



IEEE Transactions on Control Systems Technology Special Issue on Advanced Control Technologies for Financial Systems

Scope

Financial systems constitute a rich class of technologically relevant decision and control problems in which uncertainty, partial information, constraints, and real-time implementation requirements play a central role. This Special Issue seeks original contributions on advanced control technologies for financial applications, including portfolio rebalancing, hedging, asset-liability management, optimal execution, market making, risk control, and stress testing. Contributions should address concrete financial decision problems and show how feedback, dynamic systems modeling, estimation, optimization, or closed-loop learning improve performance, robustness, safety, constraint satisfaction, or operational reliability. Advanced methods are viewed as enabling technologies for practical applications; papers should make explicit the financial use case, the closed-loop decision structure, and the relevance of the proposed approach to realistic implementation and validation.

Topics of interest include, but are not limited to:

- Stochastic, robust, and risk-sensitive control for financial applications
- Model predictive and receding-horizon control for portfolio rebalancing, execution, hedging, and risk control
- Output-feedback, filtering, state estimation, and partially observed control in financial systems
- Data-driven, adaptive, model-free predictive, and learning-based control with closed-loop guarantees
- Reinforcement learning with guarantees on stability, robustness, safety, or constraint satisfaction
- Chance-constrained and distributionally robust control; real-time and online optimization in closed loop
- Control under market impact, transaction costs, liquidity constraints, latency, and execution constraints
- Optimal execution, market making, high-frequency trading, limit-order-book modeling, and generative market simulation
- Networked, multi-agent, mean-field, and interconnected financial systems, including systemic risk and stress testing
- Control-theoretic approaches to pricing, hedging, derivatives risk management, and constrained dynamic financial decision systems

Paper Submission Guidelines

All submissions must be relevant to the control community and convey technological advances in the modeling, estimation, analysis, design, implementation, or validation of dynamic financial decision systems. Papers should emphasize implementability and computational tractability, with convincing validation through realistic/high-fidelity simulations, market simulators, historical data, out-of-sample studies, or empirical studies. Submissions centered purely on prediction, forecasting, static optimization, or financial modeling without a clear dynamic decision, feedback, or control component are out of scope. Only Regular Papers will be considered. Contributions must be original and not under consideration elsewhere. Authors should follow the standard TCST manuscript guidelines and submit via the TCST PaperPlaza portal.

Important Dates (tentative)

Submission Site Opens: 1 October 2026

First Submission Deadline: 1 February 2027

Notification of First-Round Decision: 1 June 2027

Revised Paper Submission Deadline: 1 September 2027

Notification of Final Decision: 1 December 2027

Final Manuscript Submission: 15 January 2028

Tentative Publication Date (Online): Early 2028

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