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Abstracts of Short Communications and Posters

Section:

17. Control Theory and Optimization

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Schulz, Christian and Engell, Sebastian, University of Dortmund, Germany
Optimal scheduling of a chemical batch plant
In this contribution we present mixed-integer non-linear models for the optimal scheduling of a real-world problem from the polymer industries. Two types of mathematical models are investigated: an event-driven model and a fixed-grid model. The size and the non-convexity of the problems make it impossible to derive fully optimal schedules, it is, however, possible to calculate near-optimal schedules by applying branching strategies which are customised for the problem structure. The two types of models are compared wrt. to their numerical properties which have a major impact on the complexity of the branching strategies and the quality of the obtained schedules.