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Model Predictive Control-Based Approach for Microgrids

Guest Editors:

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Deadline for manuscript submissions:
closed (10 January 2025)

Message from the Guest Editors

Dear Colleagues,

The optimization of energy microgrids through model-based predictive control (MPC) schemes enables the reconciliation of different operational objectives while respecting the constraints imposed by the considered scenarios.

Topics of interest for this Special Issue include, but are not limited to, the following:

- Centralized, decentralized, distributed, and hybrid approaches;
- Integrated approaches (MPC in combination with data-driven techniques, such as, and not restricted to, RL);
- Deterministic and stochastic settings;
- Single, multiple, and microgrid aggregation;
- Single and multilevel control architectures;
- AC, DC, and hybrid microgrid;
- Renewable integration and decarbonization;
- Smart microgrid and smart grid modeling, simulations, and operations;
- Smart sector integration (e.g., green transport systems) and/or strictly related topics (e.g., energy communities);
- Reliability, resiliency, robustness, and stability;
- Cybersecurity, cyberthreat mitigation, cyberattack countermeasures.

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Message from the Editor-in-Chief

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