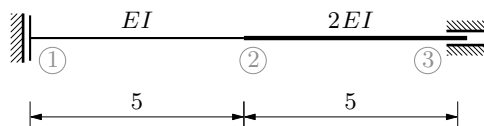


GS 2. — kolokvij (2023./2024.)

Zadatak A3.

Nacrtajte utjecajnu liniju za reaktivni moment u lijevom ležaju!



izbor metode crtanja momentnoga dijagrama:

inženjerska metoda pomakā: nepoznanice: $\varphi_2, w_1, w_2 \Rightarrow 3$ nepoznanice

inženjerska metoda pomakā sa statičkom kondenzacijom:

nepoznanice: $\varphi_2, w_2 \Rightarrow 2$ nepoznanice

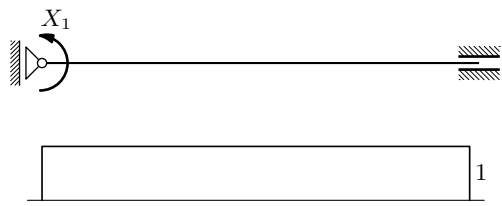
metoda sila: sistem je jedanput statički neodređen $\Rightarrow 1$ nepoznanica

smisao vrtnje reaktivnoga momenta: \curvearrowright

metoda sila, naravno:

	o. s.	$\delta_{1,1} X_1 + \delta_{1,0} = 0$
	m_1	$\delta_{1,1} = \frac{1}{EI} (1 \cdot 5) \cdot 1 + \frac{1}{2EI} (1 \cdot 5) \cdot 1$
	w	$= \frac{15}{2EI}$
	w	$\delta_{1,0} = -1$
	M	$X_1 = \frac{2EI}{15}$
		$M(x) = X_1 m_1(x)$

ili (jednostavnije):



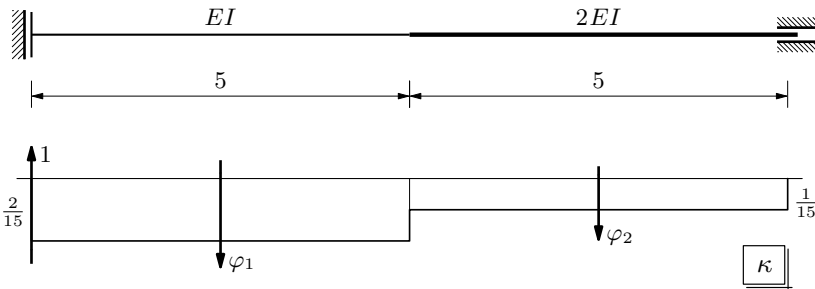
o. s.

$$\delta_{1,1} X_1 = \bar{\delta}_{1,0} = -1$$

$$\delta_{1,1} = \frac{15}{2EI}$$

$$X_1 = -\frac{2EI}{15} \quad \text{Etđ.}$$

utjecajna linija:

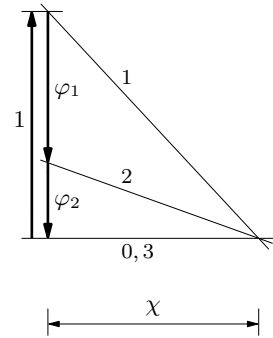
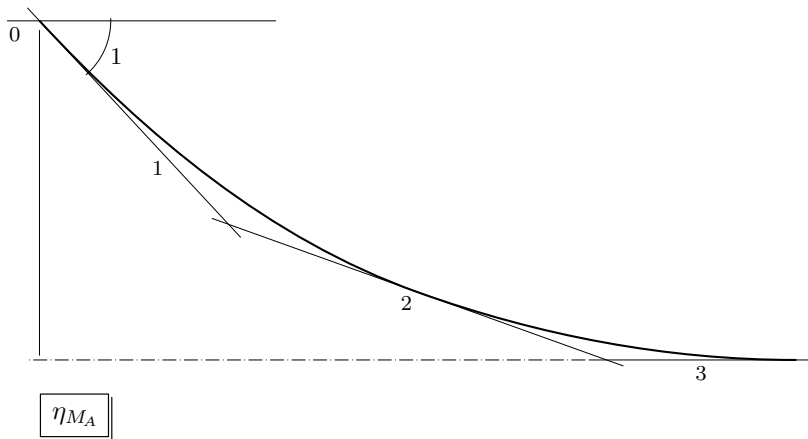


mjerilo duljina:

$$1 \text{ [cm]} :: 1 \text{ [m]}$$

mjerilo kutova:

$$1 \text{ [cm]} :: \frac{1}{3}$$



$$\varphi_1 = \frac{2}{15} \cdot 5 = \frac{2}{3}$$

$$\varphi_2 = \frac{1}{15} \cdot 5 = \frac{1}{3}$$

$$\chi = 1$$