Special Issue

Energy Efficiency of Small-Scale UAVs

Message from the Guest Editors

UAVs have demonstrated uses in but not limited to package delivery, surveillance, inspection, precision agriculture, border control, criminal investigations, search and rescue, weather measurement and forecasting, and disaster relief. Unlike military UAVs, most commercial UAVs are powered on the on-board battery, which is extremely limited in capacity. This prevents their usage in applications requiring long-time operations. Though improving the battery efficiency and capacity increases the flight time, the improvement room is small if there is no breakthrough in battery technology. Alternatives are needed to enable small-scale UAVs to fly longer.

This Special Issue addresses a broad list of topics related to the energy issue of small-scale UAVs. Papers related but not limited to the following topics are welcome: Trajectory planning and control of UAVs aiming at optimizing energy efficiency; Energy-efficient formation and coordination of UAV swarms; Deployment of charging stations; Collaboration between UAVs and ground vehicles; Design, flight test, and performance monitoring of solar-powered UAVs; Applications of solar-powered UAVs.

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Deadline for manuscript submissions

closed (1 July 2022)

Aerospace

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Impact Factor 2.2
CiteScore 4.0

mdpi.com/si/75298

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Aerospace adheres to rigorous peer-review as well as editorial processes and publishes high quality manuscripts that address both the fundamentals and applications of aeronautics and astronautics. Our goal is to enable rapid dissemination of high impact works to the scientific community.

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