

Development of Bogie Rotational Resistance Test Machine

Takayuki TANAKA Kohei IIDA Mitsugi SUZUKI
Tadanobu IIDA Nobuyuki WATANABE Yukio NISHIYAMA

The authors have developed the bogie rotational resistance test machine for railway vehicles. The test machine can measure the rotational resistance of the bogie directly by rotating a bogie fixed to a carbody. The rotational resistance of bogie is considered to depend on the stiffness of air spring, dampers, and links. From the measurements using several test bogies, the possible sources of the rotational resistance have become clear. A simulation model of the bogie rotational resistance applied to the vehicle dynamics simulation has been proposed based on the revealed characteristics. When the proposed model is applied, the result from the vehicle dynamics simulation for the curve passage shows some of the differences compared with that obtained by using a present model.