

## *LIST OF PUBLICATIONS*

*Jean Virieux*

*Professor at the Université Joseph Fourier,  
member of the Institut Universitaire de France*

*2013*

### *Year 1982*

- 1. **Virieux, J.** et R. Madariaga, 1982, Dynamic faulting studied by a finite difference method, *Bull. Seismo. Soc. Am.*, 72, 345-369.
- 2. Jackson, J.A., J. Gagnepain, G. Houseman, G.C.P. King, P. Papadimitriou, C. Soufleris and **J. Virieux**, Seismicity, normal faulting, and the geomorphological development of the gulf of Corinth (Greece): The Corinth earthquakes of February and March 1981, *EPSL*, 57, 377-397.

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- 3. **Virieux, J.**, Interprétation visco-élastique de la subsidence sédimentaire, présenté par X. Le Pichon, CRAS, t296, 1983.

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- 4. Alvarez, F., **J. Virieux** & X. Le Pichon, 1984, Thermal consequences of lithosphere extension over continental margins: the initial stretching phase, *GJRS*, 78, 389-411.
- 5. **Virieux, J.**, 1984, SH-wave propagation in heterogeneous media: velocity-stress finite difference method, *Geophysics*, 49, 1933-1942.

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- 6. **Virieux, J.**, 1986, PSV-wave propagation in heterogeneous media: velocity-stress finite difference method, *Geophysics*, 51, 889-901.
- 7. Gauthier, O., **J. Virieux** & A. Tarantola, 1986, Two-dimensional nonlinear inversion of seismic waveforms: numerical results, *Geophysics*, 51, 1387-1403

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- 8. George, T., **J. Virieux** & R. Madariaga, 1987, Seismic wave synthesis by Gaussian Beam Summation: a comparison with finite differences, *Geophysics*, 52, 1065-1073.

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- 9. **Virieux, J.**, V. Farra & R. Madariaga, 1988, Ray tracing for earthquake location in laterally heterogeneous media, *J. Geophys. Res.*, 93, 6585-6599.

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- 11. **Virieux, J.**, 1989, Perturbed ray tracing on a heterogeneous sphere, *Geophys. Res. Lett.*, 16, 405-408.

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- 12. **Virieux, J.**, 1991, Fast and accurate ray tracing by Hamiltonian perturbation, *J. Geophys.*

Res., 96, 579-594.

- 13. **Virieux, J.** & G. Ekstrom, 1991, Ray tracing on a heterogeneous sphere by Lie series, *Geophys. J. Int.*, 104, 11-29.
- 14. D. Gibert & **J. Virieux**, 1991, Transformation of Electromagnetic Response by simulated annealing to Impulsive signal, *J. Geophys. Res.*, 96, 8057-8067.
- 15. De Natale, G., A. Ferraro & **J. Virieux**, 1991, A probability method for earthquake Focal Mechanism, *Geophys Res. Lett*, 18, 613-616.
- 16. **Virieux, J.** & V. Farra, 1991, Ray tracing in 3-D complex isotropic media: an analysis of the problem, *Geophysics*, 56, 2057-2069.

#### *Year 1992*

- 17. Jin, S., R. Madariaga, **J. Virieux** & G. Lambaré, 1992, Two-dimensional asymptotic iterative elastic inversion, *Geophys. J. Int.*, 108, 575-588.
- 18. Lambaré G., **J. Virieux**, R. Madariaga & S. Jin, 1992, Iterative asymptotic inversion of seismic profiles in the acoustic approximation, *Geophysics*, 57, 1138-1154.
- 19. Ferrucci F., Hirn, A., De Natale, G., **Virieux, J.** & Mirabile, L., 1992, P-SV conversions at a shallow boundary beneath Campi Flegrei Caldera (Italy): evidence for a magma chamber, *J. Geophys. Res.*, 97, 15351-15359.
- 20. Sornette, D. & **J. Virieux**, 1992, Linking short-timescale deformation to long-timescale tectonics, *Nature*, 357, 401-403.

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- 21. Perrot J., A. Deschamps, V. Farra & **J. Virieux**, Azimuthal folding of the seismic focal sphere: Application to earthquakes in subduction zones, *Phys. Earth planet. Int.*, 1994, vol. 84, 240 -270.

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- 22. **Virieux J.**, A. Deschamps, Perrot J. and Campos J., 1994, Source Mechanisms and Near-source Wave Propagation from Broadband Seismograms, *Annali Geofisica*, special issue: Earthquakes Source Mechanics, Volume XXXVII, 6, 1565-1591.
- 23. Gibert, D., B. Tournier and **J. Virieux**, 1994, High-resolution electromagnetic imaging of the conductive Earth interior, *Inverse Problems*, 10, 341-351.
- 24. **Virieux, J.**, C. Flores-Luna et D. Gibert, 1994, Asymptotic theory for diffusive electromagnetic imaging, *Geophys.J.Int.*, 119, 857-868.
- 25. Farra, V., R. Madariaga & **J. Virieux**, 1994, Comment on “the ambiguity in ray perturbation theory” by R. Snieder and M. Sambridge, *J. Geophys. Res.*, 99, 21963.

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- 26. Coutant, O., **J. Virieux** & A. Zollo, 1995, Numerical source implementation in a 2D finite difference scheme for wave propagation, *Bull. Seismo. Soc. Am.*, 85, 1507-1512.
- 27. De Natale G., Ferraro A., Zollo A. & **Virieux J.**, 1995, Accurate fault mechanisms of a 1984 earthquake swarm at Campi Flegrei caldera (Italy), during an unrest episode: Implications for volcanological research. *J. Geophys. Res.*, 100, 24167-24185.

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- 28. Perrot J., A. Deschamps, V. Farra & **Virieux J.**, A 2-D model of the Vrancea Region in Romania: prediction of teleseismic waveforms, *Geophys. J. Int.*, 1996, vol. 125, pp 537-544.

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- 31. Zollo A., Gasparini P., Biella G., De Franco R., Buonocore B., Mirabile L., De Natale G., Milano G., Vilaro G., Bruno P., De Matteis R., Le Meur H., Iannaccone G., Deschamps A., **Virieux J.**, Nardi A., Frepoli A., Hunstad I. and I. Guerra, 1996, 2D Seismic Tomography of Somma-Vesuvius. Description of the experiment and preliminary results, *Annali di Geofisica*, 39, 471-486.
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- 31. Amand, P. & **J. Virieux**, 1997. Nonlinear Inversion of Seismic Reflection data by Simulated Annealing, Springer-Verlag, *Inverse problems of wave propagation and Diffraction*, 486, 323-333.
- 32. DeMatteis, R, A. Zollo & **J. Virieux**, 1997. P-wave arrival time inversion by using the tau-p method: Application to the Mt Vesuvius volcano, southern Italy, *Geophys Res Lett*, 24, 515-518.
- 33. Ribodetti, A. & J. Virieux, 1997. Asymptotic theory for imaging the attenuation factors  $Q_p$  and  $Q_s$ , *Lecture notes in Physics. Inverse problems of wave propagation and diffraction*. Chavent G. and Sabatier P. Eds. LNP 486, Springer Verlag, pp. 334-353.
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- 36. Ribodetti, A. & **J. Virieux**, 1998. Asymptotic theory for imaging the Attenuation factor  $Q$ , *Geophysics*, 63, 1767-1778.
- 37. Piserchia, P.F., **Virieux, J.**, Rodrigues, D., Gaffet, S. & Talandier, J., 1998, Hybrid numerical modelling of T-wave propagation: application to the midplate experiment, *Geophys J Int*, 133, 789-800.
- 38. Courboux, F., Deschamps, A., Cattaneo, M., Costi, F., Deverchere, J., **Virieux, J.**, Augliera, P., Lanza, V. & Spallarossa, D., 1998, Source study and tectonic implications of the 1995 Ventimiglia (border of Italy and France) earthquake ( $M-L = 4.7$ ), *Tectonophysics*, 290, 245-257.
- 39. Zollo, A., P. Gasparini, **J. Virieux**, G. Biella, E. Boschi, P. Capuano, R. De Franco, P. Dell'Aversana, R. DeMatteis, G. De Natale, G. Iannaccone, I. Guerra, H. LeMeur & L. Mirabile, 1998. An image of Mt. Vesuvius obtained by 2D seismic tomography, *J. Volcanol. Geotherm. Res.*, 82, 161-173.

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- 41. Nolet, G., R. Montelli & **J. Virieux**, 1999, Explicite approximate expressions for the resolution and a posteriori covariance of massive tomographic systems, *Geophys. J. Int.*, 138, 36-44.
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- 43. De Matteis, R. and S. De Latorre, A.Zollo, A. & **J. Virieux**, 2000. 1D P-velocity models of Mt. Vesuvius Volcano from the Inversion of TomoVes96 First Arrival Time Data, *Pageoph*, 157, 1643-1661.
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- 45. Ribodetti, A., H. P. Valero, S. Operto, **J. Virieux** & D. Gibert, 2000. Geophysical and medical tomography by viscoacoustic asymptotic waveform inversion of ultrasonic laboratory data, *IEEE Instrumentation and measurements Technology Conference. IMTC98 Proceedings*, 50, 1404-1412
- 46. **Virieux, J.**, A. Ribodetti, S. Operto & E. Auger, 2000. Imagerie sismique haute-fréquence. *Bull. Soc. Géol. France*, numéro spécial, 69-84.
- 47. Lomax, A., **Virieux, J.**, Volant, P. & Berge-Thierry, C., 2000, Probabilistic earthquake location in 3D and layered models: introduction of a metropolis-Gibbs method and comparison with linear localtions, *Advances in seismic event location*, Kluwer Academic Pub., Thurber, C. and Rabinowitz, R., 281, 101-134.

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- 50. Zollo, A., De Matteis, R., D'Auria, L. & **Virieux, J.**, 2001, A 2-D non linear method for travel time tomography: application to Mt Vesuvius active seismic data, *Problems in geophysics for the next Millennium*, Editore Compositari, Boschi, E. and Ekstrom, G., Special Volume of International Workshop, Erice (Italy), 342.

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- 51. Zollo, A., D'Auria, L., De Matteis, R., Herrero, A., **Virieux, J.** & Gasparini, P., 2002, Bayesian estimation of 2-D P-velocity models from active seismic arrival time data: Imaging the shallow structure of Mt Vesuvius (Southern Italy), *Geophys. J. Int.*, 151, 566-582.
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- 59. **Virieux J.**, N. Garnier, E. Blanc & J.-X. Dessa, 2004. Paraxial ray tracing for atmospheric wave propagation, *Geophys.Res.Lett*, 31, L20106, doi:10.1029/2004GL020514.
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