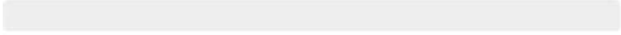

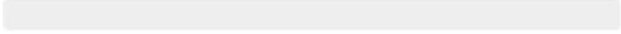


DOS2018_MDOF

Number of participants: 20



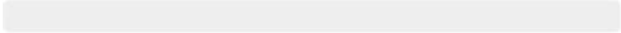
1

If a system has n degrees of freedom, it has

2n natural frequencies		0%	
✓ n natural frequencies		100%	1
(n + the number of excitations) natural frequencies		0%	

2

The mode shapes are orthogonal with respect to the

✓ stiffness matrix		94%	1
✓ mass matrix		63%	1
damping matrix		0%	0

3

The interest of projecting the equations of motion in the modal domain is to:

reduce the number of equations to solve



0%

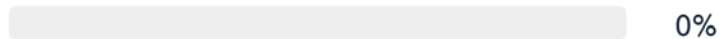
✓ decouple the equations of motion and facilitate the resolution



100%

1

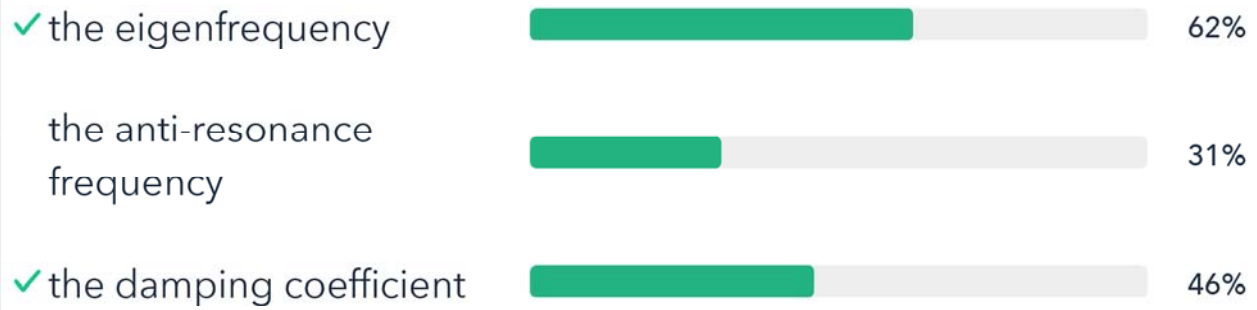
include the damping properly in the model



0%

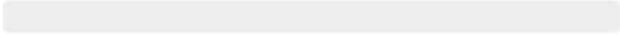
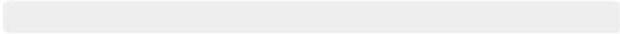
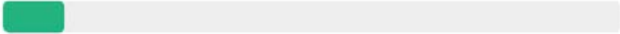

4

Which of these quantities is a global quantity for a given structure



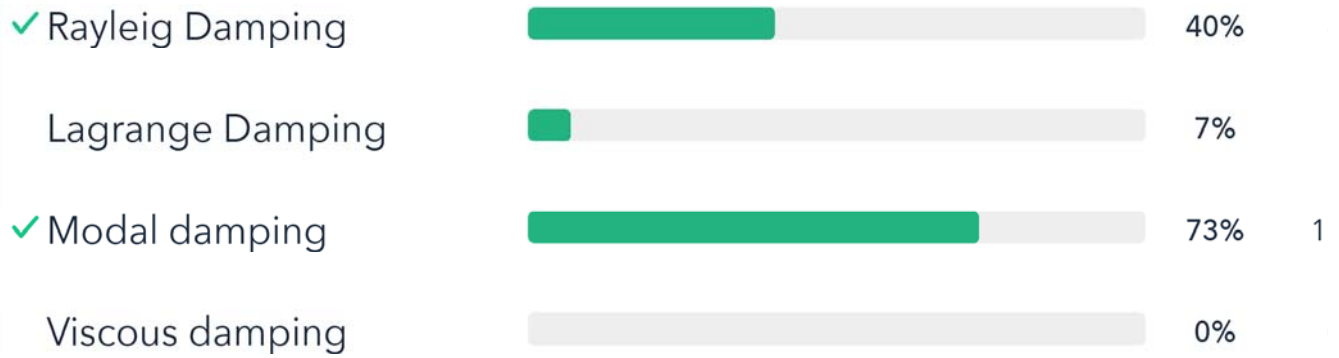
5

A mass-spring system consists of a rigid mass at the end of a cantilever beam. If the length of the bar is divided by two, the natural frequency is

divided by two		0%
multiplied by $\sqrt{2}$		0%
multiplied by 2		10%
✓ multiplied by $2\sqrt{2}$		90%

6

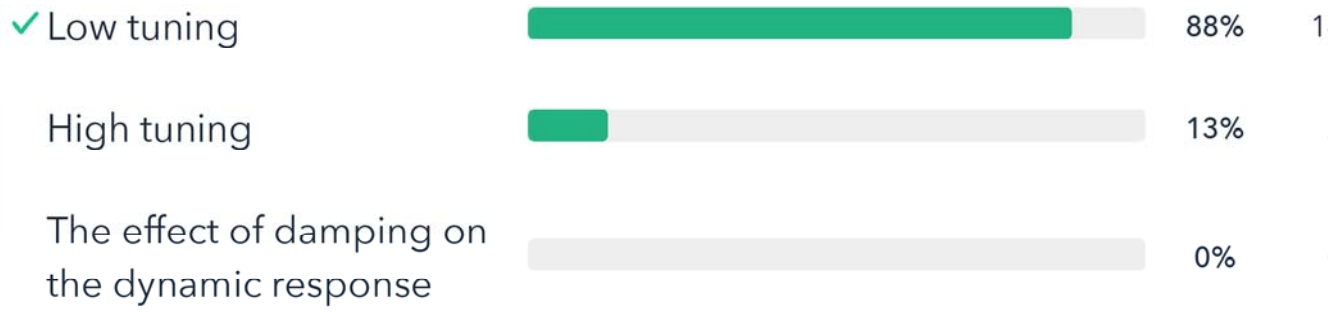
What kind of hypothesis can be made on the damping matrix to decouple the equations of motion in the modal domain ?



7

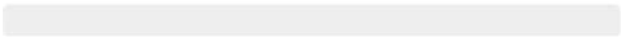


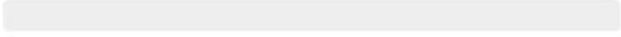


The figure illustrates



8

How many mode shapes and eigenfrequencies does this building simplified model have ?

one		0%	
three		0%	
✓ five		100%	1
an infinity		0%	

