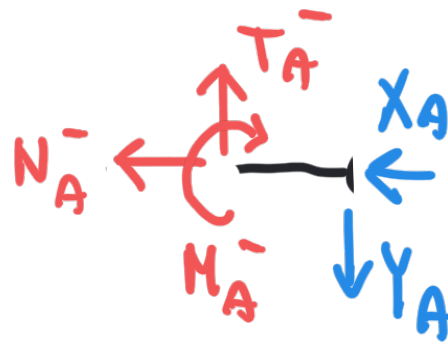
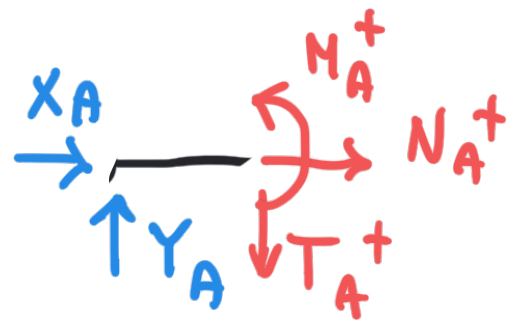


$$\left. \begin{array}{l} M_A^+ = 0 \\ M_A^- = 0 \end{array} \right\} \text{estremi}$$

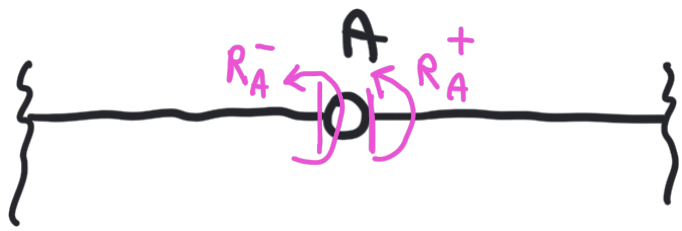
$$\left. \begin{array}{l} N_A^+ - N_A^- = 0 \\ T_A^+ - T_A^- = 0 \end{array} \right\} \text{valori} \\ \text{raccordo}$$



$$\begin{array}{l} M_A^- = 0 \\ N_A^- = -X_A \\ T_A^- = Y_A \end{array}$$

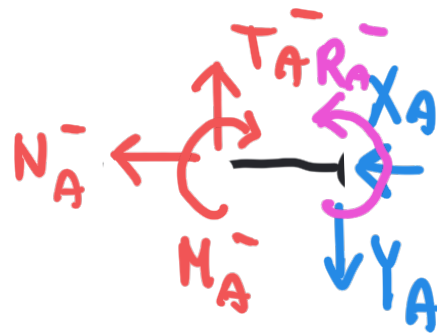


$$\begin{array}{l} M_A^+ = 0 \\ N_A^+ = -X_A \\ T_A^+ = Y_A \end{array}$$

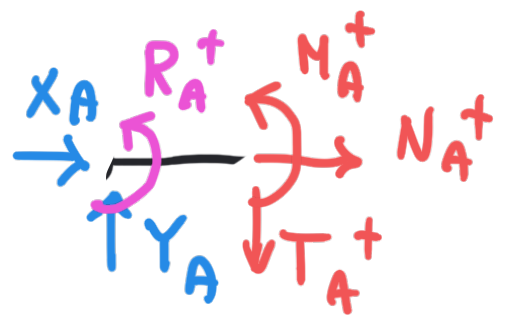


$$\left. \begin{aligned} M_A^+ &= -R_A^+ \\ M_A^- &= R_A^- \end{aligned} \right\} \text{estremi}$$

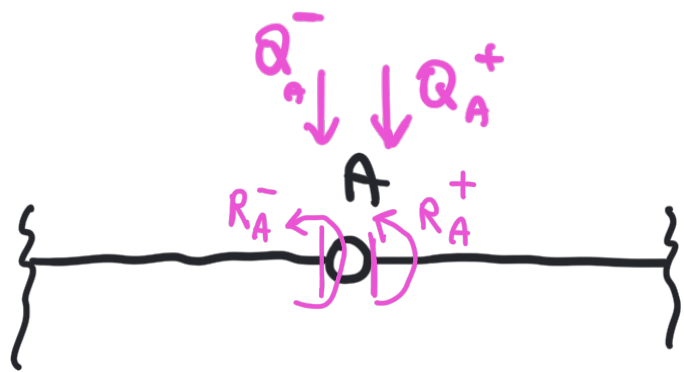
$$\left. \begin{aligned} N_A^+ - N_A^- &= 0 \\ T_A^+ - T_A^- &= 0 \end{aligned} \right\} \text{valto,} \\ \text{raccordo}$$



$$\begin{aligned} M_A^- &= R_A^- \\ N_A^- &= -X_A \\ T_A^- &= Y_A \end{aligned}$$

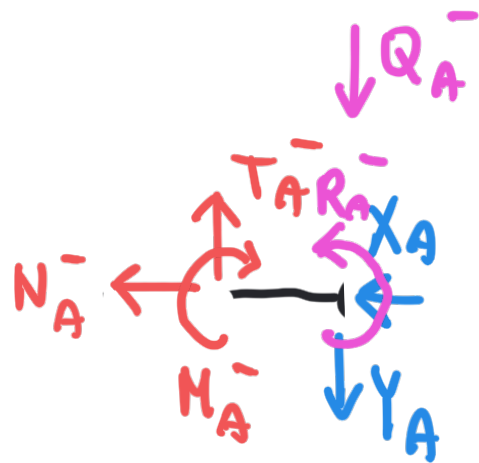


$$\begin{aligned} M_A^+ &= -R_A^+ \\ N_A^+ &= -X_A \\ T_A^+ &= Y_A \end{aligned}$$

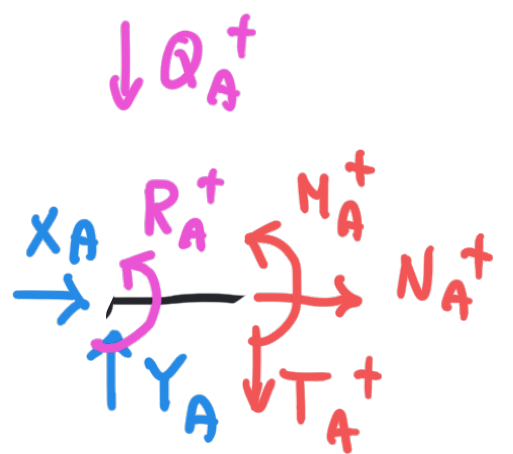


$$\left. \begin{aligned} M_A^+ &= -R_A^+ \\ M_A^- &= R_A^- \end{aligned} \right\} \text{estremi}$$

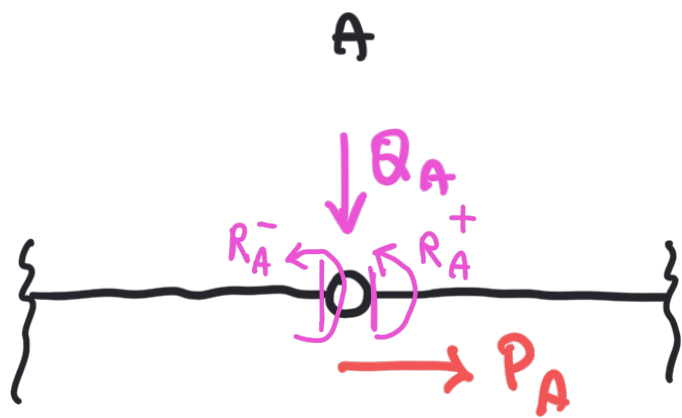
$$\left. \begin{aligned} N_A^+ - N_A^- &= 0 \\ T_A^+ - T_A^- &= Q_A^+ + Q_A^- \end{aligned} \right\} \text{valori} \quad \text{raccordo}$$



$$\begin{aligned} M_A^- &= R_A^- \\ N_A^- &= -X_A \\ T_A^- &= Y_A + Q_A^- \end{aligned}$$

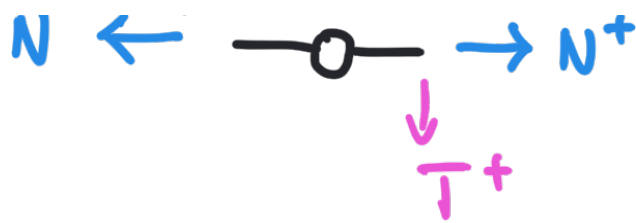


$$\begin{aligned} M_A^+ &= -R_A^+ \\ N_A^+ &= -X_A \\ T_A^+ &= Y_A + Q_A^+ \end{aligned}$$

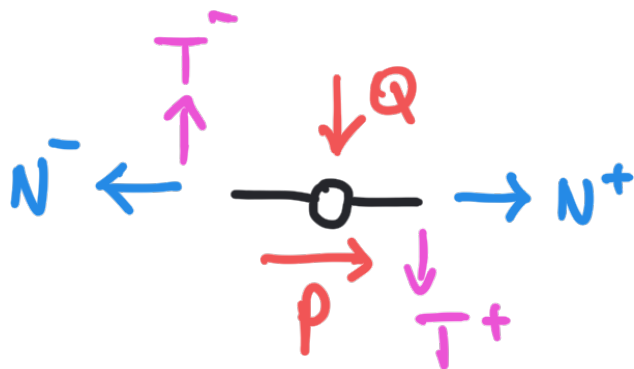


$$\left. \begin{array}{l} M_A^+ = -R_A^+ \\ M_A^- = R_A^- \end{array} \right\} \text{estremi}$$

$$\left. \begin{array}{l} N_A^+ - N_A^- = P_A \\ T_A^+ - T_A^- = Q_A \end{array} \right\} \begin{array}{l} \text{valori} \\ \text{raccordo} \end{array}$$

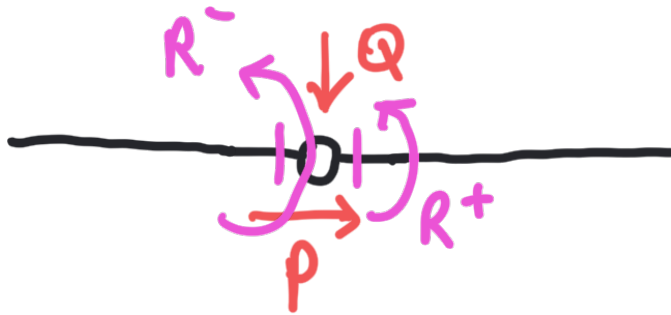


$$M^- = 0$$

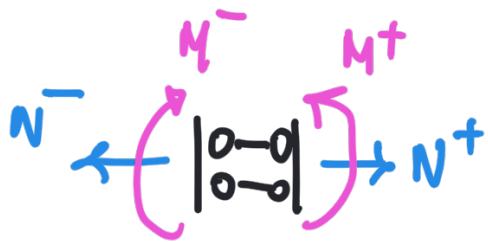


$$N^+ - N^- + P = 0$$

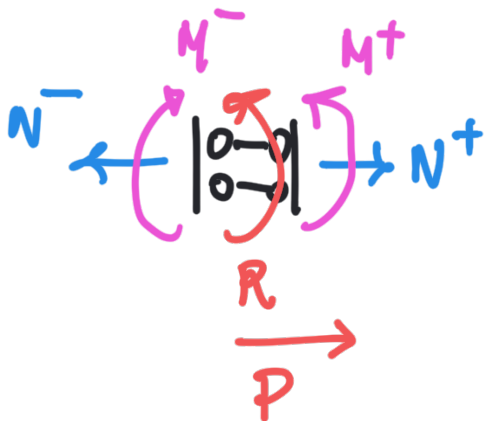
$$T^+ - T^- + Q = 0$$



Il concio
può contenere P e Q
Una eventuale coppia
va ripartita tra
le travi che concorrono
in A .

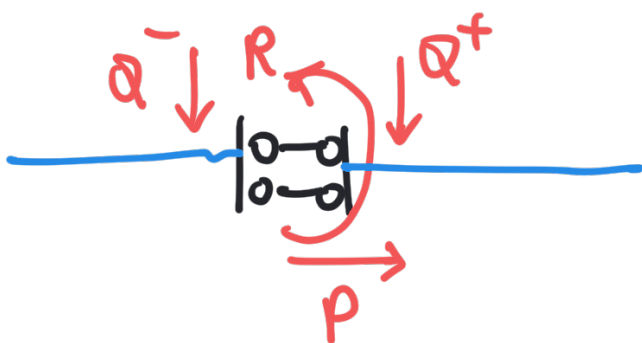


concio virtuale



$$N^+ - N^- + P = 0$$

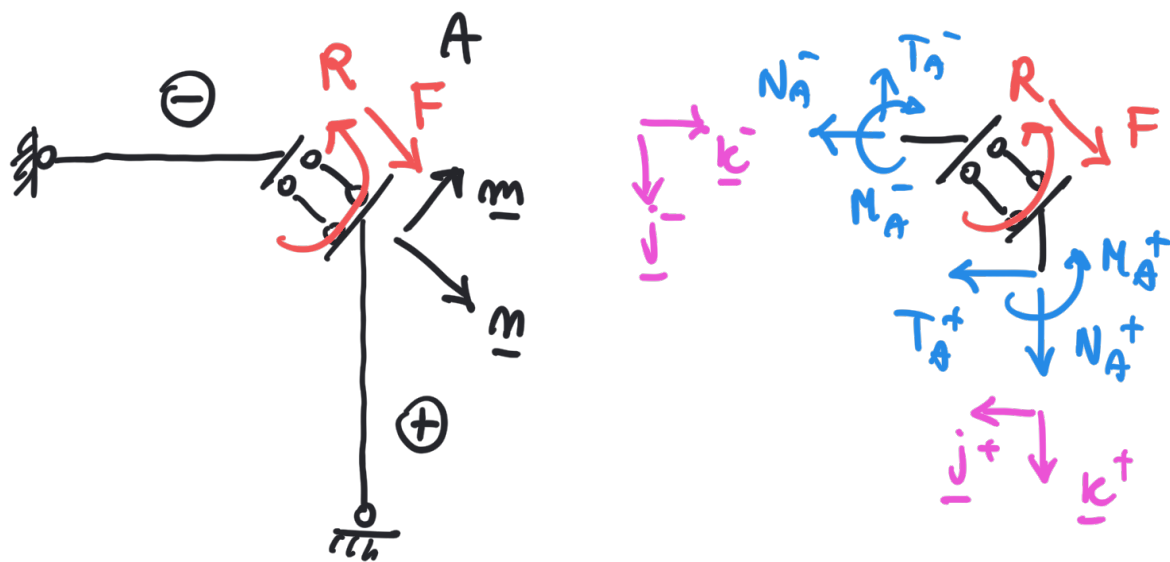
$$M^+ - M^- + R = 0$$



Il "concio virtuale" può sostenere P e R .

Un eventuale carico trasversale Q va ripartito sulle travi che concorrono nel "concio virtuale"

ESEMPIO



$$(k^+ \cdot m) N_A^+ + (j^+ \cdot n) T_A^+ = 0$$

$$(k^- \cdot m) N_A^- + (j^- \cdot n) T_A^- = 0$$

$$(k^+ \cdot m) N_A^+ + (j^+ \cdot n) T_A^+ - (k^- \cdot m) N_A^- - (j^- \cdot n) T_A^- + F = 0$$

$$N_A^+ - N_A^- + R = 0$$

IN CASO DI DIFFICOLTÀ

1) Dai diagrammi delle Cds è possibile ricavare le forze applicate (reattive e non)

eq. diff. l: \Rightarrow p, q

cond salto \Rightarrow P, Q, R

c. contorno \Rightarrow forze & coppie
estremità

Oss: sebbene il segno di M dipende da come è orientata la trave



$sx \rightarrow dx$



$dx \rightarrow sx$

il diagramma di M non dipende dalla orientazione, grazie alla convenzione delle fibre tese!!!

SOMMARIO :

- 2) Andamenti di q, p = forma dei diagrammi
 - Eventuali forze concentr. \Rightarrow salti
 - Cond. vincolo \Rightarrow valori q, p estremi o nelle sezioni
- 3) La parte di controllo è FONDAMENTALE.
- 4) Nella pratica comune, le eq. di A.P. e, cond. salto e c. contorno si utilizzano per ottenere informazioni qualitative sui diagrammi, e solo raramente si usano per determinarli.

