

# VIB : Flow induced vibrations

Number of participants: 19

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

9 respondents

Vortex shedding

Constant flow

Turbulence

Von Karman Street

Constant flow

Vortex

Constant flow directed to a cylinder

Turbulence

Vortex

## 2. Vortex induced vibrations is caused by

**6 correct answers**  
out of 18 respondents

	A turbulent flow	39%	7 votes
✓	A constant flow	33%	6 votes
	Either a constant or a turbulent flow	28%	5 votes

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

**12 correct answers**  
out of 15 respondents

	of the flow	13%	2 votes
	which depends on the shape of the object	7%	1 vote
✓	perpendicular to the flow	80%	12 votes

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

3 correct answers  
out of 16 respondents

	VIV only occur for cylindrical structures	19%	3 votes
	VIV are an instability of the system	31%	5 votes
✓	The vortex shedding frequency depends on the wind speed	63%	10 votes
	The vortex shedding frequency depends on the resonance frequency of the structure	44%	7 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	63%	10 votes
		13%	2 votes

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

0 correct answer  
out of 0 respondent

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	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	0%	0 votes

## 6. This is an example of

**1 correct answer**  
out of 2 respondents

✓	Galopping	50%	1 vote
	Divergence	50%	1 vote
	VIV	0%	0 votes

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

0 correct answer  
out of 0 respondent

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	Galopping	0%	0 votes
✓	Divergence	0%	0 votes
	Coupled mode flutter	0%	0 votes

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

0 correct answer  
out of 0 respondent

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	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)

0 correct answer out of 0 respondent

	VIV	0%	0 votes
✓	Self excited vibrations	0%	0 votes
	They really designed a bad car this year	0%	0 votes