

## **Wheel/Rail Tangential Contact Force Model for Analyzing Vehicle Dynamics under Running in Rainy Conditions**

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This paper describes a wheel/rail tangential contact force model for analyzing vehicle dynamics under running in rainy conditions. So far, vehicle dynamics analyses have been conducted under only dry conditions. In this study, the authors investigated and proposed a wheel/rail tangential contact force model for analyzing vehicle dynamics under running in rainy conditions. The proposed model combines Kalker's linear rolling contact theory with the relationship between adhesive coefficient and velocity measured in running experiments. The validity and generality of the proposed model was confirmed by the measurement experiment of tangential contact force using a twin-disc rolling machine.