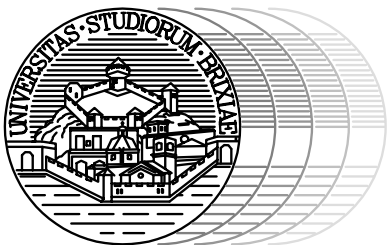


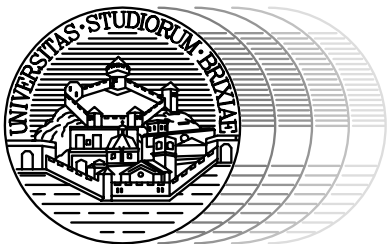
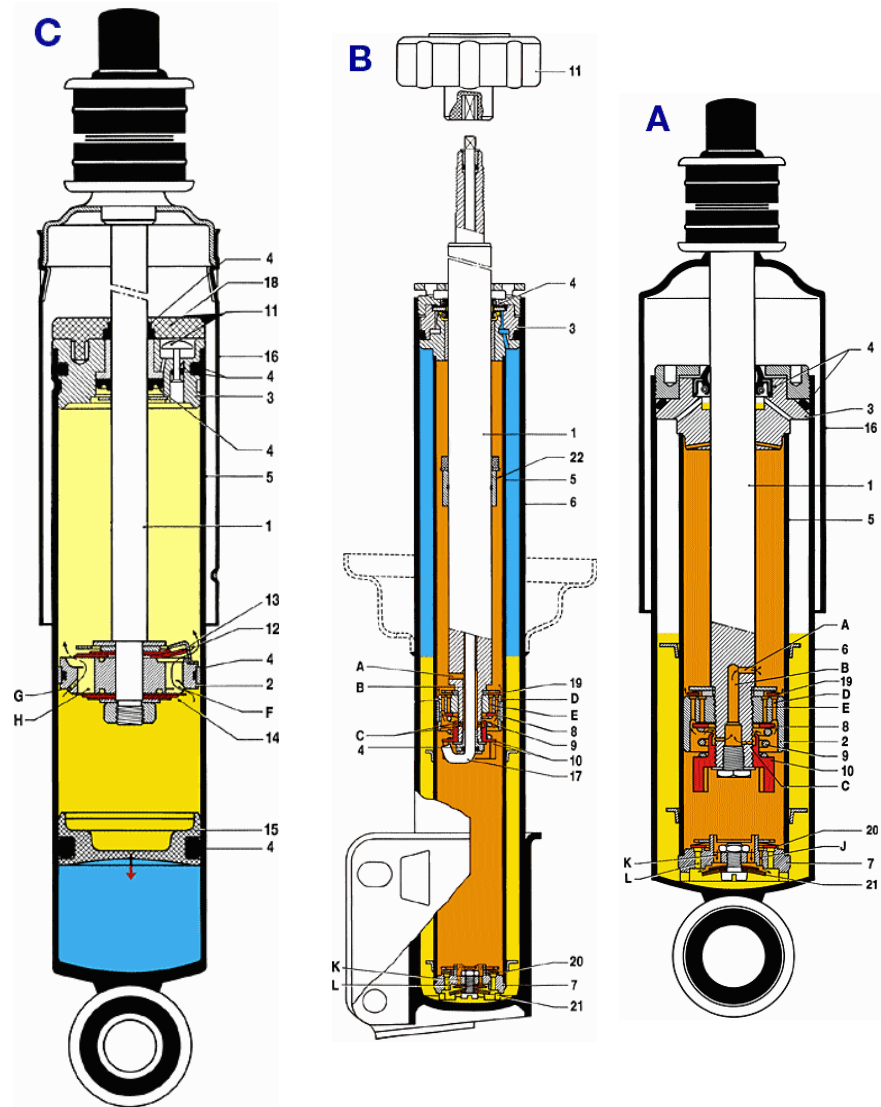
# Relazione sul secondo anno di Dottorato in Meccanica Applicata

Dario Armellin



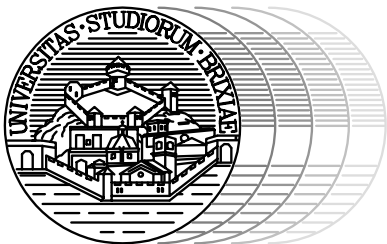
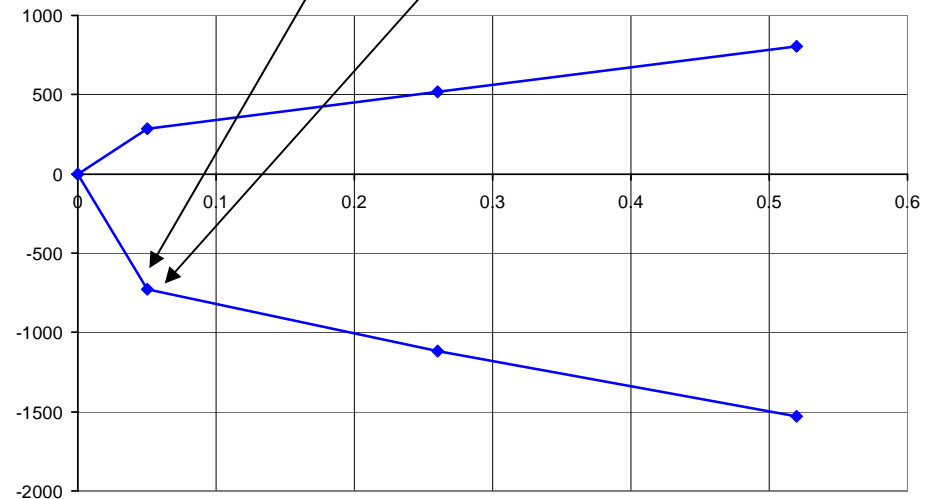
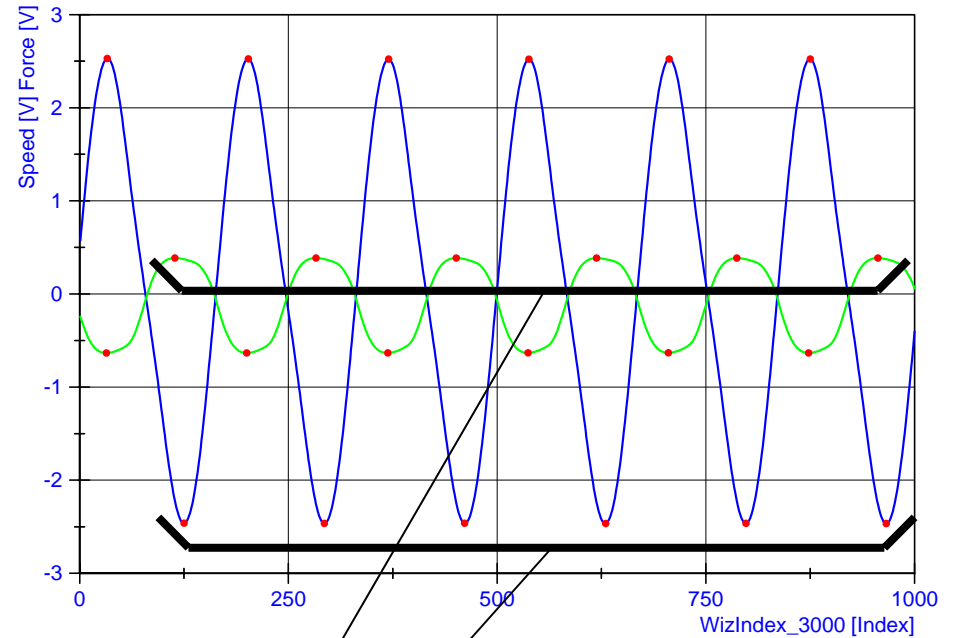
# Caratterizzazione Ammortizzatori

- Influenze sul veicolo elevata
- Tipologie di componenti molto
- Approccio “empirico”



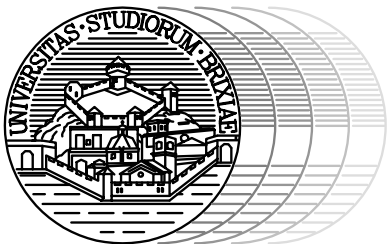
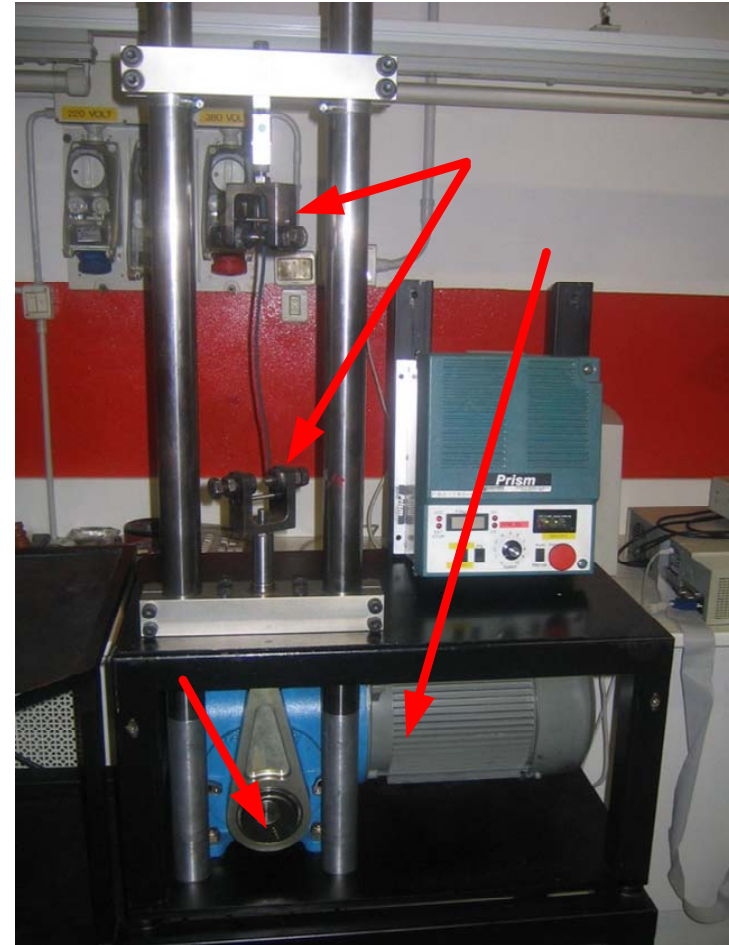
# Prove Standard

- Sinusoide
- Banco a eccentrico
- Medie dei picchi
- Grafici Forza Velocità
- Grafici Forza Spostamento



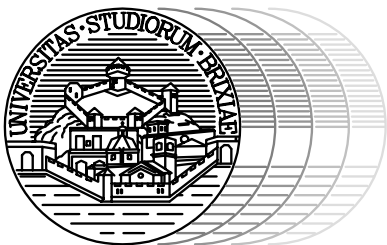
# Banco classico

- Banco ad eccentrico
- Corsa costante
- Vincolo tra frequenza e velocità massima
- Poco flessibile
- Velocità minima elevata
- Velocità massima anche molto elevata



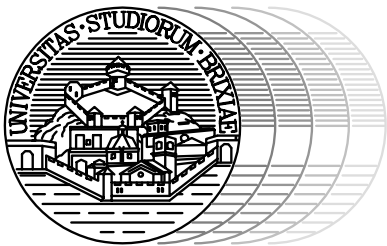
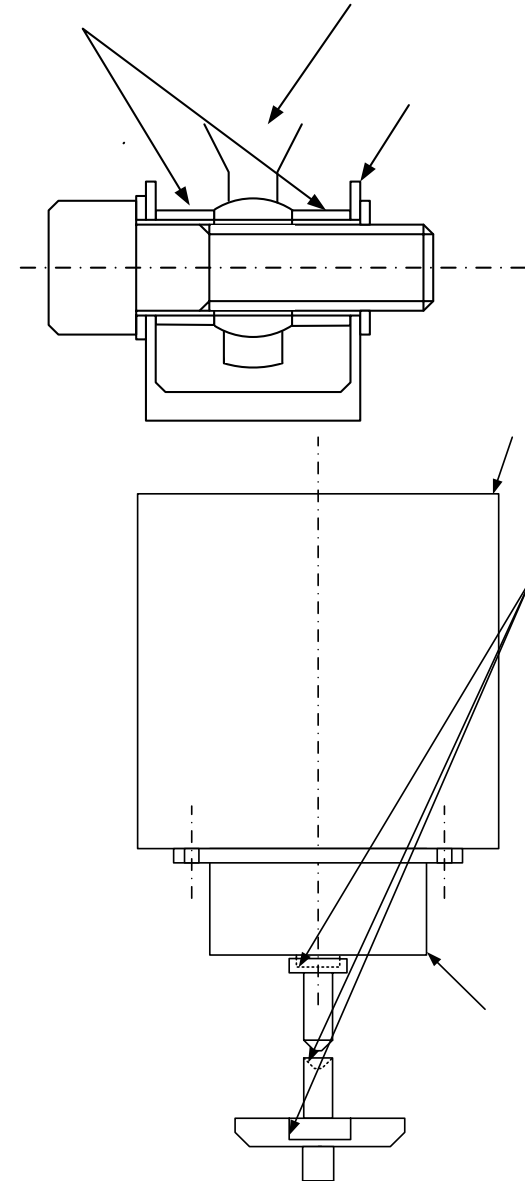
# Banco Idraulico

- Nessun vincolo sulle leggi di moto
- Velocità fino a 900 mm/s
- Controllo in spostamento
- Dinamica elevata



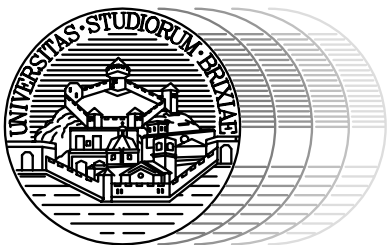
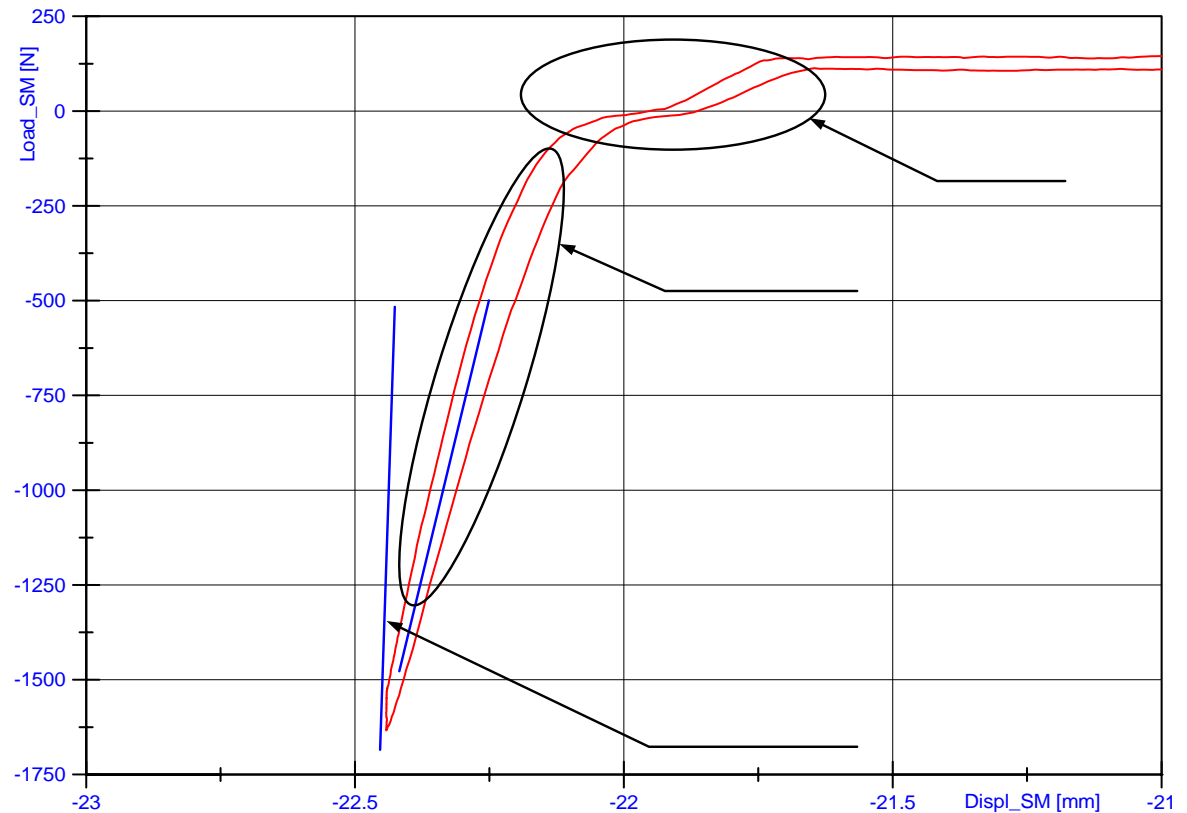
# Afferraggio e centraggio

- Flessibilità e adattabilità
- Struttura amovibile
- Coassialità tra direzione di misura e direzione delle forza



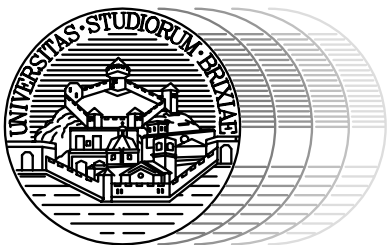
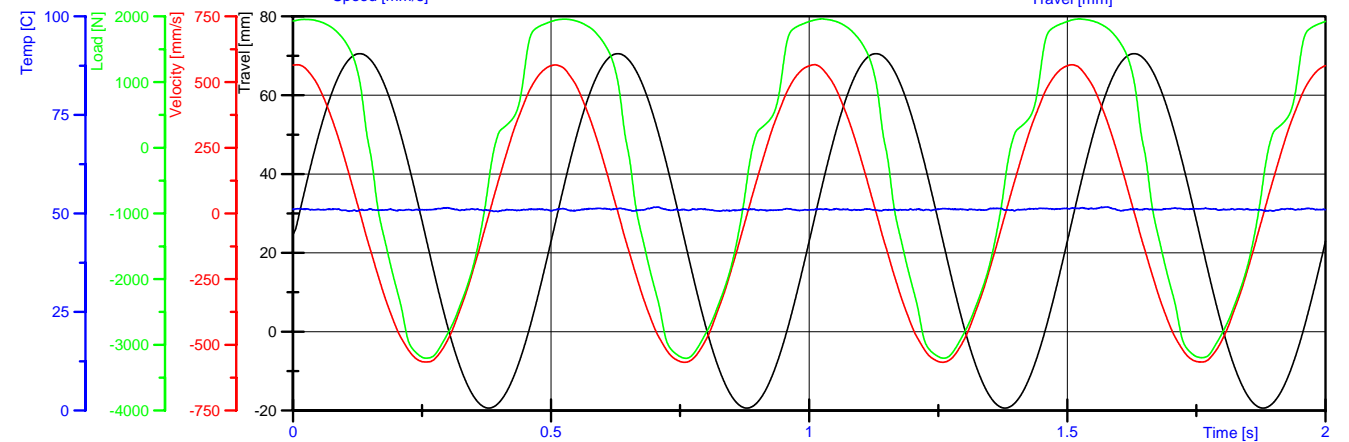
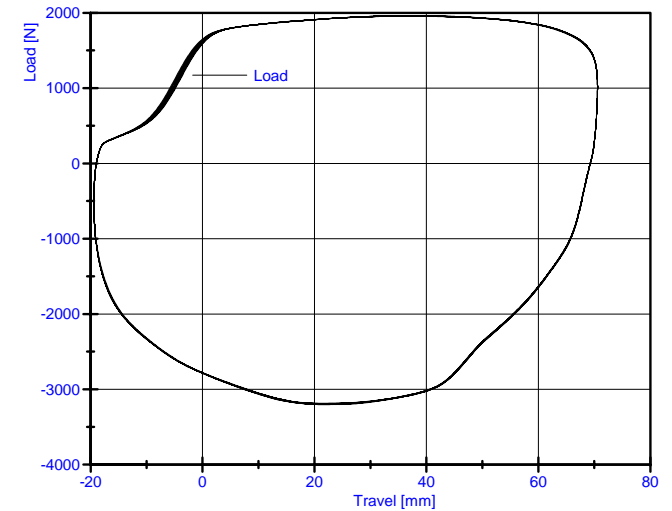
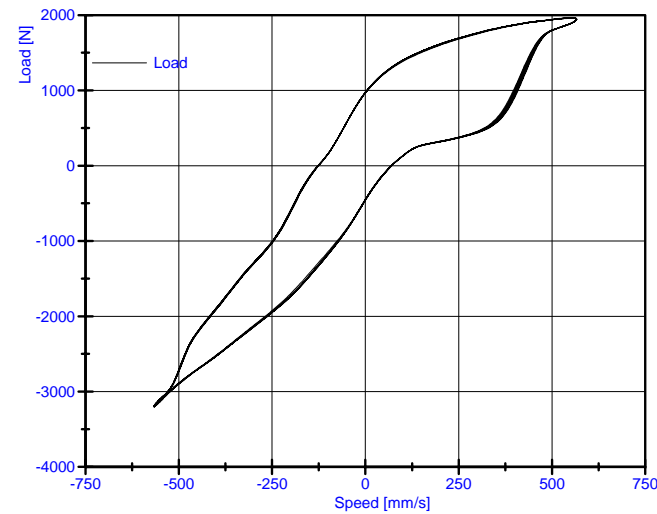
# Rigidezza

- Sistema ragionevolmente rigido



# Test standard

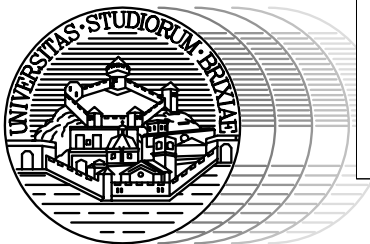
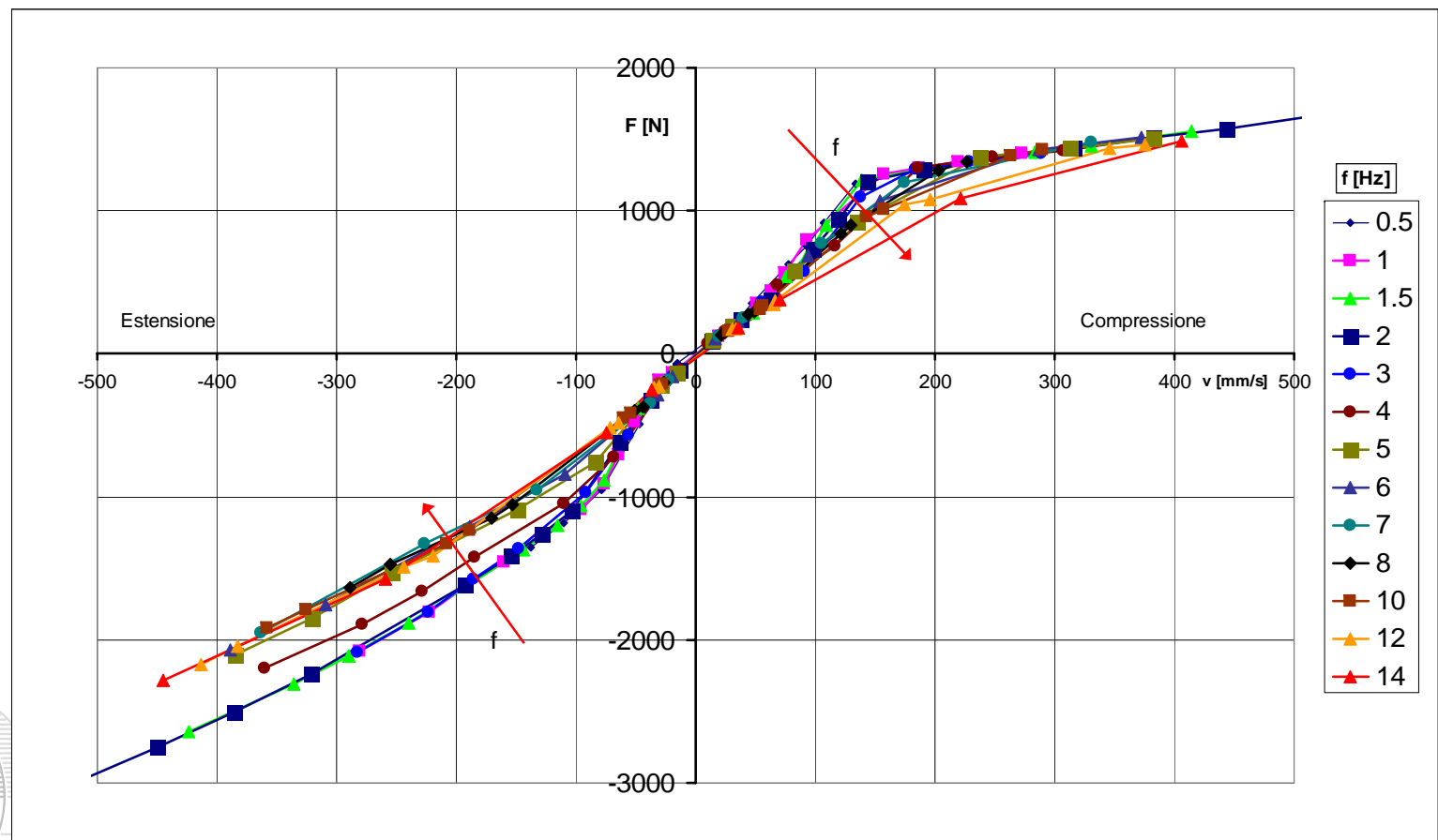
- Stessa tipologia di test





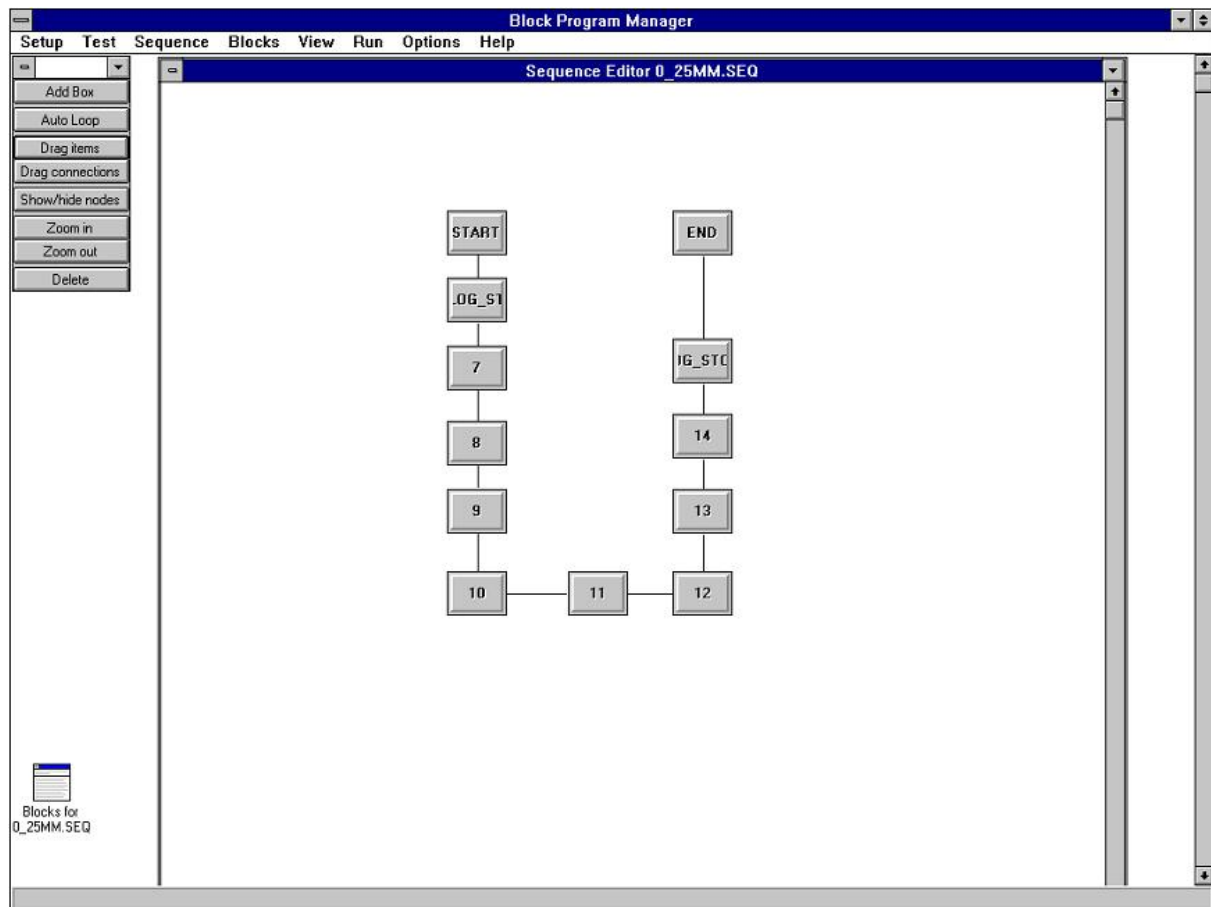
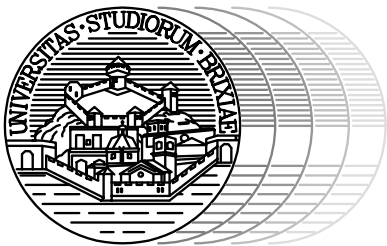
# Test in frequenza

- Influenza della freq. sullo smorzamento



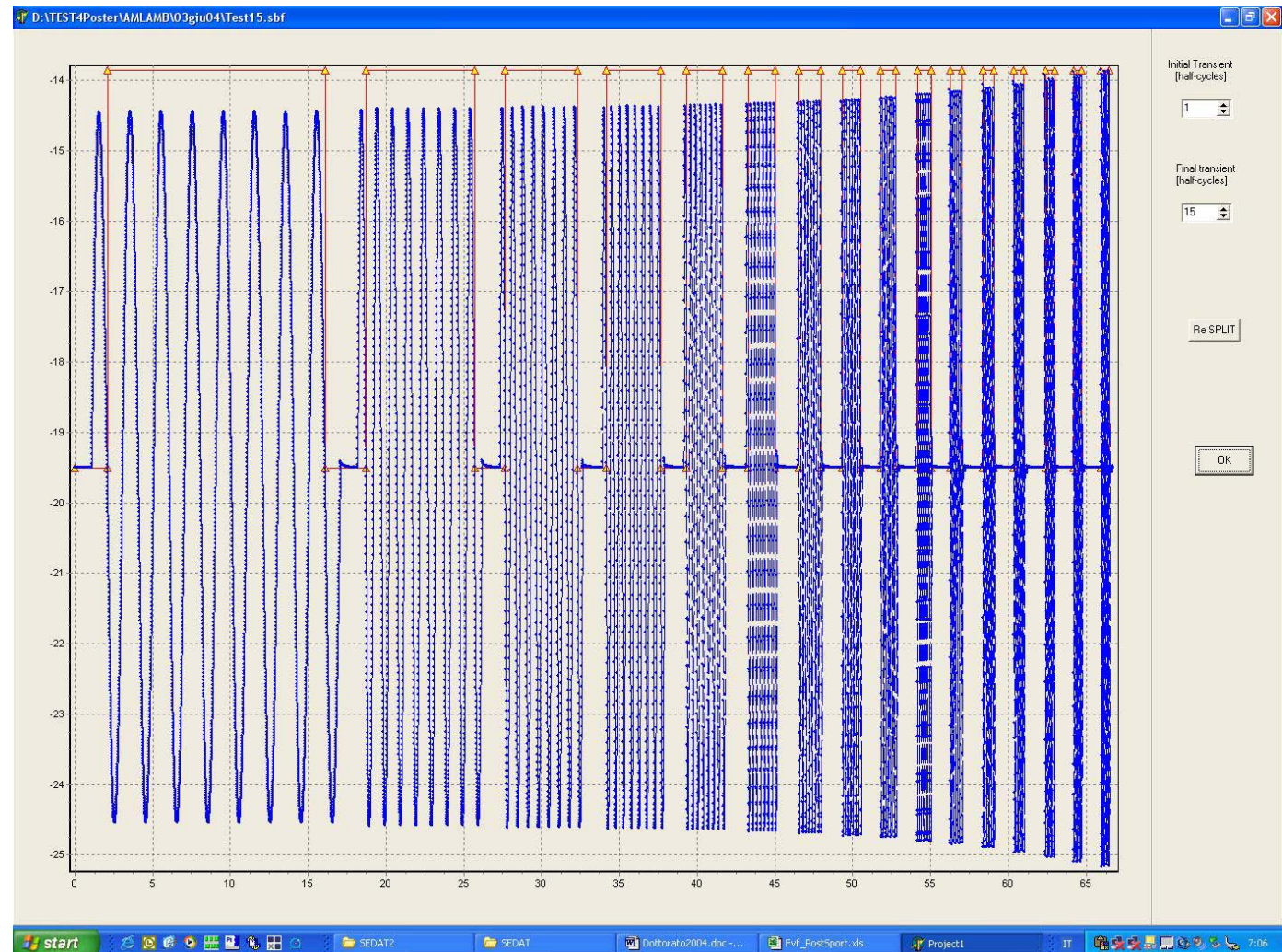
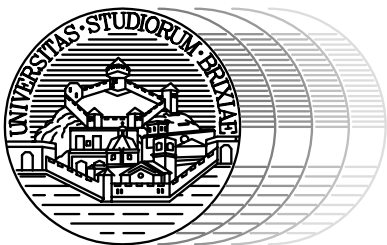
# Automatizzazione prove

- Elevato n° di punti
- Ogni punto nei grafici è una prova



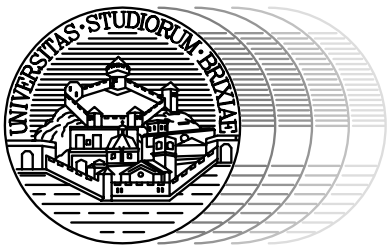
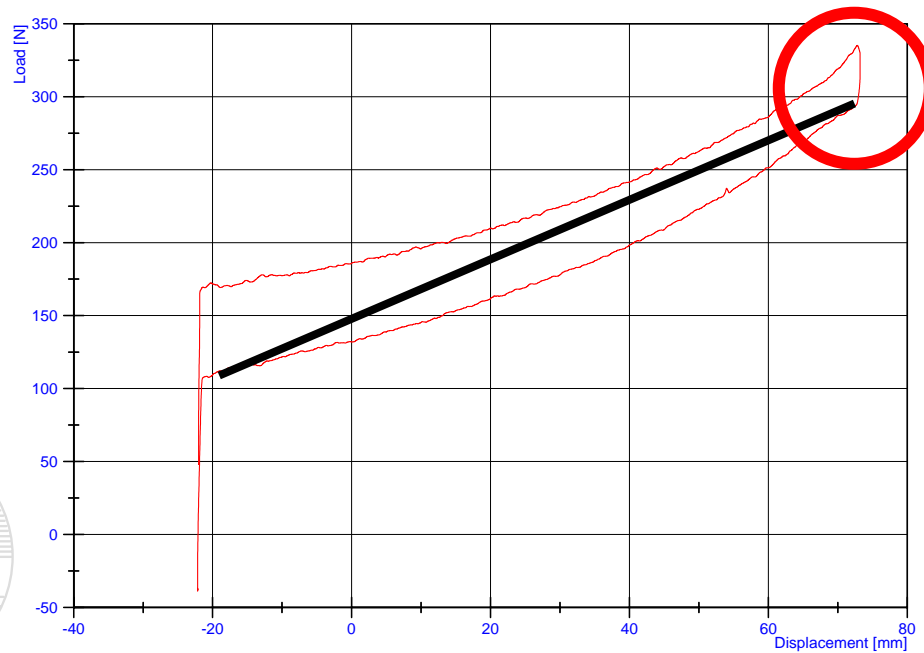
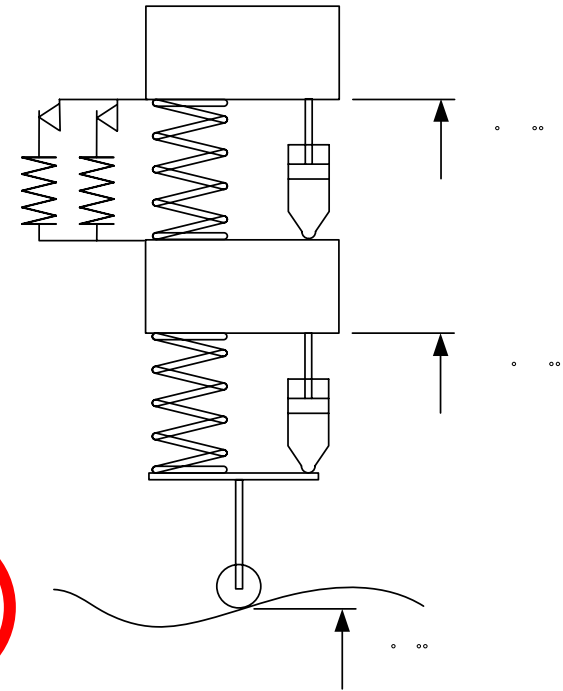
# Automattizzazione grafici

- Quantità di dati
- Necessità di riconoscimento dei picchi
- Separazione delle varie prove
- Identificazione dei transitori



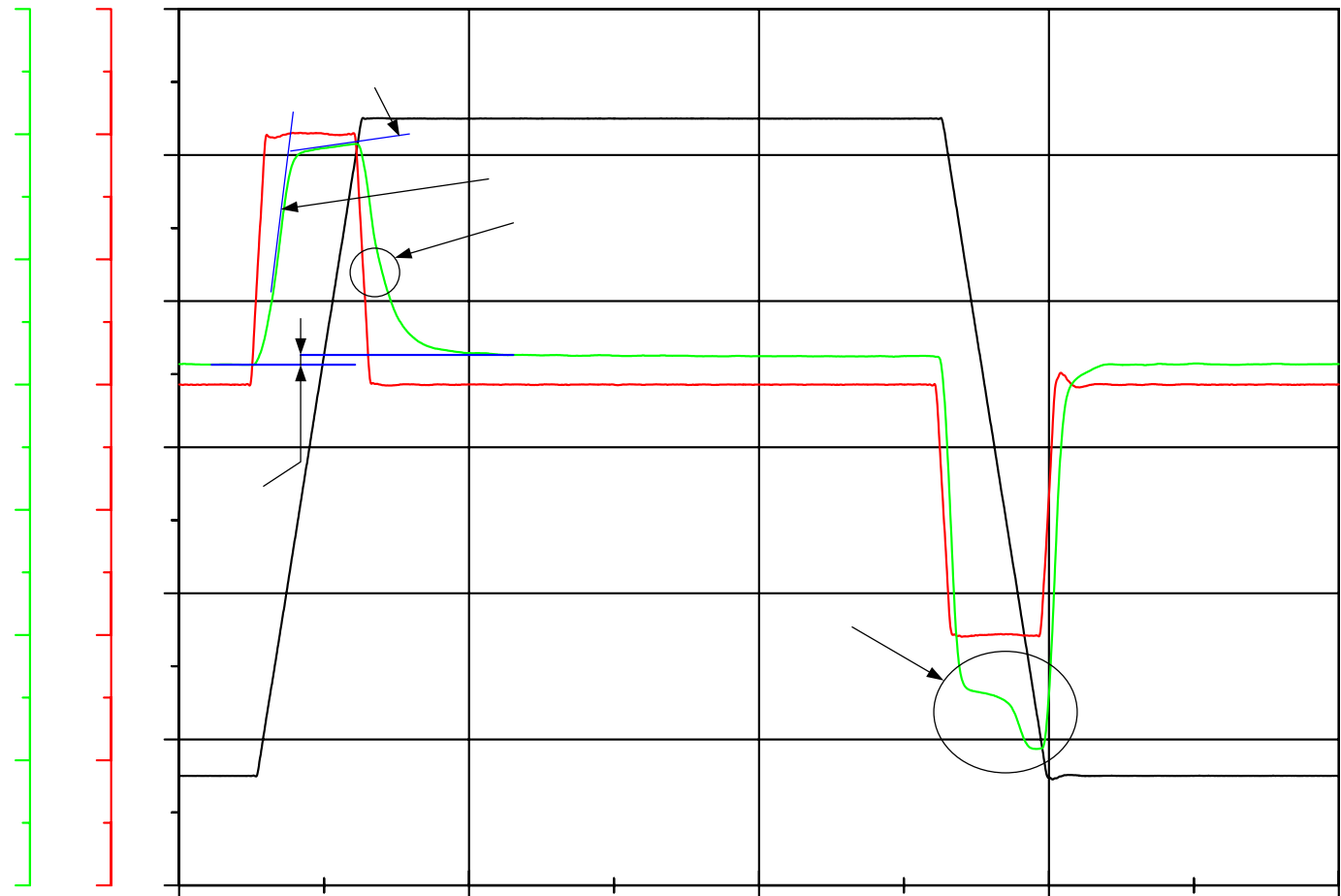
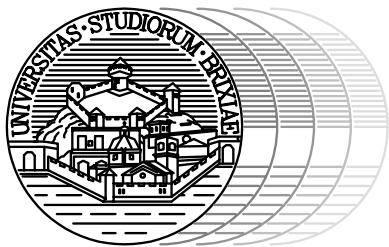
# Prove quasi statiche

- Identificazione della rigidezza e del punto d'attrito
- Rampa a 0.5 mm/s
- $K_i=50$  N
- $F_i=2.2$  N/mm



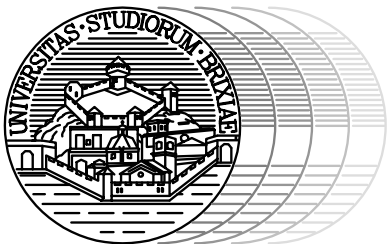
# Prove a v cost

- Diverse rampe a v cost.



# Modelli inefficaci

- Modelli utilizzati correntemente sono inefficaci, la sola curva F-v non descrive il componente in maniera sufficiente
- La sollecitazione sinusoidale non identifica tutti i comportamenti
- Le strade non sono sinusoidali
- Quale modello ?
- Quale influenza sulla dinamica ?



# Quali alternative

- Modello a reti neurali
- Modelli fisici
- Modelli parametrici

