heterogeneous multi-agent systems against false data injection attacks**. Sci China Inf Sci, 2022, 65(6): 162204

Keywords: output synchronization; false data injection attacks; adaptive compensators; heterogeneous multi-agent systems; secure control

Li Z C, Tian L, Yan X F. **A novel deep quality-supervised regularized autoencoder model for quality-relevant fault detection**. Sci China Inf Sci, 2022, 65(5): 159203

Keywords: supervised learning; deep learning; regularized autoencoder; process monitoring; quality-relevant fault detection

Tao S B, Hu Y Q, Xu S Q, et al. **A new current sensor incipient fault diagnosis method for converters in wind energy conversion systems**. Sci China Inf Sci, 2022, 65(5): 159201

Keywords: incipient fault; current sensor; fault diagnosis; wind power; instantaneous amplitude; fault location

Li Y, Feng C C. **Industrial process fault detection based on locally linear embedded latent mapping**. Sci China Inf Sci, 2022, 65(4): 149201

Keywords: latent mapping; manifold learning; local linear embedding; te process; fault detection

Zhang Y F, Wu Z G, Wu Z Z, et al. **Resilient observer-based event-triggered control for cyber-physical systems under asynchronous denial-of-service attacks**. Sci China Inf Sci, 2022, 65(4): 142203

Keywords: cyber-physical systems; input-to-state stability; asynchronous dos attacks; h_∞ observer; event-triggered control

Du X T, Zou L, Zhao Z Y, et al. **Unknown-input-observer-based approach to dynamic event-triggered fault estimation for Markovian jump systems with time-varying delays**. Sci China Inf Sci, 2022, 65(3): 132203

Keywords: fault estimation; unknown input observer; markovian jump systems; dynamic event-triggered mechanism; time-varying delays

Zhu Z R, Chai Y, Yang Z M, et al. **Safety criteria based on barrier function under the framework of boundedness for some dynamic systems**. *Sci China Inf Sci*, 2022, 65(2): 122203

Keywords: safety criteria; barrier function; fault safety; multi-hypersphere method; dynamic system

Huang K K, Tao S J, Liu Y S, et al. **Label propagation dictionary learning based process monitoring method for industrial process with between-mode similarity**. *Sci China Inf Sci*, 2022, 65(1): 110203

Keywords: process monitoring; label propagation; dictionary learning; between-mode similarity; graph laplacian regularization

Si X S, Li T M, Zhang Q. **Optimal replacement of degrading components: a control-limit policy**. *Sci China Inf Sci*, 2021, 64(10): 209205

Keywords: degradation; condition based maintenance; prognostics; life prediction; replacement

Xu X B, Yu Z C, Zeng J S, et al. **A Bayesian belief-rule-based inference multivariate alarm system for nonlinear time-varying processes**. *Sci China Inf Sci*, 2021, 64(10): 202203

Keywords: multivariate alarm design; belief-rule-based method; nonlinear time-varying process; sequential monte carlo

Zhu Z R, Chai Y, Yang Z M. **A novel kind of sufficient conditions for safety judgement based on control barrier function**. *Sci China Inf Sci*, 2021, 64(9): 199205

Keywords: safety criterion; control barrier function; fault safety; complex system; sufficient condition

Si X S, Hu C H, Li T M, et al. **A joint order-replacement policy for deteriorating components with reliability constraint**. *Sci China Inf Sci*, 2021, 64(8): 189203

Keywords: prognostics; remaining useful life; replacement; spare part ordering; degradation model

Zhang J F, Tan J W, Wang J M. **Privacy security in control systems**. *Sci China Inf Sci*, 2021, 64(7): 176201

Keywords: privacy security; control systems; privacy preserving; privacy security in control systems; reliability

Zhou Z J, Cao Y, Hu G Y, et al. **New health-state assessment model based on belief rule base with interpretability**. *Sci China Inf Sci*, 2021, 64(7): 172214

Keywords: health-state assessment; belief rule base; interpretability; complex systems

Zong G D, Huang C X, Yang D. **Bumpless transfer fault detection for switched systems: a state-dependent switching approach**. *Sci China Inf Sci*, 2021, 64(7): 172208

Keywords: bumpless transfer; fault detection; multiple lyapunov functions; state-dependent switching law; switched systems

Zhang H W, Chen M Y, Shang J, et al. **Stochastic process-based degradation modeling and RUL prediction: from Brownian motion to fractional Brownian motion**. *Sci China Inf Sci*, 2021, 64(7): 171201

Keywords: remaining useful life; degradation model; brownian motion; fractional brownian motion; long-range dependence

Guo B, Chen Y, Zhou A J. **Event trigger-based adaptive sliding mode fault-tolerant control for dynamic systems**. *Sci China Inf Sci*, 2021, 64(6): 169205

Keywords: actuator fault; fault-tolerant control; event-triggered control; sliding mode control; composite observer

Jia R X, Wang J, Zhou J L. **Fault diagnosis of industrial process based on the optimal parametric t-distributed stochastic neighbor embedding**. *Sci China Inf Sci*, 2021, 64(5): 159204

Keywords: industrial process; fault classification; parametric t-sne; nonlinear dimension reduction; fault diagnosis

Zhu X Q, Liu Y, Fang J Z, et al. **Fault detection for a class of linear systems with integral measurements**. *Sci China Inf Sci*, 2021, 64(3): 132207

Keywords: fault detection; linear discrete-time systems; integral measurements; parity space; optimization problem

Tang Q, Li B Q, Chai Y, et al. **Improved sparse representation based on local preserving projection for the fault diagnosis of multivariable system**. *Sci China Inf Sci*, 2021, 64(2): 129204

Keywords: sparse representation; dictionary learning; local preserving projection; fault diagnosis; multivariable system

Huang D Q, Fu Y Z, Qin N, et al. **Fault diagnosis of high-speed train bogie based on LSTM neural network**. *Sci China Inf Sci*, 2021, 64(1): 119203

Keywords: high-speed train; bogie; long-short-term memory; lstm; fault diagnosis; recurrent neural network; rnn

Yu Y, Si X S, Hu C H, et al. **Online remaining-useful-life estimation with a Bayesian-updated expectation-conditional-maximization algorithm and a modified Bayesian-model-averaging method**. *Sci China Inf Sci*, 2021, 64(1): 112205

Keywords: online rul estimation; parameter uncertainty; model uncertainty; bayesian method; ecm algorithm; bayesian model averaging

◇ 滤波、估计与参数辨识

Liu H Q, Shen X J, Wang Z G, et al. **Randomized multimodel multiple hypothesis tracking**. *Sci China Inf Sci*, 2023, 66(9): 199203

Keywords: multi-target tracking; data association; random coefficient matrices; Kalman filter; maneuvering targets

Liu L, Zhao X D, Wang B H, et al. **Event-triggered state estimation for cyber-physical systems with partially observed injection attacks**. *Sci China Inf Sci*, 2023, 66(6): 169202

Keywords: cyber physical systems; event-triggered estimation; injection attack; optimal state estimation; optimal filtering

Liu D, Baldi S, Liu Q, et al. **A recursive least squares algorithm with l_1 regularization for sparse representation**. *Sci China Inf Sci*, 2023, 66(2): 129202

Keywords: sparse representation; recursive least squares; l_1 -regularization; l_2 -regularization; sparse model; parameter estimation

Zhao Y L, Zhang H, Wang T, et al. **System identification under saturated precise or set-valued measurements**. *Sci China Inf Sci*, 2023, 66(1): 112204

Keywords: system identification; Cramér-Rao lower bound; truncated data; precise measurement; set-valued measurement

Guo X-T, Shen C, Tang J, et al. **Reliable attitude estimation algorithm considering atypical observation**. *Sci China Inf Sci*, 2022, 65(10): 209203

Keywords: attitude estimation; integrated system; ckf; vision atypical observations; narx

Xiao B, Wu Q M J, Yan L P. **Multisensor fusion estimation of nonlinear systems with intermittent observations and heavy-tailed noises**. *Sci China Inf Sci*, 2022, 65(9): 192203

Keywords: state fusion estimation; nonlinear systems; heavy-tailed noise; intermittent observations; multivariate t-distribution

Mei Q C, She J H, Liu Z T, et al. **Estimation and compensation of periodic disturbance using internal-model-based equivalent-input-disturbance approach**. *Sci China Inf Sci*, 2022, 65(8): 182205

Keywords: equivalent input disturbance; EID; linear matrix inequality; LMI; linear quadratic regulator; LQR; particle swarm optimization; PSO; periodic disturbance; repetitive control

Shi S, Fei Z Y, Zhao X D. **Time-scheduled observer design for switched linear systems with unknown inputs**. *Sci China Inf Sci*, 2022, 65(7): 179204

Keywords: switched linear systems; unknown inputs; admissible edge-dependent average dwell-time; multiple discontinuous lyapunov-like functions; observer design

Wang T, Cong S. **An online quantum state filter with sparse disturbance and Gaussian noise**. *Sci China Inf Sci*, 2022, 65(6): 169204

Keywords: online quantum state filter; oqsf; online alternating direction method of multipliers; oadm; iterative shrinkage threshold algorithm; ista; sparse disturbance; gaussian noise

Cai R-Y, Zhou H-C, Kou C-H. **Active disturbance rejection control for fractional reaction-diffusion equations with spatially varying diffusivity and time delay**. *Sci China Inf Sci*, 2022, 65(2): 129203

Keywords: boundary control; active disturbance rejection control; backstepping method; fractional; mittag-leffler stable

Xiao H C, Ding D R, Dong H L, et al. **Adaptive event-triggered state estimation for large-scale systems subject to deception attacks**. *Sci China Inf Sci*, 2022, 65(2): 122207

Keywords: input-to-state stability; power systems large-scale discrete-time systems; adaptive event-triggering communication; deception attacks,

Cong S, Tang Y R, Harraz S, et al. **On-line quantum state estimation using continuous weak measurement and compressed sensing**. *Sci China Inf Sci*, 2021, 64(8): 189202

Keywords: state estimation; compressed sensing; open quantum systems; information process; continues weak measurement

Jiang B, Gao H Y, Han F, et al. **Recursive filtering for nonlinear systems subject to measurement outliers**. *Sci China Inf Sci*, 2021, 64(7): 172206

Keywords: adaptive saturation; measurement outliers; multiplicative noises; nonlinear systems; recursive filtering

Gan D, Xie S Y, Liu Z X. **Stability of the distributed Kalman filter using general random coefficients**. *Sci China Inf Sci*, 2021, 64(7): 172204

Keywords: distributed kalman filter; collective random observability; l-p-stable; l-p-exponentially stable; state estimation

Ge Q B, Zhuo P, He H L, et al. **SVD based scale transform invariant observable degree for LTI system**. *Sci China Inf Sci*, 2021, 64(3): 139205

Keywords: observability matrix; observable degree; singular value decomposition; scale transform invariance; linear system; linear relation

Liu Y L, Chen W-H, Lu X M. **Slow state estimation for singularly perturbed systems with discrete measurements**. *Sci China Inf Sci*, 2021, 64(2): 129202

Keywords: observer design; singularly perturbed systems; discrete measurements; slow manifold; reduced-order observer

✧ 导航、制导与控制

Song G X, Yang Y Q, Ning X L, et al. **A new SINS/RCNS integrated navigation method based on star pixel coordinates**. *Sci China Inf Sci*, 2023, 66(9): 199201

Keywords: SINS; RCNS; integrated navigation; starlight refraction; star pixel coordinates

Liu L, Wu W-R, Liu Y. **Design and implementation of Chinese libration point missions**. *Sci China Inf Sci*, 2023, 66(9): 191201

Keywords: libration point; three-body problem; lunar exploration; cislunar space; flight scheme

Yang H, Dong S-Q, Xie C-H. **High-speed train positioning based on a combination of Beidou navigation, inertial navigation and an electronic map**. *Sci China Inf Sci*, 2023, 66(7): 172207

Keywords: electronic map; multi-objective optimization; differential evolution algorithm; Beidou navigation system; high-speed train positioning

Zhu J W, Zhang H, Zhao S B, et al. **Multi-constrained intelligent gliding guidance via optimal control and DQN**. *Sci China Inf Sci*, 2023, 66(3): 132202

Keywords: gliding flight; optimal guidance; velocity control; deep reinforcement learning; intelligent decision

Zeng X G, Liu J J, Ren X, et al. **Pan-location mapping and localization for the in-situ science exploration of Zhurong Mars rover**. *Sci China Inf Sci*, 2022, 65(7): 172201

Keywords: pan-location mapping; planetary exploration; geo-visualization; Tianwen-1 mission; Zhurong rover

Yang J N, Hou X L, Liu Y, et al. **A two-level scheme for multiobjective multidebris active removal mission planning in low Earth orbits**. *Sci China Inf Sci*, 2022, 65(5): 152201

Keywords: multidebris active removal; mission planning; multiobjective optimization; drift-orbit transfer strategy; rendezvous strategy

Qiu H X, Zhou Q R, Sun C H, et al. **Distributed unmanned flocking inspired by the collective motion of pigeon flocks**. *Sci China Inf Sci*, 2022, 65(4): 144201

Keywords: collective motion; distributed control; unmanned aerial vehicle; flocking control; swarm intelligence

Ren J R, Quan Q, Ma H B, et al. **Additive-state-decomposition-based station-keeping control for autonomous aerial refueling**. *Sci China Inf Sci*, 2021, 64(11): 219202

Keywords: aerial refueling; station keeping; two-degree-of-freedom; additive state decomposition; varying mass

Fu Q, Mu X X, Wang Y. **Minimal solution for estimating fundamental matrix under planar motion**. *Sci China Inf Sci*, 2021, 64(10): 209203

Keywords: fundamental matrix; minimal solution; planar motion; monocular vision; mobile robot

Liu F, Zhu J H, Wang W F, et al. **Surface-to-air missile sites detection agent with remote sensing images**. *Sci China Inf Sci*, 2021, 64(9): 194201

Keywords: surface to air missile sites; target detection; remote sensing images; area searching; deep learning

Duan G R, Zhao T Y. **Parametric output regulation using observer-based PI controllers with applications in flexible spacecraft attitude control**. *Sci China Inf Sci*, 2021, 64(7): 172210

Keywords: parametric control system design; multiobjective design; observer-based control; separation principle; pi regulator; constant signal tracking; disturbance decoupling and attenuation

Shi H, Zhu J H, Kuang M C, et al. **Cooperative prediction guidance law in target-attacker-defender scenario**. *Sci China Inf Sci*, 2021, 64(4): 149201

Keywords: cooperative guidance; predictive guidance; target-attacker-defender scenario; missile guidance; aircraft active defense

Hai X S, Wang Z L, Feng Q, et al. **A novel adaptive pigeon-inspired optimization algorithm based on evolutionary game theory**. *Sci China Inf Sci*, 2021, 64(3): 139203

Keywords: pigeon-inspired optimization; global continuous optimization problems; evolutionary game theory; adaptability; local optimum

Cheng Z Q, Zhu J H, Yuan X M, et al. **Design of optimal trajectory transition controller for thrust-vector V/STOL aircraft**. *Sci China Inf Sci*, 2021, 64(3): 139201

Keywords: optimal trajectory; thrust-vector; transition control; v/stol; backward propagation

Ning X L, Chen P P, Huang Y Q, et al. **Angular velocity estimation using characteristics of star trails obtained by star sensor for spacecraft**. *Sci China Inf Sci*, 2021, 64(1): 112209

Keywords: angular velocity estimation; star sensor; blurred star images; star trail characteristics; unscented kalman filter

Zhao C H, Fan B, Hu J W, et al. **Homography-based camera pose estimation with known gravity direction for UAV navigation**. *Sci China Inf Sci*, 2021, 64(1): 112204

Keywords: unmanned aerial vehicle; uav; pose estimation; homography; least-squares estimation

❖ 网络化控制系统

Jiang X W, Zhang B, Chen X Y, et al. **Tracking performance limitations of MIMO discrete-time networked control systems with multiple constraints**. *Sci China Inf Sci*, 2023, 66(8): 189203

Keywords: networked control systems; tracking performance limitations; nonminimum phase zeros; unstable poles; multiple constraints

Li Y F, Zhu J D, Liu X W. **Results on the realization of Boolean control networks by the vertex partition method**. *Sci China Inf Sci*, 2023, 66(7): 172205

Keywords: Boolean control networks; realization; semi-tensor product of matrices; vertex partition; state transition graph

Zhang C-K, Xie K-Y, He Y, et al. **Matrix-injection-based transformation method for discrete-time systems with time-varying delay**. *Sci China Inf Sci*, 2023, 66(5): 159201

Keywords: discrete-time system; time-varying delay; stability; linear matrix inequality; matrix injection method

Li Y F, Wang X, Sun J, et al. **Data-driven consensus control of fully distributed event-triggered multi-agent systems**. *Sci China Inf Sci*, 2023, 66(5): 152202

Keywords: distributed control; event-triggered control; data-driven control; discrete-time MASs

Deng Z L, Li P S, Xing M L, et al. **H-infinity control of networked periodic piecewise systems under asynchronous switching with input delay**. *Sci China Inf Sci*, 2023, 66(4): 149201

Keywords: periodic piecewise systems; networked control systems; network-induced delay; asynchronous switching; H-infinity control

Mu J B, Li S Y, Wu J, et al. **Cyber topology design guaranteed structural controllability for networked systems**. *Sci China Inf Sci*, 2022, 65(11): 219203

Keywords: networked systems; structural controllability; cyber-physical systems; cps; cyber topology design; matrix-weighted edges

Wei J M, Yan X Y, Zhu X L, et al. **New stability conditions of CPSs with multiple transportation channels under DoS attacks**. *Sci China Inf Sci*, 2022, 65(11): 219202

Keywords: multiple transmission channels; dos attacks; lmi method; cyber-physical systems; input-to-state stability

Wu Y H, Zhang J Y, Shen T L. **A logical network approximation to optimal control on a continuous domain and its application to HEV control**. Sci China Inf Sci, 2022, 65(11): 212203

Keywords: finite horizon optimal control; logical networks; semi-tensor product; quantification; HEV control

Wu X H, Mu X W. **Novel dynamic event-triggered coordination for scaled consensus without continuous communication or controller update**. Sci China Inf Sci, 2022, 65(10): 209202

Keywords: event-triggered; multiagent systems; consensus; coordination; controller

Hu M, Wang T, Zhao Y L. **Consensus of switched multi-agent systems with binary-valued communications**. Sci China Inf Sci, 2022, 65(6): 162207

Keywords: binary-valued system; switched multi-agent system; recursive projection algorithm; consensus; jointly connected undirected topologies

Tian Y X, Li X, Dong B, et al. **Event-based sliding mode control under denial-of-service attacks**. Sci China Inf Sci, 2022, 65(6): 162203

Keywords: sliding mode control; time delay; uncertain system; state observer; event trigger

Hou F Y, Sun J, Yang Q L, et al. **Deep reinforcement learning for optimal denial-of-service attacks scheduling**. Sci China Inf Sci, 2022, 65(6): 162201

Keywords: optimal denial-of-service attack; scheduling; optimization; limited energy; deep reinforcement learning

Zhou T. **Constructibility of a causal/impulse free NDS using descriptor form subsystems**. Sci China Inf Sci, 2022, 65(4): 142204

Keywords: causality; descriptor system; impulse free; large scale system; networked dynamic system; singular system

Guo J H, Ji Z J, Liu Y G. **Sufficient conditions and limitations of equivalent partition in multiagent controllability**. Sci China Inf Sci, 2022, 65(3): 132204

Keywords: multiagent system; controllability; equivalent partition; tao's equation; graph theory

Jin L, He Y, Zhang C-K, et al. **Equivalent input disturbance-based load frequency control for smart grid with air conditioning loads**. Sci China Inf Sci, 2022, 65(2): 122205

Keywords: conditioning loads equivalent input disturbance; load frequency control; parameter uncertainties; wind power; air

Zhang Y J, Xu Q M, Guan X P, et al. **Wireless/wired integrated transmission for industrial cyber-physical systems: risk-sensitive co-design of 5G and TSN protocols**. Sci China Inf Sci, 2022, 65(1): 110204

Keywords: industrial cyber-physical systems; icps; 5g-tsn co-design; wireless/wired integrated network; risk-sensitive reinforcement learning; deterministic communication

Sun Q, Chen J C, Shi Y. **Event-triggered robust MPC of nonlinear cyber-physical systems against DoS attacks**. Sci China Inf Sci, 2022, 65(1): 110202

Keywords: cyber-physical systems; nonlinear model predictive control; event-triggered mechanism; robust control; denial-of-service attacks

Herdt V, Drechsler R. **Advanced virtual prototyping for cyber-physical systems using RISC-V: implementation, verification and challenges**. Sci China Inf Sci, 2022, 65(1): 110201

Keywords: virtual prototyping; risc-v; systemc tlm; verification

Wu J K, Wang Y F, Shen Z K, et al. **Distributed multilane merging for connected autonomous vehicle platooning**. Sci China Inf Sci, 2021, 64(11): 212202

Keywords: platoon; merging; connected autonomous vehicle; multiagent system; distributed controller

Zhao J M. **Exponential stabilization of memristor-based neural networks with unbounded time-varying delays**. Sci China Inf Sci, 2021, 64(8): 189205

Keywords: memristor-based neural networks; exponential stabilization; discrete time delays; filippov solution; algebraic criterion

Zheng Y T, Li H T, Feng J-E. **State-feedback set stabilization of logical control networks with state-dependent delay**. Sci China Inf Sci, 2021, 64(6): 169203

Keywords: control invariance; logical control networks; semi-tensor product of matrices; set stabilization; state-dependent delay

Zhao P X, Guo H F, Yu Y Y, et al. **On dimensions of dimension-bounded linear systems**. Sci China Inf Sci, 2021, 64(5): 159202

Keywords: cross-dimensional system; dimension-bounded system; vector product; invariant vector space; factorization

Lu J Q, Li B W, Zhong J. **A novel synthesis method for reliable feedback shift registers via Boolean networks**. Sci China Inf Sci, 2021, 64(5): 152207

Keywords: feedback shift register; boolean networks; semi-tensor product; global stability; monotonicity

Pan L L, Shao H B, Xi Y G, et al. **Bipartite consensus problem on matrix-valued weighted directed networks**. Sci China Inf Sci, 2021, 64(4): 149204

Keywords: consensus; multi-agent systems; bipartite consensus; antagonist interactions; networked systems

Xu Z Y, Kang Y, Cao Y, et al. **Deep amended COPERT model for regional vehicle emission prediction**. Sci China Inf Sci, 2021, 64(3): 139202

Keywords: spatiotemporal network; deep learning; vehicle emission; prediction; model modification

Li X D, Bai Y M, Dong X W, et al. **Distributed time-varying formation control with uncertainties based on an event-triggered mechanism**. Sci China Inf Sci, 2021, 64(3): 132204

Keywords: formation control; multi-agent systems; event-triggered; adaptive control

Guo L, Cui T T, Yu H, et al. **Stability of networked control system subject to denial-of-service**. Sci China Inf Sci, 2021, 64(2): 129203

Keywords: dos attacks; event-triggered control; linear systems; stochastic systems; discrete-time systems; networked control systems

Zhang X Y, Zhu S Y. **Distributed energy trading with transmission cost: a Stackelberg game approach**. Sci China Inf Sci, 2021, 64(2): 129201

Keywords: smart grid; energy trading; transmission loss; stackelberg game; best response

❖ 非线性系统与控制

Xu L, Su Y F, Cai H. **Event-triggered tracking control for a class of nonholonomic systems in chained form**. Sci China Inf Sci, 2023, 66(7): 172201

Keywords: event-triggered; nonholonomic systems; strict Lyapunov function; tracking; integral input-to-state stable

Ping Z W, Jia Y J, Xiong B G, et al. **Optimal output regulation for PMSM speed servo system using approximate dynamic programming**. *Sci China Inf Sci*, 2023, 66(7): 170206

Keywords: approximate dynamic programming; disturbance rejection; optimal output regulation; permanent magnet synchronous motor; speed tracking

Tian D D, Xia J W, Sun Y G, et al. **Exponential stability analysis of switched positive nonlinear systems with impulsive effects via multiple max-separable Lyapunov functions**. *Sci China Inf Sci*, 2023, 66(6): 169205

Keywords: switched positive systems; nonlinear systems; stability analysis; time-varying delays; impulsive effects

Long J M, Guo Y Q, Gui W H. **Mean square stability of discrete-time linear systems with random impulsive disturbances**. *Sci China Inf Sci*, 2023, 66(6): 169203

Keywords: mean square stability; hybrid index model; random impulse; discrete-time impulsive systems; hybrid systems

Wu Y, Xie X J. **A new analysis approach to the output constraint and its application in high-order nonlinear systems**. *Sci China Inf Sci*, 2023, 66(5): 159206

Keywords: high-order nonlinear systems; output-constrained subset; barrier-transformed function; state-feedback stabilization; uniformly asymptotic stability

Hou M Z, Shi W R, Fang L Y, et al. **Adaptive dynamic surface control of high-order strict feedback nonlinear systems with parameter estimations**. *Sci China Inf Sci*, 2023, 66(5): 159203

Keywords: adaptive control; dynamic surface control; high-order strict feedback nonlinear systems; parameter estimation; parametric uncertainties

Hu X F, Wang L M, Zhang C-K, et al. **Fixed-time stabilization of discontinuous spatiotemporal neural networks with time-varying coefficients via aperiodically switching control**. *Sci China Inf Sci*, 2023, 66(5): 152204

Keywords: spatiotemporal neural networks; discontinuous activations; time-varying coefficients; fixed-time stabilization; aperiodically switching control

Wang X H, Wang Z, Xia J W, et al. **Adaptive event-trigger-based sampled-data stabilization of complex-valued neural networks: a real and complex LMI approach**. *Sci China Inf Sci*, 2023, 66(4): 149203

Keywords: delayed complex-valued neural networks; adaptive event-trigger scheme; stabilization; discontinuous Lyapunov functional; LMIs

Liu W Z, Guan G R, Gu D K. **Parametric control of quasi-linear second-order systems with partitioned eigenstructure assignment by output feedback**. *Sci China Inf Sci*, 2023, 66(4): 142201

Keywords: quasi-linear second-order systems; partitioned eigenstructure assignment; parametric approach; Sylvester matrix equation; output feedback

Duan G R. **Fully actuated system approaches for continuous-time delay systems: part 2. Systems with input delays**. *Sci China Inf Sci*, 2023, 66(2): 122201

Keywords: time-delay systems; fully actuated systems; controller designs; input delays; time-varying delays

Zhang F K, Wu W M, Wang C. **Pattern-based learning and control of nonlinear pure-feedback systems with prescribed performance**. *Sci China Inf Sci*, 2023, 66(1): 112202

Keywords: adaptive neural control; deterministic learning; neural networks; pattern-based control; high gain observer; pure-feedback systems

Duan G R. **Fully actuated system approaches for continuous-time delay systems: part 1. Systems with state delays only.** Sci China Inf Sci, 2023, 66(1): 112201

Keywords: time-delay systems; fully actuated systems; controller designs; controllability; stabilizability

Yan Y Y, Cheng D Z, Feng J-E, et al. **Survey on applications of algebraic state space theory of logical systems to finite state machines.** Sci China Inf Sci, 2023, 66(1): 111201

Keywords: Boolean control network; Boolean network; finite state machine; learning system; semi-tensor product; STP; ASST

Lu X D, Li H T, Zhang X F. **Positivity and stability of timescale-type linear singular systems with time delays.** Sci China Inf Sci, 2022, 65(12): 222201

Keywords: positivity; stability; time delay; linear singular systems; timescale-type systems

Yue J M, Yan Y Y, Chen Z Q, et al. **Further results on bilinear behavior formulation of finite state machines.** Sci China Inf Sci, 2022, 65(11): 219201

Keywords: behavior formulation; finite state machines; controllability; reachability; semi-tensor product of matrices

Zhao T Y, Duan G-R. **Fully actuated system approach to attitude control of flexible spacecraft with nonlinear time-varying inertia.** Sci China Inf Sci, 2022, 65(11): 212201

Keywords: high-order fully actuated system; flexible spacecraft; time-varying nonlinear systems; attitude stabilization; attitude maneuvering

He X D, Geng Z Y. **Leader-follower formation control of underactuated surface vessels.** Sci China Inf Sci, 2022, 65(10): 209201

Keywords: underactuated surface vessel; leader-follower formation; lie group; formation feasibility; trajectory tracking

Kong W H, Zhong J H, Lin D D. **Observability of Galois nonlinear feedback shift registers.** Sci China Inf Sci, 2022, 65(9): 192206

Keywords: shift register; stream cipher; observability; Boolean network; semi-tensor product

Duan G R. **Discrete-time delay systems: part 2. Sub-fully actuated case.** Sci China Inf Sci, 2022, 65(9): 192201

Keywords: time-delay systems; discrete-time systems; sub-fully actuation; control designs; feasibility

Fan Q-Y, Xu S H, Xu B, et al. **Simplified prescribed performance tracking control of uncertain nonlinear systems.** Sci China Inf Sci, 2022, 65(8): 189204

Keywords: nonlinear systems; tracking control; prescribed performance control; neural network; sum of squares

Mei K Q, Ding S H. **HOSM controller design with asymmetric output constraints.** Sci China Inf Sci, 2022, 65(8): 189202

Keywords: sliding mode control; finite-time convergence; constrained control; robust control; adding a power integrator

Wang Y, Liu Y G. **Adaptive output-feedback tracking for nonlinear systems with unknown control direction and generic inverse dynamics.** Sci China Inf Sci, 2022, 65(8): 182204

Keywords: nonlinear systems; ISpS inverse dynamics; unknown control direction; practical output tracking; global output feedback; adaptive compensation

Duan G R. **Discrete-time delay systems: part 1. Global fully actuated case.** Sci China Inf Sci, 2022, 65(8): 182201

Keywords: discrete-time systems; time-delay systems; time-varying delays; fully actuated systems; control designs

Li Z H, Wang P, Zhu C J, et al. **MPC-based strategy for longitudinal and lateral stabilization of a vehicle under extreme conditions**. *Sci China Inf Sci*, 2022, 65(7): 179203

Keywords: model predictive control; stability control; combined-slip characteristics; lugre tire model; extreme driving conditions

Wang D, Pan Q, Hu J W, et al. **Nonlinear model predictive control for trajectory tracking of quadrotors using Lyapunov techniques**. *Sci China Inf Sci*, 2022, 65(6): 169202

Keywords: trajectory tracking; obstacle avoidance; input constraints; commercial quadrotors; nonlinear model predictive control

Liu Y, Chen X B, Mei Y F, et al. **Observer-based boundary control for an asymmetric output-constrained flexible robotic manipulator**. *Sci China Inf Sci*, 2022, 65(3): 139203

Keywords: distributed parameter system; vibration control; asymmetric constraint; disturbance observer; well-posedness; partial differential equation

Cai S, Ding H T, Hu Y F, et al. **Open-source dataset of vehicle state for an electric vehicle on a low-adhesion road**. *Sci China Inf Sci*, 2022, 65(3): 137201

Keywords: vehicle experimental data; dynamics modeling; state estimation; control system design; low adhesion road

Liu C, Liu X Y, Yang Z, et al. **New stability results of generalized impulsive functional differential equations**. *Sci China Inf Sci*, 2022, 65(2): 129201

Keywords: stability; impulsive functional differential equation; uniformly stable function; razumikhin technique; lyapunov function

Gao B Z, Yan Y J, Chu H, et al. **Torque allocation of four-wheel drive EVs considering tire slip energy**. *Sci China Inf Sci*, 2022, 65(2): 122202

Keywords: control allocation; four-wheel drive electric vehicles; tire slip energy model; multi-objective optimization

Fan D B, Zhang X F, Chang Y J, et al. **Global practical tracking via disturbance rejection control for uncertain nonlinear systems with quantized input and output**. *Sci China Inf Sci*, 2022, 65(1): 119201

Keywords: global practical tracking; time-varying external disturbance; quantized input and output; gpio; output feedback; uncertain nonlinear systems

Guo Y X, Ge S S, Fu J T, et al. **Stability and stabilization of a class of switched stochastic systems with saturation control**. *Sci China Inf Sci*, 2021, 64(12): 222201

Keywords: switched stochastic systems; matrix theory; gronwall inequality; stability

Zhang L J, Xia Y Q, Shen G H, et al. **Fixed-time attitude tracking control for spacecraft based on a fixed-time extended state observer**. *Sci China Inf Sci*, 2021, 64(11): 212201

Keywords: spacecraft; fixed time; attitude tracking; fxteso; fntsmc

Man Y C, Liu Y G. **Global adaptive stabilization for planar nonlinear systems with unknown input powers**. *Sci China Inf Sci*, 2021, 64(9): 199204

Keywords: nonlinear systems; multiple serious uncertainties; unknown input powers; adaptive control; global stabilization

Liu D, Chen H, Gao J W, et al. **Predictive coordinated control of fuel consumption and emissions for diesel engine vehicles under intelligent network environments**. *Sci China Inf Sci*, 2021, 64(9): 199202

Keywords: predictive control; coordinated control; constraint; intelligent network information; diesel vehicle

Shao Y, Sun Z-Y, Xie X-J, et al. **Output feedback stabilization for power-integrator systems with unknown measurement sensitivity**. *Sci China Inf Sci*, 2021, 64(9): 199201

Keywords: output feedback; homogeneous observer; unknown measurement sensitivity; adding a power integrator; reduced-order observer

Liu Y, Li W Q, Yao X X. **Quantized tracking control for nonlinear systems with unstable linearization**. *Sci China Inf Sci*, 2021, 64(7): 179205

Keywords: quantized tracking control; unstable linearization; nonlinear system; backstepping; globally uniformly bounded

Gao Z Y, Guo G. **A novel strategy to solve communication constraints for formation control of multi-AUVs**. *Sci China Inf Sci*, 2021, 64(7): 179204

Keywords: event-triggered; fixed-time stable; velocity observer; formation control; autonomous underwater vehicles

Shan Q H, Teng F, Li T S, et al. **Containment control of multi-agent systems with nonvanishing disturbance via topology reconfiguration**. *Sci China Inf Sci*, 2021, 64(7): 179203

Keywords: multi-agent; nonvanishing disturbance; topology reconfiguration; containment control; convex parameters

Zhou Z, Liu Z T, Su H Y, et al. **Model predictive control with fractional-order delay compensation for fast sampling systems**. *Sci China Inf Sci*, 2021, 64(7): 172211

Keywords: model predictive control; fast sampling systems; sampling delay; fractional-order; lagrange interpolation polynomial

Zhang B, Zhang Y H, Zhang J Y, et al. **Optimal comfortability control of hybrid electric powertrains in acceleration mode**. *Sci China Inf Sci*, 2021, 64(7): 172201

Keywords: ride comfortability; black-box module; hybrid electric vehicles (hevs); genetic algorithm (ga); acceleration mode

Liu C-Y, Sun Z-Y, Meng Q H, et al. **Robust control of high-order nonlinear systems with unknown measurement sensitivity**. *Sci China Inf Sci*, 2021, 64(6): 169204

Keywords: robust control; high-order nonlinear systems; time-varying sensitivity; predetermined bounded set; uncontrollable linearization

Zhang X, Cheng D Z. **Profile-dynamic based fictitious play**. *Sci China Inf Sci*, 2021, 64(6): 169202

Keywords: fictitious play; nonlinear system; nash equilibrium; dynamic evolution; semi-tensor product of matrices

Yang G J, Hao F, Zhang L, et al. **Exponential stability of discrete-time positive switched T-S fuzzy systems with all unstable subsystems**. *Sci China Inf Sci*, 2021, 64(5): 159205

Keywords: stability analysis; positive switched nonlinear systems; t-s model; unstable subsystems; fast mdadt

Liu Q H, Liu M, Duan G R. **Adaptive fuzzy backstepping control for attitude stabilization of flexible spacecraft with signal quantization and actuator faults**. *Sci China Inf Sci*, 2021, 64(5): 152205

Keywords: fault-tolerant control; attitude stabilization; signal quantization; adaptive fuzzy control; back-stepping control

Duan N, Lin S D, Wu Y H, et al. **Stability analysis of a pipe conveying fluid with a nonlinear energy sink**. *Sci China Inf Sci*, 2021, 64(5): 152201

Keywords: stability analysis; energy disturbance technique; convexity characteristic; pipes conveying fluid; nonlinear energy sink

Hao Y Q, Cheng D Z. **Finite element approach to continuous potential games**. Sci China Inf Sci, 2021, 64(4): 149202

Keywords: continuous potential game; finite element approach; finite potential sub-game; numerical solution; convergence

Khan A H, Li S, Cao X W. **Tracking control of redundant manipulator under active remote center-of-motion constraints: an RNN-based metaheuristic approach**. Sci China Inf Sci, 2021, 64(3): 132203

Keywords: tracking control; surgical robots; rcm constraints; metaheuristic optimization; recurrent neural network; rnn; redundant manipulator

Wu W M, Wang Q, Yuan C Z, et al. **Rapid dynamical pattern recognition for sampling sequences**. Sci China Inf Sci, 2021, 64(3): 132201

Keywords: deterministic learning; dynamical pattern recognition; sampling sequence; synchronization

Ma R C, An S, Fu J. **Dwell-time-based stabilization of switched positive systems with only unstable subsystems**. Sci China Inf Sci, 2021, 64(1): 119205

Keywords: switched positive systems; multiple time-varying lyapunov functions; unstable modes

Jiang M M, Xie X J. **State feedback stabilization of stochastic nonlinear time-delay systems: a dynamic gain method**. Sci China Inf Sci, 2021, 64(1): 119202

Keywords: stochastic nonlinear systems; time-delay; state feedback; dynamic-gain design; asymptotical stabilization

Wang Q, Wang L X, Qin W W, et al. **A local observability analysis method for a time-varying nonlinear system and its application in the continuous self-calibration system**. Sci China Inf Sci, 2021, 64(1): 119201

Keywords: continuous self-calibration; local observability; piece-wise constant systems; pwcs; observable degree; rotation scheme

Yu L Z, Liu Y G, Man Y C. **Adaptive control of nonlinear systems with severe uncertainties in the input powers**. Sci China Inf Sci, 2021, 64(1): 112211

Keywords: nonlinear systems; severe uncertainties; global stabilization; unknown input powers; switching adaptive control

Chu H Q, Guo L L, Chen H, et al. **Optimal car-following control for intelligent vehicles using online road-slope approximation method**. Sci China Inf Sci, 2021, 64(1): 112201

Keywords: car-following control; road-slope approximation; hierarchical design; linear quadratic regulator; intelligent vehicle

✧ 机器人与无人系统

Han L Q, Chen X C, Yu Z G, et al. **Trajectory-free dynamic locomotion using key trend states for biped robots with point feet**. Sci China Inf Sci, 2023, 66(8): 189201

Keywords: under-actuated biped robot; dynamic locomotion; trajectory free; key trend state; attitude control; foothold adjustment

Yang Y J, Wang X Y, Zhu J H, et al. **Robust transition trajectory optimization for tail-sitter UAVs considering uncertainties**. Sci China Inf Sci, 2023, 66(6): 169201

Keywords: tail-sitter UAV; optimal control; trajectory optimization; robust optimization; uncertainty quantification; transition phases

Zhu J H, Yang Y J, Wang X Y, et al. **Attitude control of a novel tilt-wing UAV in hovering flight**. *Sci China Inf Sci*, 2023, 66(5): 154201

Keywords: unmanned aerial vehicle; tilt-wing UAV; attitude control; hovering flight; velocity compensation

Gao H B, Zhu J P, Zhang F, et al. **Multiobjective adaptive car-following control of an intelligent vehicle based on receding horizon optimization**. *Sci China Inf Sci*, 2023, 66(4): 149205

Keywords: adaptive control; receding horizon optimization; multi-objective control; intelligent vehicle; car-following control

Hou X L, Li Z Y, Pan Q. **Autonomous navigation of a multirotor robot in GNSS-denied environments for search and rescue**. *Sci China Inf Sci*, 2023, 66(3): 139203

Keywords: unmanned aerial vehicle; multiple sensor information fusion; self-localization; autonomous navigation; path planning

Xiong P W, He K F, Song A G, et al. **Robotic haptic adjective perception based on coupled sparse coding**. *Sci China Inf Sci*, 2023, 66(2): 129201

Keywords: haptic sensor; tactile; robot; multimodal fusion; sparse coding

Qiao H, Zhong S L, Chen Z Y, et al. **Improving performance of robots using human-inspired approaches: a survey**. *Sci China Inf Sci*, 2022, 65(12): 221201

Keywords: human-inspired intelligent robots; brain-inspired intelligence; decision making; visual cognition; musculoskeletal robots

Chen L J, Xiao Y, Yuan X M, et al. **Robust autonomous landing of UAVs in non-cooperative environments based on comprehensive terrain understanding**. *Sci China Inf Sci*, 2022, 65(11): 212202

Keywords: UAV; autonomous landing; terrain understanding; depth completion; semantic segmentation

Xu C C, Liao X H, Yang F. **IEEE standard pioneered an IT-led interdisciplinary approach to structure low-altitude airspace for UAV operations**. *Sci China Inf Sci*, 2022, 65(10): 207201

Keywords: Unmanned Aerial Vehicle; UAV; Information Technology; Low-altitude airspace; IEEE standard; UAV operations

Liu C X, Qin J H, Wang S, et al. **Accurate RGB-D SLAM in dynamic environments based on dynamic visual feature removal**. *Sci China Inf Sci*, 2022, 65(10): 202206

Keywords: SLAM; dynamic environments; indoor localization; graph-cut; robot navigation

Lv X Z, Yuan C, Bao W M, et al. **Numerical and experimental investigation of aerodynamic heat control of leading edge of hypersonic vehicle's flexible skin**. *Sci China Inf Sci*, 2022, 65(10): 202203

Keywords: hypersonic vehicle; flexible skin; ultra-thermal protection; micro-channel; transpiration cooling

Cheng X, Liu Z-W, Hou H Z, et al. **Disturbance observer-based nonsingular fixed-time sliding mode tracking control for a quadcopter**. *Sci China Inf Sci*, 2022, 65(9): 192202

Keywords: fixed-time disturbance observer; fixed-time sliding mode control; quadcopter; trajectory tracking; nonsingular

Chu Z Y, Deng J, Su L, et al. **A gecko-inspired adhesive robotic end effector for critical-contact manipulation**. *Sci China Inf Sci*, 2022, 65(8): 182203

Keywords: critical-contact manipulation; gecko-inspired microwedge adhesive; robotic end effector; half-scissor variable-scale actuator; tactile sensor

Liu Z, Theilliol D, He Y Q, et al. **Active model-based nonlinear system identification of quad tilt-rotor UAV with flight experiments**. *Sci China Inf Sci*, 2022, 65(8): 182202

Keywords: tilt-rotor; unmanned aerial vehicle; flight control; nonlinear system identification; active model method; unscented Kalman filter

Bai X J, Wang Y, Wang S, et al. **Modeling and analysis of an underwater biomimetic vehicle-manipulator system**. *Sci China Inf Sci*, 2022, 65(3): 134201

Keywords: underwater biomimetic vehicle; underwater robots; underwater vehicle-manipulator system; biomimetic robots; hydrodynamic modeling

Khan A T, Li S, Cao X W. **Human guided cooperative robotic agents in smart home using beetle antennae search**. *Sci China Inf Sci*, 2022, 65(2): 122204

Keywords: network; human guided smart-home; assistive agents; metaheuristic optimization; beetle antennae search; zeroing neural

Liu N J, Lu T, Cai Y H, et al. **Manipulation skill learning on multi-step complex task based on explicit and implicit curriculum learning**. *Sci China Inf Sci*, 2022, 65(1): 114201

Keywords: robot; manipulation skill learning; complex task; deep reinforcement learning; curriculum learning

Chen Y X, Shi Z K, Xu B, et al. **Optimal design of a scaled-up PRO system using swarm intelligence approach**. *Sci China Inf Sci*, 2021, 64(12): 222203

Keywords: maximum power point tracking; mppt; swarm intelligence; metaheuristic algorithms; pressure-retarded osmosis; pro; harris hawks optimization; hho

Su B Q, Teng Y L, Wang Z H, et al. **Center tracking for healthy and diseased cardia**. *Sci China Inf Sci*, 2021, 64(11): 219203

Keywords: anatomical structure recognition; medical gastrointestinal robot; image guidance; cardia center; realtime tracking

Song G K, Huang R, Cheng H, et al. **Adaptive compensation for time-varying uncertainties in model-based control of lower-limb exoskeleton systems**. *Sci China Inf Sci*, 2021, 64(11): 219201

Keywords: reinforcement learning; interaction learning; human-robot interaction; inaccurate dynamic model; time-varying uncertainties; compensation strategy; lower exoskeleton

Wang W Q, Shi W G, Ren S X, et al. **GPR and SPSO-CG based gait pattern generation for subject-specific training**. *Sci China Inf Sci*, 2021, 64(8): 189204

Keywords: rehabilitation robot; gait training; modeling and optimization; subject-specific training; gait pattern generation

Wang Y L, Cheng H, Qiu J, et al. **The AIDER system and its clinical applications**. *Sci China Inf Sci*, 2021, 64(8): 184201

Keywords: exoskeleton; the aider system; sci subjects; safety; effectiveness

Li Z W, Song Q K, Cheng L, et al. **Snoring detection based on a stretchable strain sensor**. *Sci China Inf Sci*, 2021, 64(7): 174201

Keywords: snoring detection; strain sensor; sleeping quality monitoring; detection algorithm; wearable device

Xi L L, Peng Z H, Jiao L, et al. **Smooth quadrotor trajectory generation for tracking a moving target in cluttered environments**. *Sci China Inf Sci*, 2021, 64(7): 172209

Keywords: quadrotor; target tracking; trajectory generation; b-spline; convex optimization

Gao H B, Su H, Cai Y F, et al. **Trajectory prediction of cyclist based on dynamic Bayesian network and long short-term memory model at unsignalized intersections.** Sci China Inf Sci, 2021, 64(7): 172207

Keywords: trajectory prediction; dynamic bayesian network (dbn); long short-term memory (lstm); unsignalized intersections; motion intention

Sun T R, Cheng L, Hou Z G, et al. **Novel sliding-mode disturbance observer-based tracking control with applications to robot manipulators.** Sci China Inf Sci, 2021, 64(7): 172205

Keywords: adaptive control; robot manipulator; disturbance observer; sliding mode

Jiang Y, Zhang X L, Xu X, et al. **Event-triggered shared lateral control for safe-maneuver of intelligent vehicles.** Sci China Inf Sci, 2021, 64(7): 172203

Keywords: trajectory prediction; risk assessment; shared lateral control; model predictive control

Wang Y P, Guo G, Yue W. **Queue estimation for isolated signalized intersections in intelligent vehicle-infrastructure cooperation systems.** Sci China Inf Sci, 2021, 64(4): 149203

Keywords: intelligent vehicle-infrastructure cooperation systems (i-vics); traffic information prediction; real time queue length; queue length estimation; traffic flow model

Zhang Z W, Fan J Z, Jin H Z, et al. **Active knee joint exoskeleton for stair ascent augmentation.** Sci China Inf Sci, 2021, 64(3): 139204

Keywords: exoskeleton; stair climbing; hybrid control; zero-force tracking; switching controller

Deng F, Ding N, Ye Z M, et al. **Wearable ubiquitous energy system.** Sci China Inf Sci, 2021, 64(2): 124201

Keywords: wearable energy harvesting; ubiquitous energy; energy control; wearable device; human body

Liu J C, Liu Z N, Yu J Z. **Line-of-sight based three-dimensional path following control for an underactuated robotic dolphin.** Sci China Inf Sci, 2021, 64(1): 112210

Keywords: robotic dolphin; path following; 3-d; los guidance law; decoupling motion

Chen L F, Su W J, Li M, et al. **A population randomization-based multi-objective genetic algorithm for gesture adaptation in human-robot interaction.** Sci China Inf Sci, 2021, 64(1): 112208

Keywords: multi-objective genetic algorithm; gesture adaptation; human-robot interaction

◇ 鲁棒控制与自适应控制

Jiang W Y, Ge S S, Li D Y. **Fixed-time-synchronized control: a system-dimension-categorized approach.** Sci China Inf Sci, 2023, 66(7): 172203

Keywords: fixed-time-synchronized convergence; sliding mode control; perturbed MIMO systems

Tang G J, Xue W C, Fang H T, et al. **On the reinforcement learning extended state observer for a class of uncertain sampled-data control systems.** Sci China Inf Sci, 2023, 66(7): 170205

Keywords: extended state observer; reinforcement learning; uncertain sampled-data control system; discrete time-varying systems; measurement noise

Chen H, Guo L. **Convergence of adaptive MPC for linear stochastic systems.** Sci China Inf Sci, 2023, 66(5): 152201

Keywords: adaptive control; linear-quadratic optimal control; model predictive control; uncertain stochastic system; weighted least-squares

Zeng H B, Lin H C, He Y, et al. **Stability analysis of a class of systems with periodically varying delay via looped-functional-based Lyapunov functional.** Sci China Inf Sci, 2023, 66(4): 149202

Keywords: stability analysis; time-delay systems; linear matrix inequalities; Lyapunov functional; periodically varying delay

Wu Y Z, Liang Q P, Zhao Y Y, et al. **Distributed estimation-based output consensus control of heterogeneous leader-follower systems with antagonistic interactions**. *Sci China Inf Sci*, 2023, 66(3): 139204

Keywords: multi-agent systems; cooperative-competitive; bipartite output consensus; distributed control; adaptive control

Li J, Liu Y G. **Compensation of uncertain linear actuator dynamics for a class of cascaded PDE-ODE systems**. *Sci China Inf Sci*, 2023, 66(1): 119204

Keywords: cascaded PDE-ODE system; actuator dynamics; uncertainties; adaptive control; distributed parameter systems

Xia K W, Zou Y. **Performance-guaranteed adaptive fault-tolerant tracking control of six-DOF spacecraft**. *Sci China Inf Sci*, 2023, 66(1): 119202

Keywords: spacecraft control; adaptive control; fault-tolerant control; transient performance guarantee; robustness

Wang Z P, Liu J C, Huang C, et al. **Global output feedback adaptive stabilization for systems with long uncertain input delay**. *Sci China Inf Sci*, 2023, 66(1): 119201

Keywords: adaptive control; output feedback; delay systems; logic-based switching; Lyapunov-Krasovskii theorem

Kurniawan E, Harno H G, Wang H, et al. **Robust adaptive repetitive control for unknown linear systems with odd-harmonic periodic disturbances**. *Sci China Inf Sci*, 2022, 65(12): 222202

Keywords: repetitive control; direct adaptive control; odd-harmonic frequencies; periodic disturbances; unknown linear systems

Wang M, Qiu J B, Yan H C, et al. **Static output feedback control for uncertain Roesser-type continuous-time two-dimensional piecewise affine systems**. *Sci China Inf Sci*, 2022, 65(11): 219204

Keywords: Continuous-time 2-D nonlinear systems; 2-D Roesser T-S fuzzy affine systems; Static output feedback control; Piecewise affine controller; 2-D piecewise Lyapunov functions

Zhang G Q, Yao M Q, Shan Q H, et al. **Observer-based asynchronous self-triggered control for a dynamic positioning ship with the hysteresis input**. *Sci China Inf Sci*, 2022, 65(11): 212206

Keywords: dynamic positioning ship; self-triggered control; neural networks; hysteresis input; robust control

Wang Y Y, Li S Y, Zheng Y. **Model predictive control with input disturbance and guaranteed Lyapunov stability for controller approximation**. *Sci China Inf Sci*, 2022, 65(9): 192205

Keywords: model predictive control; Lyapunov-based MPC; control approximation; learning-based control; nonlinear system

Dong S L, Chen G R, Liu M Q, et al. **Robust adaptive H-infinity control for networked uncertain semi-Markov jump nonlinear systems with input quantization**. *Sci China Inf Sci*, 2022, 65(8): 189201

Keywords: h-infinity control; semi-markov jump system; mode-dependent adaptive control; logarithmic quantizer; matched uncertain nonlinearity

Shi S, Sun Y H, Hu Y L, et al. **Robust fixed-time output-feedback control for linear systems without chattering: an exact uncertainty compensation method**. *Sci China Inf Sci*, 2022, 65(7): 179201

Keywords: linear system; output feedback; matched uncertainty; fixed-time control; observer
Wu X-H, Feng H Y P. **Exponential stabilization of an ODE system with Euler-Bernoulli beam actuator dynamics**. *Sci China Inf Sci*, 2022, 65(5): 159202

Keywords: actuator dynamics compensation; backstepping; euler-bernoulli beam; ode-pde cascade systems; stabilization

Yong K N, Chen M, Wu Q X. **Noncertainty-equivalent observer-based noncooperative target tracking control for unmanned aerial vehicles**. *Sci China Inf Sci*, 2022, 65(5): 152202

Keywords: noncooperative target tracking; unmanned aerial vehicles; noncertainty-equivalent observer; prescribed performance control

Chen S, Chen Z X, Huang Y, et al. **New design of active disturbance rejection control for nonlinear uncertain systems with unknown control input gain**. *Sci China Inf Sci*, 2022, 65(4): 142201

Keywords: uncertain system; active disturbance rejection control; control input gain

Zhang R, Xu B, Wei Q, et al. **Harmonic disturbance observer-based sliding mode control of MEMS gyroscopes**. *Sci China Inf Sci*, 2022, 65(3): 139201

Keywords: mems gyroscopes; harmonic disturbance observer; global fast terminal sliding mode control; lumped system uncertainty; harmonic disturbance

Wang M, Shi H T, Wang C, et al. **Neural learning control for discrete-time nonlinear systems in pure-feedback form**. *Sci China Inf Sci*, 2022, 65(2): 122206

Keywords: discrete-time nonlinear systems; pure-feedback systems; learning control; neural networks; persistent excitation

Tan S P, Guo J, Zhao Y L, et al. **Adaptive control with saturation-constrained observations for drag-free satellites — a set-valued identification approach**. *Sci China Inf Sci*, 2021, 64(10): 202202

Keywords: drag-free satellite; saturation constraint; adaptive control; set-valued identification

Huang Y X, Liu Y G. **A variable-period scheme for dynamic sampled-data stabilization**. *Sci China Inf Sci*, 2021, 64(8): 189201

Keywords: sampled-data control; adaptive control; variable sampling periods; stabilization; switching

Cao L, Ren H R, Meng W, et al. **Distributed event triggering control for six-rotor UAV systems with asymmetric time-varying output constraints**. *Sci China Inf Sci*, 2021, 64(7): 172213

Keywords: adaptive neural control; asymmetric time-varying output constraints; event triggering mechanism; input saturation; six-rotor uav systems

Dong S L, Chen G R, Liu M Q, et al. **Cooperative neural-adaptive fault-tolerant output regulation for heterogeneous nonlinear uncertain multiagent systems with disturbance**. *Sci China Inf Sci*, 2021, 64(7): 172212

Keywords: cooperative output regulation; actuator failure; matched disturbance; mismatched disturbance; distributed finite-time observer; neural-adaptive control

Li X Q, Xu Z G, Cui J R, et al. **Suboptimal adaptive tracking control for FIR systems with binary-valued observations**. *Sci China Inf Sci*, 2021, 64(7): 172202

Keywords: parameter identification; fir systems; binary-valued observations; asymptotically suboptimal tracking; adaptive control

Yang R M, Pei W H, Han Y Z, et al. **Finite-time adaptive robust simultaneous stabilization of nonlinear delay systems by the Hamiltonian function method**. Sci China Inf Sci, 2021, 64(6): 169201

Keywords: nonlinear time-delay system; finite-time simultaneous stabilization; adaptive control; hamiltonian function; robust stabilization

Song G K, Huang R, Cheng H, et al. **Learning continuous coupled multi-controller coefficients based on actor-critic algorithm for lower-limb exoskeleton**. Sci China Inf Sci, 2021, 64(5): 159203

Keywords: interactive learning; actor-critic; reinforcement learning; physical human-robot interaction; lower-limb exoskeleton; human-powered augmentation; continuous domain; learning continuous coefficient

Guo Y N, Zhang Z, Gong D W, et al. **Optimal active-disturbance-rejection control for propulsion of anchor-hole drillers**. Sci China Inf Sci, 2021, 64(5): 159201

Keywords: active-disturbance-rejection control; particle swarm optimization; hydraulic force-servo system; propulsion; anchor-hole driller

Garcia-Rodriguez R, Parra-Vega V. **In-hand manipulation of a circular dynamic object by soft fingertips without angle measurement**. Sci China Inf Sci, 2021, 64(5): 152209

Keywords: optimal grasping; manipulation; soft-fingertips; circular object; stability-in-the-manifold

Liu Z J, Han Z J, Zhao Z J, et al. **Modeling and adaptive control for a spatial flexible spacecraft with unknown actuator failures**. Sci China Inf Sci, 2021, 64(5): 152208

Keywords: adaptive control; actuator failures; infinite-dimensional systems; flexible spacecraft; fault tolerant control

Tian L, Wu Z Z, Wu S, et al. **Hybrid neural state machine for neural network**. Sci China Inf Sci, 2021, 64(3): 132202

Keywords: hybrid neural state machine; anns; snns; supervised learning; context-aware task; sequential task

◇ 随机系统与控制

Cheng P, Wu D, He S P, et al. **Asynchronous control for 2-D Markov jump cyber-physical systems against aperiodic denial-of-service attacks**. Sci China Inf Sci, 2023, 66(7): 172204

Keywords: asynchronous; two-dimensional; Markov jump cyber-physical systems; denial-of-service attacks; hidden Markov model

Liu Z B, Li C Y. **Asymptotic behavior of least squares estimators for nonlinear autoregressive models**. Sci China Inf Sci, 2023, 66(6): 169204

Keywords: nonlinear autoregressive models; strong consistency; least squares; parameter identification; asymptotic behavior

Gao X B, Deng F Q, Zhang H Y, et al. **Observer-based event-triggered asynchronous control of networked Markovian jump systems under deception attacks**. Sci China Inf Sci, 2023, 66(5): 159204

Keywords: Markovian jump systems; MJSs; event-triggered mechanism; ETM; deception attacks; asynchronous control

Ge Z Q. **GE-semigroup method for controllability of stochastic descriptor linear systems**. Sci China Inf Sci, 2023, 66(3): 139201

Keywords: stochastic descriptor linear systems; controllability; observability; GE-semigroup; Hilbert spaces

Wang X Z, Zhang H S, Xia J W, et al. **Interval stability/stabilization of impulsive positive systems**. *Sci China Inf Sci*, 2023, 66(1): 112203

Keywords: impulsive positive systems; interval stability/stabilization; copositive Lyapunov function; convergence rate

Chen T, Wang G C, Wu Z. **Linear-quadratic optimal control for partially observed forward-backward stochastic systems with random jumps**. *Sci China Inf Sci*, 2022, 65(11): 212205

Keywords: LQ optimal control; partially observed stochastic system; random jumps; backward separation principle; optimal filtering

Zhao G-H, Liu S-J. **Finite-time stabilization of nonlocal Lipschitzian stochastic time-varying nonlinear systems with Markovian switching**. *Sci China Inf Sci*, 2022, 65(11): 212204

Keywords: stochastic time-varying nonlinear systems; Markovian switching; weak solutions; stochastic finite-time stability; finite-time control

Li C J, Zong X F. **Group consensus of multi-agent systems with additive noises**. *Sci China Inf Sci*, 2022, 65(10): 202205

Keywords: group consensus; multi-agent systems; additive noises; pure group consensus; hybrid group consensus

Zhu J, Wei Y T, Kang Y, et al. **Adaptive deep reinforcement learning for non-stationary environments**. *Sci China Inf Sci*, 2022, 65(10): 202204

Keywords: adaptive DRL; non-stationary environment; model uncertainty; exploration and exploitation problem; parameter setting; LDP

Shen H, Xing M P, Yan H C, et al. **Observer-based l_2 - l_∞ control for singularly perturbed semi-Markov jump systems with an improved weighted TOD protocol**. *Sci China Inf Sci*, 2022, 65(9): 199204

Keywords: Markov jump systems; Singularly perturbed systems; semi-Markov jump systems; networked control systems; Robust control; try-once-discard protocol

Zeng P Y, Deng F Q, Liu X H, et al. **Resilient dynamic event-triggered and self-triggered control for Markov jump systems under denial-of-service attacks**. *Sci China Inf Sci*, 2022, 65(9): 199203

Keywords: markov jump systems; dynamic event-triggering scheme (ets); self-triggering scheme (sts); denial-of-service (dos) attacks; resilient control

Nan N, Guan X H, Wang Y X, et al. **Common quantitative characteristics of music melodies — pursuing the constrained entropy maximization casually in composition**. *Sci China Inf Sci*, 2022, 65(7): 174201

Keywords: power law; music melody variations; complementary communitive distribution; entropy; functional optimization

Peng C C, Zhang W H. **Multicriteria optimization problems of finite horizon stochastic cooperative linear-quadratic difference games**. *Sci China Inf Sci*, 2022, 65(7): 172203

Keywords: multicriteria optimization problems; Pareto optimality; cooperative difference games; discrete-time stochastic LQ theory; the difference Riccati equation; the difference Lyapunov equation

Lv C W, Ouyang Z Y, Wu Z H, et al. **Practical tracking of MIMO uncertain stochastic systems driven by colored noises via active disturbance rejection control**. *Sci China Inf Sci*, 2022, 65(6): 162208

Keywords: uncertain stochastic systems; active disturbance rejection control; extended state observer; tracking; colored noise

Xu T B, Gao X W, Qi W H. **Finite-time boundedness analysis and composite anti-disturbance control for uncertain semi-Markovian jump systems with time delay**. *Sci China Inf Sci*, 2022, 65(4): 149202

Keywords: semi-markovian jump systems; time delay; finite-time boundedness; composite anti-disturbance control; uncertain system

Zhang H S, Xia J W, Zhuang G M, et al. **Robust interval stability/stabilization and H-infinity feedback control for uncertain stochastic Markovian jump systems based on the linear operator**. *Sci China Inf Sci*, 2022, 65(4): 142202

Keywords: markovian jump systems; linear operator; interval stability; interval stabilization; robust h_∞ control

Zhang H S, Xia J W, Zhang Y N, et al. **pth moment D-stability/stabilization of linear discrete-time stochastic systems**. *Sci China Inf Sci*, 2022, 65(3): 139202

Keywords: discrete-time stochastic system; pth moment d-stability; generalized h-representation; power vector; lmi region

Jiang Z Y, Jia Q-S, Guan X H. **On large action space in EV charging scheduling optimization**. *Sci China Inf Sci*, 2022, 65(2): 122201

Keywords: ev; simulation-based policy improvement; large action space; sampling

Jiang X S, Tian S P, Zhang W H. **pth moment exponential stability of general nonlinear discrete-time stochastic systems**. *Sci China Inf Sci*, 2021, 64(10): 209204

Keywords: pth moment exponential stability; discrete-time systems; nonlinear stochastic systems; difference operator; smoothness of conditional mathematical expectation

Zhao X Y, Deng F Q, Gao W H. **Exponential stability of stochastic Markovian jump systems with time-varying and distributed delays**. *Sci China Inf Sci*, 2021, 64(10): 209202

Keywords: stochastic markovian jump systems; exponential stability; distributed delays; time-varying delays; lyapunov function

Chen Y, Zhu M Z, Lu R Q, et al. **Distributed H_∞ filtering of nonlinear systems with random topology by an event-triggered protocol**. *Sci China Inf Sci*, 2021, 64(10): 202204

Keywords: sensor network; distributed h_∞ filtering; one-sided lipschitz condition; event-triggered protocol; random topology

Jiang X S, Zhao D Y. **Event-triggered fault detection for nonlinear discrete-time switched stochastic systems: a convex function method**. *Sci China Inf Sci*, 2021, 64(10): 200204

Keywords: event-triggered scheme; fault detection; convex lyapunov function; discrete-time nonlinear systems; stochastic systems

Cui R H, Xie X J. **Adaptive state-feedback stabilization of state-constrained stochastic high-order nonlinear systems**. *Sci China Inf Sci*, 2021, 64(10): 200203

Keywords: stochastic high-order nonlinear systems; full-state constraints; feasibility conditions; state-feedback stabilization; adaptive control

Mukaidani H, Xu H. **Robust SOF Stackelberg game for stochastic LPV systems**. *Sci China Inf Sci*, 2021, 64(10): 200202

Keywords: stackelberg games; linear parameter varying stochastic systems; lpv; lpv stochastic systems; cross-coupled matrix equations; ccmes

Zhang T L, Deng F Q, Sun Y, et al. **Fault estimation and fault-tolerant control for linear discrete time-varying stochastic systems**. *Sci China Inf Sci*, 2021, 64(10): 200201

Keywords: linear discrete stochastic systems; fault estimation; fault-tolerant control; state transition matrix; exponential stability in mean square

Cong X R, Zhao C. **PID control of uncertain nonlinear stochastic systems with state observer**. *Sci China Inf Sci*, 2021, 64(9): 192201

Keywords: pid controller; system uncertainty; nonlinear stochastic systems; global stability; state observer

Ge Z Q, Ge X C. **An exact null controllability of stochastic singular systems**. *Sci China Inf Sci*, 2021, 64(7): 179202

Keywords: stochastic system; impulse solution; exact null controllability; ito singular system; stochastic laplace transform

Zhang X, He S P, Stojanovic V, et al. **Finite-time asynchronous dissipative filtering of conic-type nonlinear Markov jump systems**. *Sci China Inf Sci*, 2021, 64(5): 152206

Keywords: dissipative filtering; hidden markov model; finite-time boundedness; markov jump systems; conic-type nonlinearity

Li H D, Han C Y, Zhang H S. **Stabilization analysis for Markov jump systems with multiplicative noise and indefinite weight costs**. *Sci China Inf Sci*, 2021, 64(5): 152203

Keywords: stabilization; indefinite; multiplicative noise; markov jump linear system

Hou T, Liu Y Y, Deng F Q. **Stability for discrete-time uncertain systems with infinite Markov jump and time-delay**. *Sci China Inf Sci*, 2021, 64(5): 152202

Keywords: infinite jump; time-delay; parametric uncertainties; exponential stability in mean square with conditioning; stochastic stability

Zhang F. **Stochastic maximum principle for optimal control problems involving delayed systems**. *Sci China Inf Sci*, 2021, 64(1): 119206

Keywords: stochastic optimal control; maximum principle; delayed system; anticipated bsde; linear quadratic problem

Mu X W, Hu Z H. **Stability analysis for semi-Markovian switched stochastic systems with asynchronously impulsive jumps**. *Sci China Inf Sci*, 2021, 64(1): 112206

Keywords: stochastic systems; multiple lyapunov function; almost surely exponential stability; impulsive jumps; semi-markovian switching; renewal process