About the Section “Process Control and Supervision”

The Control and Supervision section of Processes welcomes high-quality manuscripts concerning control and supervision methodologies, including related topics such as simulation, modeling, identification, and optimization, for solving problems related to process systems engineering. This section encourages submissions that focus on methodologies and their analysis, as opposed to applications that use existing methodologies. All submissions in this section should relate directly to process systems engineering within the aims and scope of the journal Processes (chemistry, biology, materials, and allied engineering fields). Contributions that are purely computational in nature without a clear relationship to the aims and scope will not be accepted. To facilitate the rapid, open exchange of knowledge, all authors are strongly encouraged (but not required) to submit any associated source code, models, simulations, software, and data either as supplementary material and/or to an open-access repository such as LAPSE (the Living Archive for Process Systems Engineering).

13.3 days  First Decision after Submission in the whole of 2020
3.9 days  Acceptance to Publication in the whole of 2020
36 days  Median Article Processing Time in the whole of 2020

Impact Factor 2.753
Keywords

Simulation & Modeling Methods
- Numerical methods
- Equation-system solving algorithms and heuristics
- Initialization problems
- Solution strategies
- Multi-scale modeling approaches
- Problem formulation strategies

Process Data-Based Approaches
- Multivariate analysis
- Principal component analysis
- Big data methods
- Artificial intelligence
- Machine learning
- Industry 4.0 related

Model Identification
- Model identification
- Model reduction
- State-space sampling techniques
- Design-of-experiments
- Model fitting

Process Control
- Advanced control algorithms
- Closed-loop performance monitoring
- Hierarchical control
- Non-centralized control
- Robustness in control
- Optimization-based control

Process Supervision
- Decision support systems
- Uncertainty and risk
- Process monitoring
- Fault diagnosis
- Fault-tolerant control
- Sensor placement

Process Optimization
- Mathematical programming
- Heuristic-based algorithms
- Stochastic algorithms
- Evolutionary algorithms
- Derivative-free optimization
- General optimization theory
- Computational complexity
- Related numerical methods

Process Intensification
- New technologies for process intensification
- Knowledge-based methods
- Optimization-based methods
- Hybrid methods
- Operability, controllability, and safety