

Observer-Based Time-Varying Backstepping Control for a Quadrotor Multi-Agent System

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Abstract

This paper studies the formation tracking problem for a multi-agent system composed by a set of quadrotor UAVs. Parrot AR.Drone 2.0 quadrotors are used as agents of the system. The AR.Drone 2.0 features an internal controller to stabilize the angular dynamics. This controller is modelled and identified through the least squares method. The proposed control strategy is designed using a time-varying version of the backstepping technique for each