

Station Description Sheet

TST

1. General Information
2. Geographical Information / Geomorphology
3. Geological Information
4. Geotechnical Site Characterization
5. Geophysical Site Characterization
6. Site Response
7. References

1. GENERAL INFORMATION



Photo 1: Outside view of the hosting building

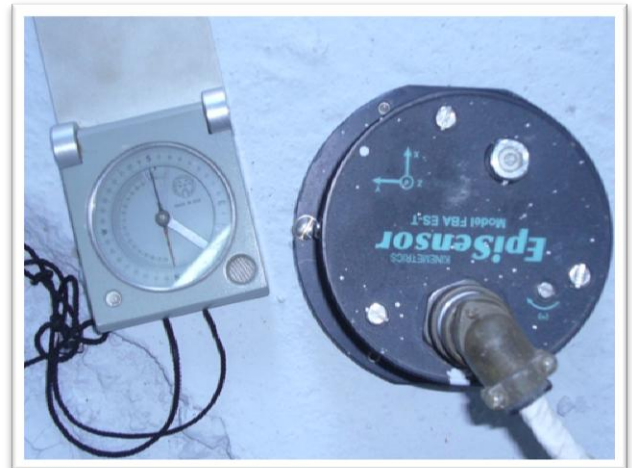


Photo 2: Sensor at TST

Station Code: TST

Network: Euroseis

Instrumentation: Check the up-to-date EUROSEISTEST stations history file at <http://euroseisdb.civil.auth.gr/stations>

Power supply: AC

Housing: in a small house at the center of the valley

2. GEOGRAPHICAL INFORMATION / GEOMORPHOLOGY



Figure 1: Location map of TST station

Location: in the Mygdonian basin

Elevation (from sea level): 61 m

Station coordinates: 23.2906°E / 40.6638°N

Projection system: WGS84

Site morphology: Valley center

3. GEOLOGICAL INFORMATION



Legend

- Holocene**
 - Lacustrine sediments
 - River deposits/torrent beds
 - Valley deposits
- Pleistocene**
 - Lacustrine sediments
 - Terrestrial (river and flood) red beds
- Quaternary**
 - Alluvial fans
- Alpine formations**
 - Two-mica and biotite granite
 - Two-mica gneiss

Figure 2: Geological map of the central Mygdonian basin

Surface geology (from geological map): on Holocene valley deposits

Reference for geological map: Geological map of Greece - Scale 1:50000, Map Sheets of "Thermi" and "Zagliverion", (IGME, 1978)

Boreholes (with core description) in the proximity of the station: not known.

4. GEOTECHNICAL SITE CHARACTERIZATION

Geotechnical site characterization data for station TST include:

1. Sampling borehole (EUROSEISTEST Project Reports, 1993-1995).
2. Normal Penetration test (EUROSEISTEST Project Reports, 1993-1995).
3. Cone penetration test (EUROSEISRISK project reports, 2002 – 2005).
4. Laboratory tests (G- γ -D curves, etc.) (EUROSEISTEST Project Reports, 1993-1995).

Data are available in ascii format in:

http://euroseisdb.civil.auth.gr/uploads/station/geotechnical/18/Site_characterization_geotechnical_TST.txt

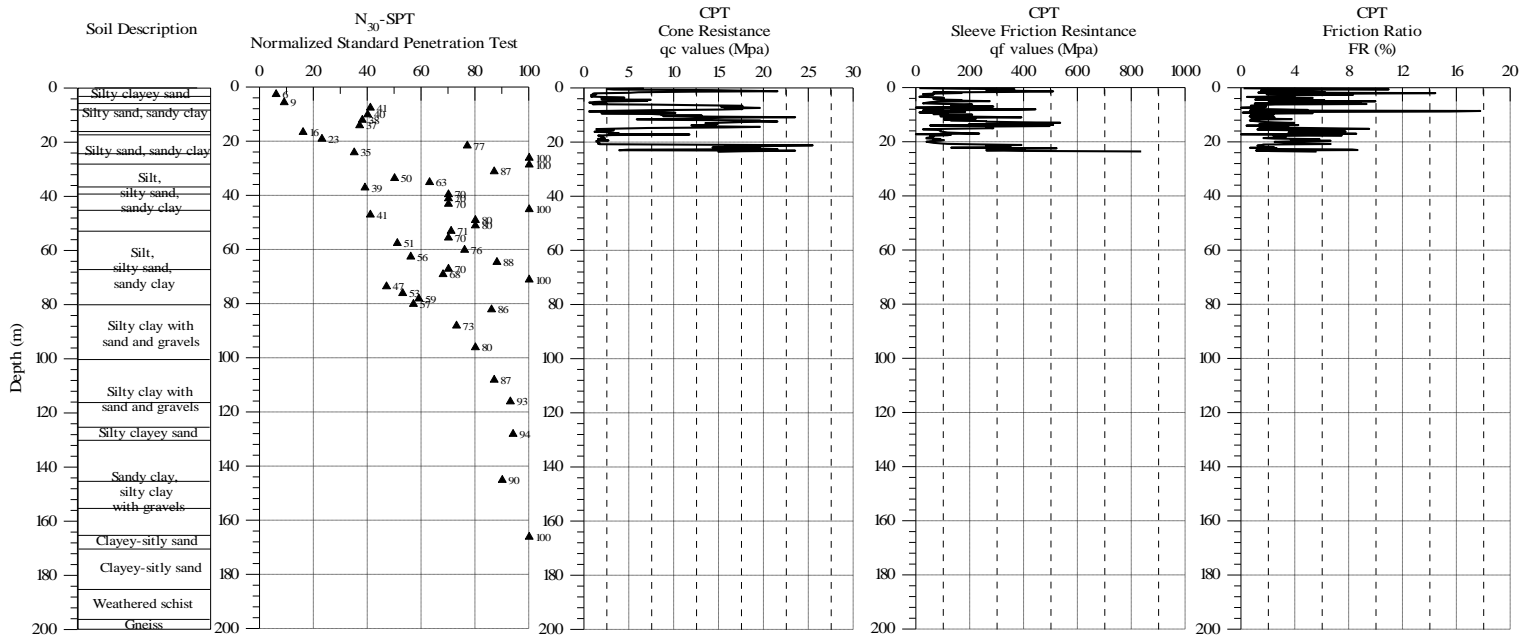


Figure 3: Geotechnical data at station TST

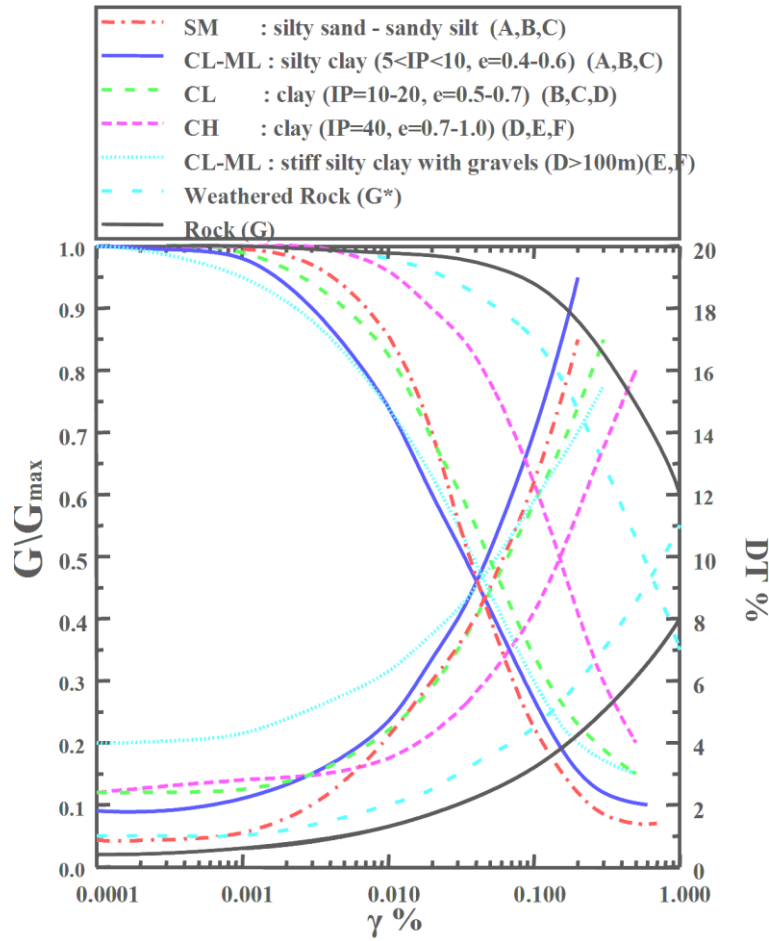


Figure 4: Mean G/G_0 - γ - D curves from resonant column and cyclic triaxial tests for all geotechnical formations occur at station TST. The curves describe the shear modulus degradation with the shear strain and the respective internal damping increase.

5. GEOPHYSICAL SITE CHARACTERIZATION

Geophysical site characterization data for station TST include:

1. Shear wave velocity values (V_s) / determined by Surface Wave Inversion method (Raptakis et al., 2000).
2. Compression wave velocity (V_p) / determined by Surface Wave Inversion method (Raptakis et al., 2000).
3. Quality factor (Q_s) / determined by Surface Wave Attenuation Analysis (Raptakis et al., 2000).

Data are available in ascii format in:

http://euroseisdb.civil.auth.gr/uploads/station/geophysical/18/Site_characterization_geophysical_TST.txt

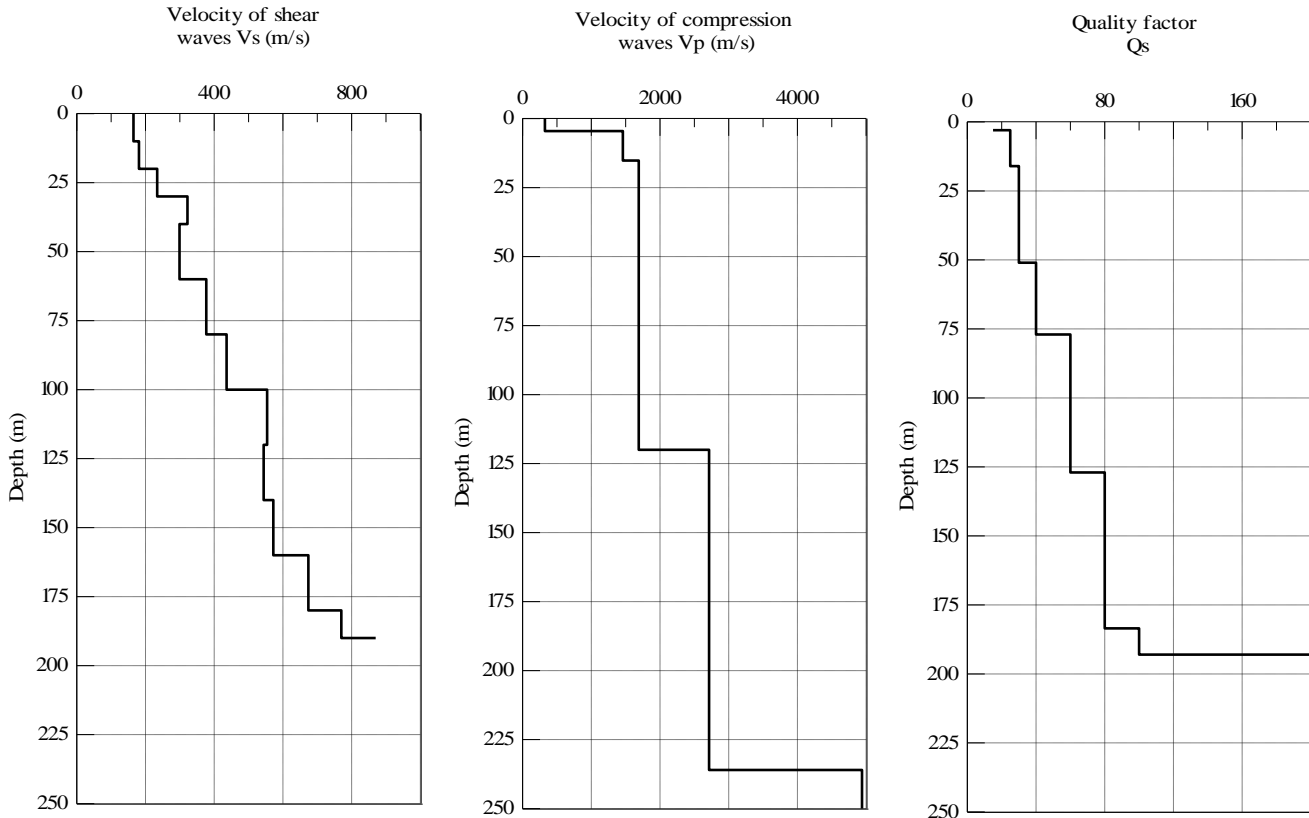


Figure 5: Shear and compression wave velocity and Quality factor values at station TST

6. SITE RESPONSE

Site response data for station TST include:

1. Standard Spectral Ratio technique (SSR) / applied on the whole part of earthquakes recorded in the permanent station TST (Raptakis et al., 1998).

Data are available in ascii format in:

http://euroseisdb.civil.auth.gr/uploads/station/response/18/Site_response_TST.txt

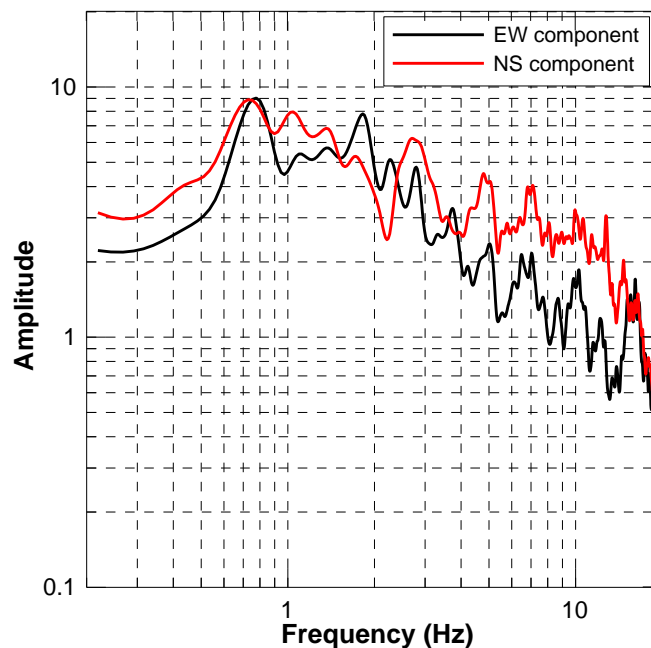


Figure 6: Standard Spectral Ratios (SSR) for the two horizontal components at station TST. Ratios are based on the whole part of earthquakes recorded in the permanent station TST

7. REFERENCES

- EUROSEISTEST Project Reports, 1993–1995. (*Available in PDF upon request*)
 EUROSEISRISK Project Reports, 2002–2005. (*Available in PDF upon request*)
 IGME, 1978. Geological map of Greece - Scale 1:50.000. Map Sheets of "Thermi" and "Zagliverion".
 Raptakis D, Theodulidis N, Pitilakis K., 1998. Data Analysis of the EURO-SEISTEST Strong Motion Array in Volvi (Greece): Standard and Horizontal-to-Vertical Spectral Ratio Techniques. *Earthquake Spectra*, Vol. 14(1), pp. 203-223.
 Raptakis D., F.J. Chávez-García, K. Makra and K. Pitilakis, 2000. Site effects at Euroseistest Part I. Determination of the valley structure and confrontation of observations with 1D analysis, *Soil Dynamics and Earthquake Engineering*, Vol. 19, pp. 1-22.