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Special Session on

“Causalities in Industrial Applications”

Organized by

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Call for Papers

Causality is, next to time, a key concept for modelling and understanding technical systems. So it is not surprising that AI algorithms such as diagnosis, reconfiguration, or planning are based on such causality models. But currently no agreement exists on what constitutes a causality, rendering the reuse of such models between algorithms difficult.

Furthermore, causalities often express rather general system knowledge which supports the transfer of knowledge between, more or less similar, systems. This becomes especially important in the context of an increasing number of activities to learn causalities from observations.

We want to provide a venue for discussing different approaches and evaluate the advantages and disadvantages of causalities in industries.

Topics of interest include, but are not limited to:

- Learning of causalities
- Applications based on Causalities, such as diagnosis or reconfiguration
- Causal models
- Model transfer between systems

- Causalities in hybrid systems
- Updating causalities in modular production system
- Causalities in digital twins