

Curriculum vitae et studiorum of Massimiliano d'Aquino

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General information: Dr. Massimiliano d'Aquino, PhD
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Short profile

Massimiliano d'Aquino was born in Naples (Italy) in 1977.

He received the Laurea and Ph.D. degree in Electrical Engineering from the University of Naples “Federico II” in 2001 and 2004, respectively.

In 2003, he has joined, as visiting Ph.D student, the Magnetic Materials and Micromagnetics group at the Vienna University of Technology.

Currently, he is ‘researcher’ (assistant professor) in the scientific sector ING-IND/31 – Elettrotecnica (circuit theory and electromagnetism) with the [Department of Technology](#) and the [Engineering Faculty](#) of the [University of Naples “Parthenope”](#). Since 2007 he is member of the PhD Program in Information Engineering of the same university.

In 2010 he has won the public selection in Politecnico di Torino for the national habilitation to become Associate Professor of Electrical Engineering.

His [research interests](#) are in micromagnetics and magnetization dynamics, mathematical models of hysteresis and electrodynamics of materials.

He is reviewer of several international journals in the area of electrical engineering and applied physics.

He is co-author of about 80 scientific [publications](#), of which 54 on international (peer-reviewed) journals in the area of applied physics and electrical engineering, and one international book chapter.

In 2007, he has been the Italian scientific coordinator of the research Project ‘Programmable Lab on Chip – PloCH’, cooperative project between University of Napoli “Parthenope” and University of Sheffield UK, funded by CRUI and British Council in the context of the British-Italian Partnership Programme Grant, area Nanotechnology.

He has participated as researcher in several national and international research projects.

He has given several invited talks and many presentations in international scientific conferences on magnetism and magnetic materials.

He has been member of the Program Committee as well as of the editorial board for the [55th MMM \(Magnetism and Magnetic Materials\)](#) conference held on Nov 14-18 2010, Atlanta (USA).

He has been editor in the area of magnetic modelling for the international conference [IEEE Intermag \(International Magnetics Conference\) 2009](#).

He is and has been, respectively, member of the local organizing committees of the international [HMM2011](#) and HMM-07 (Hysteresis and Micromagnetic Modeling) Symposium and chairman of oral sessions in the area of micromagnetics in international conferences.

Currently, he teaches Elettrotecnica (circuit theory and electromagnetism) in the 3 years degree courses of the Engineering Faculty of the University of Naples “Parthenope”.

Education

2001-2004

Ph.D. Degree in Electrical Engineering

Department of Electrical Engineering, University of Napoli Federico II.

Dissertation: "[*Nonlinear Magnetization Dynamics in Thin-films and Nanoparticles*](#)". Supervisors: Prof. Claudio Serpico, Prof. Giovanni Miano.

1995-2001

Laurea (5 years degree) cum Laude (with honors) in Electrical Engineering, from University of Napoli Federico II. Thesis "Computation of forces in magnetic fluids", winner in 2003 of the award "Premio di Laurea Scipione Bobbio – Seconda Edizione" for the best thesis in electrodynamics of materials.

2003

Visiting PhD student at the [Magnetic materials and Micromagnetics](#) Group at the Vienna University of Technology. Supervisor: Prof. Thomas Schrefl. Research activity on the modelling of magnetization switching in magnetic thin-films and nanoparticles.

Academic Positions

2010

Winner of the public selection in Politecnico di Torino for the national habilitation to become Associate Professor of Electrical Engineering.

2006-

Ricercatore (Assistant Professor) of Electrical Engineering.

Department for Technologies, University of Napoli "Parthenope".

Teaching: Circuit Theory

Research Projects: micromagnetics and magnetization dynamics, hysteresis Modeling, forces in polarizable media, electrodynamics of materials.

2005-2006

Research assistant

Department of Electrical Engineering, University of Napoli "Federico II".

Research Projects: micromagnetics and magnetization dynamics, mathematical models of hysteresis.

International Journals Reviewer Duties

IEEE Transactions on Magnetics, Journal of Magnetism and Magnetic Materials, International Journal for Numerical Methods in Engineering, Journal of Applied Physics, Journal of Computational Physics, Physical Review B, Physica B: Condensed Matter.

Visiting Positions

2003 - Visiting PhD student at the [Magnetic materials and Micromagnetics Group](#) at the Vienna University of Technology.

Supervisor: [Prof. Thomas Schrefl](#).

Research activity: modelling of magnetization switching in magnetic thin-films and nanoparticles.

Invited Talks and Seminars

2010 – Invited talk at the International Workshop on Spin Dynamics in Nanomagnets: "Dissipative versus Non-Dissipative Processes", Duisburg (Germany), Oct 18-20, entitled "Stability of magnetization oscillations driven by spin-polarized currents".

2009 - Invited seminar at Istituto Nazionale di Ricerca Metrologica (Torino, IT) entitled "Determination of magnetization normal oscillation modes in micromagnetic systems".

2008 - Invited seminar "Modeling ferromagnetic materials on micro- and nano-scale" for the PhD program in Telecommunication Engineering, University of Napoli "Parthenope", July 23 2008.

2007 – 23rd Annual Meeting of Researchers in Electrical Engineering, Firenze (Italy), June 28 - 30
2007, talk “Micromagnetics and Magnetization Dynamics in Thin-Films and Nanoparticles”
2006 - Invited talk at the Istituto Nazionale di Ricerca Metrologica (Torino, IT) entitled
“Micromagnetics: physical and computational aspects”.
2005 - HMM 2005 (Hysteresis and Micromagnetic Modeling), Budapest (Hungary) May 30th – Jun
1st 2005, invited talk “Identification of a new class of vector hysteresis models”.
2002 - Seminars on the computation of forces in polarizable media, University of Napoli “Federico
II”, University of Sannio (Benevento, IT)

Participation in Conference Committees and Session Chairing

2011 - Member of the local organizing committee of the HMM 2011 Symposium (Hysteresis and
Micromagnetic Modeling), Levico 9-11 May 2011.
2011 – Program Co-Chair of the 15th IEEE Workshop on Signal Propagation on Interconnects (SPI
2011), Naples 8-11 May 2011.
2010 - Program Committee Member, conference 55th MMM (Magnetism and Magnetic Materials),
Atlanta (GA, USA), Nov 14-18, 2010.
2010 – Editor in the area of micromagnetics for Journal of Applied Physics, for the conference 55th
MMM, Atlanta (GA, USA), Nov 14-18, 2010.
2010 - Local organizing committee member of the national conference "XXVI Riunione Annuale
dei Ricercatori di Elettrotecnica - ET2010", Napoli Jun 9-11, 2010.
2009 - Chairman of the session "Basic problems, magnetization processes, domain studies,
micromagnetics I", 19th SMM (Soft Magnetic Materials), Torino (Italy), Sept 7th-9th 2009.
2009 – Editor in the area of magnetic modelling, Intermag Conference 2009, Sacramento (CA,
USA), May 4-8, 2009
2008 - Chairman of the session “Micromagnetics II”, Intermag Conference 2008, Madrid (ES),
May 4-8, 2008
2007 - Member of the local organizing committee of the HMM-07 Symposium (Hysteresis and
Micromagnetic Modeling), Naples 4-6 June 2007.
2007 - Chairman of the session “Micromagnetics III”, HMM-07 symposium, Naples (IT), June
2007.

Research Grants and participation in research projects

2007-2008

Participation as Italian scientific coordinator of the Research Project “Programmable Lab on Chip –
PloCH”, British-Italian Partnership Programme Grant funded by CRUI and British Council.
Collaboration between University of Napoli “Parthenope” and University of Sheffield UK.

2007-2008

Participation as researcher in the project “Ultra-fast dynamics and relaxation in micromagnetic
systems”, PRIN 2006 (Progetti di Ricerca di Interesse Nazionale) Grant (Funded by Ministry of
University), national coordinator prof. Claudio Serpico (Univ. Napoli Federico II).

2005-2006

Participation as PostDoc in the Research Project: “Nonlinear dynamics in magnetic systems”,
Regione Campania BURC grant for Young Scientists, coordinator prof. C. Serpico (Univ. Napoli
Federico II).

2003-2005

Participation as PhD research associate in the Research Project: “Nonlinear Magnetization
Dynamics in magnetic nanoparticles, thin films, and multilayers”, FIRB (Fondo Investimenti
Ricerca di Base) Grant (Funded by the Italian Ministry of University), coordinator Dr. G. Bertotti
(INRiM, Turin).

Brief description of Research Activities

Micromagnetics and Nonlinear Magnetization Dynamics : this research activity concerns the analysis and development of analytical and numerical techniques to investigate dynamical magnetization phenomena of technological interest (magnetic storage, ferromagnetic resonance, etc.).

In particular:

- study of dynamics in uniformly-magnetized particles (magnetization switching process operated by external field, magnetization dynamics under microwave field, dynamics of magnetic multilayers driven by spin-transfer phenomena).
- Analytical and numerical study of spatially quasi-uniform magnetization dynamics in thin-films. Development of micromagnetic numerical codes to investigate the spatially non-uniform dynamics in (sub)micron scale.
- Solution of micromagnetic standard problems proposed by the National Institute of Standards and Technology (NIST) ([link to the solution of standard problem #4 obtained by using our midpoint micromagnetic numerical code](#)).
- Analysis of spin-waves instability in ultrathin-films subject to microwave external field.
- Study of resonances in micromagnetic systems.
- Analytical and numerical study of thermal fluctuations in magnetization dynamics.

Mathematical Models of Hysteresis : this activity concerns development and analysis of the properties of mathematical models of vector magnetic hysteresis by generalization of the classical scalar Preisach model.

In particular:

- vector hysteresis models based on generalized Play hysterons.
- Identification of vector hysteresis models and comparison with experimental data.

Computation of electromagnetic forces in polarized media : this activity concerns the evaluation of deformations and forces in fluids with dielectric and magnetic properties, subject to stationary external fields.

In particular:

- formulation and numerical solution of the coupled electro-mechanical (or magneto-mechanical) problem.
- Solution of the free-boundary numerical model by means of fixed-point iterative techniques and fluid interface reconstruction methods.

Scientific collaborations

Dept. Of Electrical Engineering, University of Naples “Federico II”, prof. G. Miano, [prof. C. Serpico](#)

Materials Group, Istituto Nazionale di Ricerca Metrologica (INRIM), Torino (Italy), [Dr. G. Bertotti](#).
ECE Dept. And UMIACS, University of Maryland, College Park, Maryland (USA), [prof. I.D. Mayergoyz](#).

Micromagnetics group University of Sheffield (UK), [Prof. T. Schrefl](#).

[Magnetic Materials and Micromagnetics group](#), Vienna University of Technology, Dr. D. Suess, prof. J. Fidler.

Dept. of Electrical Engineering, Politecnico di Torino (Italy), prof. C.S. Ragusa, prof. M. Repetto.

Dept. of Engineering, University of Sannio (Benevento), prof. C. Visone, Dr. D. Davino.

Engineering Faculty, Cairo University (Egypt), prof. A.A. Adly.

Contributed presentations and participation in Scientific Conferences

2010 - 55th MMM (Magnetism and Magnetic Materials), Atlanta (Georgia) Nov 14th - 18th 2010, with the oral presentations "Stability of magnetization oscillations driven by spin-polarized

currents", "Analysis of current-driven nonlinear and chaotic magnetization dynamics in microwave assisted switching of spin-valve elements", "Micromagnetic study of phase-locking in spin-transfer nano-oscillators driven by AC currents and fields".

2009 - 19th SMM (Soft Magnetic Materials), Torino (Italy), Sept 7th-9th 2009, with the poster "Spectral micromagnetic approach in the analysis of magnetization reversal processes".

2009 - HMM 2009 (Hysteresis and Micromagnetic Modeling), Gaithersburg (MD, USA), May 11th-14th 2009, with the oral presentations "Hysteresis and bistability in the injection locking of spin-transfer nano-oscillators ", poster "Analytical description of quasi-random magnetization relaxation to equilibrium".

2009 - IEEE Intermag (International Magnetics) Conference 2009, Sacramento (CA, USA), May 4th-8th 2009, with the oral presentations "Spectral micromagnetic approach in the analysis of magnetization reversal processes", "Nonlinear resonant and chaotic magnetization dynamics in microwave assisted magnetizationswitching", "Magnetic-field-driven ferromagnetic resonance in spin-transfer devices".

2008 - 53rd MMM (Magnetism and Magnetic Materials), Austin (Texas) Nov 10th - 14th 2008, oral presentations "Spectral Micromagnetic Analysis of Switching Processes" and "Finite-element computations of resonant modes for small magnetic particles".

2008 - JEMS (Joint European Magnetic Symposia) 2008, Dublin (Ireland), Sept. 14th-19th 2008, oral presentations "Nonlinear resonant and chaotic magnetization dynamics in microwave assisted magnetization switching" and "Analytical description of quasi-random magnetization relaxation to equilibrium".

2008 - INTERMAG 2008 (IEEE International Magnetics Conference), Madrid (Spain), May 4-8 2008 with the poster "Computation of resonant modes and frequencies for saturated ferromagnetic nanoparticles".

2007 - HMM 2007 (Hysteresis and Micromagnetic Modeling), Naples (Italy) June 4th—6th 2007 with the oral presentation "Normal modes for saturated ferromagnetic particles" and the posters "Computation of power spectral density in spin-torque driven magnetization dynamics", "Generalized Landau-Lifshitz-Gilbert equation for uniformly magnetized bodies", "A Rigorous Treatment of Nucleation Modes Spectrum in Micromagnetics".

2006 - JEMS 2006 (Joint European Magnetics Symposia), San Sebastián (Spain) Jun 26th — 30th 2006 with the posters "Foldover, Quasi-Periodicity, Parametric Instabilities in Ultra-Thin Films subject to RF Fields" and "Effect of thermal fluctuations in spin-torque driven magnetization dynamics".

2006 – 22nd Annual Meeting of Reseachers in Electrical Engineering, Turin (Italy), June 15 - 17 2006.

2005 - 50th MMM (Magnetism and Magnetic Materials), San José (California) Oct 30th — Nov 3rd 2005 with the oral presentation "Mid-point numerical technique for stochastic Landau-Lifshitz-Gilbert dynamics".

2005 – 21st Annual Meeting of Reseachers in Electrical Engineering, Roma (Italy), June 16 - 19 2005.

2004 - 49th MMM (Magnetism and Magnetic Materials), Jacksonville (Florida), Nov 7-11 2004 with the oral presentation "Numerical integration of Landau-Lifshitz-Gilbert equation based on the mid-point rule".

2004 - JEMS '04 (Joint European Magnetic Symposia), Dresden (Germany) Sept 5-10 2004 with the oral presentations "Micromagnetic Analysis of fast precessional switching" and "Analytical approach to current-driven self-oscillations in Landau-Lifshitz-Gilbert dynamics".

2004 – 20th Annual Meeting of Reseachers in Electrical Engineering, Salerno (Italy), June 16 - 19 2004

2004 - PIERS 2004 (Progress in Electromagnetics Research Symposium), Pisa (Italy) March 28-31 2004 with the oral presentation "Analysis of Fast Precessional Switching in magnetic thin-films".

2004 - 9th Joint MMM-Intermag (Magnetism and Magnetic Materials), Anaheim (California), Jan 5-9 2004 with the oral presentation "Numerical and analytical study of fast precessional switching".

2003 - Workshop Optimization and Coupled Problems in Electromagnetism, Naples (Italy), Sept 22-23 2003.

2003 - ICM 2003 (International Conference on Magnetism), Rome (Italy), July 27-August 1st

Teaching Activity

2010, Member of the final examination committee for the XXII PhD Program in Electrical Engineering of Politecnico di Torino.

2007-2010, Elettrotecnica (Circuit Theory)

one semester course at the second year of the 3 years Management Engineering bachelor degree program of the University of Napoli Parthenope, one semester course at the second year of the 3 years Telecommunication Engineering bachelor degree program of the University of Napoli Parthenope.

2002-2007, Elettrotecnica I (Circuit Theory)

Official tutor for the one semester course at the second year of the three years Engineering bachelor degree program of Consorzio Nettuno (e-learning)

2005-2006, Numerical Models for Electromagnetic Fields

Official tutor for the one semester course at the second year of the two years Electronic and Telecommunications Engineering master degree programs. University of Napoli "Federico II".

2005-2006, Electromagnetic Materials Modeling

8 hours short course on magnetic materials modeling as part of the one semester course at the second year of the two years Electrical and Materials Engineering master degree programs. University of Napoli "Federico II"

2005, Elettrotecnica (Circuit Theory)

25 hours course at the second year of the 3 years Power Engineering degree program. University of Sannio (Benevento, Italy)

2004, Elettrotecnica (Circuit Theory)

25 hours course at the third year of the 5 years Computer Engineering degree program. University of Sannio (Benevento, Italy)

Publications

International Journal Papers

1. M. d'Aquino, C. Serpico, R. Bonin, G. Bertotti, I.D. Mayergoyz, "Micromagnetic study of phase-locking in spin-transfer nano-oscillators driven by currents and AC fields", to appear in Journal of Applied Physics.
2. M. d'Aquino, G. Di Fratta, C. Serpico, G. Bertotti, R. Bonin, I.D. Mayergoyz, "Current-driven chaotic magnetization dynamics in microwave assisted switching of spin-valve elements", to appear in Journal of Applied Physics.
3. R. Bonin, M. d'Aquino, G. Bertotti, C. Serpico, I.D. Mayergoyz, "Stability of magnetization oscillations driven by spin-polarized currents", to appear in Journal of Applied Physics.
4. M. d'Aquino, C. Serpico, R. Bonin, G. Bertotti, I. D. Mayergoyz, "Micromagnetic analysis of injection locking in spin-transfer nano-oscillators", Physical Review B 82, 064415 (2010).
5. G. Bertotti, R. Bonin, M. d'Aquino, C. Serpico, I.D. Mayergoyz, "Spin-Wave Instabilities in Spin-Transfer-Driven Magnetization Dynamics", IEEE Magnetics Letters 1, 3000104 (2010).
6. R. Bonin, G. Bertotti, P. Bortolotti, C. Serpico, M. d'Aquino, I.D. Mayergoyz, "Analytical study of synchronization in spin-transfer-driven magnetization dynamics", Journal of Physics: Conference Series 200, 042005 (2010).
7. D. P. Ansalone, C. Ragusa, M. d'Aquino, C. Serpico, G. Bertotti, "Numerical solutions of the Fokker-Planck equation for magnetic nanoparticles", IEEE Transactions on Magnetics 45, 5216 – 5219 (2009).
8. C. Serpico, M. d'Aquino, G. Bertotti, I.D. Mayergoyz, "Analytical description of quasi-random magnetization relaxation to equilibrium", IEEE Transactions on Magnetics 45, 5224 – 5227 (2009).
9. M. d'Aquino, C. Serpico, G. Miano, C. Forestiere, "A novel formulation for the numerical computation of magnetization modes in complex micromagnetic systems", Journal of Computational Physics 228, 6130-6149 (2009).
10. C. Forestiere, G. Miano, C. Serpico, M. d'Aquino, L. Dal Negro, "Dipolar mode localization and spectral gaps in quasi-periodic arrays of ferromagnetic nanoparticles", Physical Review B 79, 214419 (2009).
11. C. Serpico, R. Bonin, G. Bertotti, M. d'Aquino, I.D. Mayergoyz, "Theory of Injection Locking for Large Magnetization Motion in Spin-Transfer Nano-Oscillators", IEEE Transactions on Magnetics 45, 3441-3444 (2009).
12. M. d'Aquino, C. Serpico, G. Bertotti, I.D. Mayergoyz, R. Bonin, "Nonlinear resonant and chaotic dynamics in microwave assisted magnetization switching", IEEE Transactions on Magnetics 45, 3950-3953 (2009).
13. R. Bonin, G. Bertotti, C. Serpico, M. d'Aquino, I. D. Mayergoyz, "Magnetic-field-driven ferromagnetic resonance in spin-transfer devices", IEEE Transactions on Magnetics 45, 3445-3448 (2009).
14. C. Ragusa, M. d'Aquino, C. Serpico, B. Xie, M. Repetto, G. Bertotti, D. Ansalone, "Full micromagnetic numerical simulations of thermal fluctuations", IEEE Transactions on Magnetics 45, 3919-3922 (2009).
15. M. d'Aquino, C. Serpico, G. Bertotti, T. Schrefl, I.D. Mayergoyz, "Spectral Micromagnetic Analysis of Switching Processes", Journal of Applied Physics 105, 07D540 (2009).

16. C. Forestiere, M. d'Aquino, G. Miano, C. Serpico, "Finite-element computations of resonant modes for small magnetic particles", *Journal of Applied Physics* 105, 07D312 (2009).
17. G. Bertotti, R. Bonin, C. Serpico, M. d'Aquino, I.D. Mayergoyz, "Spin-Wave Analysis of Uniaxial Nanopillar Devices", *Journal of Applied Physics* 105, 07D104 (2009).
18. G. Bertotti, I.D. Mayergoyz, C. Serpico, M. d'Aquino, R. Bonin, "Nonlinear-Dynamical-System Approach to Microwave-Assisted Magnetization Dynamics", *Journal of Applied Physics* 105, 07B712 (2009).
19. R. Bonin, G. Bertotti, C. Serpico, I.D. Mayergoyz, M. d'Aquino, "Analytical treatment of synchronization of spin-torque oscillators by microwave magnetic fields", *European Physical Journal B* 68, 221-231 (2009).
20. M. d'Aquino, C. Serpico, G. Miano, G. Bertotti, "Computation of resonant modes and frequencies for saturated ferromagnetic nanoparticles", *IEEE Transactions on Magnetics* 44, 3141-3144 (2008).
21. C. Serpico, G. Bertotti, M. d'Aquino, C. Ragusa, P. Ansalone, I.D. Mayergoyz, "Path integral approach to stochastic magnetization dynamics in uniaxial ferromagnetic nanoparticles", *IEEE Transactions on Magnetics* 44, 3157-3160 (2008).
22. C.S. Ragusa, C. Serpico, M. Repetto, M. d'Aquino, B. Xie, G. Bertotti, "Thermal fluctuations in nanoparticles: numerical testing of Langevin approach", *Journal of Applied Physics* 103, 07B119 (2008).
23. I.D. Mayergoyz, C. Serpico, G. Bertotti, M. d'Aquino, "Analysis of Power Spectral Density of Random Landau-Lifshitz-Slonczewski Dynamics By Using Stochastic Processes On Graphs", *Journal of Applied Physics* 103, 07B120 (2008).
24. G. Di Fratta, C. Serpico, M. d'Aquino, "A Rigorous Treatment of Nucleation Modes Spectrum in Micromagnetics", *Physica B: Condensed Matter* 403, 346-349 (2008).
25. M. d'Aquino, C. Serpico, G. Miano, G. Bertotti, I.D. Mayergoyz, "Magnetization normal oscillation modes in saturated ferromagnetic nanoparticles", *Physica B: Condensed Matter* 403, 242-244 (2008).
26. C. Serpico, I.D. Mayergoyz, G. Bertotti, M. d'Aquino, R. Bonin, "Generalized Landau-Lifshitz-Gilbert equation for uniformly magnetized bodies", *Physica B: Condensed Matter* 403, 282-285 (2008).
27. C. Serpico, G. Bertotti, R. Bonin, I.D. Mayergoyz, M. d'Aquino, "Power spectrum of current-induced magnetization dynamics in uniaxial nanomagnet", *Journal of Applied Physics* 101, 09A507 (2007).
28. R. Bonin, G. Bertotti, C. Serpico, I.D. Mayergoyz, M. d'Aquino, "Model of phase locking in spin-transfer-driven magnetization dynamics", *Journal of Applied Physics* 101, 09A506 (2007).
29. R. Bonin, C. Serpico, G. Bertotti, I.D. Mayergoyz, M. d'Aquino, "Analytical study of magnetization dynamics driven by spin-polarized currents", *European Physical Journal B* 59, 435-445 (2007).
30. G. Bertotti, C. Serpico, I.D. Mayergoyz, R. Bonin, M. d'Aquino, "Current-Induced Magnetization Dynamics in Nanomagnets", *Journal of Magnetism and Magnetic Materials* vol. 316 (2007), 285-290.
31. M. d'Aquino, G. Bertotti, C. Serpico, I. D. Mayergoyz, R. Bonin, G. Guida, "Foldover, Quasi-Periodicity, Spin-Wave Instabilities in Ultra-Thin Films subject to RF Fields", *Journal of Magnetism and Magnetic Materials* vol. 316 (2007), e523-e525.
32. R. Bonin, G. Bertotti, C. Serpico, I.D. Mayergoyz, M. d'Aquino, "Effect of thermal Fluctuations in spin-torque driven magnetization dynamics", *Journal of Magnetism and Magnetic Materials* vol. 316 (2007), e919-e922.
33. C. Serpico, R. Bonin, G. Bertotti, I. D. Mayergoyz, M. d'Aquino, "Thermal stability in uniaxial nanomagnets driven by spin-polarized currents", *IEEE Transactions on Magnetics* vol. 42 n. 10 (2006), 2679-2681.

34. M. d'Aquino, G. Bertotti, C. Serpico, I. D. Mayergoyz, R. Bonin, "Foldover, quasiperiodicity, and Spin-wave instabilities in ultra-thin magnetic films", *IEEE Transactions on Magnetics* vol. 42 n. 10 (2006), 3195-3197.
35. M. d'Aquino, C. Serpico, G. Coppola, I.D.Mayergoyz, G. Bertotti, "Mid-point numerical technique for stochastic Landau-Lifshitz-Gilbert dynamics", *Journal of Applied Physics* 99, 08B905 (2006).
36. C. Serpico, G. Bertotti, I.D.Mayergoyz, M. d'Aquino, R. Bonin, "Thermal stability in spin-torque driven magnetization dynamics", *Journal of Applied Physics* 99, 08G505 (2006).
37. C. Serpico, G. Bertotti, M. d'Aquino, R. Bonin, I.D. Mayergoyz, "Transient dynamics leading to self-oscillations in nanomagnets driven by spin-polarized currents", *IEEE Transactions on Magnetics* vol. 41 n. 10 (2005), 3100-3102.
38. G. Bertotti, C. Serpico, I. D. Mayergoyz, R. Bonin, A. Magni, M. d'Aquino, "Magnetization Self-Oscillations Induced by Spin-Polarized Currents", *IEEE Transactions on Magnetics* vol. 41 n. 10 (2005), 2574-2576.
39. G. Bertotti, C. Serpico, I.D. Mayergoyz, A. Magni, M. d'Aquino, R. Bonin, "Magnetization Switching and Microwave Oscillations in Nanomagnets Driven by Spin-Polarized Currents", *Physical Review Letters* 94 127206 (2005).
40. M. d'Aquino, C. Serpico, G. Miano, "Geometrical Integration of Landau-Lifshitz-Gilbert equation based on the mid-point rule", *Journal of Computational Physics* 209 (2005), 730-753.
41. Serpico C., d'Aquino M., Bertotti, G., Mayergoyz I.D., "Analytical approach to current-driven self-oscillations in Landau-Lifshitz-Gilbert dynamics", *Journal of Magnetism and Magnetic Materials* 290-291 (2005), 502-505.
42. d'Aquino M., Serpico C., Miano G., Mayergoyz I.D., Bertotti G., "Numerical integration of Landau-Lifshitz-Gilbert equation based on the mid-point rule", *Journal of Applied Physics* 97, 10E319 (2005).
43. d'Aquino M., Scholz W., Schrefl T., Serpico C. and J. Fidler, "Micromagnetic Analysis of fast precessional switching", *Journal of Magnetism and Magnetic Materials* 290-291 (2005), 510-513.
44. d'Aquino M., Suess D., Schrefl T., Serpico C. and J. Fidler, "Analysis of Fast Switching in Tilted Media", *Journal of Magnetism and Magnetic Materials* 290-291 (2005), 506-509.
45. Serpico C., d'Aquino M., Bertotti, G., Mayergoyz I.D., "Analysis of quasiperiodic Landau-Lifshitz-Gilbert dynamics", *Journal of Magnetism and Magnetic Materials* 272-276 (2004), 734-735.
46. Serpico C., d'Aquino M., Bertotti, G., Mayergoyz I.D., "Quasiperiodic magnetization dynamics in uniformly magnetized particles and films", *Journal of Applied Physics* 95 (2004), 7052-7054.
47. d'Aquino M., Scholz W., Schrefl T., Serpico C. and J. Fidler, "Numerical and analytical study of precessional switching", *Journal of Applied Physics* 95 (2004), 7055-7057.
48. d'Aquino M., Serpico C., "A new Preisach-type vector model of hysteresis", *Journal of Magnetism and Magnetic Materials*. 272-276 (2004), 731
49. Serpico C., d'Aquino M., Visone C., Davino D., "A new Preisach-type isotropic vector model of hysteresis", *Physica B: Condensed Matter* 343 (2004), 117.
50. W. Zamboni, G. Coppola, M. d'Aquino, G. Miano, C. Serpico, "A new approach to computation of forces in magnetic fluids", *Journal of Magnetism and Magnetic Materials* 272-276 (2004), 657-658.
51. Bertotti G., Mayergoyz I.D., Serpico C., d'Aquino M., "Geometrical analysis of precessional switching and Relaxation in Uniformly Magnetized Bodies", *IEEE Transactions on Magnetics*, vol. 39 n. 5, pp. 2501-2503, September 2003.

52. d'Aquino M., Serpico C., Visone C., Adly A.A., "A New Vector Model of magnetic hysteresis based on a Novel Class of Play Hysterons", IEEE Transactions on Magnetism, vol. 39 n. 5, pp. 2537-2539, September 2003.
53. d'Aquino M., Miano G., Serpico C., Zamboni W., "Deformations of magnetic fluids subject to stationary magnetic fields", IEEE Transactions on Magnetism, vol. 39 n. 5, pp. 2657-2659, September 2003.
54. d'Aquino M., Miano G., Serpico C., Zamboni W., "Deformations of polarizable fluids subject to stationary electromagnetic fields", IEEE Transactions on Magnetism, vol. 39 n. 3, pp. 1440-1443, May 2003.

International Books' Chapters

1. C. Serpico, G. Bertotti, I.D. Mayergoyz, M. d'Aquino, "Nonlinear Magnetization Dynamics in Nanomagnets", Handbook of Magnetism and Advanced Magnetic Materials, Vol. 2: Micromagnetism, Part 1: Fundamentals of Micromagnetism and Discrete Computational Models, John Wiley & Sons (2007).

International Conference proceedings

1. D.P. Ansalone, C. Ragusa, M. d'Aquino, C. Serpico, G. Bertotti, "Numerical solution of Fokker Planck equation for magnetic nanoparticles using spectral collocation and algebraic formulations", 13th Biennial IEEE CEFC2008 (Conference on Electromagnetic Field Computation), Athens, Greece, May 11-15, 2008.
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