**Development and Validation of Drive-by Detection Method for Resonant Bridges**

Kodai MATSUOKA Kyohei KAWASAKI Hirofumi TANAKA Mizuki TSUNEMOTO

Resonance in high-speed railway bridges is one of the concerns for ride comfort and catenary damages. Countermeasures are required in severe cases. However, a huge number of on-site measurements are required detect resonance. This study develops a drive-by detection method of resonant bridges while train running. The proposed method consists of a signal processing for extracting vibration components specific to resonant bridges and a process of difference between the lead and trail vehicles. As results of a practical application, resonance of bridges was extracted and the resonant states of extracted bridges were confirmed by on-site measurement.