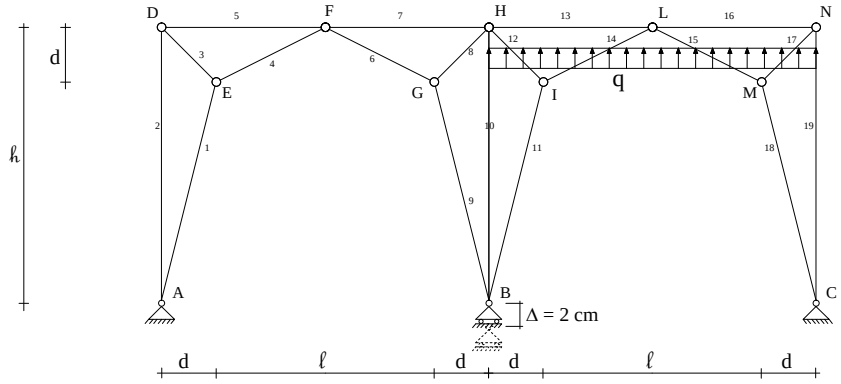
Università di Ferrara - Facoltà di Ingegneria

Corso di Laurea in Ingegneria Civile

D

Prova Totale di Scienza delle Costruzioni I
10/01/2014



Dati:

ℓ = 3m h = 7 m

d = 1 m q = 10 kN/m

- Calcolare e disegnare le azioni interne N, T, M ;
- Calcolare lo spostamento orizzontale del nodo B in presenza del cedimento $\Delta = 2$ cm, considerare la deformabilità assiale

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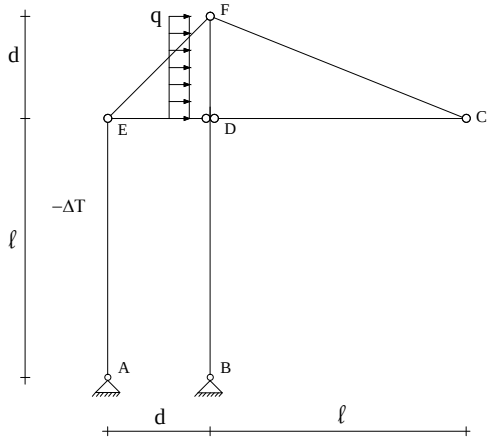

Dati:

ℓ = 5 m $\alpha = 1{,}2 \times 10^{-5} °C^{-1}$

d = 1 m $\Delta T = 50°$

q = 10 kN/m

- Calcolare e disegnare le azioni interne N, T, M ;
- Calcolare lo spostamento verticale del nodo C considerando la presenza del carico termico -ΔT, considerare la deformabilità assiale

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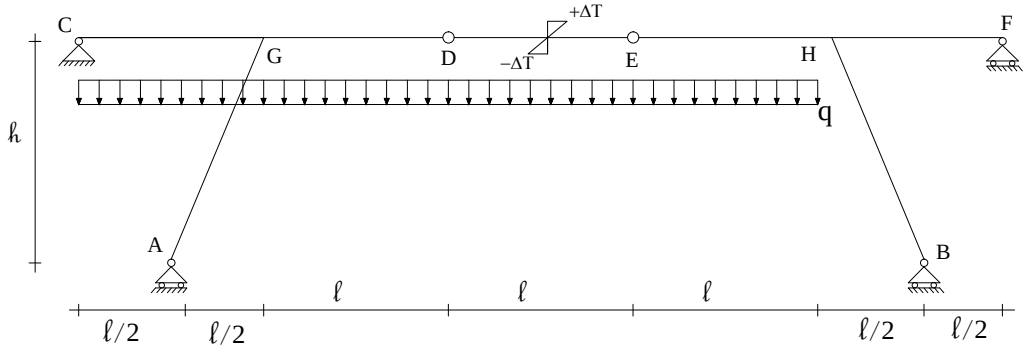


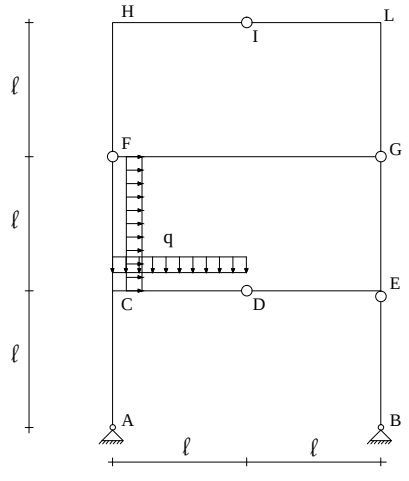
Dati:

ℓ = 10 m $\alpha = 1{,}2 \times 10^{-5} °C^{-1}$

h = 12 m $\Delta T = 50°$

q = 40 kN/m

- Calcolare e disegnare le azioni interne N, T, M ;
- Calcolare la rotazione relativa $\Delta\varphi_D$ trascurando la deformabilità assiale delle travi e considerando il carico termico su tutto il tratto CF



Dati:

ℓ = 3 m

q = 20 kN/m

- Calcolare e disegnare le azioni interne N, T, M ;

FILA D ESERCIZIO 2

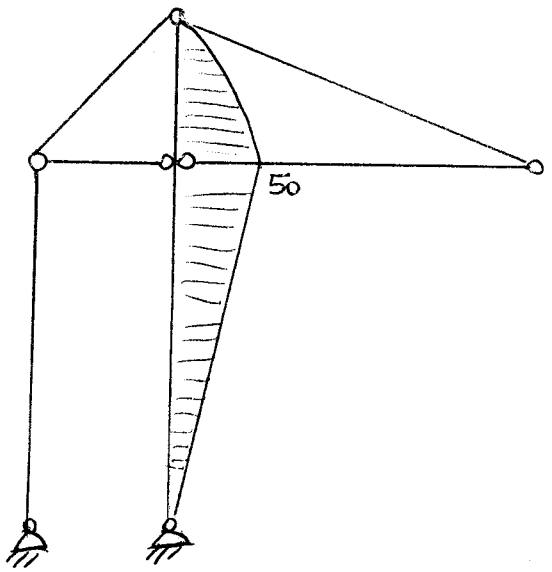
10/01/2014

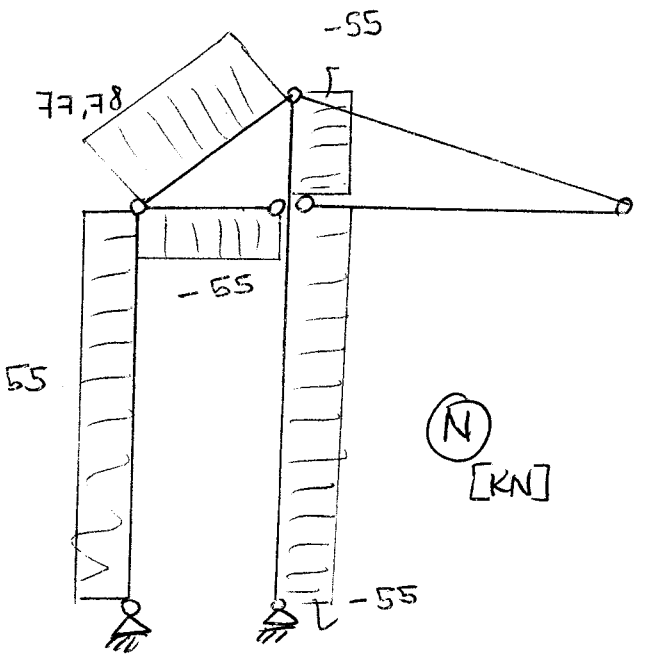
$H_B = -10\,KN$

$V_B = 55\,KN$

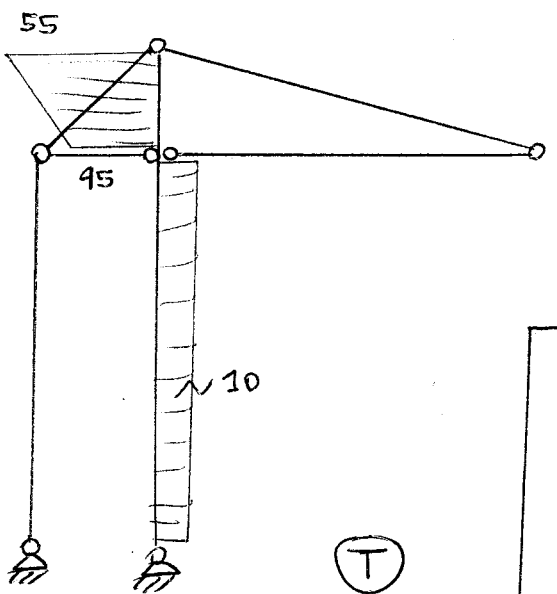
$V_A = -55\,KN$

(M) [KNm]



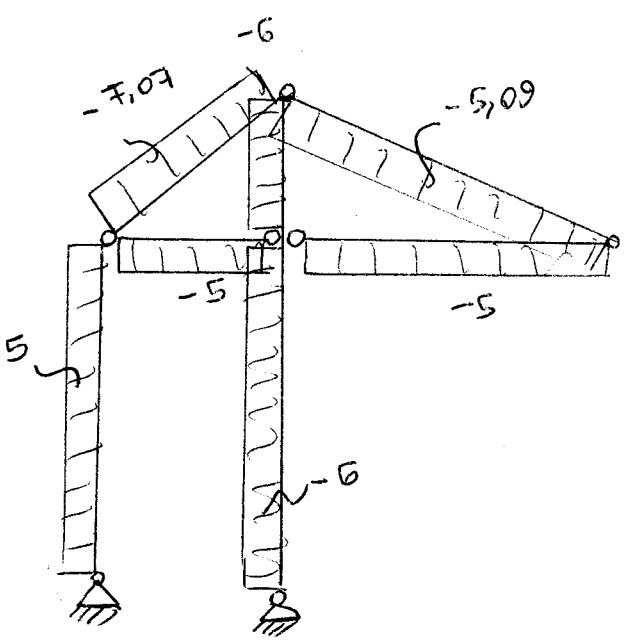


(N) [KN]



(T) [KN]

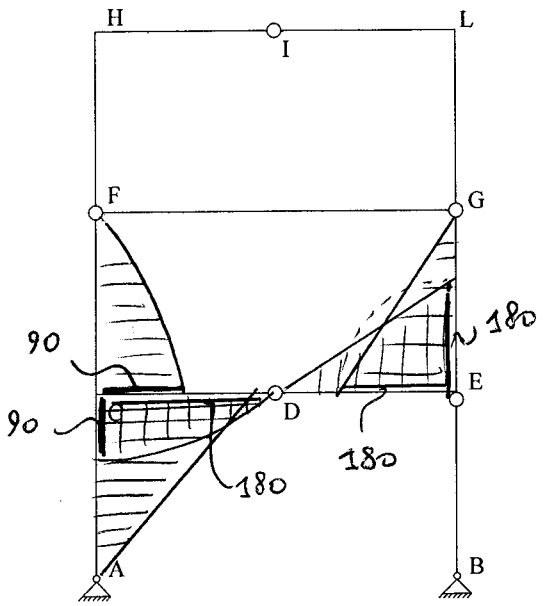
SISTEMA VIRTUALE

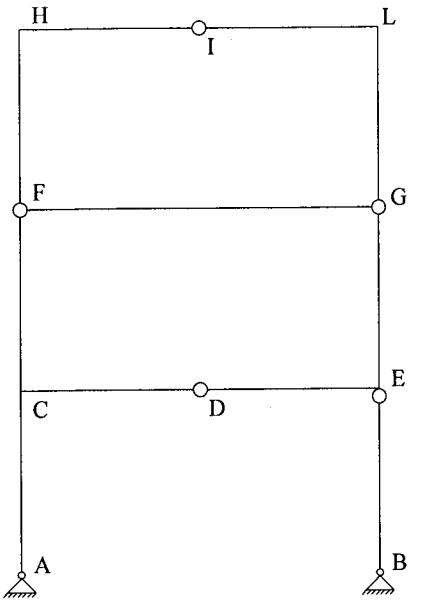


ESERCIZIO 4 FILA D

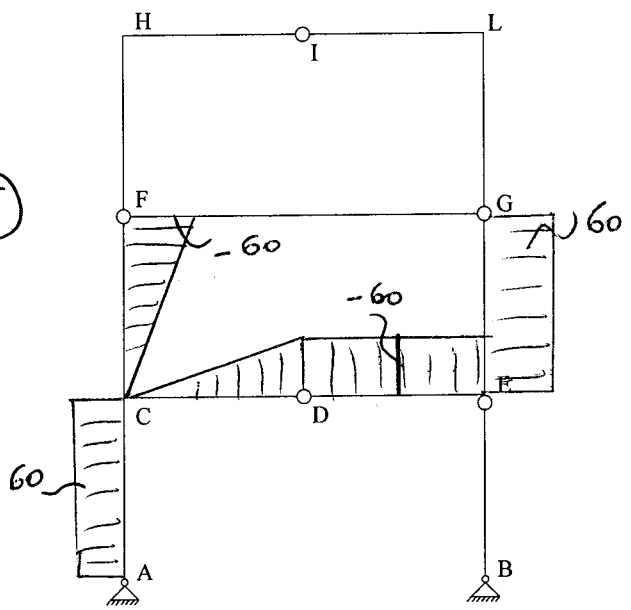
$H_A = 60 \quad V_A = 0 \quad V_B = -60$

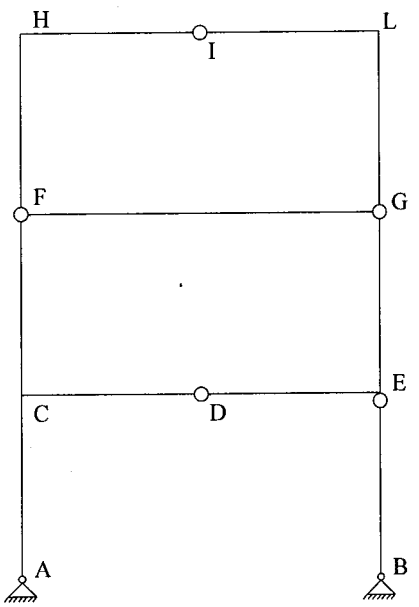
(M)





(T)





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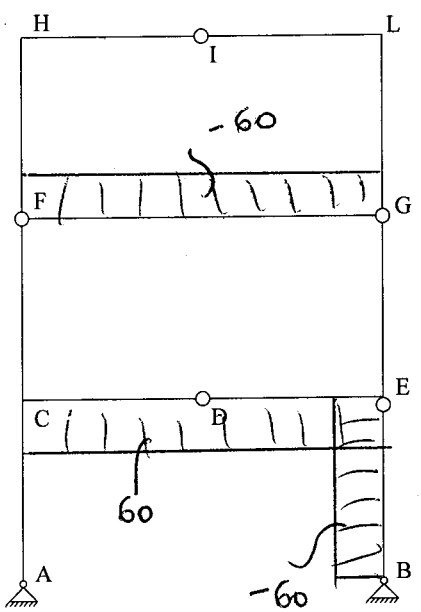
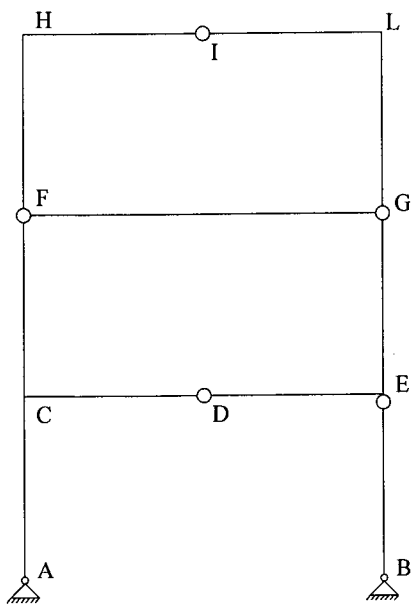
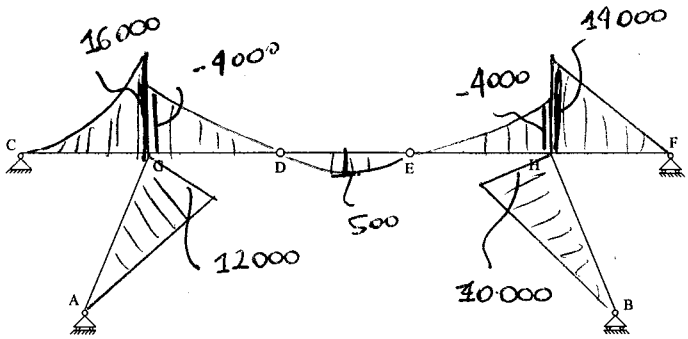


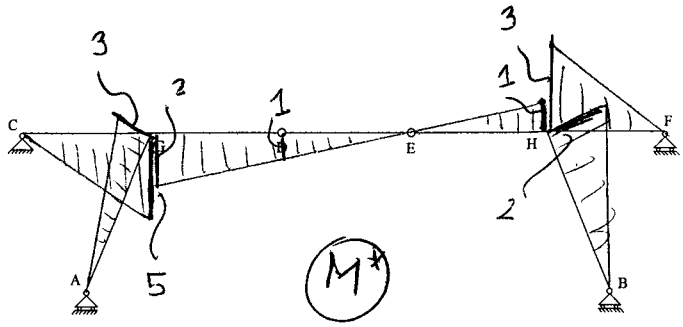


ESERCIZIO 3 FILAD

$V_A = -0,6$ $V_e = 0,5$
$V_B = 0,4$ $V_F = -0,3$

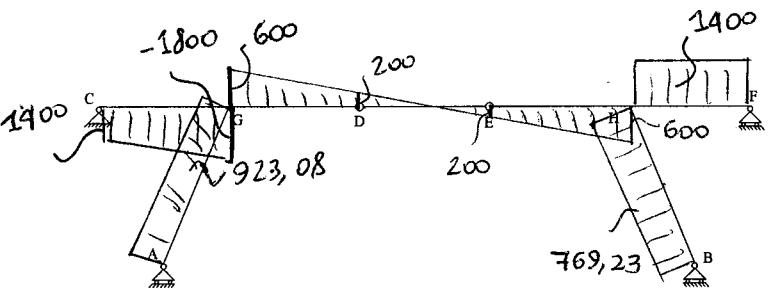


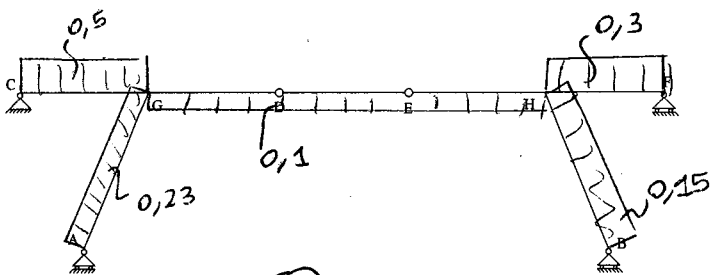
(M) [KNm]



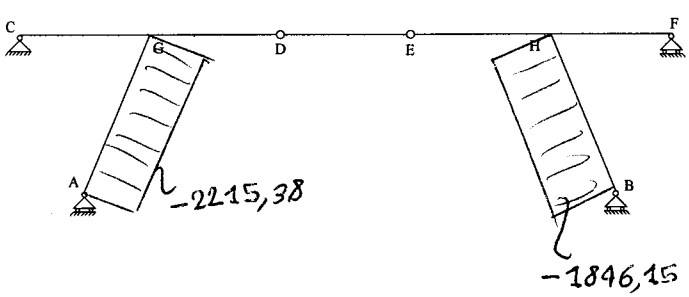
(M*)

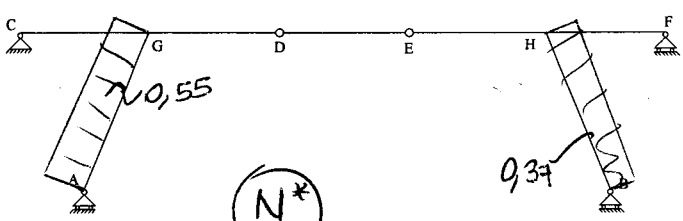
$V_e = -1400$
$V_A = 2400$
$V_B = 2000$
$V_F = -1400$





(T*)





(N*)