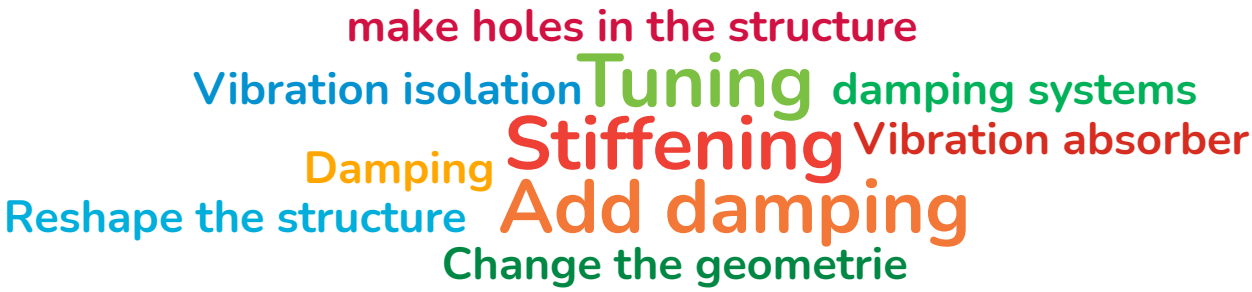
DOS: Design and Remedial Measures

Number of participants: 7

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

1 correct answer
out of 13 respondents



Correct answers

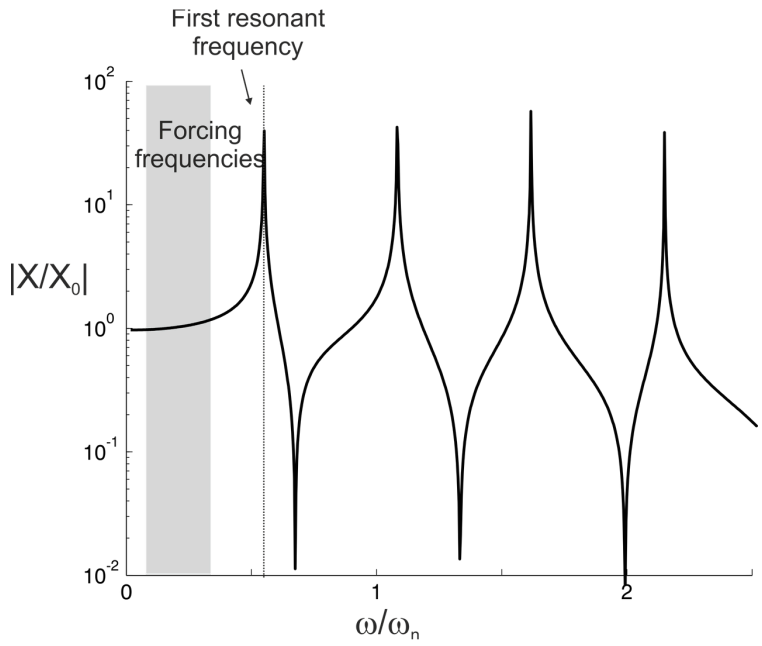
- high tuning
- low tuning
- reshaping
- adding damping
- tuned vibration absorber

vibration isolation

moderate stiffening

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

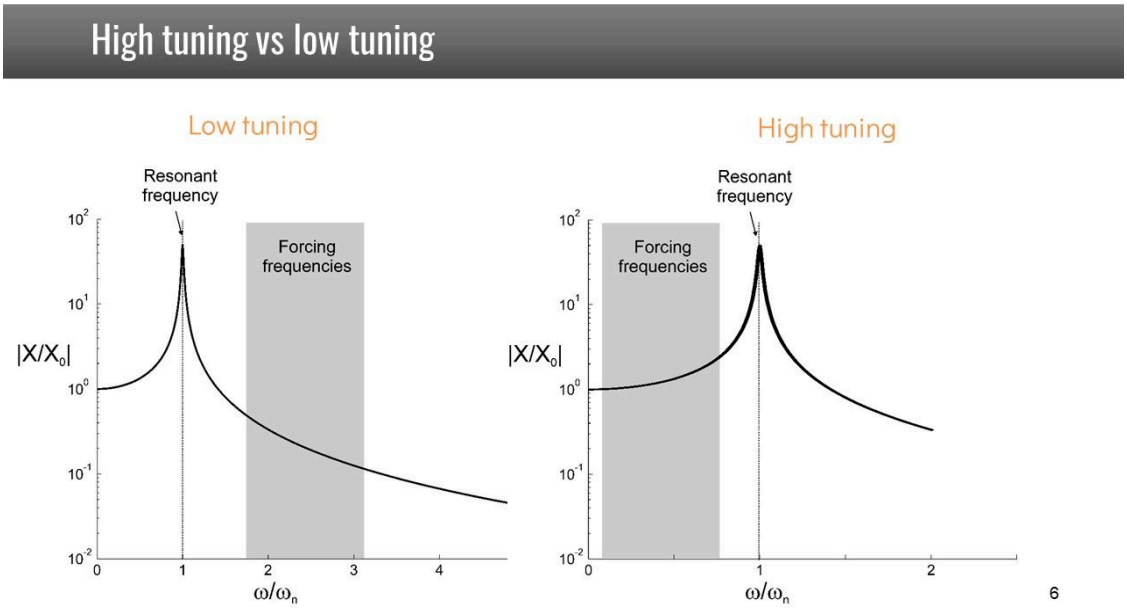
4 correct answers
out of 4 respondents



	Low tuning	0%	0 votes
✓	High tuning	100%	4 votes
	added damping	0%	0 votes
	A tuned vibration absorber	0%	0 votes

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

0 correct answer
out of 3 respondents



Low tuning because the amplitude is smaller in the forcing frequencies region

Low tuning

Low

Correct answer

With low tuning, X/X0 is always smaller than 1, while for high tuning it is always higher, so the performance is better with low tuning.

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

2 correct answers
out of 6 respondents

- Stiffening
- Reshaping
- Damping
- Add damping
- Increase stiffness
- Isolation

Correct answer

stiffening

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

5 correct answers
out of 6 respondents

	Adding stiffness	0%	0 votes
	Adding mass	17%	1 vote
✓	Adding damping	83%	5 votes

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

3 correct answers
out of 7 respondents

✓	Adding stiffness	100%	7 votes
✓	Adding mass	43%	3 votes
	Adding damping	0%	0 votes

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

4 correct answers
out of 7 respondents

✓	vibration isolation	86%	6 votes
	vibration damping	0%	0 votes
✓	reshaping	71%	5 votes
	high or low tuning	0%	0 votes