

A Study of the Lateral-force Estimation Equation with a Focus on the Moment of a Train Bogie

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When railway vehicles pass through a sharp curve, a yaw moment is generated at the bogie. The lateral force of the outside wheel of the front axle of the leading bogie, which is an important factor for assessing the running safety of railway vehicles, is led by the balance equation of the yaw moment. The lateral-force estimation equation has been developed as a method of calculating the lateral force during the curve passage of railway vehicles. The authors have newly proposed a more versatile lateral-force estimation equation with a focus on the improvement of the estimation of the yaw moment of the bogie.