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Special Session on
"Differentiation and its Application in Observation and Control of Mechatronic Systems"

organized by

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Call for Papers

In recent years, differentiation based estimation and control algorithms have gained a lot of research attention. Examples include higher order sliding mode controllers and observers or differentiation based fault-detection algorithms. The application of these mature algorithms to realistic use-cases, however, seems to lag behind the theoretical developments. With this session, we want to promote the application of recently developed algorithms in the field of differentiation based estimation and control with a focus on mechatronic systems or high fidelity simulators. The special session is targeting both, the methodology and application-driven approaches and invites the researchers from academia and industry to present their recent developments and results in the field.

Topics of interest include but are not limited to:

- Application of differentiation based estimation and control algorithms to mechatronic systems or high fidelity simulators
- Advanced observation methods in mechatronic systems
- Evaluation of differentiation based algorithms via benchmark problems
- Novel implementation strategies for differentiation based algorithms
- Differentiation algorithms operating directly on sampled measurements