

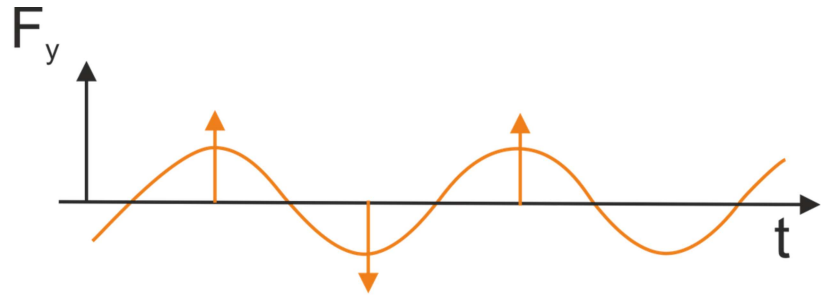
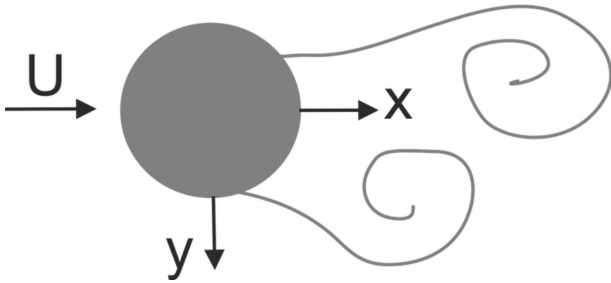
# **VIB : Flow induced vibrations**

Number of participants: 41



1. Which type of flow induced vibrations does this schematic represent ?

20 respondents



Vortex

Vortex

vortex

Alternating vortices

Gallopig

constatn

Vortex induced vibration

Turbulent

Vortex induced vibration

Vortex induced

Dynamic vortex frequency

Flutter

Vortex induced vibration

Vortex excitation

Vortex

Vortex induced

Turbulent

Vortex

Vortex

Induced vortex

## 2. Vortex induced vibrations is caused by

**12 correct answers**  
out of 26 respondents

A turbulent flow



27%

7 votes



A constant flow



46%

12 votes

Either a constant or a  
turbulent flow



27%

7 votes



### 3. When a cylinder is excited by VIV it vibrates in the direction

23 correct answers  
out of 25 respondents

- of the flow 4% 1 vote
- which depends on the shape of the object 4% 1 vote
- perpendicular to the flow 92% 23 votes



### 4. Which statements about VIV are correct? (Multiple answers may apply)

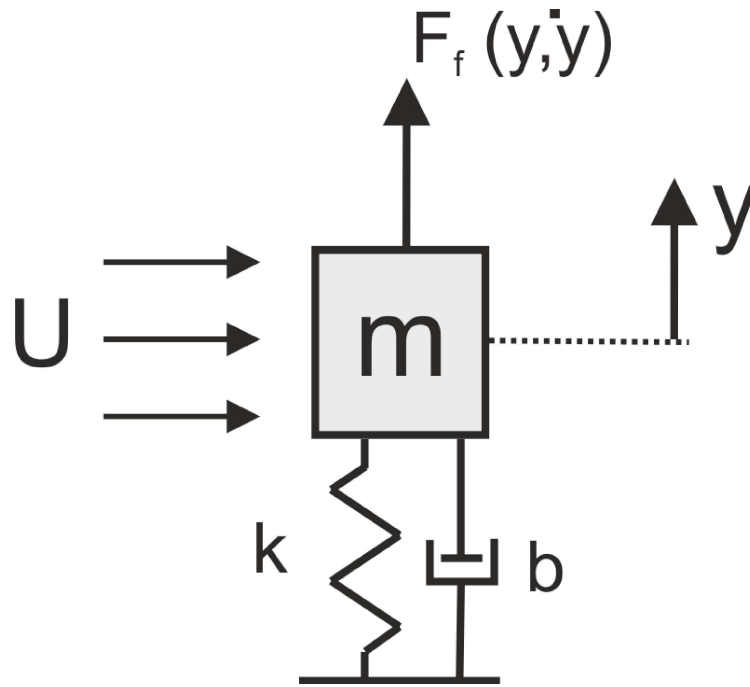
9 correct answers  
out of 29 respondents

- VIV only occur for cylindrical structures 3% 1 vote
- VIV are an instability of the system 28% 8 votes
- The vortex shedding frequency depends on the wind speed 93% 27 votes
- The vortex shedding frequency depends on the resonance frequency of the structure 31% 9 votes
- Tall and slender towers (such as chimney's) are susceptible to VIV as their natural frequencies can match the vortex shedding frequency at certain wind speeds 69% 20 votes



5. In self-excited vibrations, the force  $F_f$  due to the flow is a function of

29 correct answers  
out of 32 respondents



the displacement of the flexible object



2 votes

the velocity of the flexible object



1 vote

both the displacement and the velocity of the flexible object



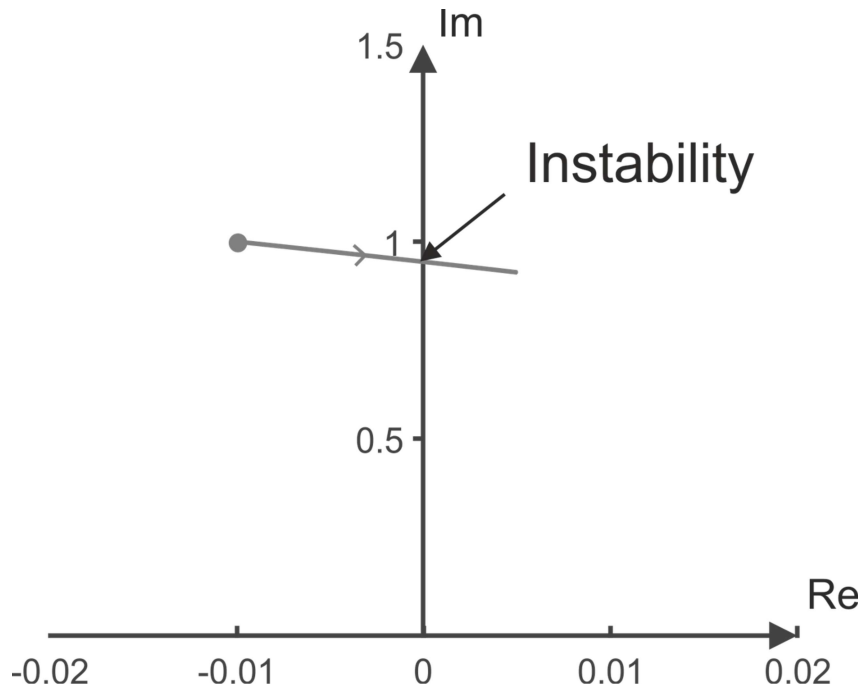
29 votes





## 6. This is an example of

27 correct answers  
out of 30 respondents

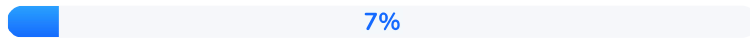


Galopping



27 votes

Divergence



2 votes

VIV

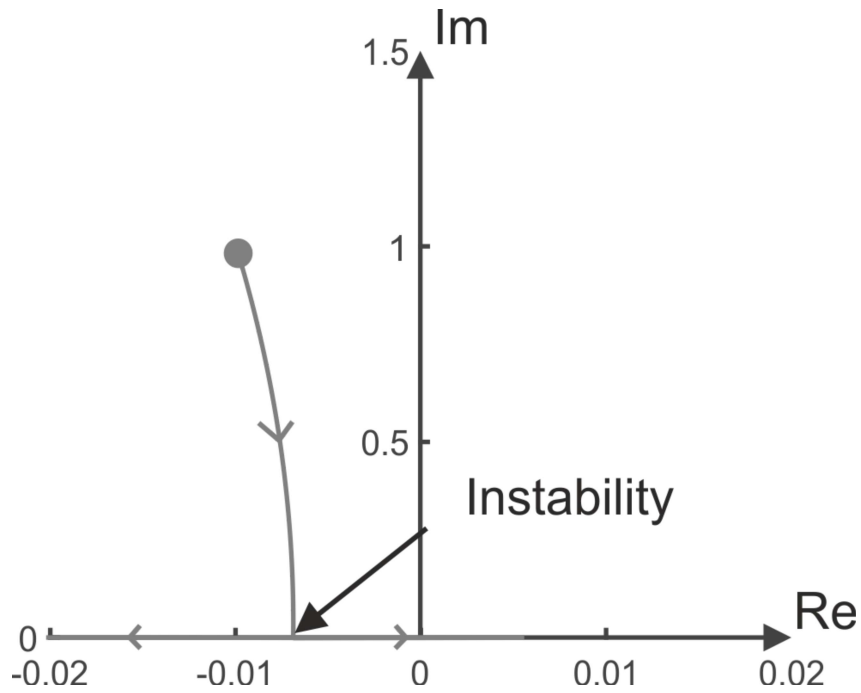


1 vote

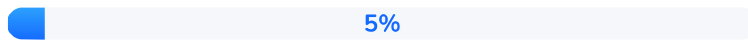


7. This is an example of instability in the form of

16 correct answers  
out of 19 respondents



Galopping



1 vote

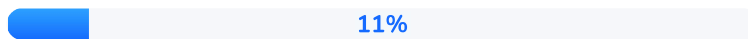


Divergence



16 votes

Coupled mode flutter

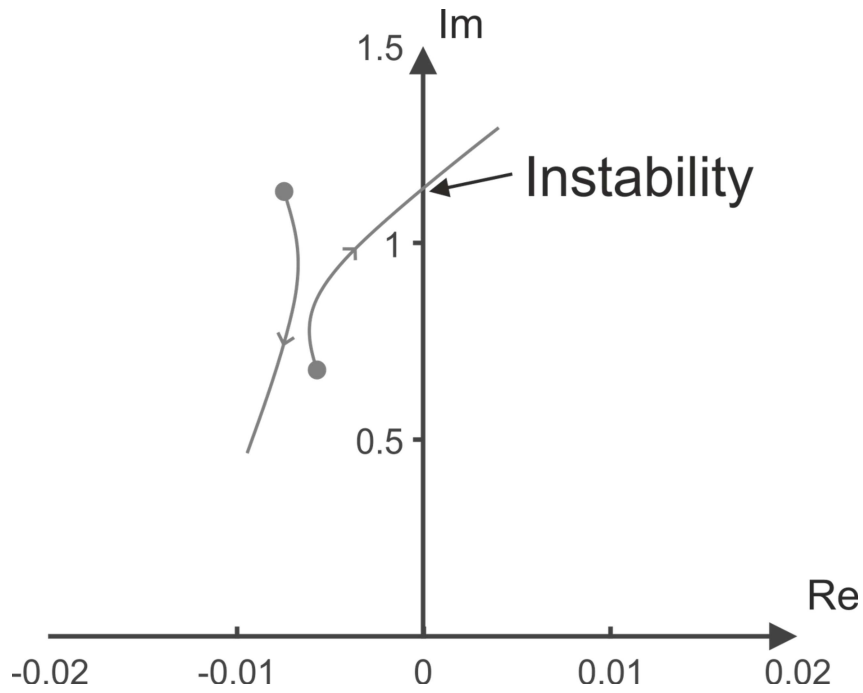


2 votes



8. This is an example of instability in the form of

0 correct answer  
out of 0 respondent



Galopping

0%

0 votes

Divergence

0%

0 votes



Coupled mode flutter

0%

0 votes



9. Hamilton Serious Porpoising \_ Formula 1 2022.mp4

0 respondent



10. What was happening to Hamilton's Mercedes? (Although in F1 it always is a bit of a guess)

20 correct answers out of 33 respondents

