

Fundamental Study of the Influence of the Lateral Vibration of the Carbody on Overturning under Crosswind

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In the RTRI's detailed equation, which is a method of static analysis of railway vehicles overturning under crosswind, static force is substituted for the vibrational inertial force of the car body. However, since the lateral vibration of the car body is a dynamic phenomenon, the influence of the lateral vibration on overturning conceivably depends on the amplitude and frequency of the vibration. Thus, we examined the relation between the lateral vibration and the wheel load variation by numerical simulation. We also verified the validity of the simulation results by comparing them with the data acquired through on-track tests.