

Recent Development for Vehicle Scanning Method

Judy P. Yang

Department of Civil Engineering, National Yang Ming Chiao Tung University,
Hsinchu 300093, Taiwan

Abstract

Based on the theory of a vehicle-bridge interaction system, the concept of vehicle scanning method firstly appeared in 2004. With the prosperous development of related studies in the theoretical formulation, numerical simulation, and experimental validation, the terminology was formally named as vehicle scanning method in 2019. In the past twenty years, various approaches have been developed, mainly focusing on the health monitoring of bridge structures. In this presentation, several advanced vehicle-bridge interaction models are introduced to enhance the identification of bridge frequencies. Additionally, the subtraction strategy is proposed to reduce the adverse effect from practical aspects. Lastly, some examples related to three-dimensional modelling and experimental validation are discussed. The recent development for vehicle scanning method through different approaches are therefore highlighted.