

1) stima delle caratteristiche di sollecitazione  
preliminare

- periodo proprio stimato con formule semplici
- tutti gli elementi principali aguali

2) successive (piccole) correzioni

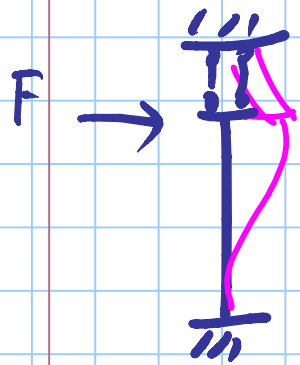
- Time più precisa del periodo.

Time della riga  $\nearrow$  in maniera "globale"  
formula di Rayleigh  $\searrow$  per singoli elementi.

- Time più precisa della riga

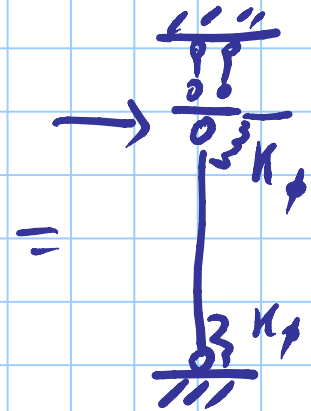
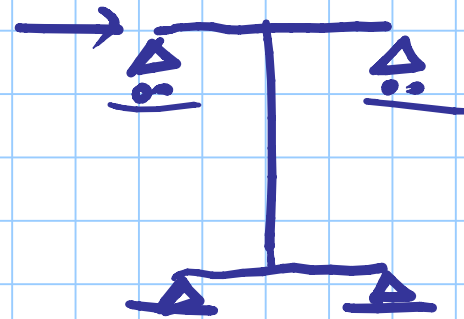
Time della riga — per singoli elementi

# RIGIDEZZA DI UN PILASTRO



per Travi  $\infty$  rigide

$$k = \frac{12 EI}{l^3}$$



per Travi deformabili

$$k = \frac{12 EI}{l^3} \frac{1}{1 + \frac{1}{2} \left( \frac{I_p/l_p}{I_c/l_c} + \frac{I_r/l_r}{I_c/l_c} \right)}$$

$\begin{matrix} \text{sup} & \text{inf} \end{matrix}$

$$K_{t=\infty} = \frac{12 EI}{l^3} = \frac{12 \times 3,1500 \times 85,7500 \times 10^4}{3.20^3 \times 10^3 \times 10^3} = 98.92 \text{ kN/mm}$$

$$I = 857500 \text{ cm}^4 \times 10^4$$

$$l = 3.20 \text{ m} \times 10^3 \times 13 \text{ mil}$$

$$E = 31500 \text{ N/mm}^2 \quad 1286 \text{ kN/mm}$$

$$\frac{\sum I_p / l_p}{\sum I_t / l_t} = \frac{13 \times 857500 / 3.20}{15 \times 540000 / 4.00} = 1.72$$

$$\frac{1}{1 + \frac{1}{2}(1.72 + 1.72)} = 0.3676$$

$$1 + \frac{1}{2}(1.72 + 1.72)$$

$$K = 472.8 \text{ kN/mm}$$

$$K = \frac{V}{\delta} \Rightarrow \delta = \frac{V}{K}$$

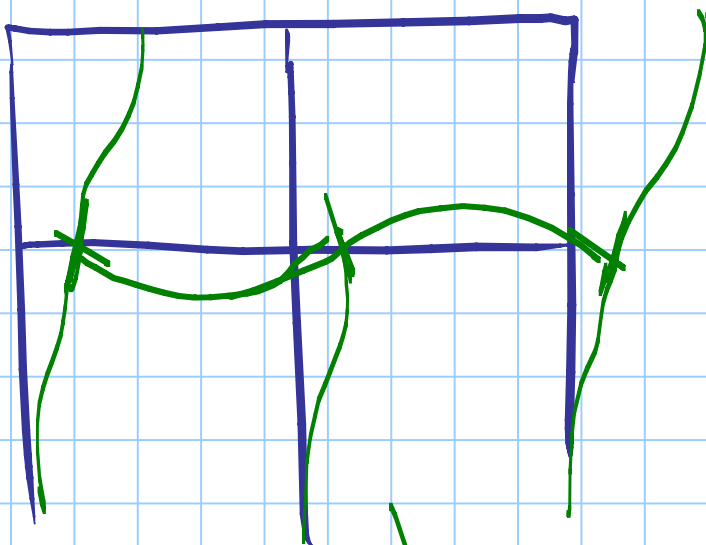
V	K	$\delta_{red}$	$\mu$
549.6	384.3	1.43	12.48
968.2	472.7	2.05	11.05
1285.3	472.7	2.72	9.00
1500.9	472.7	3.18	6.29
1593.8	511.8	3.11	3.11

$$T = 2\pi \sqrt{\frac{\sum m u^2}{\sum F u}}$$

$W [kN]$	$m [t]$	$F [kN]$
3419	348.5	549.6
3235	329.8	418.6
3235	"	317.1
3235	"	215.6
2632	268.3	92.5



grazie a  
Alfio Giardina



per questo pil.

perdersi

$$I_k = \infty$$