

# DOS2019\_Continuous\_Systems

Number of participants: 17

1

## A continuous system has

as many  
eigenfrequencies as  
there are joints in the  
structure



✓ an infinite number of  
eigenfrequencies


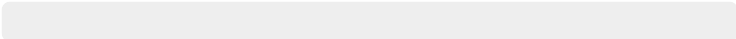
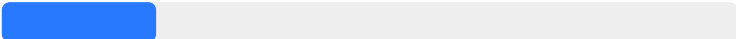


it depends on the  
frequency band of the  
excitation signal



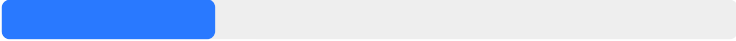
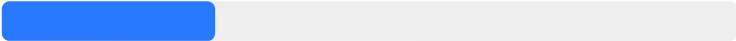
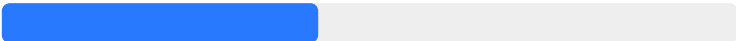
2

## Modal truncation consists in

- ✓ computing the response of a system using only the modes which are excited by the external forces  79% 11 votes
- computing the response of a system using only the first 5 modes  0% 0 votes
- using a truncation of the Fourier series of the excitation signal  21% 3 votes

3

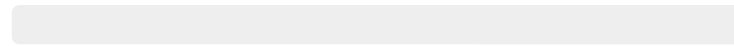
For footbridges, the dependency of the first natural frequency is proportional to

$1/L^2$ (L is the span)		29%	4 votes
$1/L^3$		29%	4 votes
✓ $1/L$		43%	6 votes

4

In practice, the number of dofs in a finite element is usually dictated by

The dynamics of the system



0%

0 votes

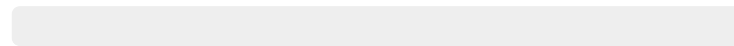
✓ The geometry of the system



100%

14 votes

The frequency of excitation of the system



0%

0 votes

5

## Hysteretic damping models can be used

