Adaptive Estimation and Control for Unmanned Aerial Vehicles

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Unmanned aerial vehicles (UAVs) is becoming more and more popular in many research and application fields such as data collection, target tracking, and environmental monitoring etc.,. Influenced by many complex factors, UAVs face many uncertainties which easily induce problems in navigation, attitude estimation and control. It means that many novel methods for adaptive estimation and control are necessary to deal with the uncertainties and solve the induced difficulties. The purpose of this session is to bring together experts, scientists and engineers throughout the world to present and share their recent research results and innovative ideas related to adaptive estimation and control in UAVs. The topics include, but are not limited to: advanced integrated navigation methods, adaptive attitude estimation and control, target tracking, engineering filtering methods, dynamical path planning and control, distributed swarm control, and adaptive cooperative control for task etc.,.

无人机的自适应估计与控制

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无人机系统在包括数据搜集、目标跟踪和环境监测等方面得到了越来越广泛的关注和应用。受到众多复杂因素的影响，无人机系统在导航、姿态估计和控制方面面临众多不确定性，从而导致需要大量自适应估计和控制方法来应对这些不确定并解决因此产生的新的技术难题。本专题的主要目的是在与世界范围内相关专家、学者、工程师一道，共同展示和分享自适应估计与控制在无人系统中相关应用的新思路和新成果。本专题论文主题包含但不限于：先进组合导航方法，自适应姿态估计和控制，目标跟踪，工程化滤波方法，动态路径规划与控制，分布式群控制和面向任务的自适应协同控制等。