Early Detection of Damages in Railway Steel Truss Bridges from Measured Dynamic Responses

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Abstract : This paper presents an investigation on bridge damage detection based on the dynamic responses estimated from a passing vehicle. A numerical simulation of steel truss bridge for railway was used in this investigation. The bridge response at different locations is measured using CSI-Bridge software. Several damage scenarios are considered including different locations and severities. The possibilities of dynamic properties of global modes in the identification of structural changes in truss bridges were discussed based on the results of measurement.