

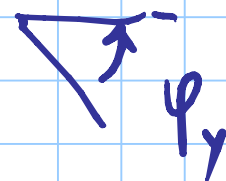
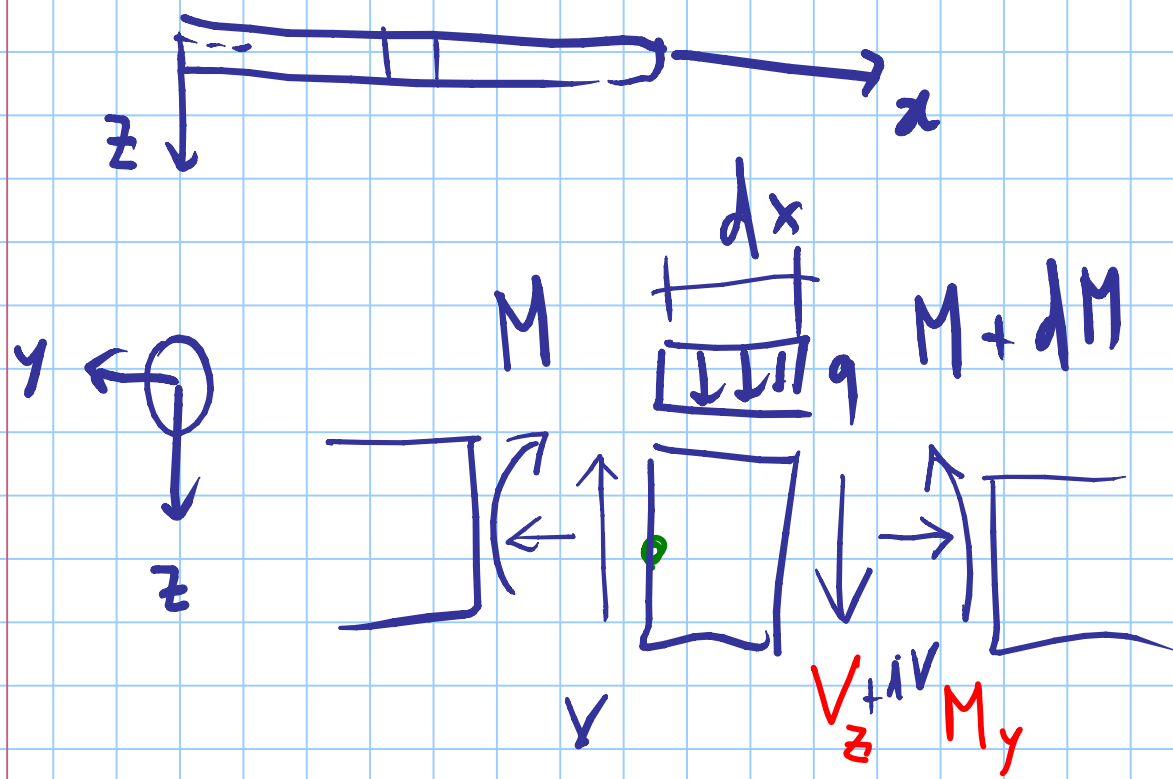
Titolo nota

23/10/2013

CADDE M,

spost. u_x, u_y, u_z

rot. $\varphi_x, \varphi_y, \varphi_z$



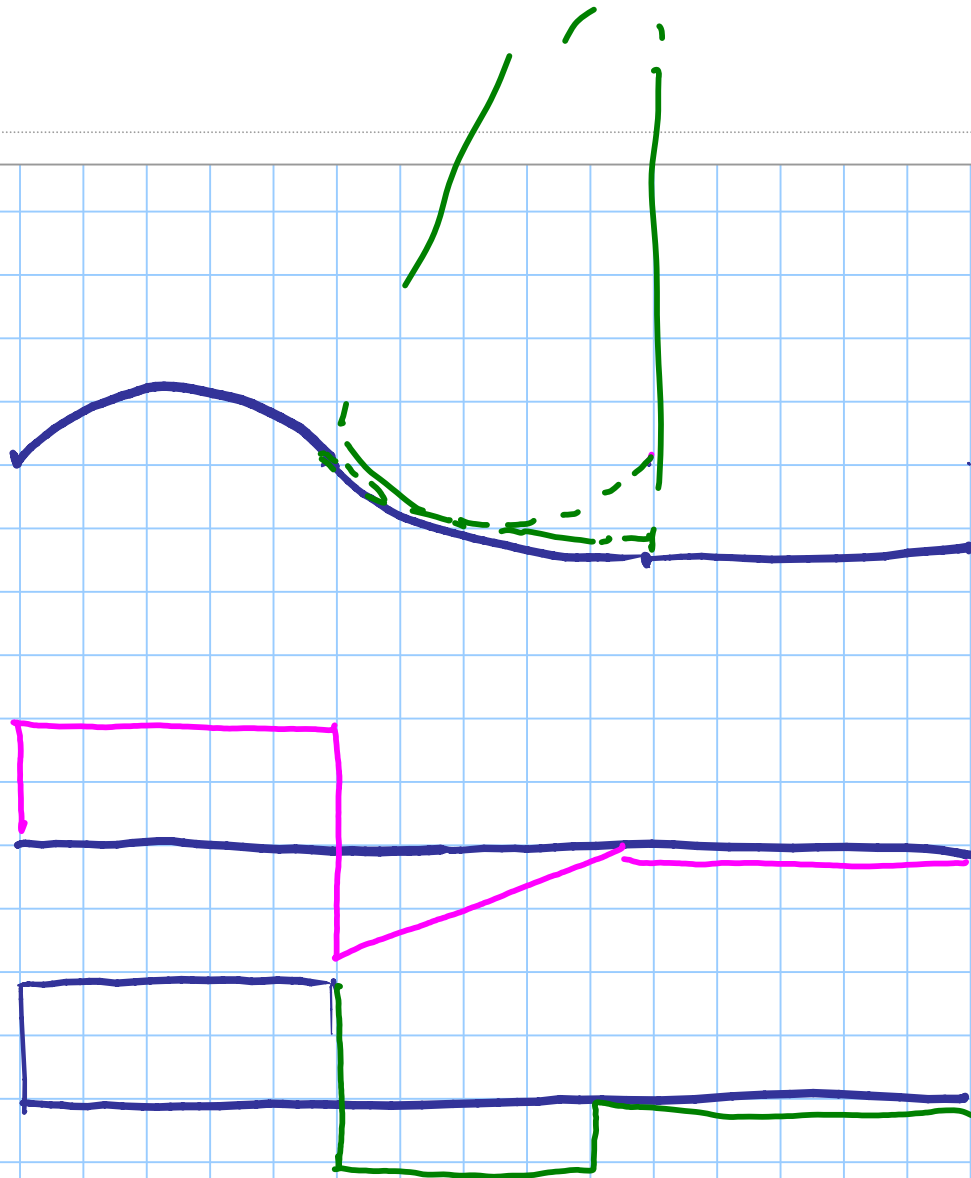
taglio ~~T~~ V

momento fless. M
spazio norm. N

momento torcente T

$$dV + q dx = 0$$

$$dM - V dx = 0$$

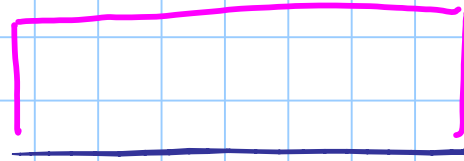
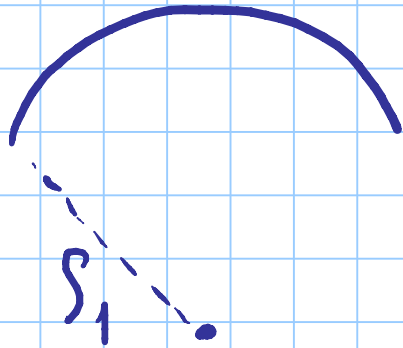


GIORGIA
FERLAZZO

$$w_z''(x) = \frac{-M(x)}{EI} = \chi$$

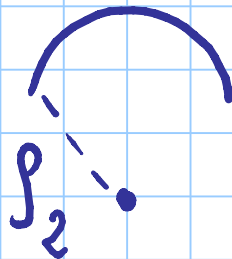
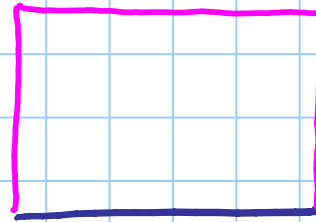
$$M_z''(x) = \frac{Q(x)}{EI}$$

GIUSEPPE
RAFFAELE



$$\chi = \text{cost} \rightarrow M(n) = \text{cost}$$

CURVATURA $\chi = \frac{1}{\rho}$



$$\chi_2 > \chi_1$$

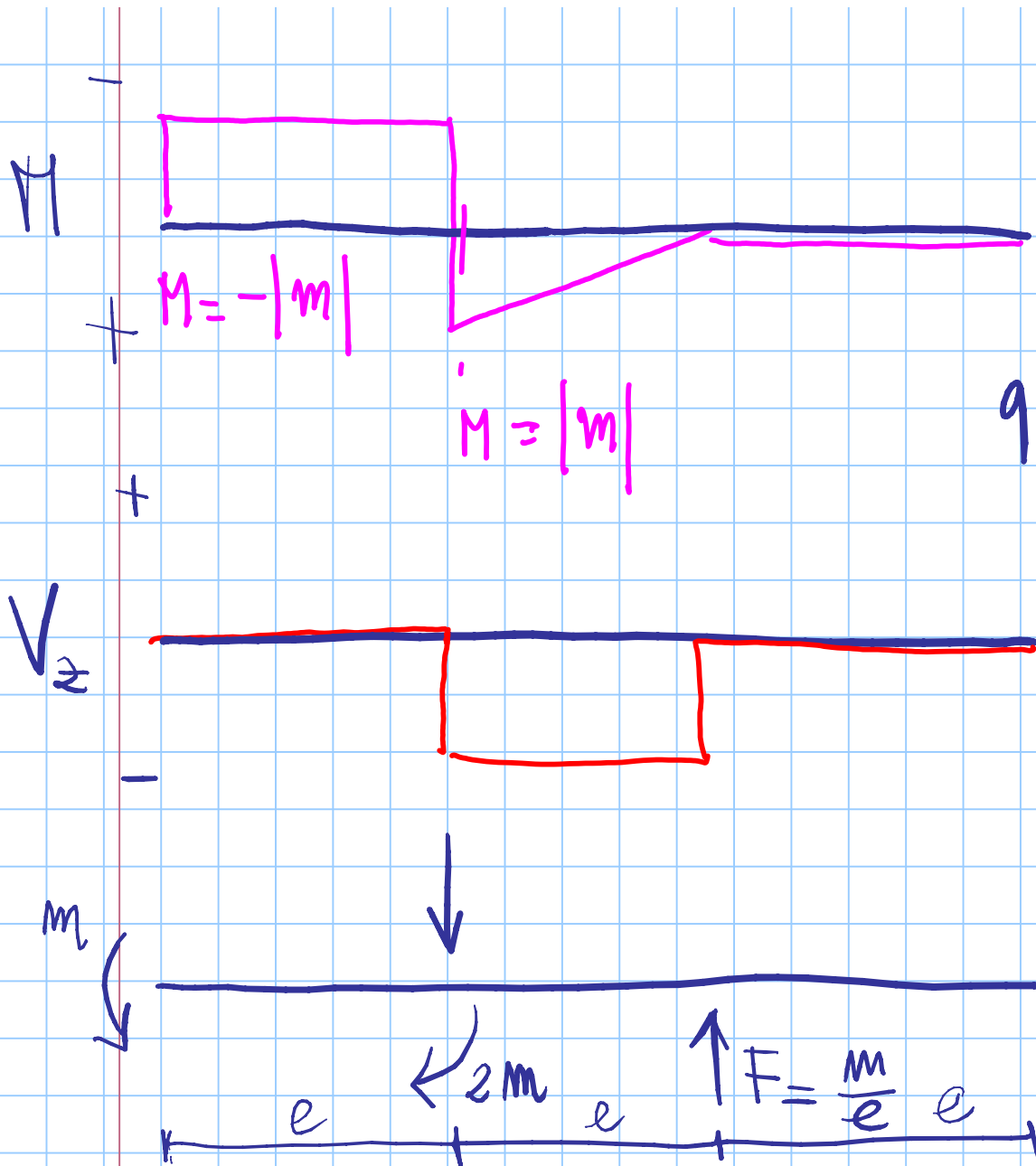
MAURIZIO
PAPA

$q_z = -V_z'$ CHIARA
SPINALI

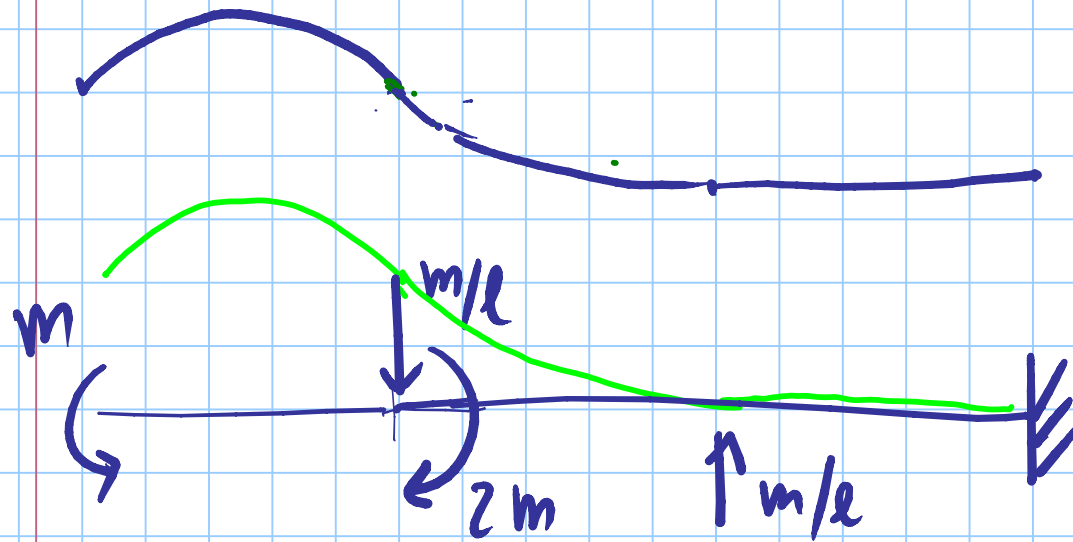
carico $q(x)$

$$w_z''' = -\frac{V_z}{EI}$$

$$V_z = M_y'$$

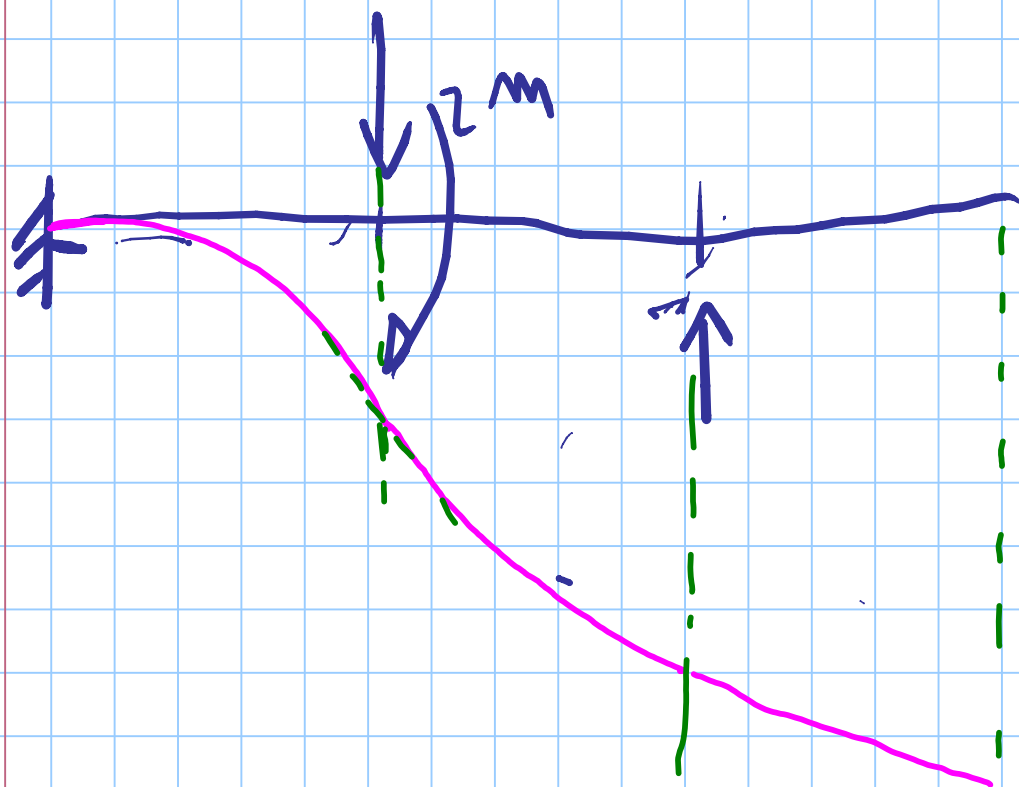
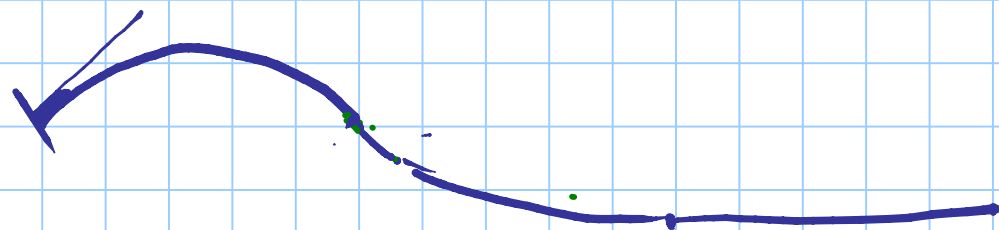


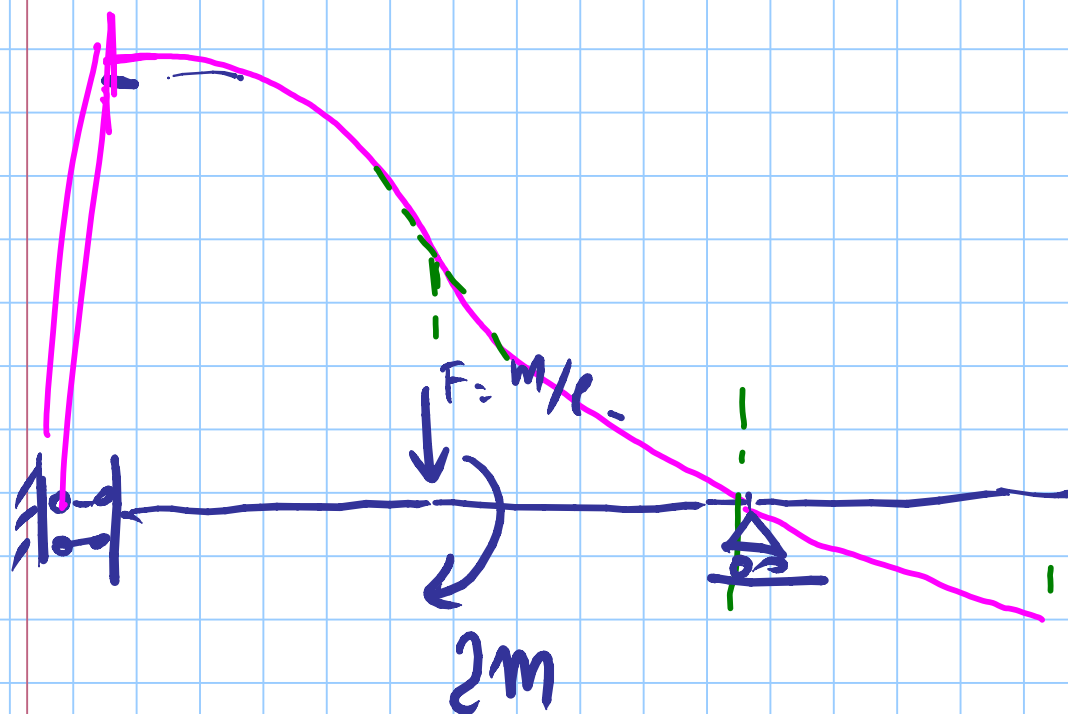
ANDREA
MAZZEO



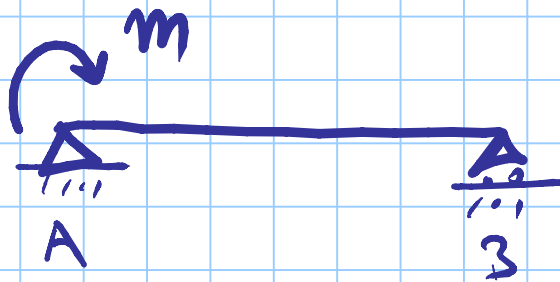
SALVATORE
FALCONE





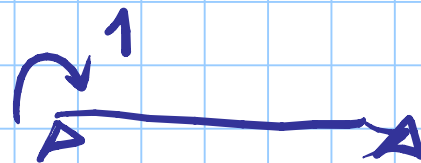
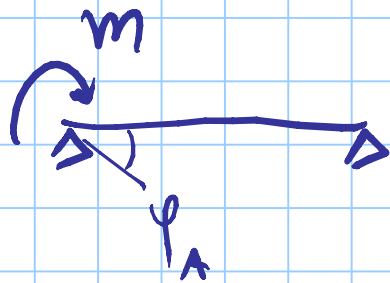


CALCOLO DI SPOSTAMENTI, ROTAZIONI



calcolare φ_A

- teorema forze unitarie, app. di PLV



$$1 \cdot \varphi_A = \int M_{aux} \cdot \frac{M_{orig}}{EI} dx$$

— equation della linea elastica

$$u_z^{iv} = \frac{q_z}{EI}$$

$$u_z'' = -\frac{M}{EI}$$

$$\hookrightarrow u_z = C_3 x^3 + C_2 x^2 + C_1 x + C_0$$

$$u_z(0) = 0$$

$$u_z(l) = 0$$

$$u_z''(0) = -\frac{M}{EI}$$

$$u_z''(l) = 0$$

$$\hookrightarrow M = m \left(1 - \frac{x}{l}\right)$$

- analogia (corollari) di Mohr

$$\frac{du_z}{dx} = -\varphi$$

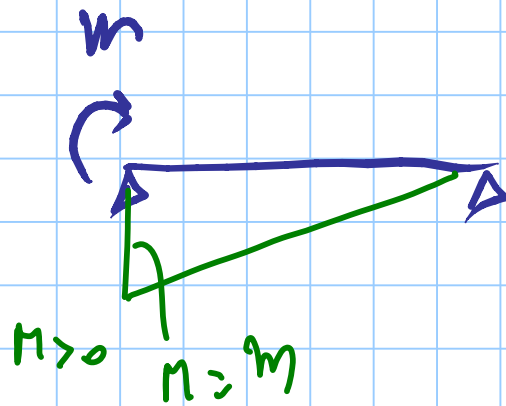
$$\frac{dM}{dx} = V$$

$$\frac{d\varphi}{dx} = \frac{M}{EI}$$

$$\frac{dV}{dx} = -q$$

applicando un carico pari a $-\frac{M}{EI}$

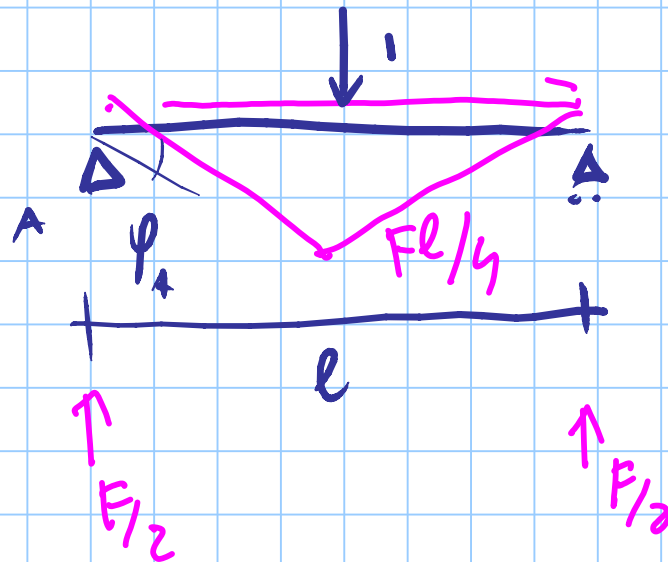
si trovano V ed M che corrisp. a φ e u_z



$$q^* = -\frac{m}{EI}$$

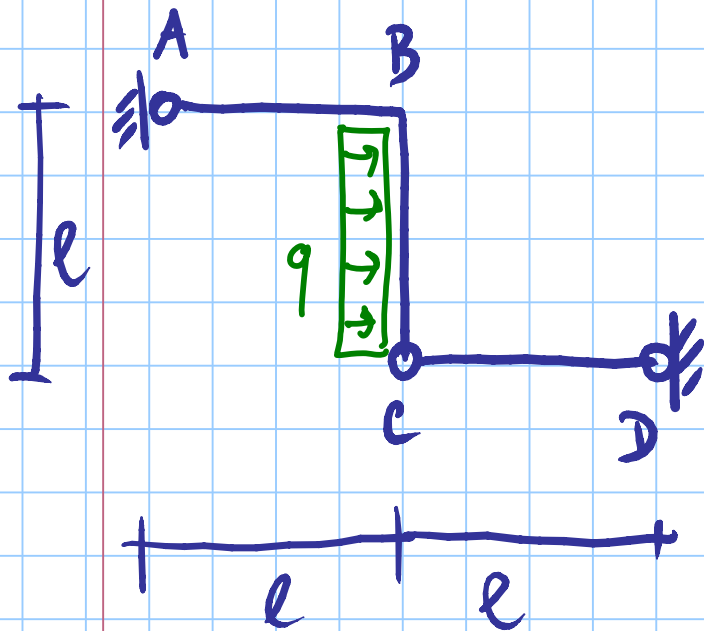
Diagram showing a beam of length l with a triangular load distribution q^* acting downwards. The load is zero at the left end and maximum at the right end. The beam is supported by a pin at the left end and a roller at the right end.

$$\frac{2}{3} \left[-\frac{m}{EI} \frac{l}{2} \right] = -\frac{ml}{3EI}$$

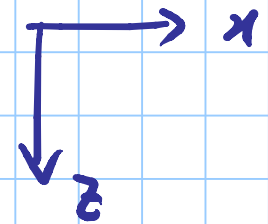


$$\frac{F l^2}{8 E I} \quad \frac{F l^3}{8 E I}$$

$$\frac{F l^2}{16 E I}$$



quant. val
 μ_z^B ?

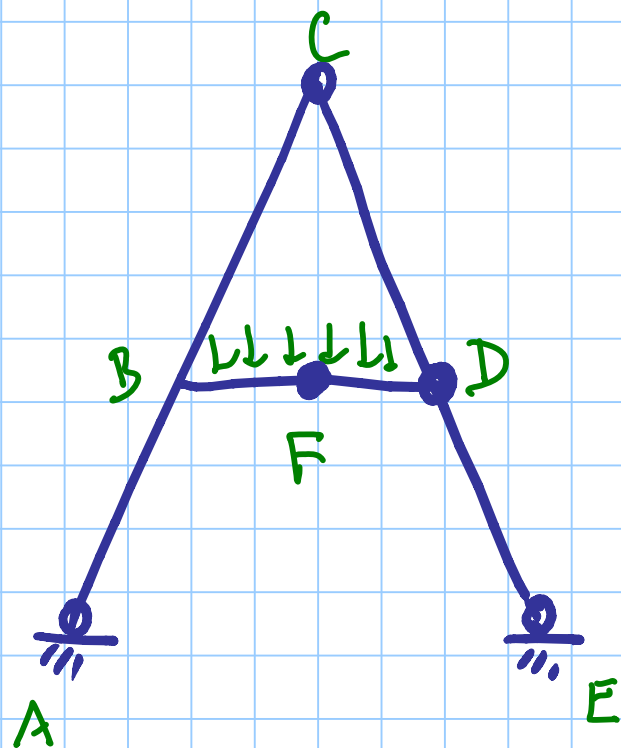


esta qm. cont.

A $\mu_z = \infty$

I m.u. inu

E m.d. d.



il punto F
si sposta in orizzontale?