

ALMA MATER STUDIORUM – UNIVERSITÀ DI BOLOGNA

SCUOLA DI INGEGNERIA E ARCHITETTURA

DICAM – Dipartimento di Ingegneria Civile, Ambientale e dei Materiali

Corso di Laurea Magistrale in Ingegneria Civile

TESI DI LAUREA MAGISTRALE

**PROVE SU TAVOLA VIBRANTE DI UN SILO METALLICO A
FONDO PIANO: ANALISI DELLA RISPOSTA SISMICA
MEDIANTE MISURAZIONI OTTICHE**

APPENDICE A – Parte 1

CANDIDATO

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RELATORE

Chiar.mo Prof. Ing. Stefano Silvestri

Anno Accademico 2018-2019

Sessione I

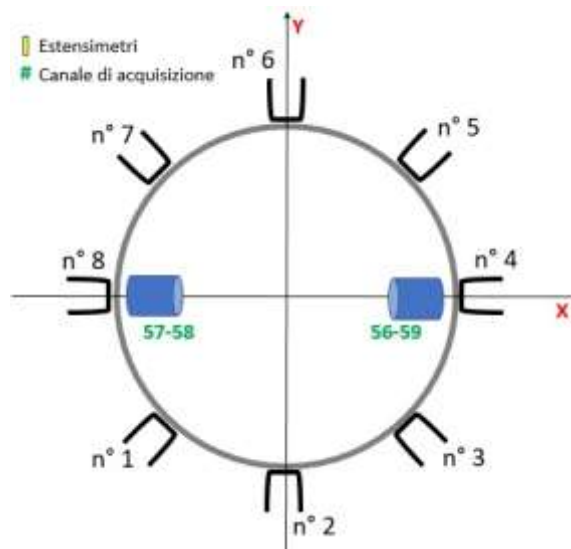
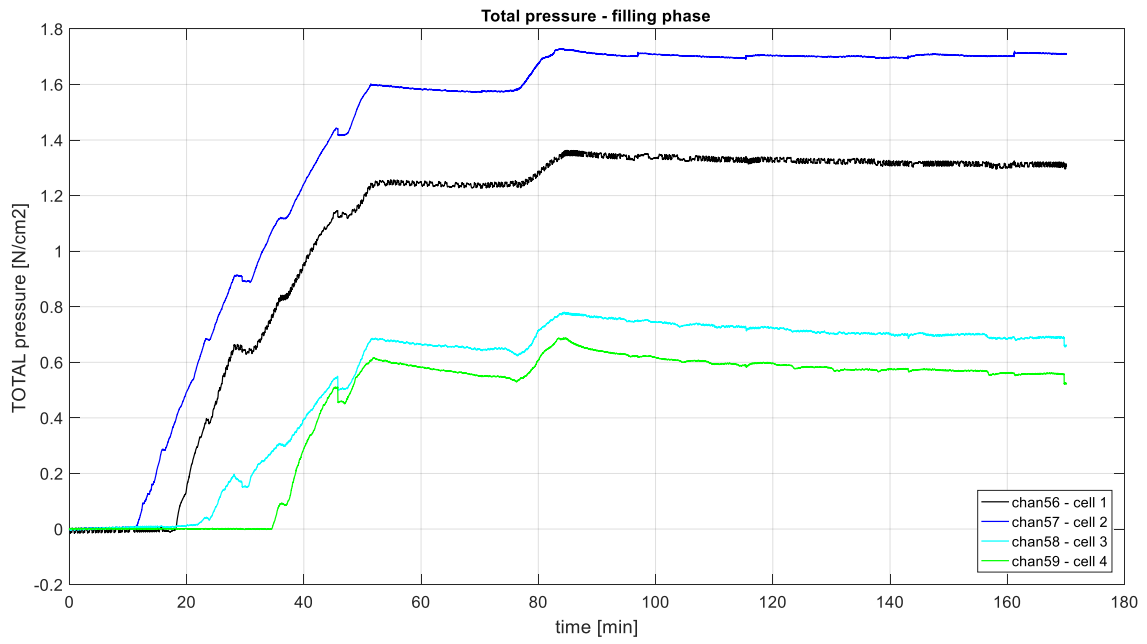
INDICE APPENDICE A

A. 4 Fase di riempimento	1
A. 4.2 Celle di pressione	1
A. 4.3 Estensimetri.....	2
A. 5 Prove in configurazione a base fissa	6
A. 5.1 Celle di pressione	6
A. 5.2 Accelerometri.....	12
A. 5.3 Amplificazioni dinamiche.....	28
A. 5.4 Estensimetri.....	30
A. 5.5.1 Sforzi nei montanti – Parte 1	94
A. 5.5.2 Sforzi nei montanti – Parte 2	174
A. 5.6.1 Markers – Parte 1	290
A. 5.6.2 Markers – Parte 2	335
A. 6 Prove in configurazione a base isolata	370
A. 6.1 Celle di pressione	370
A. 6.2 Accelerometri.....	372
A. 6.3 Amplificazioni dinamiche.....	382
A. 6.4 Estensimetri.....	383
A. 6.5.1 Sforzi nei montanti – Parte 1	423
A. 6.5.2 Sforzi nei montanti – Parte 2	483
A. 6.6.1 Markers – Parte 1	547
A. 6.6.2 Markers – Parte 2	577

APPENDICE A

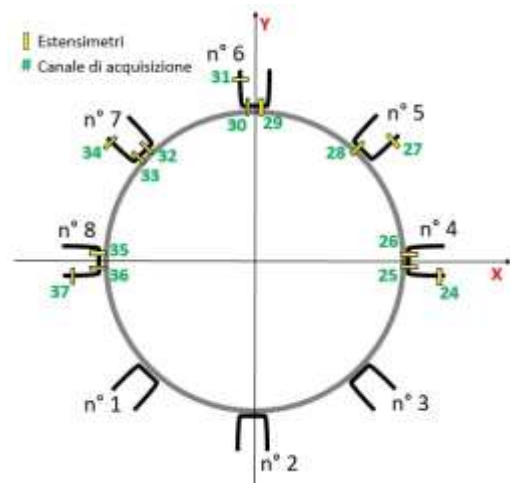
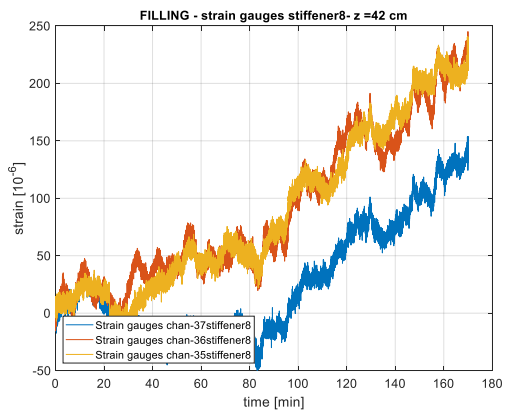
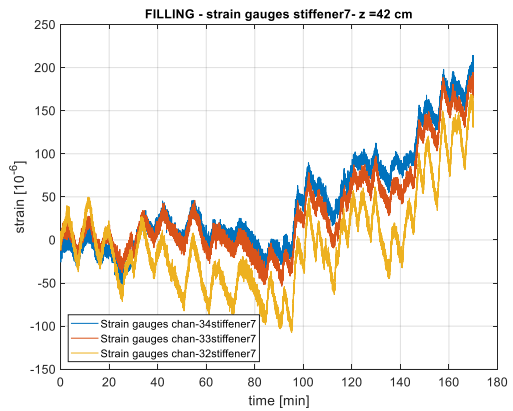
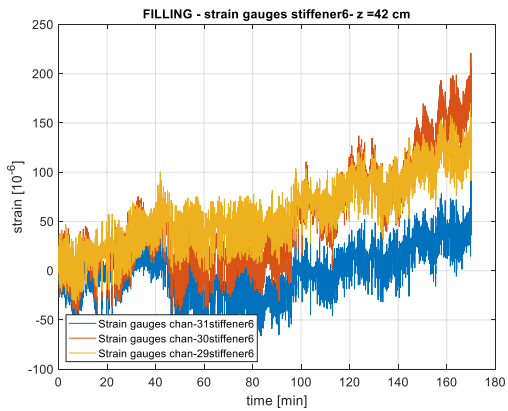
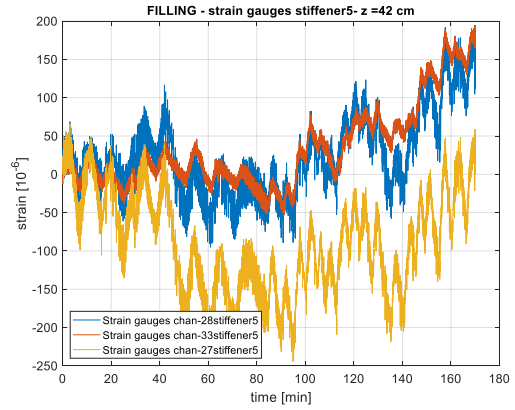
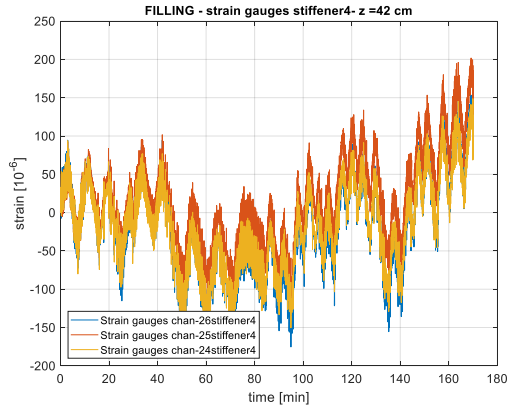
A. 4 Fase di riempimento

A. 4.2 Celle di pressione

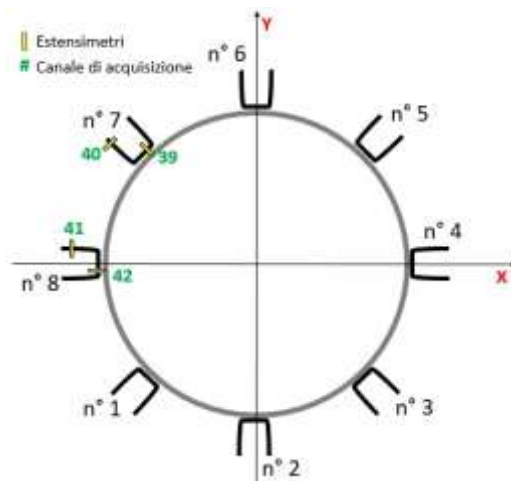
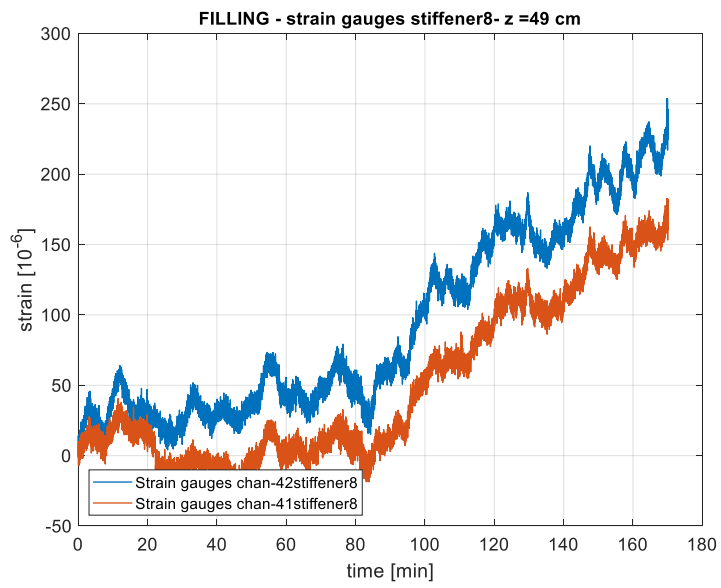
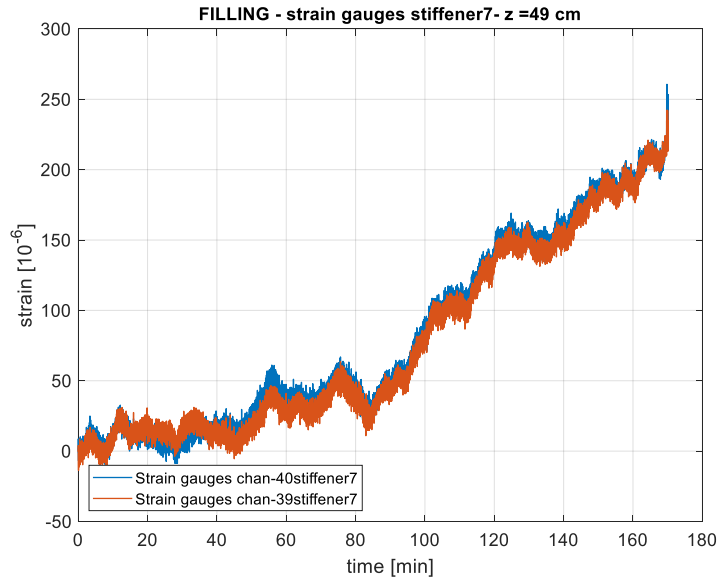


A. 4.3 Estensimetri

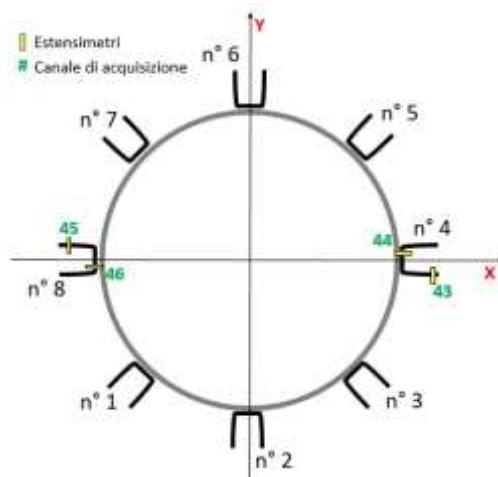
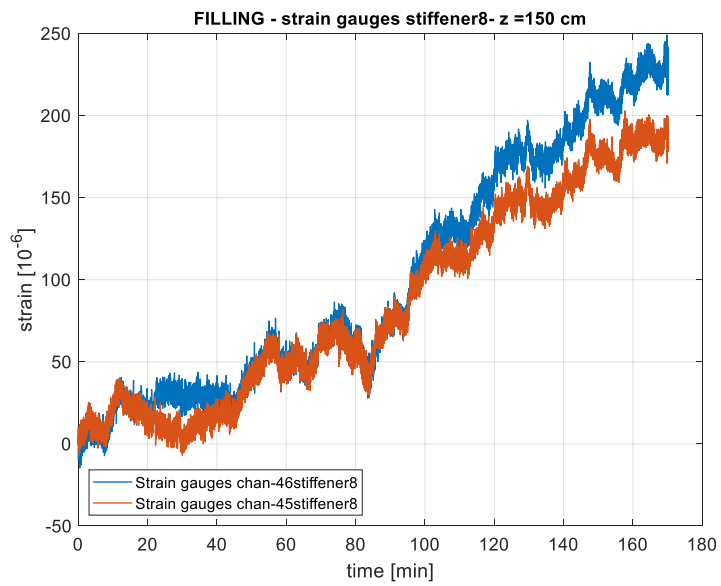
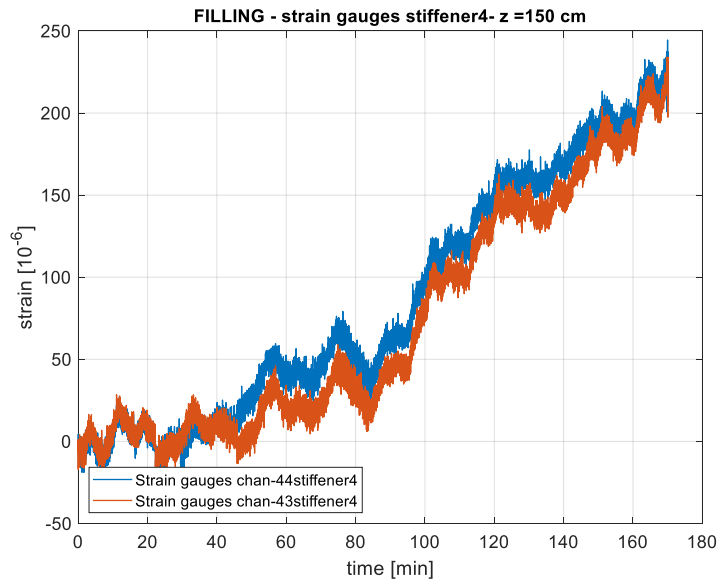
Quota Z = 42 cm



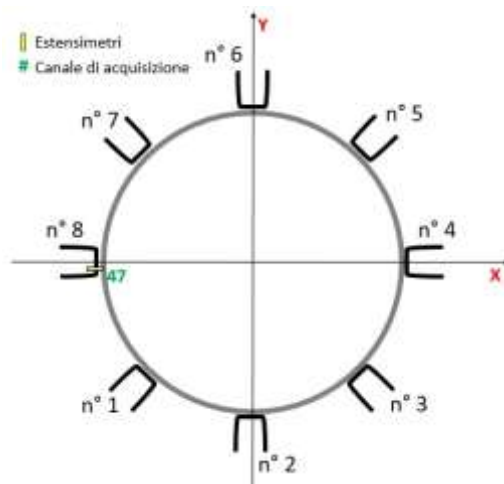
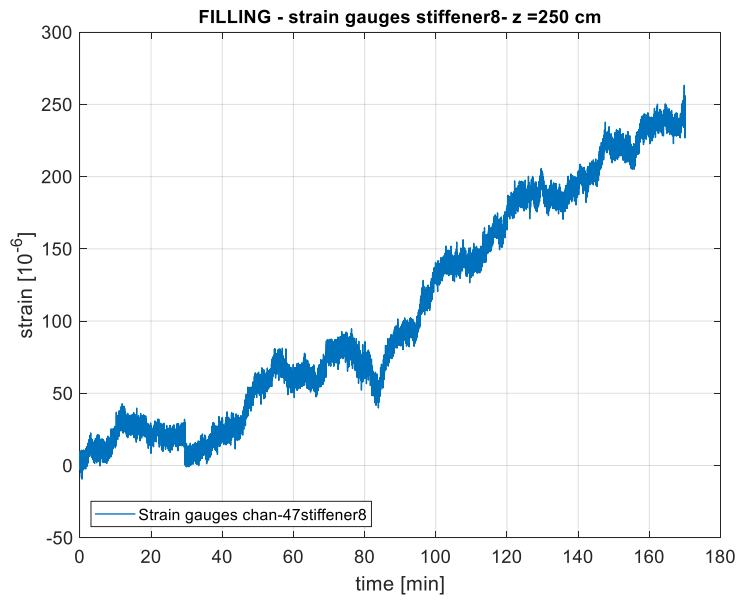
Quota Z = 49 cm



Quota Z = 150 cm

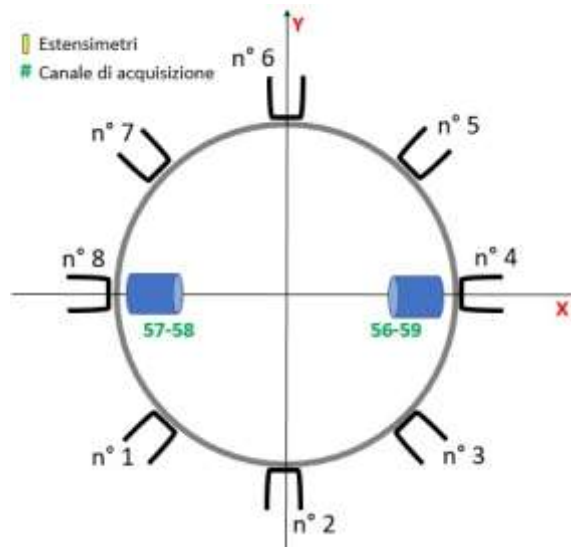
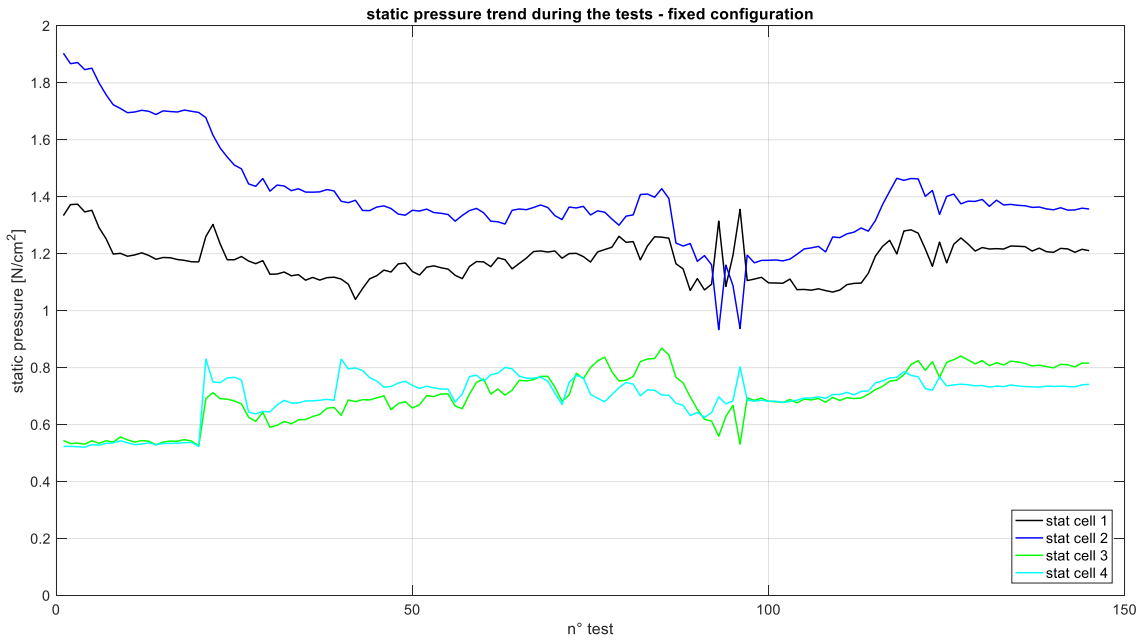


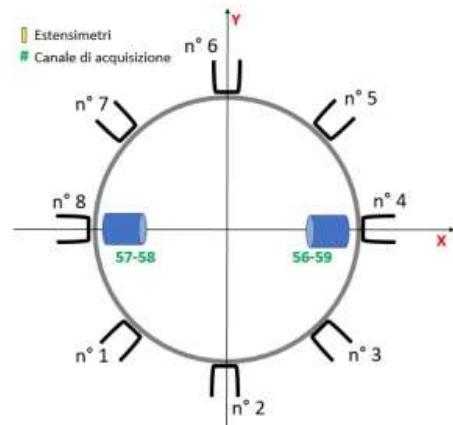
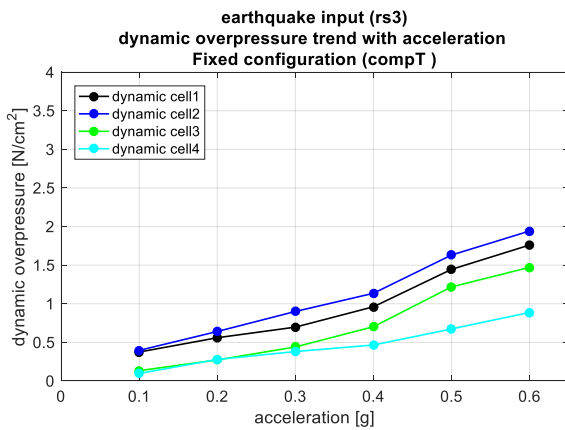
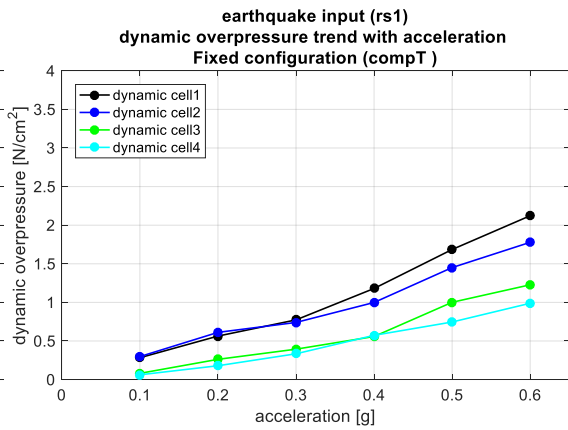
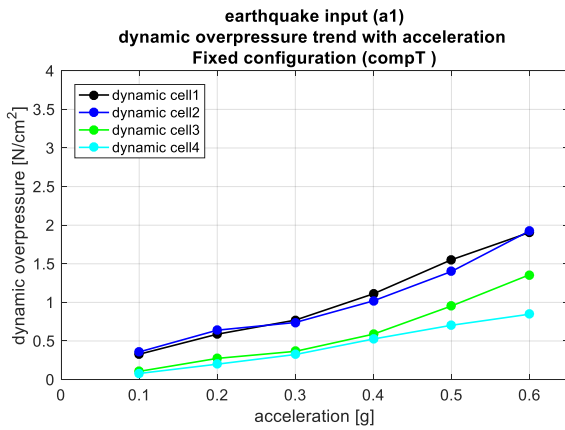
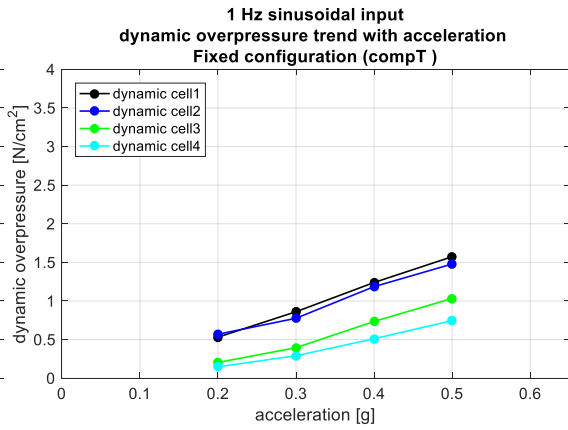
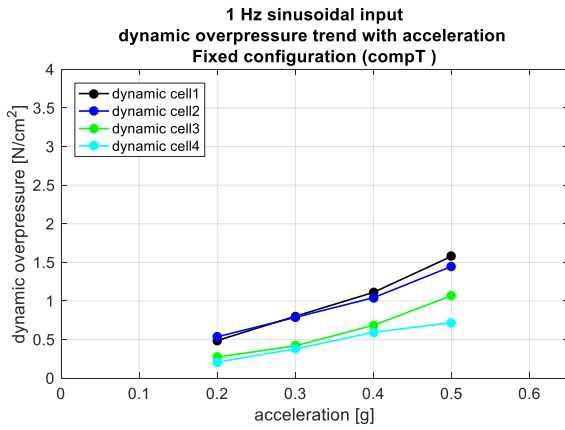
Quota Z = 250 cm



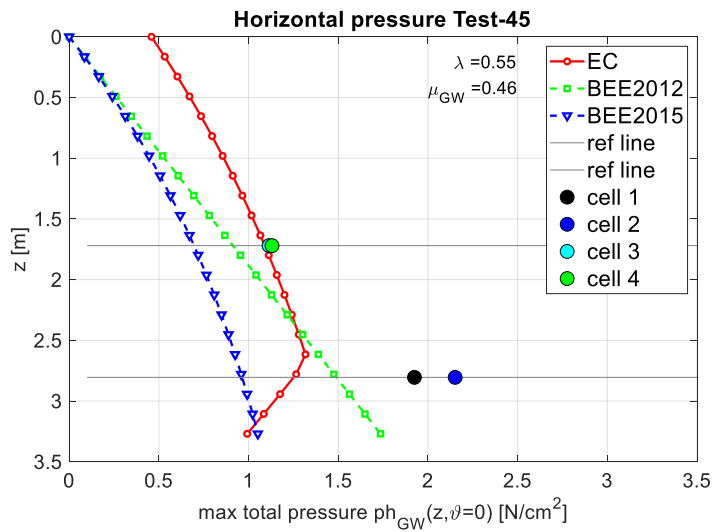
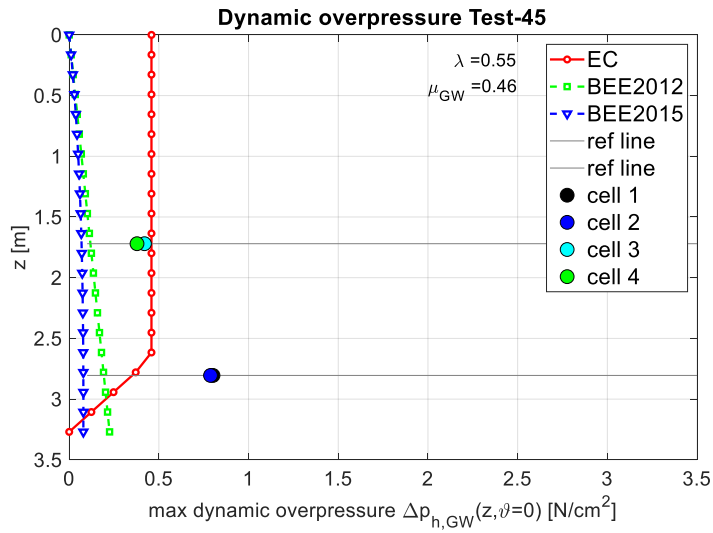
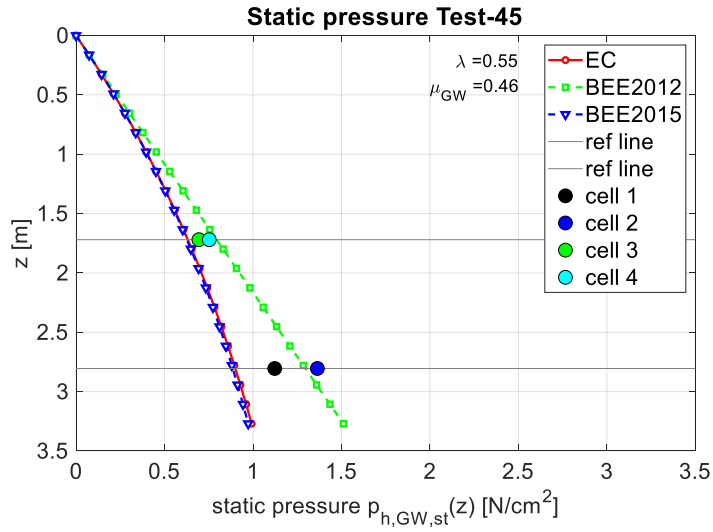
A. 5 Prove in configurazione a base fissa

A. 5.1 Celle di pressione

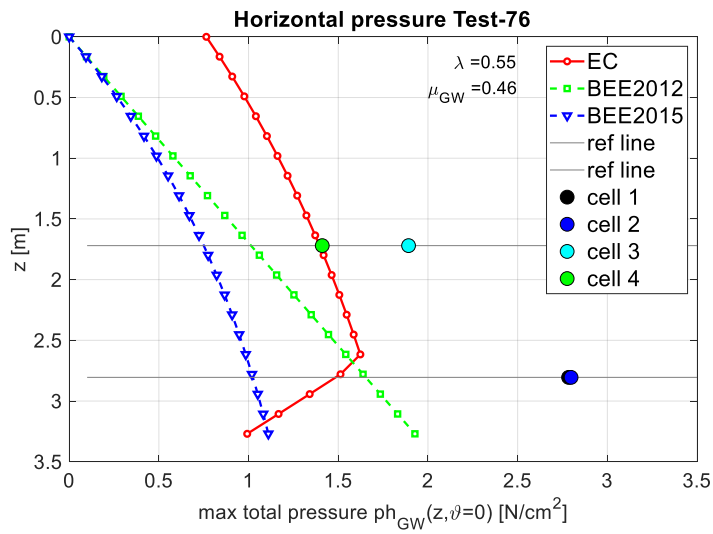
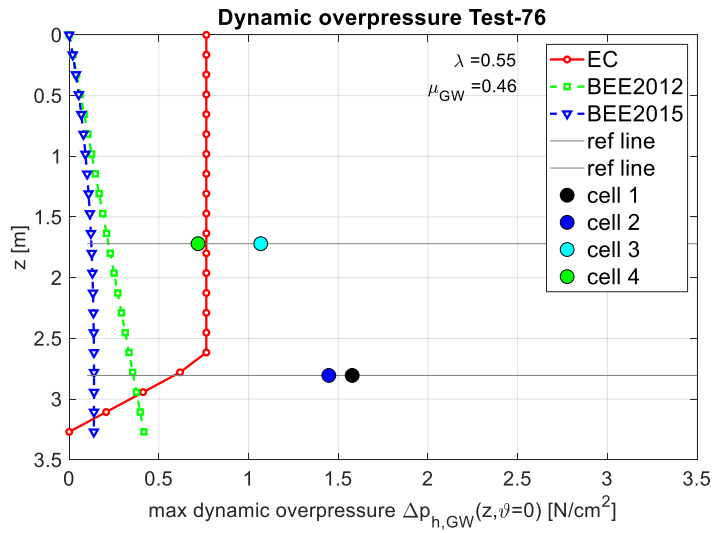
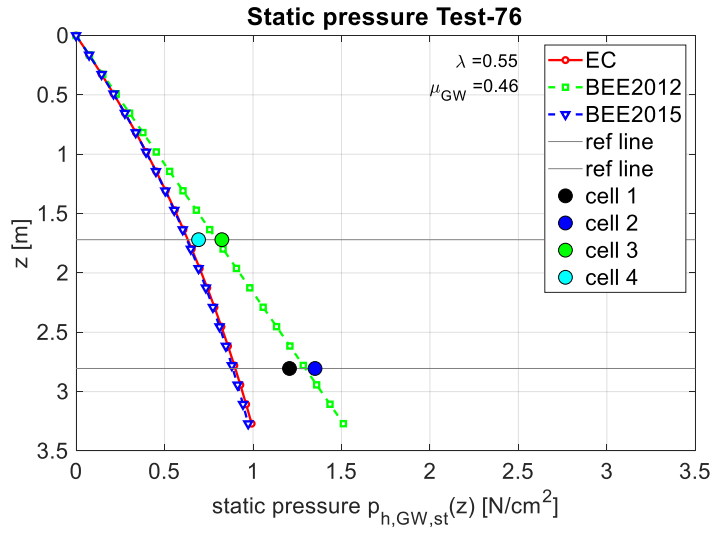




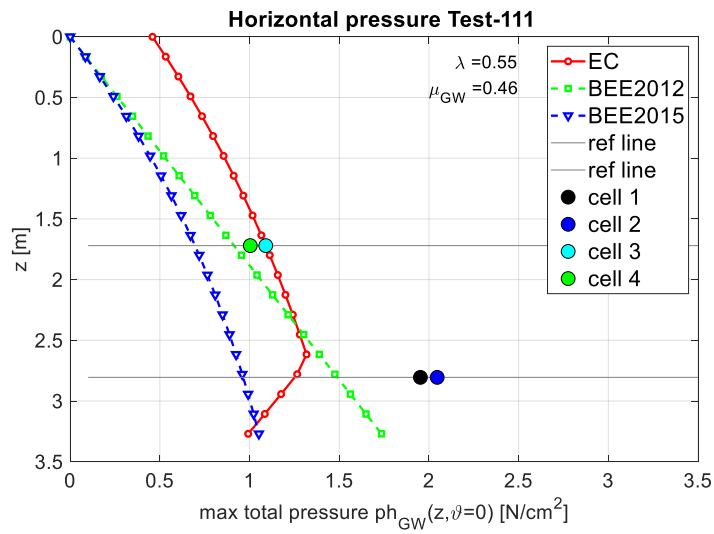
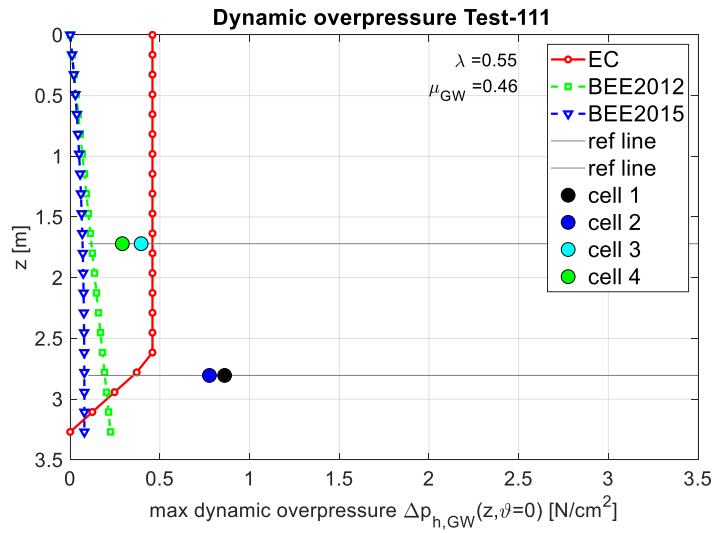
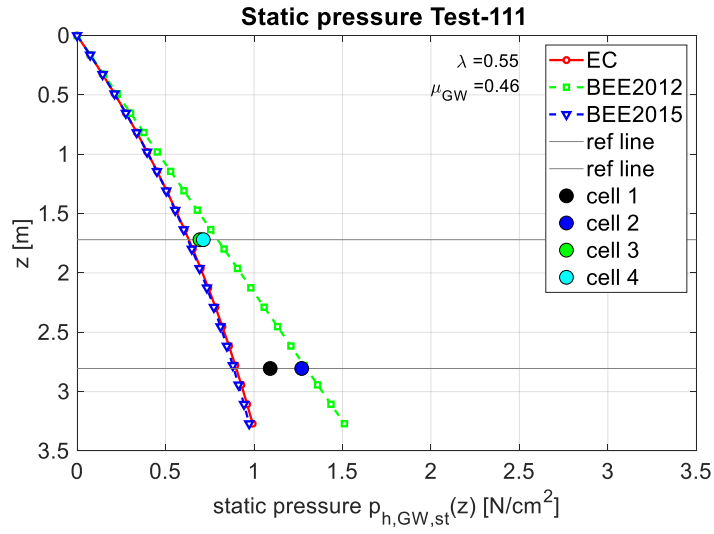
Sinusoidal input 1 Hz 0.3 g pre – compaction: Test 45



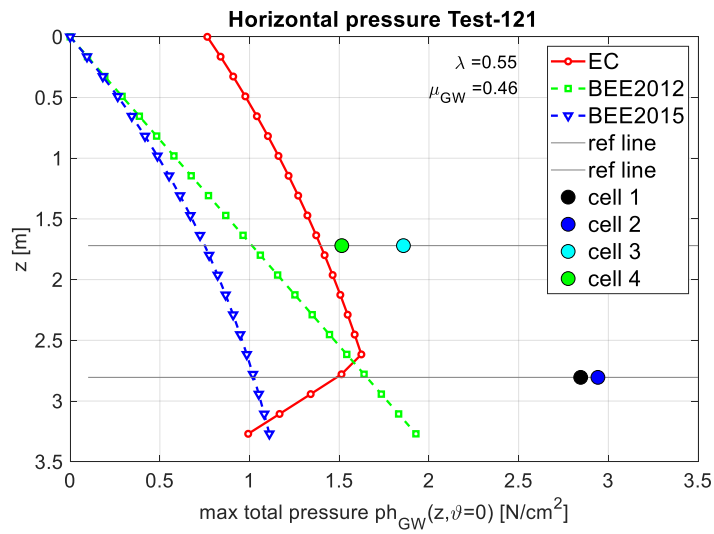
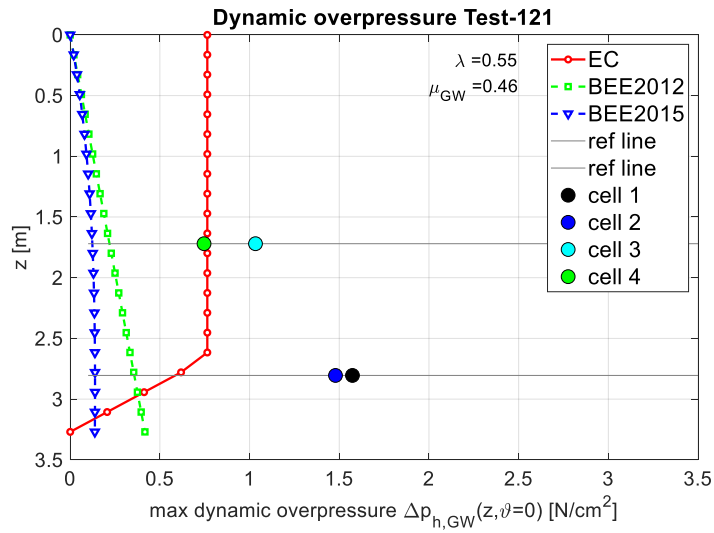
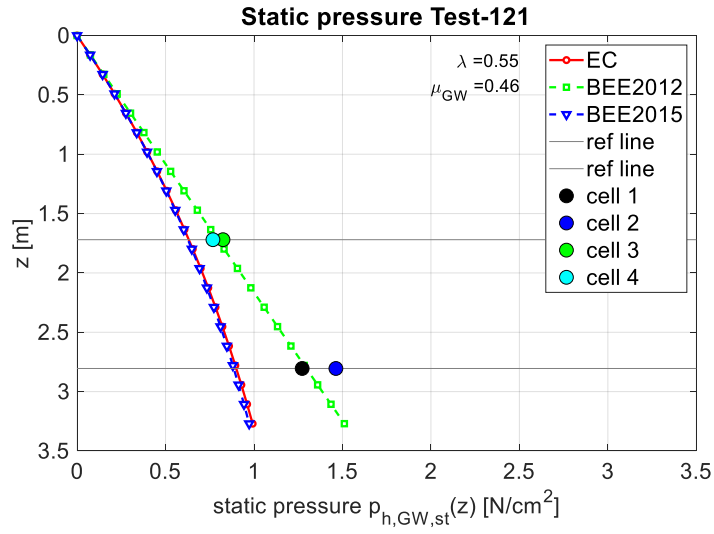
Sinusoidal input 1 Hz 0.5 g pre – compaction: Test 76



Sinusoidal input 1 Hz 0.3 g post – compaction: Test 111

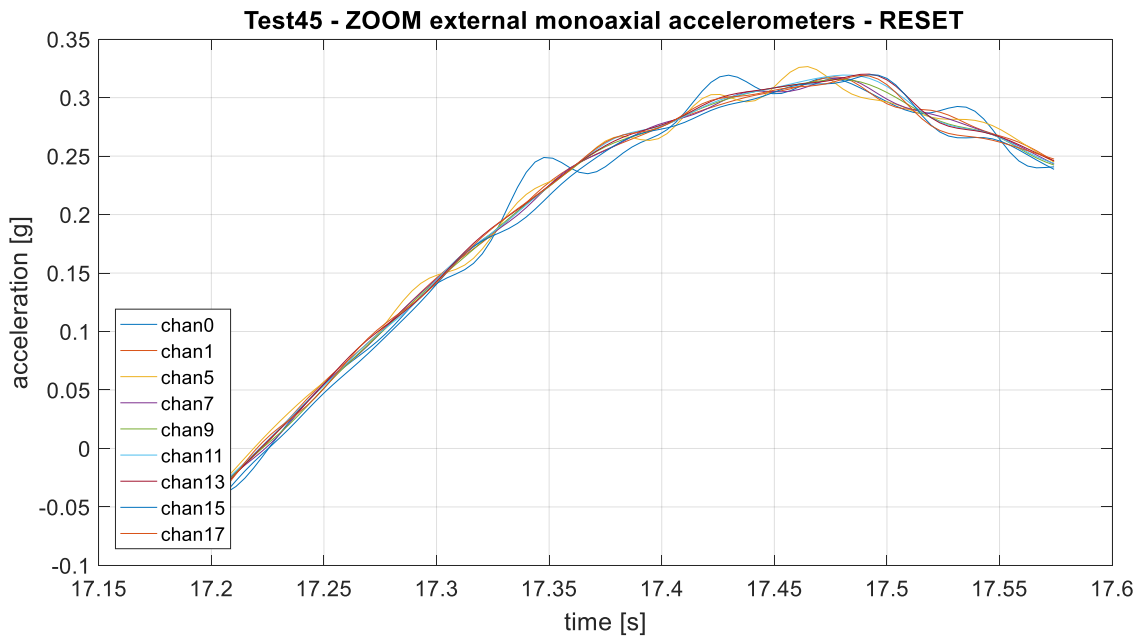
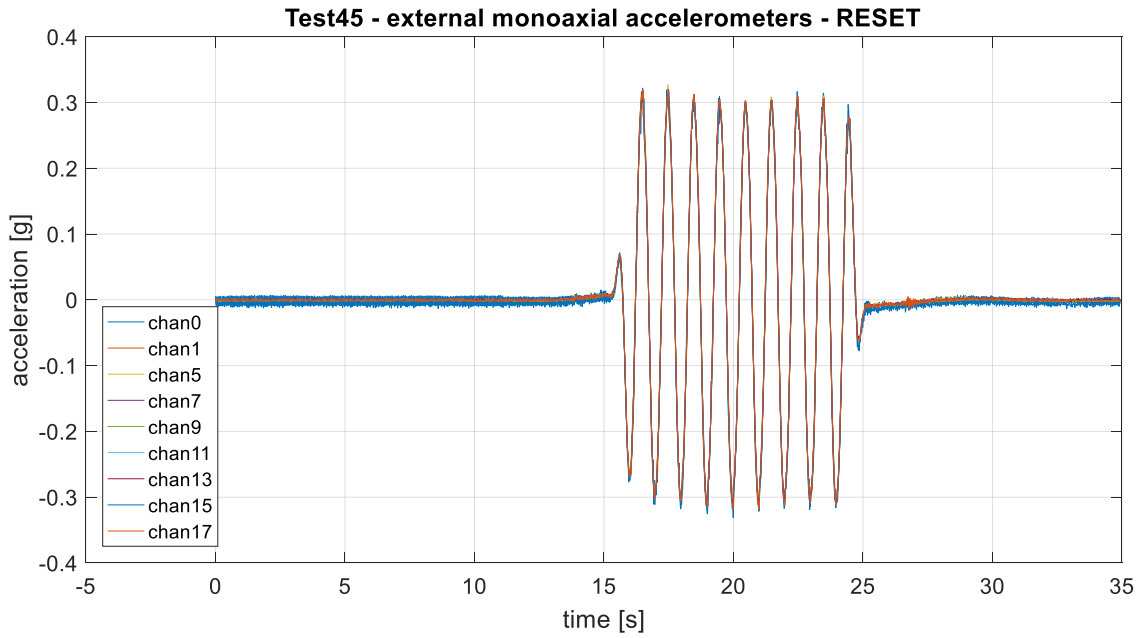


Sinusoidal input 1 Hz 0.5 g post – compaction: Test 121

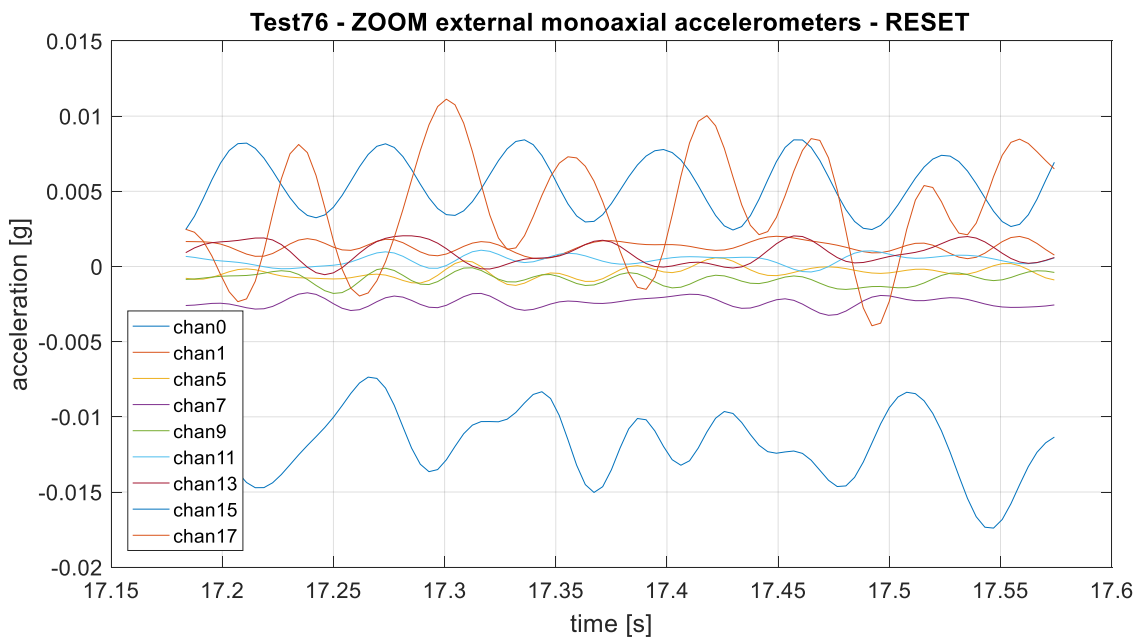
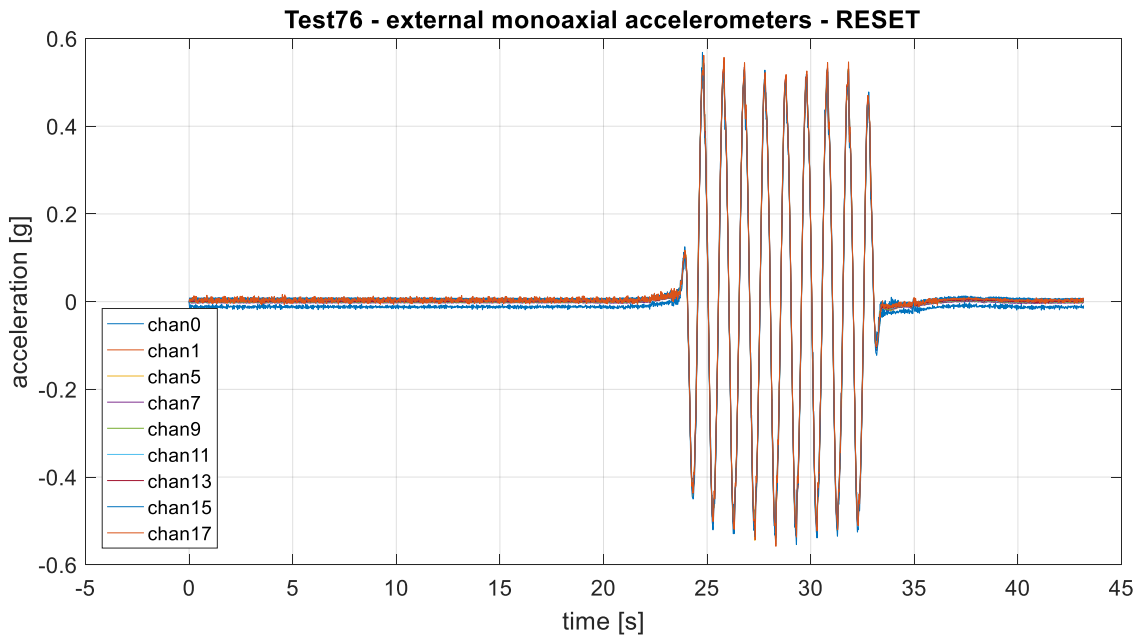


A. 5.2 Accelerometri

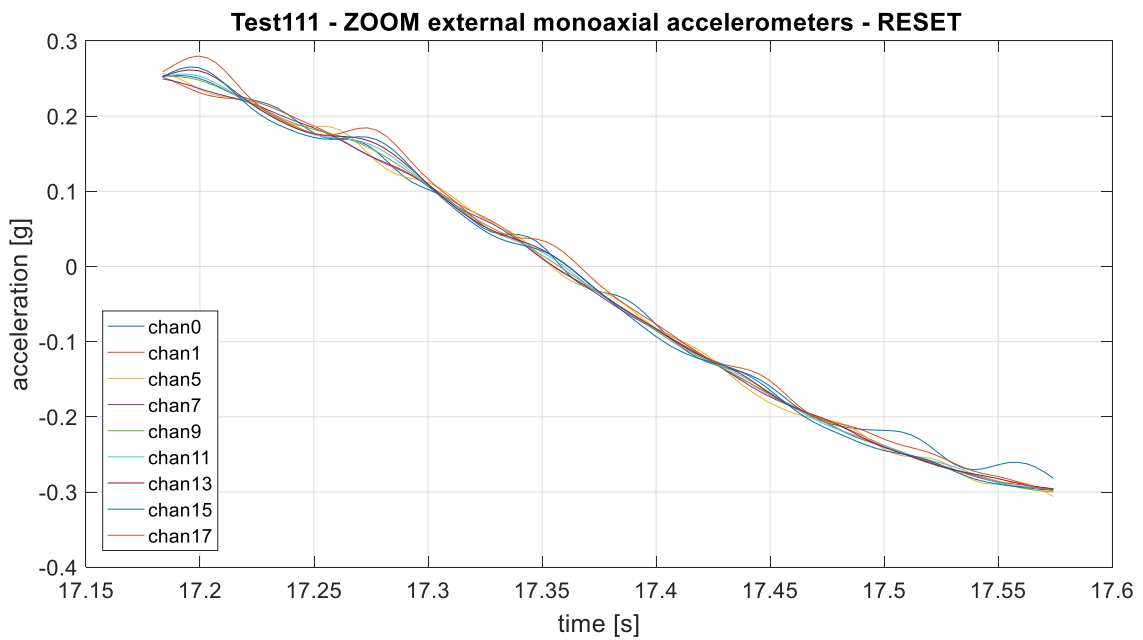
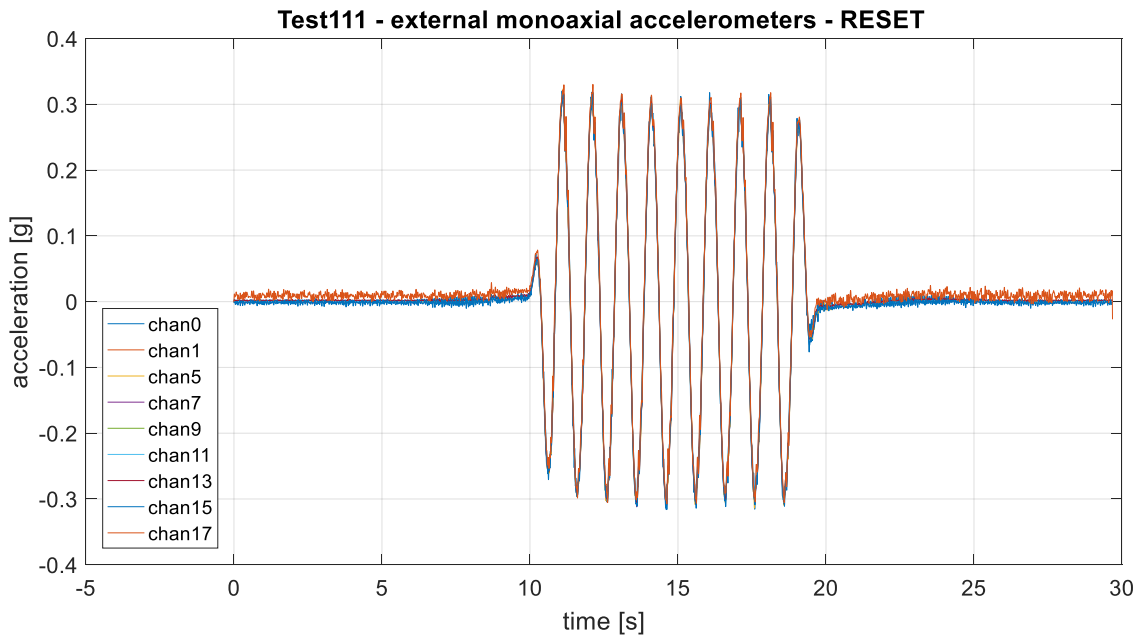
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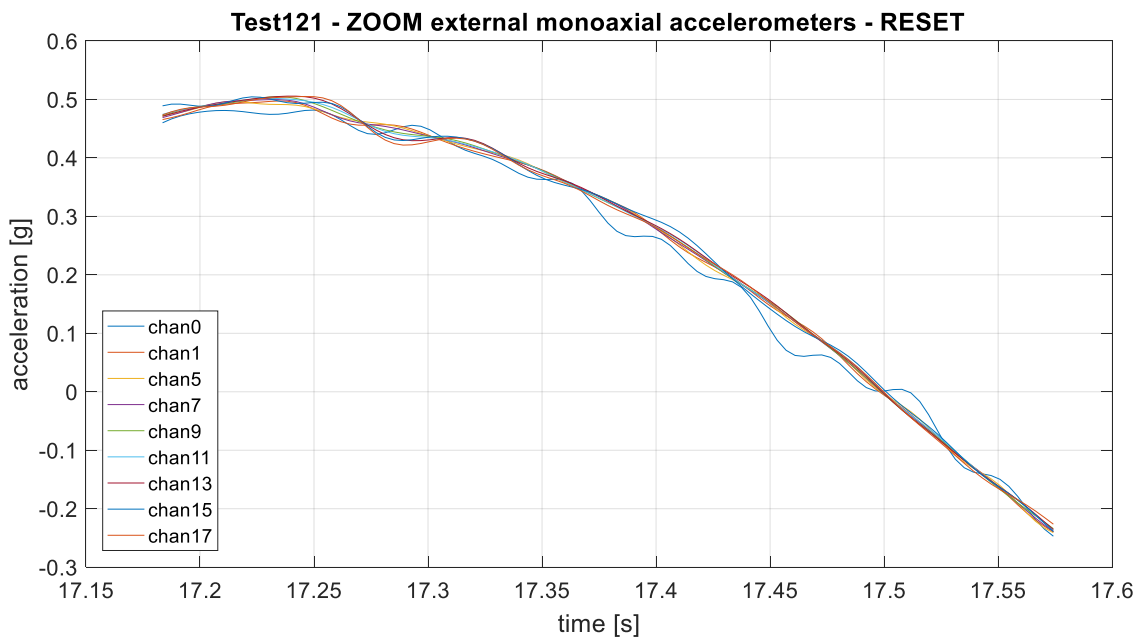
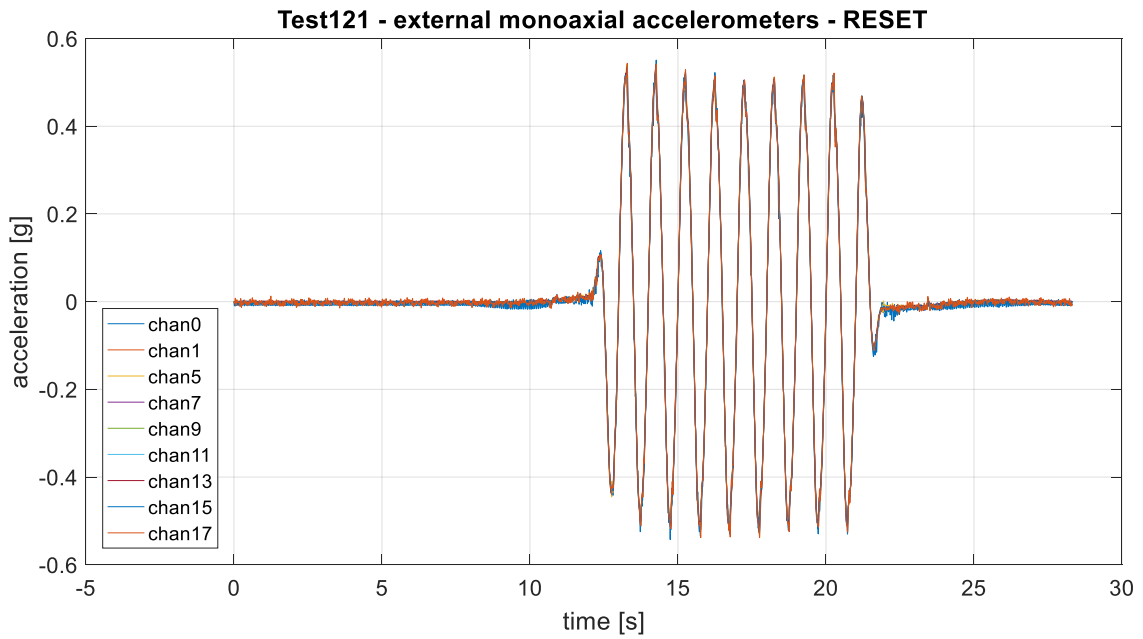
Sinusoidal input 1 Hz 0.5 g pre – compaction: Test 76



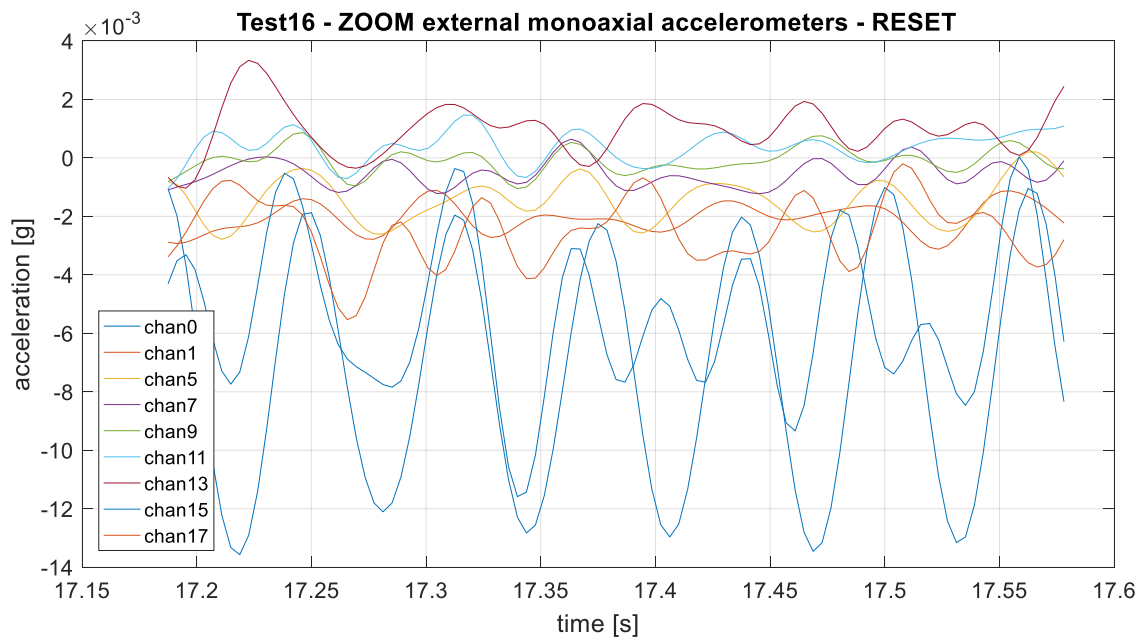
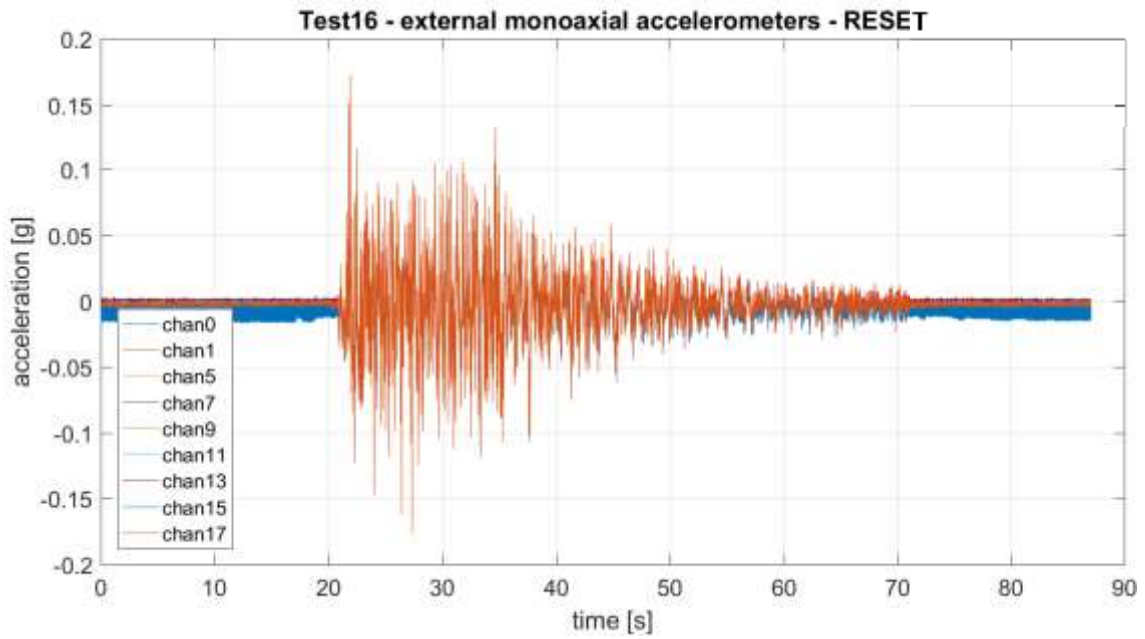
Sinusoidal input 1 Hz 0.3 g post – compaction: Test 111



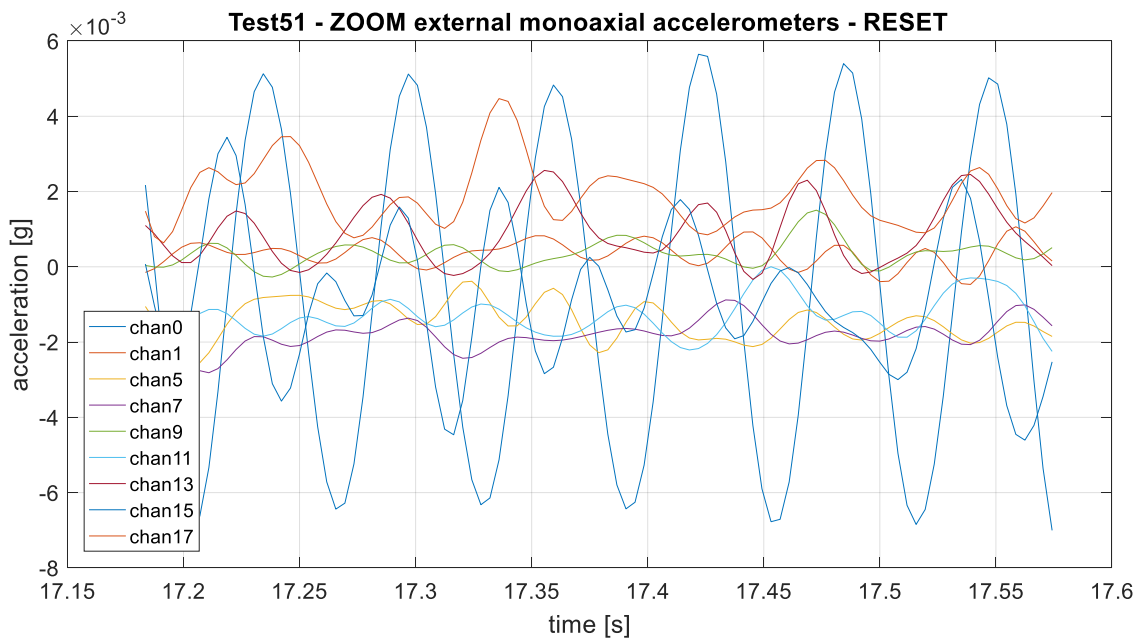
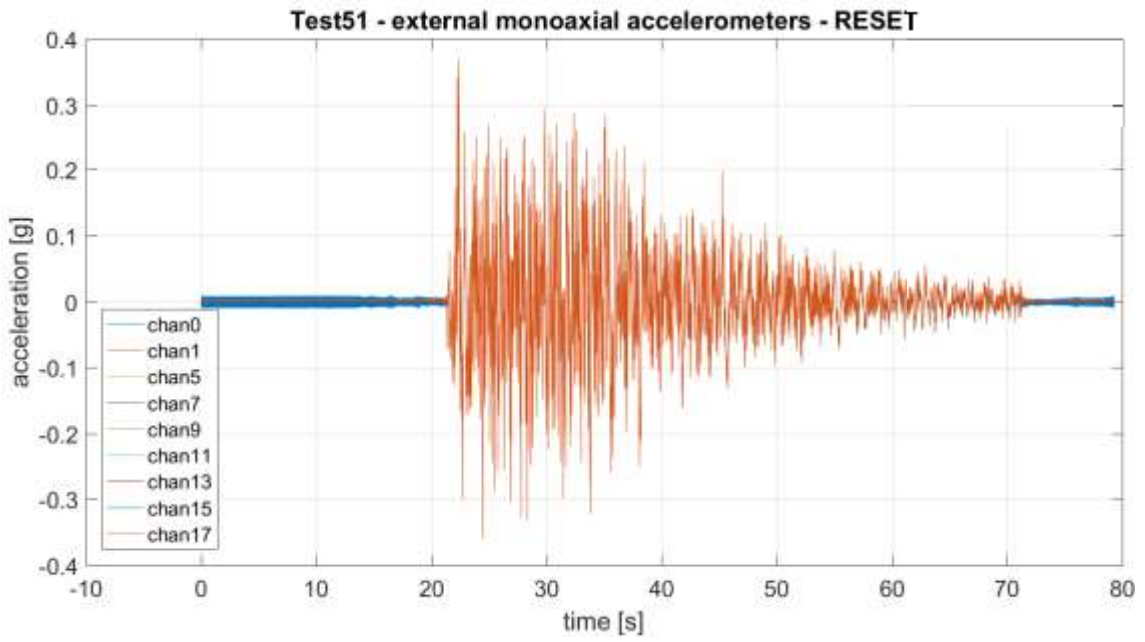
Sinusoidal input 1 Hz 0.5 g post – compaction: Test 121



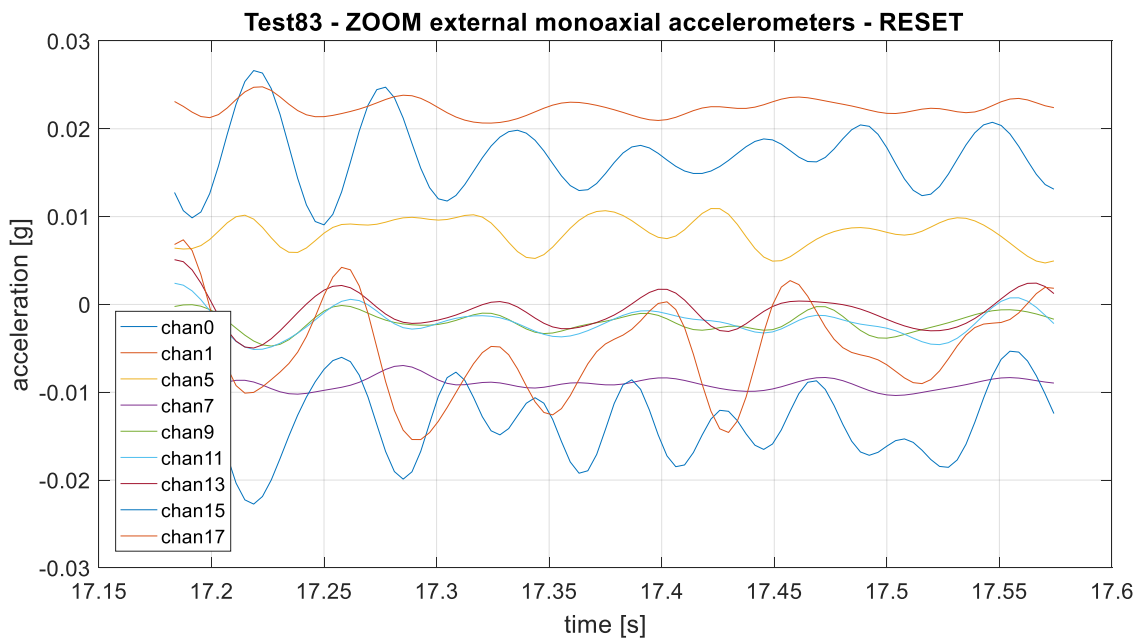
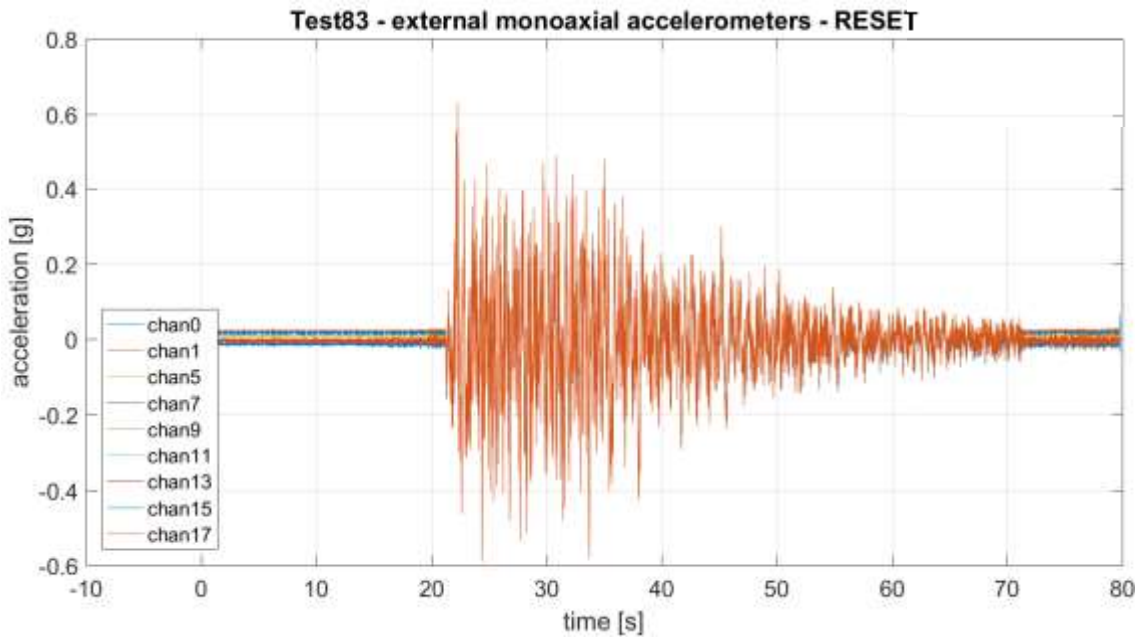
Earthquake input A1 0.1 g: Test 16



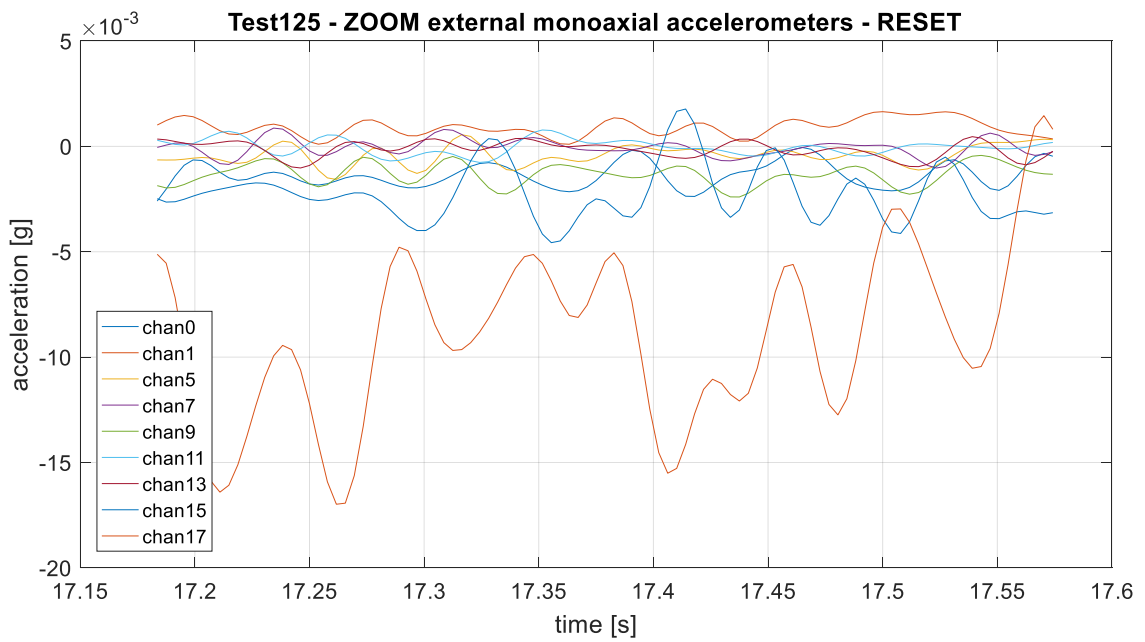
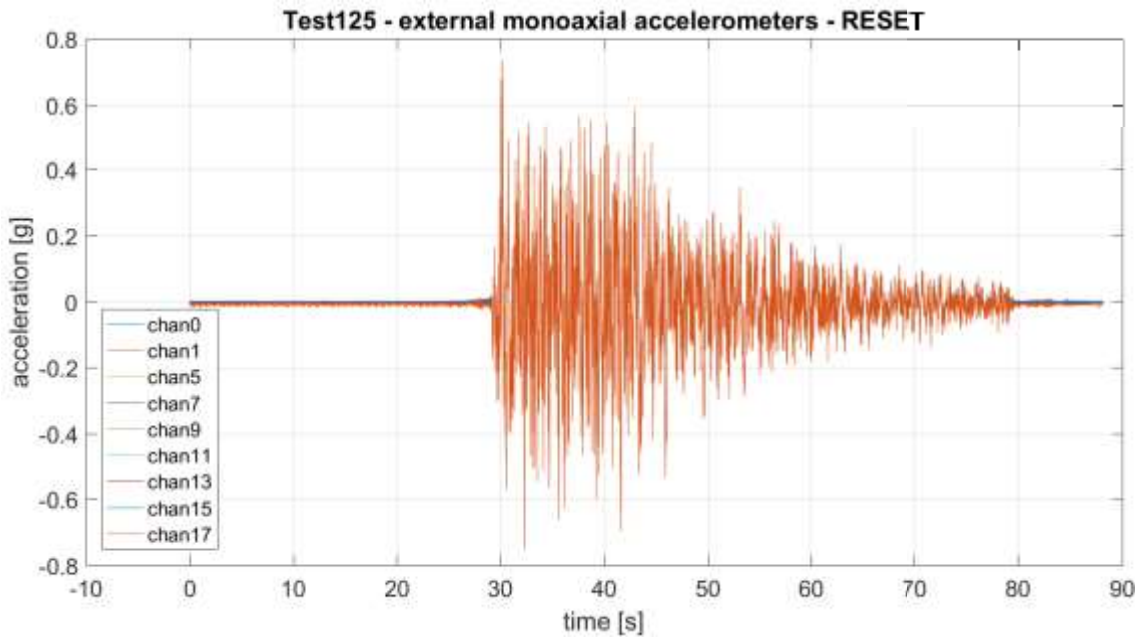
Earthquake input A1 0.3 g: Test 51



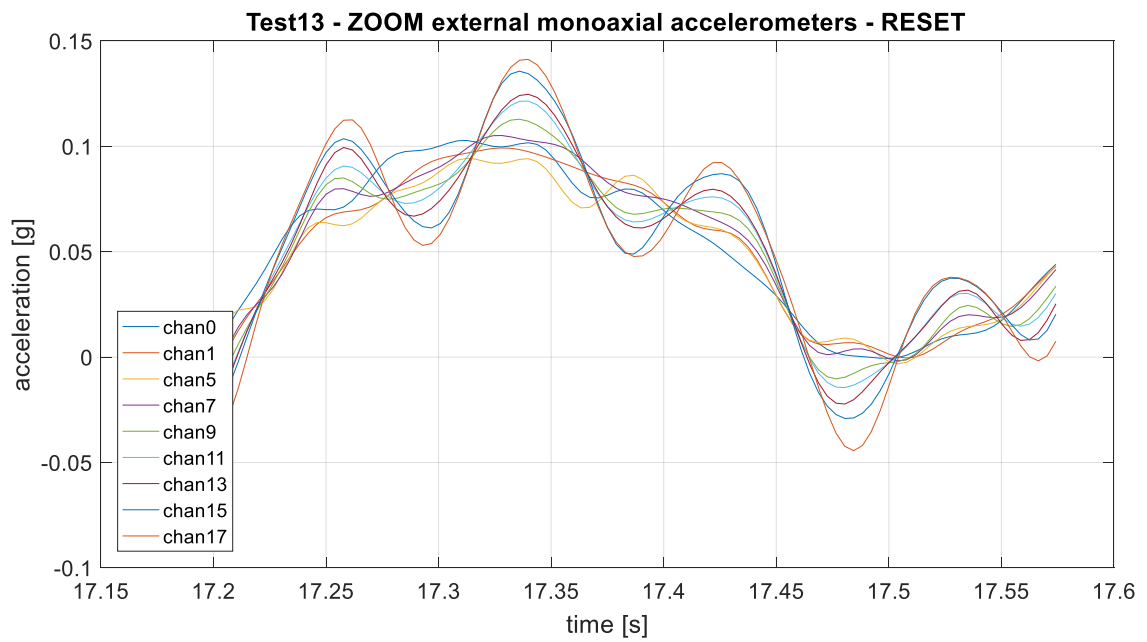
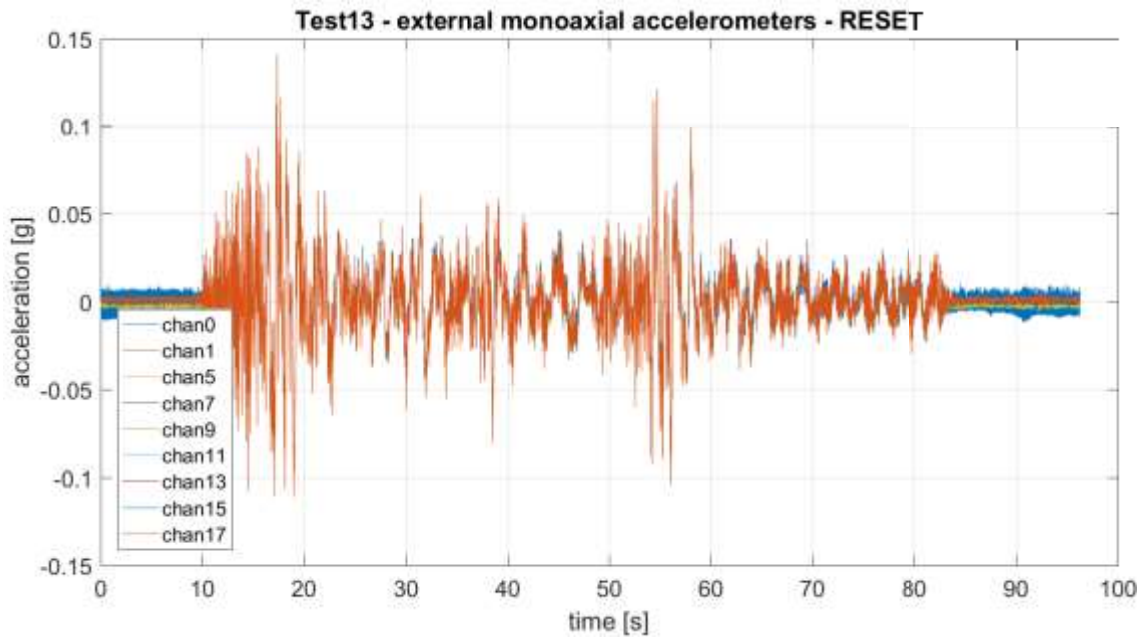
Earthquake input A1 0.5 g: Test 83



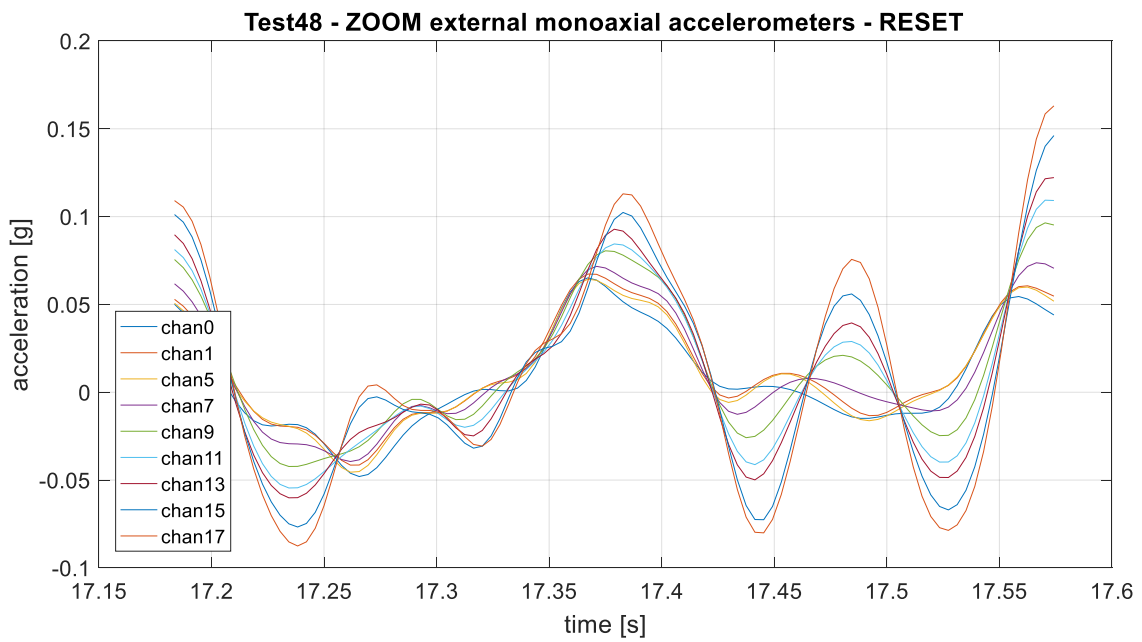
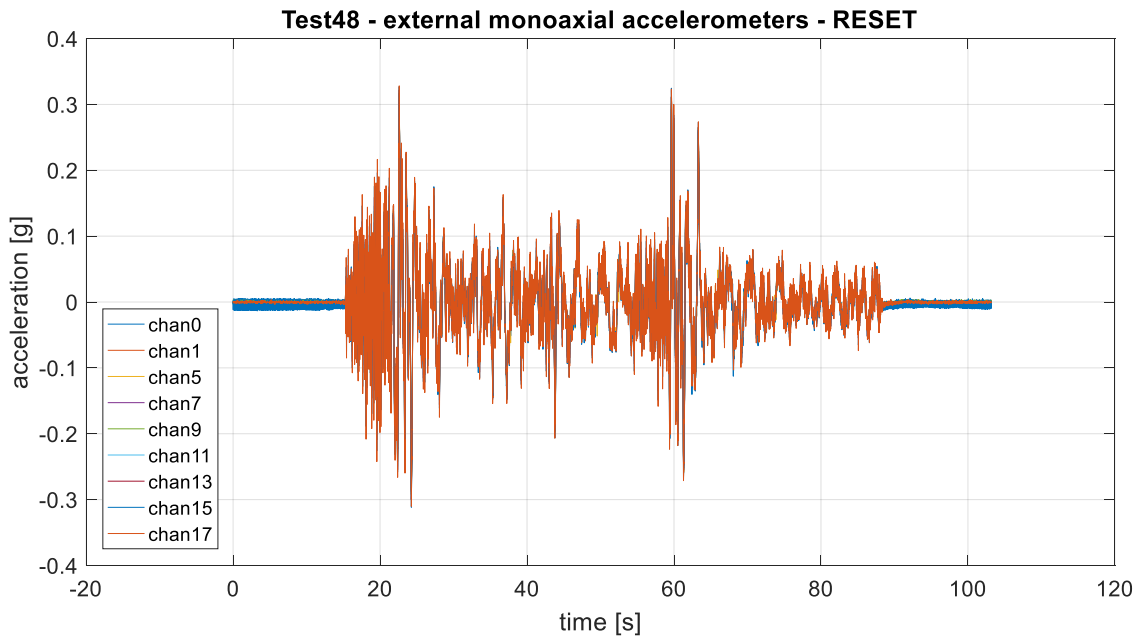
Earthquake input A1 0.6 g: Test 125



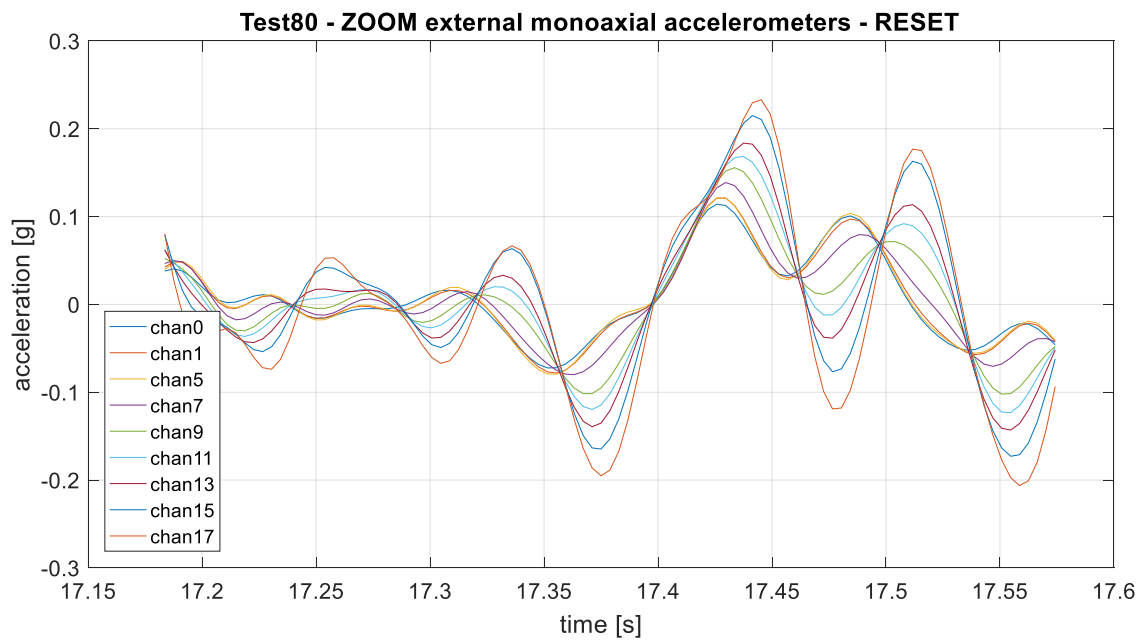
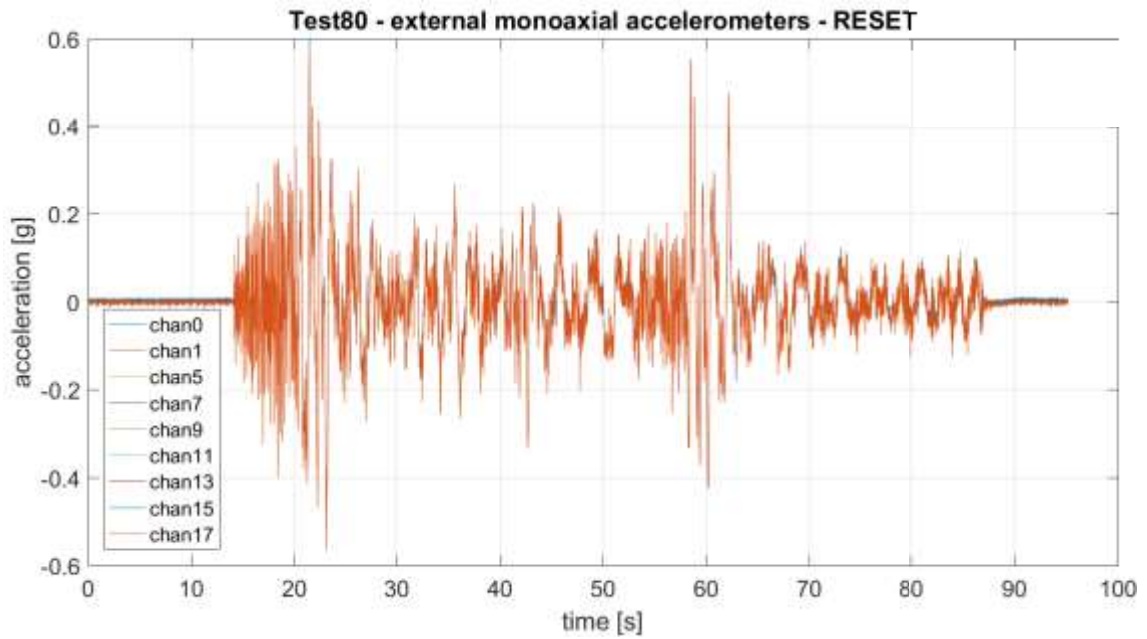
Earthquake input RS1 0.1 g: Test 13



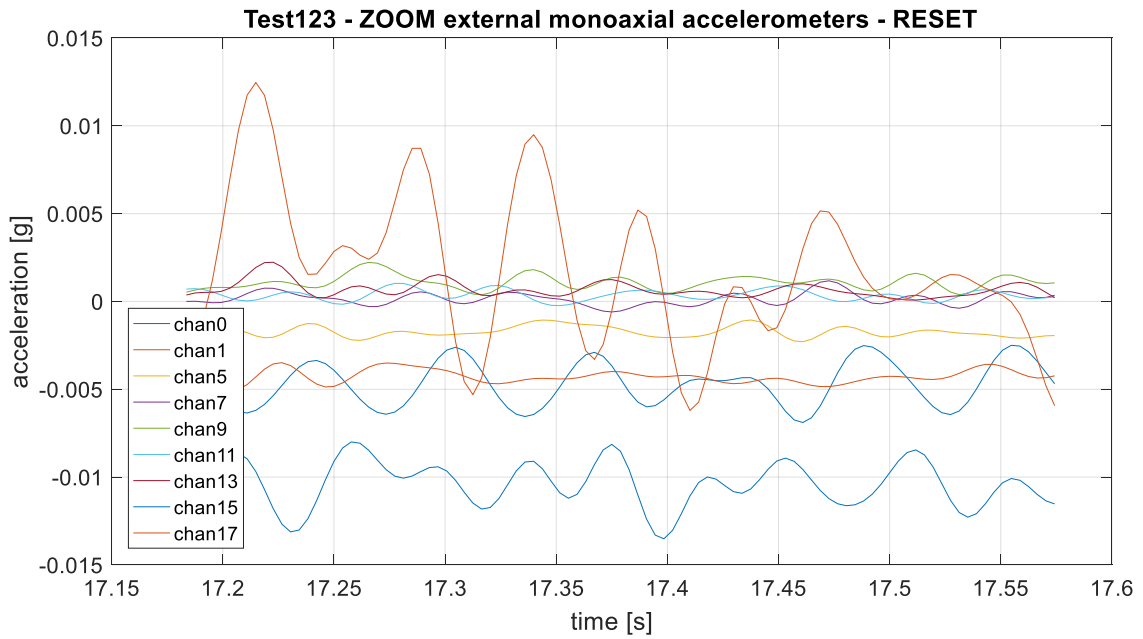
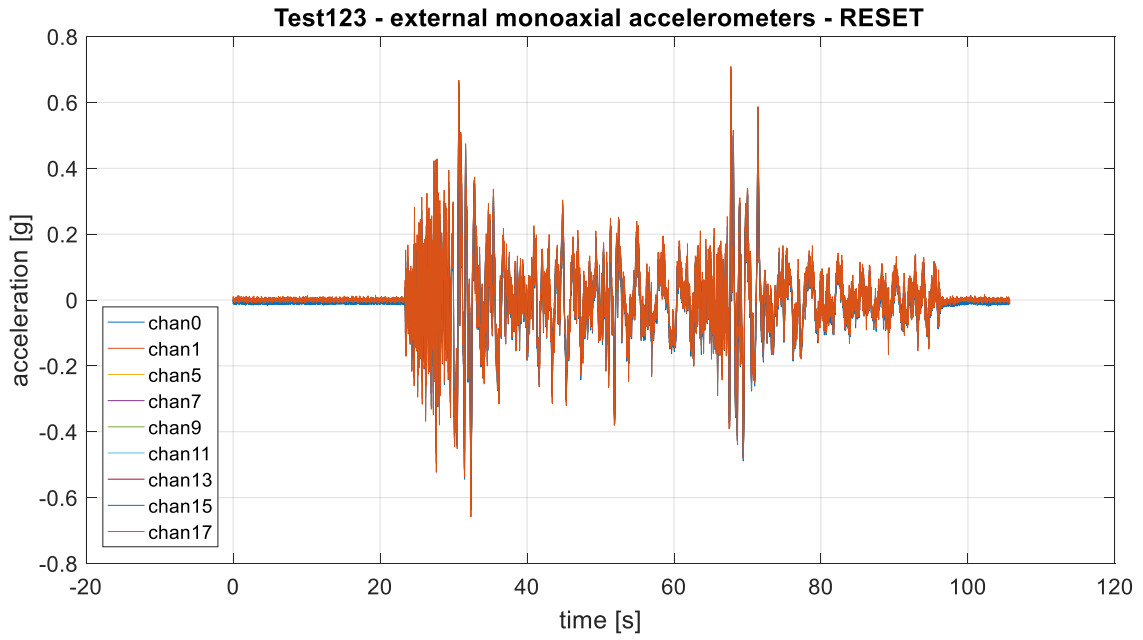
Earthquake input RS1 0.3 g: Test 48



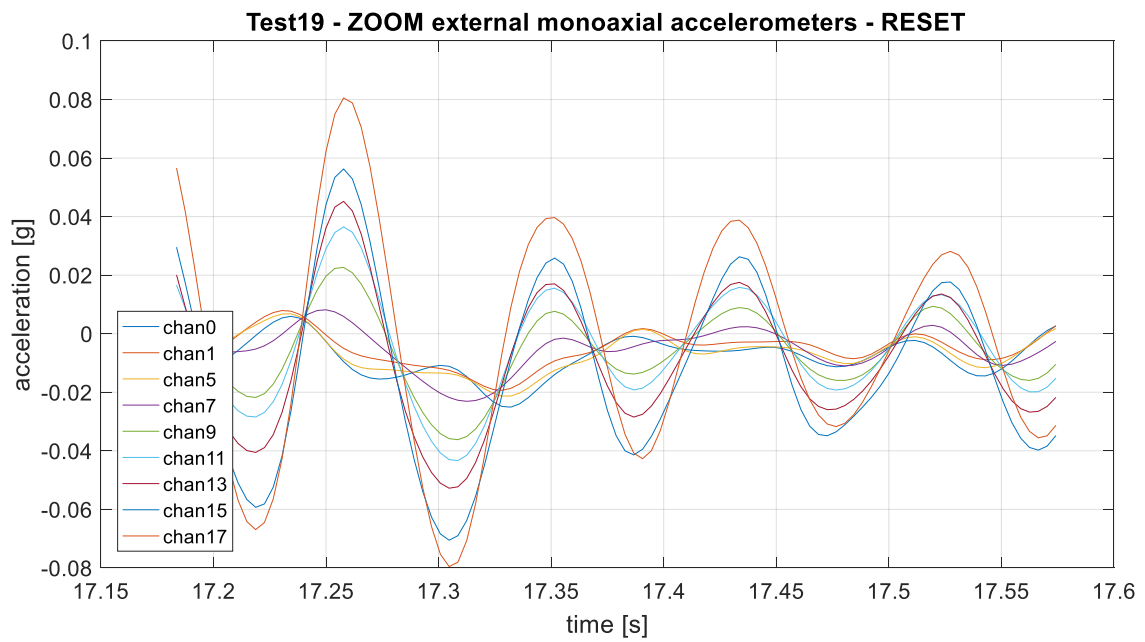
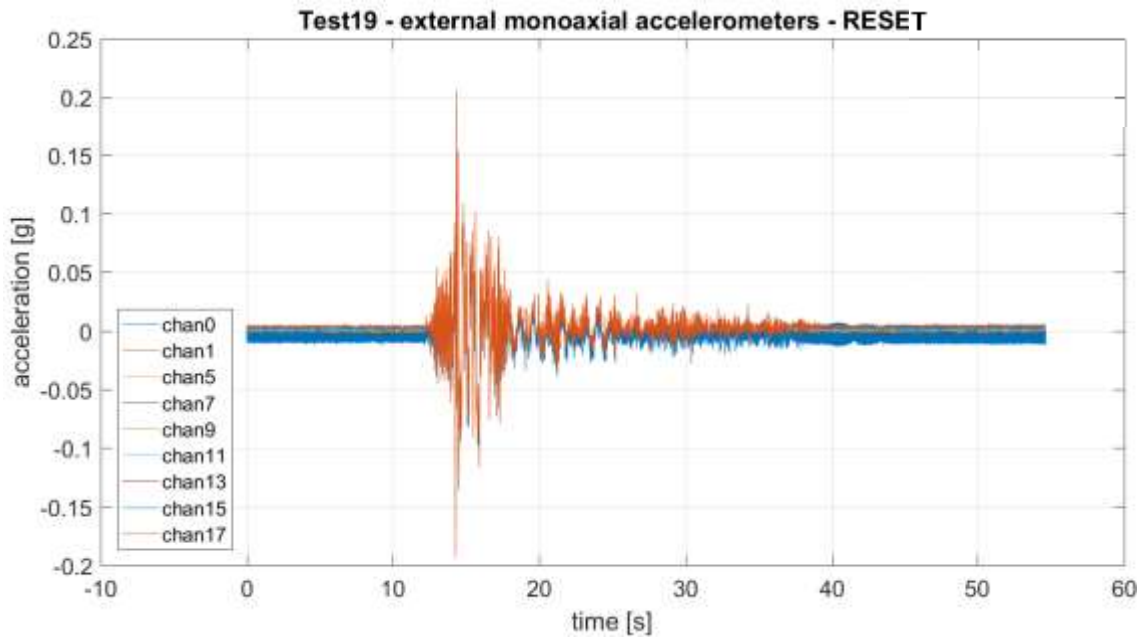
Earthquake input RS1 0.5 g: Test 80



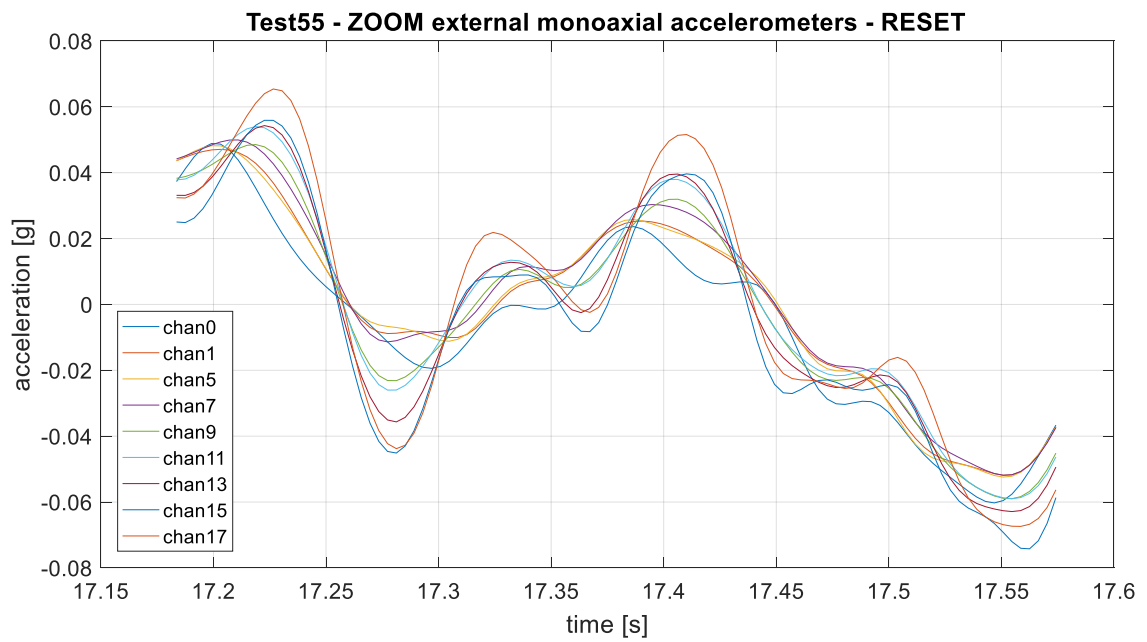
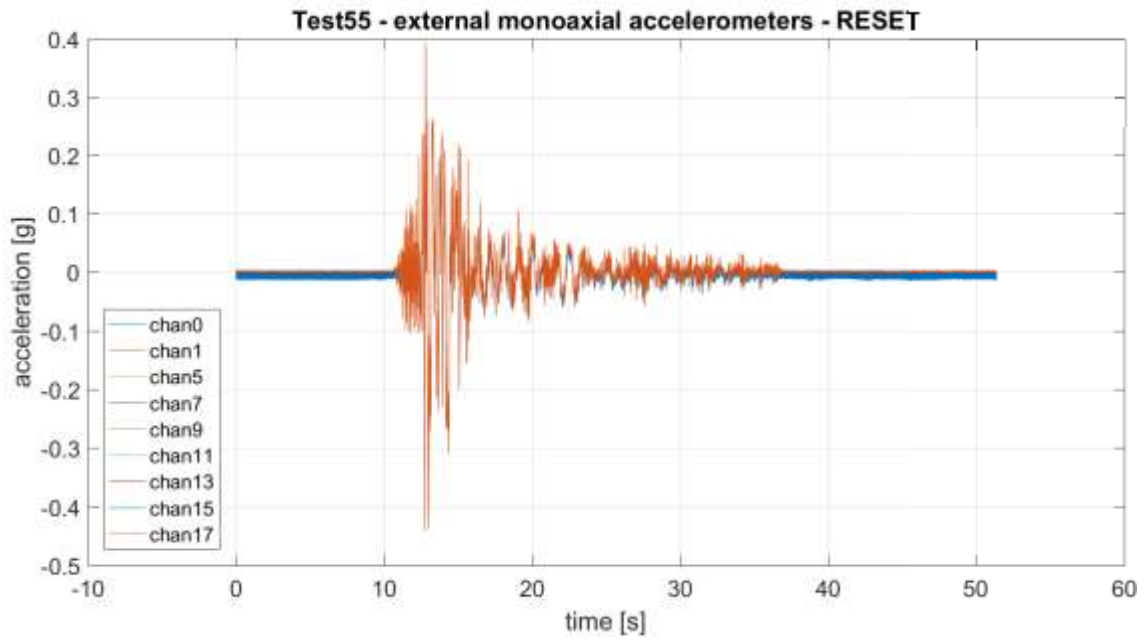
Earthquake input RS1 0.6 g: Test 123



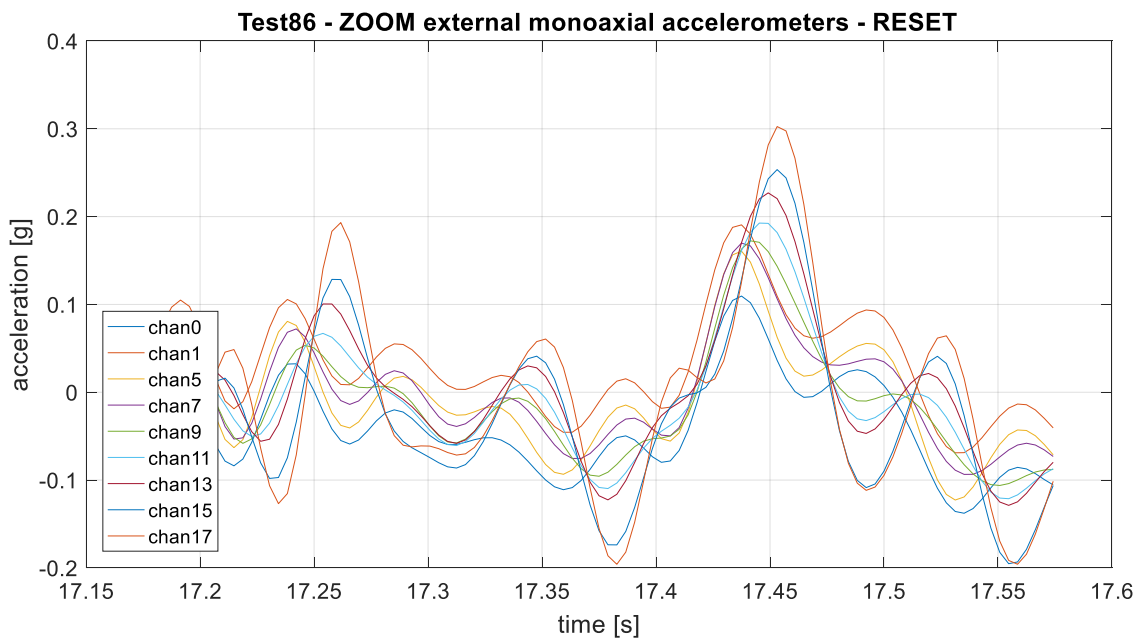
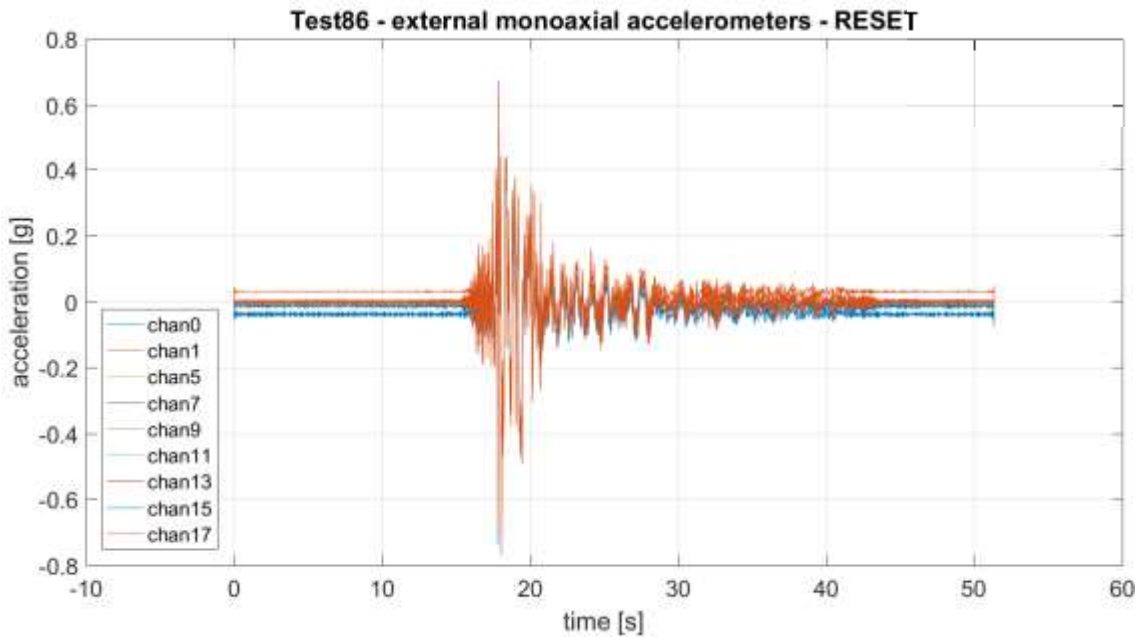
Earthquake input RS3 0.1 g: Test 19



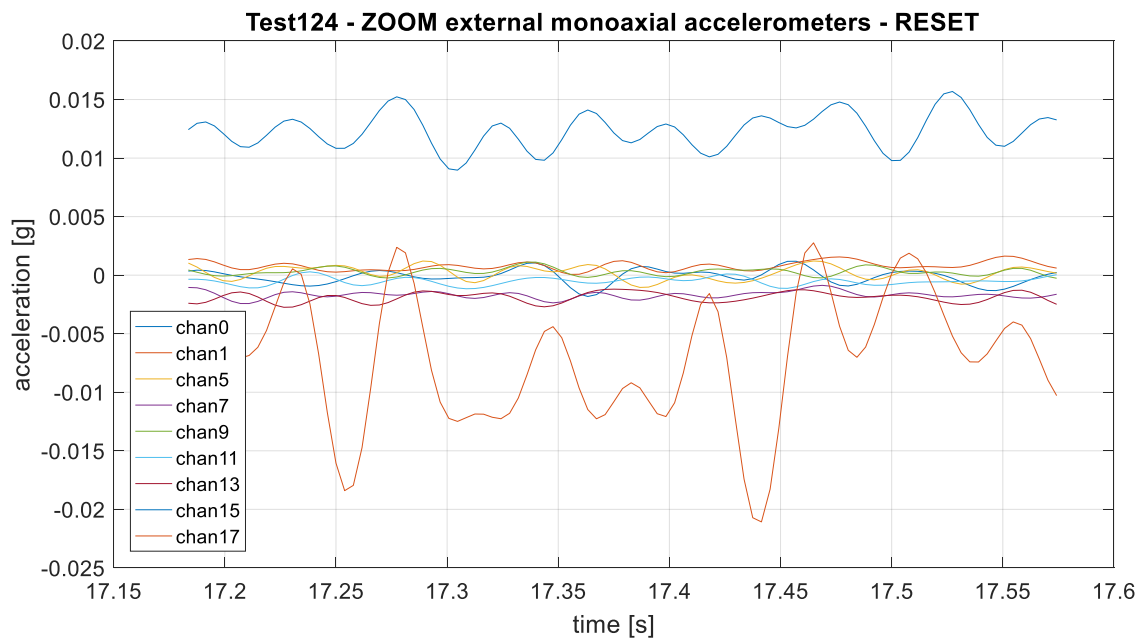
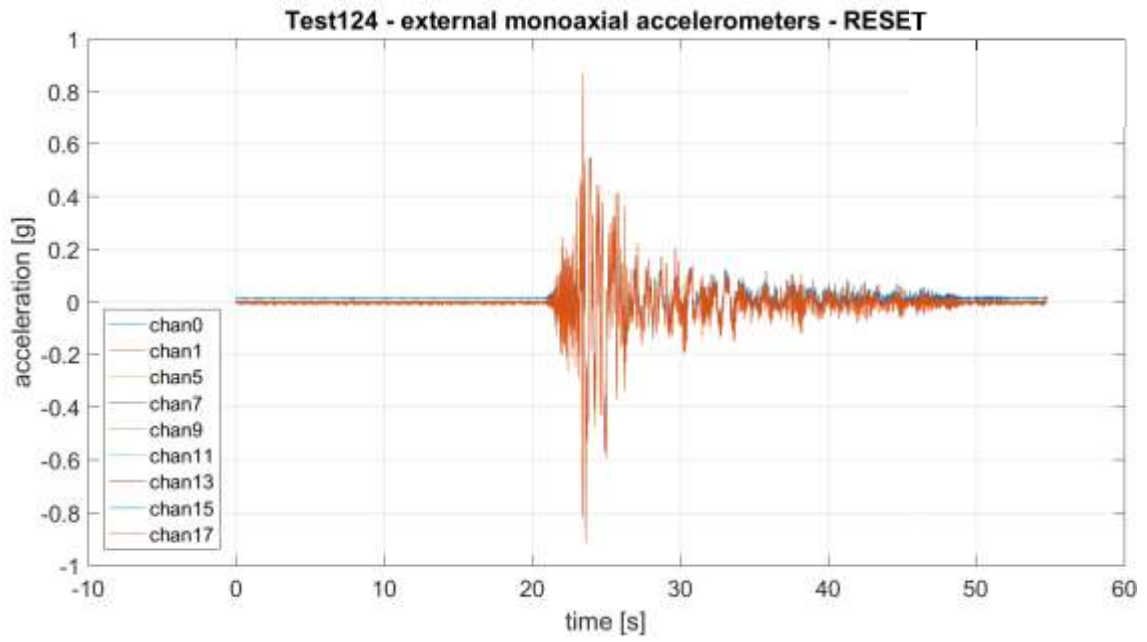
Earthquake input RS3 0.3 g: Test 55



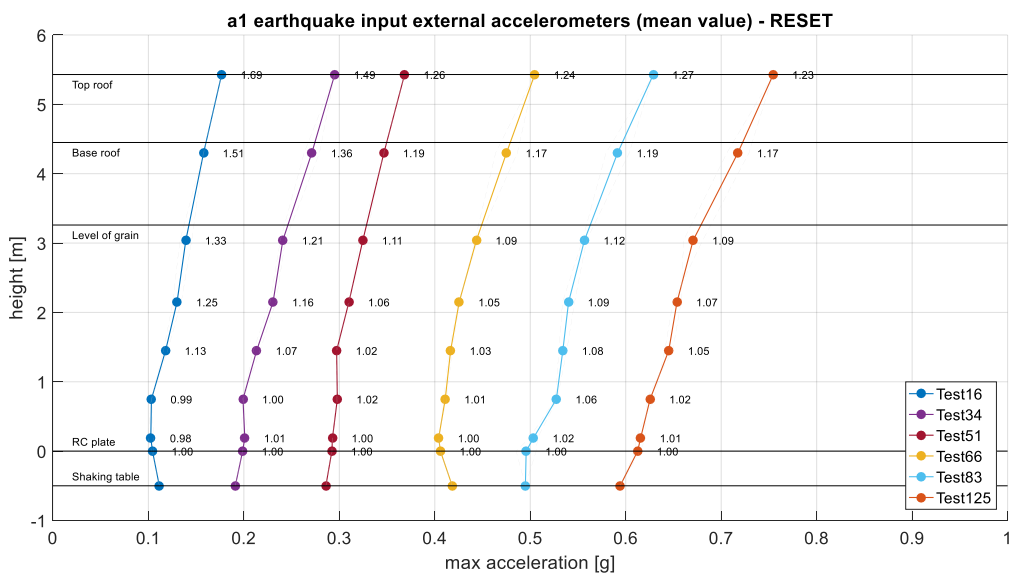
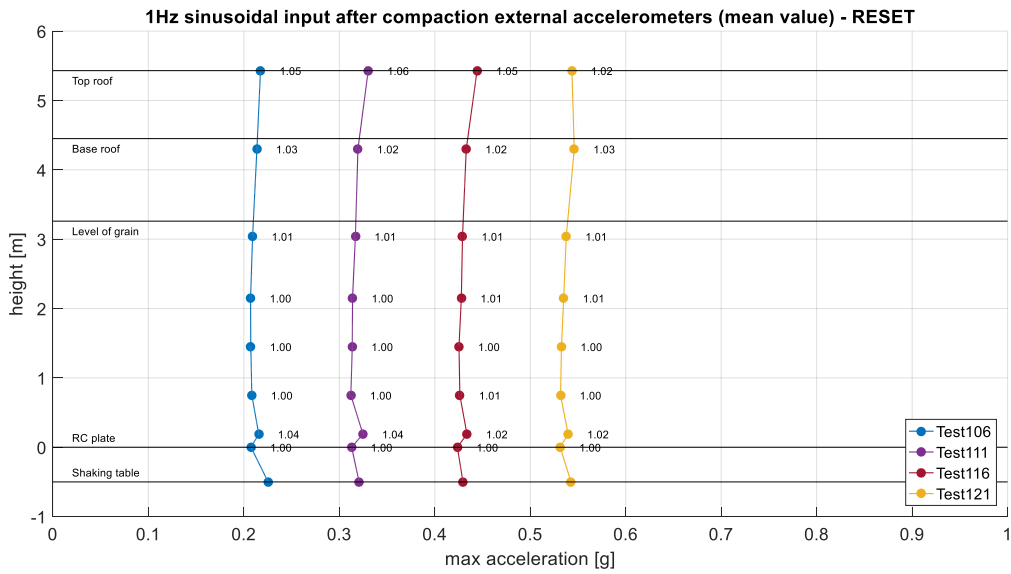
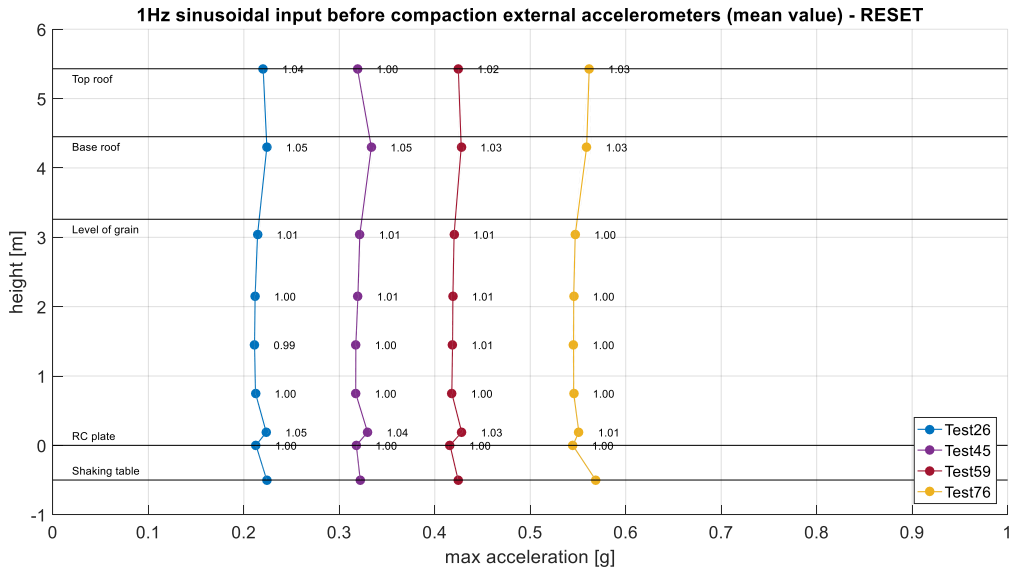
Earthquake input RS3 0.5 g: Test 86

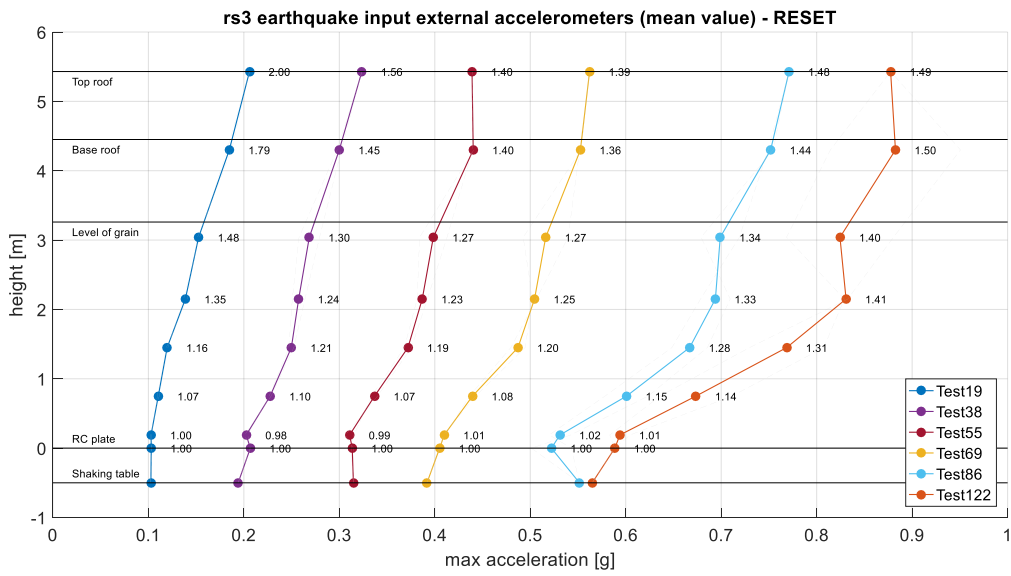
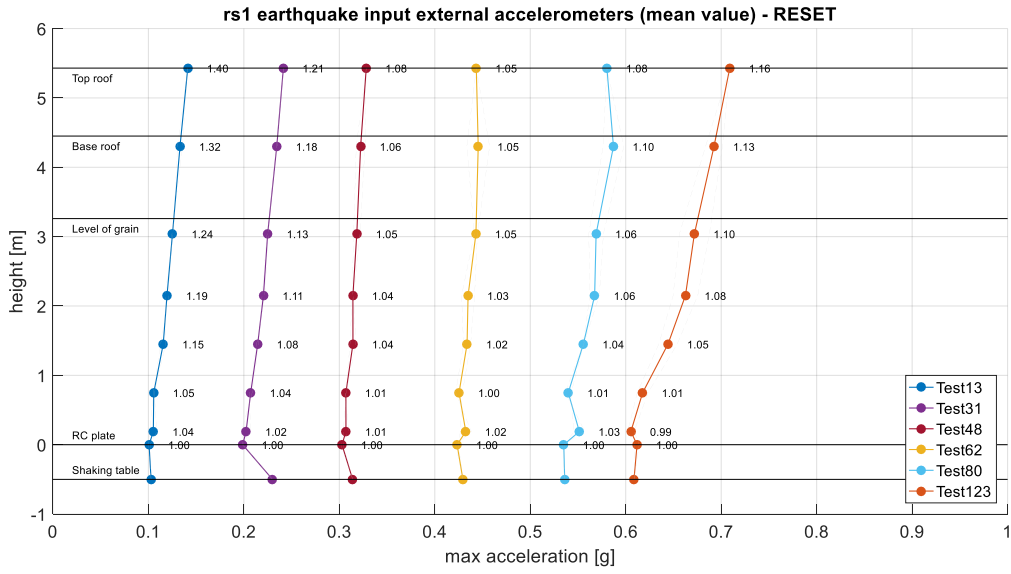


Earthquake input RS3 0.6 g: Test 124



A. 5.3 Amplificazioni dinamiche

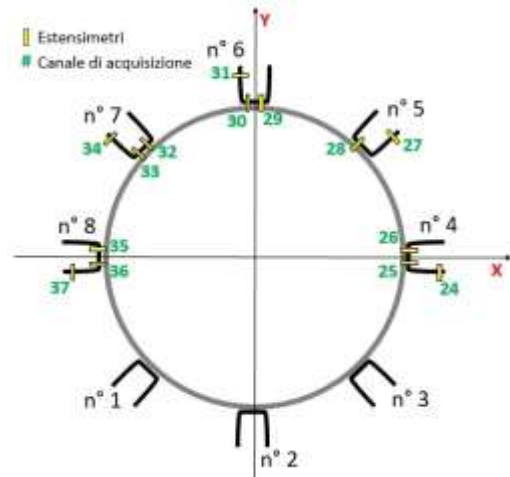
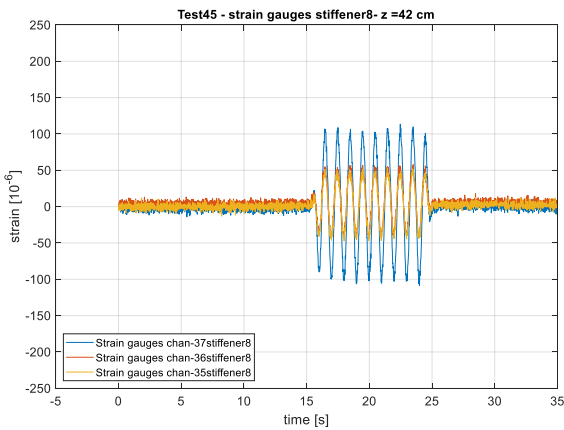
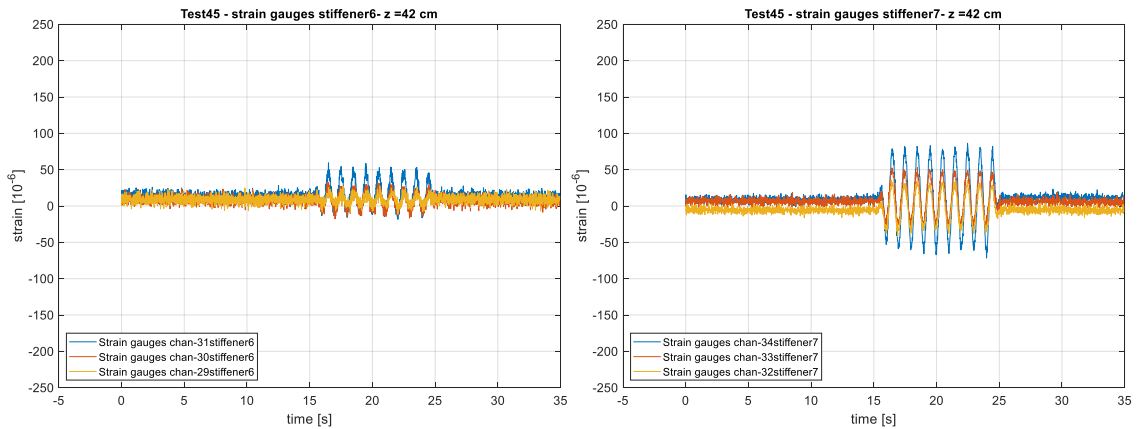
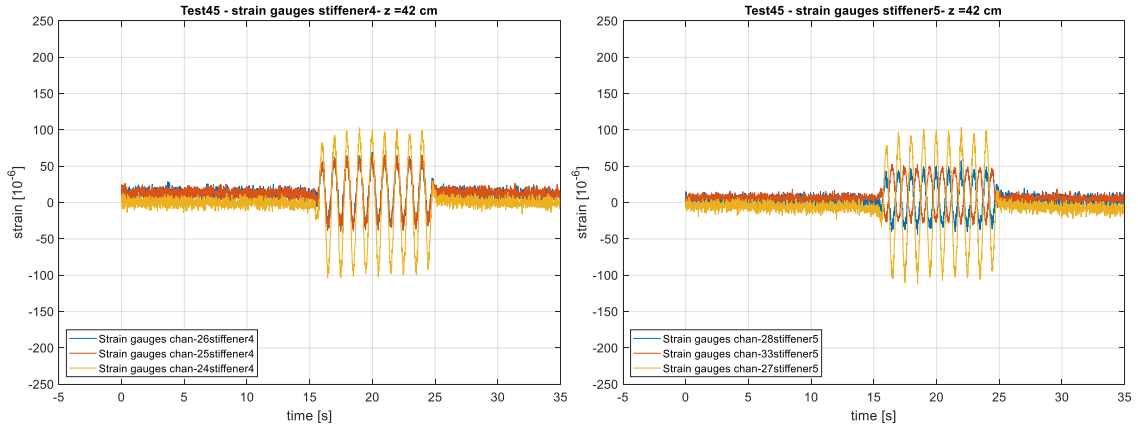




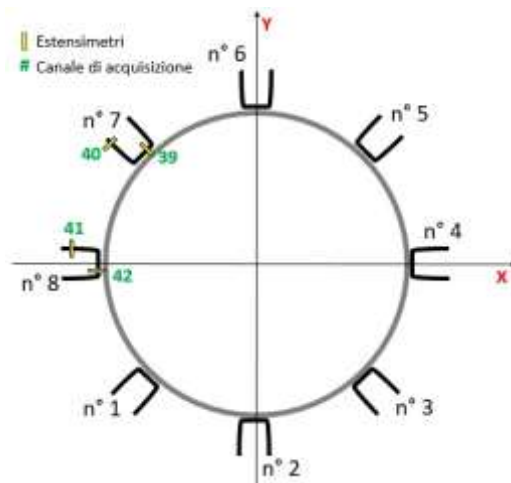
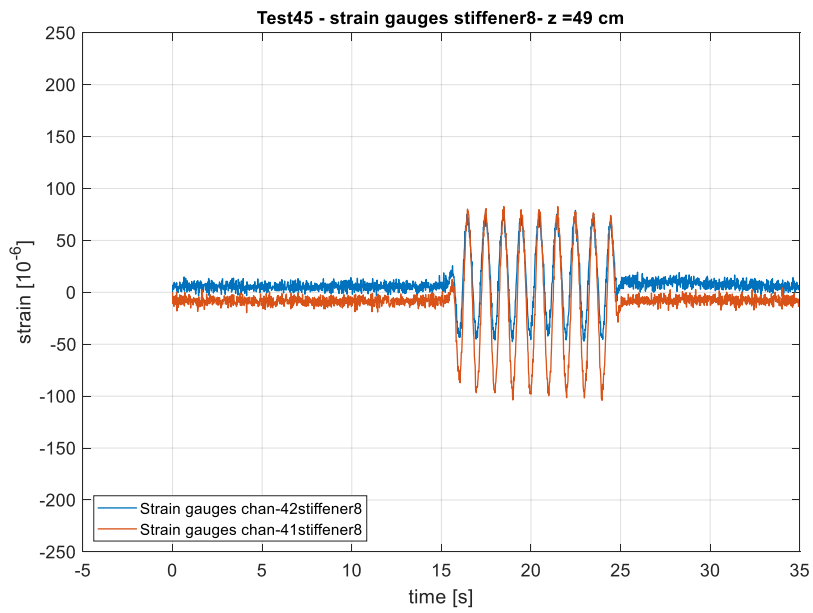
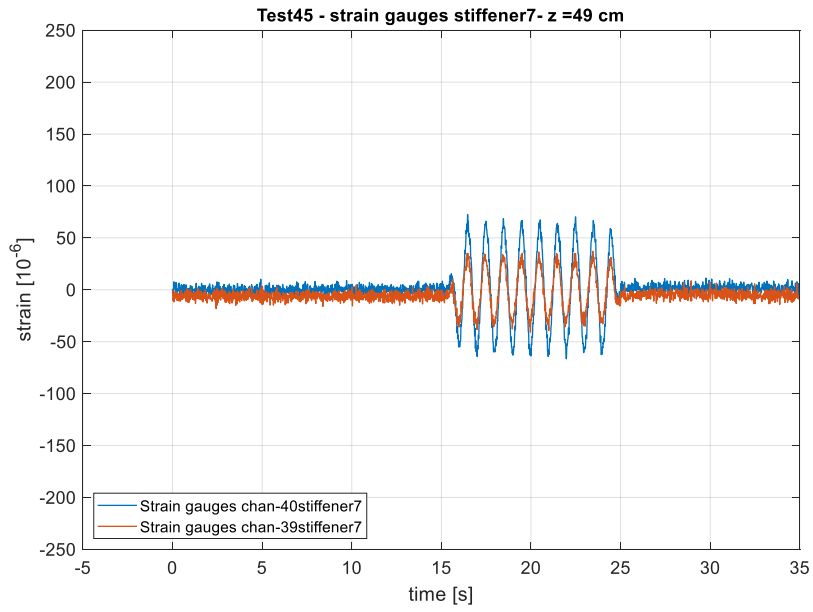
A. 5.4.1 Estensimetri – Parte 1

Sinusoidal input 1 Hz 0.3 g pre – compaction: Test 45

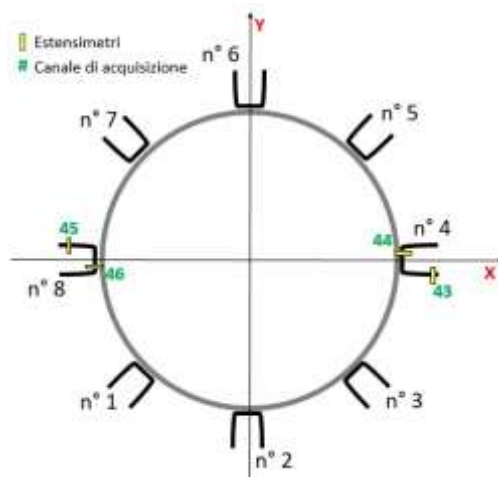
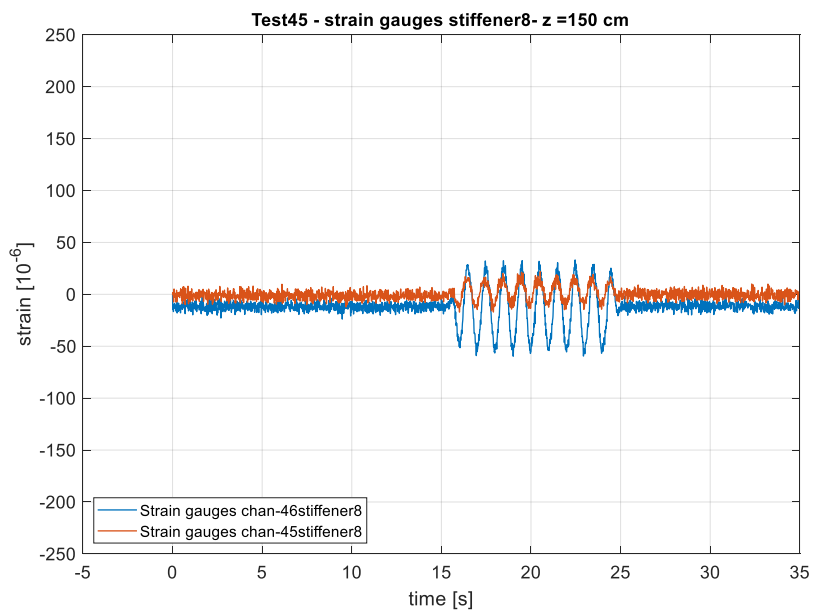
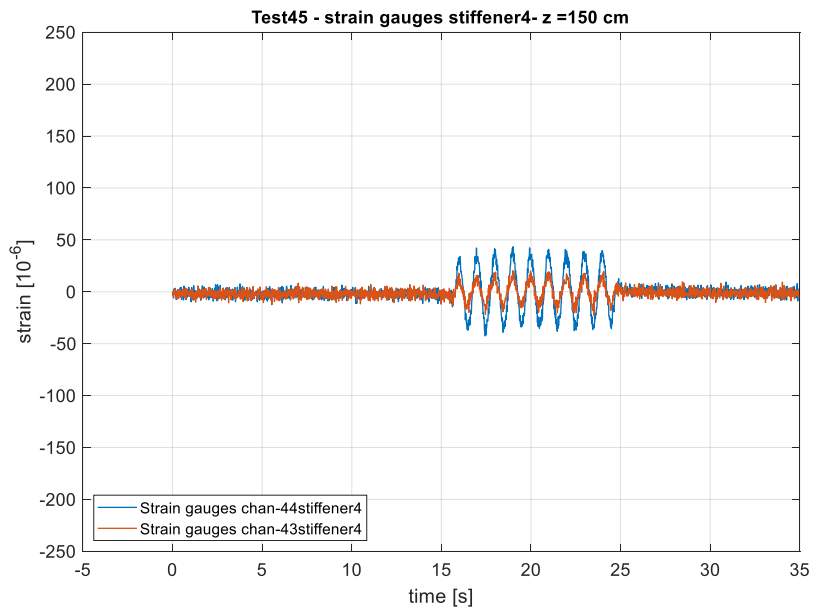
Quota Z = 42 cm



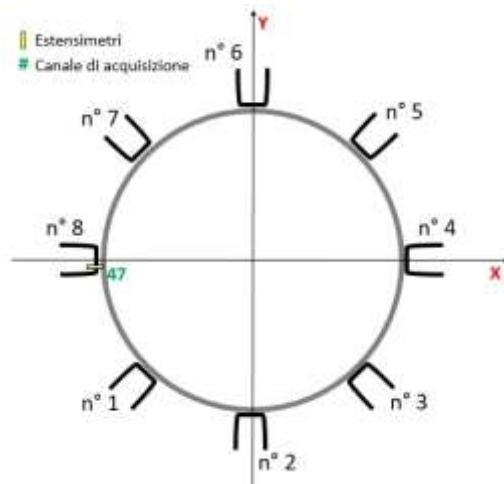
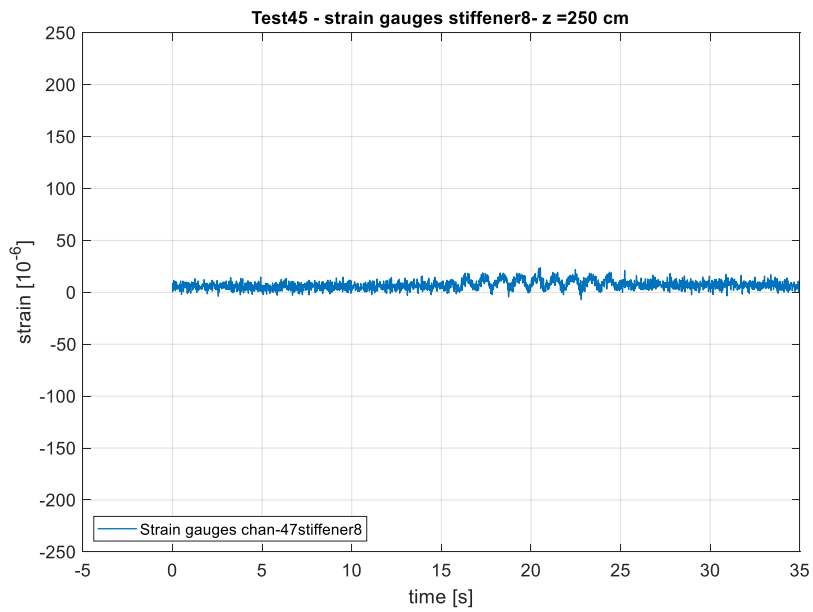
Quota Z = 49 cm



Quota Z = 150 cm

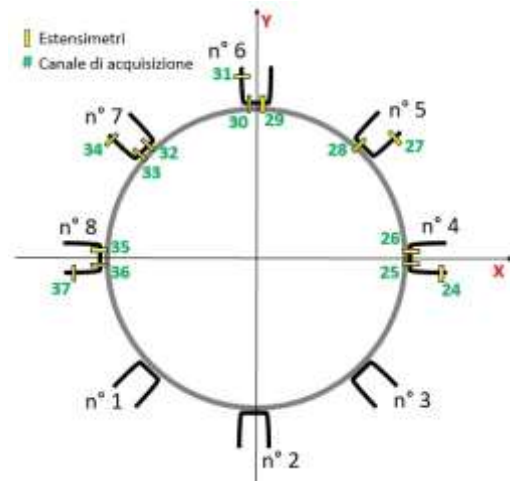
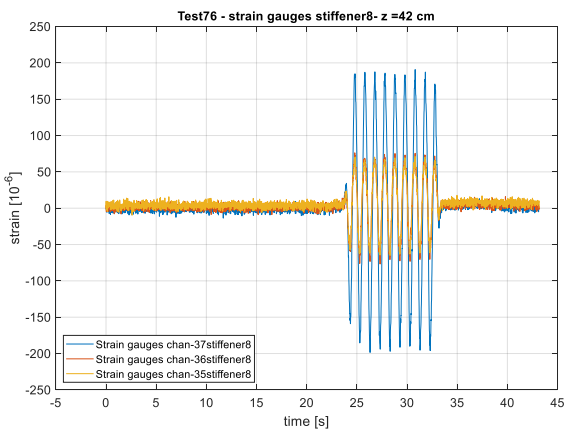
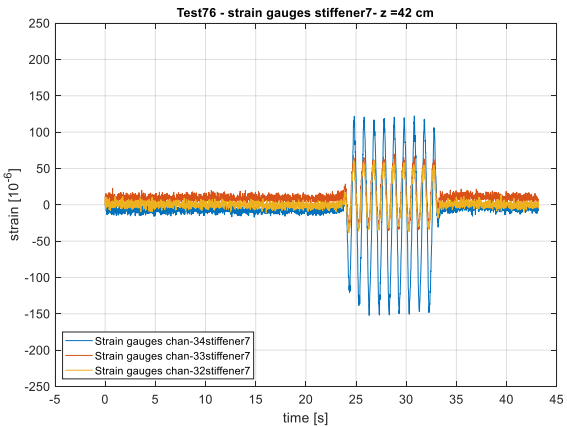
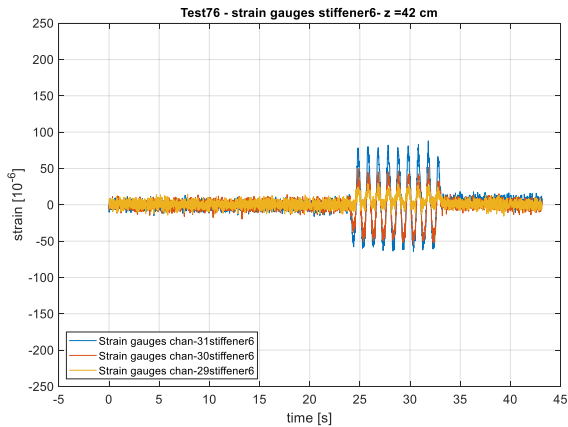
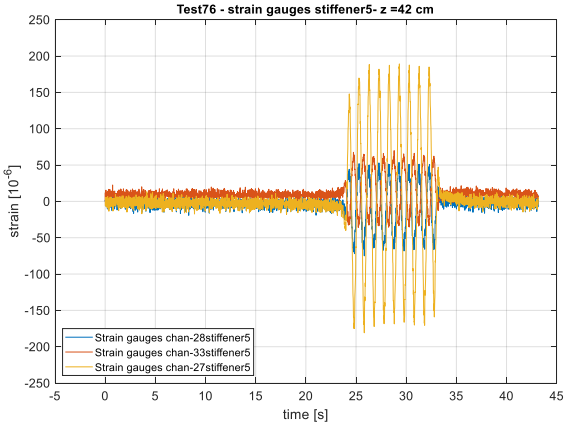
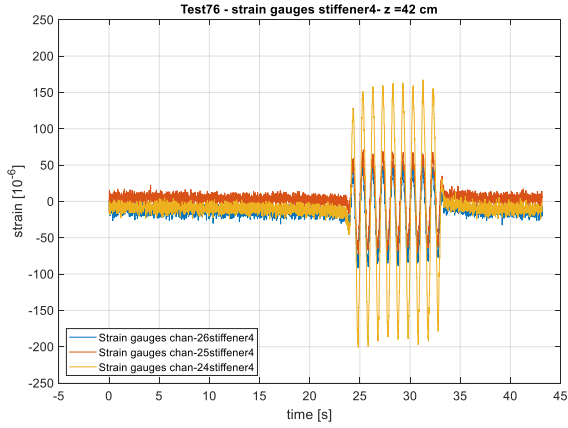


Quota Z = 250 cm

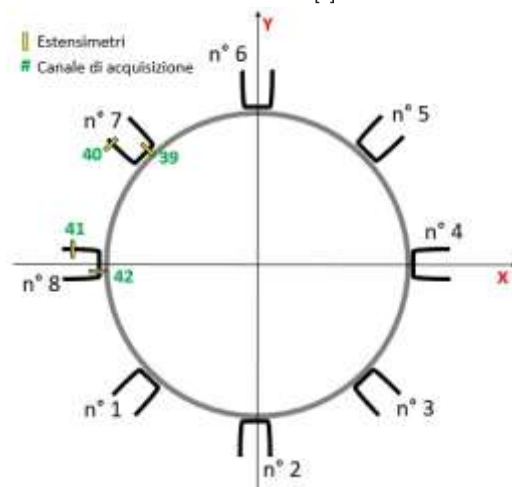
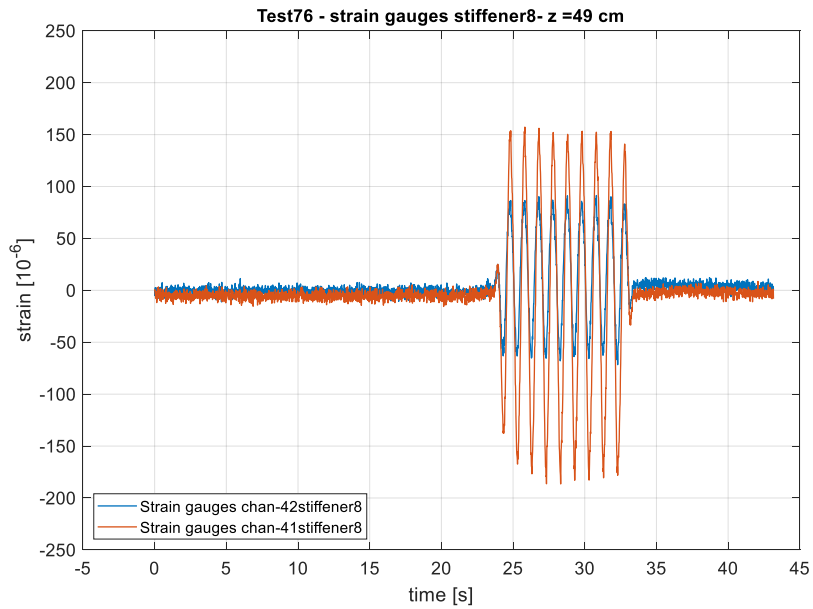
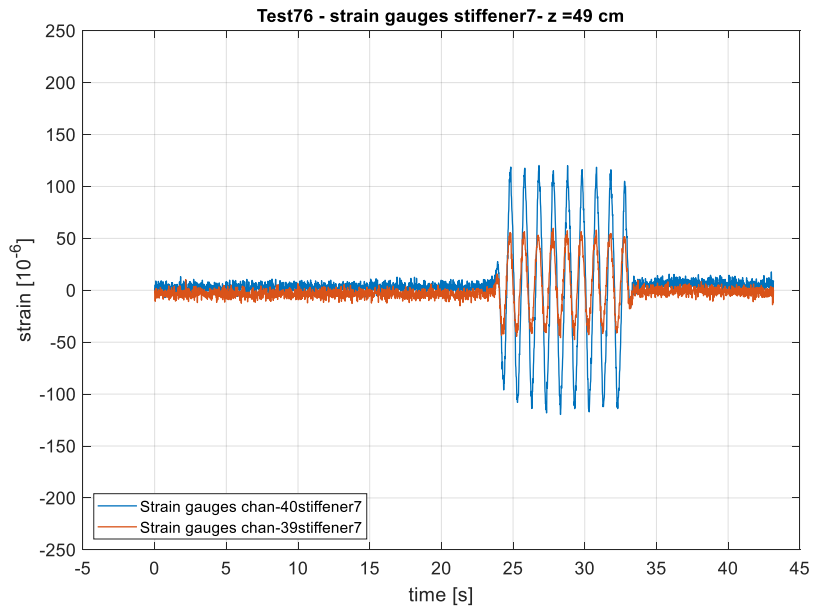


Sinusoidal input 1 Hz 0.5 g pre – compaction: Test 76

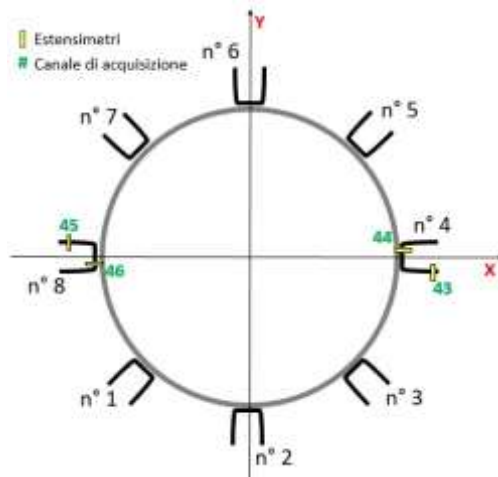
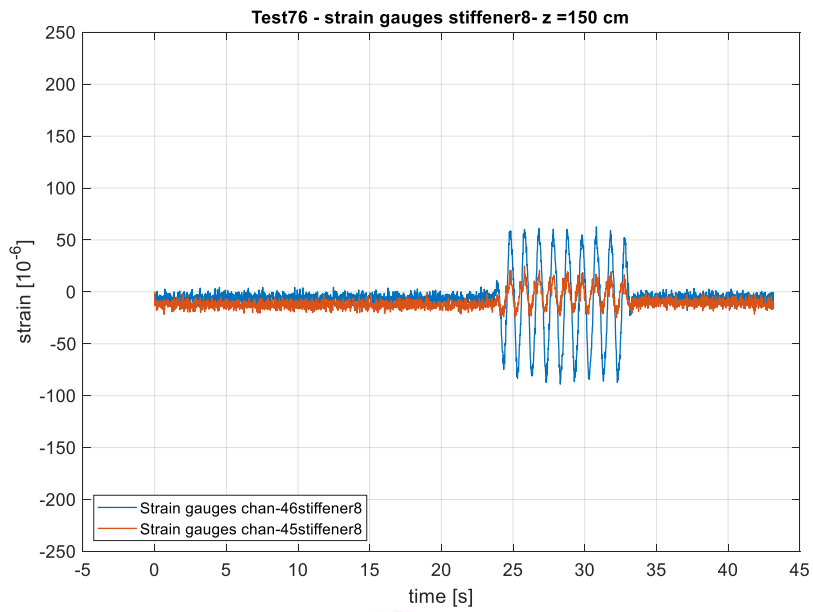
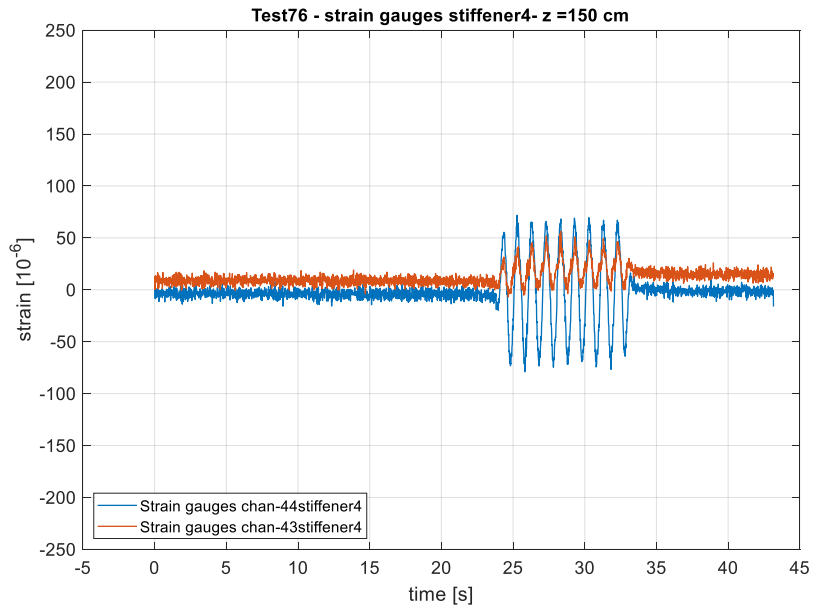
Quota Z = 42 cm



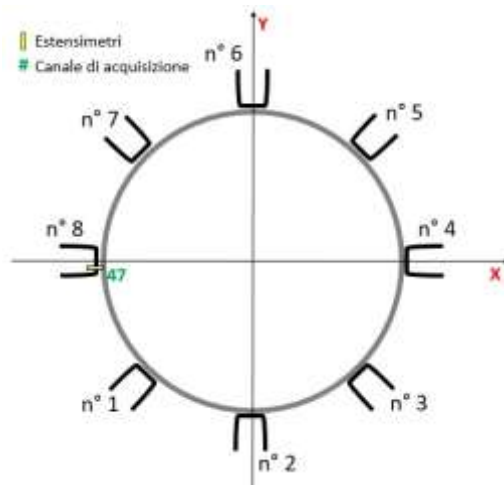
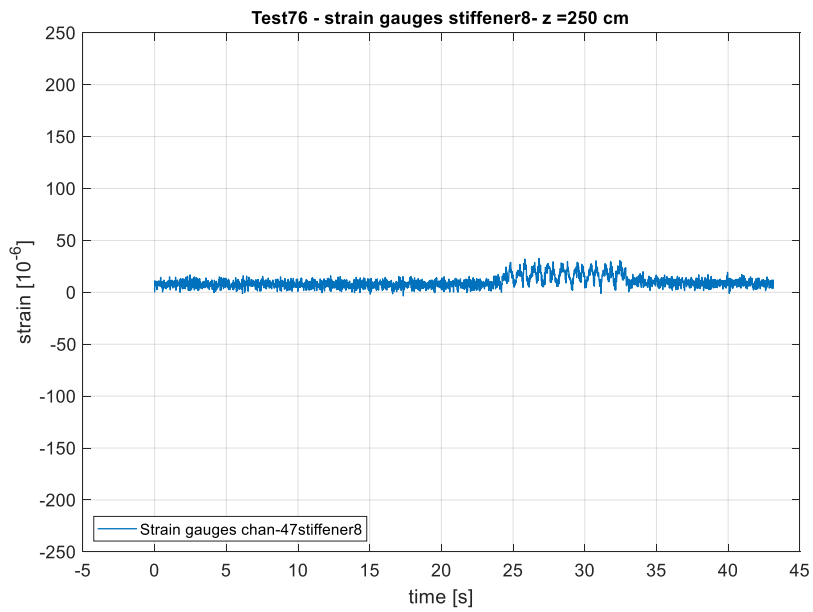
Quota Z = 49 cm



Quota Z = 150 cm

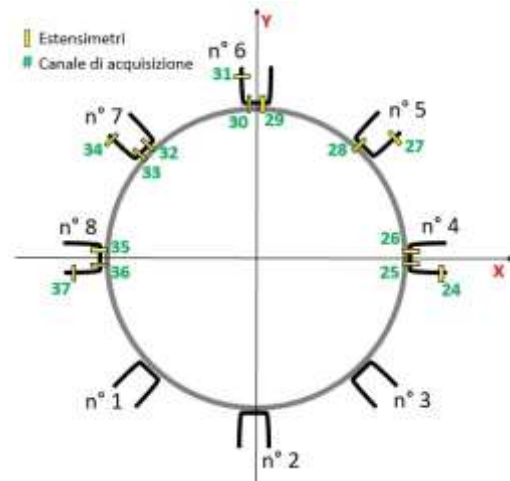
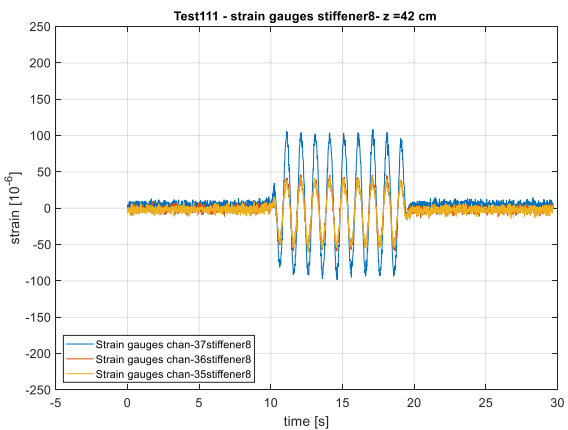
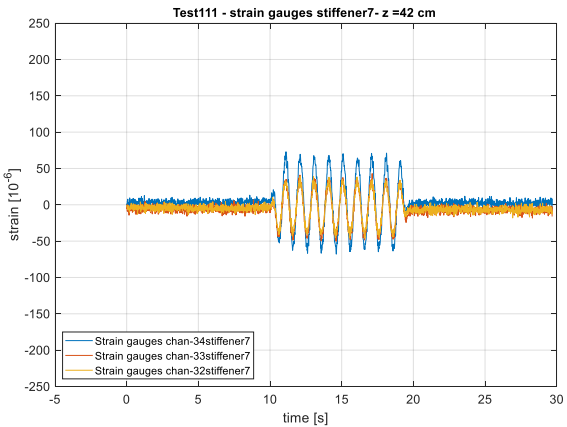
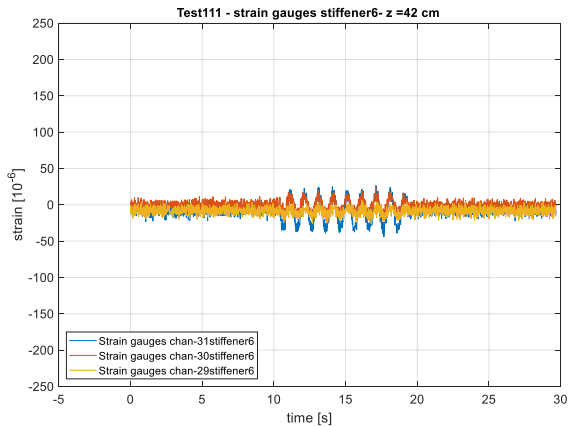
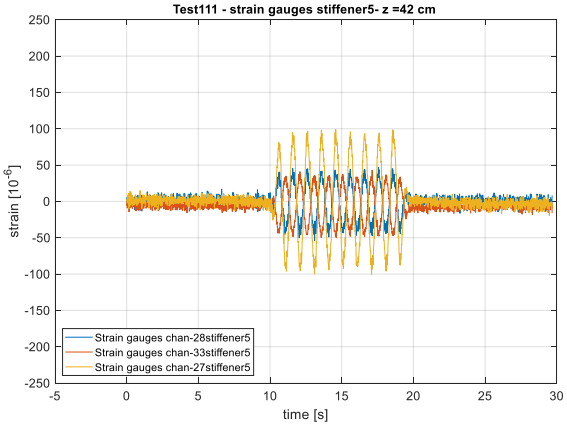
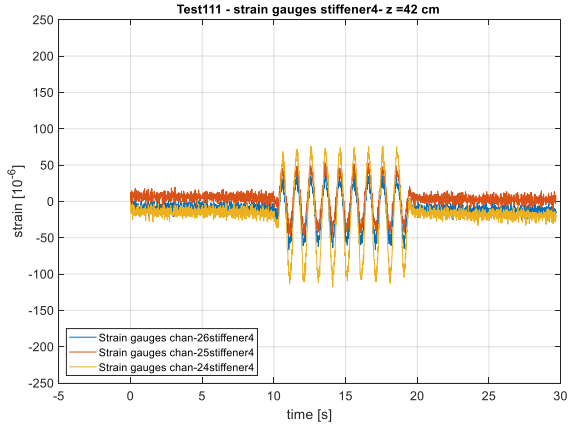


Quota Z = 250 cm

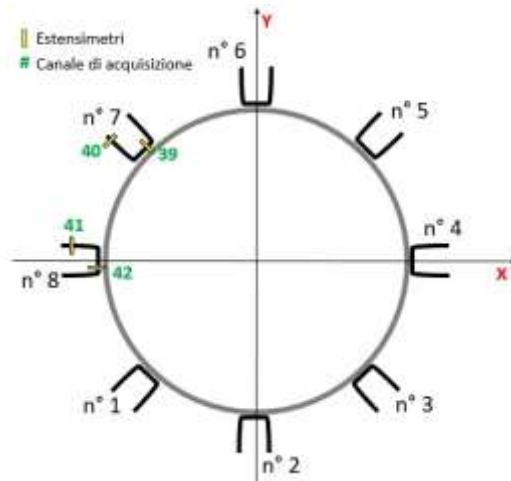
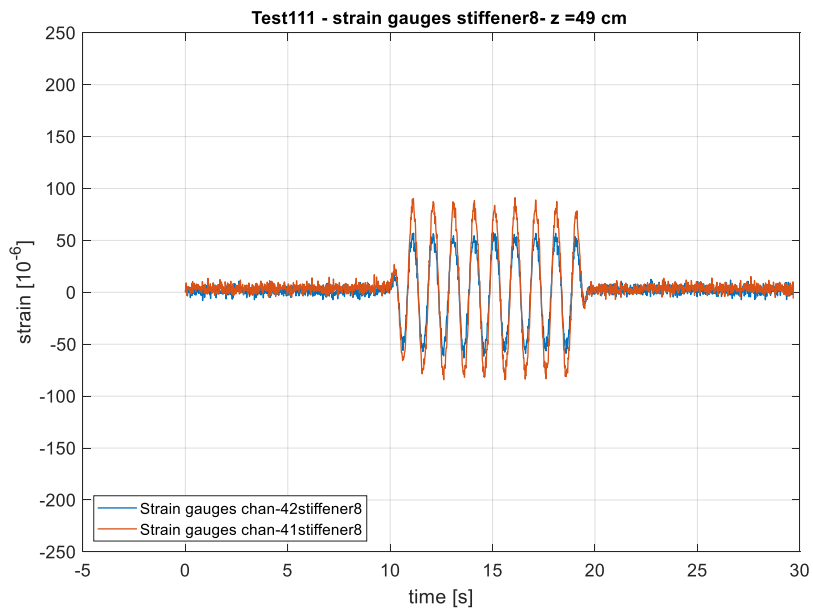
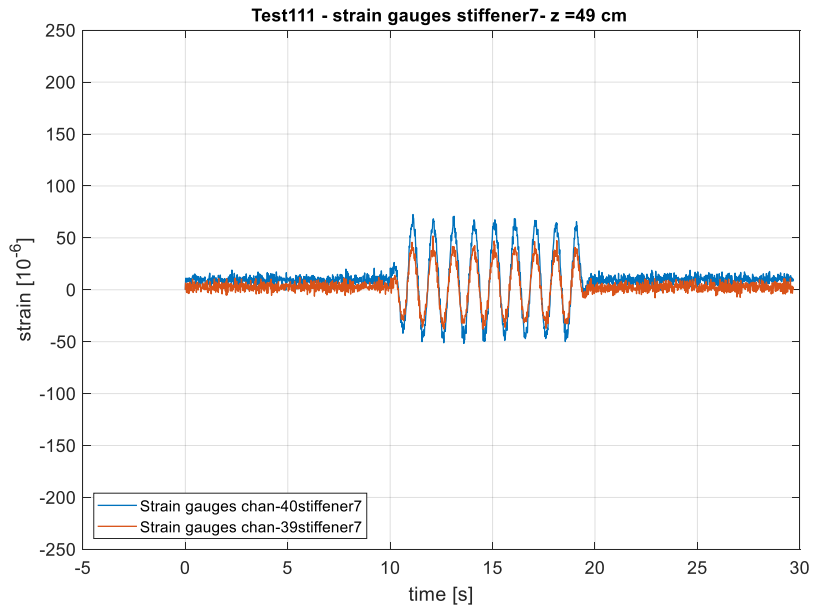


Sinusoidal input 1 Hz 0.3 g post – compaction: Test 111

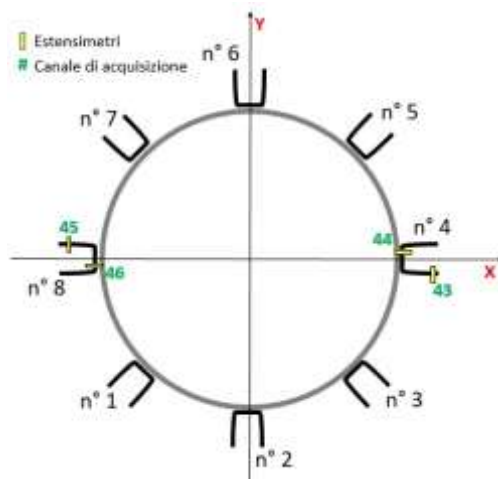
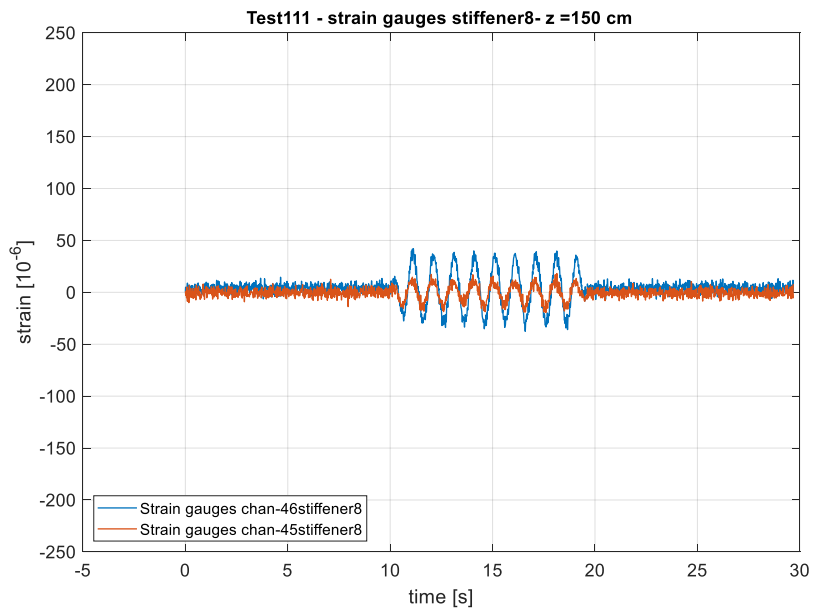
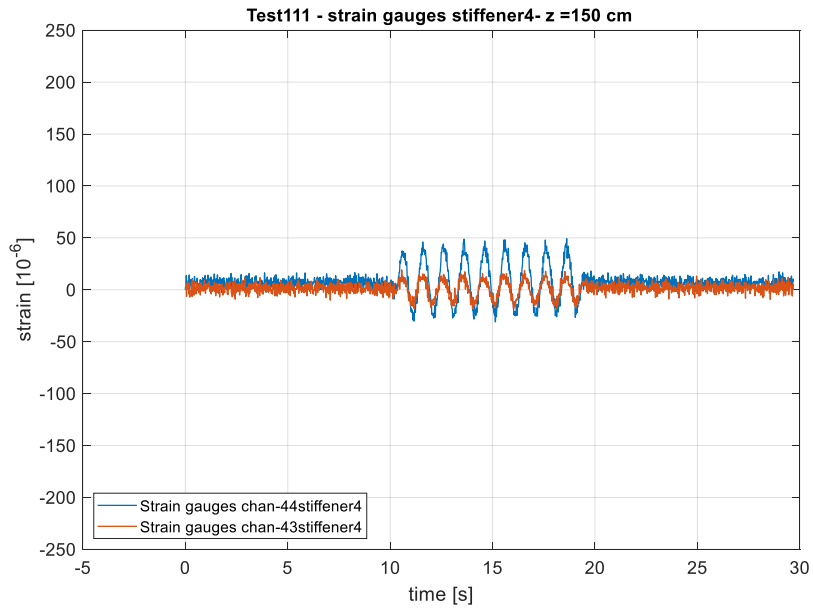
Quota Z = 42 cm



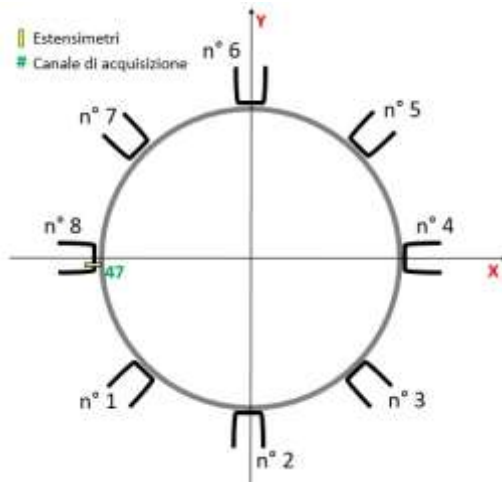
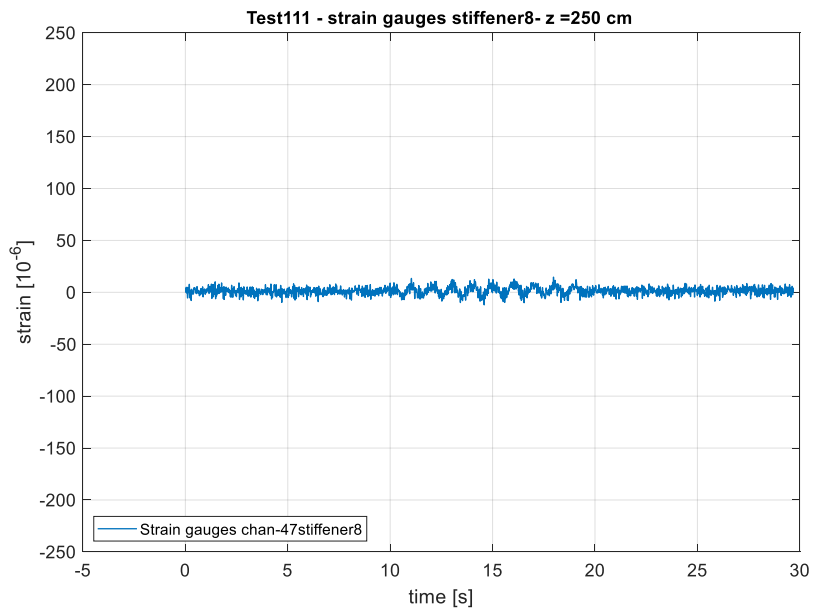
Quota Z = 49 cm



Quota Z = 150 cm

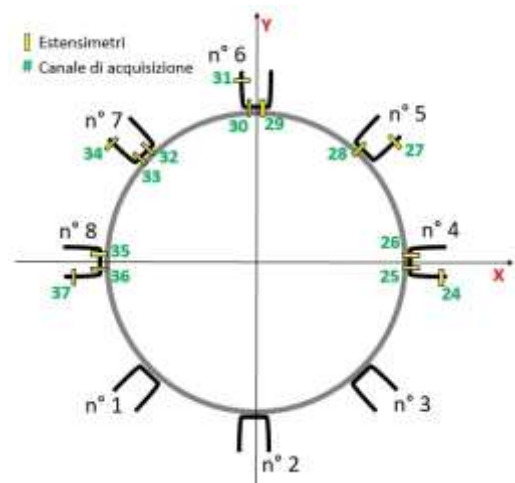
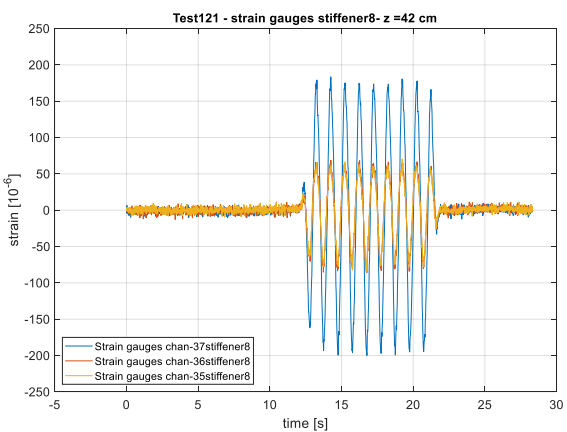
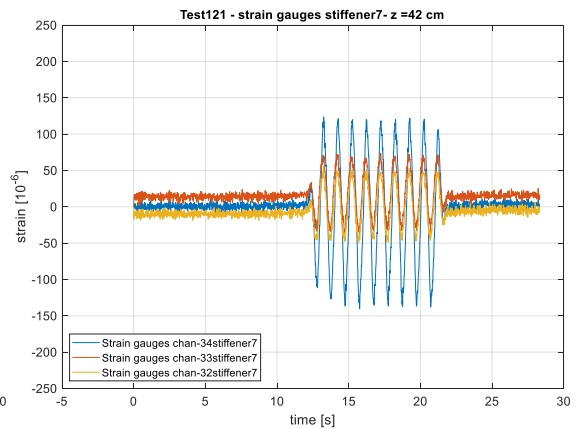
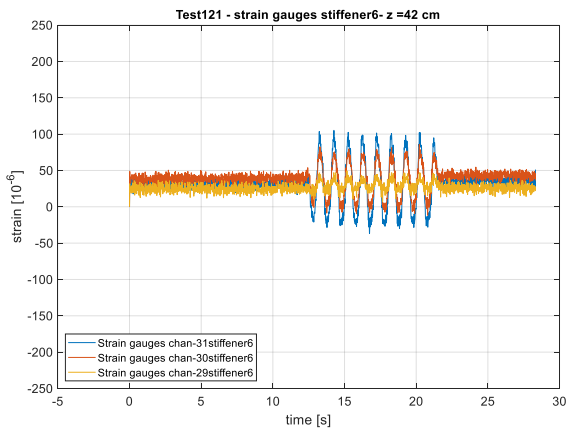
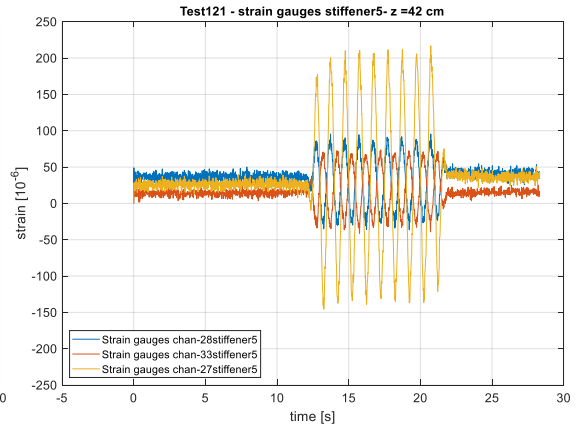
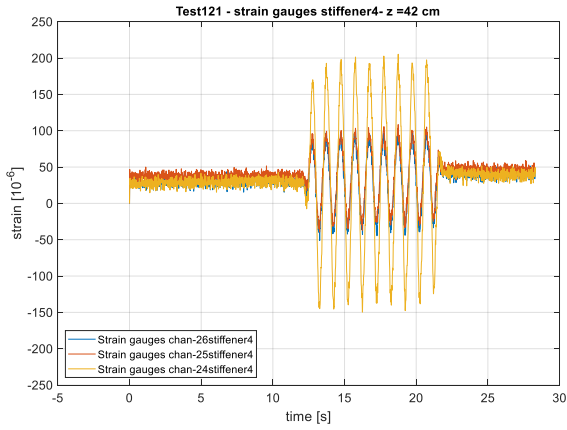


Quota Z = 250 cm

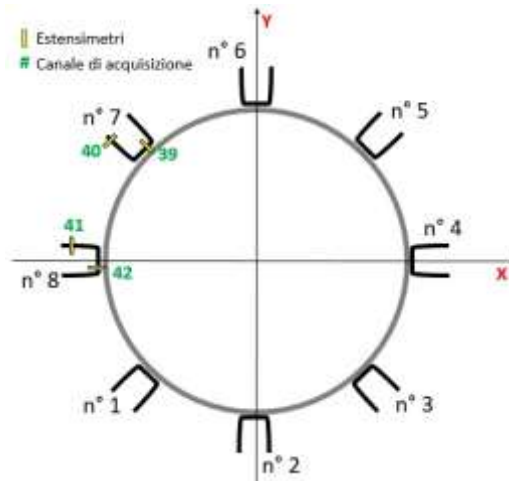
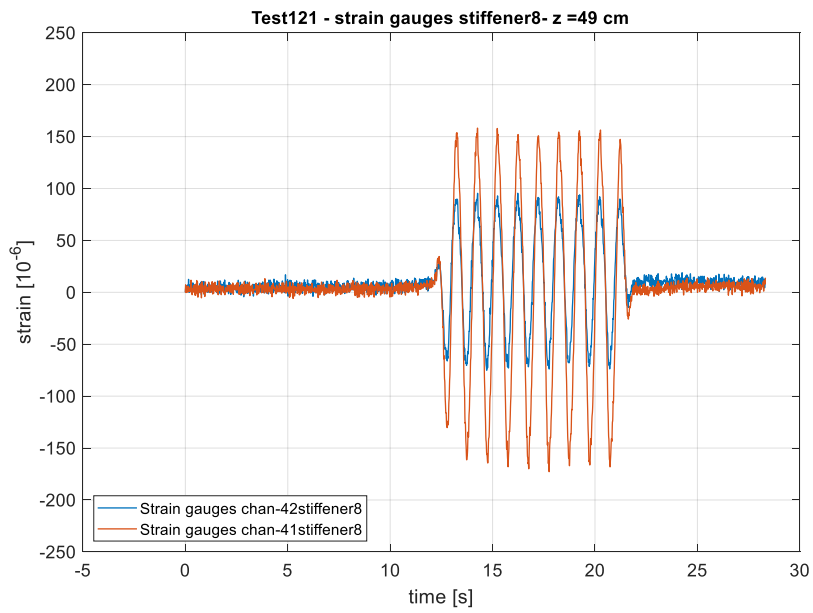
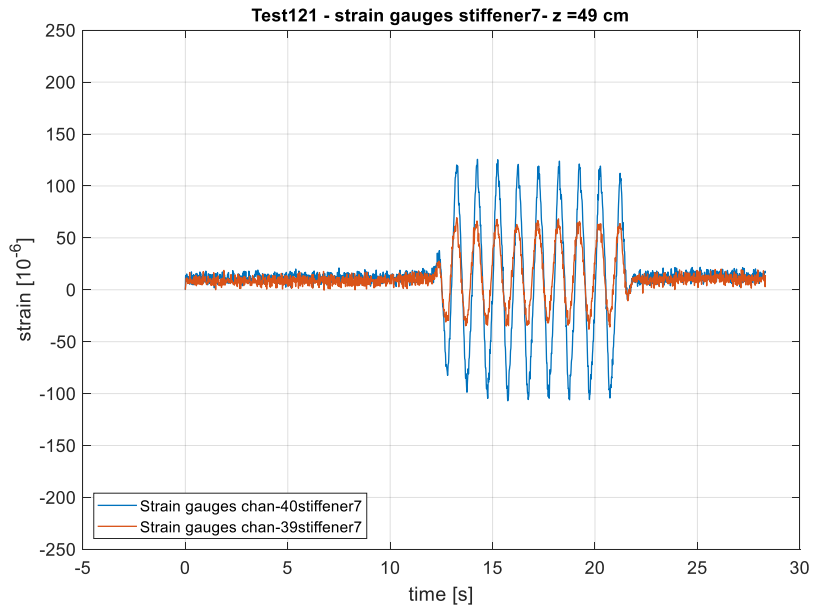


Sinusoidal input 1 Hz 0.5 g post – compaction: Test 121

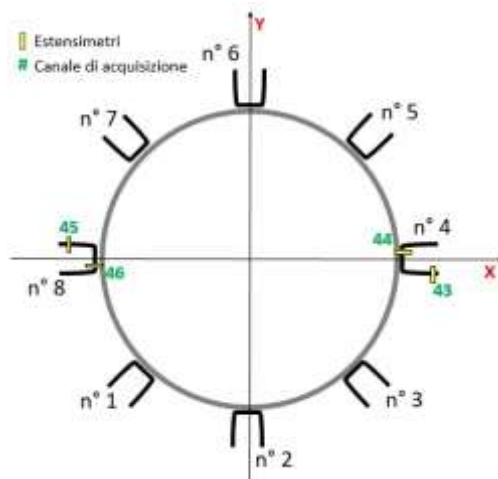
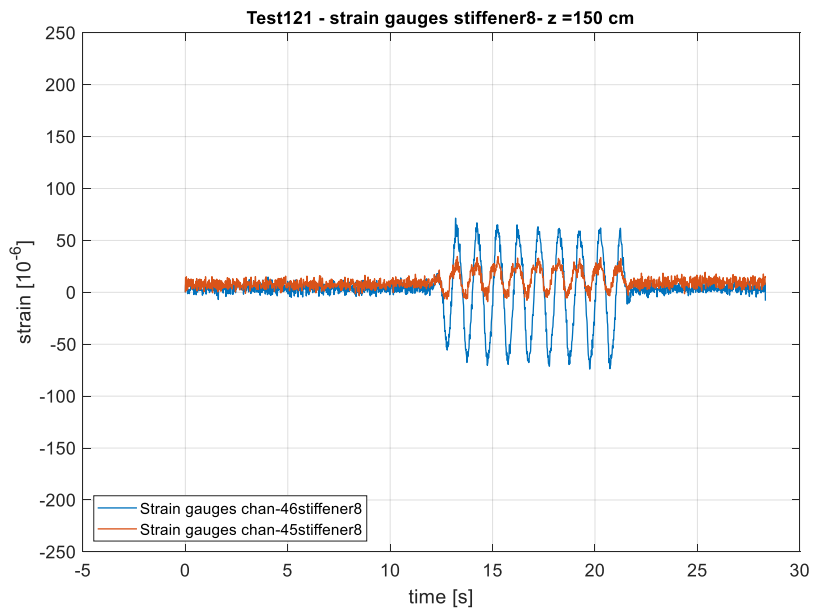
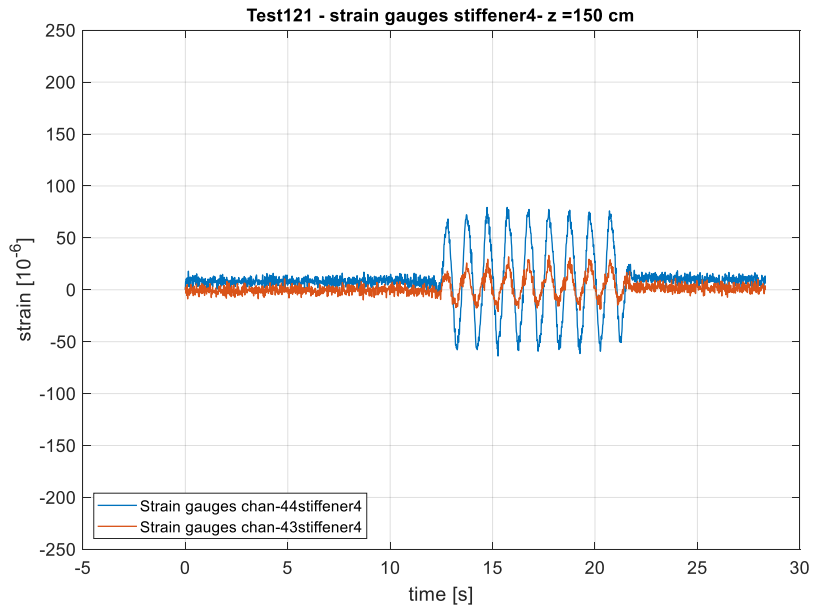
Quota Z = 42 cm



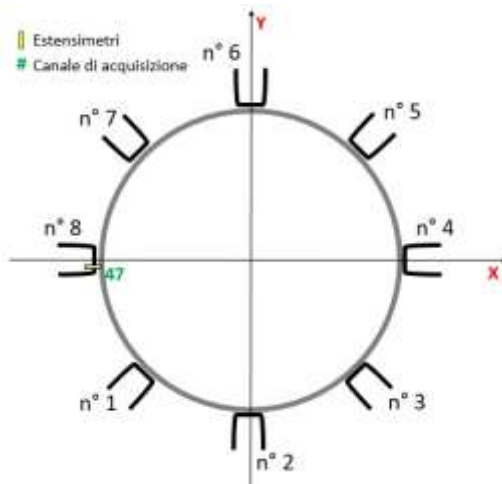
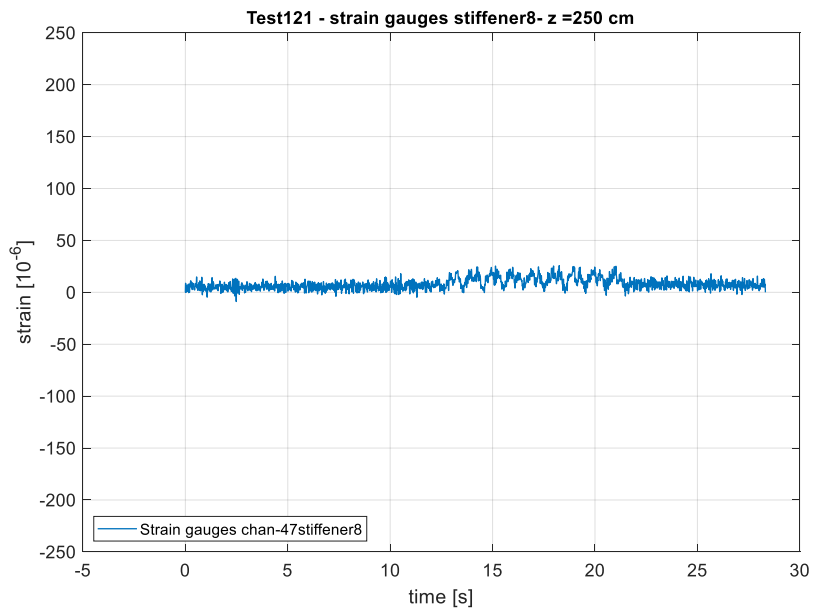
Quota Z = 49 cm



Quota Z = 150 cm

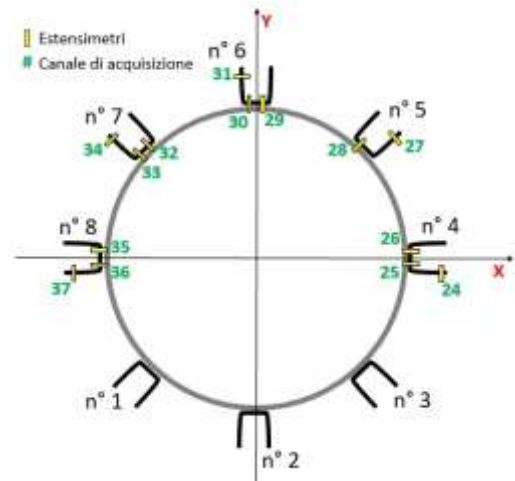
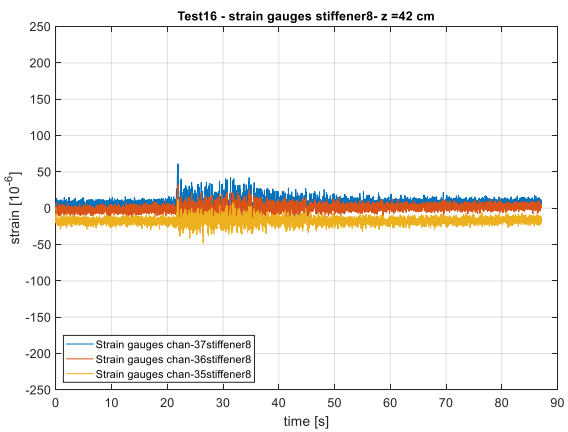
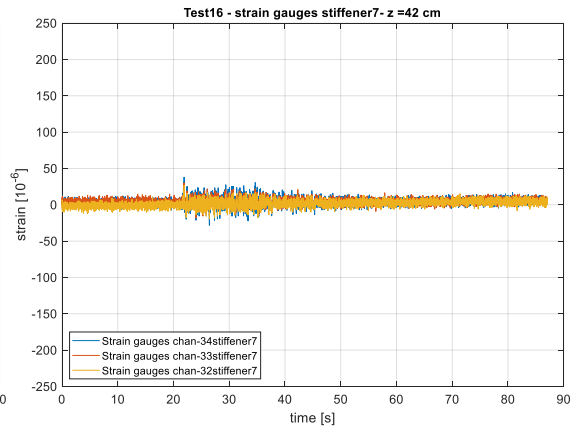
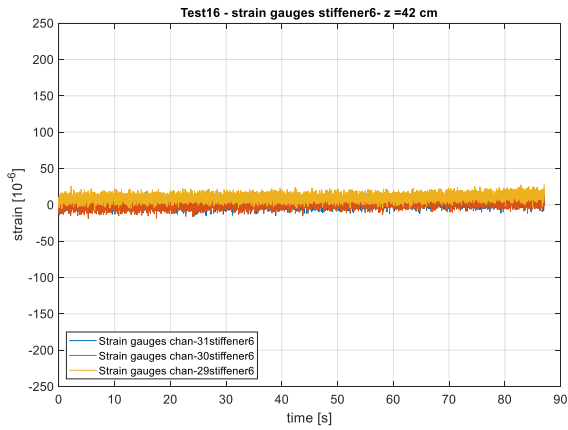
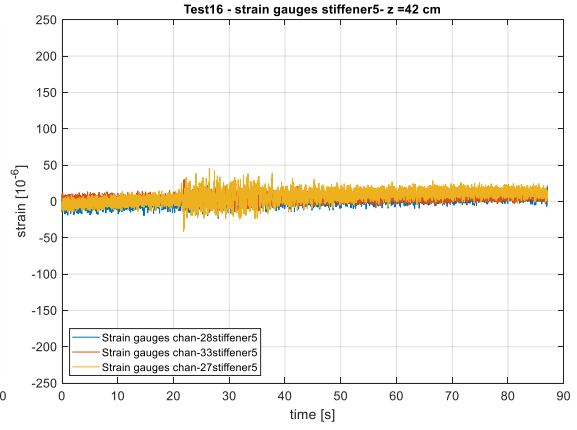
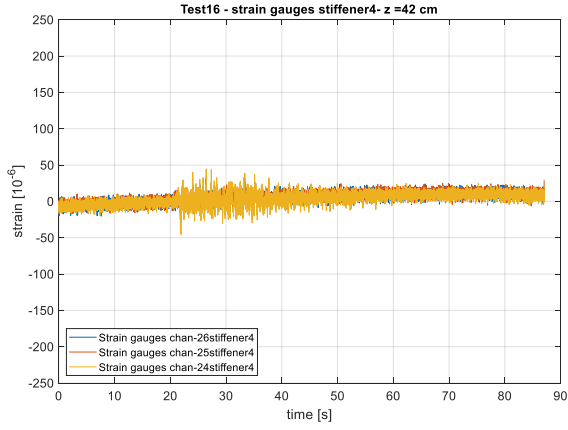


Quota Z = 250 cm

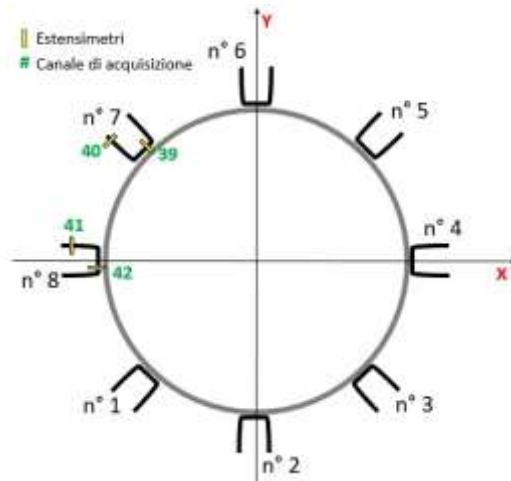
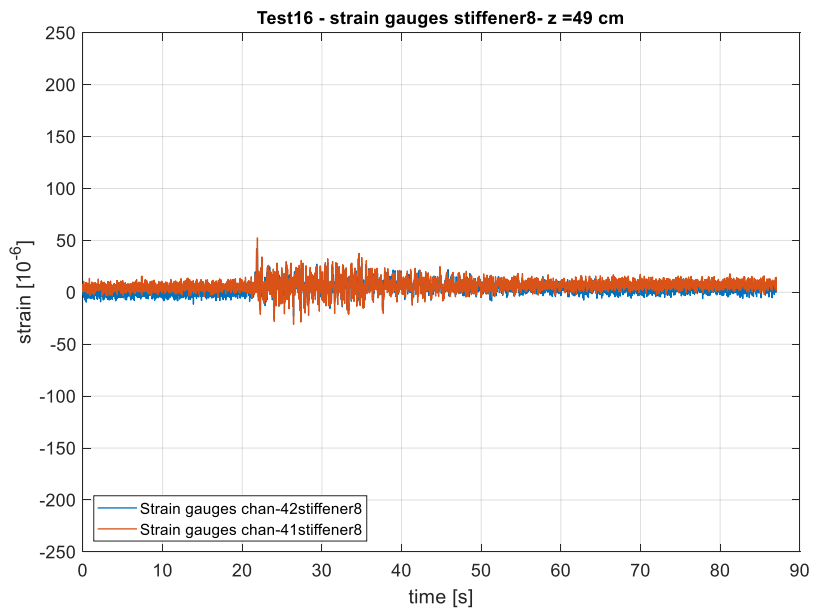
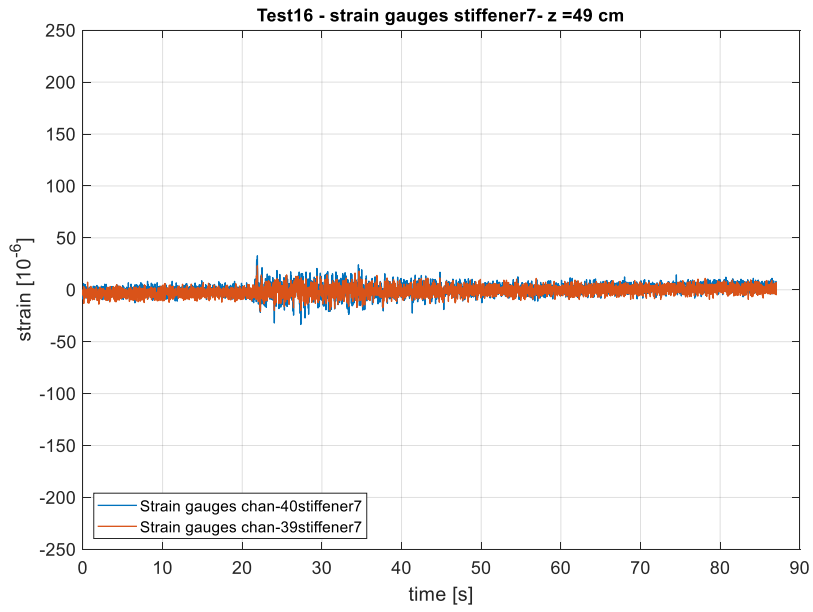


Earthquake input A1 0.1 g: Test 16

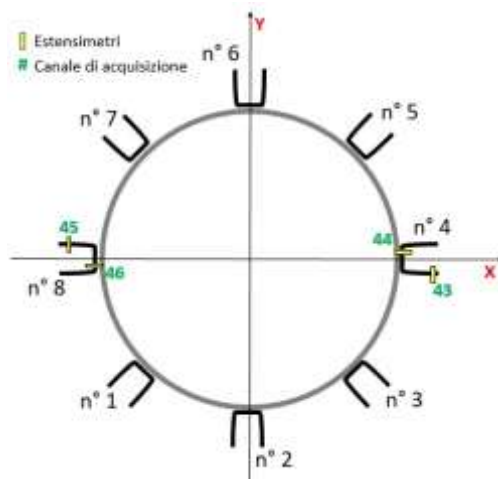
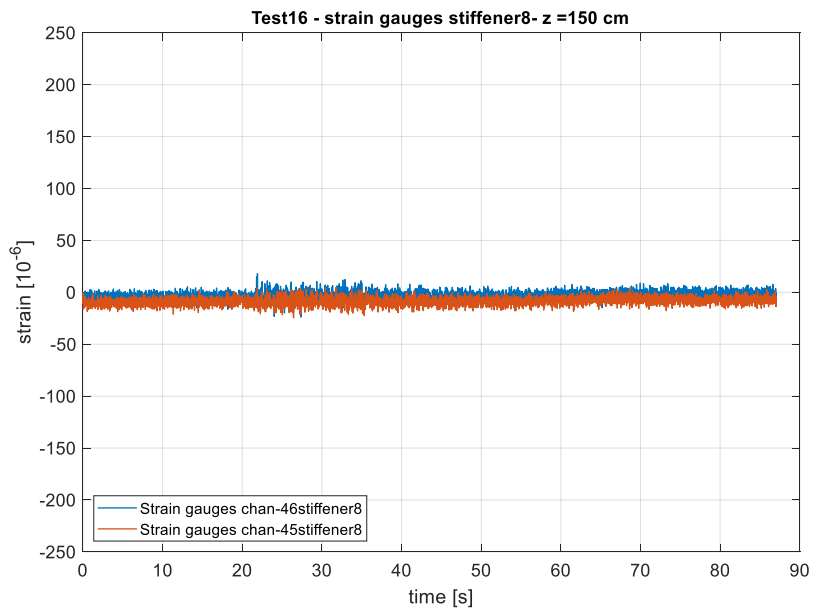
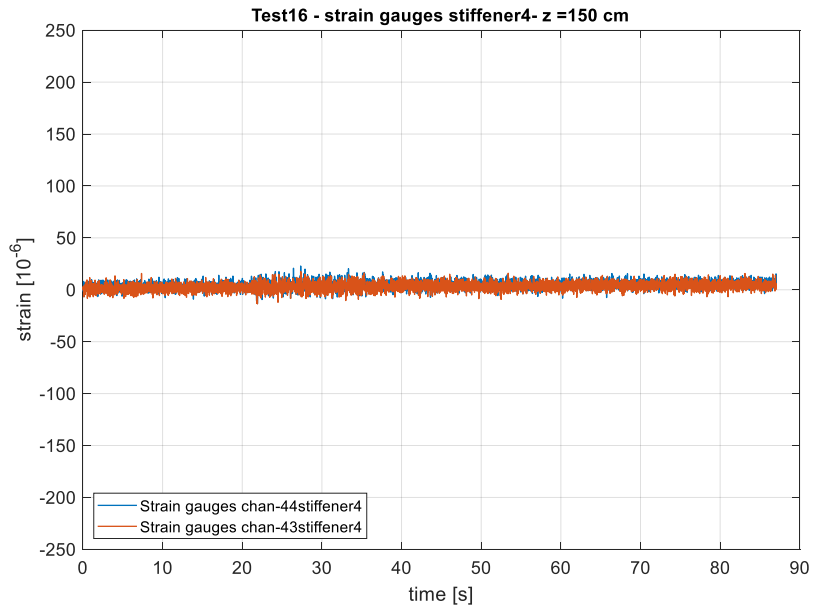
Quota Z = 42 cm



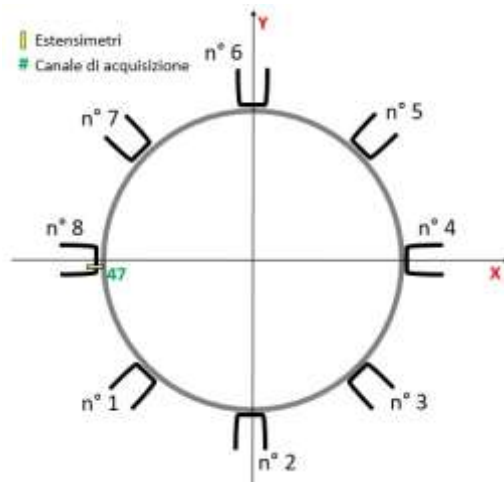
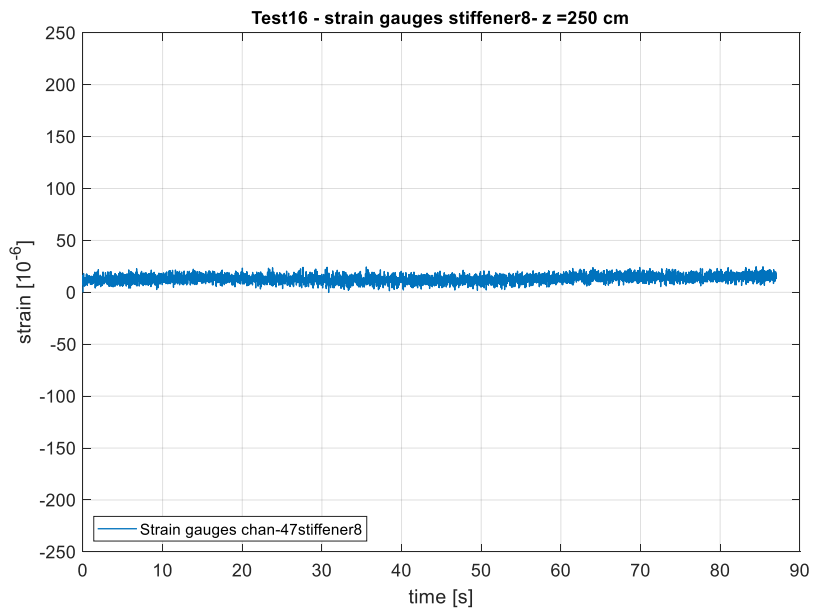
Quota Z = 49 cm



Quota Z = 150 cm

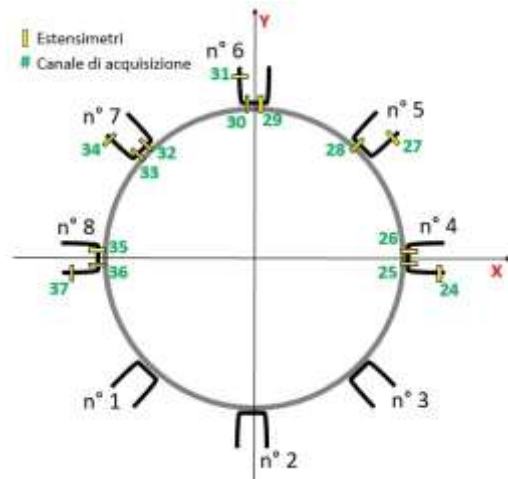
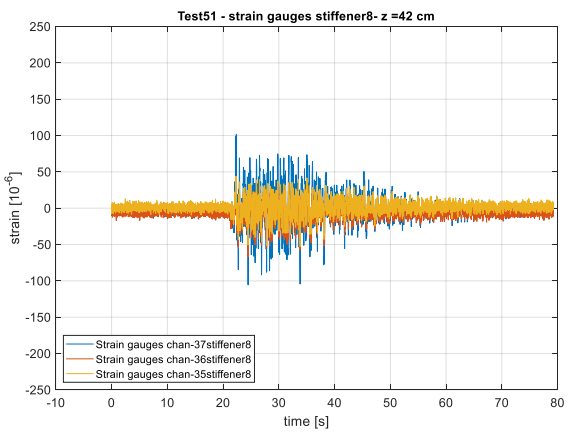
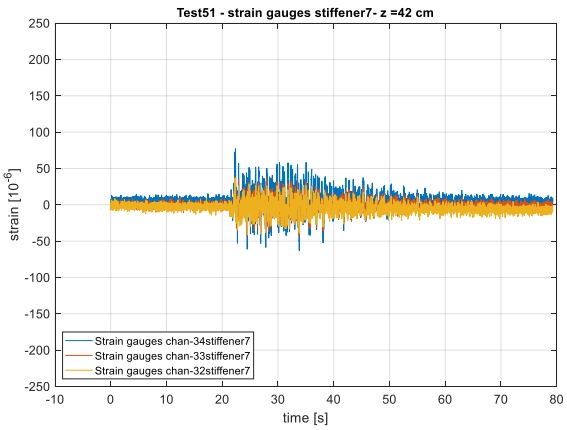
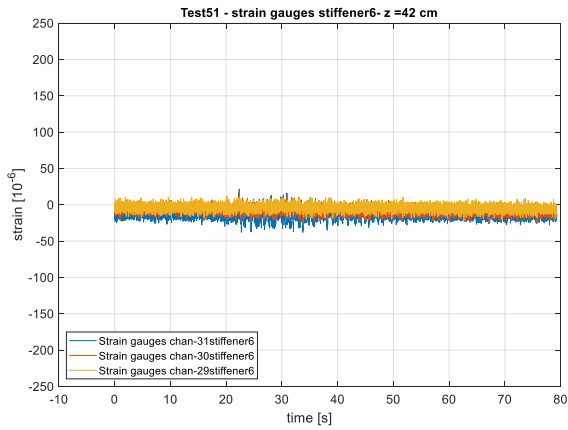
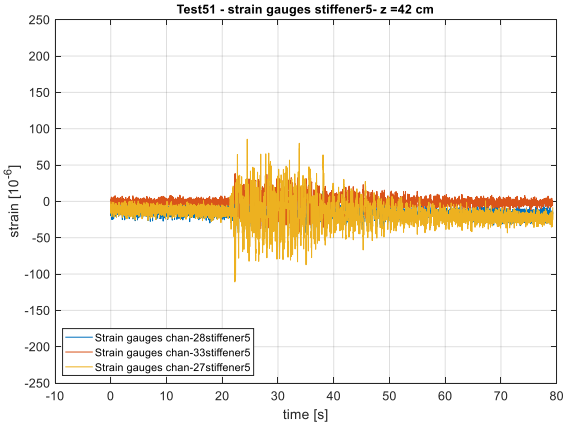
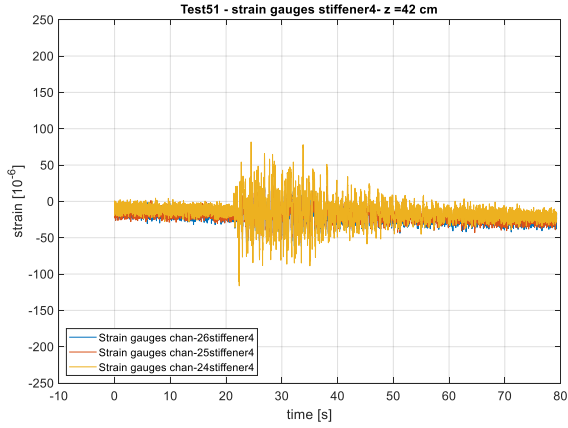


Quota Z = 250 cm

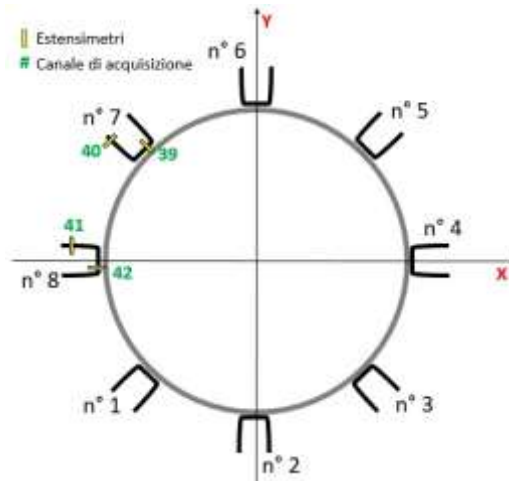
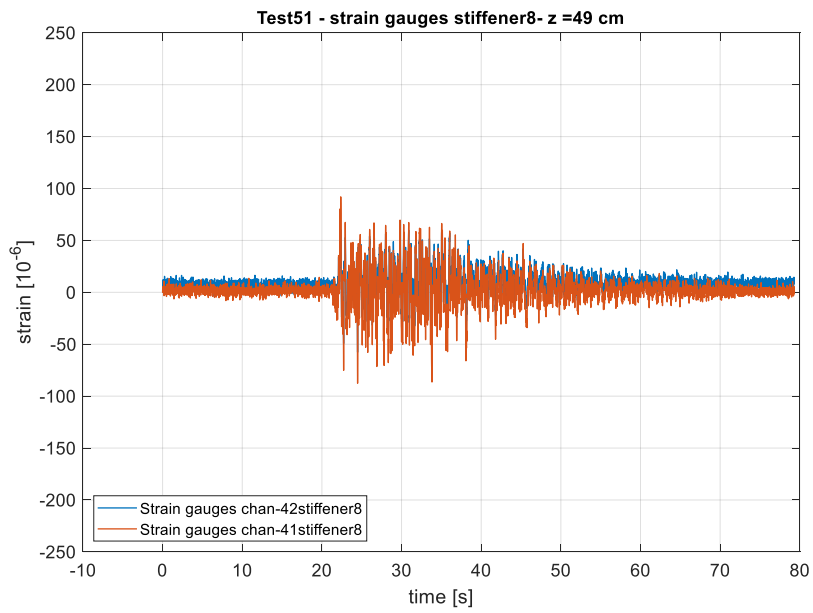
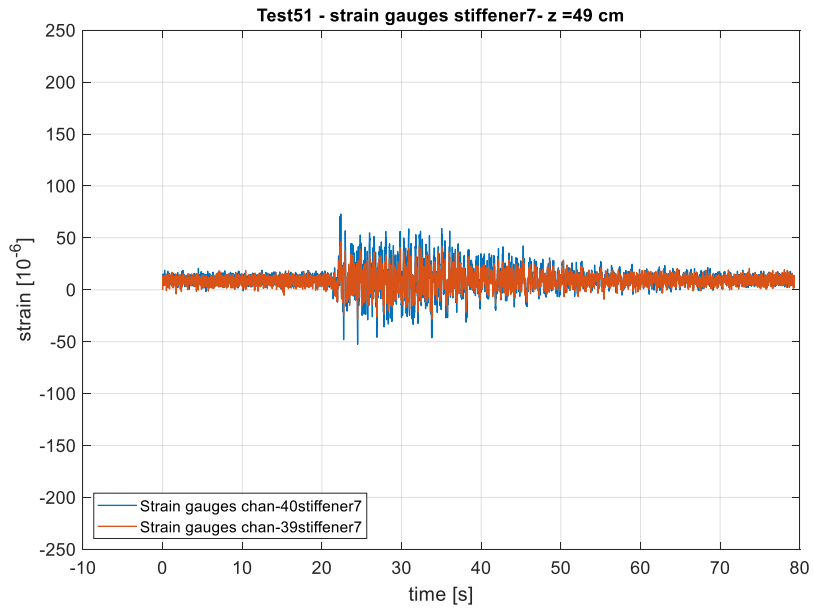


Earthquake input A1 0.3 g: Test 51

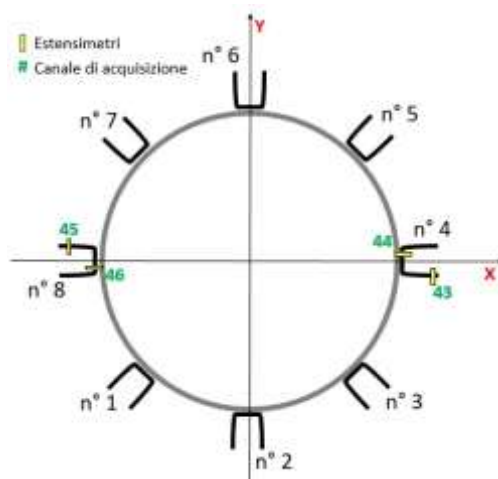
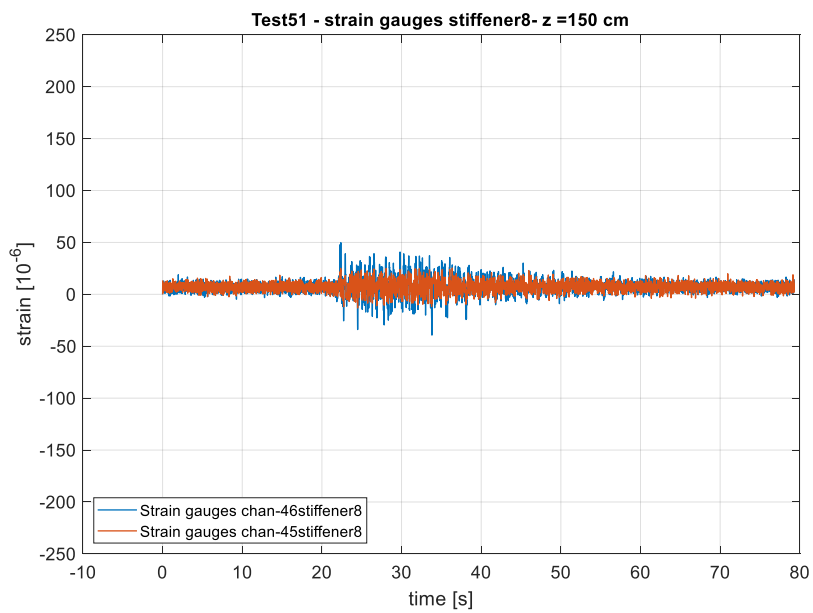
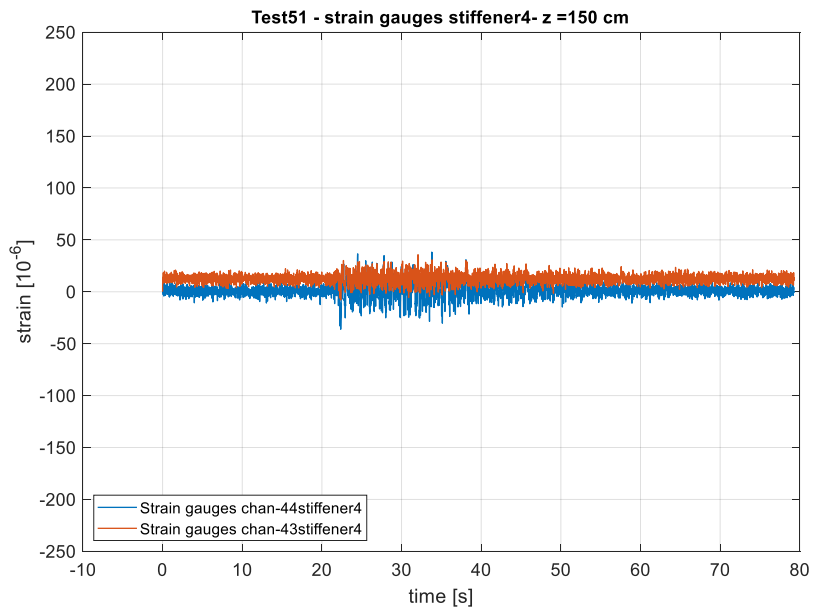
Quota Z = 42 cm



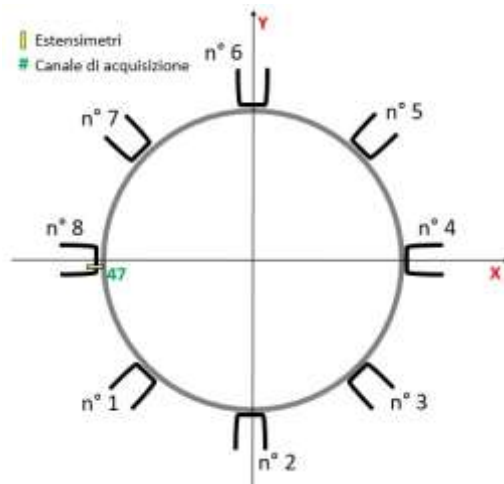
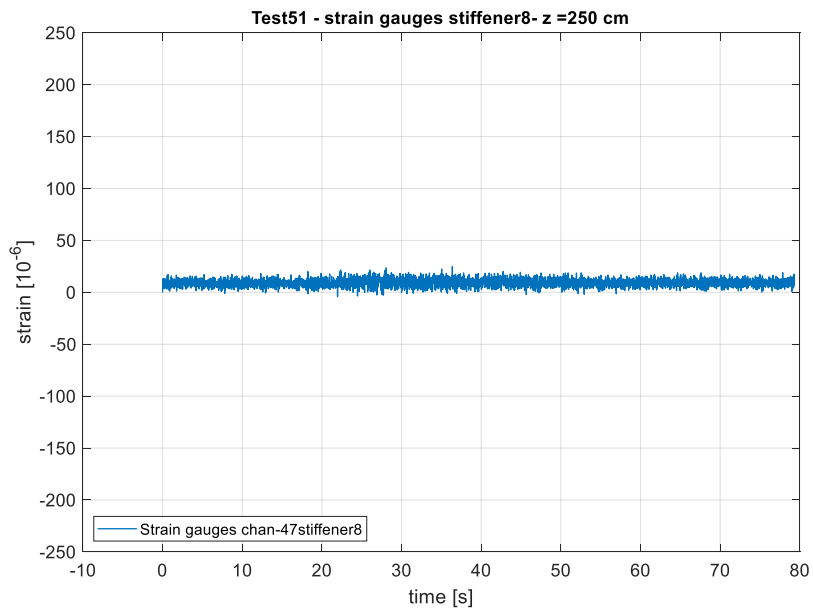
Quota Z = 49 cm



Quota Z = 150 cm

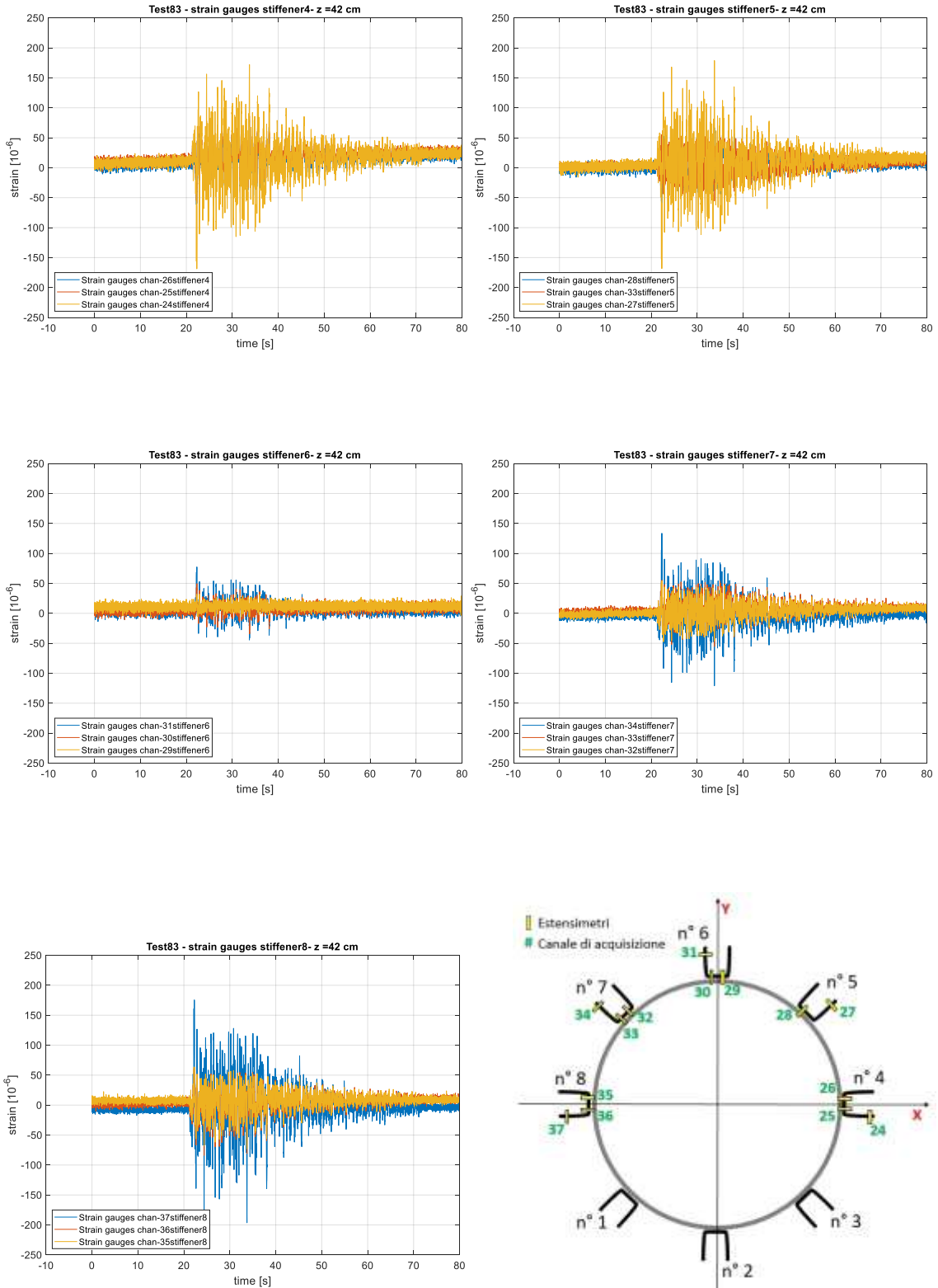


Quota Z = 250 cm

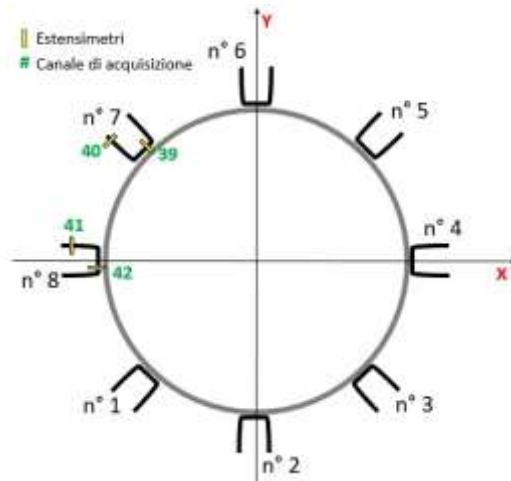
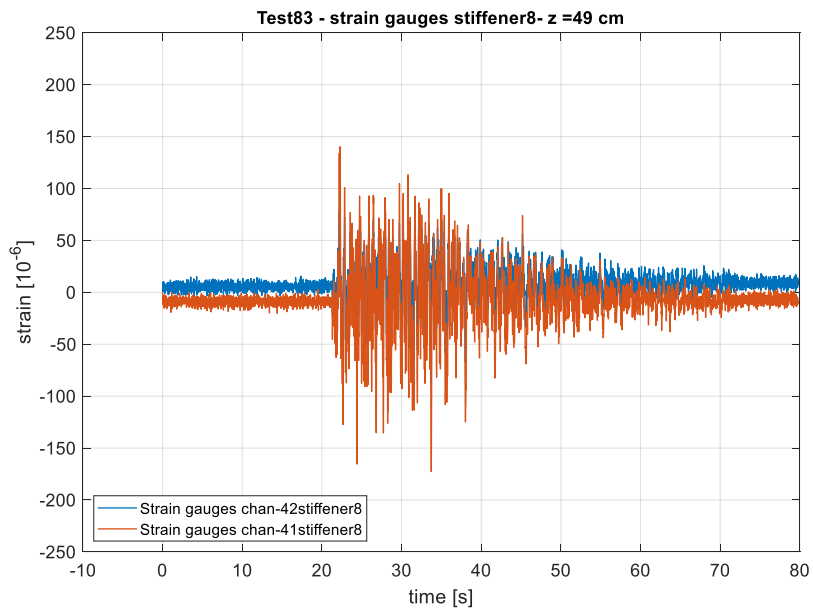
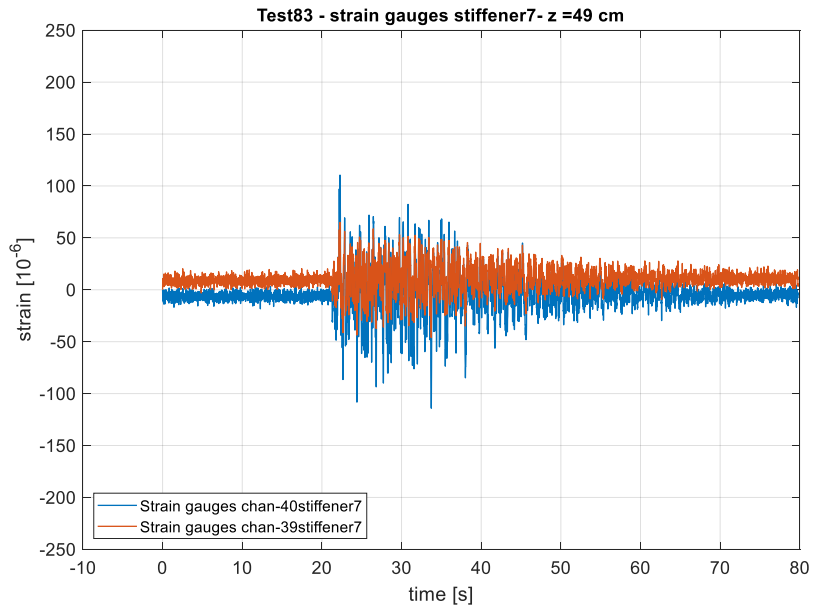


Earthquake input A1 0.5 g: Test 83

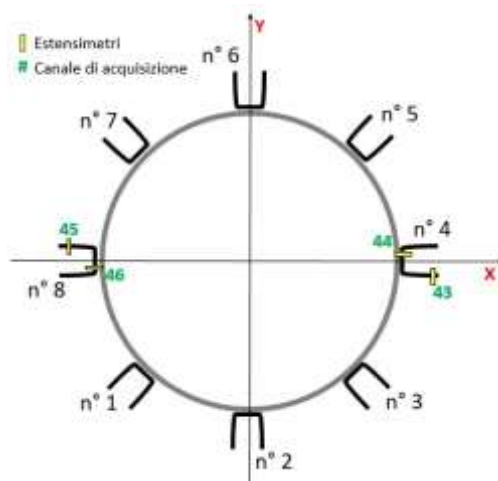
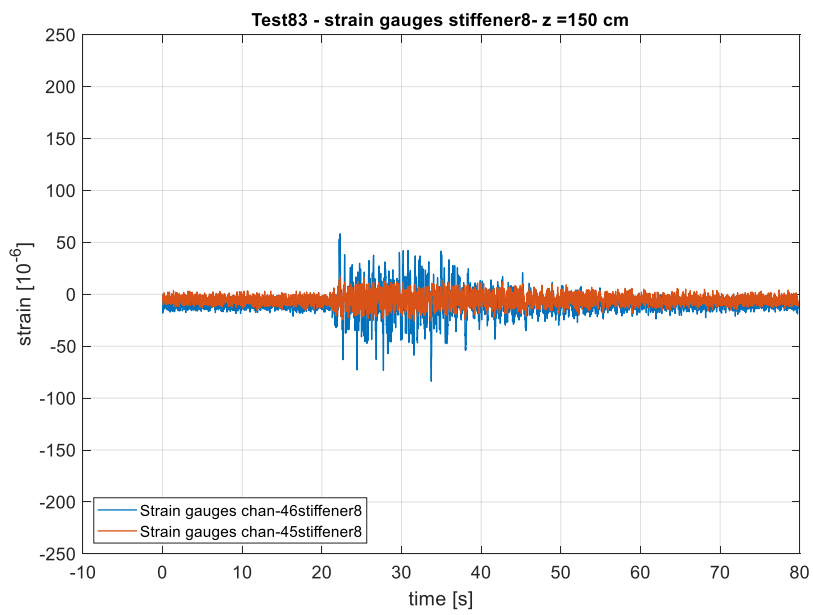
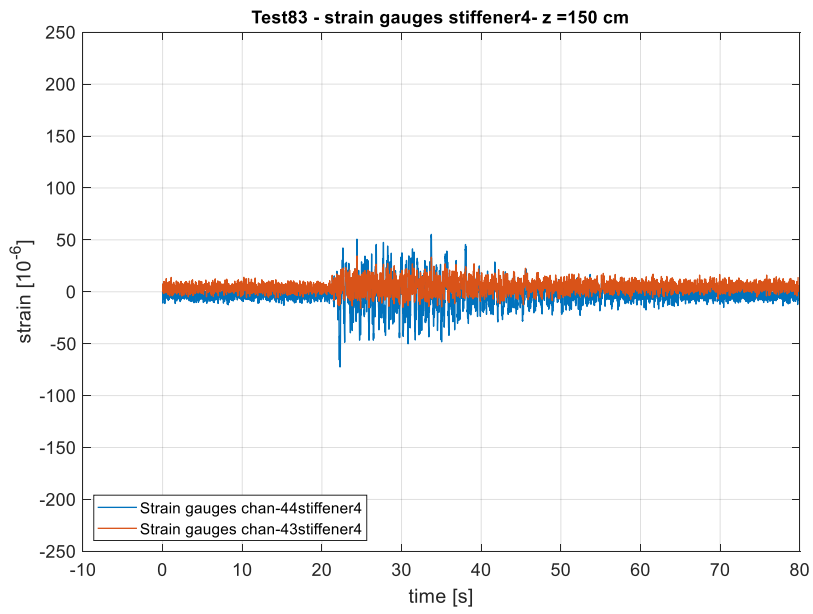
Quota Z = 42 cm



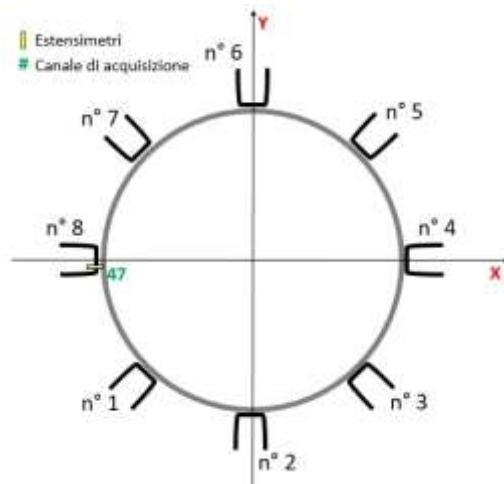
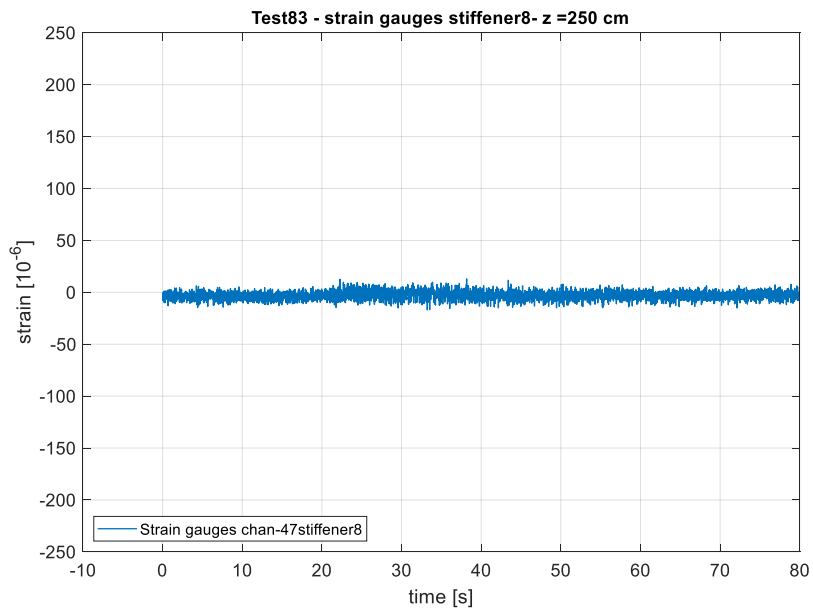
Quota Z = 49 cm



Quota Z = 150 cm

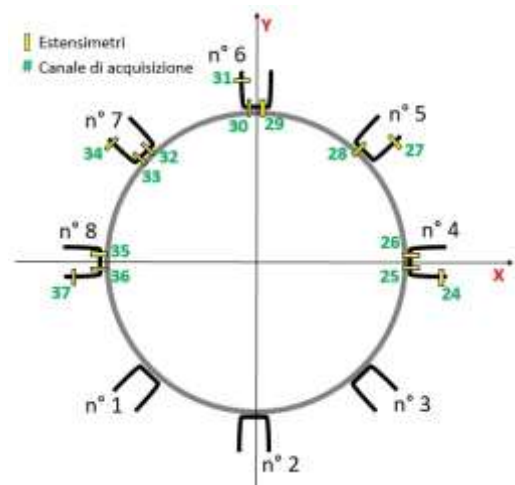
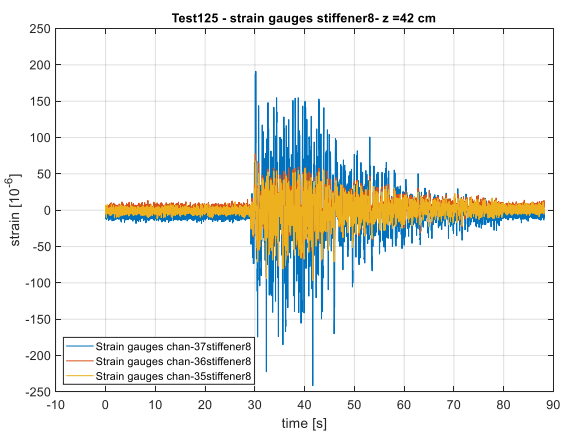
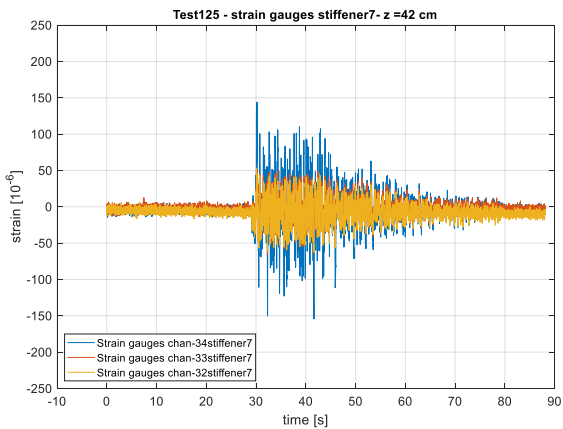
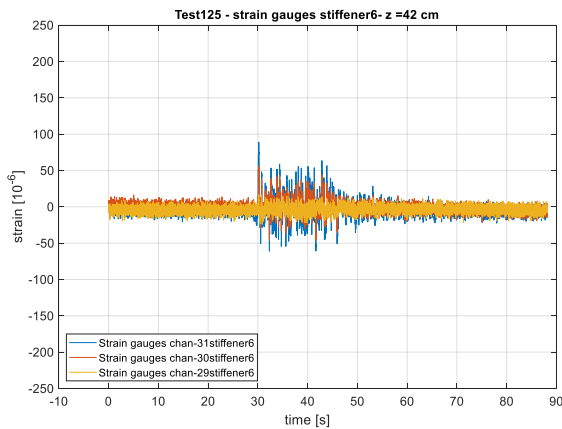
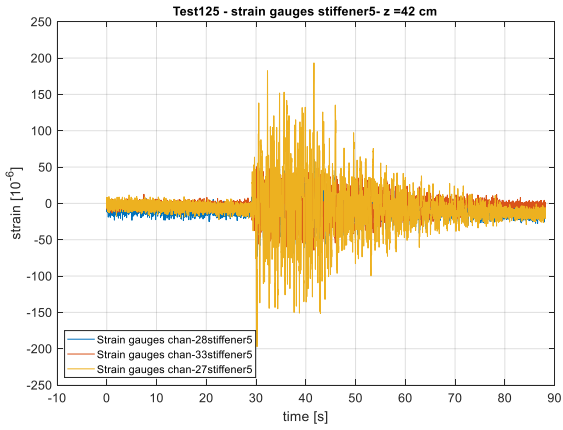
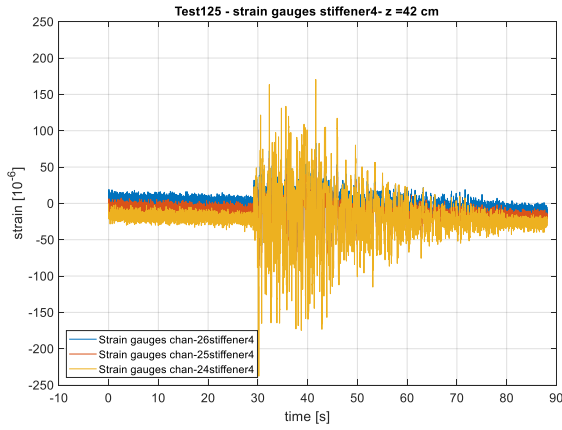


Quota Z = 250 cm

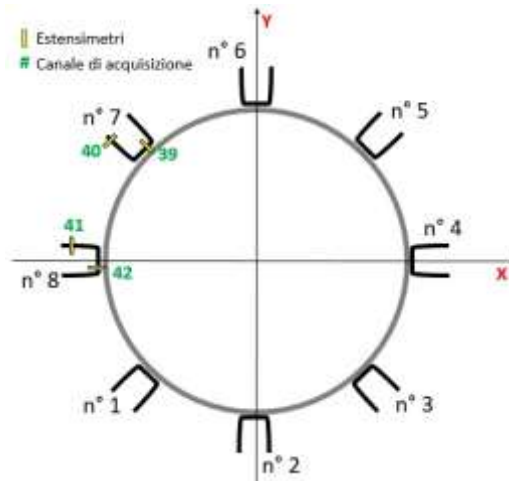
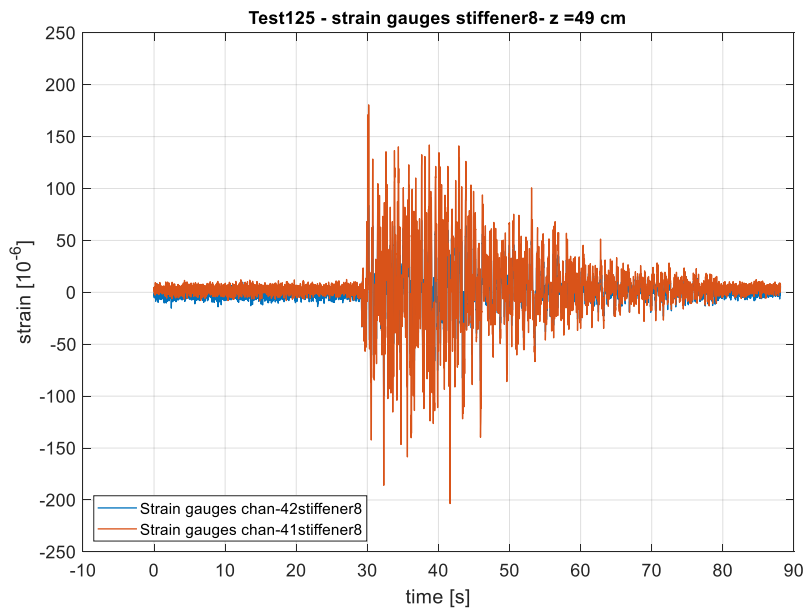
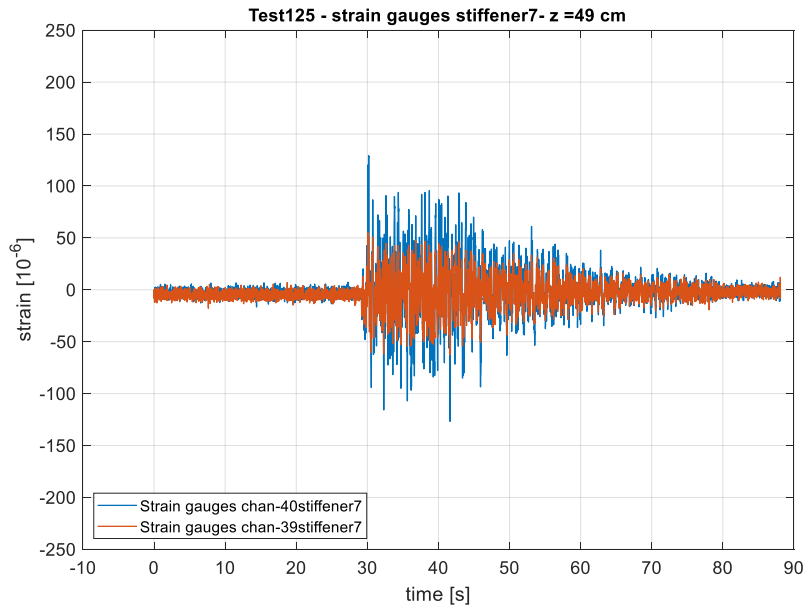


Earthquake input A1 0.6 g: Test 125

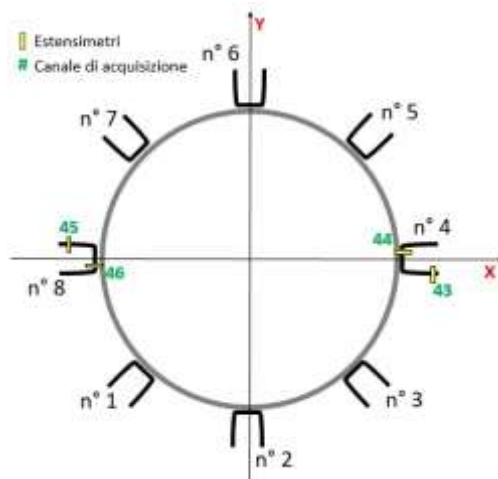
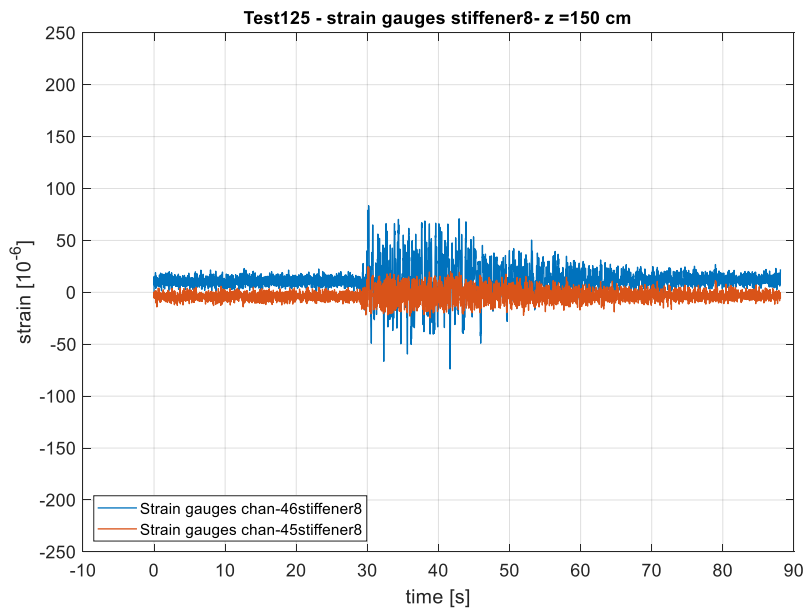
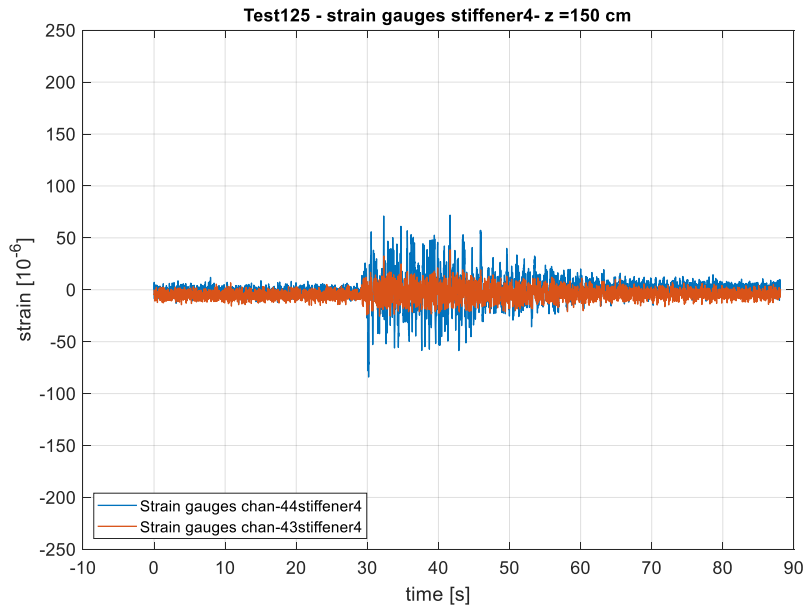
Quota Z = 42 cm



Quota Z = 49 cm



Quota Z = 150 cm



Quota Z = 250 cm

