

**An Energy-efficient Speed Profile Generator
by Combining Partial Energy-oriented Driving Approaches**

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One way of reducing the energy consumption of trains is to drive them in an energy-efficient manner. There can be various driving patterns between two adjacent stops, or speed profiles, since there is a gap called the running time supplement between the planned running time set in a timetable and the shortest possible running time of the train. In this study, we have developed an energy-efficient speed profile generator by combining partial energy-oriented driving approaches. We have added this generator to the existing shortest running time calculation software; therefore it is applicable to various vehicles and train route alignment. Numerical experiments show that our profile prepared by the generator provides superior performance compared to the manually prepared ones.