**EXPERIMENTAL DYNAMIC ANALYSIS OF THE FOOTBRIDGEACROSS JIZERA RIVER IN MLADÁ BOLESLAV**

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Abstract. The text of this submitted paper is devoted to the experimental dynamic analysis of the newly designed footbridge across the Jizera River in Mladá Boleslav. Theoretical modal analysis has shown potential risk that some of the natural frequencies of the bridge deck will belong to the range which is typical for pacing frequencies induced by pedestrians. The resonance behavior of this structure should be reduced by Tuned Mass Dampers (TMD), which would be tuned for separate natural frequencies of this structure. Therefore, the experimental dynamic analysis was performed on the footbridge in order to assess the effectiveness of installed TMDs. The experiment was divided into two stages, the first one was realized at the footbridge when TMDs were not yet installed, and the second one was carried out on the footbridge with installed and activated TMDs. Moreover, the author performed an experimental modal analysis in order to verify the aptness of the computational model and its results.

Keywords: Experimental dynamic analysis, dynamic load test, experimental modal analysis, human-induced vibration, vandalism

1. Introduction

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2. Experimental

2.1 Materials

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2.2 Methods

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3. Results and discussion

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Table 1.Mix design of preliminary tests.



Figure 1. Printed layers of cement based material.

4. Conclusions

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