

Cooperative UAV Systems - Data Fusion and Control

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Abstract:

In this talk I will present work that we have been conducting over the last 10 years in the area of decentralised data fusion and control as applied to multiple UAV systems. I will present the underlying mathematical structure of concepts in decentralised target tracking, decentralised SLAM and their link into cooperative and decentralised control.

The talk will focus on how these algorithms were applied to complex UAV systems and the results that were drawn out from the experiments. I will then discuss some of the future trends in this area and how concepts in system studies are being used to model UAV system of systems behaviour.