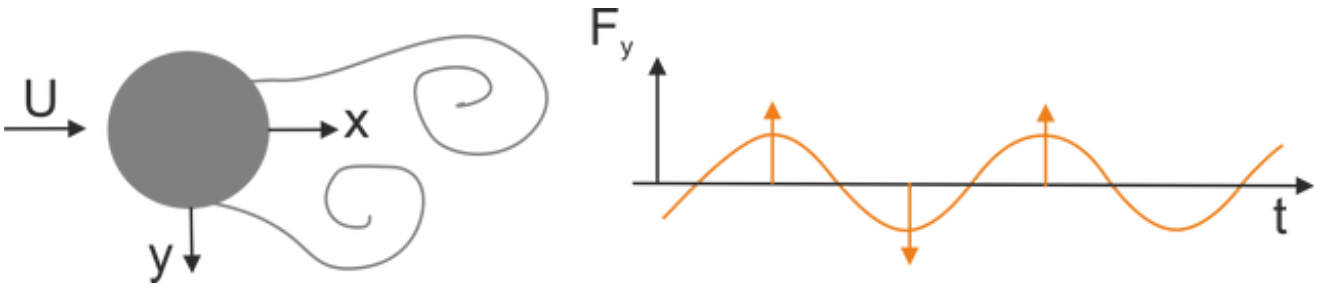
VIB : Flow induced vibrations

Number of participants: 18

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

9 respondents



- Vortex induced vibrations
- Vortex
- Vortex induced vibrations
- Vortex
- Vortex induced
- vortex induced vibrations
- Periodic vortex
- Votex

Constant flow

2. Vortex induced vibrations is caused by

5 correct answers
out of 11 respondents

	A turbulent flow	27%	3 votes
✓	A constant flow	45%	5 votes
	Either a constant or a turbulent flow	27%	3 votes

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

10 correct answers
out of 13 respondents

	of the flow	8%	1 vote
	which depends on the shape of the object	15%	2 votes
✓	perpendicular to the flow	77%	10 votes

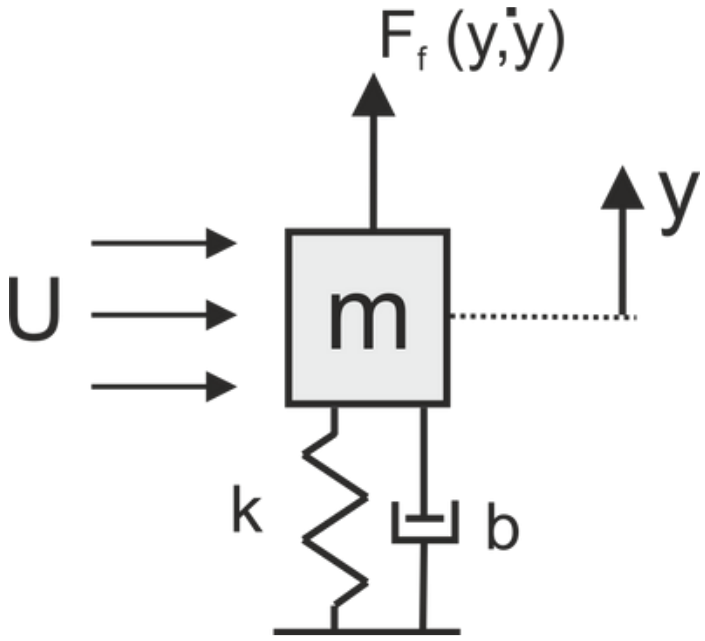
4. Which statements about VIV are correct? (Multiple answers may apply)

1 correct answer
out of 14 respondents

	VIV only occur for cylindrical structures	21%	3 votes
	VIV are an instability of the system	50%	7 votes
✓	The vortex shedding frequency depends on the wind speed	43%	6 votes
	The vortex shedding frequency depends on the resonance frequency of the structure	36%	5 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	57%	8 votes

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

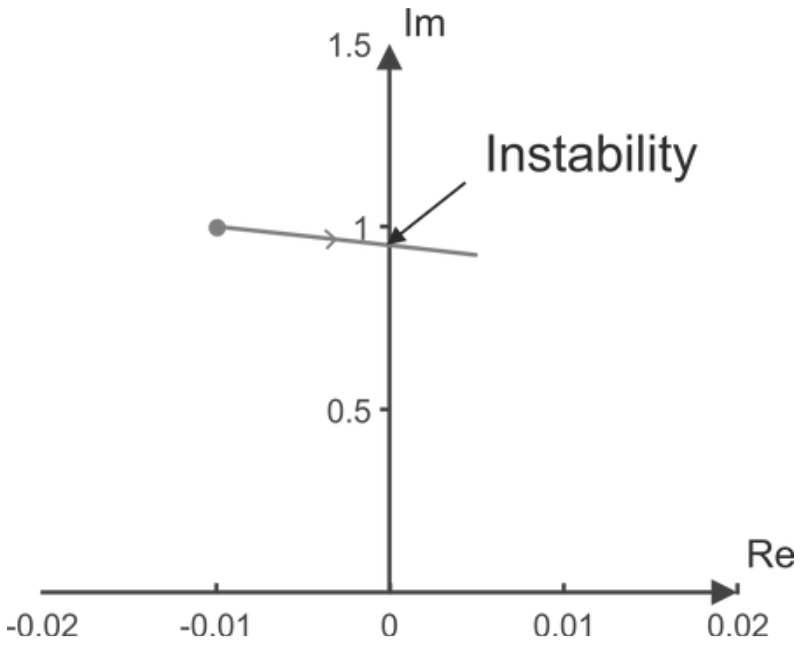
14 correct answers
out of 14 respondents



	the displacement of the flexible object	0%	0 votes
	the velocity of the flexible object	0%	0 votes
✓	both the displacement and the velocity of the flexible object	100%	14 votes

6. This is an example of

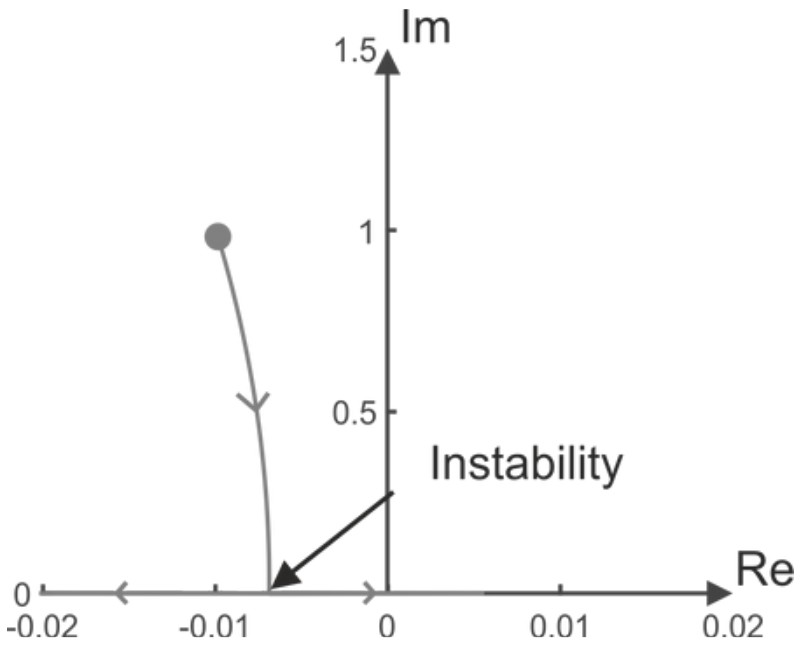
9 correct answers
out of 12 respondents



✓	Galopping (also called single mode flutter)	75%	9 votes
	Divergence	8%	1 vote
	VIV	17%	2 votes

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

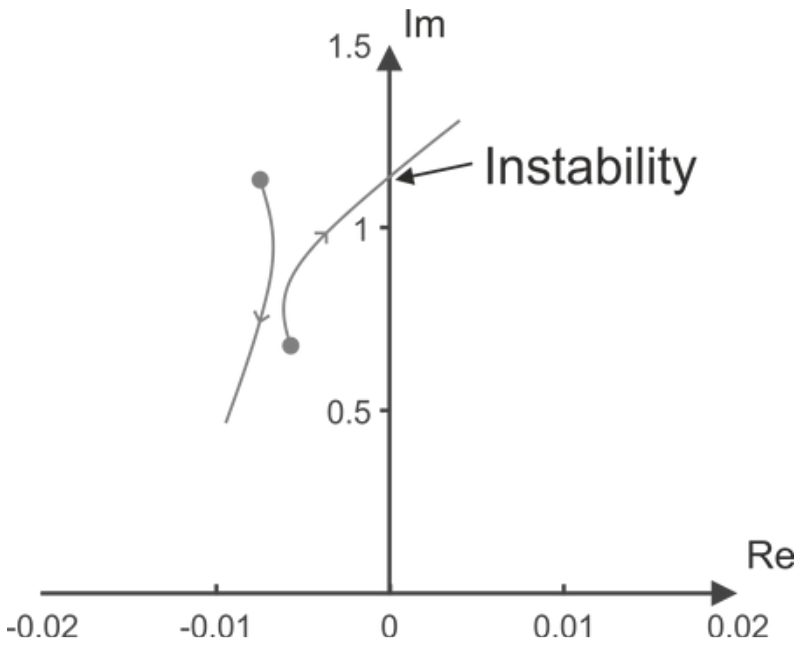
12 correct answers
out of 16 respondents



	Galopping	0%	0 votes
✓	Divergence	75%	12 votes
	Coupled mode flutter	25%	4 votes

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

15 correct answers
out of 16 respondents



	Galopping	6%	1 vote
	Divergence	0%	0 votes
✓	Coupled mode flutter	94%	15 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)

11 correct answers
out of 13 respondents

	VIV	8%	1 vote
✓	Self excited vibrations	85%	11 votes
	They really designed a bad car this year	8%	1 vote