

Station Description Sheet

FRM

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1. GENERAL INFORMATION



Photo 1: Outside view of the hosting building

Station Code: FRM

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 farmhouse close to Stivos village

2. GEOGRAPHICAL INFORMATION / GEOMORPHOLOGY

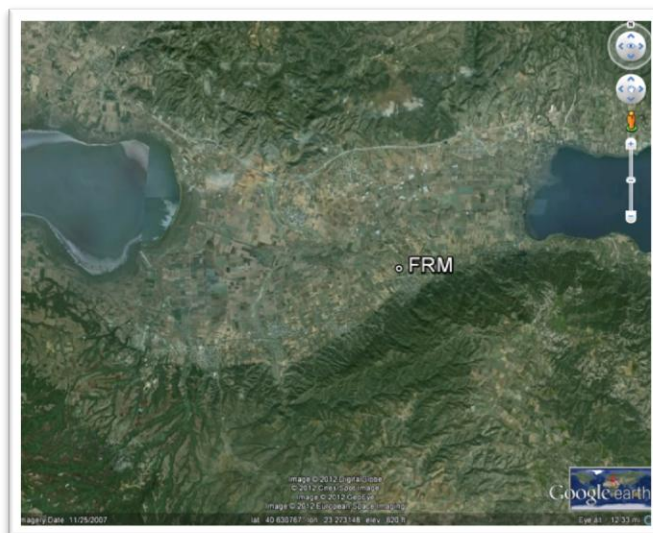


Figure 1: Location map of FRM station

Location: in the Mygdonian basin, close to Stivos village

Elevation (from sea level): 101 m

Station coordinates: 23.298442°E / 40.655308°N

Projection system: WGS84

Site morphology: Valley edge (south edge of the valley)

3. GEOLOGICAL INFORMATION

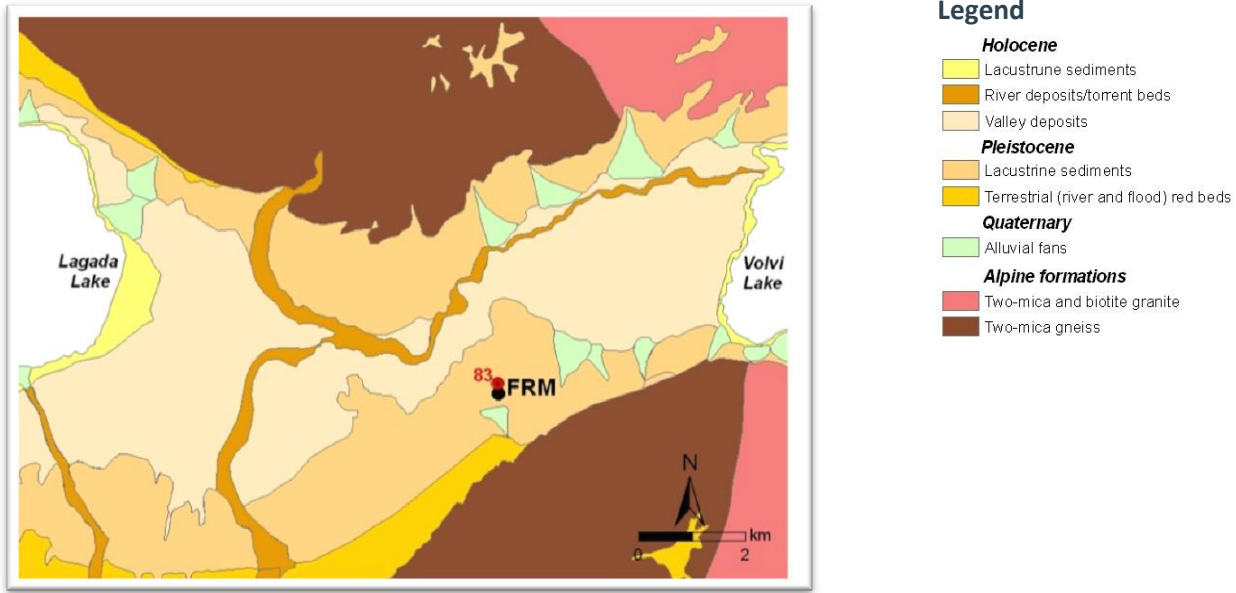


Figure 2: Geological map of the central Mygdonian basin. The available geological borehole (83) in the vicinity of station FRM is also shown.

Surface geology (from geological map): on Pleistocene lacustrine sediments

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: one geological borehole with name 83. The borehole was drilled by private company during 1985. The soil description of this borehole is available in the following table (IGME, 2001)

Table 1: Geological soil description in borehole 83

Depth (m)	Soil description
0-1	top soil
1-3	sand
3-14	green clay
14-38	pebbles
38-46	green clay
46-55	pebbles
55-62	green clay
62-65	pebbles
65-81	green clay
81-86	gravels-coarse grained sand
86-108	black clay
108-113	gravels-pebbles
113-117	brown clay
117-120	pebbles
120-124	brown clay

4. GEOTECHNICAL SITE CHARACTERIZATION

Geotechnical site characterization data for station FRM 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/7/Site_characterization_geotechnical_FRM.txt

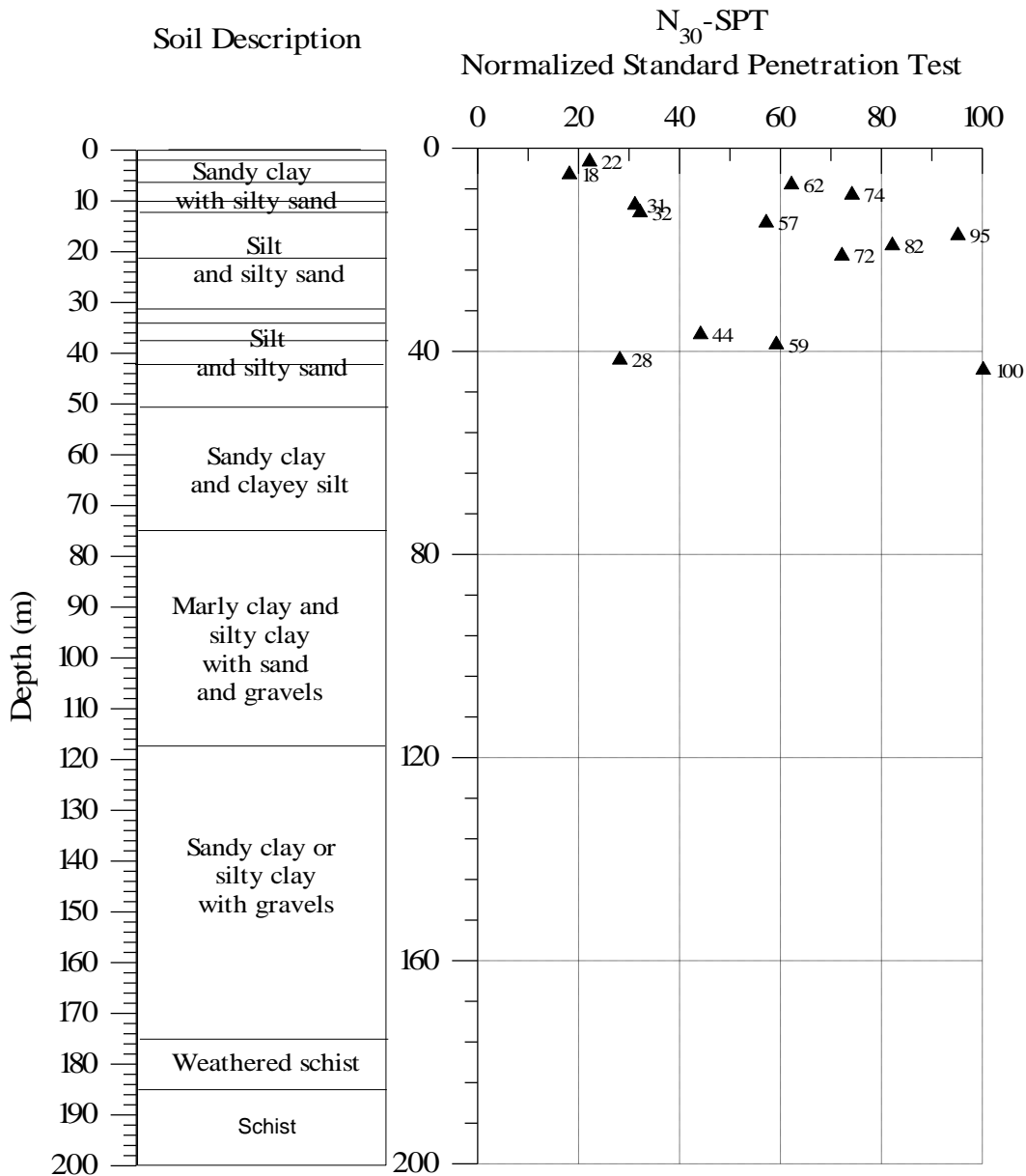


Figure 3: Geotechnical data at station FRM

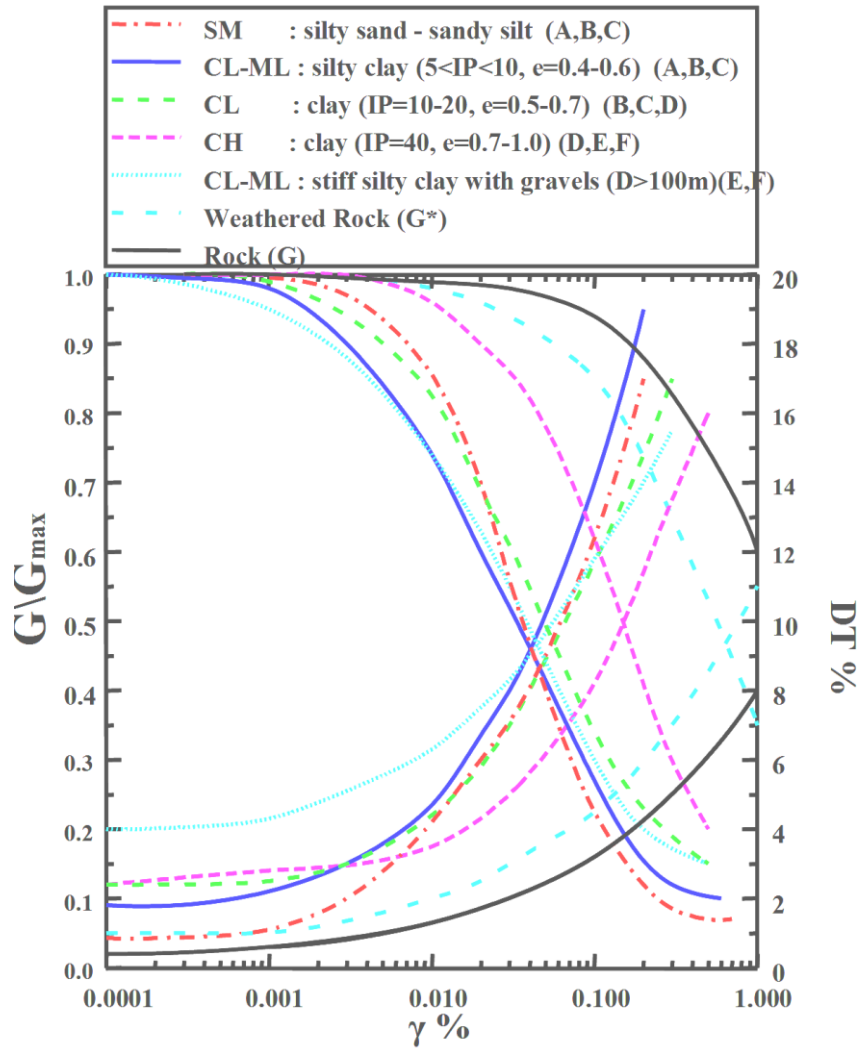


Figure 4: Mean G/G_0 - γ -D curves from resonant column and cyclic triaxial tests for all geotechnical formations occur at station FRM. The curves describe the shear modulus degradation with the shear strain and the respective internal damping increase.

5. GEOPHYSICAL SITE CHARACTERIZATION

Geophysical site characterization data for station FRM include:

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

Data are available in ascii format in:

http://euroseisdb.civil.auth.gr/uploads/station/geophysical/7/Site_characterization_geophysical_FRM.txt

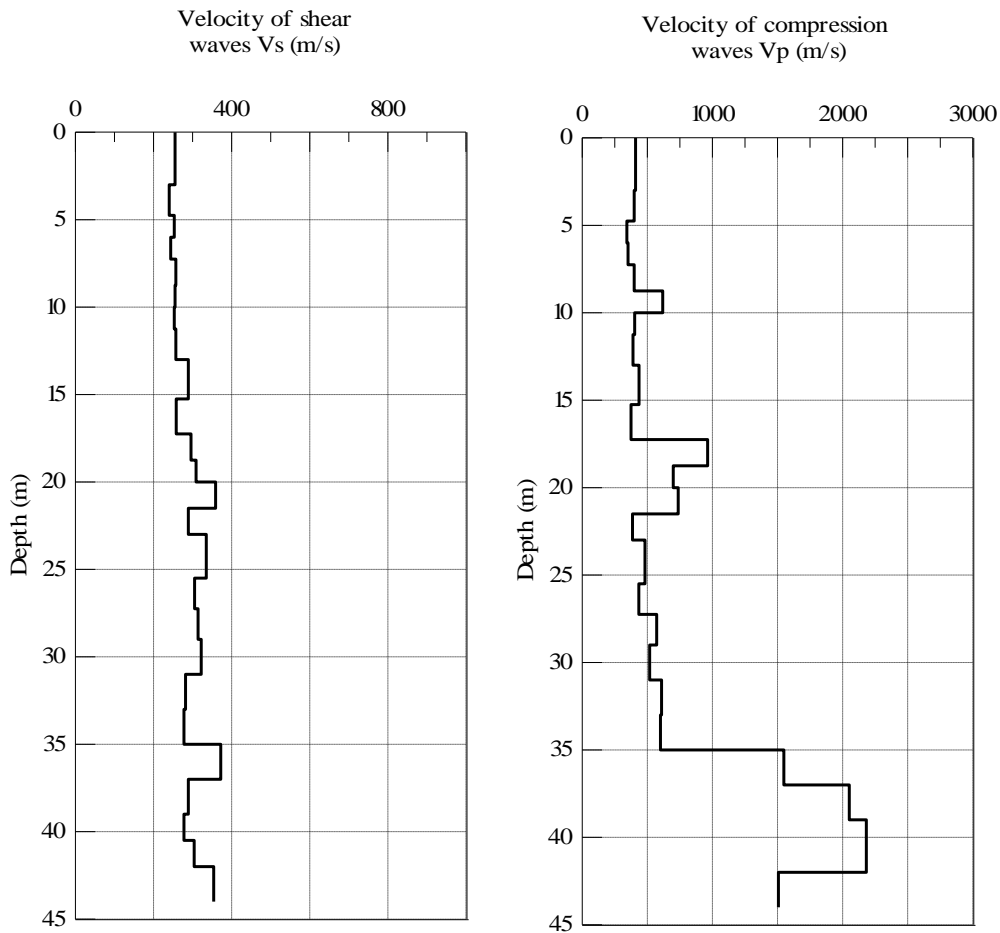


Figure 5: Shear and compression wave velocity values at station FRM

6. SITE RESPONSE

Site response data for station FRM include:

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

Data are available in ascii format in:

http://euroseisdb.civil.auth.gr/uploads/station/response/7/Site_response_FRM.txt

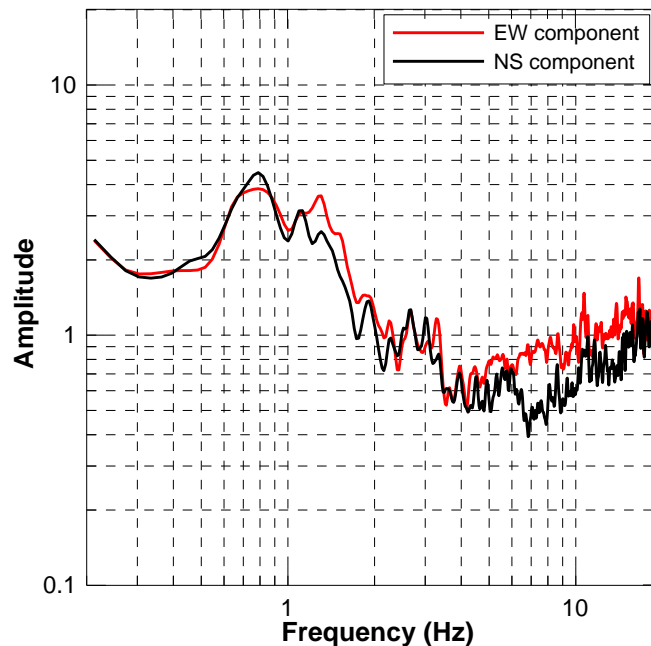


Figure 6: Standard Spectral Ratios (SSR) for the two horizontal components at station FRM. Ratios are based on the whole part of earthquakes recorded in the permanent station FRM

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".
- IGME, 2001. Inventory—recording of water boreholes in the graben of Koronia, Thessaloniki. (Project coordinator: Mylopoulos I. editors: Veranis and Katirgioglou). Geophysical surface survey in the graben of Koronia, Thessaloniki. (Project coordinator: Mylopoulos I., editor: Atzemoglou et al). Reports of the project Investigation of the exploitation possibilities of the deepest water table in the graben of Koronia, Thessaloniki, Water Supply Company of Thessaloniki (in Greek).
- Raptakis D, Theodulidis N, Pitolakis 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. Pitolakis, 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.