

verifichiamo i bordi:

$$v(0) = 0 \quad v(l) = 0$$



$$\frac{dv}{ds}(0) = 0$$

$$v(0) = C_4 = 0$$

$$\frac{dv}{ds}(0) = C_3 = 0$$

$$v(l) = \frac{q_2}{EI} \cdot \frac{l^4}{24} + \frac{C_1 l^3}{6} + \frac{C_2 l^2}{2} = 0$$

ci troviamo  $C_1$  in funzione di  $C_2$ :

$$C_1 = \frac{q_2 l}{EI} \cdot \frac{-3C_2}{l} \quad \text{per porre } C_2:$$

SAPENDO CHE in s.l.  $M = EI \chi = 0$

$$\hookrightarrow EI \frac{d\chi}{ds} = 0 \quad \chi = \frac{dv}{ds}$$

$$EI \frac{d^2 v}{ds^2} = 0$$

$$\hookrightarrow \left( -\frac{q_2}{EI} \frac{l^2}{2} + C_1 l + C_2 \right) EI = 0$$

SOSTITUISCO  $C_1$

$$\left( -\frac{q_2}{EI} \cdot \frac{l^2}{2} + \frac{q_2 l^2}{EI} \cdot \frac{-3C_2}{l} + C_2 \right) EI = 0$$

$$-\frac{q_2}{EI} \cdot \frac{l^2}{2} + \frac{q_2 l^2}{EI} - 2C_2 EI = 0$$

$$2C_2 EI = -\frac{q_2 l^2}{2} + \frac{q_2 l^2}{4} = -\frac{q_2 l^2}{4}$$

$$\boxed{C_2 = -\frac{q_2 l^2}{8EI}}$$

$$C_1 = \frac{q_2 l}{EI} + \frac{3q_2 l^2}{8EI} = \frac{2q_2 l}{8EI} + \frac{3q_2 l}{8EI} =$$

$$\boxed{C_1 = \frac{5q_2 l}{8EI}}$$