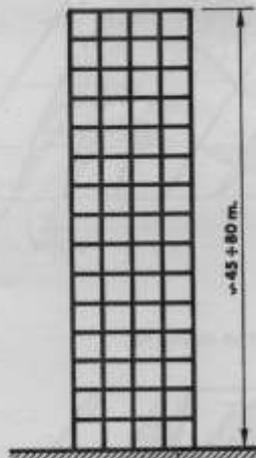


# Organismo Edilizio/Sisma concetti essenziali

## Meccanica delle Vibrazioni

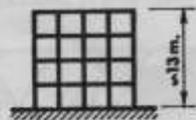
Nella modellazione del fenomeno una grandezza importante è il **periodo proprio** del corpo, nell'architettura è (sono) quello dell'edificio

PERIODO  $T$  E FREQUENZA  $f = \frac{1}{T}$  CARATTERISTICA DI ALCUNI TIPI DI STRUTTURE



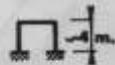
GRATTACIELO

40 piani :  $T = 2,5 + 4$  sec  
 $f = 0,4 + 0,25$   
 15 piani :  $T = 1$  sec  
 $f = 1$



EDIFICIO COMUNE

$T = 0,5$  sec  
 $f = 2$



PORTALE

$T = 0,1$  sec  
 $f = 10$



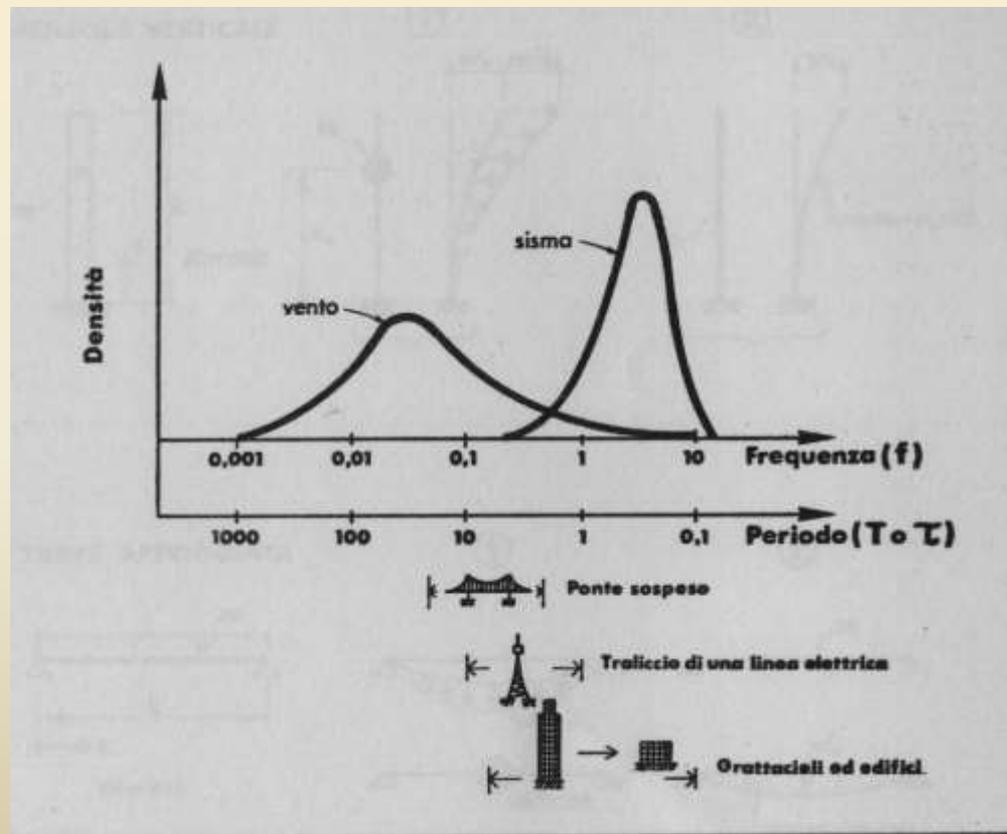
SERBATOIO PENSILE

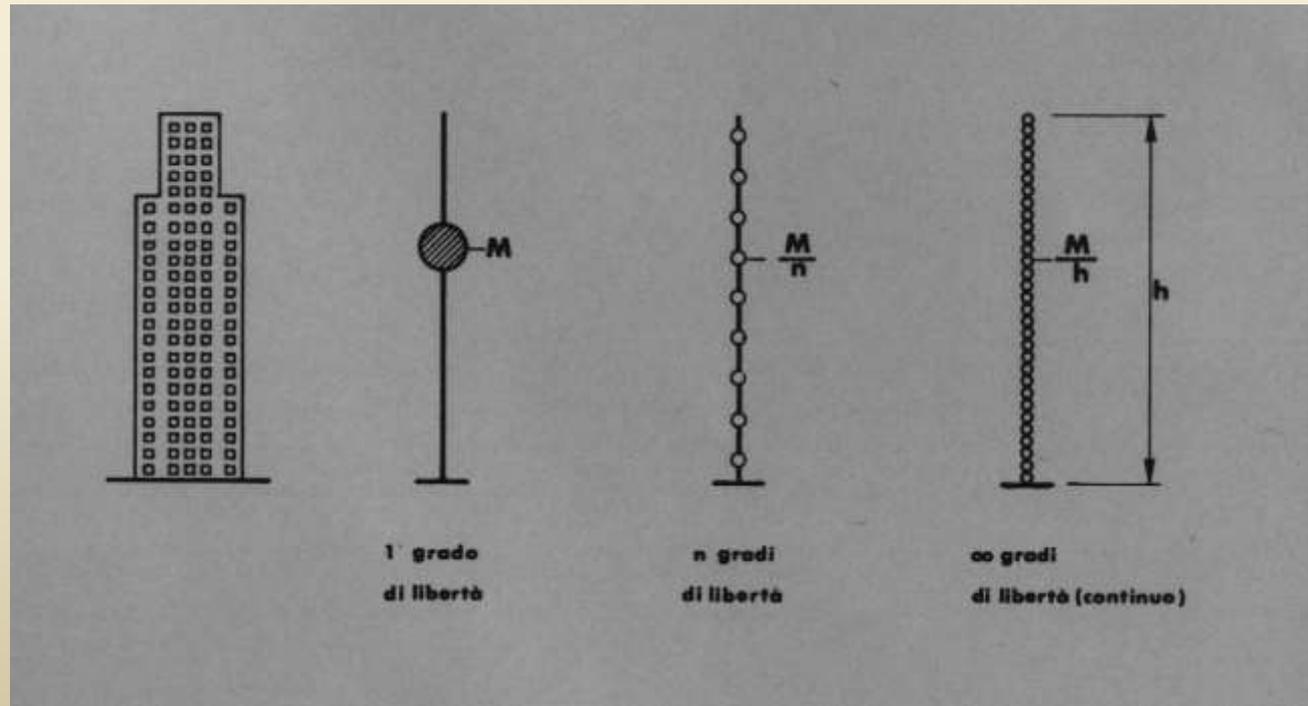
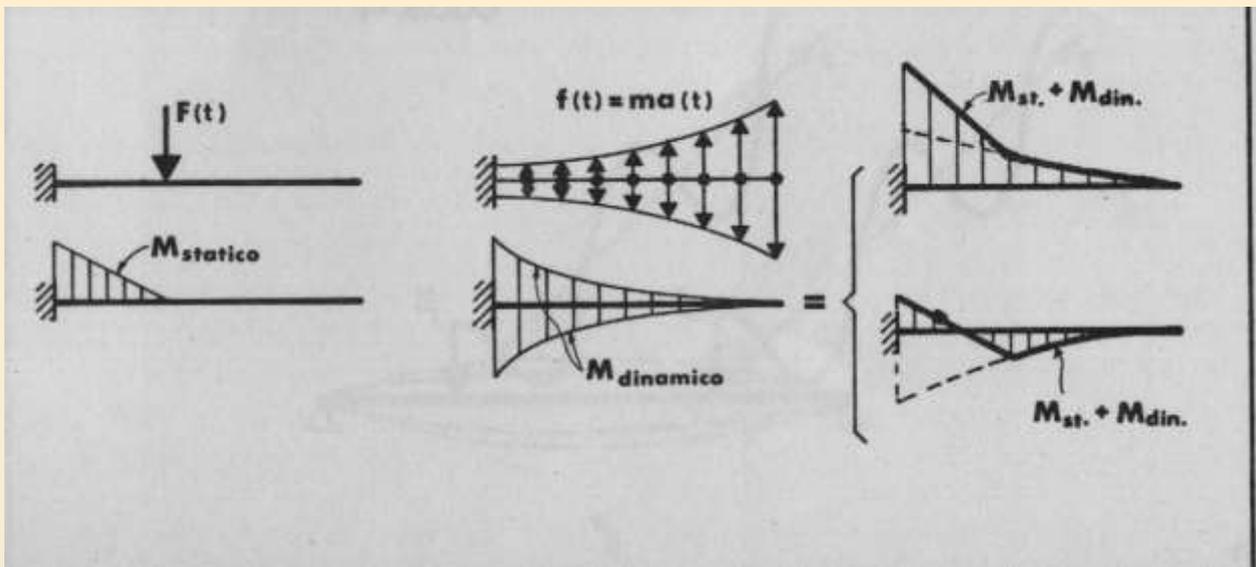
$T = 4$  sec  
 $f = 0,25$



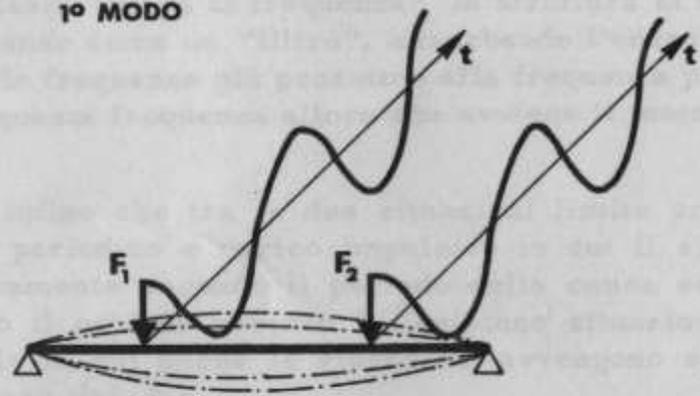
PONTE SOSPESO

$T = 6$  sec  
 $f = 0,167$





1° MODO



2° MODO

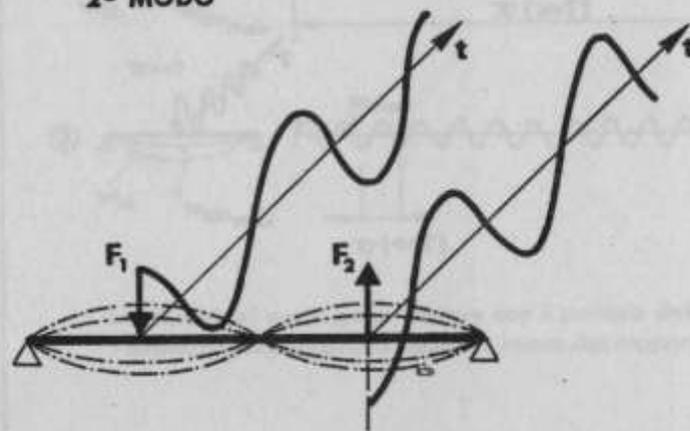
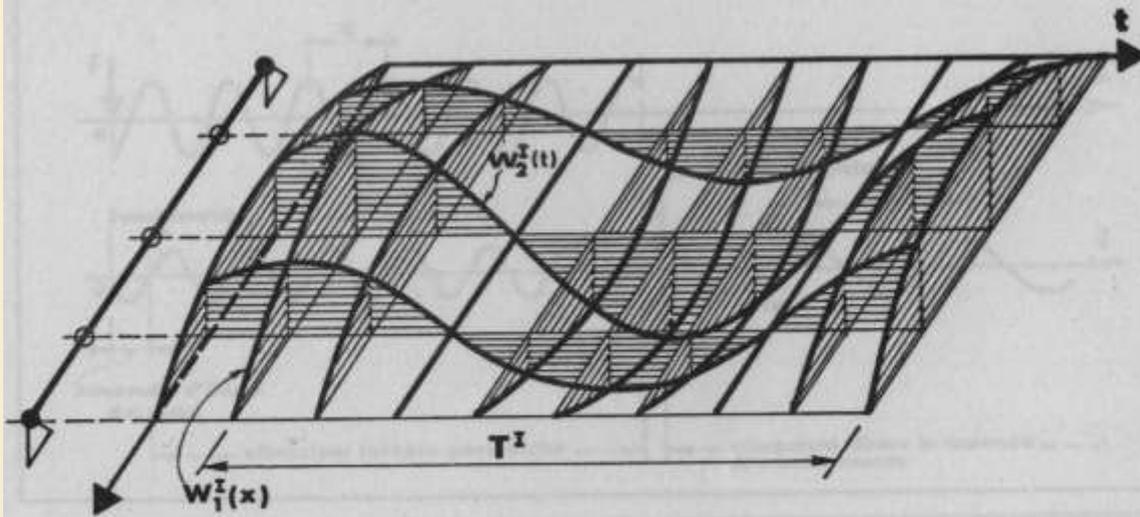
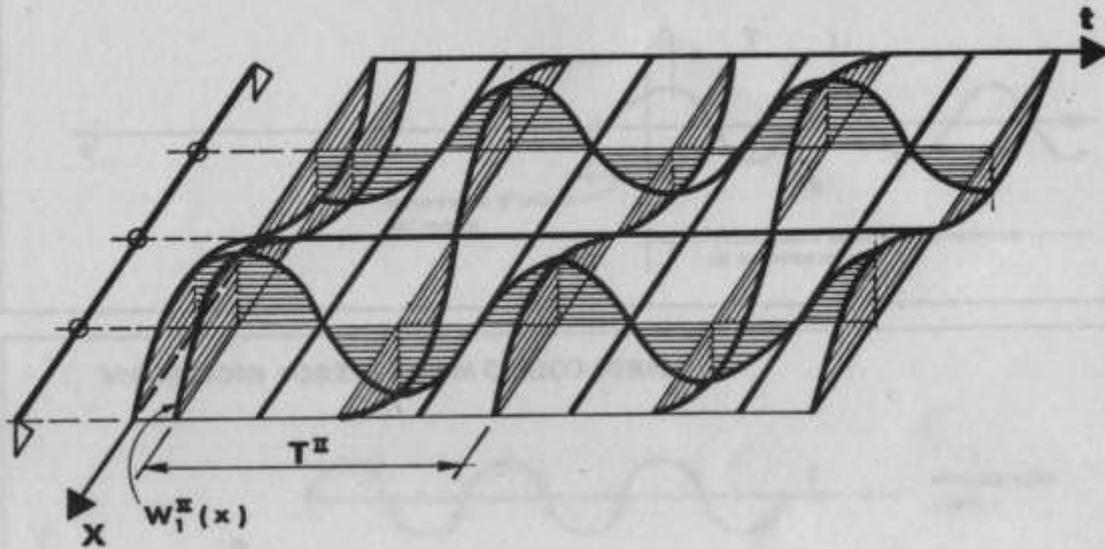


fig. 2

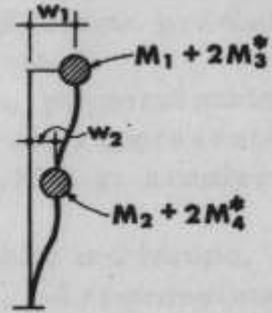
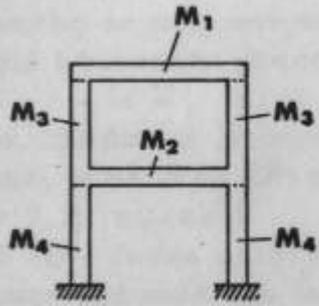
1° MODO DI VIBRAZIONE DI UNA TRAVE APPOGGIATA



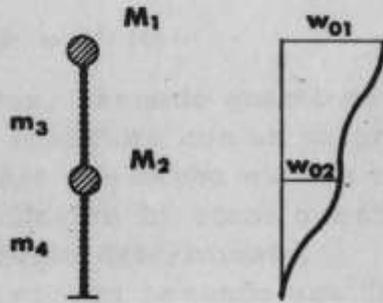
2° MODO DI VIBRAZIONE DI UNA TRAVE APPOGGIATA



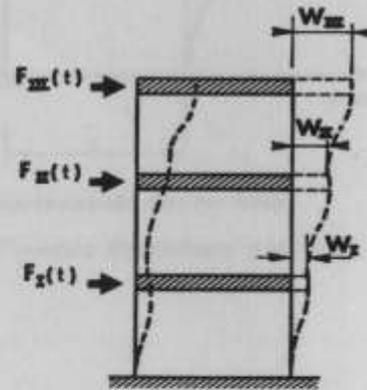
I° CRITERIO



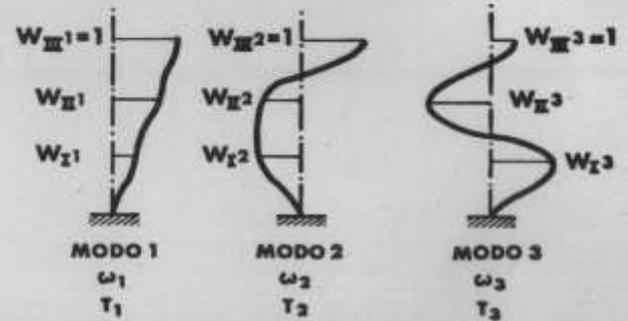
II° CRITERIO



$$w = w_{01} \cdot w_1(x) + w_{02} \cdot w_2(x)$$

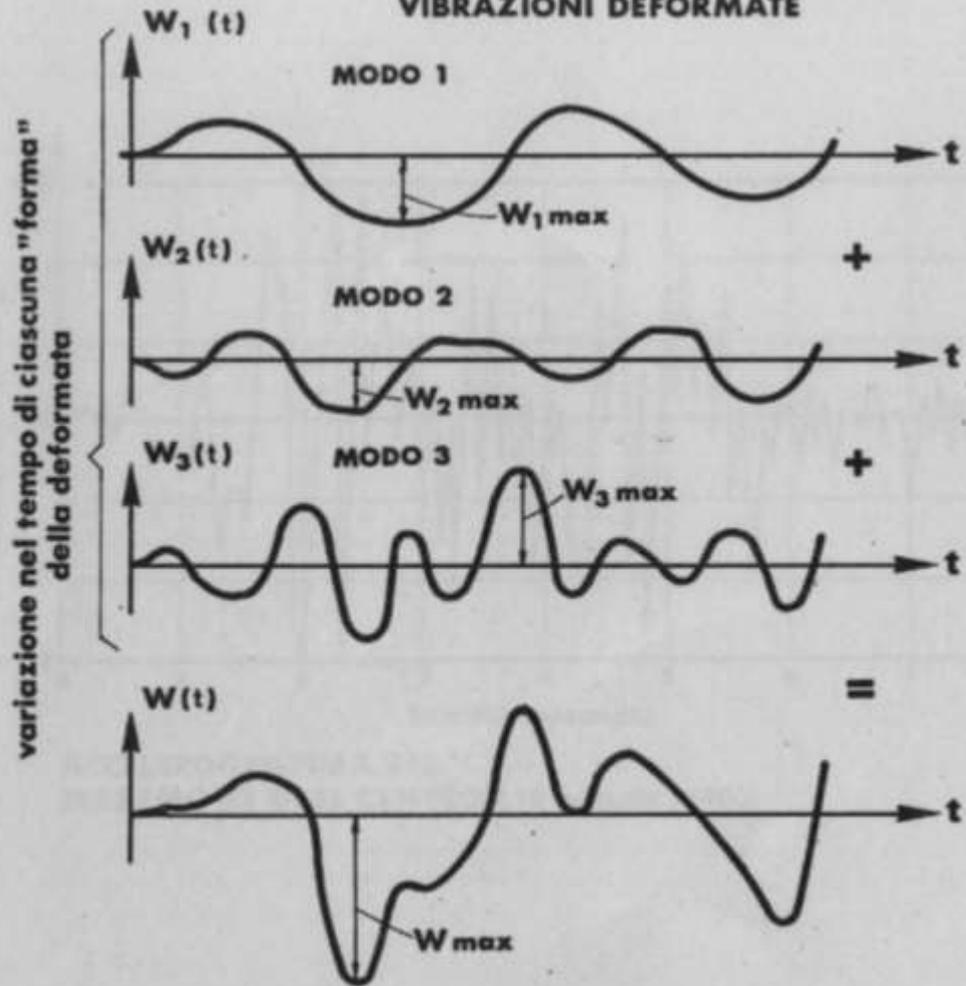


SISTEMA A 3 GRADI DI LIBERTA'

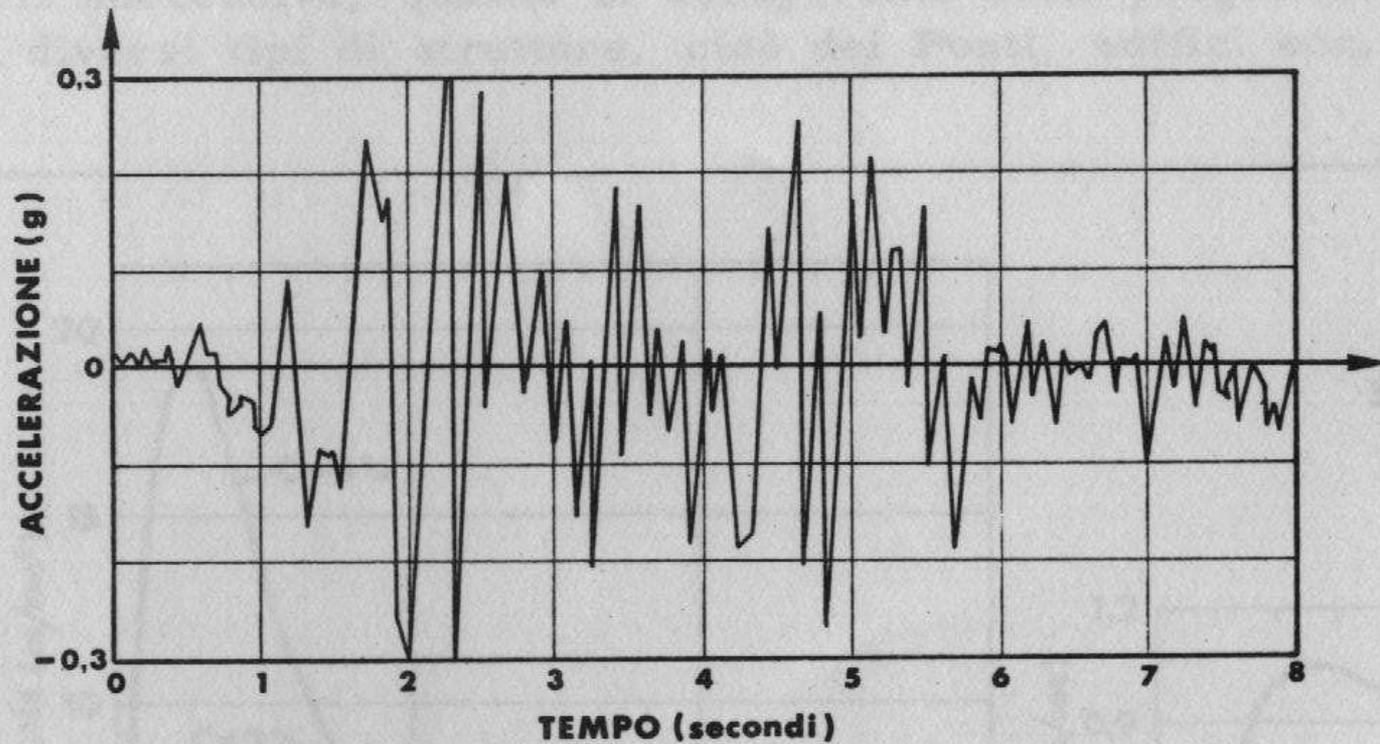


VIBRAZIONI LIBERE

### VIBRAZIONI DEFORMATE



**VARIAZIONE NEL TEMPO DELLA DEFORMATA COMPLESSIVA  
(analogamente per una forza generica)**



**ACCELEROGRAMMA DEL  
TERREMOTO DI EL CENTRO (18 maggio 1940)**

# Resistenza alla torsione

- Importanza di “**G**” modulo di elasticità alla torsione
- Importanza del momento d’inerzia polare

