

# CURRICULUM VITAE

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## **Education**

- School of Engineering University of Chile.
- Civil Engineering Degree. University of Chile
- Graduate studies at the Massachusetts Institute of Technology
- Ph.D. in Geophysics from M. I. T., June 1971.

## **Academic career**

- Assistant Professor, Department of Geophysics, University of Chile, Santiago, 1971-1973
- Research Associate, Department of Earth and Planetary Sciences, Massachusetts Institute of Technology, 1974-1976.
- Physicien Adjoint, Institut de Physique du Globe de Paris, University of Paris VI, 1977-1979.
- Professor 2nd class (Associate Professor). Département de Sciences Physiques de la Terre, Université Paris VII, 1979-1984.
- Professor 1st class (Full Professor). Département de Sciences Physiques de la Terre, Université Paris VII, 1984-1991.
- Professor of exceptional class. Département de Sciences Physiques de la Terre, Université Paris VII, 1991-1998.
- Senior Member of Institut Universitaire de France, 1993-1998.
- Professor of exceptional class, Ecole Normale Supérieure, since 1998.

## **Academic responsibilities**

- Director of the seismological observatory, Department of Geophysics, University of Chile, 1971-1973.
- Director Seismological Laboratory, Institut de Physique du Globe de Paris and Université Paris 7 1985-1997.

- Director of the Seismic Research Group of CNRS, Elf Aquitaine and IFP. 1987-1992.
- Director Geology Laboratory of Ecole Normale Supérieure, 2000-2006.

## Fellowships

- U.S. National Science Foundation, Office of Antarctic Research Fellowship. September 1967 - May 1971.
- Green Scholar, Institute of Geophysics and Planetary Physics, University of California, San Diego, 1981.

## Awards

- Prix d'Aumale of Institut de France (Academy of Sciences) 1980.
- Fellow American Geophysical Union, 1991.
- Prix Antoine D'Abbadie of Academy of Sciences, 1992.
- Senior Member of Institut Universitaire de France, 1993-1998.
- Grand Medal of the President of the University of Chile, 1998.
- Stephan Mueller Medal of the European Geophysical Society, 1999.
- Harry F. Reid Medal of the Seismological Society of America, 2004.

## Editorial Work

- Editor Solid Earth Section of Annales Geophysicae, 1983-1987.
- Associate Editor of PAGEOPH, 1986-2001.
- Associate Editor Journal of Seismology, 1996-2000.
- Associate Editor of Geophysical Journal International, 1996-1998.
- Associate Editor of Tectonophysics, 1992-2007
- European Editor of Geophysical Journal International, 1999-2006
- Member of Editorial Board of Science, 2000 - 2010

## Scientific Advisory committees

- Member of the CNRS National Committee, Section 13, 1991-1995.
- Member of the National Committee of Astronomers and Physics of the Earth (CNAP) 1992-2000.
- President of CNAP 1996-2000.
- Member of the Scientific advisory committee of Institut Français du Patrole, 1999-2012.

- Member advisory committee Chinese Academy of Sciences, Taiwan, 2004-2008
- Scientific advisory committee Centro de Geofisica, University of Evora, Portugal, 2001-
- Member Committee for the evaluation of earthquake prediction practices. Civil Protection of Italy, 2009
- Member of scientific evaluation committee, FCT Portugal, 2007, 2009-2011.
- Member of evaluation committees of Earth Sciences research programs of European Union, DGXII, Earth Sciences, 2008, 2010.

## **Scientific Organisations**

- Fellow of the American Geophysical Union.
- Life Member of the Seismological Society of America.
- Member Society of Exploration Geophysics.
- Member European Geophysical Society
- Member European Union of Geosciences

## **Advisor of Ph.D. Theses**

1. B. Romanowicz, Doctorat d'Etat 1979.
2. H. Lyon-Caen, Doctorat 3ème cycle 1980
3. A. Deschamps, Doctorat d'Etat, 1981
4. J.P. Vilotte, Doctorat 3ème Cycle, 1981
5. M. Malgrange, Doctorat 3ème cycle, 1982
6. J. Virieux, Doctorat d'Etat, 1982
7. P. Bernard, Doctorat 3ème cycle, 1982
8. P. Papadimitriou, Doctorat, 1985
9. Th. George, Doctorat, 1985
10. J.P. Vilotte Doctorat d'Etat, 1986
11. I. Korrat, Doctorat, 1986
12. V. Farra, Doctorat, 1987
13. P. Bernard, Doctorat d'Etat, 1988
14. M. Bezzeghoud, Doctorat, 1988
15. A. Zollo, Doctorat, 1990
16. L. Quintanar, Doctorat, 1991

17. S. Jin, Doctorat, 1991
18. G. Lambaré, Doctorat, 1992
19. G. de Natale, Doctorat, 1993
20. J.-L. Guiziou, Doctorat, 1993
21. J. Campos, Doctorat, 1995
22. A. Cochard, Doctorat, 1995
23. S. Le Bégat, Doctorat, 1995
24. E. Forgues, Doctorat, 1996
25. P.-S. Lucio, Doctorat, 1996
26. Ph. Thierry, Doctorat, 1997
27. I. Tabti, Doctorat, 1997
28. V. Clochard, Doctorat, 1998
29. J. M. Gomez, Doctorat, 1998
30. S. Leborgne, Doctorat, 1999
31. F. Billete, Doctorat, 1999
32. H. Perfettini, Doctorat, 2000
33. C. V. Gérea, Doctorat, 2001
34. D. Grenié, Doctorat, 2001
35. S. Peyrat, Doctorat, 2001
36. A. Lemoine, Doctorat, 2001
37. H. Mohammedi, Doctorat, 2002
38. A. Gardi, Doctorat Milan, 2002
39. H. Borgne, Doctorat, 2004
40. A. Sladen, Doctorat, 2005
41. M. Cavalca, Doctorat, 2005
42. K. Sesetyan, Doctorat cotutelle Paris-Sud, Bogazici, Turkey, 2007
43. S. Ruiz, M. Sc. University of Chile, September 2007
44. S. DiCarli, Doctorat, 2008
45. S. Allgeyer, Doctorat, 2012

## PUBLICATIONS

1. MADARIAGA, R.I., Digital processing of seismograms : Filters of polarization. Thesis, School of Engineering, Universidad de Chile, 1967.
2. HUSEBYE, E, and MADARIAGA, R.I., Origin of precursors to core waves. *Bull. Seism. Soc. Am.*, **60**, 939-952, 1970.
3. WEIDNER, R. and R.I. MADARIAGA, Discussion of paper by M. Kumasawa: "The elastic constants of polycrystalline rocks and non-elastic behavior inherent to them". *J. Geophys. Res.*, **75**, 2787-2789, 1971.
4. MADARIAGA, R.I., Free oscillations of the laterally heterogeneous earth. Ph.D. Thesis, Massachusetts Institute of Technology, Cambridge, Mass., 1971.
5. MADARIAGA, R.I., Toroidal free oscillations of the laterally heterogeneous earth. *Geophys. J.R. Astr. Soc.*, **27**, 81-100, 1971.
6. MADARIAGA, R. and K. AKI, Spectral splitting of toroidal free oscillations due to the lateral heterogeneity of the earth's structure. *J. Geophys. Res.*, **77**, 4431-4434, 1972.
7. MADARIAGA, R., Dynamics of an expanding circular fault. *Bull. Seism. Soc. Am.*, **65**, 163-182, 1976.
8. MADARIAGA, R., Implications of stress drop models of earthquakes for the inversion of stress drop from seismic observations. *Pageoph.*, **115**, 301-315, 1977.
9. MADARIAGA, R., High frequency radiation from crack (stress drop) models of earthquake faulting. *Geophys. J.R. Astr. Soc.*, **51**, 525-651, 1977.
10. MADARIAGA, R., A relation between seismic moment and stress drop of complex earthquakes. Proceedings of the Fault Mechanics Conference at Stanford, California, ed. J.F. Evernden, U.S.G.S., Menlo-Park, Ca., 1978.
11. MADARIAGA, R., The dynamic field of Haskell's rectangular dislocation fault model. *Bull. Seism. Soc. Am.*, **68**, 869-887, 1978.
12. MADARIAGA, R., Seismic radiation from earthquake models based on fracture mechanics. In: SIAM-AMS Proceedings. Vol. XII, ed. R. Burridge, American Mathematical Society, Providence, R.I., 1979.
13. MADARIAGA, R., On the relation between seismic moment and stress drop in the presence of stress and strength heterogeneity. *J. Geophys. Res.*, **84**, 2242-2250, 1979.
14. MADARIAGA, R., An assesment of earthquake fault models, in Source Mechanism and Earthquake Prediction. Livre Jubilaire, J. Coulomb, Ed. C.N.R.S., 125-134, 1980.
15. MADARIAGA, R., A finite two-dimensional kinematic fault in a half-space. Pub. Inst. geophys. Pol. Acad. Sc., **A-10**, 33-47, 1980.
16. DESCHAMPS, A., H. LYON-CAEN et R. MADARIAGA, Etude du tremblement de terre de Taltal, Chili (1966) à partir des ondes sismiques de longue période. *Ann. Geophys.*, **36**, 179-190, 1980.

17. DESCHAMPS, A., H. LYON-CAEN et R. MADARIAGA, Mise au point sur les méthodes de calcul de sismogrammes synthétiques de longue période. *Ann. Geophys.*, **36**, 167-178, 1980.
18. MALGRANGE, M., A. DESCHAMPS and R. MADARIAGA, Thrust and extensional faulting under the Chilean coast : 1965 and 1971 Aconcagua Earthquakes. *Geophys. J.R. Astr. Soc.*, **66**, 313-332, 1981.
19. MADARIAGA, R., Dynamics of seismic sources. In : Husebye and Mykkelheit, eds. Identification of Seismic Sources. Reidel Publishing Co. Dordrecht, Holland, 1981.
20. MADARIAGA, R., Dislocations and earthquakes. In : R. BAlian and M. Kléman eds. Defects in Solids, North Holland, Amsterdam, Holland, 1981.
21. MADARIAGA, R., A string model of high frequency radiation by earthquake models. In : J. Boatwright, ed. proceedings of Workshop XVI, U.S.G.S., **1**, 32-49, 1982.
22. VIRIEUX, J. and R. MADARIAGA, Dynamic faulting studied by a finite difference method. *Bull. Seism. Soc. Am.*, **72**, 345-369, 1982.
23. VILOTTE, J.P., M. DAIGNIERES and R. MADARIAGA, Numerical modeling of intraplate deformation : simple mechanical models of continental collision. *J. Geophys. Res.*, **B.87**, 10709-10728, 1982.
24. MALGRANGE, M. and R. MADARIAGA, Complex distribution of large thrust and normal fault earthquakes in the Chilean subduction zone. *Geophys. J. R. Astr. Soc.*, **73**, 489-506, 1983.
25. MADARIAGA, R., Earthquake Source Theory : A review. In : Earthquakes, Observation Theory and Interpretation. E. Boschi, ed. The Enrico Fermi Summer school of Physics (July, 1982). North Holland (1983).
26. MADARIAGA, R., High frequency radiation from dynamic earthquake fault models. *Ann. Geophys.*, **1**, 17-23, 1983.
27. GROUPE DE TRAVAIL "Mécanisme au foyer de l'A.T.P. Sismogenèse". Mécanisme au foyer en France Métropolitaine et aux Antilles. *Ann. Geophys.*, **1**, 299-306, 1983.
28. BERNARD, P. and R. MADARIAGA, High frequency seismic radiation from a buried circular fault. *Geophys. J.R. Astr. Soc.*, **78**, 1-18, 1984.
29. BERNARD, P. and R. MADARIAGA, A new asymptotic method for the modeling of near field accelerograms. *Bull. Seism. Soc. Am.*, **74**, 539-557, 1984.
30. SEGURET, M., P. LABAUME and R. MADARIAGA, Eocene seismicity in the Pyrenees from megaturbidites in the South Pyrenean Basin (North Spain), *Marine Geol.* **55**, 117-131, 1984.
31. VILOTTE, J.P., M. DAIGNIERES, R. MADARIAGA and O.C. ZIENKIEWICZ, The role of a heterogeneous inclusion during continental collision. *Phys. Earth Planet. Int.*, **36**, 236-259, 1984.
32. MADARIAGA, R., Gaussian beam synthetic seismogram in a vertically varying medium. *Geophys. J.R. Astr. Soc.*, **79**, 589-612, 1984.

33. MADARIAGA, R., The El Asnam (Algeria) Earthquake of October 10, 1980. In : On Continental Seismicity and Earthquake Prediction, G. Gu and X. Ma editors, Seismological Press, Beijing, China, 1984.
34. MADARIAGA, R., Dynamique des tremblements de Terre. In : Génie Parasismique, V. Davidovici, ed., Ministère de l'Urbanisme et du Logement, Paris, France, 1985.
35. MADARIAGA, R. and P. PAPADIMITRIOU, Gaussian beam modeling of upper mantle phases. *Ann. Geophys.*, **3**, 799-812, 1985.
36. MADARIAGA, R. and P. BERNARD, Ray theoretical strong motion synthesis. *J. Geophys. R. astr. Soc.*, **58**, 73-81, 1985.
37. GEORGE, Th. and R. MADARIAGA, Synthèse d'ondes élastiques par sommation de faisceaux Gaussiens. *Trait. du Signal*, **2**, 227-230, 1985.
38. VILOTTE, J.P., R. MADARIAGA, M. DAIGNIERES and O. ZIENKIEWICZ, Numerical study of continental collision : influence of buoyancy forces and an initial stiff inclusion. *Geophys. J.R. Astr. Soc.*, **84** 1279-310, 1986.
39. FARRA, V., P. BERNARD et R. MADARIAGA, Fast near source evalutation of strong ground motion. Proceedings of 5th Ewing Symposium on Source Mechanism, American Geophysical Union, Washington D.C., 1986.
40. BEZZEGHOUD, M., A. DESCHAMPS and R. MADARIAGA, Broad band modeling of the Corinth, Greece events of February and March 1981 : evidence for asperity triggering of a larger shock. *Ann. Geophys.*, **4**, 295-304, 1986.
41. KORRAT, I. and R. MADARIAGA, Rupture of the Valparaíso (Chile) Gap form 1971 to 1973. Proceedings of 5th Ewing Symposium, American Geophysical Union, Washington D.C., 1986.
42. MADARIAGA, R., Dinámica de la fuente sísmica, *Mecanismo de los terremotos y Técnica*, A. Udías, D. Muñoz y E. Buforn, eds., Editorial Universidad Complutense, Madrid, 1986.
43. DE NATALE, G., R. MADARIAGA, R. SCARPA and A. ZOLLO, Source parameters of Friuli earthquake (1976-1979) from strong motion data, M. O. Erdik and M. N. Toksöz (eds), Strong Motion Seismology, 85-97, 1987.
44. FARRA, V. and R. MADARIAGA, Application of Ray Theory to calculation of amplitudes in laterally heterogeneous media. *J. Geophys. Res.*, **92**, 2697-2712, 1987.
45. DE NATALE, G., R. MADARIAGA, R. SCARPA and A. ZOLLO, Source parameter analysis from strong motion records of the Friuli (Italy) earthquake sequence (1976-1977). *Bull. Seismol. Soc. Am.*, **77**, 1127-1146, 1987.
46. GEORGE, Th., J. VIRIEUX and R. MADARIAGA, Seismic wave synthesis by Gaussian beam summation : a comparison with finite differences. *Geophysics*, **52**, 1065-1073, 1987.
47. MADARIAGA, R., Seismology theoretical. Chapter in vol. 12 Encyclopaedia of Sciences and Technology, Academic Press, Orlando, Flo., U.S.A., 1987.

48. MADARIAGA, R., Seismic Source, Theory. Chapter in the Encyclopaedia of Geophysics, Van Nostrand Reinhold, Stroudsburg, PA, U.S.A., 1987.
49. VILOTTE, J.P., M. DAIGNIERES, J. CHERY and R. MADARIAGA, Some applications of large plastic deformations in geodynamics. Computational Plasticity, ed. D.R. Owen, E. Hinton and E. Onale, Pineridge Press, Swansea, U.K., 2, 1635-1648, 1987.
50. VIRIEUX, J., V. FARRA and R. MADARIAGA, Ray Tracing for Earthquake Location in laterally heterogeneous media. *J. geophys. Res.*, **93**, 6385-6599, 1988.
51. FARRA, V. AND R. MADARIAGA, Nonlinear Reflection Tomography. *Geophys. J.*, **95**, 135-147, 1988.
52. MADARIAGA, R., Seismic waveform modeling by ray theoretical methods. in: Digital Seismology and Modelling of the Lithosphere, G. Nolet and G. Panza, eds., Plenum, London, 1989.
53. BEZZEGHOUD, M., A. DESCHAMPS and R. MADARIAGA, Broad band P-wave signals and spectra from digital stations, in: Digital Seismology and Modelling of the Lithosphere, G. Nolet and G. Panza, eds., Plenum, London, 1989.
54. FARRA, V., J. VIRIEUX and R. MADARIAGA, Ray perturbation theory for interfaces, *Geophys. J. Int.*, **99**, 377-390, 1989.
55. MADARIAGA, R. and G. PERRIER, Les Tremblements de Terre, 260 pp. ,Les Editions du CNRS, 1991.
56. BUFORN, E., A. UDIAS, J. MEZCUA and R. MADARIAGA, A deep earthquake under South Spain, 8 March 1990. *Bull. Seismol. Soc. Am.*, **81**, 1403-1407, 1991.
57. BUFORN, E., A. UDIAS and R. MADARIAGA, Intermediate and deep earthquakes in Spain, *Pageoph*, **136**, 375-393, 1991.
58. MADARIAGA, R. and A. UDIAS, Introduction to Source Mechanism and Seismotectonics, A. Udiás and E. Buforn, eds. *Pageoph*, **136**, 371-374, 1992.
59. JIN, S., MADARIAGA, R., VIRIEUX, J. and LAMBARE, G., Asymptotic Inversion of Seismic Profiles, *Geophys. J. Int.*, **136**, 575-588, 1992.
60. LAMBARE, G., J. VIRIEUX, R. MADARIAGA, S. JIN, Iterative asymptotic inversion of seismic profiles in the acoustic approximation. *Geophysics*, **57**, 1138-1154, 1992.
61. KOLLER, M. G., M. BONNET and R. MADARIAGA, Modeling of dynamical crack propagation using time-domain boundary integral equations, *Wave Motion*, **16**, 339-366, 1992.
62. MADARIAGA, R. and A. COCHARD, Heterogeneous faulting and friction, in Proceedings of The International Symposium on Earthquake Disaster Prevention, R. Meli, ed., Mexico City, 1992.
63. JIN, S. and R. MADARIAGA, Background velocity inversion by a Genetic Algorithm, *Geophys. Res. Letters*, **20**, 93-96, 1993.

64. MADARIAGA, R., La prévision des tremblements de terre. in *Universalia 1992, Encyclopaedia Universalis*, Paris, 1993.
65. JIN, S. and R. MADARIAGA, Non-linear velocity inversion by a two-step Monte-Carlo method, *Geophysics*, **59**, 577-590, 1994.
66. TUMARKIN, A. G., R. ARCHULETA and R. MADARIAGA, Basic scaling rules for composite earthquake models, *Bull. Seismol. Soc. Am.*, **54**, 1279-1883, 1994.
67. CAMPOS J., R. MADARIAGA, J. NABELEK, B. BUCHKIN and A. DESCHAMPS, Faulting process of the 20 June 1990 earthquake from broad band records, *Geophys. J. Intern.*, **118**, 31-46, 1994.
68. A. COCHARD and R. MADARIAGA, Dynamic faulting under rate-dependent friction, *PAGEOPH*, **142**, 419-445, 1994.
69. V. FARRA, R. MADARIAGA and J. VIRIEUX, Comments on a paper by Snieder and Sambridge on ray perturbation theory, *J. Geophys. Res.*, **99**, 21963-21970, 1994.
70. R. MADARIAGA, Dinámica de la fuente sísmica. *Física de la Tierra*, E. Buforn, R. Madariaga and A. Udías, eds., Editorial Complutense, Madrid, 1994.
71. E. FUKUYAMA, and R. MADARIAGA, Integral equation method for a plane crack with arbitrary shape in 3D elastic media, *Bull. Seismol. Soc. Am.*, **85**, 614-628, 1995.
72. R. MADARIAGA and A. COCHARD, Seismic Source Dynamics, Heterogeneity and Friction, *Annali di Geofisica*, **37**, 1349-1375, 1995.
73. L. QUINTANAR, R. MADARIAGA and A. DESCHAMPS, The sequence of November 1987 and March 1988 Gulf of Alaska Earthquakes : a new insight, *Geophys. Res. Lett.*, **22**, 1029-1032, 1995.
74. R. MADARIAGA and A. COCHARD, Dynamic friction and the origin of the complexity of earthquake sources. *Proceedings Nat. Acad. Sci. (U.S.A.)*, **93**, 3819-3824, 1995.
75. A. COCHARD and R. MADARIAGA, Complexity of seismicity due to highly rate dependent friction, *J. Geophys. Res.*, **101**, 25321-25336, 1996.
76. J. CAMPOS, R. MADARIAGA and C. H. SCHOLTZ, Faulting process of the August 8, 1993 Guam earthquake: a thrust event in an otherwise weakly coupled subduction zone, *J. Geophys. Res.*, **101**, 17581-17596, 1996.
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78. J-L. GUIZIOU, J-L. MALLET and R. MADARIAGA, 3-D seismic reflection tomography on top of the GOCAD depth modeler, *Geophysics*, **61**, 1499-1510, 1996.
79. R. MADARIAGA, Anticiper les séismes, dans *Les sciences de la prévision*, chap. 12 de l'ouvrage collectif édité par R. Scheps, Editions du Seuil, Paris, 1996.
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82. GOMEZ, J.M. B. BUKCHIN, R. MADARIAGA, E. A. ROGOZHIN & B. BOGACHKIN, Rupture process of the 19 August 1992 Susamyr, Kyrgyzstan, earthquake, *J. Seismol.*, **1**, 219-235, 1997.
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84. MADARIAGA, R., OLSEN, K.B. and R.J. ARCHULETA, Modeling dynamic rupture in a 3D earthquake fault model, *Bull. Seismol. Soc. Am.*, **88**, 1182-1197, 1998.
85. MADARIAGA, R., Sismicidad de Chile, *Física de la Tierra (Madrid)*, **10**, 221-258, 1998.
86. LEBORGNE, S. R. MADARIAGA & V. FARRA, Body waveform modeling of East Mediterranean earthquakes at intermediate distances ( $17^\circ$ - $30^\circ$ ) with a Gaussian beam summation method. *J. Geophys. Res.*, **104**, 28813-28828, 1999.
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88. TADA, T., E. FUKUYAMA & R. MADARIAGA, Non-hypersingular boundary integral equations for 3-D non-planar crack dynamics, *Computational Mechanics*, **25**, 613-626, 2000.
89. MADARIAGA, R. & K.B. OLSEN, Criticality of Rupture Dynamics in 3-D, *Pageoph*, **157**, 1981-2001, 2000.
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91. FUKUYAMA, E. & R. MADARIAGA, Dynamic propagation and interaction of a rupture front on a planar fault. *Pageoph*, **157**, 1959-1979, 2000.
92. TADA, T. & R. MADARIAGA, Dynamic modelling of the flat 2-D crack by a semi-analytic BIEM scheme, *Int. J. Num. Methods Engin.*, **50**, 227-251, 2001.
93. SANCHEZ-SESMA, F.J., R. MADARIAGA & K. IRIKURA, An approximate elastic Green's function for a constant-gradient heterogenous medium, *Geophys. J. Int.*, **146**, 237-248, 2001.
94. LEMOINE, A., J. CAMPOS & R. MADARIAGA, Evidence for earthquake interaction in the Illapel Gap of Central Chile, *Geophys. Res. Lett.*, **28**, 2743-2746, 2001.
95. CAMPILLO, M. & R. MADARIAGA, Processus de rupture dynamique d'un grand séisme et loi de friction sur les failles, *C.R. Acad. Sci. Paris*, **300**, 531-544, 2001.
96. PEYRAT, S., R. MADARIAGA & K.B. OLSEN, Dynamic modelling of the 1992 Landers earthquake, *J. Geophys. Res.*, **106**, 25467-25482, 2001.
97. AOCHI, H., R. MADARIAGA and E. FUKUYAMA, Effect of Normal Stress during Rupture Propagation along Non-planar faults, *J. Geophys. Res.*, **107**, 10.1029/2001JB000500, 2002.

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99. LEMOINE, A., R. MADARIAGA & J. CAMPOS, Slab-pull and Slab-push Earthquakes in the Mexican, Chilean and Peruvian Subduction Zones, *Phys. Earth Planet. Int.*, **132**, 157-175, 2002.
100. MADARIAGA, R. & K.B. OLSEN, Earthquake Dynamics, Chapter 7 of *International Handbook of Earthquake and Engineering Seismology* edited by W.H.K. Lee, H. Kanamori and P.C. Jennings, 2002.
101. RUEGG, J.C., J. CAMPOS, R. MADARIAGA, E. KAUSEL, J.B. DE CHABALIER, R. ARMIJO, D. DIMITROV, I. GEORGIEV, S. BARRIENTOS, Interseismic strain accumulation in south central Chile from GPS measurements 1996-1999, *Geophys. Res. Lett.*, **29**, 10.1029/2001GL013438, 2002.
102. PEYRAT, S., MADARIAGA, R., OLSEN, K.B. La dynamique des tremblements de terre vue à travers le séisme de Landers du 28 Juin 1992, *C. R. Acad. Sci. Paris, Ser. Mécanique*, **330**, 235-248, 2002.
103. BOMMER, J.J., M.B. BENITO, M. CIUDAD-REAL, A. LEMOINE, M.A. LOPEZ- MENJIBAR, R. MADARIAGA, J. MANKELOW, P. MENDEZ, W. MURPHY, M. NIETO-LOBO, C. RODRIGUEZ-PINEDA, H. ROSA, The El Salvador earthquakes of January and February 2001: context, characteristics and implications for seismic risk, *Soil Dynamics Earthquake eng.*, **22**, 289-418, 2002.
104. MADARIAGA, R., A finite reverse fault in a half space. *Pageoph*, **160**, 555-577, 2003.
105. AOCHI, H., E. FUKUYAMA and R. MADARIAGA, Constraints of Fault Constitutive Parameters Inferred from Non-planar Fault Modeling, *Geochemistry, Geophysics, Geosystems (G-cubed)*, **4**, 10.1029/2001GC000207, 2003.
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