

IEEE ICUS 2021

Invited Session Summary

Title of Session

Navigation and Control Methods of Unmanned System in the Extreme Environment

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Details of Session(including aim and scope)

It is inevitable that the unmanned system operates in the extreme environment, such as the battlefield environment, the harsh natural environment, the denied environment and the cyber adversary environment. Undoubtedly, the so-called extreme environment which includes multi-source and multi-channel disturbances, confrontations and cyber attacks is the key factor which hinders the accuracy, automation and reliability of the unmanned system. As such, there is no doubt that the navigation and control technique under the extreme environment is the key technology to guarantee the operational security, system integrity and mission security of the unmanned system.

The session is intended to offer a forum for people interested in the navigation and control methods of unmanned system in the extreme environment. The topics of the session include but are not limited to:

- Anti-disturbance navigation and control methods of unmanned system in the multi-source environment;
- Anti-attack navigation and control methods of unmanned system in the cyber adversary environment;
- Safe navigation and control methods of unmanned system subjected to component fault and failure;
- Navigation and control methods of unmanned system in denied environment;
- Game theoretic navigation and control methods of antagonistic unmanned system.