

Development of Longitudinal Excitation Suppression Devices for Reducing Elastic Vibration of Shinkansen Car-body

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This paper proposes a method to reduce the elastic vibration of Shinkansen car-body caused by the longitudinal excitation via traction devices and yaw dampers. We developed two types of vibration reduction devices, which are called “displacement-dependent rubber bushes” and “mesh springs”. To examine the running stability and the car-body vibration suppression performance of the developed devices, we conducted excitation tests using a Shinkansen test vehicle in a rolling stock testing plant. As a result of the tests, we confirmed that the developed devices meet the required performance for running stability, and also having the effect of reducing the elastic vibration of car-body.