

Station Description Sheet

STE

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1. GENERAL INFORMATION



Photo 1: Outside view of the hosting building



Photo 2: The STE station

Station Code: STE

Network: Euroseis

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

Power supply: Solar panel & external battery

Housing: in a small building close to Stivos church

2. GEOGRAPHICAL INFORMATION / GEOMORPHOLOGY



Figure 1: Location map of STE station

Location: in the Mygdonian basin, in Stivos village

Elevation (from sea level): 214 m

Station coordinates: 23.305398°E / 40.645348°N

Projection system: WGS84

Site morphology: Valley edge (north edge)

3. GEOLOGICAL INFORMATION

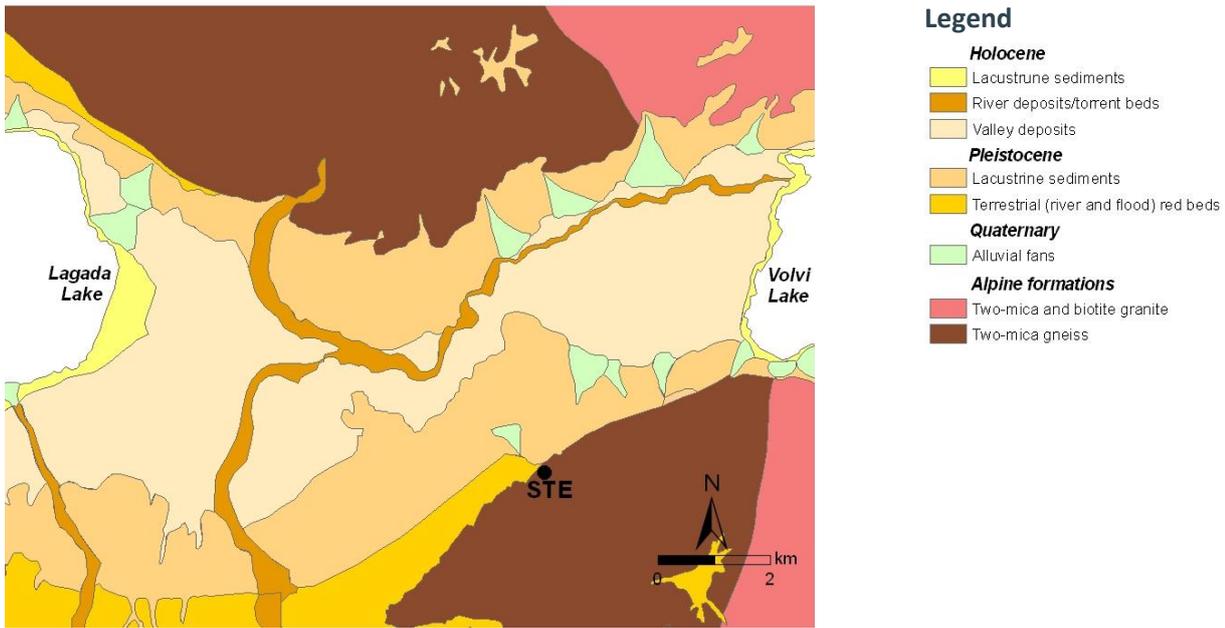


Figure 2: Geological map of the central Mygdonian basin

Surface geology (from geological map): on two-mica gneiss

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 STE include:

1. Sampling borehole (EUROSEISTEST Project Reports, 1993-1995).
2. Normal Penetration Test (EUROSEISTEST Project Reports, 1993-1995).
3. 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/16/Site_characterization_geotechnical_STE.txt

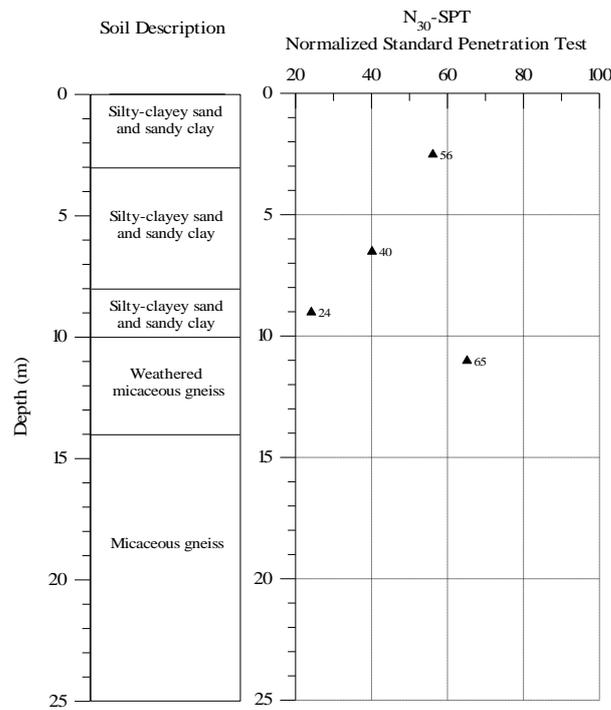


Figure 3: Geotechnical data at station STE.

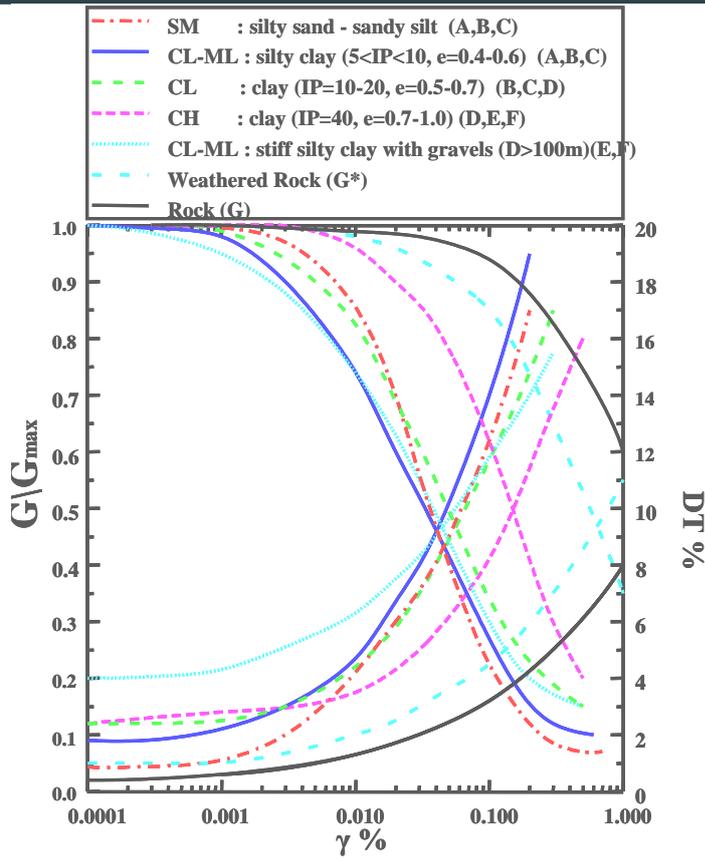


Figure 4: Mean G/G_0 - γ - D curves from resonant column and cyclic triaxial tests for all geotechnical formations occur at station STE. The curves describe the shear modulus degradation with the shear strain and the respective internal damping increase.

5. GEOPHYSICAL SITE CHARACTERIZATION

Geophysical site characterization data for station STE include:

1. Shear wave velocity values (V_s) / determined by Down-Hole method (Raptakis et al., 2000).
2. Compression wave velocity values (V_p) / determined by Down-Hole method (Raptakis et al., 2000).

Data are available in ascii format in:

http://euroseisdb.civil.auth.gr/uploads/station/geophysical/16/Site_characterization_geophysical_STE.txt

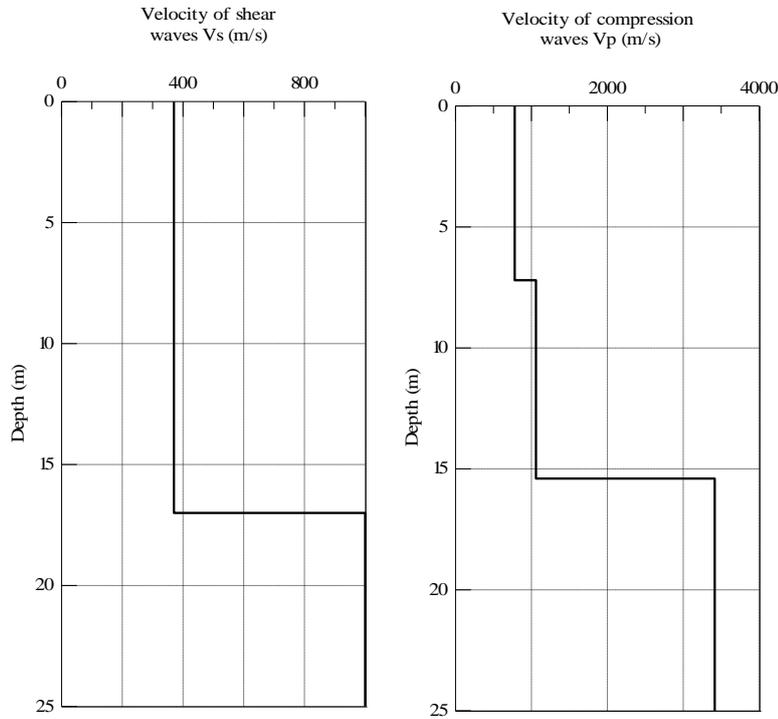


Figure 5: Shear and compression wave velocity values at station STE.

6. SITE RESPONSE

Site response data for station STE include:

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

Data are available in ascii format in:

http://euroseisdb.civil.auth.gr/uploads/station/response/16/Site_response_STE.txt

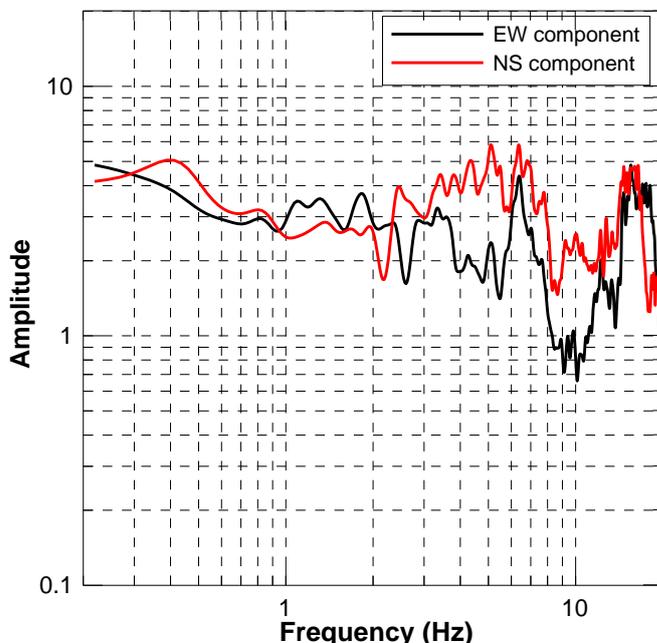


Figure 6: Standard Spectral Ratios (SSR) for the two horizontal components at station STE. Ratios are based on the whole part of earthquakes recorded in the permanent station STE

7. REFERENCES

EUROSEISTEST Project Reports, 1993–1995. Available on the following link: <http://euroseisdb.civil.auth.gr>

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.