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Design and Control of Flywheel Energy Storage Systems

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Message from the Guest Editor

Dear Colleagues,

Flywheel energy storage systems (FESS) break through the limitation of chemical batteries and realize energy storage through physical methods. They have the characteristics of pollution-free activity, high energy conversion efficiency and power density, long cycle life, insensitivity to temperature, etc. They are one of the most important ways to reduce carbon emissions and deal with the current global climate change and energy crisis. The design and efficient control of new flywheel energy storage systems are two key problems to be solved urgently. This Special Issue will deal with novel optimization and control techniques for flywheel energy storage systems. Topics of interest for publication include but are not limited to:

- Overview of flywheel energy storage systems;
- Structure design of flywheel energy storage systems;
- Optimization design and control of magnetic bearings for FESS;
- Optimization design and control of flywheel motors;
- Modeling of flywheel motors for FESS;
- Modeling of magnetic suspension systems for FESS;
- Optimization of operation of power systems for FESS;
- Security reliability design and control method for FESS.



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Special Issue



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Message from the Editor-in-Chief

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