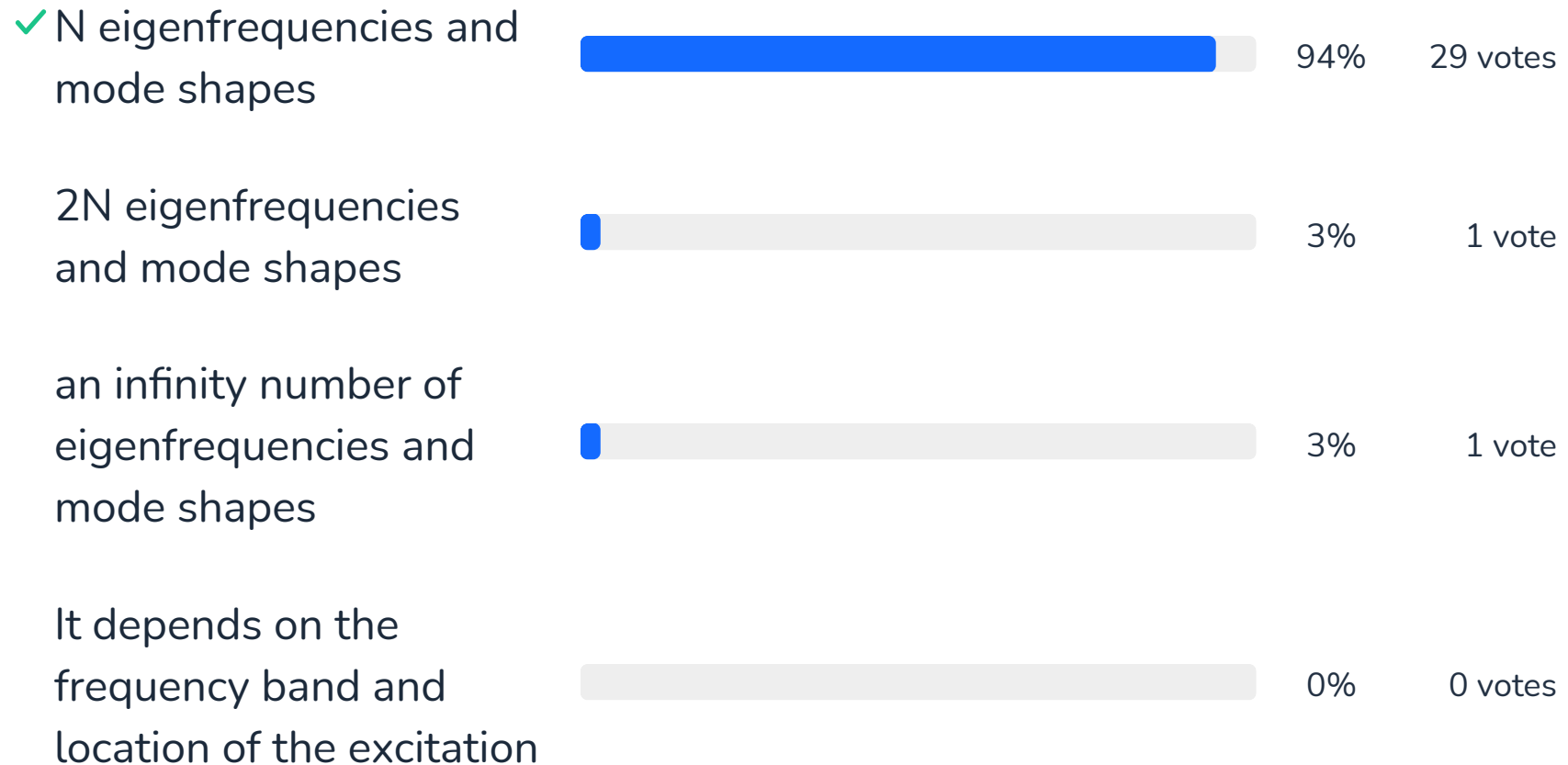


# VIB2021 : Finite Elements

Number of participants: 44

1

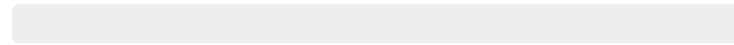
## A finite element model with $N$ degrees of freedom has



2

The damping matrix for Rayleigh damping is given by

$C = \text{constant}$



0%

0 votes

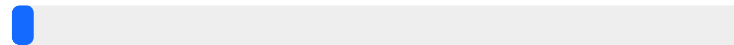
✓  $C = \alpha K + \beta M$



97%

36 votes

$C = \alpha \omega K$

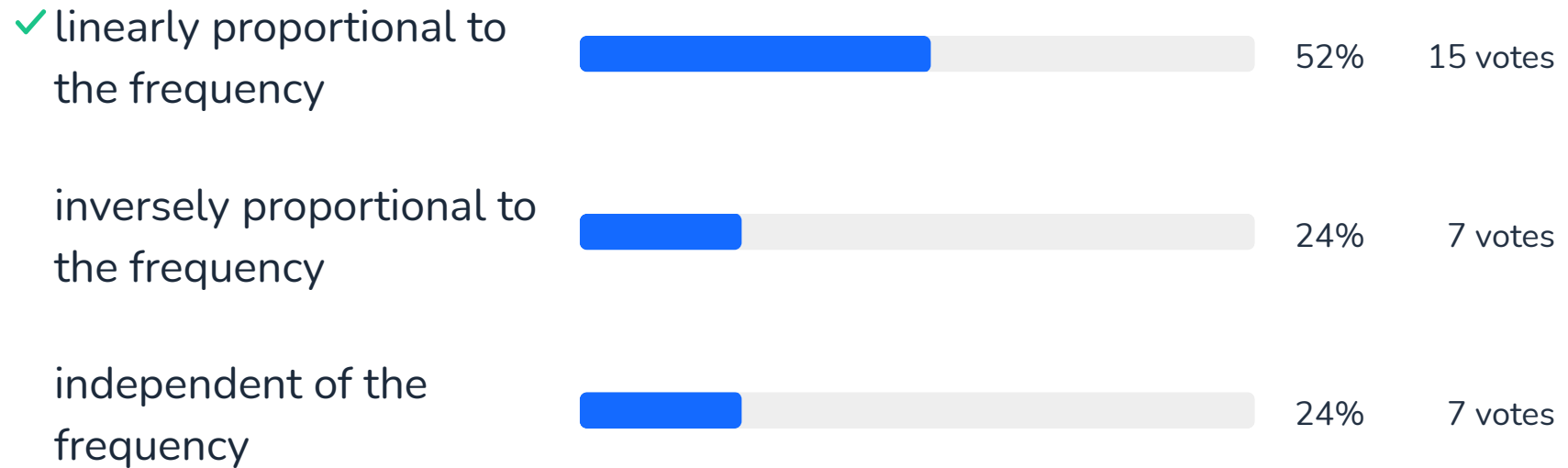


3%

1 vote

3

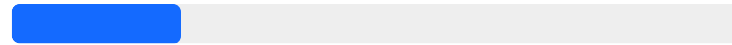
For a global viscous damping model, the modal damping coefficient is



4

## The use of a material loss factor for damping leads to modal damping coefficients

which depend linearly on the frequency and the loss factor



23%

6 votes

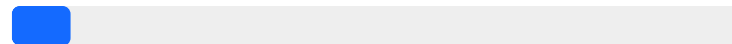
✓ which are constant with the frequency equal to the loss factor divided by 2



69%

18 votes

which evolve with the square of the frequency and proportionally to the loss factor



8%

2 votes

5

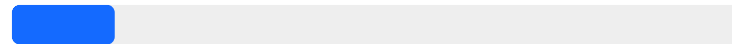
If a structure is made of a single material with a loss factor  $\eta=0.02$ , the modal damping coefficient for all modes is equal to



6

## When using local damping models

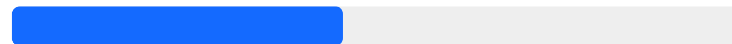
the damping matrix in the modal domain remains diagonal



14%

3 votes

✓ the damping matrix in the modal domain is not diagonal



45%

10 votes

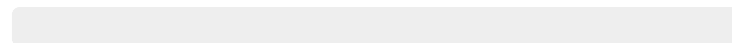
✓ the damping matrix can be made diagonal if the damping is small



59%

13 votes

damping can be neglected when solving the equations of motion



0%

0 votes

7

For structures which undergo base excitation, the mode shapes are computed

