

Numerical Analysis Method for Seismic Behavior of a Train with Consideration of up to Post-derailment Period

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The authors are researching with the aim of establishing a numerical analysis method capable of evaluating vehicle behavior up to after the derailment of a vehicle during earthquakes. In this paper, as a basic study, we propose an analysis method that can represent seismic vehicle behavior before and after the derailment of a single stationary vehicle. Then, to consider the coupling of multiple vehicles, the proposed method is also extended to include dynamic models of connection elements between vehicles. Furthermore, the influence of the interaction between vehicles on the derailment limit is investigated through trial calculations.