

Publications

Martin Kaeser, Michael Dumbser (submitted),
An Arbitrary High Order Discontinuous Galerkin Method for Elastic Waves on Unstructured Meshes,
GJI.

Michael Dumbser, Martin Kaeser (submitted),
Arbitrary High Order Discontinuous Galerkin Method for Elastic Waves on Unstructured Meshes II:
Discretization of External Source Terms,
GJI.

Ferreira A.M.G., Woodhouse J.H. (2007),
Source, Path and receiver effects on seismic surface waves,
Geophysical Journal International, 168(1), 109–132.

Adda–Bedia M., Madariaga R. (2007),
Seismic radiation from a kink on an antiplane fault,
Bull. seismol., in press.

Dahm T., Krüger F., Stammer K., Klinge K., Kind R., Wylegalla K., Grasso J.R. (2007),
The Mw 4.4 Rotenburg 2004 earthquake and its possible relationship with gas recovery,
Bulletin of the Seismological Society of America, 97 (3), 691–704, doi:10.1785/0120050149.

Gallovi? F., Burjáněk J. (2007),
High–frequency Directivity in Strong Ground Motion Modeling Methods,
Annals of Geophysics.

Geza Seriani, Saulo Pomponet Oliveira (2007),
Optimal Blended High–Order Operators for Acoustic Wave Propagation,
paper presented at Second International Conference on High Order Non–Oscillatory Methods for Wave Propagation, University of Trento, Trento, Italy, 26–30 March 2007.

Saulo Pomponet Oliveira (2007),
On the accuracy of spectral element methods for seismic wave propagation,
invited presentation at RoSe meeting, NTNU, Trondheim, Norway, 23–27 April 2007.

Francesco Pacchiani and Hélène Lyon–Caen (2007),
Earthquake migration within a normal fault and implications on rock permeability,
paper presented at EGU General Assembly, Vienna, Austria, 15–20 April 2007.

Geza Seriani, Saulo Pomponet Oliveira (2007),
Optimal blended spectral–element operators for acoustic wave modeling,
Geophysics, 72 (5), SM95–SM106, doi:10.1190/1.2750715.

Saulo Pomponet Oliveira, Geza Seriani (2007),
DFT modal analysis of spectral element methods for the 2D elastic wave equation,
Journal of Computational and Applied Mathematics, submitted.

Saulo Pomponet Oliveira, Geza Seriani (2007),
Dispersion analysis of spectral element methods for elastic wave propagation,
Wave Motion, accepted.

Saulo Pomponet Oliveira, Geza Seriani (2007),

DFT modal analysis of spectral element methods for the 2D elastic wave equation,
paper presented at 8th International Conference on Mathematical and Numerical Aspects of Waves, INRIA
and University of Reading, Reading, United Kingdom, 23rd to 27th July 2007.

Geza Seriani, Saulo Pomponet Oliveira (2007),
DFT modal analysis of spectral element operators for acoustic wave propagation,
paper presented at 8th International Conference on Theoretical and Computational Acoustics, Foundation for
Research and Technology–Hellas, Heraklion, Greece, 2–5 July 2007.

Geza Seriani, Saulo Pomponet Oliveira (2007),
Optimum blended spectral–element operators for forward modeling,
paper presented at EGU General Assembly, European Geosciences Union, Vienna, Austria, 15–20 April
2007.

Moczo, P., Kristek, J., Galis, M., Pazak, P., Balazovjeh, M. (2007),
The Finite–Difference and Finite–Element Modeling of Seismic Wave Propagation and Earthquake Motion,
Acta Physica Slovaca, 57 (2), 177–406.

Lokmer, I., Di Lieto, B., Saccorotti, G. and C.J. Bean (2007),
Temporal evolution of long–period activity at Mt. Etna – no apparent link with the 2004 eruption,
GU General Assembly, Vienna, Austria, 15–20 April.

Lokmer, I., Bean, C.J. And G. Saccorotti (2007),
Long period activity at Mount Etna in 2004 – Green's function computations and moment–tensor inversion,
EGU General Assembly, Vienna, Austria, 15–20 April.

Moczo, P., Robertsson, J. O. A., Eisner, L. (2007),
The Finite–Difference Time–Domain Method for Modelling of Seismic Wave Propagation,
in *Advances in Wave Propagation in Heterogeneous Earth, Advances in Geophysics 48*, edited by Wu, R.–S.,
Maupin, V., Dmowska, R., pp. 421–516, Elsevier – Academic Press, New York, MA, USA.

Saccorotti G., Lokmer I., Bean C., Di Grazia G., Patane D. (2007),
Analysis of Sustained LP Activity at Etna Volcano, Italy.,
J. Volcanol. Geotherm. Res., 161, 340–354.

Peter D., Tape C., Boschi L., Woodhouse J. H. (2007),
Surface wave tomography: global membrane waves and adjoint methods,
Geophys. J. Int., submitted.

Boschi, L., Ampuero J.–P., Peter D., Mai P. M., Soldati G., Giardini D. (2007),
Petascale Computing and resolution in global seismic tomography,
Phys. Earth Planet. Int., in press.

Raykova R., Nikolova S. (2007),
Tomography and velocity structure of the crust and uppermost mantle in southeast Europe obtained from
surface wave analysis,
Stud. Geophys. Geod., 51, in press.

De la Puente J., Käser M., Dumbser M., Igel H. (2007),
An Arbitrary High Order Discontinuous Galerkin Method for Elastic Waves on Unstructured Meshes IV:
Anisotropy,
Geophysical Journal International, accepted.

Ampuero J.-P., Ripperger J., Mai P.M. (2006),
Rupture nucleation and arrest for stochastic initial stress: quantitative insights from fracture energy balance,
in *Earthquakes: Radiated Energy and the Physics of Faulting, Geophysical Monograph Series*, edited by
McGarr A., Abercrombie R., Kanamori H. , pp. 255–261, American Geophysical Union, Washington DC.

Mai P.M., Ripperger J., Ampuero J.-P., Hillers G. (2006),
Frontiers in Source Modeling for Near-Source Ground-Motion Prediction,
in *ESG 2006 * Volumes 1 and 2. Third International Symposium on the Effects of Surface Geology on Seismic
Motion*, edited by Bard P.-Y., Chaljub E., Cornou C., Cotton F., Gueguen P., pp. 97–114, Collection Actes
des journées scientifiques du LCPC, Grenoble, 30 août–1er septembre 2006.

Stich D., Serpelloni E., Mancilla F., Morales J. (2006),
Kinematics of the Iberia-Maghreb plate contact from seismic moment tensors and GPS observations,
Tectonophysics, 426, 295–317.

Ferreira A.M.G., Woodhouse J.H. (2006),
Long-period seismic source inversions using global tomographic models,
Geophysical Journal International, 166(3), 1178–1192.

Chambers K., Woodhouse J.H. (2006),
Investigating the lowermost mantle using migrations of long-period S-ScS data,
Geophysical Journal International, 166(2), 667–678.

Madariaga R. (2006),
Seismic source theory,
in *Treatise of Geophysics, Vol 4, Earthquake seismology*, edited by Kanamori H., Elsevier Publishers, U.S., in
press.

Di Carli S., Holden C., Madariaga R. (2006),
Dynamic inversion of the 2000 Tottori earthquake in Japan,
Geophysical Research Letters, submitted.

Carcione J.M., Sidler R (2006),
Wave reflection at an anelastic transversely isotropic ocean-bottom,
Geophysics,, submitted.

Zollo A., Lancieri M., Nielsen S. (2006),
Earthquake magnitude estimation from peak amplitudes of very early seismic signals on strong motion
records,
Geophysical Research Letters, 33, doi:10.1029/2006GL027795.

V. Convertito V., Emolo A. and Zollo A. (2006),
Seismic-Hazard Assessment for a Characteristic Earthquake Scenario: An Integrated
Probabilistic-Deterministic Method,
Bulletin of the Seismological Society of America, 96(2), 377–391.

Festa G., Zollo A. (2006),
Fault slip and rupture velocity inversion by isochrone backprojection,
Geophysical Journal International, 166, 745–756.

Iervolino I., Convertito V., Giorgio M., Manfredi G., Zollo A. (2006),
Real-time risk analysis for hybrid earthquake early warning systems,
Journal of Earthquake Engineering, in press.

Qin Y, Maupin V. Capdeville Y., Montagner J.P. (2006),
Synthetic data to benchmark global tomographic methods,
EOS transactions, 87, 512.

Cesca S., Dahm T. (2006),
A frequency domain inversion code to retrieve time-dependent parameters of long period volcanic sources,
Computers and Geosciences, submitted.

Sorensen M.B., Oprsal I., Bonnefoy-Claudet S., Atakan K., Mai P.M., Pulido N., Yalciner C. (2006),
Local site effects in Ataköy, Istanbul, Turkey, due to a future large earthquake in the Marmara Sea,
Geophysical Journal International, 167 (3), 1413–1424(12), doi:10.1111/j.1365–246X.2006.03204.x.

Gallovi? F., Broke?ová J. (2006),
Probabilistic Aftershock Hazard Assessment:
Journal of Seismology, submitted.

Geza Seriani, Saulo Pomponet Oliveira (2006),
DFT modal analysis of spectral element methods for acoustic wave propagation,
Journal of Computational Acoustics, accepted.

Geza Seriani, Saulo Pomponet Oliveira (2006),
Wave Dispersion Analysis for High Order Methods in the Discrete Spatial Frequency Domain,
paper presented at Workshop on High Order Methods for Large Scale Industrial Application, EUA4X,
Cagliari, Italy, 7–9 June 2006.

Geza Seriani, Saulo Pomponet Oliveira (2006),
Dispersion analysis of the Chebyshev spectral element method for the wave equation in the discrete spatial frequency domain,
paper presented at EGU General Assembly, European Geosciences Union, Vienna, Austria, 2–7 April 2006.

Dumbser M., Käser M., de la Puente J. (2006),
Arbitrary High Order Finite Volume Schemes for Seismic Wave Propagation on Unstructured Meshes in 2D and 3D,
Geophysical Journal International, in press.

Käser M., Dumbser M., de la Puente J., Igel H. (2006),
An Arbitrary High Order Discontinuous Galerkin Method for Elastic Waves on Unstructured Meshes III: Viscoelastic Attenuation,
Geophysical Journal International, 168.

Stupazzini M., Zambelli C., Scandella L., Festa G. (2006),
The spectral element method as an effective tool for solving dynamic soil–structure interaction problems,
Geophysical Research Abstracts, Vol. 8.

Schuberth B., Igel H. (2006),
Challenges in computational seismology,
Inside, Vol 3., 6–9.

Cochard A., Igel, H., Flaws, A., Schuberth B., Wassermann J., Suryanto W. (2006),
Rotational motions in seismology,
in *Earthquake source asymmetry, structural media and rotation effects*, eds. Teisseyre et al., pp. 391–413,
Springer Verlag, Germany.

Ewald M., Igel H., Hinzen K.–G., Scherbaum F. (2006),
Basin-related effects on ground motion for earthquake scenarios in the Lower Rhine Embayment,
Geophysical Journal International, 197–212.

Fichtner, A., Bunge P., Igel H. (2006),
The adjoint method in seismology: I – Theory,
Phys. Earth Planet Int., in press.

Lokmer, I., Bean, C.J. And G. Saccorotti (2006),
Analysis of the source of the LP sequence recorded before the 2004 Mt. Etna eruption,
paper presented at EGU General Assembly, Vienna, Austria, 02–07 April.

Lokmer, I., Bean, C.J. and G. Saccorotti (2006),
Long period activity at Mount Etna in 2004 – Green's function computation including topography and heterogeneous velocity structure,
SPICE Research and Training Workshop III, Kinsale, Ireland, 22–28 July.

Saccorotti, G., Lokmer, I., Di Lieto, B., Bean, C.J., Di Grazia, G. and D. Patane (2006),
Observation of long and very-long period (LP–VLP) seismicity at Etna volcano, Italy,
paper presented at 26th meeting of the GNGTS (National Group for Solid Earth Geophysics), Rome, Italy, 28–30 November.

Bonnefoy–Claudet, S., Cornou, C., Bard, P.–Y., Cotton, F., Moczo, P., Kristek, J., Faeh, D. (2006),
H/V ratio: a tool for site effects evaluation. Results from 1D noise simulations.,
Geophys. J. Int., 167, 827–837.

Kristek, J., Moczo, P. (2006),
On the accuracy of the finite-difference schemes: the 1D elastic problem,
Bull. Seism. Soc. Am., 96 (6), 2398–2414, doi:10.1785/0120060031.

Kristekova, M., Kristek, J., Moczo, P., Day, S. M. (2006),
Misfit Criteria for Quantitative Comparison of Seismograms,
Bull. Seism. Soc. Am., 96 (5), 1836–1850, doi:10.1785/0120060012.

Brokešová, J (2006),
Asymptotic ray method in seismology: A tutorial,
Matfyzpress, Praha.

Boschi, L., Woodhouse, J. (2006),
Surface wave ray-tracing and azimuthal anisotropy: a generalized spherical harmonic approach,
Geophys. J. Int., 164 (3), 569–578, doi:10.1111/j.1365–246X.2006.02870.x.

Boschi, L., T. W. Becker, G. Soldati, A. M. Dziewonski (2006),
On the relevance of Born theory in global seismic tomography,
Geophys. Res. Lett., 33, L06302, doi:10.1029/2005GL025063.

Quin Y., Capdeville Y., Maupin, V., and Montagner Jean–Paul (2006),
Synthetic Dataset To Benchmark Global Tomographic Methods,
EOS, 87 (46), 512+.

Chaljub E., Komatitsch D., Vilotte J.–P., Capdeville Y., Valette B., Festa G. (2006),
Spectral Element analysis in seismology,
in *Advances in wave propagation in heterogeneous media*, edited by Wu R–S, Maupin V., Elsevier, Europe, in press.

Boschi L., Becker T. W., Soldati G., Dziewonski A. M. (2006),

On the relevance of Born theory in global seismic tomography,

Geophys. Res. Lett., 33, doi:10.1029/2005GL025063.

Mai P.M., Somerville P., Pitarka A., Dalguer L., Miyake H., Beroza G., Song S.–G., Irikura K. (2006),

Fracture–energy scaling in dynamic rupture models of past earthquakes,

in *Earthquakes: Radiated Energy and the Physics of Faulting, Geophysical Monograph Series*, edited by McGarr A., Abercrombie R., Kanamori H. , pp. 283–293, American Geophysical Union, Washington DC.

Pondrelli S., Salimbeni S., Ekstrom G., Morelli A., Gasperini P., Vannucci G. (2006),

The Italian CMT dataset from 1977 to the present,

Phys. Earth Planet. Int., doi:10.1016/j.pepi.2006.07.008.

Raykova R., Panza G. (2006),

Surface waves tomography and non–linear inversion in the southeast Carpathians,

Phys Earth Planet Int., 157, 164–180, doi:10.1016/j.pepi.2006.03.019.

Chambers K., Woodhouse J.H. (2006),

Transient D. Discontinuity revealed by seismic migration,

Geophysical Research Letters, 33 (17).

Deuss A, Redfern S.A.T., Chambers K., et al. (2006),

The nature of the 660–kilometer discontinuity in Earth's mantle from global seismic observations of PP precursors,

Science , 311(5758), 198–201.

Sieminski A., Liu Q., Trampert J., Tromp J. (2006),

Finite–frequency sensitivity of surface waves to anisotropy based upon adjoint methods,

Geophysical Journal International, in press.

Fichtner A., Bunge P., Igel H. (2006),

The adjoint method in seismology: II – Applications: traveltimes and sensitivity functionals,

Phys. Earth Planet. Int., in press.

Hainzl S., Kraft T., Wassermann J., Igel H., Schmedes E. (2006),

Evidence for rain–triggered earthquake activity,

Geophys. Res. Lett., 33, doi:10.1029/2006GL027642.

Kraft T., Wassermann J., Schmedes E., Igel H. (2006),

High–precision relocation and focal mechanism of the 2002 rain–triggered earthquake swarms at Mt. Hochstaufen, SE–Germany,

Geophysical Journal International, in press.

Kraft T., Wassermann J., Schmedes E., Igel H. (2006),

Meteorological triggering of earthquakes at Mt Hochstaufen, SE–Germany,

Tectonophysics, in press.

Suryanto W., Wassermann J., Igel H., Cochard A., Vollmer D., Scherbaum F., Velikoseltsev A., Schreiber U. (2006),

First comparison of seismic array derived rotations with direct ring laser measurements of rotational ground motion,

Bull. Seism. Soc. Am., 96(6), 2059–2071, doi:10.1785/0120060004.

- Festa G., Vilotte J.-P.** (2006),
Influence of the rupture initiation on the intersonic transition: crack-like versus pulse-like modes,
Geophys. Res. Lett., Vol. 33, doi:10.1029/2006GL026378.
- Käser M., Dumbser M., de la Puente J.** (2006),
An Efficient ADER-DG Method for 3-Dimensional Seismic Wave Propagation in Media with Complex Geometry,
paper presented at 3rd International Symposium on the effects of surface geology on seismic motion, ESG 2006 Grenoble.
- Käser M., Igel H., de la Puente J., Schuberth B., Bunge H.P.** (2006),
Erdbebenforschung durch Höchstleistungsrechnen Moderne Supercomputer ermöglichen die Simulationen realistischer Erdbeben-Szenarien unter Berücksichtigung komplizierter, geophysikalischer Erdmodelle,
Akademie Aktuell.
- di Prisco C., Stupazzini M., Zambelli C.** (2006),
Non-linear SEM numerical analyses of dry dense sand specimens under rapid and dynamic loading,
International Journal for Numerical and Analytical Methods in Geomechanics, submitted.
- Robertsson J.O.A., Laws R., Chapman C., Vilotte J.-P., Delavaud E.** (2006),
Modelling of scattering of seismic waves from corrugated rough sea surface: A comparison of three methods,
Geophysical Journal International, doi:10.1111/J.1365-246X.2006.03115x}, in press.
- Beucler E., Montagner J.-P.** (2006),
Computation of large anisotropic seismic heterogeneities,
Geophysical Journal International, 165, 447-468.
- Bukchin B., Yanovskaya T., Montagner J.-P., Mostinskiy A., Beucler E.** (2006),
Surface wave focusing effect: numerical modeling and observations,
Phys. Earth Planet. Int., 155, 191-200.
- Larmat C., Montagner J.P., Fink M., Clévéde E., Tourin A.** (2006),
Time-reversal Imaging of Seismic Sources- Application to the Sumatra earthquake,
Geophys. Res. Lett., 33, doi:10.1029/2006GL026336.
- Qin, Y., Capdeville Y., Maupin V., Montagner J.-P.** (2006),
A SPICE blind test to benchmark global tomographic methods,
EOS, 512-513.
- Silveira G., Stutzmann E., Davaille A., Montagner J.-P., Mendes-Victor L.** (2006),
Azores hotspot signature in the upper mantle,
J. Volc. Geotherm Res., 156, 23-24.
- Suyehiro, K., Montagner J.-P., Stephen R., Araki E., Kanazawa T., Orcutt J., Romanowicz Sacks B.S., Shinohara M.** (2006),
Ocean Seismic Observatories,
Oceanography, 19, 4.
- Boschi L.**, (2006),
Global multi-resolution models of surface wave propagation: comparing equivalently-regularized Born- and ray-theoretical solutions,
Geophys. J. Int., 167 (238-252).

- Bozdag E., Trampert J.** (2006),
Crustal corrections for surface waves,
Geophysical Journal International, submitted.
- Holden C., Di Carli S., Madariaga R.** (2006),
Non-linear kinematic inversion of the 2000,
Journal of Geophysical Research, submitted.
- Nguyen X.N., Dahm T., Grevenmeyer I.** (2006),
Shear wave velocities and waveform models of the Ninetyeast Ridge region obtained from Scholte waves,
Journal of Seismology, submitted.
- Burjanek J., Zahradnik J.** (2006),
Dynamic stress field of a kinematic earthquake source model,
Geophysical Journal International, submitted.
- Fäh D., Steimen S., Oprsal I., Ripperger J., Wössner J., Schatzmann R., Kästli P., Spottke I., Huggenberger P.** (2006),
The earthquake of 250 A.D. in Augusta Raurica. A real event with a 3D site-effect?
Journal of Seismology, 10 (4), 459–477, doi:10.1007/s10950-006-9031-1.
- Mercerat D., Vilotte J-P., Sanchez-Sesma F.J.** (2006),
Triangular Spectral Element simulation of 2D elastic wave propagation using unstructured triangular grids,
Geophysical Journal International, doi:10.1111/j.1365-246X.2006.03006.x.
- Gallovic, F., Brokesova, J.** (2006),
Hybrid k-squared Source Model for Strong Ground Motion Simulations: Introduction,
Physics of the Earth and Planetary Interiors, 160, 34–50, doi:10.1016/j.pepi.2006.09.002.
- Cesca S., Braun T., Tessmer E., Dahm T.** (2006),
Modelling of the April 5, 2003 Stromboli (Italy) paroxysmal eruption from the inversion of broadband seismic data,
Earth Planet. Sci. Lett., submitted.
- G. Spada, L. Boschi** (2006),
Using the Post-Widder formula to compute the Earth's Love numbers,
Geophys. J. Int., 166, 309–321.
- G. Soldati, L. Boschi, A. Piersanti** (2006),
Global seismic tomography and modern parallel computers,
Annals of Geophysics, in press.
- Aldo Zollo, Paulo Capuano, Margherita Corciulo** (Eds.) (2006),
"Integrated seismic methods applied to the investigation of the active volcano structure: an application to the Campi Flegrei caldera",
doppiavoci, Naples, Italy.
- Cesca S., Buforn E., Dahm T.** (2006),
Moment tensor inversion of shallow earthquakes in Spain,
Geophys. J. Int., doi:10.1111/j.1365-246X.2006.03073.x.
- Buforn E., Cesca S., Goded T., del Fresno C., Munoz D.** (2006),
The Bullas (Murcia, SE Spain) January 29, 2005 earthquake,
J. Seismol., 10 (1), 65–72.

- Cesca S., Dahm T.** (2006),
A frequency domain inversion code to retrieve time-dependent parameters of long period volcanic sources,
Computers and Geosciences, submitted.
- Festa G., Zollo A.** (2005),
Fault slip and rupture velocity inversion by isochrone back-projection,
Geophys. J. Int., submitted.
- Lancieri M. and Zollo A.** (2005),
Simulated shaking maps for the 1980 Irpinia earthquake. MS 6.9: Insights on the observed damage distribution,
Phys.E.Pla.Int., submitted.
- Dello Iacono D., Zollo A. and Judenherc S.** (2005),
Very high resolution imaging of the shallow structure of Campi Flegrei caldera,
J.Volc. Geoth. Res., submitted.
- Emolo A. and Zollo A.** (2005),
Kinematic source parameters for the 1989 Loma Prieta earthquake from the non linear inversion of accelerograms,
Bull. Seism. Soc. Am., 95, 981–994, doi:doi:10.1785/0120030193.
- Convertito V., Emolo A. and Zollo A.** (2005),
Seismic hazard assessment for a characteristic earthquake scenario: an integrated probabilistic-deterministic method,
Bull. Seism. Soc. Am., accepted.
- Improta L. and Corciulo M.** (2005),
Controlled source non-linear tomography in Southern Apennines, Italy: new evidences for crystalline basement involvement in the belt,
Geophysical Research Letters, submitted.
- Cantore L., Zollo A., Bobbio A., Di Martino F., Amodio L.** (2005),
SISMALAB: an interactive laboratory for "learning by doing" in seismology and seismic risk,
ORFEUS Electronic Newsletter, 6 (2).
- Cantore L., Zollo A., Bobbio A., Di Martino F., Simini M.** (Eds.) (2005),
Progetto Eduseis: Un triennio di esperienze didattiche e divulgative in sismologia,
50 pp., CUEN ed, Napoli, Naples, Italy.
- Zollo A., Capuano P. and Corciulo M.** (Eds.) (2005),
Geophysical Exploration of the Campi Flegrei (southern Italy) caldera interiors: Data, Methods and Results,
50 pp., DoppiaVoce ed, Napoli, Naples, Italy, in press.
- Berenguer J.-L., Virieux J., Zollo A., Bobbio A., Lomax A., Laj C.** (2005),
Future European Effort for education in Seismology,
paper presented at European Geosciences Union, 2st General Assembly, Wien, Austria.
- Zollo A., Iannaccone G., Satriano C., Weber E., Lancieri M., and Lomax A.** (2005),
Ongoing Development of a Seismic Alert Management System for the Campania Region (Southern Italy),
paper presented at Earthquake Early Warning Workshop, Caltech, Pasadena, California, 13–17 July .
- Zollo A., Convertito V., Iannaccone G., Iervolino I., Lancieri M., Lomax A., Satriano C. and Weber E.** (2005),

A seismic alert management system for the Campania region (southern Italy): development and experimentation results,

paper presented at Workshop on Fracture Dynamics: Theory and application to earthquakes, Madrid, Spain, 26–28 September .

Convertito V., De Matteis R., Lancieri M., Zollo A. and Iannaccone G. (2005),

Near–real time regression analysis for generation of shake maps for moderate to strong earthquakes in Southern Apennines (Italy),

paper presented at Workshop on Fracture Dynamics: Theory and application to earthquakes, Madrid, Spain, 26–28 September .

Iervolino I., Convertito V., Manfredi G., Zollo A., Giorgio M., and Pulcini G. (2005),

The Cry Wolf Issue in Seismic Early Warning Applications: A Feasibility Study for the Campanian Region (Southern Italy),

paper presented at Earthquake Early Warning Workshop, Caltech, Pasadena, California, 13–17 July.

Emolo A. and Gallovi? F. (2005),

Relations between instrumental ground motion parameters and MCS intensity in Italy. Application to the simulated 1980 Irpinia earthquake. M=6.9, Southern Italy,

paper presented at IASPEI General Meeting, Santiago, Chile, 2–8 October.

Convertito V., Emolo A., Gallovi? F. and Zollo A. (2005),

Probabilistic–deterministic hazard scenario for the 1980 Irpinia earthquake M=6.9, Southern Italy,

paper presented at IASPEI General Meeting, Santiago, Chile, 2–8 October.

Emolo A., Cultrera G., Fanceschina G., Pacor F., Vuan A., Saraò A., Zollo A., Priolo E., Suhadolc P. and Task 4 Working Group (2005),

Scenari di scuotimento e variabilità del moto del suolo,

paper presented at GNDT – INGV, Genoa, Italy, 15–16 February .

Festa G., Zollo A., Mai P.M., Golden C., Buriánek J., Di Carli S., Emolo A., Gallovi? F., Lancieri M. and Madariaga R. (2005),

Inferring the resolution of kinematic inversion techniques: a blind test,

paper presented at SPICE R&T Workshop II, Smolenice Castle, Slovakia.

Corciulo M., Vassallo M., Zollo A. (2005),

High resolution seismic imaging of crustal reflectors by non linear inversion of reflection arrival time/waveforms.,

paper presented at SPICE R&T Workshop II, Smolenice Castle, Slovakia, 4–10 September.

Convertito V. and Herrero A. (2005),

Reply to comment by F. O. Strasser, V. Montaldo, J. Douglas, and J. J. Bommer on "Influence of Focal Mechanism in Probabilistic Seismic Hazard Analysis",

BSSA, accepted.

Battaglia, J., V. Ferrazzini, T. Staudacher, K. Aki and J.–L. Cheminee (2005),

Pre–eruptive migration of earthquakes at the Piton de la Fournaise volcano (Reunion island),

Geophys. J. Int., 161, 549–558.

Battaglia, J., K. Aki and V. Ferrazzini (2005),

Location of tremor sources and estimation of lava output using tremor source amplitude on the Piton de la Fournaise volcano. 1. Location of tremor sources,

J. Volcanol. Geotherm. Res., 147, 268–290.

Battaglia, J., K. Aki and T. Staudacher (2005),
Location of tremor sources and estimation of lava output using tremor source amplitude on the Piton de la Fournaise volcano. 2. Estimation of lava output,
J. Volcanol. Geotherm. Res, 147, 291–308.

Battaglia, J., A. Zollo, T. Vanorio and J. Virieux (2005),
Seismicity and 3D velocity structure of the Campi Flegrei (Italy),
paper presented at SPICE R&T Workshop II, Smolenice Castle, Slovakia, September 4 – 10.

Lancieri M., Zollo A. (2005),
Simulated shaking maps for the 1980 Irpinia earthquake. Ms=6.9: Insights on the observed damage distribution. ,
paper presented at SPICE R&T Workshop II, Smolenice Castle, Slovakia, September 4–10.

Lancieri M. (2005),
Mappe di scuotimento nell'immediato post-evento Come includere sorgente e propagazione complesse,
Ph.D Thesis, 168 pp., Università Federico II di Napoli , Naples, Italy, February.

Emolo A., Gallovi? F., Lancieri M., Zollo A. (2005),
Simulazione strong motion alla struttura target: l'ospedale di Sant'Angelo dei Lombardi,
Open File Report, 11 pp., Università Federico II di Napoli , Naples, Italy, November.

Lokmer, I., Saccorotti, G. and C.J. Bean (2005),
Long-period seismic activity at Mt. Etna before 2004 Etna eruption – spectral and polarisation analysis and event locations,
New Horizons – Post-Graduate Research Conference, NUI, Galway, 1–2 September.

Carannante, S., Boschi, L. (2005),
Databases of surface wave dispersion,
Annals of Geophysics, 48 (6), 945–955.

Romeo A. (2005),
Determinazione di un modello di velocità 3D per l'Appennino Campano–Lucano,
Open File Report, 40 pp., Università Federico II di Napoli, Naples, Italy, 29/04/2005.

Bizzarri A., Cocco M. (2005),
A thermal pressurization model for the spontaneous dynamic rupture propagation on a three-dimensional fault: 1. Methodological approach,
Journal of Geophysical Research, 111, B05303, doi:10.1029/2005JB003862.

Bizzarri A., Cocco M. (2005),
A thermal pressurization model for the spontaneous dynamic rupture propagation on a three-dimensional fault: 2. Traction evolution and dynamic parameters,
Journal of Geophysical Research, 111, B05304, doi:10.1029/2005JB003864.

Soldati, G., Boschi, L. (2005),
The resolution of whole Earth seismic tomographic models,
Geophys. J. Int., 161 (1), 143–153, doi:10.1111/j.1365–246X.2005.02551.x.

Lokmer, I., Saccorotti, G., Bean, C.J., Di Grazia, G., Zuccarello, L. and D. Patane (2005),
Analysis of wavefield parameters of a sequence of long-period events recorded before the 2004 Etna eruption,
paper presented at EGU General Assembly, Vienna, Austria, 25–30 April.

sylvette Bonnefoy–Claudet, Jozef Kristek, Peter Moczo, Antonio Rovelli, Miriam Kristekova (2005), 3D numerical modeling of earthquake motion in Colfiorito basin during the Umbria–Marche, Italy, seismic sequence, European Geosciences Union, Vienna, Austria, 24 – 29 April 2005.

Di Toro, S. Nielsen and G. Pennacchioni (2005), Earthquake dynamics forzen in exhumed ancient faults, *Nature*, 436, 1009–1012, doi:10.1038.

Moczo P., Kristek J. (2005), On the Rheological Models Used for Time–domain Methods of Seismic Wave Propagation, *Geophysica Research Letters*, 32 (1), L01306, doi:10.1029/2004GL021598.

Holden, C., Sladen, A., Madariaga, R. (2005), Nonlinear kinematic inversion of the October 2000 Tottori, Japan earthquake, Abstract EGU 2005, Vienna, Austria.

Chavez, M., Madariaga, R., Frisenda, M., Cabrera, E. (2005), Seismic scenarios for Mexico City, Abstract EGU 2005, Vienna, Austria.

Di Carli, S., Voisin, C., Cotton, F. (2005), Fault interaction and triggering of seismicity by dynamic and static stress changes: application to the 2000 western Tottori (Japan) earthquake, Abstract, EGU 2005, Vienna, Austria.

Chavez, M., Madariaga, R. (2005), The impact of extreme earthquake occurrences in the estimation of seismic hazard: the Mexico City case, Abstract EGU 2005, Vienna, Austria.

Bufo, E., Bezzeghoud, M., del Fresno, C., Borges, J. F. and Madariaga, R. (2005), Study of the fracture process of ALHOCEIMA earthquake (24/02/2004, Mw=6.2) from regional and teleseismic data, Abstract EGU 2005, Vienna, Austria.

Madariaga, R. (2005), Boundary conditions for the numerical modelling of seismic ruptures, Abstract EGU 2005, Vienna, Austria.

Madariaga, R. (2005), Seismic energy radiation from dynamic faulting, Abstract EGU 2005, Vienna, Austria.

Festa, G. and Vilotte, J.–P. (2005), The Newmark scheme as a velocity–stress time–staggering: an efficient Perfectly Matched Layers implementation for spectral element simulations of elastodynamics, *Geophys. J. Int.*, 161 (3), 789–812, doi:10.1111/j.1365–246X.2005.02601.x.

Festa, G. and Vilotte, J.–P. (2005), Planar and non–planar rupture dynamics simulations with the Spectral Element Method, *Bull. Seism. Soc. Am.*, *b*, submitted.

Rivalta, E., Dahm T. (2005), Acceleration of buoyancy–driven fractures and magmatic dikes beneath the free surface,

GJI, submitted.

Thorwart M., Dahm, T. (2005),
Wave field decomposition for passive ocean bottom seismological data,
GJI, submitted.

Stupazzini, M., Zambelli, C. (2005),
GEO-ELSEvp: a spectral element approach for dynamic elasto-viscoplastic problems,
Rivista Italiana di Geotecnica (Italian Geotechnical Journal), submitted.

De la Puente, J., Käser, M., Igel, H (2005),
Simulation of seismic wave propagation with high-resolution finite-volume methods on unstructured triangulations,
paper presented at EGU Meeting, Vienna, Austria.

Peter, D.; Boschi, L. (2005),
Membrane waves and finite-frequency effects in surface wave tomography,
paper presented at EGU Meeting, Vienna, Austria.

Käser, M., de la Puente, J., Toro, E.F. (2005),
High-order finite-volume schemes for the simulation of elastic wave propagation,
paper presented at EGU Meeting 2005, Vienna, Austria.

Igel et al. (2005),
SPICE: Seismic wave propagation and imaging in complex media: a European Network,
paper presented at EGU Meeting 2005, Vienna, Austria.

Dahm, T., Tessmer, E. (2005),
Aspects of computational seismology and forward modelling of elastic wave propagation,
paper presented at interdisciplinary international workshop on wave phenomena, Hamburg, Germany.

Danecek, P., Seriani, G., Igel, H (2005),
A multidomain Chebyshev method for seismic wave propagation on continental and global scales,
paper presented at EGU Meeting, Vienna, Austria.

Stupazzini, M., Sanchez-Sesma, F.J., Faccioli E., Maggio F. (2005),
Elastic wave propagation in heterogeneous medium using the spectral element method,
paper presented at EGU Meeting 2005, Vienna, Austria, 24 – 29 April 2005.

di Prisco C., Zambelli C., Stupazzini M. (2005),
The dynamic strain localisation: SEM numerical analyses of viscoplastic geomaterials,
invited presentation at 7th International Workshop on Bifurcation, Instabilities and Degradation in Geomechanics, Chania (Crete) , June 13–16, 2005.

Martin Kaeser, Michael Dumbser, Martin Mai (2005),
The Discontinuous Galerkin Method for 3–D Elastic Wave Propagation and Kinematic Sources,
Smolenice, Slovakia.

Corciulo M. (2005),
Il terremoto di Bam del 26 dicembre del 2003. (SE Iran),
in *Il progetto EduSeis. Un triennio di esperienze didattiche in sismologia*, edited by Cantore L., Zollo A., Bobbio A., Di Martino F., Simini M. , pp. 2, CUEN ed., Napoli, Naples (Italy).

Zollo A., Judenherc S. (2005),

Reply to comment by A. Rapolla on "The bay of Naples: Constraints on the volcanic structures inferred from a dense seismic survey,

Journal of Geophys. Res., VOL. 110, B06308, doi:10.1029/2005JB003740.

Iannaccone G., Weber E., Cantore L., Corciulo M., Romano L., Martino C. and Zollo A. (2005),

Ongoing Development of a Seismic Alert Management System for the Campania Region (Southern Italy),

paper presented at Earthquake Early Warning Workshop, Caltech, Pasadena, California, July 13–17.

Satriano C., Zollo A., Capuano P., Russo G., Vanorio T., Caielli G., Lovisa L., Moretti M. (2005),

A 3D velocity model for earthquake location in Campi Flegrei area. Application to the 1982–84 uplift event,

in *Geophysical Exploration of the Campi Flegrei (Southern Italy) caldera interiors: Data, Methods and Results*, edited by Zollo, A., Capuano P., and Corciulo M., DoppiaVoce ed, Napoli, Naples, Italy, in press.

Igel et al. (2004b),

SPICE: Seismic wave propagation and imaging in complex media: a European Network,

paper presented at Meeting of the German Geophysical Assembly, Berlin, Germany, March.

Igel et al. (2004a),

SPICE: Seismic wave propagation and imaging in complex media: a European Network,

invited presentation at IRIS Meeting, Arizona, USA, May.

Romeo A., De Matteis R., Convertito V. and Zollo A. (2004),

Localizzazione della sismicità e modelli di velocità in area Irpina: Archivio dati ed analisi preliminare delle forme d'onda,

Open File Report, 6 pp., Università Federico II di Napoli, Naples, Italy, 09/12/2004.

Gallovic, F., Brokesova, J. (2004),

On strong ground motion synthesis with k^{-2} slip distributions,

J. Seismology, 8, 211–224, doi:10.1023/B:JOSE.0000021438.79877.58.

Gallovic, F., Brokesova, J. (2004),

The k^{-2} rupture model parametric study: example of the 1999 Athens earthquake,

Studia geoph. et geod., 48, 589–613, doi:10.1023/B:SGEG.0000037473.70906.08.

Moczo, P., Kristek, J., Halada, L. (2004),

The Finite–Difference Method for Seismologists. An Introduction.,

158 pp., Comenius University, Bratislava, ISSN: 80–223–2000–5.

Moczo, P., Gális, M., Kristek, J., Bard, P.–Y., Bouchon, M. (2004),

Hybrid finite–element – finite–difference modeling of seismic motion in sedimentary valleys including a dynamic source model,

Abstracts, pp. 87, European Seismological Commission – XXIX General Assembly, University & GFZ Potsdam, 12–17 September.

Moczo, P., Gális, M., Kristek, J. (2004),

3D hybrid finite–element–finite–difference computation of seismic motion including rupture propagation modeling,

Geophys. Res. Abstracts, 6, European Geosciences Union (CD–ROM), Abstract EGU04–A–03347, ISSN 1029–7006, EGU General Assembly 2004, Nice, France.

Maupin, V. (2004),

Multiple scattering of surface waves in isotropic and anisotropic 3D structures,

Geophysical research abstracts, vol6, EGU 2004, Nice, France.

- Maupin, V.** (2004),
Questions around the origin of the upper mantle transverse isotropy,
Geophysical research abstracts, vol6, EGU 2004, Nice, France.
- Boschi, L.** (2004),
Global multi-resolution Models of surface wave propagation, the effects of scattering,
GJI, submitted.
- Bizzarri A., Cocco M.** (2004),
3 – D dynamic simulations of spontaneous rupture propagation governed by different constitutive laws with rake rotation allowed,
Annals of Geophysics, in press.
- Dahm T., Tilmann, F., Morgan, J.P.** (2004),
Seismic broadband ocean bottom data and noise observed with free-fall stations: experiences from longterm deployments in the North Atlantic and Tyrrhenian Sea,
Bull.Seism.Soc. Am, submitted.
- Virieux, J. and Zollo, A.** (2004),
Le puzzle des volcans napolitains,
La Recherche, 375, 38–42.
- Igel, H., and the SPICE Team** (2004),
New European Training Network to Improve Young Scientists' Capabilities in Computational Wave Propagation,
EOS, Transactions of the American Geophysical Union, 85 (28).
- Moczo, P., Kristek, J.** (2004),
Rheological Models in the Time-Domain Modeling of Seismic Motion,
EoS Trans. AGU, Fall Meet. Suppl., 85 (47), S13D–1097.
- Emolo, A. and Zollo, A.** (2004),
Kinematic source parameters for the 1989 Loma Prieta earthquake from the non linear inversion of accelerograms,
Bull.Seism.Soc.Am 2nd revision .
- Morelli A., and Danesi, S.** (2004),
Seismological imaging of the Antarctic continental lithosphere: a review,
Global Planet. Change, 42, 155–165.
- Nisii, V., Zollo, A. and Iannaccone, G** (2004),
Depth of a mid-crustal discontinuity beneath Mt Vesuvius from the stacking of reflected and converted waves on local earthquake records,
Bull.Seism.Soc.Am, 94 (5), 1842–1849.
- Igel, H., Schreiber, U., Flaws, A., Schuberth, B., Velikoseltsev, A., Cochard, A.** (2004),
Rotational motions induced by the M8.1 Tokaci–Oki earthquake, September 25, 2003,
Geophysical Res. Lett., in press.
- Festa, G., Zollo, A., Manfredi, G., Polese, M. and Cosenza, E.** (2004),
Simulation of the earthquake ground motion and effects on engineering structures during the pre-eruptive phase of an active volcano,
Bull.Seism.Soc.Am., 94 (6), 2213–2221.

- Morelli A., and Barrier E.** (2004),
Geodynamic map of the Mediterranean. Sheet 2: Seismicity and tectonics,
Commission for the geologic map of the world – CGMW/CCGM.
- Pondrelli S., Morelli A. and Ekstrom G.** (2004),
European–Mediterranean regional centroid–moment tensor catalog: solutions for years 2001 and 2002,
Phys. Earth Planet. Int., 145, 127–147.
- Judenherc, S. and Zollo, A.** (2004),
The Bay of Naples (Southern Italy): constraints on the volcanic structures inferred from a dense seismic survey,
J.Geophys.Res. , 109, B10312, doi:10. 1029/2003JB002876.
- Fohrmann, M., Igel, H., Jahnke, G., Ben–Zion, Y.** (2004),
Guided waves from sources outside faults: an indication for shallow fault zone structure?, Proceedings of 3rd ACES Workshop 2002,
Pure Appl. Geophys., 161, 1–13.
- Kristek, J., Moczo, P., Gális, M., Bard, P.–Y.** (2004),
3D Hybrid Numerical Modeling of Seismic Motion in Sedimentary Valleys due to a Dynamic Source Model,
EOS Trans. AGU Fall Meet. Suppl., 85 (47), S32B–07.
- Vanorio, T., De Matteis, R., Zollo, A., Batini, F., Fiordelisi, A.** (2004),
The deep structure of the Larderello–Travale geothermal field from 3D microearthquake travelttime tomography,
Geophysical Research Letters, 31, L07613, doi:10.1029/2004GL019432.
- Zollo, A., Iannaccone, G., Emolo, A., Lancieri, M., Weber, E.** (2004),
The Irpinia fault system as a natural laboratory for earthquake fracture related studies,
in *The many facets of seismic risk*, edited by Pecce, Manfredi, Zollo, Università degli Studi di Napoli Federico II CrdC–AMRA, Napoli.
- Brietzke, G., Igel, H., Jahnke, G., Treml, M., Ewald, M., Wang, H., Cochard, A., Wang, G.** (2004),
Computational wave propagation: advances in global and regional seismology,
in *High–Performance Computing in Science and Engineering*, Springer Verlag, Berlin, Germany.
- Gajewski, D. and Tessmer, E.** (2004),
Reverse modelling for seismic event characterization,
paper presented at AGU, AGU San Fancisco, USA.
- Madariaga, R** (2004),
The origin of high frequency radiation in earthquakes and the geometry of faulting,
invited lecture at AGU Meeting 2004, San Francisco, USA.
- Gallovic, F., Brokesova, J.** (2004),
A k–squared Composite Source Model: Hybrid Description of Comlex Faulting,
paper presented at XXIX ESC General Assembly, Potsdam, Germany, September.
- Beucler, E. and Woodhouse, J.H.** (2004),
Seismic investigation of the lithosphere: old and new observations,
paper presented at Symposium in the Study of the Earth's Deep Interior (SEDI) , Garmisch–Partenkirchen, Germany, Juli.

Burjanek, J., Zahradnik, J. (2004),

Dynamic stress field of advanced kinematic source models,

paper presented at XXIX ESC General Assembly, Potsdam, Germany, September.

Bean C., O' Brien, G. and Martini, F. (2004),

Numerical modelling of seismic source, site and path effects for volcano–seismicity signals,

paper presented at IAVCEI meeting, Pucon, Chile, November.

Igel, H., Vilotte, J.–P., Wassermann, J., Stupazzini, M. (2004),

The SPICE Project: Towards a Digital Library With Codes, Training Material, and Simulation data,

paper presented at AGU Meeting 2004d, San Francisco, USA.

Boschi, L., and Peter, D. (2004),

Global multi–resolution models of surface wave propagation: the effects of scattering,

paper presented at AGU, San Francisco, USA.

Boschi, L., and Woodhouse, J. (2004),

Surface wave ray–tracing and azimuthal anisotropy: a generalized spherical harmonic approach,

paper presented at EGU Meeting, Nice, France.

Ferreira, A. and Woodhouse, J.H. (2004),

How Well Do Tomographic Images Explain Surface Waveforms?,

paper presented at AGU, Fall Meeting, San Francisco, USA, December.

Lokmer, I., Bean, C.J. and Saccorotti, G. (2004),

Seismic event location by using small–aperture seismic arrays in volcano settings,

47th Irish Geological Research Meeting, Galway, Ireland, 20–22 February.

Igel et al. (2004),

SPICE: Seismic wave propagation and imaging in complex media: a European Network,

paper presented at EGU Meeting 2004, Nice, France.

Petitdidier, M., Fusco, L., Nercessian, A., Vilotte, J.–P (2004),

Earth Applications Group in the EGEE European Project : First experiments and objectives,

paper presented at AGU Meeting , San Francisco, USA.

Seriani, G. and Tessmer, E. (2004),

Spectral methods in seismic modelling (talk/exercises),

paper presented at RTN workshop in Venice, Venice, Italy, 25. Sept.– 2. Oct..

Sladen, A., Madariaga, R. (2004),

Nonlinear Source Tomography Of The Mw=8.4, 23 June 2001 Arequipa, Peru, Earthquake,

paper presented at AGU Meeting , San Francisco, USA.

Stupazzini, M., Zambelli, C. (2004),

Spectral Elements for the Assessment of the Seismic Vulnerability of Structures,

invited presentation at 16th ALERT–Geomaterials Workshop, ALERT, France, October 11–12–13.

Romeo A., Convertito V. and Zollo A. (2004),

Relazione relativa alla banca dati dell'Irpinia: organizzazione del data base, analisi preliminari e obiettivi futuri,

Open File Report, 4 pp., Università Federico II di Napoli , Naples, Italy, 02/07/2004.