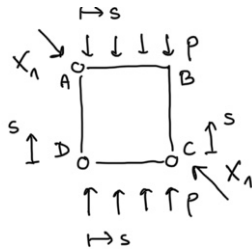


Prova Scritta (telematica) del 25 gennaio 2022

Sintesi della soluzione

2)



SISTEMA H_0
 AB) $N_0 = 0$, $T_0 = \frac{pl}{2} - ps$, $M_0 = \frac{pl}{2}s - \frac{ps^2}{2}$

BC) $N_0 = -\frac{pl}{2}$, $T_0 = 0$, $M_0 = 0$

DC) $N_0 = 0$, $T_0 = -\frac{pl}{2} + ps$, $M_0 = -\frac{pl}{2}s + \frac{ps^2}{2}$

DA) $N_0 = -\frac{pl}{2}$, $T_0 = 0$, $M_0 = 0$

SISTEMA F_1

AB) $N_1 = -\frac{\sqrt{2}}{2}$, $T_1 = -\frac{\sqrt{2}}{2}$, $M_1 = -\frac{s\sqrt{2}}{2}$

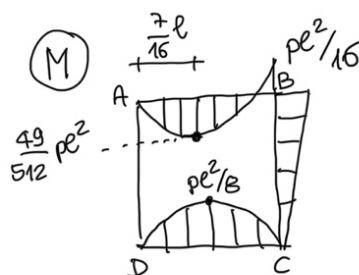
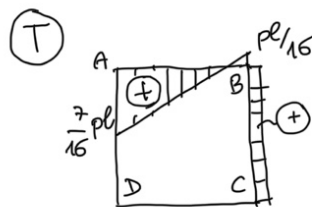
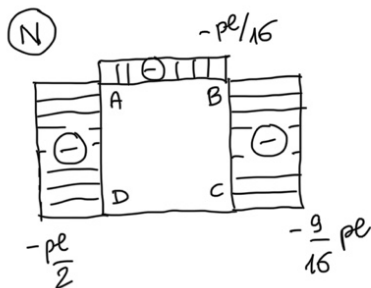
BC) $N_1 = -\frac{\sqrt{2}}{2}$, $T_1 = \frac{\sqrt{2}}{2}$, $M_1 = \frac{s\sqrt{2}}{2}$

DC) $N_1 = T_1 = 0$, $M_1 = 0$

DA) $N_1 = T_1 = 0$, $M_1 = 0$

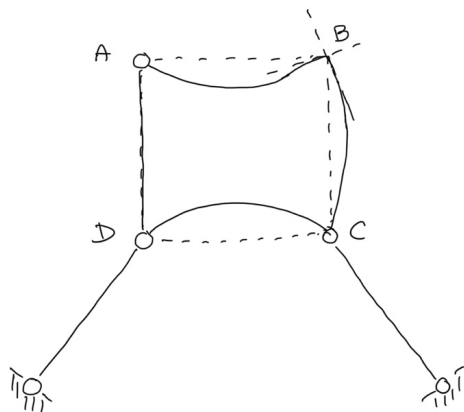
$$\eta_{1,0} = \int_A^B \frac{M_1 M_0}{EJ} ds = -\frac{pl^4}{24EJ\sqrt{2}} \quad ; \quad \eta_{1,1} = 2 \int_A^B \frac{M_1^2}{EJ} ds = \frac{l^3}{3EJ}$$

$$X_1 = \frac{pl\sqrt{2}}{16}$$



(Docenti: Prof. Ing. *Stefano Bennati*, Prof. Ing. *Riccardo Barsotti*)

3) Configurazione deformata



4)

$$x_1 = \frac{pe\sqrt{2}}{16} \frac{1}{1 + \frac{3J\sqrt{2}}{Ae^2}}$$

$$\frac{3J\sqrt{2}}{Ae^2} \approx 0,085$$