

LISTA DE LUCRĂRI – Sl. Dr. Ing. Mihai Iulian Rebican

A – Teza de doctorat

Titlu: *Analiza câmpului electromagnetic la defectoscopia prin curenți turbionari*
Conducator: Prof. Dr. Ing. Florea Ioan Hantila, Universitatea Politehnica, Bucuresti
An: 2007

B – Carti si capitole in carti

Carti:

1. Gabriela Ciuprina, Daniel Ioan, Irina Munteanu, **Mihai Rebican**, Radu Popa. *Optimizarea numerica a dispozitivelor electromagnetice*. Editura Printech, Bucuresti, ISBN 973-652-465-5, 207 pagini, 2002.

C – Lucrari indexate ISI/BDI

Reviste:

1. **Mihai Rebican**, Daniel Ioan. *Numerical modelling of a cilium using an integral equation*. Revue Roumaine Des Sciences Techniques-Serie Electrotechnique Et Energetique, Vol. 56, Nr. 4, ISSN 0035-4066, pp. 359-366, 2011.
<http://www.revue.elth.pub.ro/upload/747734art02.pdf>

2. Gabriel Preda, **Mihai Rebican**, Florea Ioan Hantila. *Pulse Eddy Currents using an Integral-FEM formulation for Cracks Detection*. International Journal of Applied Electromagnetics and Mechanics, Vol. 33, Nr. 3-4, ISSN 1383-5416, pp. 1225-1229, 2010.

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3. Gabriel Preda, **Mihai Rebican**, Florea Ioan Hantila. *Integral formulation and genetic algorithms for defects geometry reconstruction using pulse eddy currents*. IEEE Transactions on Magnetics, Vol. 46, Nr. 8, ISSN 0018-9464, pp. 3433-3436, August 2010.

<http://ieeexplore.ieee.org/xpl/articleDetails.jsp?arnumber=5512875>

4. **Mihai Rebican**, Radu C. Popa, Gabriel Preda, Valentin Ionita. *Numerical characterization model of vector hysteresis for magnetic materials*. PRZEGLAD ELEKTROTECHNICZNY (Electrical Review), ISSN 0033-2097, R. 85 NR4/2009, pp. 219-222.

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5. Zhenmao Chen, **Mihai Rebican**, Noritaka Yusa, Kenzo Miya. *Fast Simulation of ECT Signal Due to a Conductive Crack of Arbitrary Width*. IEEE Transactions on Magnetics, Vol. 42, Nr. 4, ISSN 0018-9464, pp. 683-686, April 2006.

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6. **Mihai Rebican**, Zhenmao Chen, Noritaka Yusa, Ladislav Janousek, Kenzo Miya. *Shape Reconstruction of Multiple Cracks From ECT Signals by Means of a Stochastic*

Method. IEEE Transactions on Magnetics, Vol. 42, Nr. 4, ISSN 0018-9464, pp. 1079-1082, April 2006.

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7. Noritaka Yusa, Ladislav Janousek, **Mihai Rebian**, Zhenmao Chen, Kenzo Miya, Nobuki Dohi, Naoki Chigusa, Yoshihiro Matsumoto. *Caution when applying eddy current inversion to stress corrosion cracking*. Nuclear Engineering and Design, Vol. 236, ISSN 0029-5493, Elsevier B.V., pp. 211-221, 2006.

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8. Noritaka Yusa, Ladislav Janousek, **Mihai Rebian**, Zhenmao Chen, Kenzo Miya, Naoki Chigusa, Hajime Ito. *Detection of embedded fatigue cracks in Inconel weld overlay and the evaluation of the minimum thickness of the weld overlay using eddy current testing*. Nuclear Engineering and Design, Vol. 236, ISSN 0029-5493, Elsevier B.V., pp. 1852–1859, 2006.

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9. Noritaka Yusa, Ladislav Janousek, **Mihai Rebian**, Zhenmao Chen, Kenzo Miya. *Eddy current inversions of defects in rough welds using a simplified computational model*. Nondestructive Testing and Evaluation, Vol. 20, Nr. 3, ISSN 1058-9759, Taylor & Francis Ltd., pp. 191-199, September 2005.

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10. **Mihai Rebian**, Zhenmao Chen, Noritaka Yusa, Kenzo Miya, Tetsuya Uchimoto, Toshiyuki Takagi. *Investigation of Numerical Precision of 3-D RFECT Signal Simulations*. IEEE Transactions on Magnetics, Vol. 41, Nr. 5, ISSN 0018-9464, pp. 1968-1971, May 2005.

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11. Noritaka Yusa, **Mihai Rebian**, Zhenmao Chen, Kenzo Miya, Tetsuya Uchimoto, Toshiyuki Takagi. *Three-dimensional inversion of volumetric defects profiles from electromagnetic nondestructive testing signals by means of stochastic methods with the aid of parallel computation*. Inverse Problems in Science and Engineering, Vol. 13, Nr. 1, ISSN 1741-5977, Taylor & Francis Ltd., pp. 47-63, February 2005.

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<http://www.sciencedirect.com/science/article/pii/S002954930500049X>

13. Zhenmao Chen, **Mihai Rebian**, Kenzo Miya, Toshiyuki Takagi. *Three-dimensional simulation of remote field ECT using the Ar method and a new formula for signal calculation*. Research in Nondestructive Evaluation, Vol. 16, ISSN 0934-9847, Taylor & Francis Ltd., pp. 35-53, 2005.

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16. Noritaka Yusa, Eiji Machida, Ladislav Janousek, **Mihai Rebican**, Zhenmao Chen, Kenzo Miya. *Applicability of eddy current inversion techniques to the sizing of defects in Inconel welds of BWR internals*. Maintenance (in Japan), Vol. 3, Nr. 1, pp. 33-39, 2004.
17. Daniel Ioan, **Mihai Rebican**. *Numerical Model for Eddy-Current Testing of Ferromagnetic Steel Parts*. IEEE Transactions on Magnetics, Vol. 38, Nr. 2, ISSN 0018-9464, pp. 629-632, March 2002.
<http://ieeexplore.ieee.org/xpl/articleDetails.jsp?tp=&arnumber=996164>
18. Daniel Ioan, **Mihai Rebican**. *Extraction of B-H relation based on the inverse magnetostatic problem*. International Journal of Applied Electromagnetics and Mechanics, Vol. 13, ISSN 1383-5416, IOS Press, pp. 329-334, 2002.
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19. Daniel Ioan, **Mihai Rebican**, Antal Gasparics. *B-H characteristic extraction using devices with non-uniform field*. COMPEL, The International Journal for Computation and Mathematics in Electrical and Electronic Engineering, Vol. 18, Nr. 3, ISSN 0332-1649, pp. 469-481, 1999.
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Conferinte:

1. **Mihai Rebican**. *Dependence of simulated ECT signal on defect conductivity*. Advanced Topics in Electrical Engineering, ATEE 2011, Bucharest, Romania, May 12-14, 2011, pp. 13-18, ISSN 2068-7966.
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2. Semih Ozel, Daniel Ioan, **Mihai Rebican**. *A model for magnetic actuation of the artificial multicilia*. International Conference on Electrical and Electronics Engineering, ELECO 2009, Bursa, Turcia, Nov. 5-8, 2009, pp. II-169 - II-173. ISBN 978-1-4244-5106-7.
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3. Zhenmao Chen, Li Wang, Qiang Geng, **Mihai Rebican**, Kenzo Miya. *Sizing and classification of defects in SG tubes of a Nuclear Power Plant from Remote Field ECT signals by using Neural Networks*. World Automation Congress, WAC 2008, Hawaii, SUA, Sept. 28 2008-Oct. 2 2008, pp. 1-5, ISBN 978-1-889335-38-4.
<http://ieeexplore.ieee.org/xpl/articleDetails.jsp?tp=&arnumber=4699286>
4. **Mihai Rebican**, Noritaka Yusa, Zhenmao Chen, Kenzo Miya, Tetsuya Uchimoto, Toshiyuki Takagi. *Reconstruction of multiple cracks from ECT signals by means of a parallel GA*. Electromagnetic Nondestructive Evaluation (VII), Studies in Applied Electromagnetics and Mechanics, Vol. 26, G. Dobmann (Ed), ISSN 1383-7281, ISBN 1-58603-594-0, IOS Press, Amsterdam, pp. 70-77, 2006.
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5. Daniel Ioan, **Mihai Rebican**, Anton Duca. *Use of Evolutionary Agents to Solve ENDE Inverse Problems*. Electromagnetic Nondestructive Evaluation (V), Studies in Applied Electromagnetics and Mechanics, Vol. 21, J. Pavo, G. Vertesy, T. Takagi, S.S. Udpa (Eds), ISSN 1383-7281, ISBN 1 58603 155 4, IOS Press, Amsterdam, pp. 59-66, 2001.

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6. Daniel Ioan, Alessandro Formisano, Antal Gasparics, Irina Munteanu, **Mihai Rebican**. *High frequency models for the NDT magnetic field sensors*. Electromagnetic Nondestructive Evaluation (III), Studies in Applied Electromagnetics and Mechanics, Vol. 15, D. Lesselier, A. Razek (Eds), ISSN 1383-7281, ISBN 90 5199 444 3, IOS Press, Amsterdam, pp. 14-25, 1999.

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7. **Mihai Rebican**, Daniel Ioan. *Models for the fluxset sensor*. JSAEM Studies in Applied Electromagnetics and Mechanics, Vol. 8, Applied Electromagnetics and Mechanical Systems, K. Nagaya, D. Ioan (Eds.), ISSN 1343-2869, ISBN 4-931455-07-7, pp. 321-330, 1999.

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8. Daniel Ioan, **Mihai Rebican**, Mihai Iordache. *Approximate SPICE models of nonlinear magnetic circuits based on field solution*. Electromagnetic Nondestructive Evaluation (II), Studies in Applied Electromagnetics and Mechanics, Vol. 14, R. Albanese, G. Rubinacci, T. Takagi, S.S. Udpa (Eds), ISSN 1383-7281, ISBN 90 5199 375 7, IOS Press, Amsterdam, pp. 120-128, 1998.

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9. Daniel Ioan, **Mihai Rebican**, Gabriela Ciuprina, Paul Leonard. *3D FEM model of a FLUXSET sensor*. Electromagnetic Nondestructive Evaluation (II), Studies in Applied Electromagnetics and Mechanics, Vol. 14, R. Albanese, G. Rubinacci, T. Takagi, S.S. Udpa (Eds), ISSN 1383-7281, ISBN 90 5199 375 7, IOS Press, Amsterdam, pp. 152-159, 1998.

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10. Daniel Ioan, Ioan Florea Hantila, **Mihai Rebican**, Cristian Constantin. *FLUXSET sensor analysis based on nonlinear magnetic wire model of the core*. Electromagnetic Nondestructive Evaluation (II), Studies in Applied Electromagnetics and Mechanics, Vol. 14, R. Albanese, G. Rubinacci, T. Takagi, S.S. Udpa (Eds), ISSN 1383-7281, ISBN 90 5199 375 7, IOS Press, Amsterdam, pp. 160-169, 1998.

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

Conferinte:

1. **Mihai Rebican**. *Reconstruction of a conductive crack from ECT signals*. In The 15th International Symposium on Applied Electromagnetics and Mechanics, ISEM 2011, September 7 - 8, 2011, Napoli, Italia, pg. 515-516, 2011.
2. **Mihai Rebican**. *Dependence of simulated ECT signal on defect conductivity*. The 7th International Symposium on Advanced Topics in Electrical Engineering, ATEE 2011, May 12 - 14, 2011, Bucharest, Romania, pp. 15-18, 2011.

3. Rares Stanescu, Anton Duca, **Mihai Rebican**. *Neural network cracks classifier for NDET inverse problems*. In Simpozionul Național de Electrotehnică Teoretică, SNET'09, Volumul Conferinței, 27 Noiembrie 2009, București, ISSN 2067-4147, pp. 185-190, 2009.
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6. **Mihai Rebican**, Daniel Ioan. *Numerical modelling of a cilium using an integral equation method*. In The 6th Japanese-Mediterranean Workshop on APPLIED ELECTROMAGNETIC ENGINEERING FOR MAGNETIC, SUPERCONDUCTING AND NANO MATERIALS, JAPMED'6 Extended Abstracts Conference Proceedings, July 27 - 29, 2009, Bucharest, Romania, ISBN 978-606-521-346-3 (Cod CNCISIS 54), 2009.
7. **Mihai Rebican**, Daniel Ioan. *Integral equation method for magnetic modelling of cilia*. Scientific Computing in Electrical Engineering, SCEE 2008, September 28 - October 3, 2008, Helsinki, Finland, Book of abstracts, Janne Roos, Luis R. J. Costa editors, pp. 31, 2008.
8. **Mihai Rebican**, Radu C. Popa, Gabriel Preda, Iulian Iordache, Constantin Stanescu. *Numerical Analysis of the Microwave Propagation along a Coaxial Cable*. In The Proceedings of the 4th International Conference on Technical and Physical Problems of Power Engineering, TPE 2008, September 4 - 6, 2008, Pitesti, Romania, ISBN 978-973-690-798-2, pp. IV100-IV103, 2008.
9. **Mihai Rebican**, Radu C. Popa, Gabriel Preda, Valentin 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.
10. Valentin Ionita, **Mihai Rebican**. *Numerical Design of an Experimental Device for Vectorial Magnetic Measurements*. XX Symposium Electromagnetic Phenomena in Nonlinear Circuits, EPNC 2008, July 2-4, 2008, Lille, France, pp. 81-82, 2008.
11. **Mihai Rebican**, Radu C. Popa, Gabriel Preda, Valentin Ionita, Lucian Petrescu. *Numerical Characterization Method for Magnetic Materials with Vector Hysteresis*. In Simpozionul Național de Electrotehnică Teoretică, SNET'08, Volumul Conferinței, 5-7 Iunie 2008, București, ISBN 978-606-521-045-5, pp. 444-449, 2008.
12. Gabriel Preda, Radu C. Popa, **Mihai Rebican**, Radu Marian, Alexandru Popiel, Iolanda Costache. *Medical Imaging Solution for Mesh Generation in Bioengineering Applications*. In Simpozionul Național de Electrotehnică Teoretică, SNET'08, Volumul Conferinței, 5-7 Iunie 2008, București, ISBN 978-606-521-045-5, pp. 450-454, 2008.
13. **Mihai Rebican**, Radu C. Popa, Gabriel Preda, Valentin Ionita, Lucian Petrescu, Eros-Alexandru Patroi. *Numerical Model of Vector Hysteresis for Magnetic Materials*. In The 13th Biennial IEEE Conference on Electromagnetic Field Computation, CEFC 2008, May 11 - 15, 2008, Athens, Greece, pp 275, 2008.

14. Gabriel Preda, Florea Ioan Hantila, **Mihai Rebican**. *Eddy Current Solver for Nondestructive Testing Using an Integral-FEM Approach and Zero-Thickness Flaw Model*. In The 13th Biennial IEEE Conference on Electromagnetic Field Computation, CEFC 2008, May 11 - 15, 2008, Athens, Greece, pp. 98, 2008.
15. Radu C. Popa, **Mihai Rebican**, Gabriel Preda, Lucian Petrescu. *Numerical Characterization Method for Magnetic Materials with Hysteresis*. In Simpozionul Național de Electrotehnică Teoretică, SNET'07, CONFERENCE PROCEEDINGS, 12-14 Octombrie 2007, Bucuresti, Ed. Printech, ISBN 978-973-718-899-1, pp. 371-375, 2007.
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25. Daniel Ioan, Anton Duca, **Mihai Rebican**. *Team of Autonomous Software Agents (TASA) to Solve ENDE Inverse Problems*. In The Abstracts of Progress In Electromagnetics Research Symposium (PIERS2001), pp. 153-154, Osaka, Japan, July 18-22, 2001.
26. Daniel Ioan, **Mihai Rebican**. *Numerical Model for Eddy Currents Testing of Ferromagnetic Steel Parts*. In The 13th Conference on the Computation of Electromagnetics Fields (COMPUMAG2001), Vol. IV, pp. 108-109, Lyon-Evian, France, July 2-5, 2001.
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28. **Mihai Rebican**. *Integral methods for ENDE forward nonlinear problems*. International Seminar on Electromagnetic Nondestructive Evaluation of Welded Ferromagnetic Parts, pp. 38-42, Bucharest, Romania, July 3, 2000.
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30. Daniel Ioan, **Mihai Rebican**. *B-H Hysteresis Loop Extraction using Devices with Non-uniform Magnetic Field*. In The 12th Conference on the Computation of Electromagnetics Fields (COMPUMAG99), Vol. 2, pp. 800-801, Sapporo, Japan, October 25-28, 1999.
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33. Daniel Ioan, **Mihai Rebican**. *The hysteresis model for the fluxset sensor*. In Proceedings of the Symposium on Advanced Topics in Electrical Engineering (ATEE 98), pp. 42-48, Bucharest, Romania, December 1998.
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36. Mihai Iordache, Daniel Ioan, **Mihai Rebican**. *Spice Models for FLUXSET Sensor*. In Electronic Workshop. U.T. Cluj-Napoca, octombrie 17-18, 1997.

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38. Daniel Ioan, Ioan Florea Hantila, **Mihai Rebican**, Cristian Constantin. *FLUXSET sensor analysis based on nonlinear magnetic wire model of the core*. In Proceedings of The 3rd International Workshop on Electromagnetic Nondestructive Evaluation (ENDE97), Reggio Calabria, Italy, September 14-16, 1997.
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E – Brevete - nu

F – Contracte

1. Membru - *Reconstructia formelor defectelor utilizand tehnici de testare nedistructiva prin curenti turbionari*. Proiect de cercetare stiintifica postdoctorala POSDRU/89/1.5/S/62557 – EXCEL, 2010-2013.

Elaborarea unor metode de reconstrucție a formelor defectelor utilizând tehnici de testare nedistructivă prin curenți turbionari.

2. Membru - *ARTIC - Nature-inspired micro-fluidic manipulation using artificial cilia*. FP6-NMP, Domeniu: Nanotechnology and nanoscience, Contract no: 033274, 2006-2010.

Dezvoltarea unei noi tehnologii a micro-fluidelor inspirata din natura, de cilii. Modelarea numerica a unui cil artificial.

3. Responsabil de proiect - *MATHYS – Modele experimentale si numerice de caracterizare a materialelor magnetice cu histerezis*. CEEEX 324/2006, AMCSIT, 2006-2008.

Dezvoltarea unui model numeric pentru caracterizarea materialelor magnetice cu histerezis vectorial.

4. Membru - *CORAL – Pelicule polimere în sistem compozit utilizate ca mijloace de ecranare electromagnetica în domeniul microundelor*. CEEEX 109/2006, MATNANTECH, 2006-2008.

Modelarea numerica a unor dispozitive electromagnetice in domeniul RF pentru evidentierea fenomenului de ecranare electromagnetica.

5. Membru - *IMAGMED – Sistem de imagistica medicala avansata pentru diagnoza, ghidare si interventie pre- si intra-operatorie: modelare, simulare si analiza in endoscopia virtuala*. CEEEX 55/2006, INFOSOC, 2006-2008.

Dezvoltarea aplicatii software avansate pentru imagistica medicala in endoscopia virtuala.

6. Membru – *MANODET - Novel nondestructive material testing technique based on a new magnetic field measurement principle*. FP5/Copernicus, Contract no. ERBIC15CT960703, 1997-2000.

Proiectarea si optimizarea unui senzor magnetic Fluxset utilizat în defectoscopia nedistructivă prin curenți turbionari.

25 februarie 2013

