

## LISTA DE LUCRĂRI – dr. ing. Gabriel Preda

### **A – teza de doctorat**

A1 G. Preda, Campul electromagnetic al corpurilor in miscare / Electromagnetic field in moving bodies, in Rom., conducator stiintific/scientific advisor: C-tin Mocanu, 1999, UPB, Bucharest, Romania

### **B – Carti si capitole in carti**

B1 Florea I. Hantila (main author), Gabriel Preda, M. Vasiliu, Teodor Leuca, Ermando Della Giacomo, Calculul numeric al curentilor turbionari/Eddy currents numerical calculation, in Rom., Ed. ICPE, 205p, ISBN: 973-8067-31-6, 2001.

B2 Gabriel Preda (main author), Radu Cristian Popa, Radu Marian, Alexandru Popiel, Marian Lacraru si Iolanda Costache, Imagistica medicala aplicata în endoscopie virtuala/Medical Imaging applied in virtual endoscopy, in Rom., 240 pages, ISBN: 978-973-0-05632-7, 2008.

B3 Irina Munteanu (coordination), Bogdan Cranganu-Cretu, Gabriel Preda, Alexandru Cazacu, Emil Cazacu, Stefan Vasiliu, Teoria si Modelarea campului electromagnetic, Probleme speciale/Electromagnetic field modeling, Special Problems, in Rom., Ed. Printech 2000, ISBN 973-9475-99-X, 2000.

### **C – Lucrari indexate ISI/BDI**

C1 Preda, G., Rebican, M., Hantila, F. I., Integral Formulation and Genetic Algorithms for Defects Geometry Reconstruction Using Pulse Eddy Currents. Magnetics, IEEE Transactions on, Vol 46, Issue 8, ISSN 0018-9464, pp. 3433-3436, 2010.

C2 Preda, G., Cranganu-Cretu, B, Hantila, F.I., Mihalache, O., Zhenmao Chen, Miya, K, Nonlinear FEM-BEM formulation and model-free inversion procedure for reconstruction of cracks using pulse eddy currents, IEEE Trans on Magn, Vol 38, Issue 2, ISSN 0018-9464, pp. 1241-1244, 2002.

C3 Cranganu-Cretu, B, Hantila, F.I., Preda, G., Zhenmao Chen, Miya, K, Direct computation of static difference magnetic field in nonlinear magnetic materials and application to shape reconstruction of damaged areas in aging materials, IEEE Trans on Magn, Vol 38, Issue 2, ISSN 0018-9464, pages 1073-1076, 2002.

C4 Zhenmao Chen, Preda, G., Mihalache, O., Miya, K, Reconstruction of crack shapes from the MFLT signals by using a rapid forward solver and an

- optimization approach, IEEE Trans on Magn, Vol 38, Issue 2, ISSN 0018-9464, pp. 1025-1028, 2002.
- C5 Hantila, F.I., Preda, G., Vasiliu, M., Polarization method for static fields, IEEE Trans on Magn, Vol 36, Issue 4, ISSN 0018-9464, pp. 672-675, 2000.
- C6 Albanese, R., Hantila, F.I., Preda, G., Rubinacci, G., A nonlinear eddy-current integral formulation for moving bodies, IEEE Trans on Magn, Vol 34, Issue 45, ISSN 0018-9464, pp. 2529-2534, 1998.
- C7 Ionita, V., Preda, G., Evaluation of magnetic material losses produced by hysteresis and eddy-currents, IEEE Trans on Magn, Vol 34, Issue 45, ISSN 0018-9464, pp. 2633-2635, 1998.
- C8 Preda, G., Popa, R.C., Demachi, K., Miya, K., Neural network for inverse mapping in eddy current testing, Neural Networks, 1999, IJCNN'99, International Joint Conference on, Vol. 6, July 1999, ISSN 1098-7576, IEEE Xplore, pp. 4033-4036, 1999.
- C9 Preda G., Rebican M., Hantila F. I., Pulse eddy currents using an integral-FEM formulation for cracks detection, International Journal of Applied Electromagnetics and Mechanics, 33 (3-4), IOS Press, ISSN 1383-5416, pp. 1225-1229, 2010.
- C10 F. Hantila, B. Cranganu-Cretu, G. Preda and Kenzo Miya, Force evaluation formula for integral methods of magnetic field computation, International Journal of Applied Electromagnetics and Mechanics 15, IOS Press, ISSN 1383-5416, pp. 3-8, 2001/2002.
- C11 Zhenmao Chen, Gabriel Preda, Ovidiu Mihalache and Kenzo Miya, A fast forward analysis scheme for nonlinear static electromagnetic problems, International Journal of Applied Electromagnetics and Mechanics 14, IOS Press, ISSN 1383-5416, pp. 513-520, 2001/2002.
- C12 F. Hantila, M. Vasiliu, G. Preda, E. Demeter, Sensitivities for a synchronous generator, International Journal of Applied Electromagnetics and Mechanics 15, IOS Press, ISSN 1383-5416, pp. 189-194, 2001/2002.
- C13 Bogdan Cranganu-Cretu, Gabriel Preda, Ovidiu Mihalache, Zhenmao Chen and Kenzo Miya, B-H curve reconstruction from MFL signals based on genetic algorithms, International Journal of Applied Electromagnetics and Mechanics 15, IOS Press, ISSN 1383-5416, pp. 283-289, 2001/2002.
- C14 G. Preda, F.I. Hantila, Integral-FEM Eddy-Current Solver for Non-Destructive Testing, in Rev. Roum Sci. Techn. Electrotechn. et Energ., 53, 3, ISSN 0035-4066, pp. 279-284, 2008.

- C15 Hantila F., Vasiliu M., Preda G., Cranganu-Cretu, B., Miya, K., Non-destructive magnetic testing, in Rev. Roum Sci. Techn. Electrotechn. et Energ., 45, 2, pp. 267-272, ISSN 0035-4066, 2000.
- C16 Preda G., Hantila F. I., Integral equation for 3D eddy-current in moving bodies, in Rev. Roum Sci. Techn. Electrotechn. et Energ., 43, 3, ISSN 0035-4066, pp. 301-306, 1998.
- C17 Golovanov, C. Coulomb, J.-L. Marechal, Y. Meunier, G. Preda, G., Magnetostatics using edge elements: numerical techniques to improve the convergence of ICCG solver, in Rev. Roum Sci. Techn. Electrotechn. et Energ., 43,3, ISSN 0035-4066, pp. 343-348, 1998.
- C18 R. Albanese, F.I. Hantila, G. Preda, G. Rubinacci, Integral equation for 3D eddy-current in moving bodies, in Rev. Roum Sci. Techn. Electrotechn. et Energ., 41,4, ISSN 0035-4066, pp.421-429, 1996.
- C19 Rebican, M., Popa, R. C., Preda, G., et. al., Numerical Characterization Model of Vector Hysteresis for Magnetic Materials, Przegląd Elektrotechniczny, Vol. 85, Issue 4, ISSN 0033-2097, pp. 219-222, 2009.

D – Lucrari publicate in reviste si volume de conferinte cu referenti (neindexate)

**(Papers in proceedings of international conferences with peer reviewing and edited with ISBN)**

- D1. Ovidiu Mihalache, Gabriel Preda, Tetsuya Uchimoto, Kazuyuki Demachi and Kenzo Miya, Crack reconstruction in Ferromagnetic Materials using Nonlinear FEM-BEM Scheme and Neural Networks, Electromagnetic Nondestructive Evaluation (V), J. Pavo et. Al. (Eds.), ISBN 1 58603 155 4, IOS Press, pp.67-74, 2001.
- D2. Shigeru Takaya, Gabriel Preda, Kazuyuki Demachi, Tetsuya Uchimoto and Kenzo Miya, Reconstruction of Magnetization from Magnetic Flux Leakage for Evaluation of Material Degradation, Electromagnetic Nondestructive Evaluation (V), J. Pavo et. Al. (Eds.) ISBN 1 58603 155 4, IOS Press, pp.291-298, 2001.
- D3. B. Cranganu-Cretu, O. Mihalache, G. Preda, F. Hantila, Z. Chen and K. Miya, 2D and 3D Simulations of MFL Signals for Non-linear Magnetic Materials, Proc. of the Third Asian Symposium on Applied Electromagnetics, May 28-30, 2001, Hangzhou, China, in Applied Electromagnetics III, JSAEM Studies in Applied Electromagnetics and Mechanics, 10, ISBN 4-931455-09-3, pp.37-40, 2001.
- D4. O. Mihalache, G. Preda, B. Cranganu-Cretu, Z. Chen and K. Miya, Reconstructions of Inner and Outer Defects in Ferromagnetic Materials from

- Experimental Remanent Magnetic Measurements by using Neural Networks, Proc. of the Third Asian Symposium on Applied Electromagnetics, May 28-30, 2001, Hangzhou, China, in Applied Electromagnetics III, JSAEM Studies in Applied Electromagnetics and Mechanics, 10, ISBN 4-931455-09-3, pp.293-296, 2001.
- D5. Gabriel Preda, Bogdan Cranganu-Cretu, Ovidiu Mihalache, Florea I. Hantila, Zhenmao Chen and Kenzo Miya, Fast Procedure for Crack Reconstruction in Nonlinear Materials using FEM-BEM with Polarization Method and Neural Networks, Proc. of the Third Asian Symposium on Applied Electromagnetics, May 28-30, 2001, Hangzhou, China, in Applied Electromagnetics III, JSAEM Studies in Applied Electromagnetics and Mechanics, 10, ISBN 4-931455-09-3, pp.301-304, 2001.
- D6. Gabriel Preda, Tetsuya Uchimoto, Nobukazu Takeda, Zhenmao Chen and Kenzo Miya, Investigation of the HIP joints of the First Wall using ECT, Proc. of The 10th International Symposium on Applied Electromagnetics and Mechanics, May 13-16, 2001, Tokyo, Japan, in Applied Electromagnetics and Mechanics, I. Takagi and M. Uesaka (Eds.), JSAEM Studies in Applied Electromagnetics and Mechanics, 9, ISBN 4-931455-08-5, pp.173-174, 2001.
- D7. Gabriel Preda, Zhenmao Chen, Bogdan Cranganu-Cretu, Florea Ioan Hantila and Kenzo Miya, 3D Nonlinear Static Magnetic Field Simulation using an Integral Method, Proc. Of The 10th International Symposium on Applied Electromagnetics and Mechanics, May 13-16, 2001, Tokyo, Japan, in Applied Electromagnetics and Mechanics, I. Takagi and M. Uesaka (Eds.), JSAEM Studies in Applied Electromagnetics and Mechanics, 9, ISBN 4-931455-08-5, pp.251-252, 2001.
- D8. Zhenmao Chen, Gabriel Preda, Ovidiu Mihalache and Kenzo Miya, A Fast Scheme for Forward Analysis of Nonlinear Electromagnetic Problems, Proc. Of The 10th International Symposium on Applied Electromagnetics and Mechanics, May 13-16, 2001, Tokyo, Japan, in Applied Electromagnetics and Mechanics, I. Takagi and M. Uesaka (Eds.), JSAEM Studies in Applied Electromagnetics and Mechanics, 9, ISBN 4-931455-08-5, pp.497-498, 2001. (accept. for publication in International Journal of Applied Electromagnetics and Mechanics 14, 2001-2002).
- D9. F. Hantila, M. Vasiliu, G. Preda, E. Demeter, Sensitivities for a Synchronous Generator, Proc. Of The 10th International Symposium on Applied Electromagnetics and Mechanics, May 13-16, 2001, Tokyo, Japan, in Applied Electromagnetics and Mechanics, I. Takagi and M. Uesaka (Eds.), JSAEM Studies in Applied Electromagnetics and Mechanics, 9, ISBN 4-931455-08-5, pp. 593-594, 2001. (accept. for publication in International Journal of Applied Electromagnetics and Mechanics 15, 2001-2002).

- D10. Bogdan Cranganu-Cretu, Gabriel Preda, Ovidiu Mihalache, Zhenmao Chen and Kenzo Miya, B-H curve reconstruction from MFL signals based on Genetic Algorithms, Proc. Of The 10th International Symposium on Applied Electromagnetics and Mechanics, May 13-16, 2001, Tokyo, Japan, in Applied Electromagnetics and Mechanics, I. Takagi and M. Uesaka (Eds.), JSAEM Studies in Applied Electromagnetics and Mechanics, 9, ISBN 4-931455-08-5, pp. 643-644, 2001. (accept. for publication in International Journal of Applied Electromagnetics and Mechanics 15, 2001-2002).
- D11. G. Preda, F.I. Hantila and E. Demeter, Eddy Currents and Force Computation in Moving Bodies, Proceedings of the Second Japan Romania Joint Seminar on Applied Electromagnetics and Mechanical Systems 16-18 November, 1998, Kiryu, Japan, Applied Electromagnetics and Mechanical Systems, JSAEM Studies in Applied Electromagnetics and Mechanics, Vol. 8, ISBN 4-931455-07-7, pp. 197-202, 1998.

**(Papers in proceedings of international conferences with peer reviewing)**

- D12. G. Preda, M. Rebican, F.I. Hantila, Pulse Eddy Currents using an Integral-FEM Formulation for Cracks Detection, 14th International Symposium on Applied Electromagnetics and Mechanics - ISEM2009, September 20-24, Xi'an, China, 2009. (accept. for publication in International Journal of Applied Electromagnetics and Mechanics 33, (3-4), 2010).
- D13. G. Preda, F.I. Hantila, Integral-FEM Simulation and Independent Component Analysis for Multiple Defect Separation from Pulse Eddy Currents Signals, Proceedings of the 6th Japanese-Mediterranean Workshop on Applied Electromagnetic Engineering for Magnetic, Superconducting and Nano Materials - JAPMED'6, July 27-29, Bucharest, Romania, pp. 107-108, 2009.
- D14. G. Preda, R.C. Popa, R.C. Marian, Centerline Extraction in Virtual Endoscopy Based on Severe Domain Mesh Decimation, Proceedings of the 6th Japanese-Mediterranean Workshop on Applied Electromagnetic Engineering for Magnetic, Superconducting and Nano Materials - JAPMED'6, July 27-29, Bucharest, Romania, pp. 207-208, 2009.
- D15. G. Preda, F.I. Hantila, M. Rebican, Eddy Current Solver for Nondestructive Testing using an Integral-FEM Approach and Zero-Thickness Flaw Model, 13th Biennial IEEE Conference on Electromagnetic Field Computation, CEFC 2008, May 11 - 15, 2008, Athens, Greece, pp 98, 2008.
- D16. M. Rebican, R.C. Popa, G. Preda, V. Ionita, L. Petrescu, E.A. Patroi, Numerical Model of Vector Hysteresis for Magnetic Materials, 13th Biennial IEEE Conference on Electromagnetic Field Computation, CEFC 2008, May 11 - 15, 2008, Athens, Greece, pp 275, 2008.

- D17. M. Rebican, R.C. Popa, G. Preda, V. Ionita, Numerical Characterization Model of Vector Hysteresis for Magnetic Materials. XX Symposium Electromagnetic Phenomena in Nonlinear Circuits, EPNC 2008, July 2-4, 2008, Lille, France, pp. 91-92, 2008.
- D18. R.C. Marian, D. Putineanu, G. Preda, R. Popa, A. Popiel, Advanced Analysis in Medical Imaging – Role in Diagnosis and Surgical Preoperative Planning for Complex Articular and Pelvic Ring Fractures in Trauma Emergencies, 9th European Congress of Trauma and Emergency Surgery – 1st ESTES Congress, May 24-27, 2008, Budapest, Hungary, Volume 34, Supplement 1, May 2008, ISSN 1863-9933, pp. 133, 2008.
- D19. Florea Ioan Hantila, Gabriel Preda and Bogdan Cranganu-Cretu, Integral Formulation for Eddy-Current and Forces Computation in Moving Bodies, in Proc. of 8th International IGTE Symposium on Numerical Field Calculation in Electrical Engineering, Sept. 21-24 1998, Graz, Austria, pp. 378-380, 1998.
- D20. Shigeru Takaya, Gabriel Preda, Kazuyuki Demachi, Tetsuya Uchimoto and Kenzo Miya, Inverse analysis of magnetization from magnetic flux density for evaluation of fatigue degradation, Proc. Of The First Japanese-Australian Joint Seminary, Adelaide, Australia, 16-17 March 2000, p. 5-2, 2000.
- D21. Shigeru Takaya, Gabriel Preda, Kazuyuki Demachi, Tetsuya Uchimoto and Kenzo Miya, Inverse analysis of magnetization distribution for diagnosis of non-ferromagnetic steel, Proc. of the 9th MAGDA Conference of Electromagnetic Phenomena and Dynamics, 20-21 March 2000, Brisbane, Australia, pp.120-123, 2000.
- D22. Ovidiu Mihalache, Gabriel Preda, Noritaka Yusa and Kenzo Miya, Experimental measurements and numerical simulation of ID and OD signals in plate ferromagnetic materials using magnetic flux leakage, Proc. of the 4th Japan-Central Europe Joint Workshop on Energy and Information in Non-linear Systems, Nov. 10-12, 2000, Brno, Czech Republic, pp. 106-109, 2000.
- D23. Gabriel Preda, Ovidiu Mihalache, Bogdan-Cranganu-Cretu, Zhenmao Chen and Kenzo Miya, FEM-BEM Coupling and Neural Network for Reconstruction of Crack Shape from Simulated Pulse Eddy Current Signals, Proc. of the 4th Japan-Central Europe Joint Workshop on Energy and Information in Non-linear Systems, Nov. 10-12, 2000, Brno, Czech Republic, pp. 110-113, 2000.
- D24. R. Albanese, F.I.Hantila, G. Preda, G. Rubinacci, A Nonlinear Eddy-Current Integral Formulation for Moving Bodies, (invited paper) Proc. of COMPUMAG' 97, Rio de Janeiro, Brazil, 2-6 Nov. 1997, pp. 213-214, 1997 (accept. for publication in IEEE Trans on Magn., Sept. 1998).

- D25. Hantila, F.I., Preda, G., Vasiliu, M., Polarization method for static fields, Proc. of COMPUMAG 99, Sapporo, Japan, Oct. 24-28, 1999, pp. (accept. for publication in IEEE Trans on Magn., July 2000).
- D26. Preda, G., Takaya, S., Demachi, K., Miya, K., Reconstruction of Magnetic Moments Distribution from 2D Scan Data using Neural Networks, Electromagnetics Symposium Proceedings, Vol. 11, pp. 618-621, 1999.

### **Papers in proceedings of national conferences**

- D27. G. Preda, R.C. Popa, M. Rebican, R. Marian, A. Popiel, I. Costache, Medical Imaging Solution for Mesh Generation in Bioengineering Applications, SNET2008, June 5-7 2008, Politehnica University of Bucharest, ISBN 978-606-521-045-5, pp. 450-454, 2008.
- D28. G. Preda, R.C. Popa, C. Ciobotaru, R. Marian, A. Popiel, Scanned-Forward-Looking Method for Automatic Centerline Extraction in Virtual Endoscopy, SNET2008, June 5-7 2008, Politehnica University of Bucharest, ISBN 978-606-521-045-5, pp. 438-443, 2008.
- D29. M. Rebican, R.C. Popa, G. Preda, V. Ionita, L. Petrescu, Numerical Characterization Method for Magnetic Materials with Vector Hysteresis. Simpozionul National de Electrotehnica Teoretica, SNET'08, Volumul Conferintei, 5-7 Iunie 2008, Bucuresti, ISBN 978-606-521-045-5, pp. 444-449, 2008.
- D30. R.C. Popa, M. Rebican, G. Preda, L. Petrescu, Numerical Characterization Method for Magnetic Materials with Hysteresis, Simpozionul National de Electrotehnica Teoretica, SNET'07, Conference Proceedings, 12-14 Oct. 2007, Bucuresti, Ed. Printech, ISBN 978-973-718-899-1, 2007.
- D31. G. Preda, R.C. Popa, M. Rebican, A. Popiel, R. Marian, M. Lacraru, Advanced Medical Imaging Visualisation Tool using ITK, SNET2007, Politehnica University of Bucharest, Printech, ISBN 978-973-718-899-1, pp. 179-184, 2007.
- D32. G. Preda, F.I. Hantila, Integral equation for non-linear 3D eddy-current in moving bodies, Simpozionul Jubiliar Electrotehnica '96, Bucuresti, 6-7 dec. 1996.

E – Brevete

N/A

F – Contracte

The relevant projects were not conducted on behalf of University Politehnica of Bucharest