

# **Global control of structural vibration using multiple-tuned tunable vibration neutralizers**

## **Abstract**

Tunable vibration absorbers are used to control vibration due to time-varying harmonic disturbances. Either vibration which is local to the neutralizer, or global vibration of the host structure can be chosen as the quantity to be suppressed. In this paper, the latter is the subject of investigation, but using multiple neutralizers rather than a single device. It is shown that by positioning these devices carefully, the global vibration of a structure (as characterized by its kinetic energy) can be effectively reduced at each single frequency in the frequency range of interest, and is comparable to the performance of active control. A methodology on how to correctly position the devices, and on how to determine their optimum mass is suggested.