

Special Issue

Mission Analysis and Design of Lighter-than-Air Flying Vehicles

Message from the Guest Editors

This Special Issue aims to collect the outcomes of current research in the field of lighter-than-air (LTA) vehicles, with two particular focal points: the first is on mission study, including novel possible missions for LTA vehicles, the negotiation of specifications, comparisons to other flying machines (also in terms of ground equipment), etc. This shall trace a map of the most likely missions that could potentially be covered by LTA vehicles, accounting for current technology. The second focus is on preliminary design: in principle, electrification enables some advantages, such as an increase in endurance and the achievement of novel control configurations based on thrust vectoring, but an increase in weight may result from the adoption of batteries or other electric components, thus requiring trade-off analysis to select the most promising design solutions. Developing on this focus may produce a knowledge base supporting industrial design processes.

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