IEEE ICUS 2021

Invited Session Summary

Title of Session

Autonomous Collaborative Technology of Manned/Unmanned System and Its Application

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Details of Session (including aim and scope)

Manned/unmanned autonomous collaboration is a group behavior between manned system and unmanned system in terms of organization, decision-making, planning, control and perception, which not only independently calculates, stores and processes, but also achieves common goals through spontaneous and equal interaction and integration. The parallel interaction and fusion of human intelligence and machine intelligence is beneficial to realize the two-way complementarity of manned system and unmanned system, so that the system can better adapt to human goal-oriented and produce better performance when performing complex tasks.

The topics of this dissertation include but are not limited to:

- Organizational structure and collaboration mode of manned/unmanned autonomous collaboration;
- Manned/unmanned autonomous coordination task assignment and behavior planning;
- Manned/unmanned autonomous cooperative behavior control;
- Manned/unmanned autonomous and coordinated security command and control;
- Swarm intelligence and collaborative control of unmanned systems;
- Task allocation and coordination strategy of intelligent system;
- Autonomous control method of UAV cluster;
- Collaborative control and intelligent game of intelligent system;
- Intelligent bionic unmanned system;
- Command decision-making and group learning;
- Basic independent experiment platform.