Special Issue

Advances in Fractional-Order Multiagent Systems: Theory and Applications

Message from the Guest Editor

As a generalization of integer–order multiagent systems, fractional-order multiagent systems possess significant advantages in accurately modeling and characterizing dynamic behaviors of many real-world systems because of their unique characteristics of historical memory. There has been a growing number of works about fractional-order multiagent systems in recent years, e.g., distributed coordination problems including consensus problems, tracking problems, containment problems, etc. Some real-world engineering systems can be found in the networks of mobile robots, unmanned aerial vehicles, and automated transportation, which are always corrupted by external disturbances, system uncertainties, sensor noises, and component faults/malfunctions. The study of fractional-order multi-agent systems with external disturbances, system uncertainties, sensor noises, and component faults/malfunctions has significant importance in both theory and practice. We welcome both theoretical advances and potential applications for distributed coordination control and optimization of fractional-order multiagent systems.

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