

Crew Rostering Optimization in Maintenance Operations - Models and Solution Methods



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WebEx - Researcher Catch up

The dynamically changing workplace environment has resulted in the need for rostering algorithms that are able to accommodate changes within an organisation. Determining crew and tasks scheduling, which is to identify an optimal schedule for tasks and assign each of the scheduled tasks to an individual crew, is an essential operation for any large and complex organisation, thereby becoming an active research topic in the field of Operations Research.

In this talk, we will consider a generic crew scheduling model for maintenance operations. It involves various constraints, such as resourcing, timing, ordering and rostering that may be suited to the maintenance operations. The objective of the model is to maximise the weighted summation of completed jobs. For the solution methods, we investigate the logic-based decomposition algorithm and its variants, which have been shown in the literature to be efficient to deal with problems of this kind (large scale binary linear programming).