عنوان مقاله:

Operational modal analysis of a fixed-fixed beam under moving vehicular loads

محل انتشار:

چهارمین همایش بین المللی مهندسی سازه (سال: 1396)

تعداد صفحات اصل مقاله: 7

نویسنده:

Fariba Shadan - *Assistant Professor, University of Science & Technology, Mazandaran, Behshahr, Iran*

خلاصه مقاله:

Structural health monitoring of bridges as an infrastructure is essential to prevent damaging and collapse. For continuous monitoring, the operating traffic loads can be used as a good source of excitation. However, due to the unknown amount and random nature of the road excitation and the inherent uncertainties in a bridge-vehicle system, it's challenging. In this paper, for the purpose of operational modal analysis (OMA), an efficient output-only modal analysis technique named stochastic subspace identification method (SSI) is used. First, a finite element model of an elastic beam excited with a mass train traversing the span is validated and calibrated using the dynamic response of an experiment. Then, further study is done on the developed model by simulating a real test and investigate OMA method.

کلمات کلیدی:

Structural health monitoring; Operational modal analysis; Stochastic subspace identification; Vehicular load excitation

لینک ثابت مقاله در پایگاه سیویلیکا:

https://civilica.com/doc/879619