

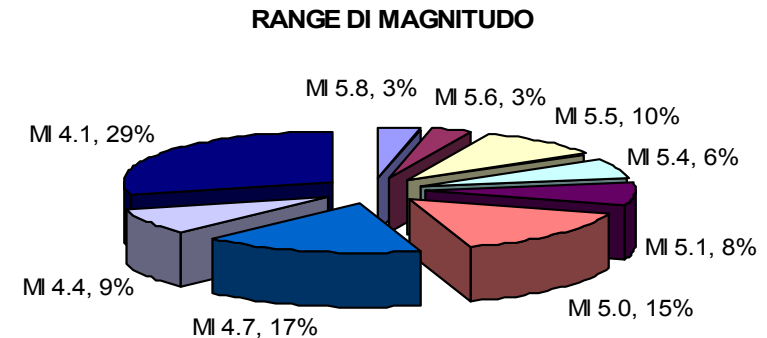
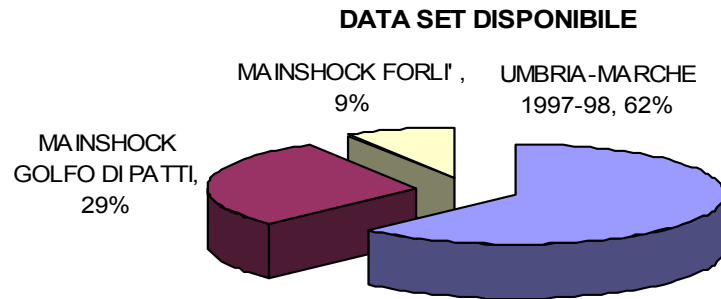
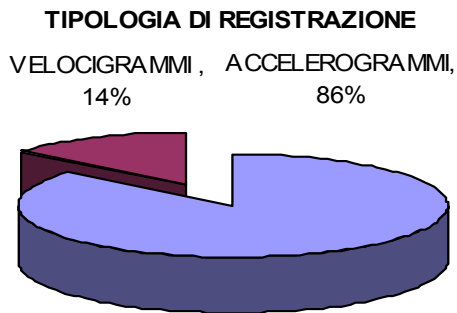
# SPETTRI DI RISPOSTA IN SPOSTAMENTO

Antonio Rovelli, Carola Di Alessandro, Giovanna Calderoni

DPC – S5 UR I.N.G.V. ROMA1

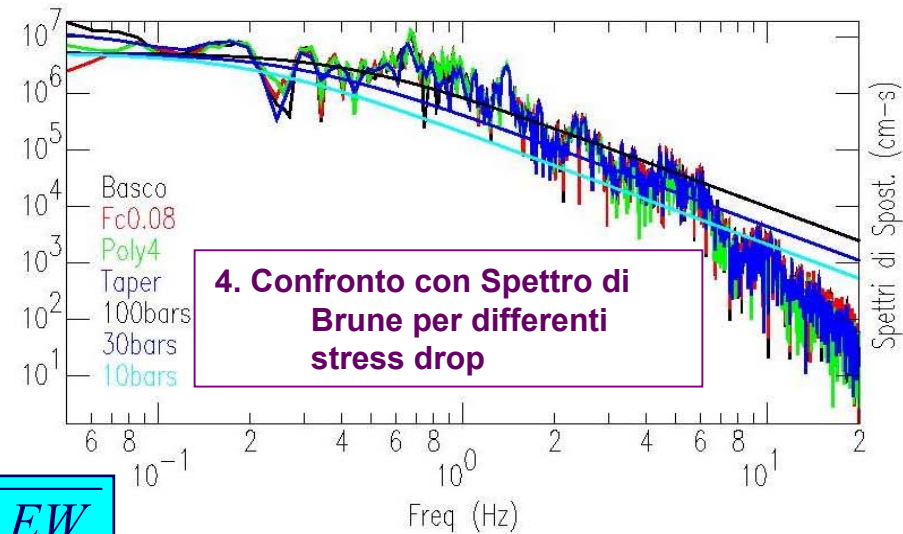
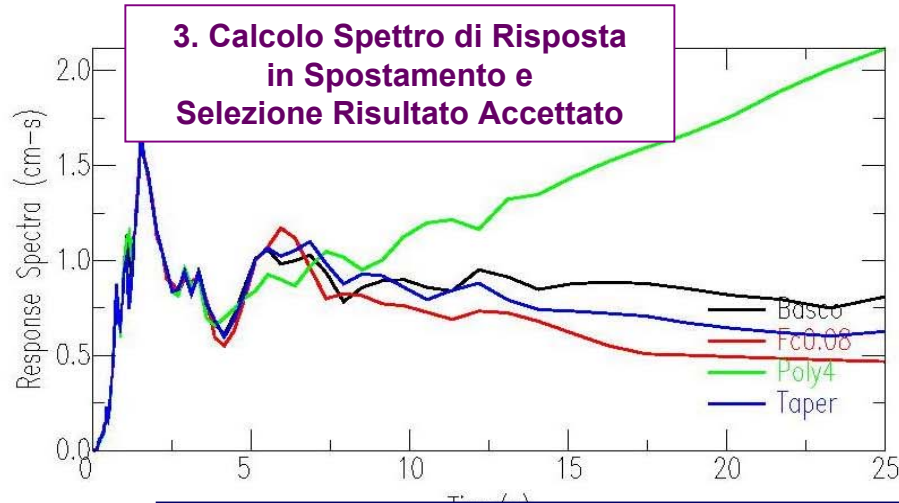
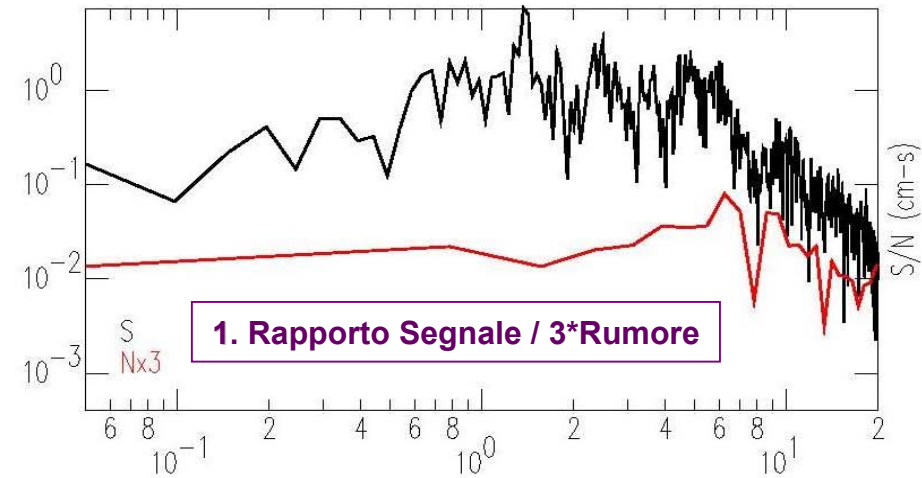
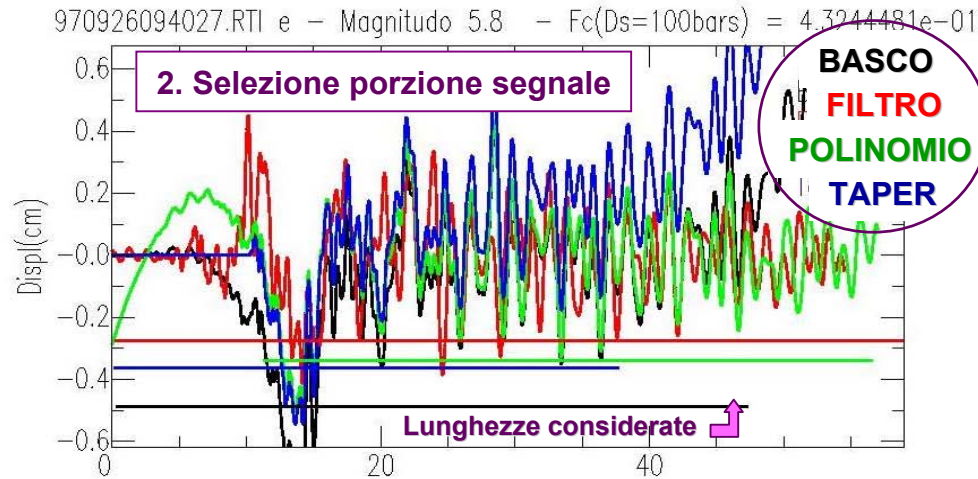
# ATTIVITA' SVOLTA

1. Valutazione critica degli aspetti metodologici
2. Necessità di confrontare più metodi per la stima dell'incertezza legata all'integrazione
3. Calcolo di 186 forme d'onda (12 eventi)



# RISULTATI OTTENUTI

## ESEMPI DI APPLICAZIONE DELLE PROCEDURE UTILIZZATE

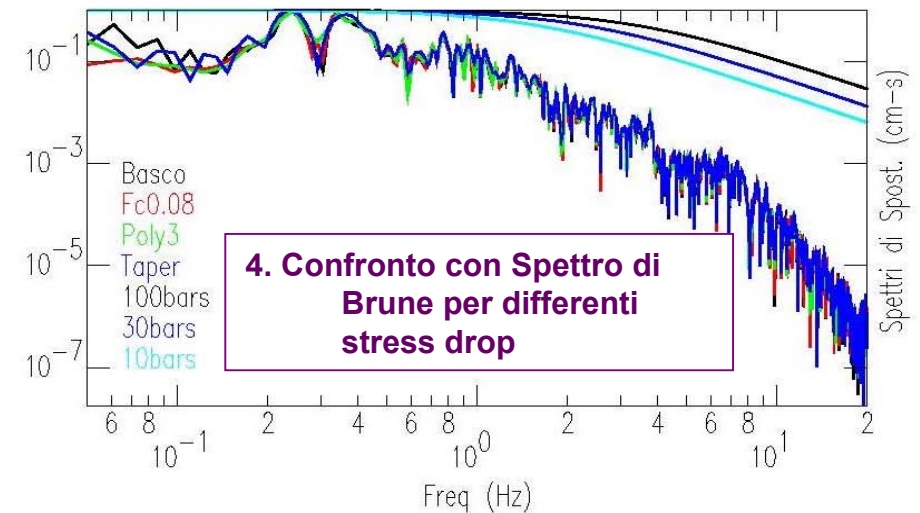
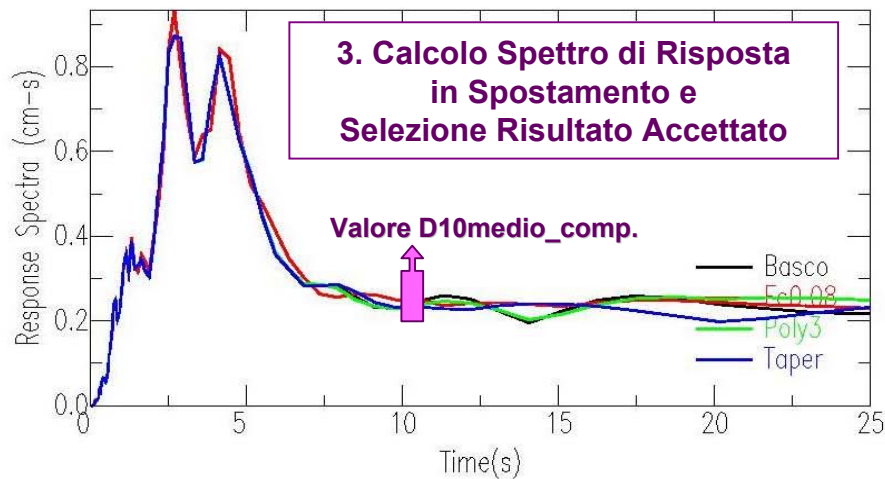
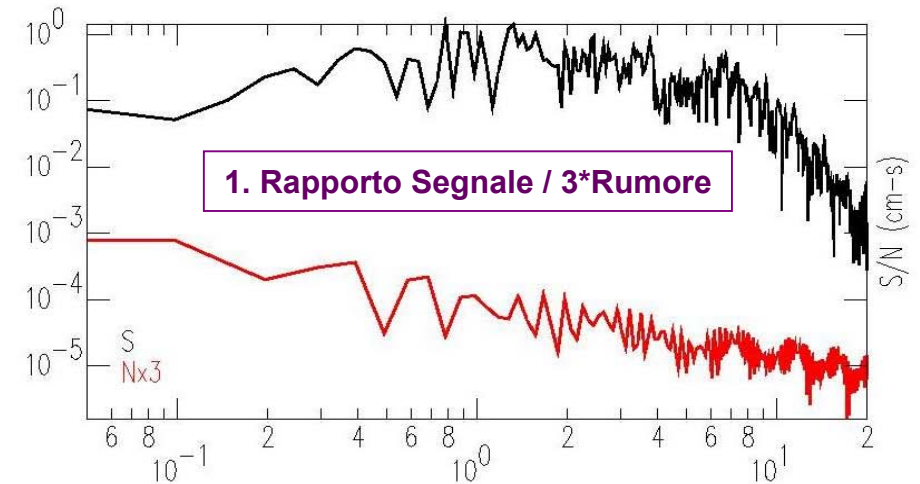
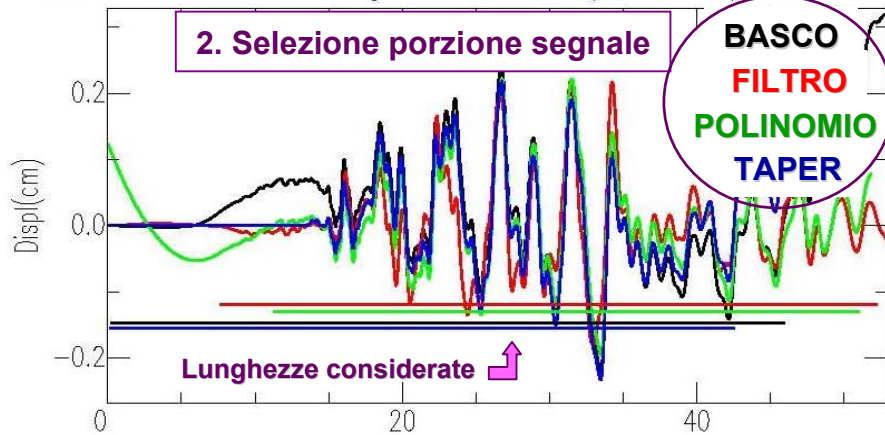


$$D10 = \sqrt{D10_{medio\_NS} * D10_{medio\_EW}}$$

# RISULTATI OTTENUTI

## ESEMPI DI APPLICAZIONE DELLE PROCEDURE UTILIZZATE

971109190733.CSADn - Magnitudo 4.0 -  $F_c(Ds=100bars) = 3.4350381e+00$

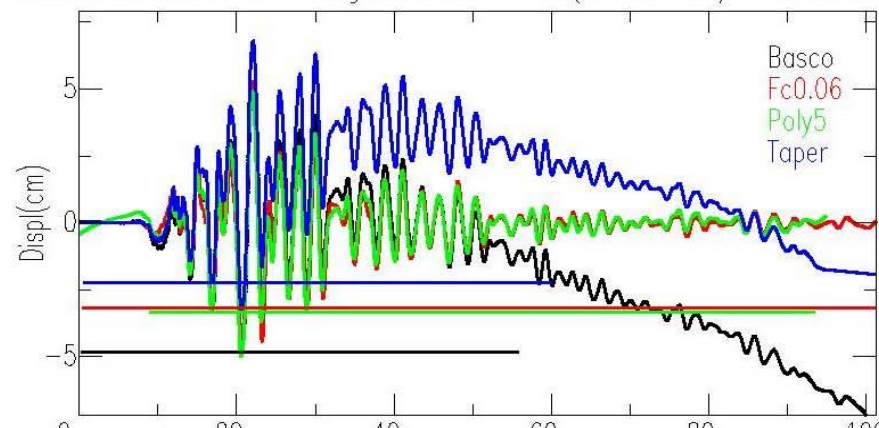


$$D10 = \sqrt{D10medio\_NS * D10medio\_EW}$$

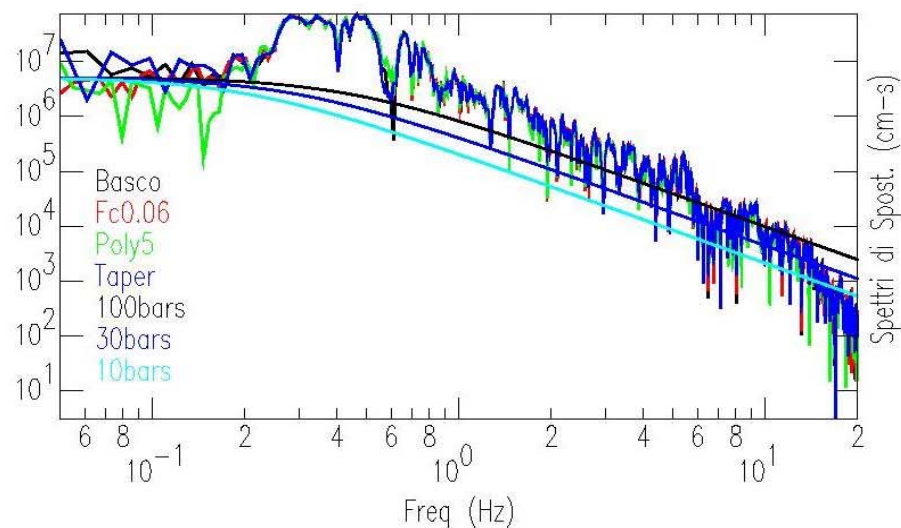
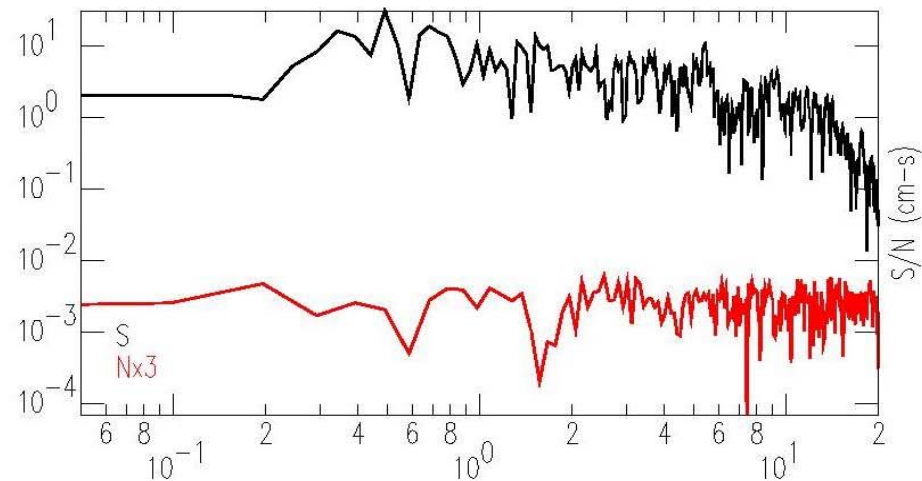
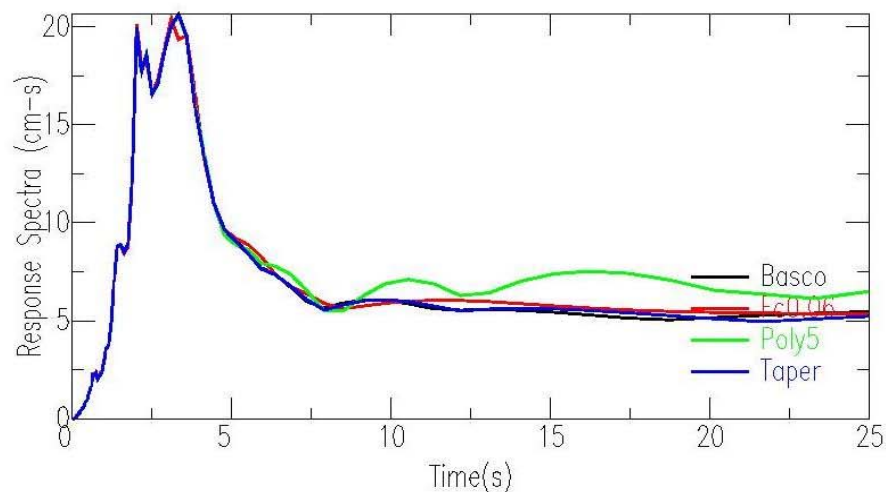
# RISULTATI OTTENUTI

## ESEMPI DI APPLICAZIONE DELLE PROCEDURE UTILIZZATE

970926094027.GBP n — Magnitudo 5.8 —  $F_c(D_s=100\text{bars}) = 4.3244481\text{e-}01$



**Segnali differenti ma D10 confrontabili**

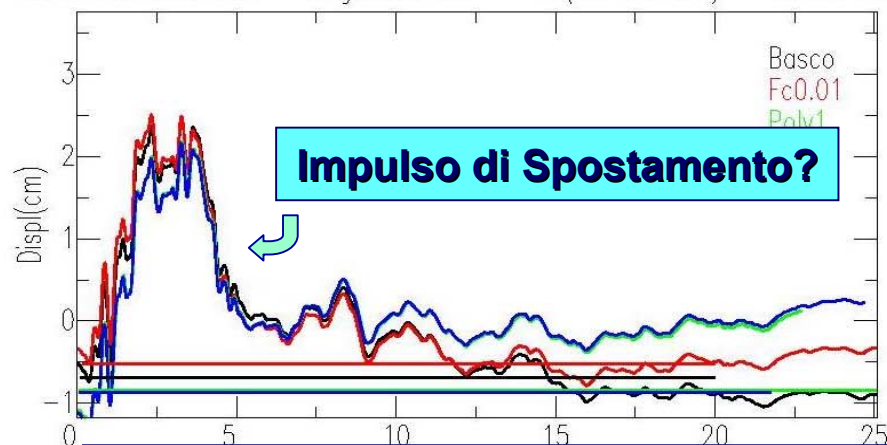




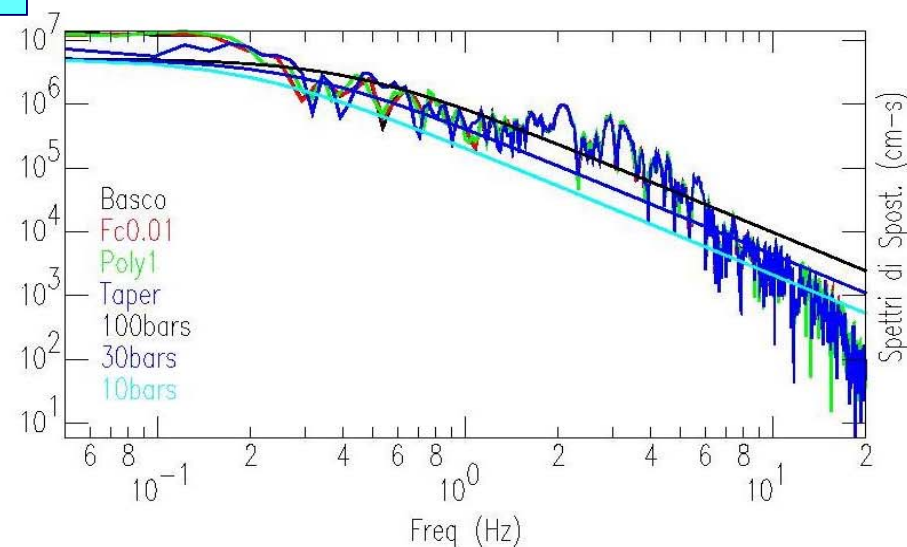
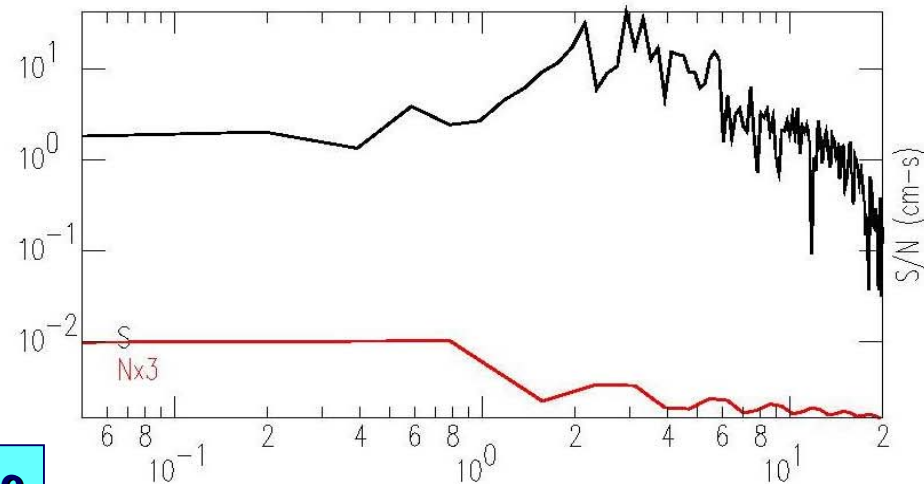
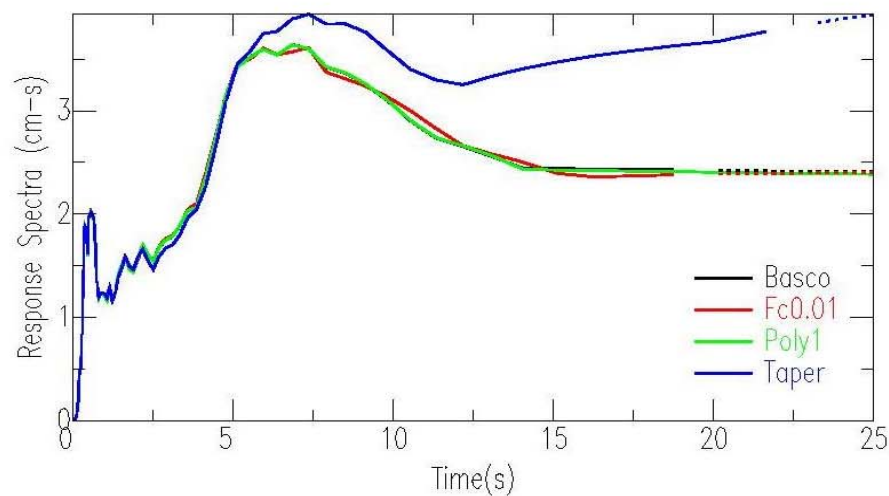
# RISULTATI OTTENUTI

## ESEMPI DI APPLICAZIONE DELLE PROCEDURE UTILIZZATE

970926094027.ASSle - Magnitudo 5.8 -  $F_c(D_s=100\text{bars}) = 4.3244481e-01$



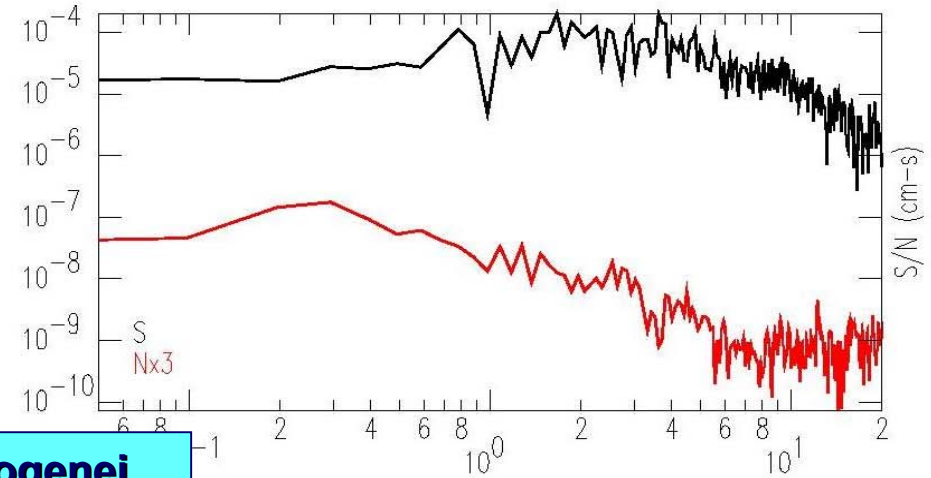
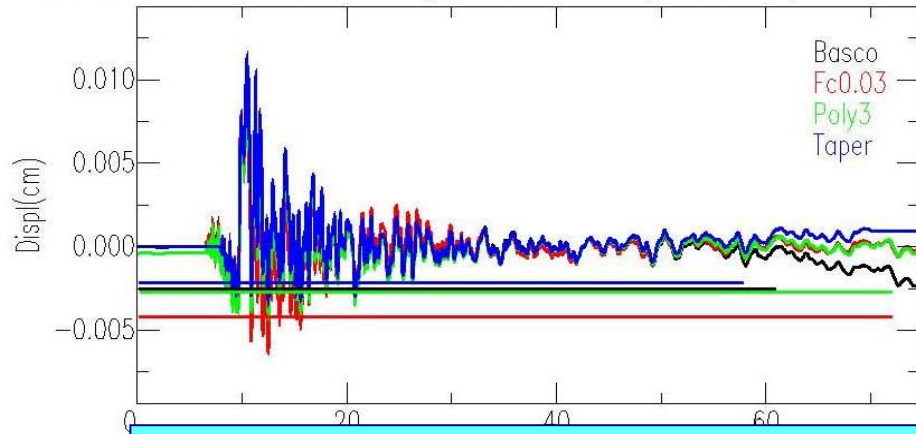
**Record normalmente scartato ma recuperabile**



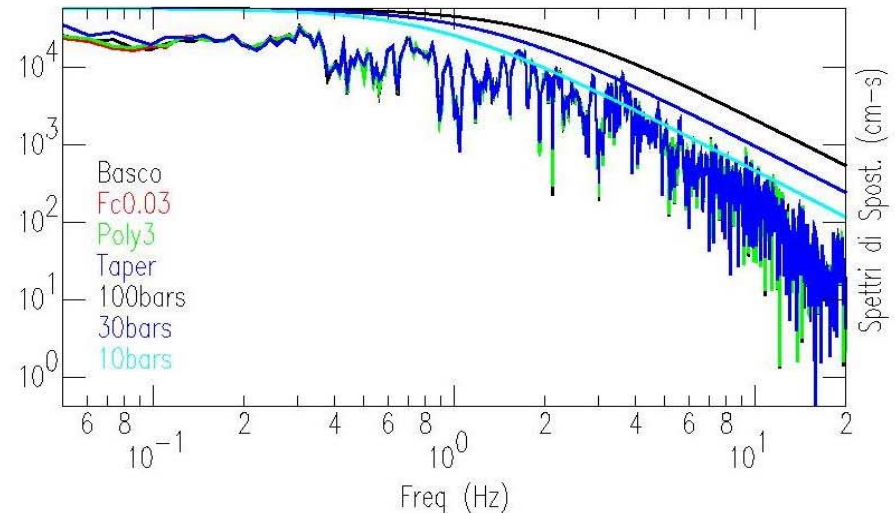
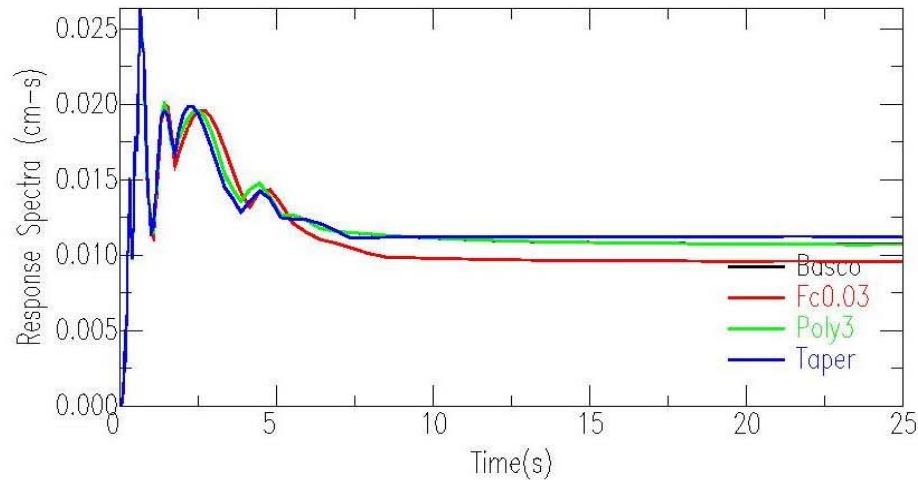
# RISULTATI OTTENUTI

## ESEMPI DI APPLICAZIONE DELLE PROCEDURE UTILIZZATE

20060227 043215.MMMEE - Magnitudo 4.5 -  $F_c(D_s=100\text{bars}) = 1.9316610e+00$



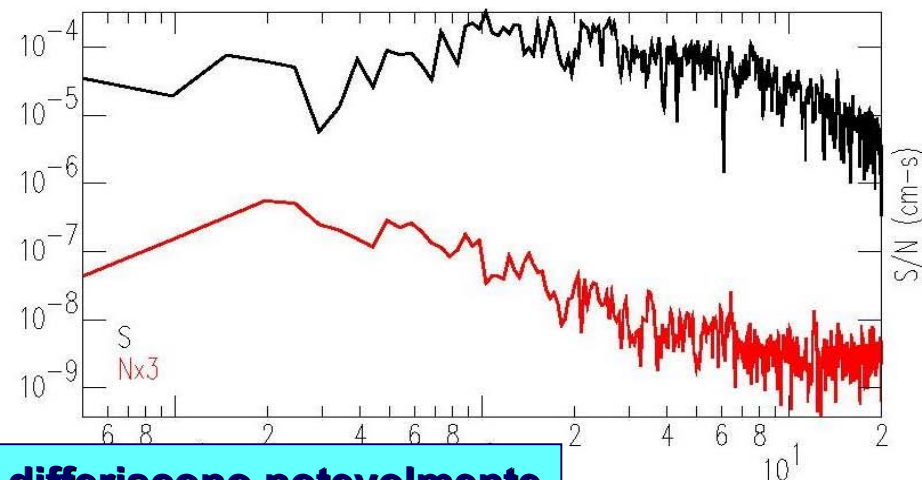
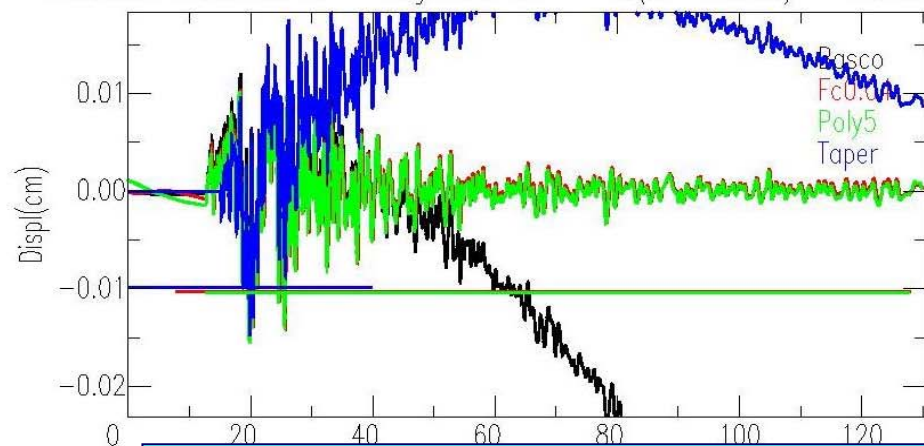
**Records velocimetrici generalmente più omogenei...**



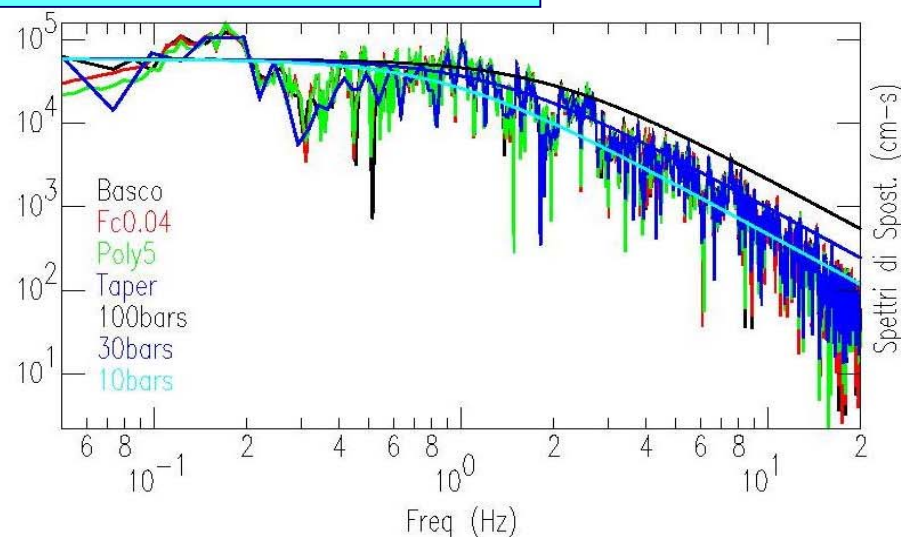
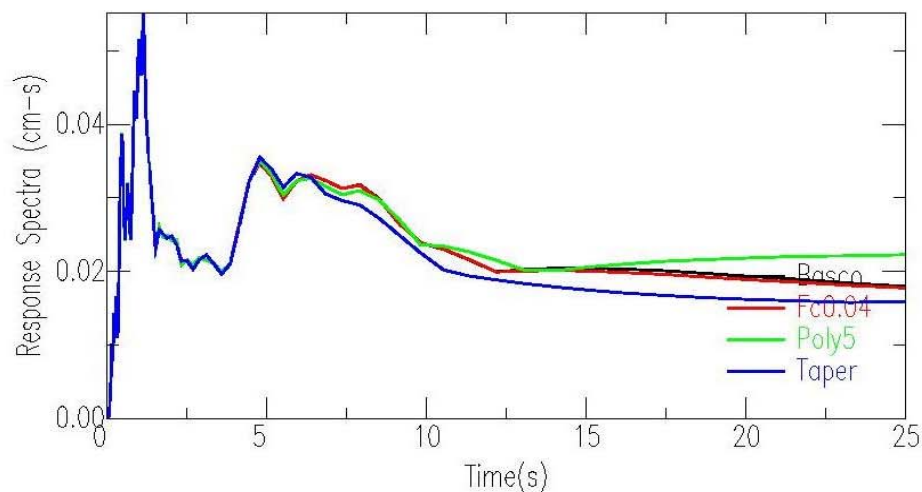
# RISULTATI OTTENUTI

## ESEMPI DI APPLICAZIONE DELLE PROCEDURE UTILIZZATE

20060227 043216.IVPLN - Magnitudo 4.5 -  $F_c(D_s=100\text{bars}) = 1.9316610e+00$



**... anche se talvolta le forme in spostamento differiscono notevolmente**





# RISULTATI OTTENUTI

## INCERTEZZE SULLE STIME

- INCERTEZZA CAUSATA DALLA PROCEDURA:

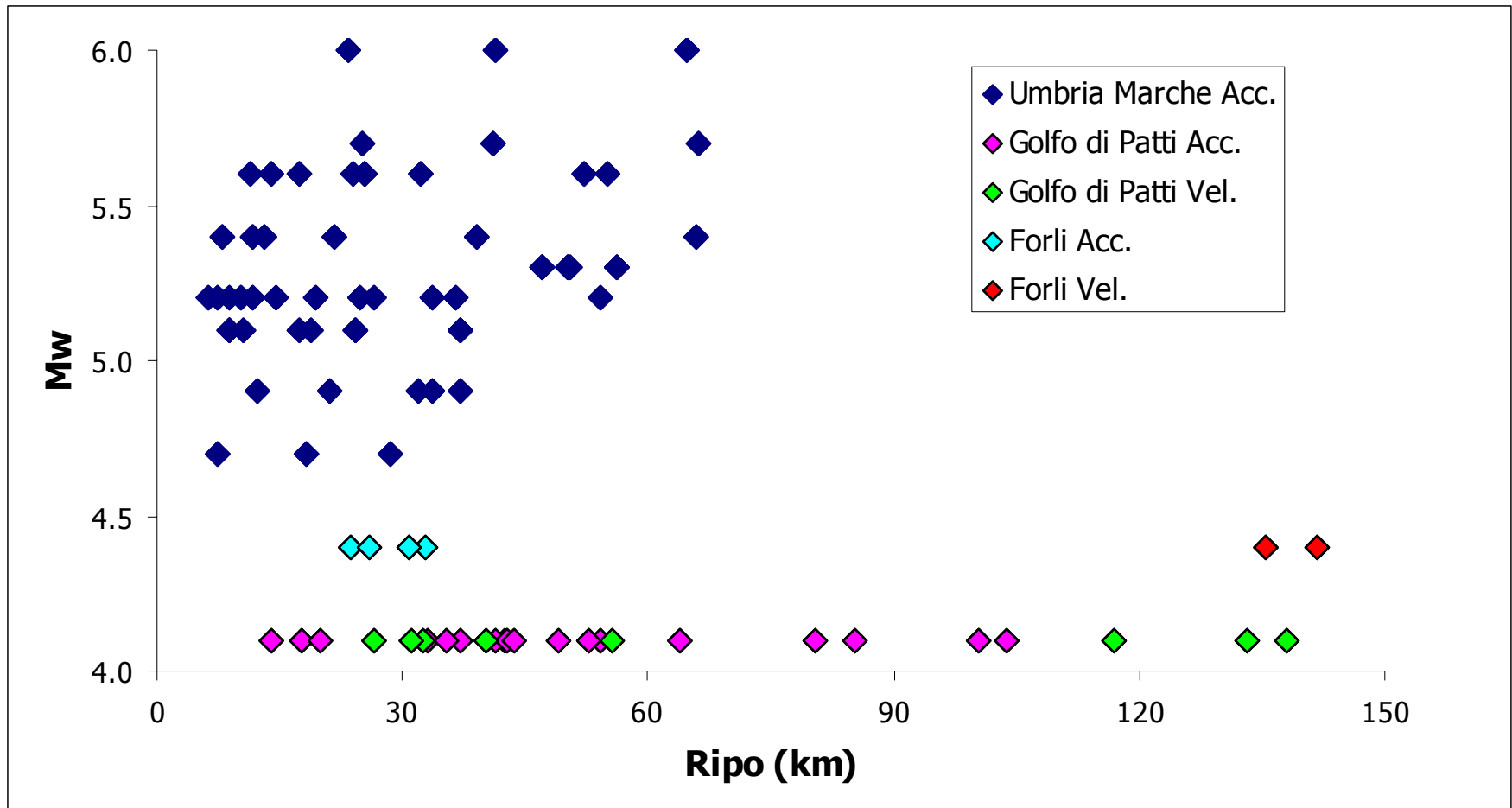
15 % Comp. E-W; 18% Comp. N-S

- INCERTEZZA SUL VALOR MEDIO:

47 %

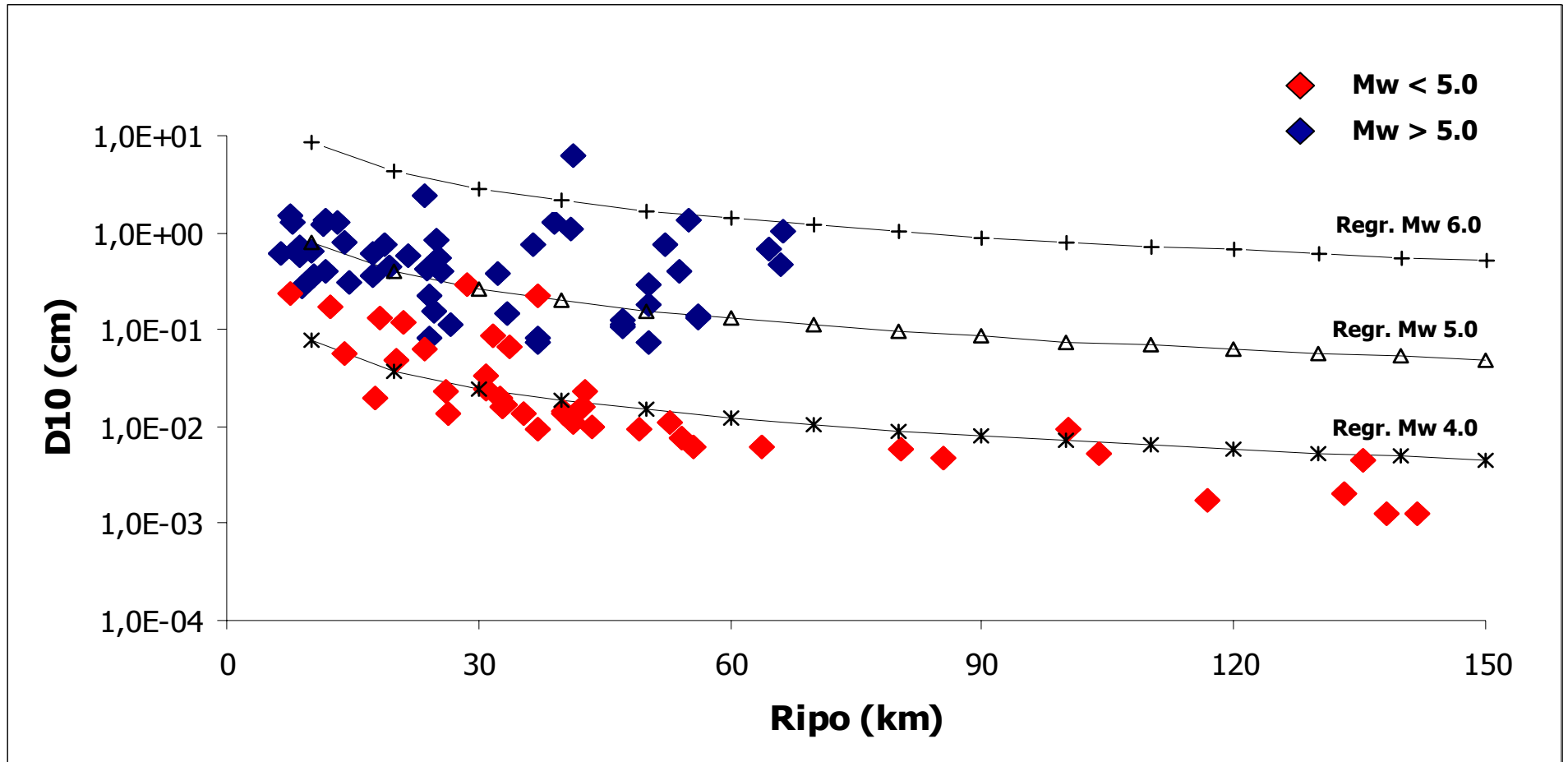
# RISULTATI OTTENUTI

## MAGNITUDO – DISTANZA IPOCENTRALE



# RISULTATI OTTENUTI

D10 (MAGNITUDO MOMENTO, DISTANZA IPOCENTRALE)



# RISULTATI OTTENUTI

## CASO DEL TERREMOTO DEL GOLFO DI PATTI

### 1. Caratteristiche dell'evento

**LOCALITA' e DATA:** Golfi di Patti e di Milazzo - 27 Febbraio 2006

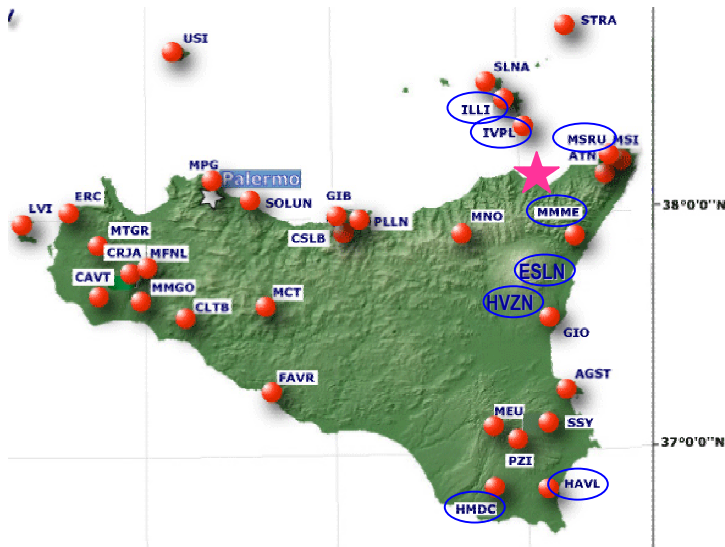
**ORA (UTC):** 04:34:01.8

**MAGNITUDO (Mw):** 4.1

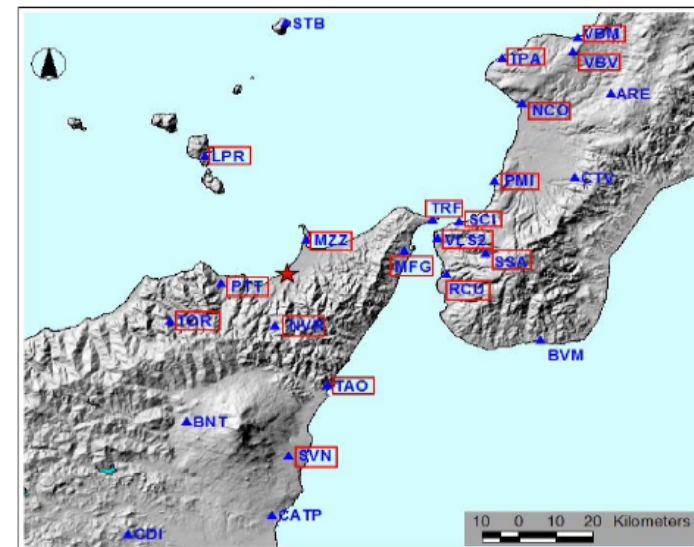
**COORDINATE EPICENTRALI:** 38.155N 15.200E 9.2 Km

### 2. Data set disponibile

9 Stazioni Broad-Band  
Rete Sismica Nazionale



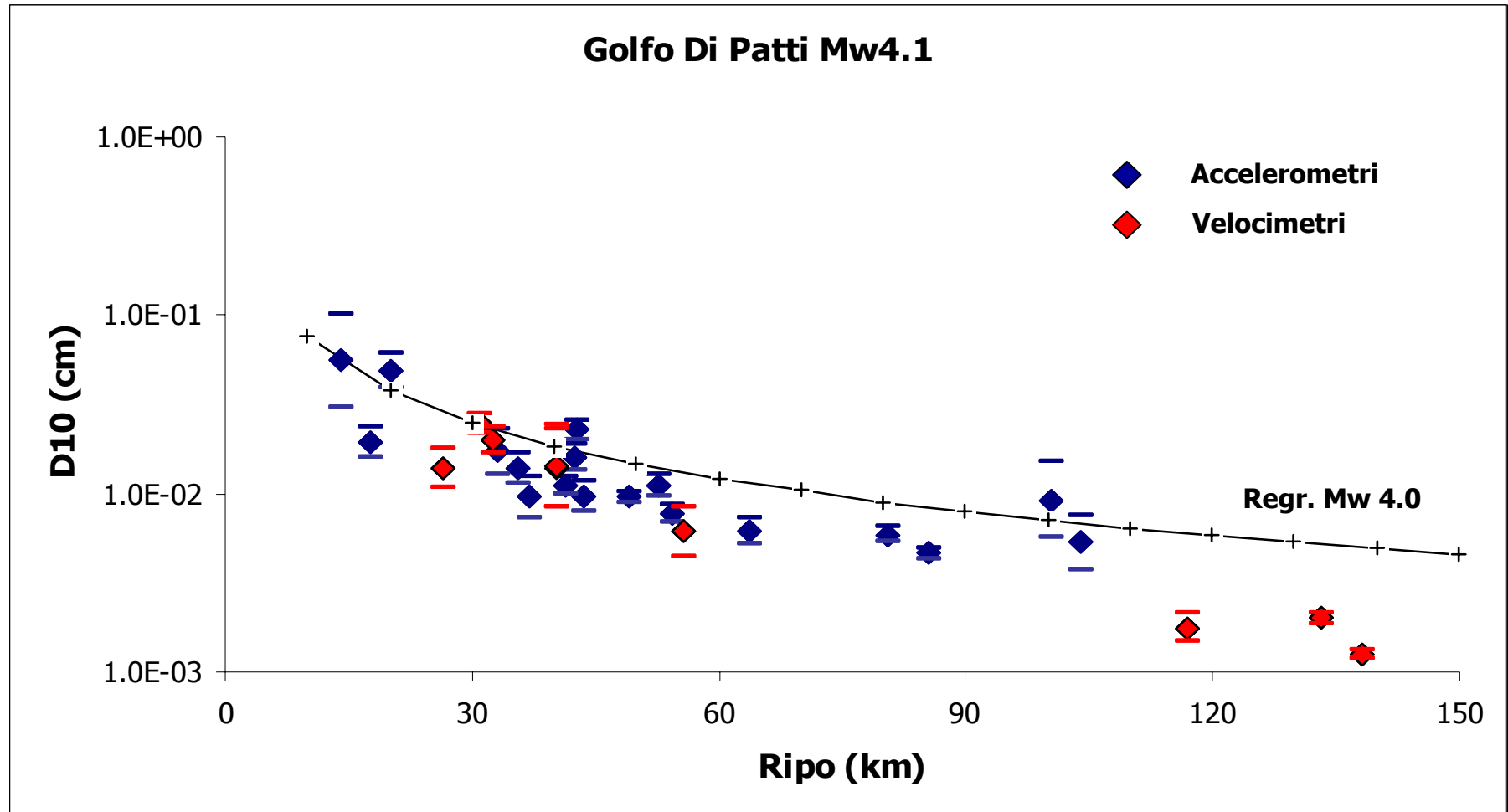
18 Stazioni Accelerometriche  
Rete Accelerometrica Nazionale (SSN-DPC)



# RISULTATI OTTENUTI

## CASO DEL TERREMOTO DEL GOLFO DI PATTI

Andamento D10 – Distanza Ipocentrale





# RINGRAZIAMENTI

- A. GORINI e S. MARCUCCI - SERVIZIO SISMICO
- L. SCOGNAMIGLIO e G. MILANA – INGV