

EUROSEISTEST-related Publications

Publications in International Journals

1. Manolis, G.D. & R.P. Shaw (1996). Green's function for the vector wave equation in a mildly heterogeneous continuum. *Wave Motion*, 24, 59-83.
2. Martinod, J., D. Hatzfeld, P. Savvaidis & K. Katsambalos (1997). Rapid N-S extension in the Mygdonian graben (Northern Greece) deduced from repeated geodetic surveys. *Geophysical Research Letters*, 24(24), 3293.
3. Riepl, J., C.S. Oliveira & P.-Y. Bard (1997). Spatial coherence of seismic wave fields across an alluvial valley (weak motion). *Journal of Seismology*, 1, 253-268.
4. Savvaidis, P., J. Martinod, K. Katsambalos, D. Hatzfeld, A. Badellas & K. Tokmakidis (1997). Determination of ground displacements in the seismic zone of Volvi, Greece. *Survey Review*, 34, 229-236.
5. Karakostas, C. Z. & G. D. Manolis (1997). Transient signal simulation due to explosions in heterogeneous soil media. *International Journal of BEM Communications*, 8, 160-167.
6. Jongmans, D., K. Pitilakis, D. Demanet, D. Raptakis, J. Riepl, C. Horrent, G. Tsokas, K. Lontzetidis & P.-Y. Bard (1998). EURO-SEISTEST: Determination of the Geological Structure of the Volvi Basin and Validation of the Basin Response. *Bulletin of Seismological Society of America*, 88(2), 473-487.
7. Kamae, K., P.-Y. Bard & K. Irikura (1998). Prediction of strong ground motion at EURO-SEISTEST site using the empirical Green's function method. *Journal of Seismology*, 2, 193-207.
8. Karagianni, E.E., D.G. Panagiotopoulos, C.B. Papazachos & P.W. Burton (1998). A study of shallow crustal structure in the Mygdonian basin (N. Greece) based on the dispersion curves of Rayleigh waves, *Journal of the Balkan Geophysical Society*, Vol. 2(1), 3-14.
9. Manos, G.C., M. Demosthenous, M. Triamataki, B. Yasin & P. Skalkos. Construction and Instrumentation of a 5-story masonry infilled R.C. building at the Volvi-Thessaloniki EURO-SEISTEST site. Correlation of measured and numerically predicted dynamic properties. *Computer Methods in Structural Masonry*, 3, 242-251.
10. Manos, G.C., B. Yasin, J. Thaumpta, J. Thawambteh & M. Triamataki (1998). Dynamic response of multi-story R.C. framed structures with masonry infills: Laboratory and in-situ investigations. *Computer Methods in Structural Masonry*, 4, 301-308.
11. Margaris, B.N. & D.M. Boore (1998). Determination of $\Delta\sigma$ and κ_0 from Response Spectra of Large Earthquakes in Greece. *Bulletin of Seismological Society of America*, 88(1), 170-182.
12. Riepl, J., P.-Y. Bard, D. Hatzfeld, Ch. Papaioannou & S. Nechtschein (1998). Detailed Evaluation of Site-Response Estimation Methods across and along the Sedimentary Valley of Volvi (EURO-SEISTEST). *Bulletin of Seismological Society of America*, 88(2), 488-502.
13. Savvaidis, A.S., C.B. Papazachos & P.M. Hatzidimitriou (1998). Site effects based on source and path modeling of macroseismic intensities in the area of Greece. *European Earthquake Engineering*, 1:18-28.
14. Triantafyllidis, P., P.M. Hatzidimitriou, N. Theodulidis, P. Suhadolc, C. Papazachos, D. Raptakis & K. Lontzetidis (1998). Site Effects in the city of Thessaloniki (Greece) estimated from acceleration data and 1-D local soil profiles. *Bulletin of Seismological Society of America*, 89(2), 521-532.
15. Raptakis, D., N. Theodulidis & K. Pitilakis (1998). Data Analysis of the EURO-SEISTEST Strong Motion Array in Volvi (Greece): Standard and Horizontal-to-Vertical Spectral Ratio Techniques. *Earthquake Spectra*, 14(1), 203-223.
16. Dimitriu, P. P., Ch.A. Papaioannou & N. P. Theodulidis (1998). EURO-SEISTEST Strong-Motion Array near Thessaloniki, Northern Greece: A Study of Site Effects. *Bulletin of Seismological Society of America*, 88(3), 862-873.
17. Klimis, N.S., B.N. Margaris & P.K. Koliopoulos (1999). Site dependent amplification functions and response spectra in Greece. *Journal of Earthquake Engineering*, 3(2), 237-270.
18. Manolis, G.D. & R.P. Shaw (1999). Numerical simulation of transient waves in a heterogeneous soil layer. *Computational Mechanics*, 23(1), 75-83.

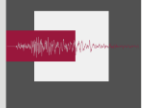
19. Pitilakis, K., D. Raptakis, K. Lontzetidis, Th. Tika-Vassilikou & D. Jongmans (1999). Geotechnical & Geophysical description of EURO-SEISTEST, using field, laboratory tests and moderate strong-motion recordings. *Journal of Earthquake Engineering* 3(3), 381 - 409.
20. Gueguen, P., P.-Y. Bard & C. S. Oliveira (2000). Experimental and numerical analysis of soil motions caused by free vibrations of a building model, *Bulletin of the Seismological Society of America* 90(6), 1464 - 1479.
21. Savvaidis, A. S., L. B. Pedersen, G. N. Tsokas and G. J. Dawes (2000). Structure of the Mygdonian basin (N. Greece) inferred from MT and gravity data, *Tectonophysics* 317(1-2), 171 - 186.
22. Raptakis, D., F.J. Chávez-García, K. Makra and K. Pitilakis (2000). Site effects at Euroseistest - I. Determination of the valley structure and confrontation of observations with 1D analysis, *Soil Dynamics and Earthquake Engineering* 19(1), 1 - 22.
23. Raptakis, D., F.J. Chávez-García, K. Makra and K. Pitilakis (2000). Site effects at Euroseistest - II. Results from 2D numerical modeling and comparison with observations, *Soil Dynamics and Earthquake Engineering* 19(1), 23 - 39.
24. Makra, K., D. Raptakis, F.J. Chávez-García and K. Pitilakis (2001). Site effects and design provisions: The case of Euroseistest, *Pure and Applied Geophysics* 158(12), 2349 - 2367.
25. Marrara F. and P. Suhadolc (2001). 2-D modeling of site effects along the EURO-SEISTEST array (Volvi graben, Greece), *Pure and App. Geophys.* 158(12), 2369 – 2388.
26. Sextos, A., Pitilakis, K & A. Kappos (2003). Inelastic dynamic analysis of RC bridges accounting for spatial variability of ground motion, site effects and soil-structure interaction phenomena: Part 1: Methodology and analytical tools, *Earthquake Engineering and Structural Dynamics* 32(4), 602-627.
27. Sextos, A., Kappos, A., and K. Pitilakis (2003). Inelastic dynamic analysis of RC bridges accounting for spatial variability of ground motion, site effects and soil-structure interaction phenomena. Part 2: Parametric Study, *Earthquake Engineering and Structural Dynamics* 32(4), 629-652.
28. Raptakis, D. G., M. V. Manakou, F. J. Chávez-García, K. A. Makra and K. D. Pitilakis (2005). 3D configuration of Mygdonian basin and preliminary estimate of its site response, *Soil Dynamics and Earthquake Engineering* 25(11), 871 - 887.
29. Semblat, J. F., M. Kham, E. Parara, P.-Y. Bard, K. Pitilakis, K. Makra and D. Raptakis (2005). Seismic wave amplification: Basin geometry vs soil layering, *Soil Dynamics and Earthquake Engineering* 25(7-10), 529 - 538.
30. Makra, K., F. J. Chávez-García, D. Raptakis and K. Pitilakis (2005). Parametric analysis of the seismic response of a 2D sedimentary valley: implications for code implementations of complex site effects, *Soil Dynamics and Earthquake Engineering* 25(4), 303 - 315.
31. Álvarez-Rubio, S., B. Juan José, S.-S. Francisco José and A. Enrique (2005). The use of direct boundary element method for gaining insight into complex seismic site response, *Computers & Structures*, 83(10-11), 821 - 835.
32. Pitilakis D., M. Dietz, D. M. Wood, D. Clouteau and A. Modaressi (2008). Numerical simulation of dynamic soil-structure interaction in shaking table testing, *Soil Dynamics and Earthquake Engineering* 28(6), 453 - 467.
33. Manakou, M. V., D. G. Raptakis, F. J. Chávez-García, P. I. Apostolidis and K. D. Pitilakis (2010). 3D soil structure of the Mygdonian basin for site response analysis, *Soil Dynamics and Earthquake Engineering* 30(11), 1198 - 1211.
34. Bastani, M., A. Savvaidis, L. B. Pedersen and T. Kalscheuer (2011). CSRMT measurements in the frequency range of 1-250 kHz to map a normal fault in the Volvi basin, Greece, *Journal of Applied Geophysics*, 75(2), 180 - 195.
35. Pitilakis, K. and V. Terzi (2012). Experimental and Theoretical SFSI studies in a model structure in Euroseistest, *Special Topics in Earthquake Geotechnical Engineering*, Vol. 16 of the series Geotechnical, Geological and Earthquake Engineering, 175-215.
36. Taborda, R., J. Bielak and D. Restrepo (2012). Earthquake ground-motion simulation including nonlinear soil effects under idealized conditions with application to two case studies, *Seism. Res. Lett.*, 83(6), 1047-1060.
37. Pitilakis, K., Z. Roumelioti, D. Raptakis, M. Manakou, K. Liakakis, A. Anastasiadis and D. Pitilakis (2013). The EUROSEISTEST strong ground motion database and web portal, *Seism. Res. Lett.* 84(5), 796-804.
38. Raptakis, D.G. (2013). Pre-loading effect on site response: Site amplification and soil properties mismatch. *Soil Dynamics and Earthquake Engineering*, 53, 1-10.
39. Hobiger, M., C. Cornou, M. Wathélet, G. Di Giulio, B. Knapmeyer-Endrun, F. Renalier, P.-Y. Bard, A. Savvaidis, S. Hailemikaël, B.N. Le and M. Ohrnberger (2013). Ground structure imaging by inversions of Rayleigh wave ellipticity: sensitivity analysis and application to European strong-motion sites. *Geophysical Journal International*, 192(1), 207-229.

40. Hannemann, K., C. Papazachos, M. Ohrnberger, A. Savvaidis, M. Anthymidis and A.M. Lontsi (2014). Three-dimensional shallow structure from high-frequency ambient noise tomography: New results for the Mygdonia basin – Euroseistest area, northern Greece, *J. Geophys. Res.*, 119(6), 4979-4999.
41. Chávez-García, F.J., M.V. Manakou and D.G. Raptakis (2014). Subsoil structure and site effects: A comparison between results from SPAC and HVSR in sites of complex geology, *Soil Dynamics and Earthquake Engineering*, 57, 133-142.
42. Makra, K. and F.J. Chávez-García (2016). Site effects in 3D basins using 1D and 2D models: an evaluation of the differences based on simulations of the seismic response of Euroseistest, *Bull. Eq. Eng.*, 10.1007/s10518-015-9862-7.
43. Ktenidou O.-J., N.A. Abrahamson, S. Drouet and F. Cotton (2015). Understanding the physics of kappa (κ): insights from a downhole array, *Geophysical Journal International*, 203(1), 678-691.
44. Maufroy, E., E. Chaljub, F. Hollender, J. Kristek, P. Moczo, P. Klin, E. Priolo, A. Iwaki, T. Iwata, V. Etienne, F. De Martin, N.P. Theodoulidis, M. Manakou, C. Guyonnet-Benaize, K. Pitilakis and P.-Y. Bard (2015). Earthquake ground motion in the Mygdonian basin, Greece: The E2VP verification and validation of 3D numerical simulation up to 4 Hz, *Bull. Seism. Soc. Am.*, 105(3), doi:10.1785/0120140228.
45. Raptakis, D. and K. Makra (2015). Multiple estimates of soil structure at a vertical strong motion array: Understanding uncertainties from different shear wave velocity profiles, *Eng. Geology*, 192, 1-18.
46. Chaljub, E., E. Maufroy, P. Moczo, J. Kristek, F. Hollender, P.-Y. Bard, E. Priolo, P. Klin, F. De Martin, Z. Zhang, W. Zhang and X. Chen (2015). 3-D numerical simulations of earthquake ground motion in sedimentary basins: testing accuracy through stringent models, *Geophys. J. Int.*, Oxford University Press (OUP), 201, 90-111.
47. Gueguen, Ph. (2015). Predicting nonlinear site response using spectral acceleration V_s PGV/ V_s 30: A case history using the Volvi-Test site, *Pure Appl. Geophys.*, doi: 10.1007/s00021-015-1224-5.

Publications in Conference Proceedings

1. Pitilakis, K.D., A. Anastasiadis & D. Raptakis (1992). Field and laboratory determination of dynamic properties of natural soil deposits. Proc. 10th World Conference on Earthquake Engineering, Madrid, Spain, 1275-1280.
2. Pitilakis, K. D. (1994). Euro-Seistest. Volvi-Thessaloniki: A European test site for engineering seismology earthquake engineering and seismology. Workshop on Collaborative European research activities for seismic risk prevention and reduction, Bergamo, Italy, 57-70.
3. Pitilakis, K., D. Hatzidimitriou, P.-Y. Bard & G. Manos (1994). EURO-SEISTEST: Volvi-Thessaloniki - A European test site for engineering seismology, earthquake engineering and seismology. Proc. of 2nd International Conference on Earthquake Resistant Construction and Design, Berlin, Germany, 3-10.
4. Raptakis, D.G., A.J. Anastasiadis, K.D. Pitilakis & K.S. Lontzetidis (1994). Shear waves velocities and damping of Greek natural soils. Proc. 10th European Conference on Earthquake Engineering, Vienna, Austria, 477-482.
5. Manos, G.C., D. Mpoufidis, M. Demosthenous, B. Yasin, M. Triamataki, P. Skalkos & J. Thawapta (1995). The seismic response of reinforced concrete multistory buildings with masonry infills, Proc. 2nd Cairo Earthquake Engineering Symposium on Seismic Design Codes - CEES 1995, Cairo, Egypt, 337-366.
6. Manos, G.C., M. Demosthenous, M. Triamataki, B. Yasin & P. Skalkos (1995). Construction of a 5-story masonry infilled R.C. building at the Volvi - EURO-SEISTEST site. Correlation of measured and numerically predicted dynamic properties, Proc. International Conference on Earthquake Engineering, Amman, Jordan, 857-866.
7. Manos, G.C., B. Yasin, M. Triamataki & M. Demosthenous (1995). Experimental and numerical Simulation of the influence of masonry infills on the seismic response of reinforced concrete framed structures, Proc. 4th International Masonry Conference, Masonry (7), 2, 495-502.
8. Manos, G.C., B. Yasin, M. Triamataki & M. Demosthenous (1995). Construction of a 5 storey masonry infilled R.C. building at the EURO-SEISTEST site and first test results, Proc. 4th International Masonry Conference, Masonry (7), 2, 503-510.
9. Manos, G.C., M. Triamataki, J. Thaumpta, B. Yasin, P. Skalkos & M. Demosthenous, (1996). Prediction of the dynamic characteristics of a 5-story R.C. building at the Volvi EURO-SEISTEST site, utilising low-intensity vibrations, Structural Dynamics - EURO-DYN'96, 2, 877-884.

10. Pitilakis, K. (1996). Special Session on Test Sites: General Report, 11th World Conference on Earthquake Engineering, Acapulco, Mexico.
11. Faccioli, E., R. Paolucci & F.J. Chávez-García (1998). Recent ESG studies in Europe - An outline of some potentially innovative applications, Proc. of 2nd International Symposium on the Effects of Surface Geology on Seismic motion - ESG'98, Yokohama, Japan, I, 147-160.
12. Guéguen, P. & P.-Y. Bard (1998). Contamination of ground motion by building vibrations, Proc. of the 2nd International symposium on the Effects of Surface Geology on Seismic motion - ESG'98, Yokohama, Japan, 407-412.
13. Klimis, N.S., B.N. Margaris & P.K. Koliopoulos (1998). Response spectra estimation according to the EC8 and NEHRP soil classification provisions: a comparison study based on Hellenic data, CDROM paper. Proc. 11th European Conference on Earthquake Engineering, Paris, France.
14. Manos, G.C., M. Triamataki, J. Thaumpta, B. Yasin, P. Skalkos & M. Demosthenous, (1998). The dynamic response of a 5-story R.C. structure at the European Test Site at Volvi, Greece. CDROM paper, Proc. 6th U.S. National Conference on Earthquake Engineering, Seattle, Washington.
15. Manos, G.C., B. Yasin, M. Triamataki & M. Demosthenous (1998). The earthquake response of a multi-storey reinforced concrete structure with masonry infills, Proc. 5th International Masonry Conference, Masonry (8), 202-210.
16. Manos, G.C., J. Thaumpta, B. Yasin, M. Triamataki & M. Demosthenous (1998). The dynamic response of a 5-story R.C. structure in-situ at the European Test Site at Volvi, Greece. CDROM paper, Proc. 11th European Conference on Earthquake Engineering, Paris, France.
17. Manos, G.C. Measurements of the dynamic response of prototype and model structures and correlation studies with numerical simulations in the field of Earthquake Engineering. Seminario Sul Tema "Evoluzione nella sperimentazione per le costruzioni", Corinto, Grecia.
18. Pitilakis, K.D., K. Lontzetidis, D. Raptakis & Th. Tika (1998). Geotechnical and seismic surveys for site characterization. Proc. 1st International Conference on Site Characterization - ISC'98, Atlanta, Georgia, 1339-1344.
19. Pitilakis, K.D., K. Makra, A. Anastasiadis & D. Raptakis (1998). Experimental and Theoretical site effect analyses: Issues and insights. Proc. 2nd Japan-Turkey Workshop: Earthquake Disaster Prevention Research in Turkey, Istanbul, Turkey.
20. Pitilakis, K.D., K. Makra, A. Anastasiadis & D. Raptakis (1998). Development and experimental validation of advanced modeling techniques in engineering seismology and earthquake engineering. Proc. Joint EU-Japan Workshop on Seismic Risk, Chania, Greece (in press).
21. Pitilakis, K. (1998) Special Session on Test Sites: Summary and remarks The Effects of Surface Geology on Seismic motion - ESG'98, Yokohama, Japan, III.
22. Raptakis, D., A. Anastasiadis & K. Pitilakis (1998). Preliminary instrumental and theoretical approach of site effects in Thessaloniki. CDROM paper. Proc. 11th European Conference on Earthquake Engineering, Paris, France.
23. Riepl, J., J.-C. Gariel & P.-Y. Bard (1998). About the use of Coda wave signals to estimate local site amplification factors. Proc. of 2nd International Symposium on the Effects of Surface Geology on Seismic motion - ESG'98, Yokohama, Japan, 523-530.
24. Theodulidis, N. & P.-Y. Bard (1998). Dependence of f_{max} on site geology: A preliminary study of Greek strong motion data. CDROM paper. Proc. 11th European Conference on Earthquake Engineering, Paris, France.
25. Theodulidis, N.P. (1998). Peak ground acceleration attenuation of small earthquakes: Analysis of EURO-SEISTEST (Greece) data. Proc. of the Effects of Surface Geology on Seismic motion - ESG'98, Yokohama, Japan.
26. Tolis, S.V., E. Faccioli & K. Pitilakis (1998). A 2D simulation of Euro-seistest near Thessaloniki, Greece. Proc. of the Effects of Surface Geology on Seismic motion - ESG'98, Yokohama, Japan, I, 255-262.
27. Triantafyllidis, P., P.M. Hatzidimitriou, P. Suhadolc, N. Theodulidis & K. Pitilakis, (1998). Comparison between 1-D and 2-D site effects modeling in Thessaloniki. Proc. of the 2nd International symposium on the Effects of Surface Geology on Seismic motion - ESG'98, Yokohama, Japan.
28. Tika, Th., Kallioglou, P. & Pitilakis, K. (1999) Laboratory measurement of dynamic properties of natural soils, Proceedings of the 2nd International Conference on Earthquake Geotechnical Engineering, Lisboa, Portugal, 21-25 June.



29. Tika, Th., Kallioglou, P., & Pitilakis, K. (1999) Laboratory measurement of dynamic properties of natural soils. Proc. of the 2nd International Conference on Pre-Failure Deformation of Geomaterials, Vol. 1, pp. 239-244, Torino, Italy.
30. Sextos, A. (2003) Multidisciplinary test sites as a tool for integrated European Research, Mid-America Earthquake Center headquartered at the University of Illinois at Urbana-Champaign, Oral Presentation.
31. Papaioannou, Ch. (2007). A preliminary study for the distance dependence of the spectral decay parameter κ for the Euroseisrisk strong motion array, Proc. of the 4th International Conference on Earthquake Geotechnical Engineering, Thessaloniki, June 25-28, Paper No. 1524.
32. Makra, K., F. Gelagoti, O.-J. Ktenidou and K. Pitilakis (2012). Basin Effects in Seismic Design: Efficiency of numerical tools in reproducing complex seismic wavefields, Proc. of the 15th World Conference on Earthquake Engineering, Lisboa, Portugal.
33. Ktenidou, O.-J., F. Cotton, E. Chaljub, S. Drouet, N. Theodoulidis and S. Arnaouti (2012). Estimation of kappa (κ) for a sedimentary basin in Greece (EUROSEISTEST) – Correlation to site characterization parameters, Proc. of the 15th World Conference on Earthquake Engineering, Lisboa, Portugal.
34. Ktenidou O.-J., F. Cotton, S. Drouet, N. Theodoulidis and E. Chaljub (2012). Kappa (κ): estimates, origins, and correlation to site characterisation parameters, AGU Fall meeting, 3-8 Dec. (poster).
35. Pitilakis, K., Z. Roumelioti, M. Manakou, D. Raptakis, K. Liakakis, A. Anastasiadis and D. Pitilakis (2013). The web portal of the EUROSEISTEST strong ground motion database, *Proc. of the 13th International Congress of the Geological Society of Greece*, 5-8 September 2013, Chania, Greece.
36. Ktenidou O.-J., Z. Roumelioti, N. Abrahamson, F. Cotton and K. Pitilakis (2014). Decreasing ground motion uncertainty (σ) through site monitoring and characterisation: the example of Euroseistest, *Second European Conference on Earthquake Engineering and Seismology*, Istanbul, 24-29 August, 2014 (invited presentation).
37. Ktenidou, O.-J., S. Drouet, F. Cotton and N. Abrahamson (2014). Physics of kappa: insights from Euroseistest data, *Second European Conference on Earthquake Engineering and Seismology*, Istanbul, 24-29 August, 2014 (presentation).
38. Roumelioti, Z., S. Karapetrou, M. Manakou, K. Pitilakis, D. Raptakis, D. Bindi and T. Boxberger (2015). The contribution of EUROSEISTEST and building monitoring arrays in Earthquake Early Warning and Rapid Damage Assessment in Thessaloniki, *6th Int. Conf. on Earthquake Geotechnical Engineering*, 1-4 November 2015, Christchurch, New Zealand.

Invited Lectures

1. Bard, P.-Y. (1998). Microtremor Measurements: A tool for site effect estimation? State-of-the-art paper, Proc. of 2nd International Symposium on the Effects of Surface Geology on Seismic motion - ESG'98, Yokohama, Japan.
2. Pitilakis, K.D. & Anastasiadis, A. (1998). Soil and site characterization for seismic response analysis, *Proc. 11th European Conference on Earthquake Engineering*, Paris, France.
3. Pitilakis, K., Raptakis, D. & Makra, K. (1999). Site effects, recent considerations and design provisions, 2nd International Conference of Earthquake Geotechnical Engineering, Lisbon, 21-25 June.