DESCRIPTION

In the last decade the development and control of Unmanned Aerial Vehicles (UAVs) has attracted a lot of interest. Both researchers and companies have a growing interest in improving this type of vehicle given their many civilian and military applications.

This book presents the state of the art in the area of UAV Flight Formation. The coordination and robust consensus approaches are presented in detail as well as formation flight control strategies which are validated in experimental platforms. It aims at helping students and academics alike to better understand what coordination and flight formation control can make possible.

Several novel methods are presented:
- controllability and observability of multi-agent systems;
- robust consensus;
- flight formation control;
- stability of formations over noisy networks;
which generate solutions of guaranteed performance for UAV Flight Formation.

Contents

1. Introduction, J.A. Guerrero.
2. Theoretical Preliminaries, J.A. Guerrero.
5. On Adaptive and Robust Controlled Synchronization of Networked Robotic Systems on Strongly Connected Graphs, Y.-C. Liu, N. Chopra.
7. Flight Formation Control Strategies for Mini UAVs, J.A. Guerrero.
10. Toward Vision-Based Coordination of Quadrotor Platoons, L.R. García Carrillo, J.A. Guerrero, R. Lozano.

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