Análisis de la interacción humano-estructura en puentes peatonales de santiago de cali [

2013

text (article)

Analítica

Modern footbridges are susceptible to vibration related problems due to the development of new materials with greater strength and the subsequent longer spans of these bridges. Unfortunately Colombian building codes are very limited when it comes to the design and retrofit of these structures. In this paper a classification is provided of the footbridges that exist in Santiago de Cali, and human-structure interaction effects, maximum accelerations and natural frequencies are compared with vibration design criteria specified by different building codes. Although measured accelerations in the 19 bridges considered in this study did not exceed the maximum values specified in the building codes for a person walking across the bridge, 16 of these bridges had vibration levels that caused discomfort in the pedestrians. Hence, it is recommended that future Colombian codes establish ranges of accelerations and natural frequencies in function of performance criteria that account for perceived comfort and safety
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Editorial: 2013

Tipo Audiovisual: interacción humano-estructura vibración en puentes peatonales cargas de servicio en puentes respuesta dinámica cargas antrópicas human-structure interaction footbridge vibrations bridge service loads dynamic response anthropic loads

Documento fuente: DYNA: revista de la Facultad de Minas. Universidad Nacional de Colombia. Sede Medellín, ISSN 0012-7353, Vol. 80, Nº. 177, 2013, pags. 86-94

Lengua: Spanish

Enlace a fuente de información: DYNA: revista de la Facultad de Minas. Universidad Nacional de Colombia. Sede Medellín, ISSN 0012-7353, Vol. 80, Nº. 177, 2013, pags. 86-94
