New Measuring Methods for Phenomena Peculiar to the Railway System

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Phenomena caused by elements such as wheel/rail and pantograph/contact-wire, consisting of the railway system reacting each other while train running at a high speed, dynamic response of components around the contact points and phenomena occur at the contact areas are typical and peculiar to the railway system. It is essential to understand these phenomena to investigate the fundamental functions of the railway system such as safety and environmental features. However, in general, it is difficult to observe directly the reactive forces at the contact points. In this paper, we have described the outline of the new measuring methods as recently developed by Railway Technical Research Institute and various problems to be solved for the measuring methods.