

Scientific Publications of Dr. Michele Griffa

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Papers in International Peer-Reviewed Journals

IN PRESS

1. T.J. Ulrich, K. Van Den Abeele, P-Y. Le Bas, M. Griffa, B.E. Anderson, R.A. Guyer, *Three Component Time Reversal: Focusing Vector Components Using A Scalar Source*, J. Appl. Phys., in press (2009).
2. M. Scalerandi, M. Griffa, P.A. Johnson, *Robustness of computational time reversal imaging in media with elastic constant uncertainties*, J. Appl. Phys., in press (2009).

PUBLISHED

1. B.E. Anderson, R.A. Guyer, T.J. Ulrich, P-Y. Le Bas, C. Larmat, M. Griffa, P.A. Johnson, *Energy current imaging method for time reversal in elastic media*, Appl. Phys. Lett. **95** (2), 021907-1/3 (2009). DOI: 10.1063/1.3180811. [Abstract](#).
2. B.E. Anderson, T.J. Ulrich, M. Griffa, P-Y. Le Bas, M. Scalerandi, A.S. Gliozzi, P.A. Johnson, *Experimentally identifying masked sources applying time reversal with the selective source reduction method*, J. Appl. Phys. **105** (8), 083506-1/11 (2009). DOI: 10.1063/1.3079517. [Abstract](#).
3. T.J. Ulrich, M. Griffa, B.E. Anderson, *Symmetry-based imaging condition in time-reversed acoustics*, J. Appl. Phys. **104**, 064912-1/8 (2008). DOI:10.1063/1.2980323. [Abstract](#).
4. M. Scalerandi, A.S. Gliozzi, B.E. Anderson, M. Griffa, P.A. Johnson, T.J. Ulrich, *Selective Source Reduction to identify masked sources using Time Reversal Acoustics*, J. Phys. D Appl. Phys. **41**, 155504-1/12 (2008).
5. M. Griffa, B.E. Anderson, R.A. Guyer, T.J. Ulrich, P.A. Johnson, *Investigation of the robustness of time reversal acoustics in solid media through the reconstruction of temporally symmetric sources*, J. Phys. D Appl. Phys. **41**, 085415-1/14 (2008).
6. B.E. Anderson, M. Griffa, C. Larmat, T.J. Ulrich, P.A. Johnson, *Time Reversal, Acoustics Today* **4** (1), 4-16 (2008).
7. P.P. Delsanto, C.A. Condat, N. Pugno, A.S. Gliozzi, M. Griffa, *A multilevel approach to cancer growth modeling*, J. Theor. Biol. **250** (1), 16-24 (2008).
8. A.S. Gliozzi, M. Griffa, M. Scalerandi, *Efficiency of Time Reversed Acoustics in Nonlinear Defect Imaging in Solids*, J. Acous. Soc. America **120** (5), 2506-2517 (2006).
9. M. Scalerandi, M. Nobili, M. Griffa, A. Gliozzi, F. Bosia, *A Preisach-Mayergoyz approach to fatigue induced irreversibility*, Phys. Rev. B **73**, 092103 (2006);
10. M. Bentahar, H. El. Aqra, R. El Guerjouma, M. Griffa, M. Scalerandi, *Hysteretic*

elasticity in damaged concrete: quantitative analysis of slow and fast dynamics, Phys. Rev. B **73**, 014116 (2006);

11. P.P. Delsanto, M. Griffa, C.A. Condat, S. Delsanto, L. Morra, *Bridging the gap between mesoscopic and macroscopic models: the case of multicellular tumor spheroids*, Phys. Rev. Lett. **94**, 148105 (2005);
12. M. Griffa, M. Scalerandi, C. Camagna, *Influence of the Medium Rigidity on the Growth of Multicellular Tumor Spheroids*, European Physical Journal: Applied Physics **30**, 65-71 (2005);
13. M. Griffa, M. Scalerandi, *Environmental physical modulation of intrinsic tendency to growth of Multicellular Tumor Spheroids: in silico experiments*, Phys. Scripta **T118**, 183 - 186 (2005);
14. M. Griffa, M. Scalerandi, *Physical modeling and simulations of tumor growth and angiogenesis: predictions and new hypotheses*, Physica Scripta, Phys. Scripta **T118**, 179 -182 (2005);
15. P.P. Delsanto, L. Morra, S. Delsanto, M. Griffa, C. Guiot, *Towards a Model of Local and Collective Mechanisms in Multicellular Tumor Spheroids Growth*, Phys. Scripta **T118**, 157 - 160 (2005);
16. M. Scalerandi, M. Griffa, *Modelling the coupling between apoptosis and host rigidity in the growth of Multicellular Tumour Spheroids*, WSEAS Transactions on Biology and Biomedicines **1**, 237 (2004);
17. M. Griffa, S. Delsanto, L. Morra, P.P. Delsanto, *Mesosopic Modeling of Multicellular Tumor Spheroids: Validation through a Quantitative Comparison with Experimental Data*, WSEAS Transactions on Biology and Biomedicines **1**, 249 (2004).

Papers in Proceedings of International Conferences

1. B.E. Anderson, T.J. Ulrich, M. Griffa, P.A. Johnson, M. Scalerandi, A. Gliozzi, *Selective Source Reduction to Identify Masked Smaller Sources Using Time Reversal Acoustics*, Proceedings of QNDE (Quantitative Non-Destructive Evaluation) 2007 Conference, July 22nd - 27th 2007, Golden, Colorado, USA.
2. T.J. Ulrich, B.E. Anderson, M. Griffa, *Improving Focal Determination of Time Reversed Acoustic Signals*, Proceedings of QNDE (Quantitative Non-Destructive Evaluation) 2007 Conference, July 22nd - 27th 2007, Golden, Colorado, USA.
3. B.E. Anderson, P.A. Johnson, T.J. Ulrich, M. Griffa, *Complex source imaging using time-reversal (TR): experimental studies of spatial and temporal resolution limits*, Proceedings of the 153rd Meeting of the Acoustical Society of America, June 4th - 8th 2007, Salt Lake City, Utah, USA.
4. M. Griffa, P.A. Johnson, R.A. Guyer, T.J. Ulrich, B.E. Anderson, *Time Reversal Acoustics (TRA) reconstruction of symmetric-in-time sources in solid elastic specimens: investigation of the effects of finite-size transducers on TRA in solids*, Proc. XII International Workshop on Nonlinear Elasticity in Materials (IWNEM), Ajaccio (Corsica), June 3rd - 9th 2007.

5. M. Nobili, F. Bosia, A. Gliozzi, M. Griffa, M. Scalerandi, *Acoustic Emission and Nonlinear Elasticity in Fatigue Induced Damage*, Proceedings of the 12th International Congress on Sound and Vibration - ICSV12 - Lisbon, July 11th - 14th 2005.
6. F. Bosia, P.P. Delsanto, A. Gliozzi, M. Griffa, M. Nobili, M. Scalerandi, *Acoustic Emission and Nonlinear Hysteretic Elasticity: a combined model*, Proceedings of the 12th International Congress on Sound and Vibration - ICSV12 - Lisbon, July 11th - 14th 2005.
7. M. Bentahar, R. El Guerjouma, M. Griffa, M. Scalerandi, *Méthodes émergents en acoustique non-linéaire pour le contrôle non destructif et le contrôle de santé des matériaux*, Proceedings of the 17th French Congress of Mechanics, August 29th - September 2nd, Troyes (France).
8. S. Delsanto, L. Morra, M. Griffa, C. Demartini, A Genetic Algorithms' Approach to the Exploration of Parameter Space in Mesoscopic Multicellular Tumor Spheroids Models, Conference Proceedings, IEEE EMBC 2004 (26th Annual International Conference of the IEEE Engineering in Medicine and Biology Society), 1-5 Sept. 2004, Vol. 1, 675-678;

Chapters in Books

1. M. Scalerandi, M. Nobili, M. Griffa, A.S. Gliozzi and F. Bosia, *Numerical Analysis of the Anomalous Elastic Behavior of Hysteretic Media: Quasi-Static, Dynamic and Relaxation Experiments*, Chapter 17, pag. 267-284, in *The universality of nonclassical nonlinearity/ with applications to NDE and Ultrasonics*, edited by P.P. Delsanto, Springer (New York), 2006.
2. S. Delsanto, M. Griffa, L. Morra, *Inverse Problems and Genetic Algorithms. Applications in NDE/NDT & Ultrasonics*, Chapter 22, pag. 369-386, in *The universality of nonclassical nonlinearity/ with applications to NDE and Ultrasonics*, edited by P.P. Delsanto, Springer (New York), 2006.