A Practical Train Rescheduling Algorithm Applying Predetermined Factors

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When an accident or a technical problem disrupts train traffic on a railway line, train dispatchers have to make a series of modifications for the current train timetable to restore it as soon as possible. This is called train re-scheduling. We propose an algorithm to make a practical train-rescheduling plan in a moment. The algorithm uses predetermined factors; train groups, train cancellation sections and turn-back patterns, that form a main frame of a train-rescheduling plan. The algorithm is also simple enough for train dispatchers to recognise how it works. Numerical results indicate that our approach is able to produce a train-rescheduling plan that is almost the same with an actual one operated by train dispatchers.