

## **Experimental verification of the optimal tuning of a tunable vibration neutralizer for global vibration control**

### **Abstract**

A theoretical method has been previously proposed by the authors to optimize a tunable vibration neutralizer for global vibration control. However, experimental verification of the tuning method has yet to be presented. This paper aims to do this. It is shown that by using the proposed optimization method, the tunable vibration neutralizer can be as effective as an active control device in reducing global vibration of a structure. One particularly interesting finding is that although the vibration neutralizer is a passive device which is incapable of supplying energy to a system, it appears to be as effective as active control in reducing the global vibration of a structure, even in the frequency range where the control device is required to supply energy. (C) 2003 Elsevier Science Ltd. All rights reserved.