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Call for Papers for the Special Session on

SLIDING MODE CONTROL, MODEL PREDICTIVE CONTROL AND AI-ASSISTED ADVANCED CONTROL OF POWER ELECTRONICS CONVERTERS

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Technical Outline of the Session and Topics

The demand for high-quality electrical energy has increased considerably in recent years. Basically, the power electronics converters can be used in a wide range of applications which require electrical power conversion, conditioning, compensation, and active filtering through the use of well-designed control methods which should meet the desired objectives set for each application. This session is intended to provide an insight on the latest advanced control techniques of various power converters employed in the applications.

Topics of the session include, but are not limited to:

- Sliding mode control (SMC) of power converters
- Finite control set model predictive control (MPC) of power converters
- Continuous control set MPC of power converters
- Novel chattering reduction and fixed switching frequency based methods in SMC
- Novel sensorless MPC for power converters
- Novel cost function design and weighting factors tuning in MPC
- AI-Assisted controllers for power converters
- AI-Assisted adaptive gain tuning methods for controllers

Timeline for Authors

All the instructions for paper submission are available on the conference website. Please visit www.iecon2026.org or scan the QR code for the timeline.