

DOS2021: Design and Remedial Measures

Number of participants: 15

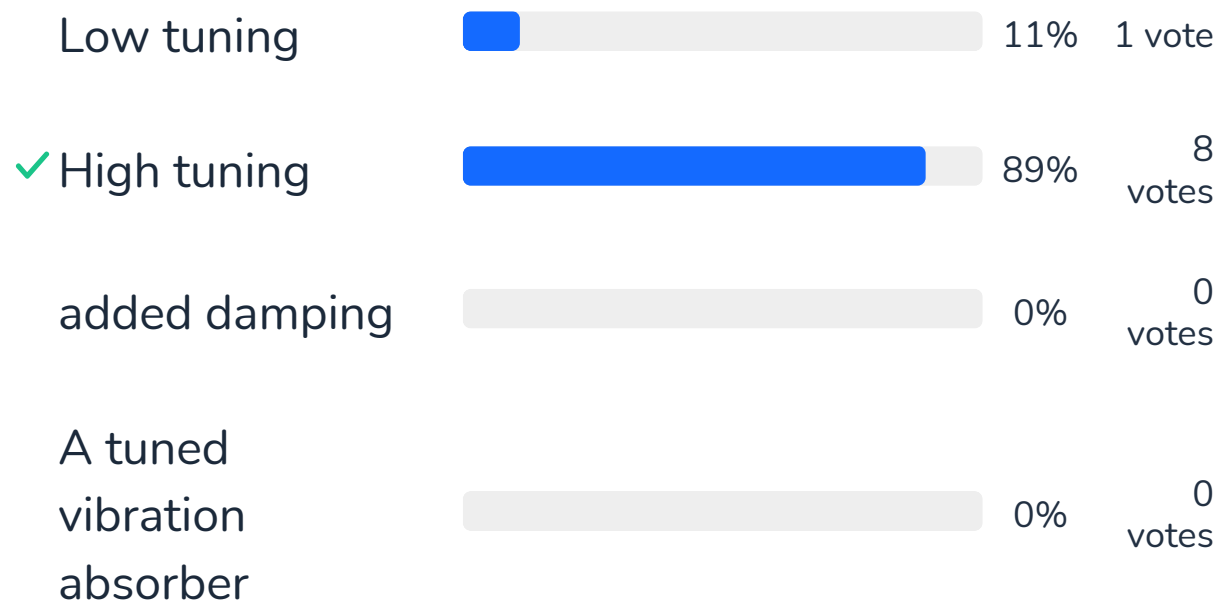
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What are the different approaches presented in the video to reduce vibration levels in structures ?

ABSORBERS
HIGH/LOW DAMPING TMD USING
DUMPING OR LOW AND LASS
(HIGH TUNED TUNING VIBRATION
CHANGING HIGH ISOLATION DAMPERS
MASS SHAPE RESHAPING LOW)

2

The FRF represented in the figure corresponds to a structure which has been designed with



3

From the point of view of performance, which of these two solutions (high and low tuning) is best, and why ?

Reshaping

High tuning because of the other natural frequencies that are higher

High tuning to avoid other natural frequencies

High tuning because it works well with broad band frequency

High because more than 1 natural freq that we want to avoid

High tuning to avoid to face the other modes

Low tuning - smaller response, but not always applicable

High tuning

Low tuning, because the response is lower

Low tuning, as the response is lower compared to high tuning

High tuning because we can avoid the multiples of the natural frequency

4

If high or low-tuning cannot be achieved on a structure, what are the alternatives to lower the level of vibrations ?

Damping

Use damping

A dampening technique, or vibration isolation

Damping

Damping

TMD

Damping,vibration isolation

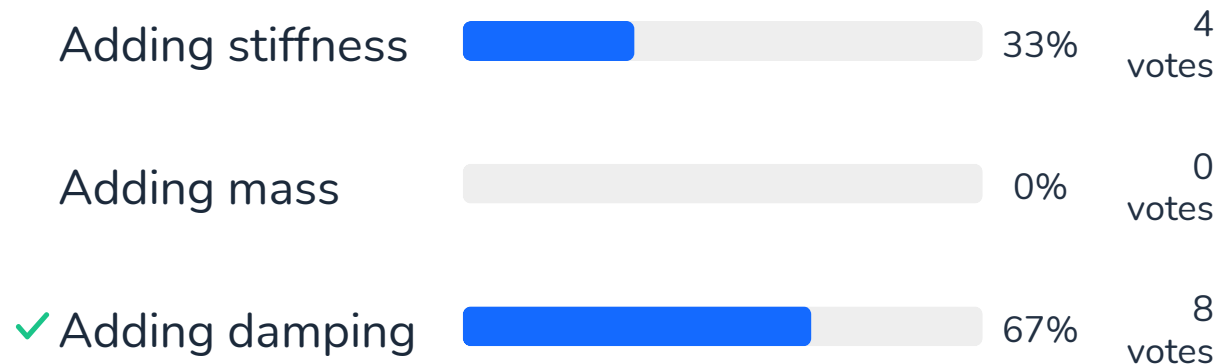
TMD or vibration isolation

Adding damping

Reshaping

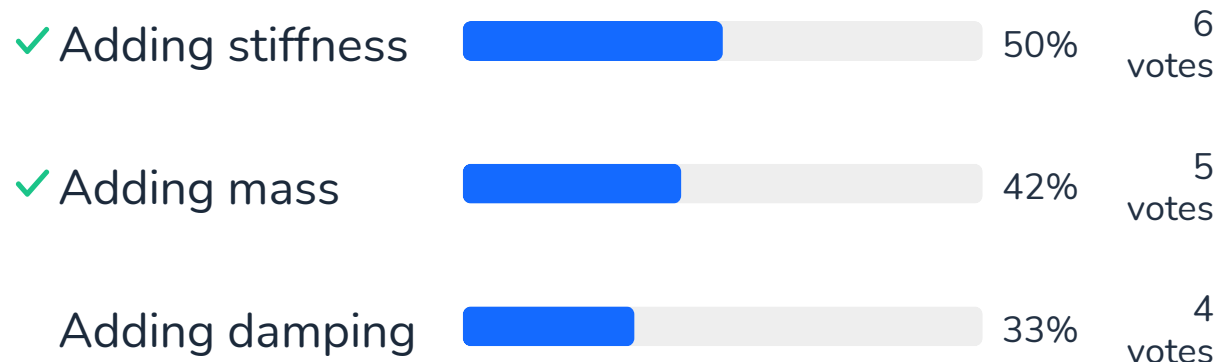
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If the vibration problem is related to resonance, which of these is most efficient to reduce vibration levels ?



6

If the vibration problem is not related to resonance, which of these is most efficient to reduce vibration levels ?



7

If one wants to reduce the amount of dynamic excitation applied to a system, the possible solutions are

