A Method for Diagnosing Mounting Condition of Vehicle Parts Using a High-speed Camera

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In order to improve the efficiency of railway vehicle maintenance in the future, we have developed a method for diagnosing mounting condition of vehicle parts using a high-speed camera. A system using the developed method consists of a video recording device, a program to extract acceleration of a target part from moving image, and a vibration analysis / diagnosis program. To confirm its validity of the proposed system, several tests to shoot videos of a running vehicle were conducted to understand vibration characteristics of parts mounted under floor of vehicle in the fixed and loosened conditions. The test result showed that the system, which uses a statistical method for condition diagnosis, can diagnose the condition of vehicle parts.