



IEEE 2nd Global Power, Energy and Communication Conference  
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## Special Session on Speed-Sensorless Control and Parameter Estimation of Electrical Machines

Electrical machines such as induction and permanent magnet synchronous machines are a crucial part of energy conversion systems. High-performance control of those machines is complex due to their nonlinear characteristics. Therefore, various control methods have been proposed in the literature, such as field-oriented control (FOC), direct torque control (DTC), and model predictive control (MPC). However, those high-performance control methods require the flux and/or speed information to control the machine's states. The elimination of the speed sensors and other transducers improves system reliability while reducing the cost and hardware complexity. In addition, the estimation of time-varying parameters in machine model increases the robustness of control methods. On the other hand, the estimation methods can also be used for fault-tolerant control of electrical machines under electrical and/or mechanical faults. We invite researchers to submit original and unpublished research papers on the following topics.

### Topics of interest include, but are not limited to:

- Induction and permanent magnet synchronous machines
- Speed-sensorless drive systems
- State estimation
- Parameter estimation
- Model reference adaptive systems
- Full-order observers
- Nonlinear Kalman filtering
- Sliding mode observers
- Field oriented and direct torque control
- Predictive torque and current control
- Fault tolerant control

### Organizer(s):

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### Deadlines of the special session:

Full paper submission (maximum 6 pages):	<b>June 1, 2020</b>
Notification of acceptance:	<b>August 15, 2020</b>
Final submissions due:	<b>September 1, 2020</b>

All the instructions for paper submission are included at the conference website.

<http://www.gpecom.org/2020/index.php/guidelines/>