

On the best positions of dampers in mechanical systems

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The main subject of this talk is a novel approach to the problem of optimal placement of dampers in mechanical systems.

Namely, we consider the damped mechanical systems defined by the vector differential equation $M\ddot{x} + C\dot{x} + Kx = 0$, where $M, C, K \in \mathbb{R}^{n \times n}$ are mass, damping and stiffness matrices, respectively.

Since in a general, this problem is still open, we have tried to add some new perspective on some well-known results (from a heuristical point of view) as well some improvement in “damping optimization”.

Some of the obtained results will be illustrated with numerical examples