IEEE ICUS 2021

Invited Session Summary

Title of Session

Cooperative Control of Unmanned Swarm Systems in Maritime Environment

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Details of Session (including aim and scope)

Unmanned swarm systems in maritime environment have broad application prospects in both military and civil fields, such as unmanned surface vessel (USV) swarm cooperative convey protection, USV swarm cooperative offshore patrolling and surrounding, autonomous underwater vehicle (AUV) cooperative ocean resource exploration, and so on. Distributed cooperative technology is a hot and difficult research topic in the field of swarm intelligence and has important application value in the cooperative task execution of unmanned swarm system in maritime environment. How to design distributed collaborative approaches to realize the cooperative perception, the organic collaboration of communication and networking, decision and planning, guidance and control, fault tolerant control and evaluation and verification is a hot topic of the current academia and industry.

This invited session focuses on the latest research results for the key technologies of autonomous collaboration of unmanned swarm system in maritime environment. In particular, papers related to multi-agent cooperative control theory, swarm cooperative perception, communication and networking, decision and planning, guidance and control, fault tolerant control, evaluation and verification are welcome.