

Development of Wheel Load and Lateral Force Measurement Processing System Combining Intermittent and Continuous Measurement Methods

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As a method to confirm the running safety of railway vehicles, there are wheel load (P) and lateral force (Q) measurement. In P and Q measuring methods, according to measurement conditions, there are three methods of the (a) intermittent wheel load and intermittent lateral force measurement (b) intermittent wheel load and continuous lateral force measurement and (c) new continuous measurement (continuous wheel load and continuous lateral force measurement). However, with respect to the conventional method (b) there was a problem of requiring complicated manual labor for reading the measurement chart because the drift revision of the lateral force signal at the time of the automatic processing was difficult. Therefore we developed the measurement processing system which was characterized by the combination of two methods of (a) and (b) and point zero revision by the wheel load wave form and the lateral force drift revision with the yaw sensor. This system enables processing of the highly precise measurement in real time, and is suitable for measurement at high speed. In this paper, we report the structure of the system and the processing method.