DYNAMIC RESPONSE OF MASONRY ARCH BRIDGES USING "IN-SITU" EXPEDITE MEASUREMENTS

Anelise Dick, Braz-César Manuel*, Roque João

[1]Polytechnic Institute of Bragança
Campus de Santa Apolónia, Bragança, Portugal
anelisedick@live.com

[2]Polytechnic Institute of Bragança
Campus de Santa Apolónia, Bragança, Portugal
brazcesar@ipb.pt

[3]Polytechnic Institute of Bragança
Campus de Santa Apolónia, Bragança, Portugal
jroque@ipb.pt

ABSTRACT

The present study is based on the determination of dynamic parameters, namely natural frequencies associated with vertical vibration modes for a set of thirty-three masonry arch bridges located in the Bragança district, Portugal. These parameters were obtained through environmental vibration tests performed “in situ” and the identification of the dynamic properties was performed in the frequency domain using the peak-peaking technique. The identification of the natural frequencies allowed the analysis of the influence of some geometrical parameters of the bridges and the relationship between these and the frequency range of the excitation source.

References

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