

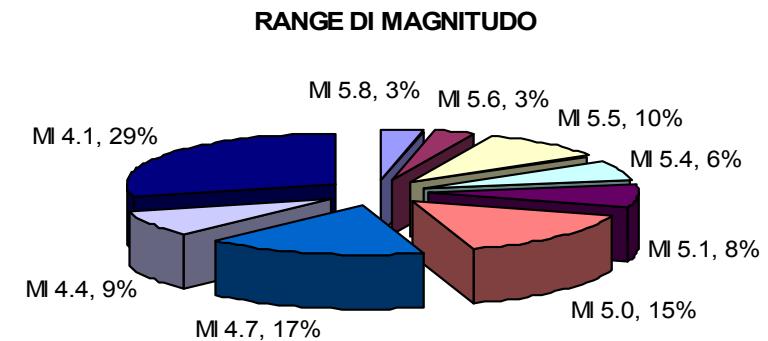
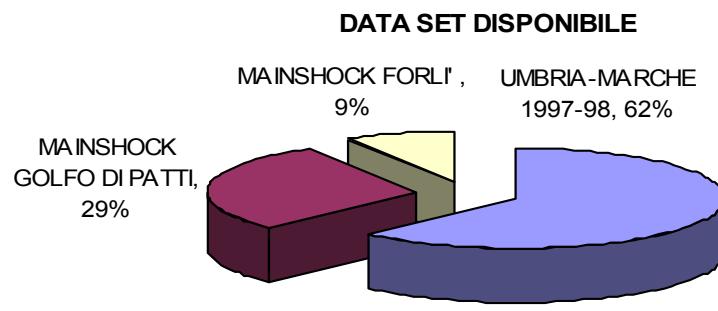
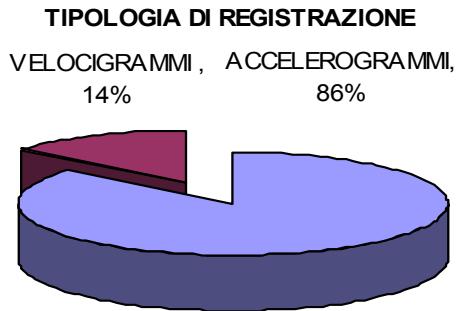
# **SPETTRI DI RISPOSTA IN SPOSTAMENTO**

Antonio Rovelli, Carola Di Alessandro, Giovanna Calderoni

**DPC – S5 UR I.N.G.V. ROMA1**

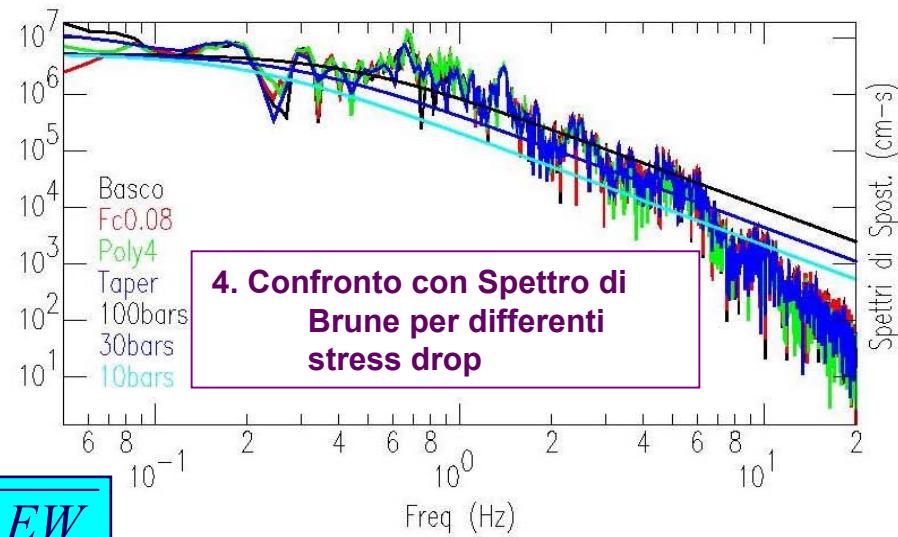
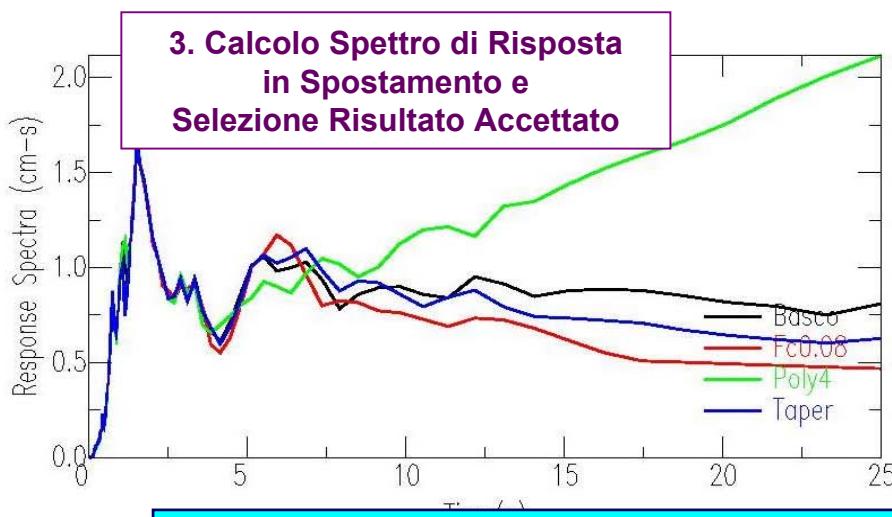
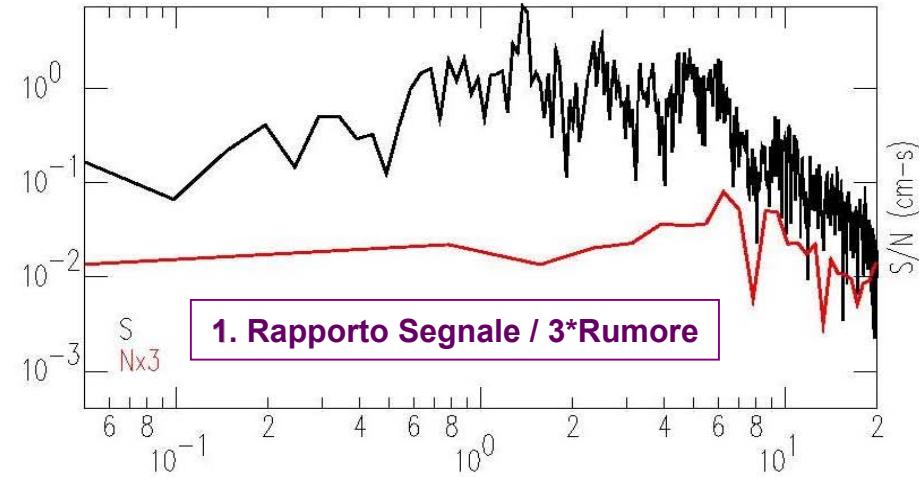
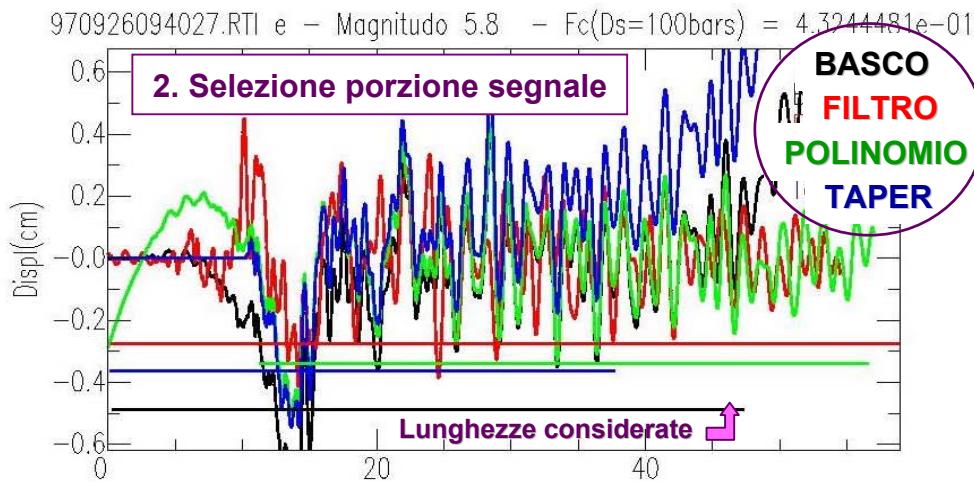
# ATTIVITA' SVOLTA

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

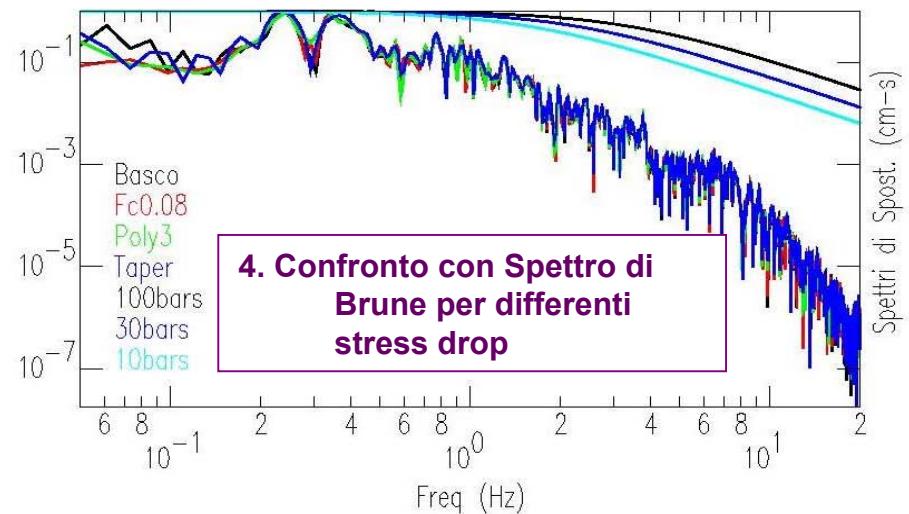
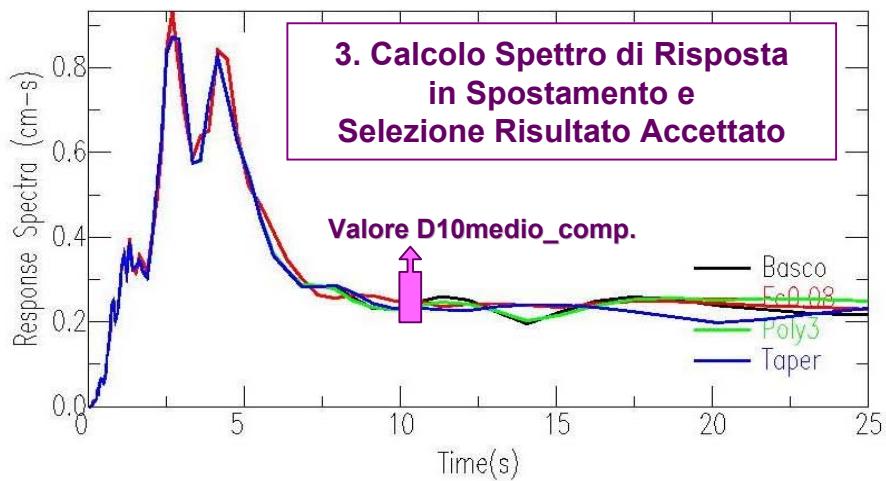
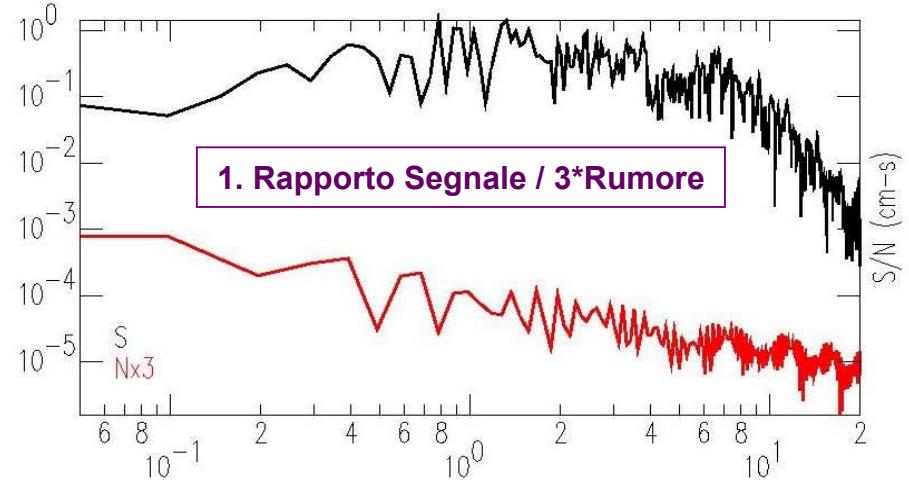


$$D10 = \sqrt{D10\text{medio} - NS * D10\text{medio} - EW}$$

# RISULTATI OTTENUTI

## ESEMPI DI APPLICAZIONE DELLE PROCEDURE UTILIZZATE

971109190733.CSADn – Magnitudo 4.0 –  $F_c(D_s=100\text{bars}) = 3.4350381\text{e+00}$

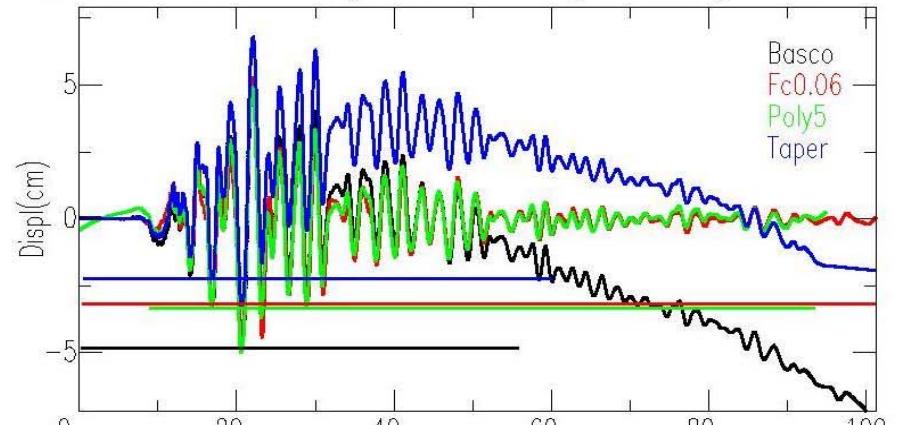


$$D10 = \sqrt{D10\text{medio\_NS} * D10\text{medio\_EW}}$$

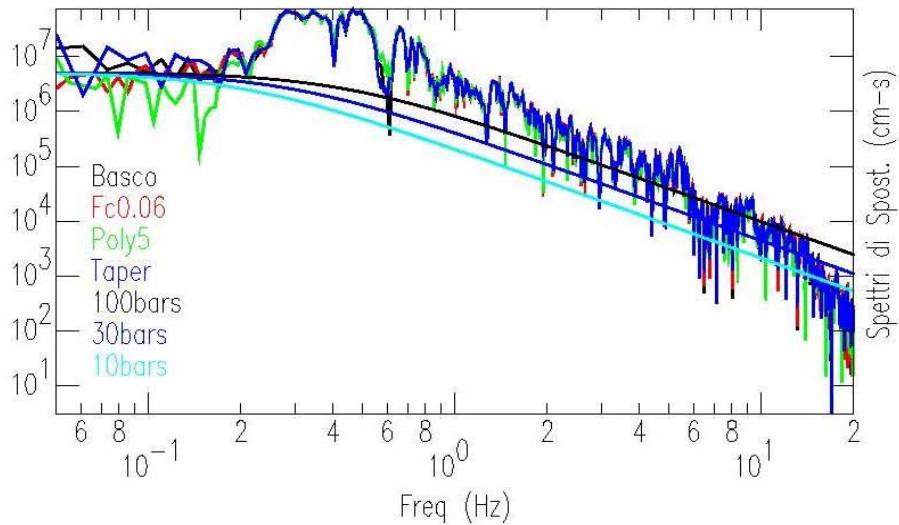
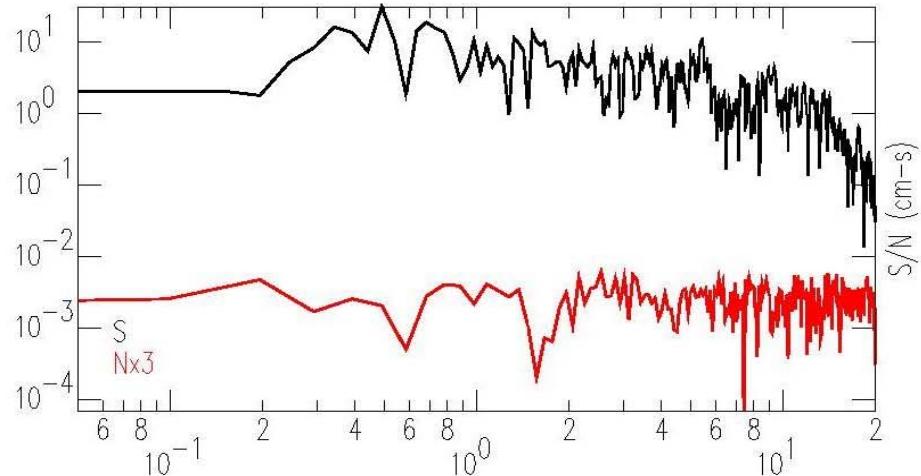
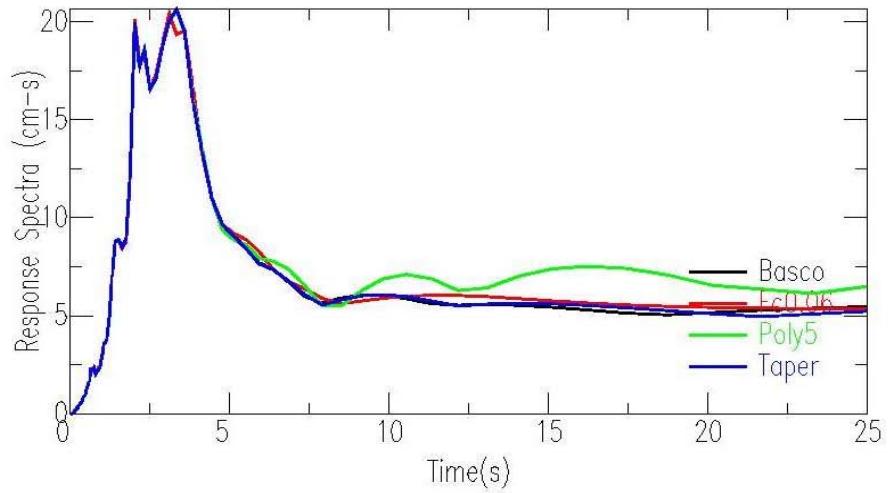
# RISULTATI OTTENUTI

## ESEMPI DI APPLICAZIONE DELLE PROCEDURE UTILIZZATE

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



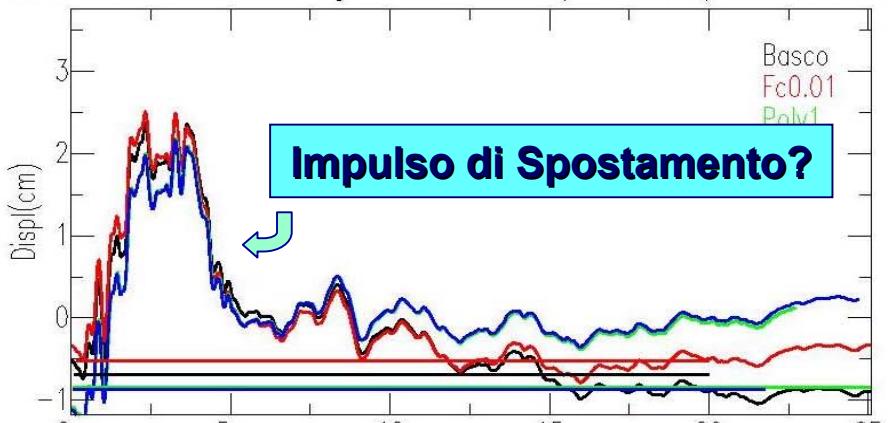
Segnali differenti ma D10 confrontabili



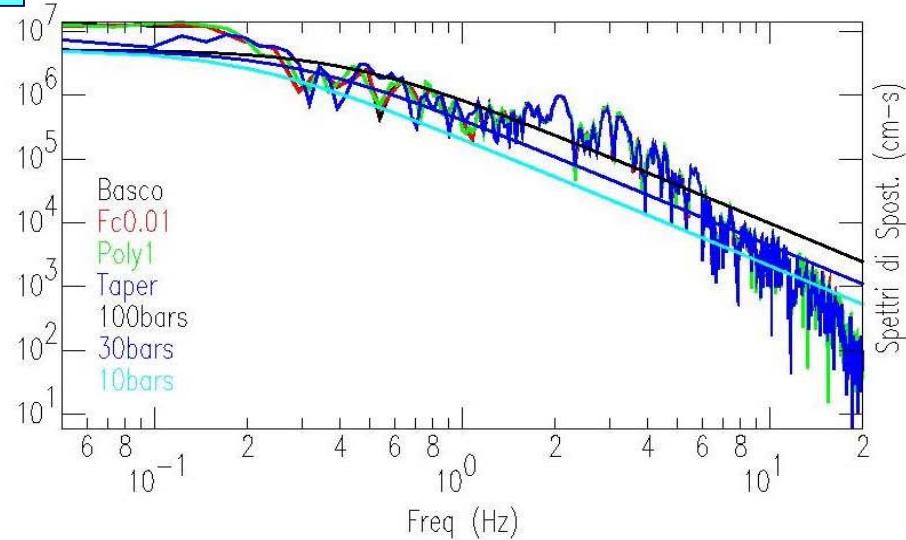
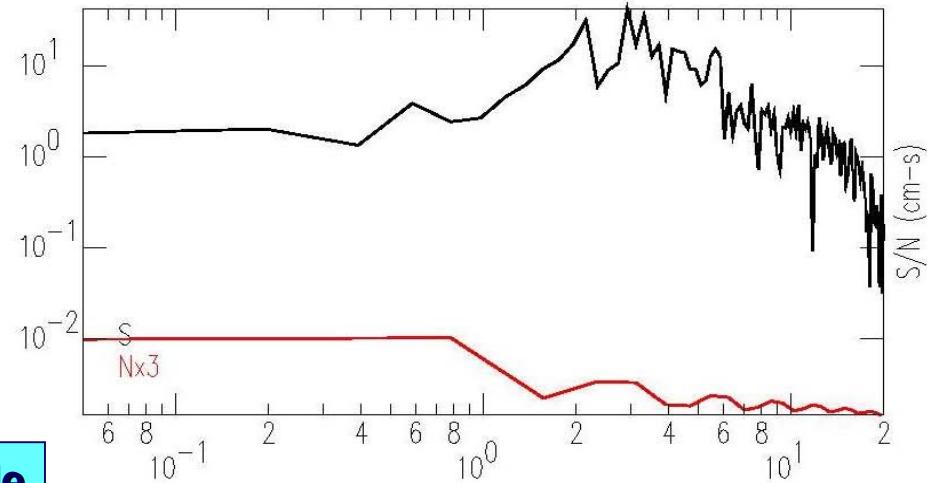
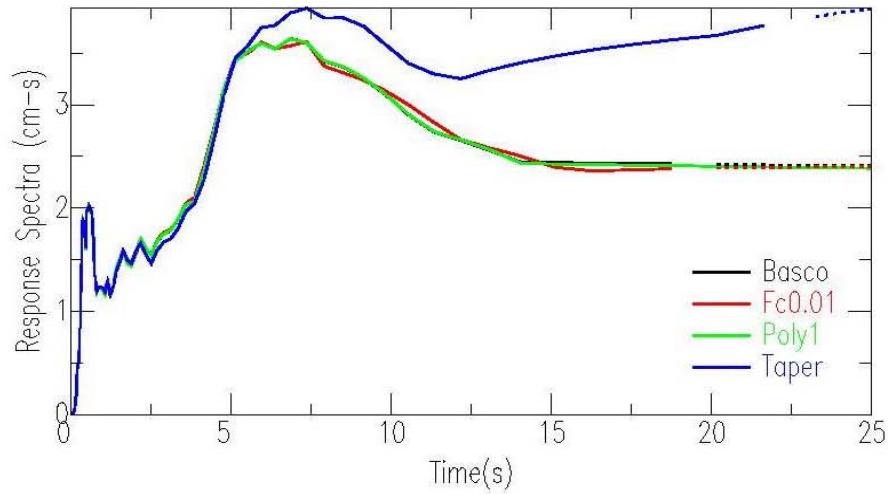
# RISULTATI OTTENUTI

## ESEMPI DI APPLICAZIONE DELLE PROCEDURE UTILIZZATE

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

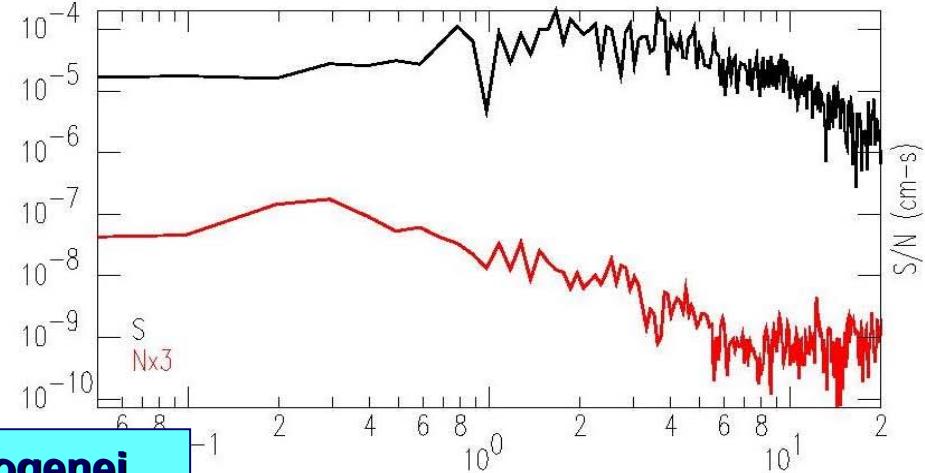
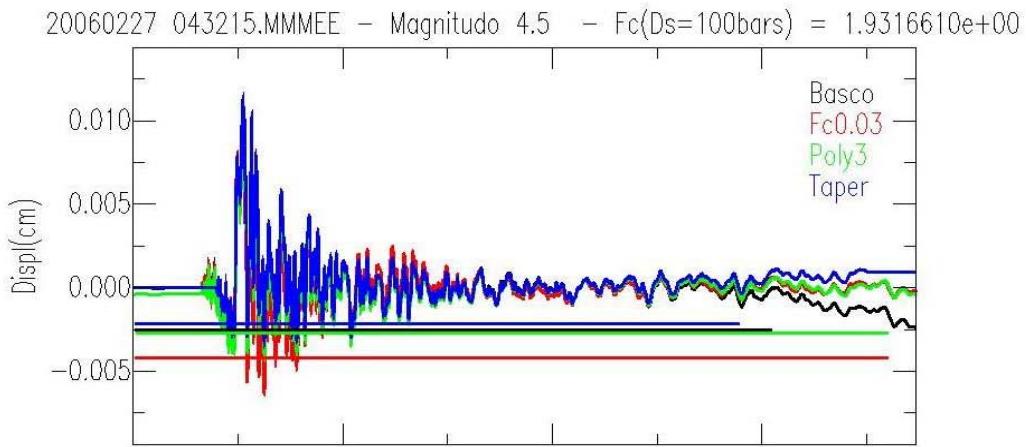


Record normalmente scartato ma recuperabile

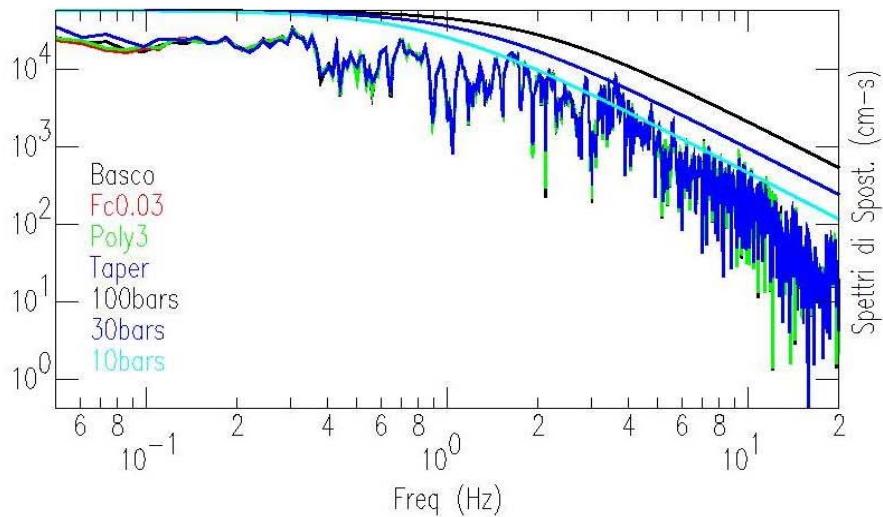
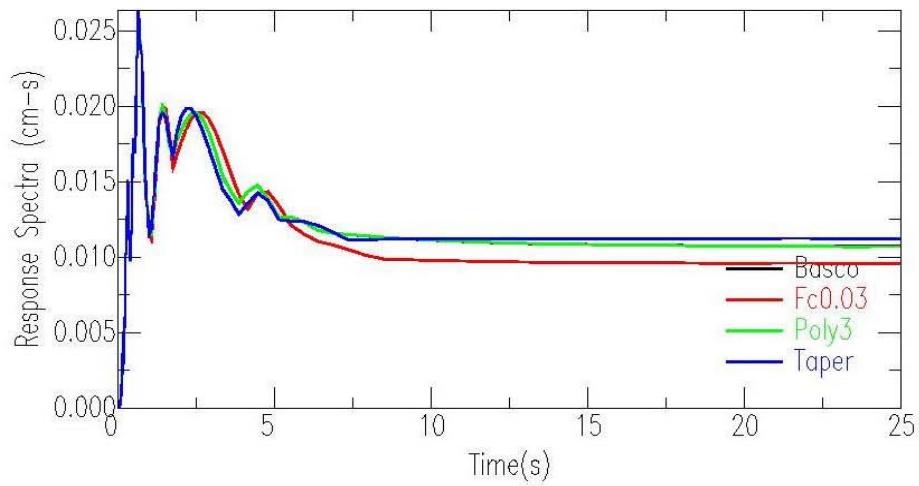


# RISULTATI OTTENUTI

## ESEMPI DI APPLICAZIONE DELLE PROCEDURE UTILIZZATE



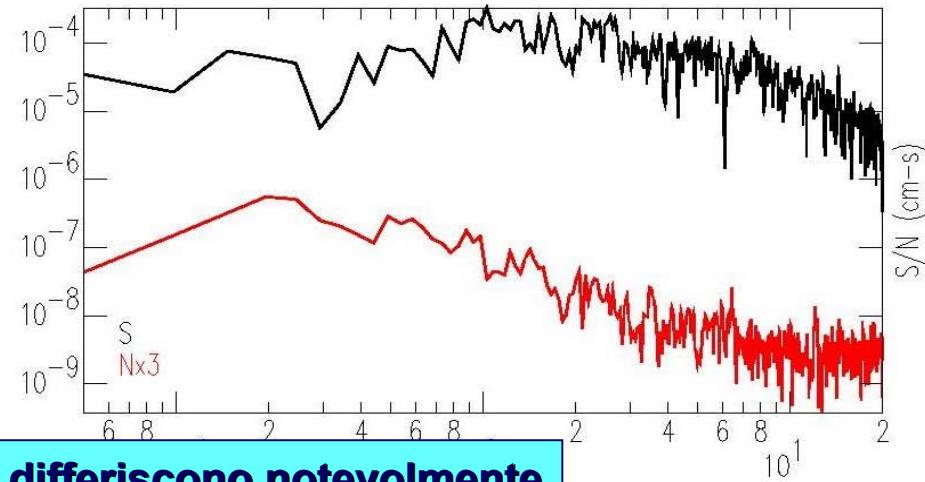
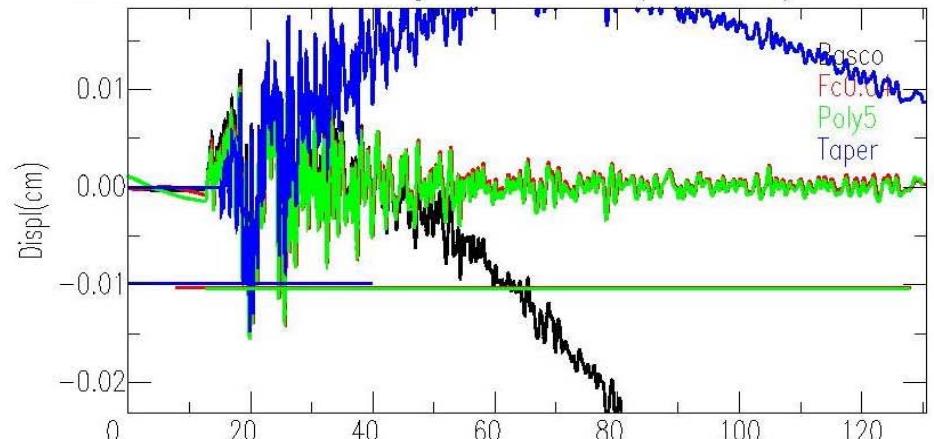
Records velocimetrici generalmente più omogenei...



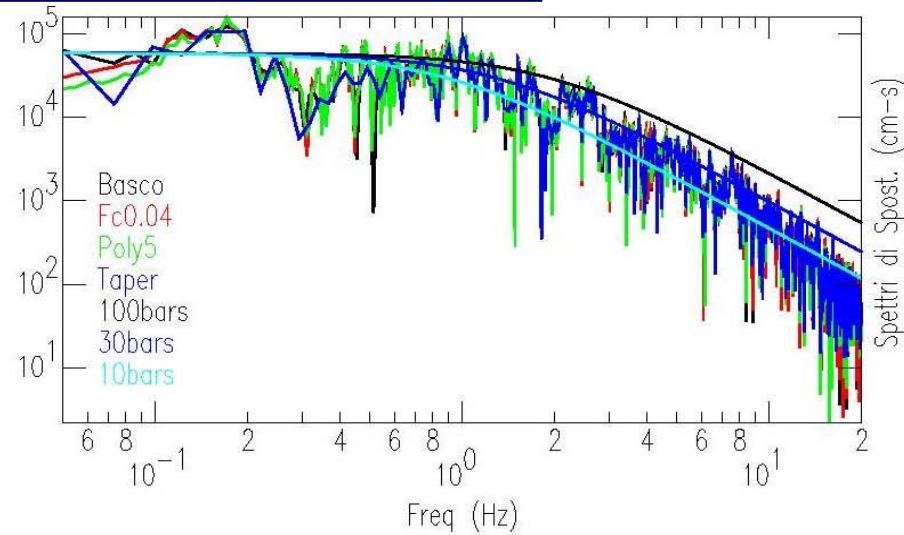
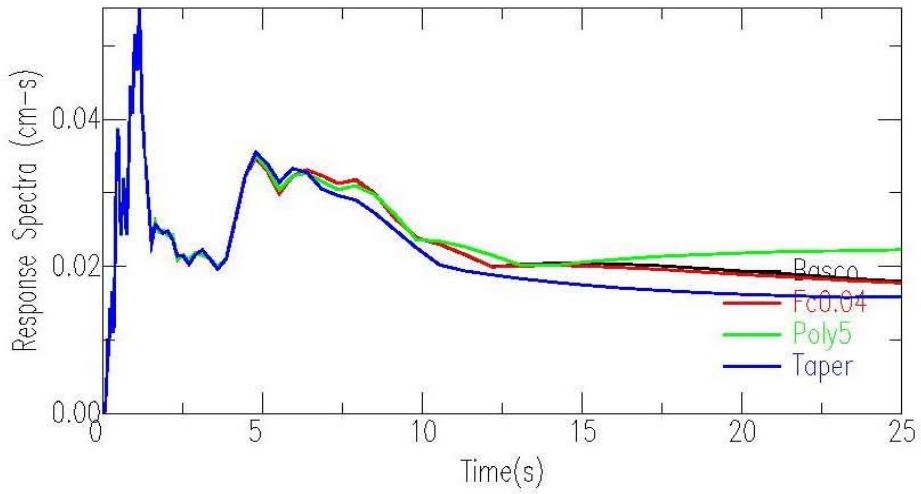
# RISULTATI OTTENUTI

## 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:

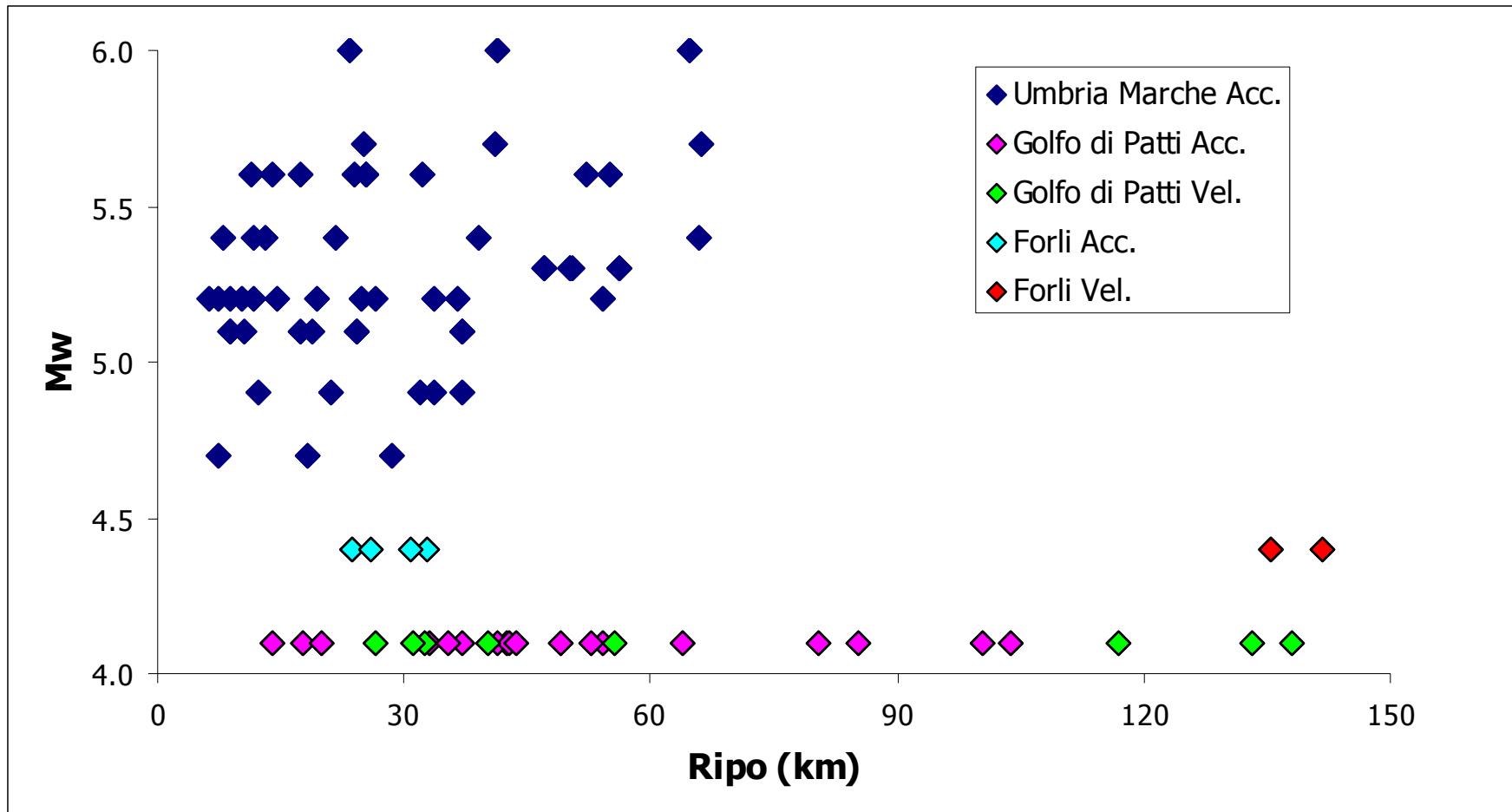
15 % Comp. E-W; 18% Comp. N-S

- INCERTEZZA SUL VALOR MEDIO:

47 %

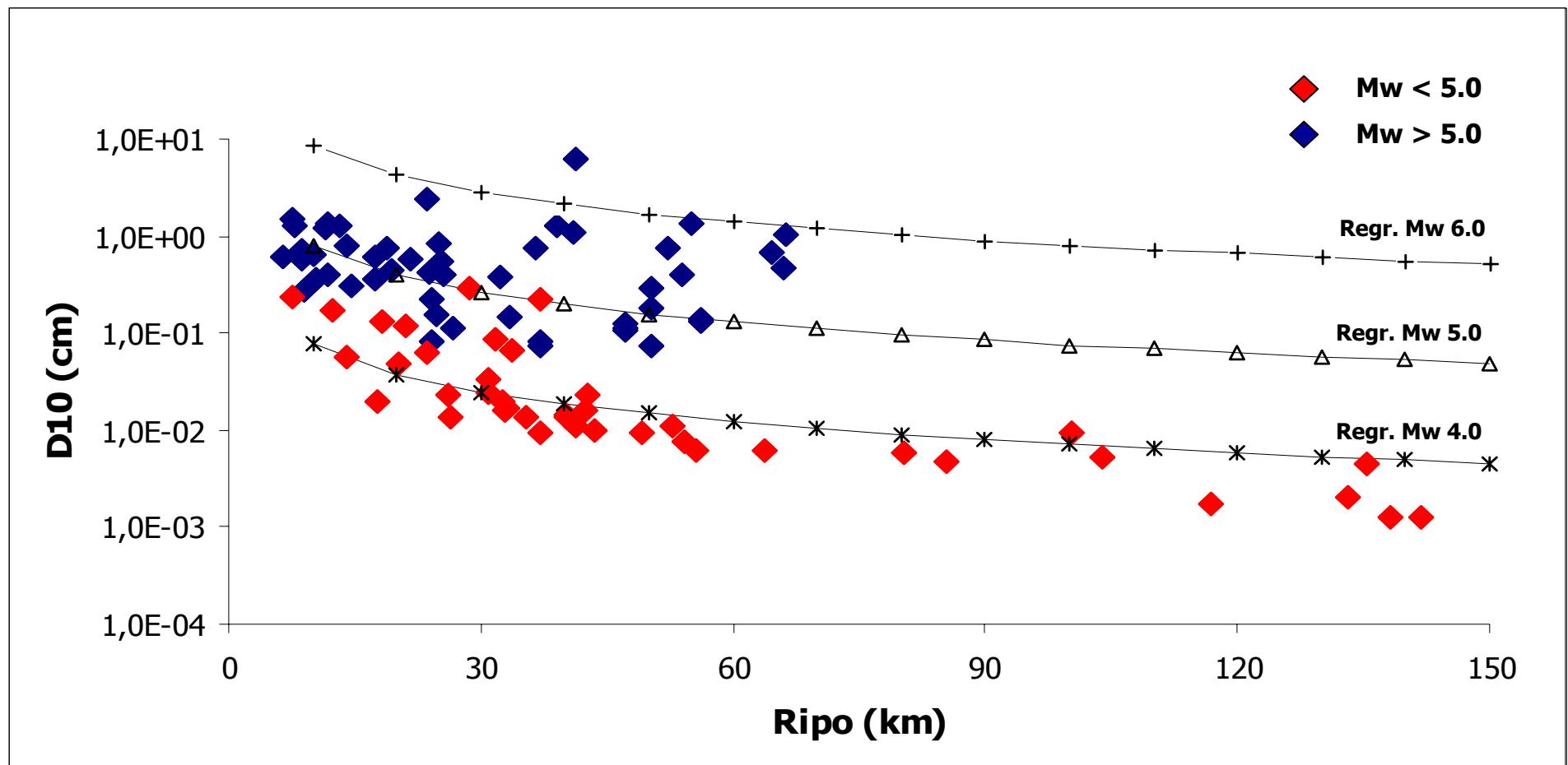
# RISULTATI OTTENUTI

## MAGNITUDO – DISTANZA IPOCENTRALE



# RISULTATI OTTENUTI

## D10 (MAGNITUDO MOMENTO, DISTANZA IPOCENTRALE)



# RISULTATI OTTENUTI

## CASO DEL TERREMOTO DEL GOLFO DI PATTI

### 1. Caratteristiche dell'evento

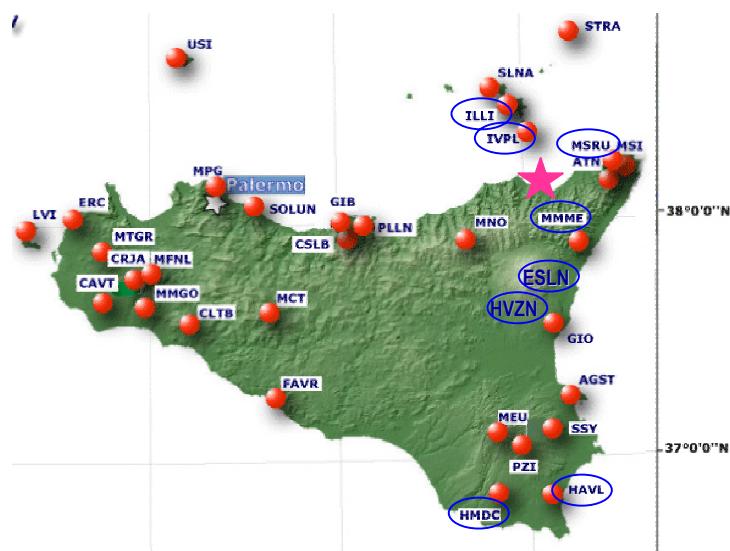
**LOCALITA' e DATA:** Golfi di Patti e di Milazzo - 27 Febbraio 2006

**ORA (UTC):** 04:34:01.8      **MAGNITUDO (Mw):** 4.1

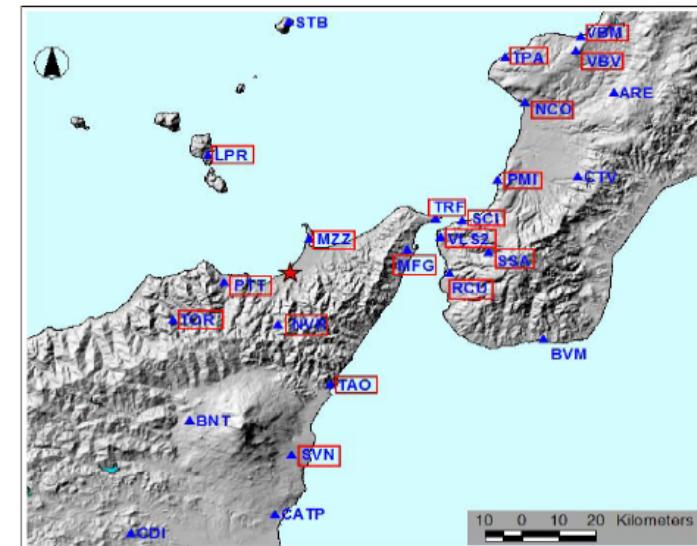
**COORDINATE EPICENTRALI:** 38.155N 15.200E 9.2 Km

### 2. Data set disponibile

**9 Stazioni Broad-Band  
Rete Sismica Nazionale**



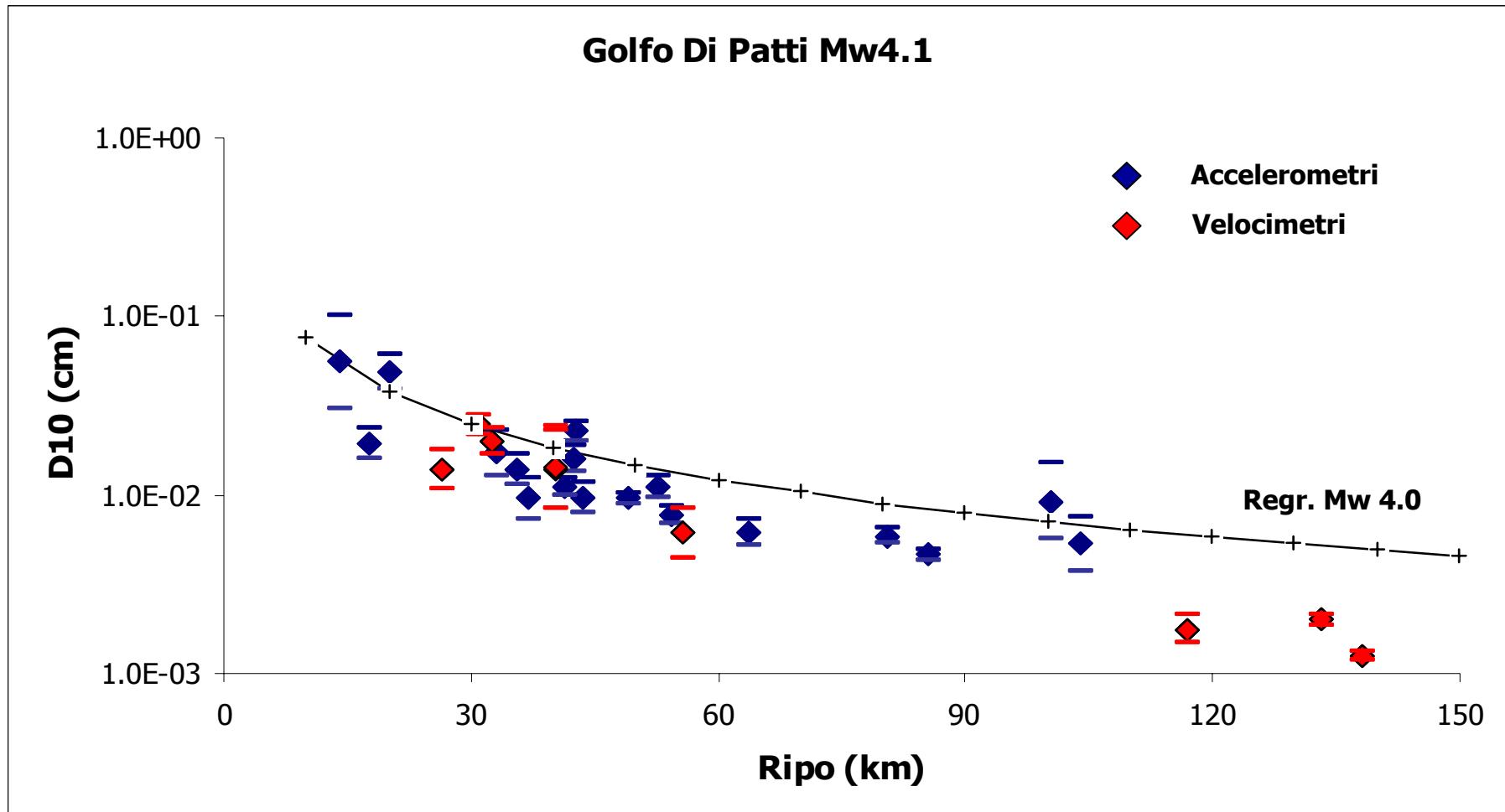
**18 Stazioni Accelerometriche  
Rete Accelerometrica Nazionale (SSN-DPC)**



# 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