Electrical Power and Energy Systems for Transportation Applications

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Abstract:

This book contains the successful invited submissions [1?25] to a Special Issue of Energies on the subject area of “Electrical Power and Energy Systems for Transportation Applications”.

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Editorial

Electrical Power and Energy Systems for Transportation Applications

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This book contains the successful invited submissions [1–25] to a Special Issue of *Energies* on the subject area of "Electrical Power and Energy Systems for Transportation Applications".

Electrical power and energy systems are at the forefront of application developments in, for example, more-electric and all-electric aircraft, electric and hybrid road vehicles, and marine propulsion applications. The associated hardware, technologies, and control methods are crucial to achieving critical global targets in energy efficiency, low-carbon, and low-emissions operations. The greatest challenges occur when we combine new technologies at large-scale and often complex system levels.

Topics of interest for the call included, but were not limited to:

- Novel Electrical Power Systems architectures and technologies;
- Energy vectors, integration with renewables, power and energy dense machines, converters and energy storage;
- Air, land, and sea vehicles; electrical propulsion and actuation for land, sea, and air vehicles;
- Electrical Machines, Drives, Systems, and Applications—AC and DC machines and drives;
- Multiscale systems modeling; remote monitoring and diagnosis;
- Power Electronic Systems—Converters and emerging technologies;
- Modeling simulation and control, reliability and fault tolerance, safety critical operation;
- Electrical Power Generation Systems—Modeling and simulation of electrical power systems;
- Load management; power quality; distribution reliability; distributed and islanded power systems, sensor networks, communication and control;
- Electrical Power Systems Modeling and Control—Modeling and control methodologies and applications;
- Intelligent systems; optimization and advanced heuristics; adaptive systems; robust control.

Response to our call was excellent, with the following statistics:

- Submissions: (101);
- Publications: (25);
- Rejections: (76);
- Article Types: Review Article (0); Research Article (25);

Authors' geographical distribution (published papers):

- China (16)
- Belgium (3)
- Spain (2)

- Korea (2)
- Germany (2)

Published submissions inform the broad spectrum of technologies interfacing energy with transport and fall into four general areas of Renewables and Transmission, Generators, Batteries, and Electric Vehicles, as exemplified in Figure 1.

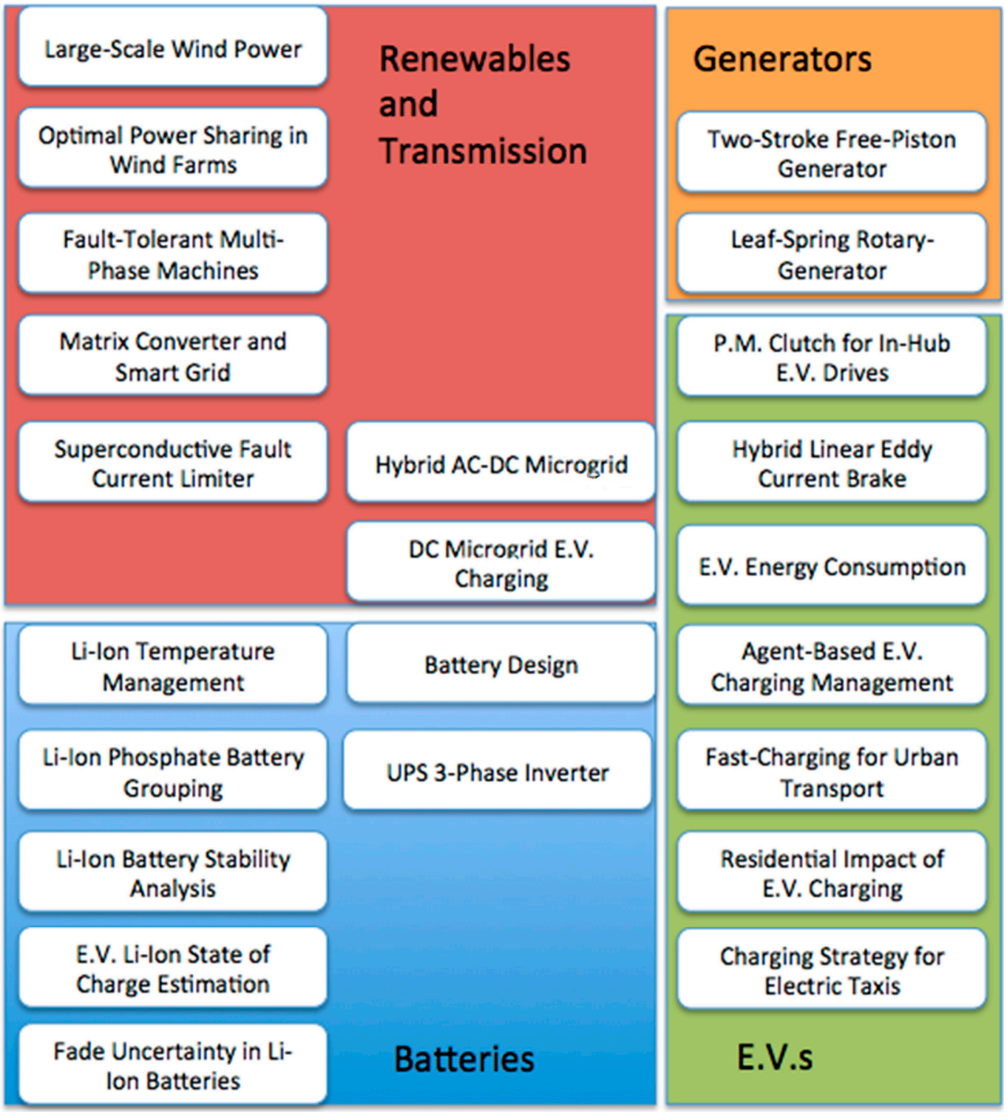

Figure 1. The broad spectrum of published submissions.

We found the task of editing and selecting papers for this collection to be both stimulating and rewarding. We would also like to thank the staff and reviewers for their efforts and input.

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