
Guest editorial

Special issue “10th EASN international conference on innovation in aviation & space to the satisfaction of the European citizens

Article classification [mandatory]

The current Special Issue contains selected papers from works presented at the “10th EASN International Conference on Innovation in Aviation & Space to the Satisfaction of the European Citizens” (<https://easnconference.eu/2020/home>), which was successfully held between the 2nd and 4th of September 2020. Due to pandemic-related restrictions, the Conference took place virtually. The event included 9 keynote lectures and more than 320 technical presentations distributed in 47 sessions. Furthermore, 20 Horizon 2020 collaborative research projects and 28 Clean Sky 2 projects disseminated their latest research results as well as the emerging and future trends on the respective technological field. In total, more than 350 participants from 37 countries worldwide joined the 10th EASN International Conference.

From the numerous contributions to the EASN Virtual Conference, a number of ten (10) papers were accepted for publication in the present Special Issue of the “**Aircraft Engineering and Aerospace Technology Journal**” following peer review. **Rodríguez-Sanz et al.** proposed an optimization model for maximizing airport runway usage and minimizing flight delays. The model was validated with real data from a large international European airport. **Moneo et al.** analyzed the airspace design of the terminal airspace in order to identify potential airspace volumes where a free operation of remotely piloted aircraft systems (RPAs) can be developed. The results demonstrated that there is a significant amount of available airspace where RPAs can operate, avoiding potential interactions. The study of **Klimczyk** presented a design methodology for a custom propeller for large unmanned air vehicles. The implemented optimization approach led to a further improvement of the blade efficiency and a decrease in power consumption. **Szczepanski et al.** presented the reasons and factors influencing the ‘optimized’ solution of the configuration of agricultural UAV onboard sensors set. The findings can act as means to aid relevant end-users configure an acceptable agricultural UAV for specific missions or servicing business. The work of **Borodacz et al.** gathered data published by inertial measurement unit IMU manufacturers, allowing for a quick overview of the current IMU market. Important parameters for short-term inertial navigation were also reviewed and pointed out. In the work of

Olejnik et al. the application of two different vibration measurement methods for the identification of natural modes of the miniature unmanned aerial vehicle (UAV) were described. The study determined the resonant frequencies and modes of mini-airplane within the specified range of frequency values. **Rodríguez-Sanz et al.** investigated the impact of weather conditions on airport arrival delay and throughput. To this end, the authors introduced a new approach for modeling causal relationships between airport arrival performance indicators and meteorological events, which can be used to quantify the impact of weather in airport arrival conditions, predict the evolution of airport operational scenarios and support airport decision-making processes. **Dalla Vedova et al.** proposed a new simplified numerical model, based on a very compact semi-empirical formulation, able to simulate the fluid dynamics behaviors of an electrohydraulic servovalve. The model accounted for several effects due to valve geometry (e.g. flow leakage between spool and sleeve) and operating conditions (e.g. variable supply pressure or water hammer). The authors stated that the proposed model overcomes the shortcomings that are typical of such models. **Capizzano et al.** demonstrated the applicability of dynamic immersed boundary (IB) techniques for studying high-lift devices. The authors proposed a fast and automatic simulation system as a viable alternative to classic multi-block structured, chimaera or unstructured tools. Finally, in the study of **Sendner**, a novel, collaborative swarming approach applying *in situ* resource utilization was explored, for continuous surveillance of expanded mission theatres by small-sized vehicles of limited endurance. The authors highlighted that swarm density and activity adaption to solar energy supply represent a key element to maintain continuous aerial surveillance.

The editors of this Special Issue would like to thank the authors for their high-quality contributions and for making this Special Issue manageable. Furthermore, we would like to express our appreciation to the reviewers for their evaluation and suggestions. Finally, thanks are due to Professor Phil Webb, the Editor-in-Chief of AEAT, for offering EASN the possibility to publish several selected articles and for his continuous support in preparing this Special Issue.

We hope you will find the contents of the 10th EASN Conference Special Issue interesting and worth reading.

Spyros Pantelakis

*Department of Mechanical Engineering and Aeronautics,
University of Patras, Patras, Greece*

Andreas Strohmayer

*Institute of Aircraft Design, University of Stuttgart,
Stuttgart, Germany, and*

Liberata Guadagno

University of Salerno, Fisciano, Italy

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