

Freight Locomotive Rescheduling Algorithm under Disordered Train Operation

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Railway operators adjust timetables, followed by rescheduling of rolling stock and crew duties in case train operation is disordered due to accidents. This paper discusses a rescheduling problem of locomotive assignment to freight trains after the timetable adjustment is completed. We model the problem as an integer programming problem with set-partitioning constraints, and solve the issue by using column generation technique. Numerical experiments using real data have revealed that our method provides a locomotive-rescheduling plan of satisfactory quality in acceptable computing time.