

**Universitatea Tehnică din Cluj-Napoca**  
**Departamentul Electrotehnica si Masurari**  
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## A – teza de doctorat

„Contribuții la implementarea metodei elementelor de frontieră în modelarea numerică a problemelor electromagnetice și termice”

conducător științific : Prof.dr.ing. Emil Simion

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## B – Cărți și capitole în cărți (2002 - 2013)

### **CĂRȚI**

1. C. Racasan, A. Racasan, V. Topa, **C. Munteanu**, *Modelarea numerica a campului electromagnetic*, Ed. Casa Cărții de Știință Cluj-Napoca, 2007, 978-973-133-170-6, 439 pagini.
2. I. T Pop, **C. Munteanu**, *Analiza distribuției de câmp electric si magnetic in stații electrice de înalta tensiune*, Ed. Politehnica Timișoara, 2008, ISBN 978-973-625-792-6, 141 pagini.
3. A. Racasan, C. Pacurar, **C. Munteanu**, V. Topa, *Aplicații de modelare numerică în câmp electromagnetic*, Editura Politehnica Timișoara, 2013, ISBN 978-606-554-601-1, 276 pagini.

## C – Lucrări indexate ISI/BDI (2002 - 2013)

### **c1) Articole / studii publicate în reviste de specialitate de circulație internațională recunoscute (cotate ISI)**

1. **C. Munteanu**, V. Topa, E. Simion, G. De Mey, Gh. Mates, L. Grindei, M. Purcar, “Optimisation of an alternating current multi-conductor system”, *Engineering Analysis with Boundary Elements*, 2006, vol.30, pp. 582-587, ISSN 09557997.
2. L. Bortels, J. Deconinck, **C. Munteanu**, V. Topa, “A General Applicable Model for AC Predictive and Mitigation Techniques for Pipeline Networks Influenced by HV Power Lines”, *IEEE Transactions on Power Delivery*, Vol. 21, No. 1, 2006, pp. 210-217, ISSN 0885-8977.
3. **C. Munteanu**, G. Visan, I. T. Pop, “Electric and Magnetic Field Distribution inside High Voltage Power Substations. Numerical Modeling and Experimental Measurements”, *IEEJ Transactions on Electrical and Electronic Engineering*, Vol. 5, No. 1, 2010, pp. 40-45, ISSN 1931-4973.
4. I. T. Pop, **C. Munteanu**, V. Topa, A. Racasan, E. Merdan, „Human Exposure to Power Frequency Electric Field Inside Very High Voltage Substations”, *Environmental Engineering and Management Journal*, Vol. 10, No. 4, 2011, pp. 499-504, ISSN 1582-9596.

5. A. Racasan, **C. Munteanu**, V. Topa, M. Purcar, L. Grindei, „Computation of the Potential Induced on the Fluid Transport Pipelines by Overhead High Voltage Lines”, *Environmental Engineering and Management Journal*, Vol. 10, No. 4, 2011, pp. 505-510, ISSN 1582-9596.
6. M. Purcar, V. Topa, **C. Munteanu**, R. Chereches, A. Avram, L. Grindei, “Optimization of the current density distribution in electrochemical cells based on the level set method and genetic algorithm”, *European Physical Journal-Applied Physics*, Volume: 58 Issue: 1, 2011, ISSN 1286-0042.
7. **C. Munteanu**, G. Mates, M. Purcar, V. Topa, I.T. Pop, L. Grindei, A. Racasan, “Electromagnetic field model for the numerical computation of voltages induced on buried pipelines by high voltage overhead power lines”, *European Physical Journal, Applied Physics*, DOI: 10.1051/epjap/2012110462, 2012.
8. V. Topa, M. Purcar, A. Avram, **C. Munteanu**, R. Chereches, L. Grindei, „Simulation of the electrode shape change in electrochemical machining based on the LSM”, *European Physical Journal-Applied Physics*, Vol. 56, Issue: 1, 2012, pp. 11302-p1 -11302-p8 DOI: 10.1051/epjap:2007098.
9. M. Purcar, V. Topa, **C. Munteanu**, R. Chereches, A. Avram, L. Grindei, „Optimization of the Layer Thickness Distribution in Electrochemical Processes using the Level Set Method”, *IET Science, Measurement & Technology*, Vol. 6, Issue5, pp. 376 – 385m, 2012, ISSN 1751-8830.
10. V. Topa, M. Purcar, **C. Munteanu**, L. Grindei, C. Pacurar, O. Garvasiuc, „Shape optimization approach based on the extended finite element method” , *COMPEL-The International Journal for Computation and Mathematics in Electrical and Electronic Engineering*, Vol. 31 Issue 2, pp. 477-497, DOI: 10.1108/03321641211200545, 2012.

## c2) Studii publicate la conferințe indexate în baze de date internaționale de referință în domeniu

11. **C. Munteanu**, Gh. Mates, V. Topa, „Software Package for Multi-Objective Optimal Design of Electromagnetic Devices”, *Mathematics in Industry 11, Scientific Computing in Electrical Engineering*, Springer-Verlag, ISBN 978-3-540-71979-3, pp. 331-338, 2007.
12. **C. Munteanu**, I. T. Pop, C. Diaconu, M. Ilia, „Human Exposure to Power Frequency Electric and Magnetic Fields inside a Very High Voltage Power Station”, *Proceedings of the 9<sup>th</sup> International Conference on Electrical Power Quality and Utilisation, EPQU 2007*, Barcelona, Spain, octombrie 2007, art. no. 4424217, [IEEE], [SCOPUS].
13. **C. Munteanu**, C. Diaconu, I. T. Pop, V. Topa, “Electric and Magnetic Field Distribution Inside High Voltage Power Stations from Romanian Power Grid”, *Proceedings of the International Symposium on Power Electronics, Electrical Drives, Automation & Motion, SPEEDAM 2008*, Ischia, Italia, Iunie 2008, pp. 416-421 [IEEE], [SCOPUS].
14. **C. Munteanu**, G. Visan, I. T. Pop, V. Topa, E. Merdan, A. Racasan, “Electric and Magnetic Field Distribution inside High and Very High Voltage Substations”, *Proc. 20<sup>th</sup> Int. Zurich Symposium on Electromagnetic Compatibility*, Ianuarie 2009, Zurich, Elvetia, pp. 277-280 [IEEE], [SCOPUS].
15. **C. Munteanu**, V. Topa, A. Racasan, G. Visan, I. T. Pop, “Computation Methods and Experimental Measurements of the Electric and Magnetic Field Distribution inside High Voltage Substations”, *Proc. 11<sup>th</sup> Int. Conf. on Electromagnetics in Advanced Applications, ICEAA '09*, Sept. 2009, Torino, Italia, pp. 253-256 [IEEE], [SCOPUS].
16. **C. Munteanu**, I. T. Pop, G. Visan, V. Topa, Adina Racasan, M. Purcar, “Analysis of the Power Frequency Electric Field Generated by High Voltage Substations”, *Proc. of the 2010 Asia-Pacific Int. Symposium on Electromagnetic Compatibility*, Aprilie 2010, Beijing, China, pp. 719-722 [IEEE], [SCOPUS].
17. **C. Munteanu**, V. Topa, M. Purcar, L. Grindei, A. Racasan, “Study of the Electric Field Generated by the High Voltage Substations”, *Proc. of 12th WSEAS International Conference on Mathematical Method and Computational Techniques in Electrical Engineering, MMACTEE '10*, Octombrie 2010, Timisoara, Romania, pp. 74-77 [SCOPUS].

18. **C. Munteanu**, V. Topa, A. Racasan, I. T. Pop, E. Merdan, „Advances on the Electromagnetic Field Distribution Analysis inside High Voltage Substations”, *Proceedings of the 46<sup>th</sup> International Universities Power Engineering Conferences, UPEC 2011*, Septembrie 2011, Soest, Germania [IEEE].
19. **C. Munteanu**, V. Topa, Adina Racasan, I. T. Pop, E. Merdan, “Study of the Electric Field Distribution Inside High Voltage Substations”, *Proceedings of the EMC Europe 2011*, York, Anglia, Septembrie 2011, pp. 581-585 [IEEE], [SCOPUS].
20. **C. Munteanu**, I. T. Pop, V. Topa, C. Hangea, T. Gutiu, S. Lup, „Study of the Magnetic Field Distribution inside Very High Voltage Substations”, *Proceedings of the 2012 International Conference and Exposition on Electrical and Power Engineering*, art. no. 6463571, pp. 660-663 [IEEE], [SCOPUS].
21. **C. Munteanu**, V. Topa, G. Mates, M. Purcar, A. Racasan, I. T. Pop, „Analysis of the Electromagnetic Interferences between Overhead Power Lines and Buried Pipelines”, *IEEE International Symposium on Electromagnetic Compatibility*, art. no. 6396746 [IEEE], [SCOPUS].

## D – Lucrări publicate în reviste și volume de conferințe cu referenți (neindexate) (2002 - 2013)

- pentru lucrările publicate in volume de conferințe se va face o selecție de maximum 20 articole

### **d1) Studii publicate în volumele unor manifestări științifice internaționale recunoscute din străinătate**

1. **C. Munteanu**, V. Topa, E. Simion, L. Grindei, G. De Mey, “Optimal Design for Losses Reduction in AC Quasi-Stationary Regime using GAs”, *Second International Conference on Advanced Computational Methods in Engineering, ACOMEN 2002*, Liege, Belgia, Mai 2002, publicat pe CD-ROM, ISBN 2-930322-39-X.
2. **C. Munteanu**, L. Grindei, R. Rizzo, V. Topa, “Multi-Objective Shape Optimization of Resistors with Complex Geometry”, *Electrical Engineering Research Report, Department of Electrical Engineering, University of Naples ‘Federico II’, Italy*, No. 14, Decembrie 2002, ISSN 1126-5310, pp. 3-7
3. **C. Munteanu**, L. Bortels, J. Deconinck, V. Topa, E. Simion, “Advances on BEM – FEM 3D Numerical Modelling of Electromagnetic Interferences between HV Lines and Buried Pipelines”, *Proceedings of the 2<sup>nd</sup> International Workshop on Advances in Numerical Computation Methods in Electromagnetism, ANCME 2003*, Gent, Belgia, Mai 2003, pp. 31-38.
4. **C. Munteanu**, V. Topa, Gh. Mates, M. Purcar, L. Grindei, E. Simion, G. De Mey, “Optimal Design of Electromagnetic Devices by Multi-Objective Optimization”, *Proceedings of the 6<sup>th</sup> International Workshop on Electric and Magnetic Fields, From Numerical Models to Industrial Applications*, Aachen, Germania, Octombrie 2003, pp. 133-137.
5. **C. Munteanu**, V. Topa, T. Muresan, A. Costin, “Electromagnetic Interferences between High Voltage Power Lines and Radio Base Station Antennas Mounted on High Voltage Towers”, *Proceedings of the 6<sup>th</sup> International Symposium on Electromagnetic Compatibility, EMC Europe 2004*, Eindhoven, Olanda, Septembrie 2004, pp. 878 – 881, ISBN 90-6144-990-1.
6. **C. Munteanu**, V. Topa, L. Bortels, J. Deconinck, “Software for Numerical Computation of Potential Distribution Induced on Pipe Networks by HV Power Lines Working on Normal and Fault Conditions”, *Proceedings of the 3<sup>rd</sup> International Workshop on Advances in Numerical Computation Methods in Electromagnetism, ANCME 2005*, Brussels, Belgia, Mai 2005, pp. 1-10, ISBN 10 973- 686-798-6.
7. **C. Munteanu**, C. Vermesan, O. Antonescu, V. Topa, I. T. Pop, “Software Module for Numerical Modelling of Transients Propagation on High Voltage Lines using Non-Uniform

- Transmission Lines”, *Proc. of the 7<sup>th</sup> International Symposium on Electromagnetic Compatibility*, Barcelona, Spania, 4-8 Sept 2006, Vol.2, pp. 619-623.
8. **C. Munteanu**, G. Visan, I. T. Pop, “Computation of the Electric and Magnetic Field Distribution inside High and Very High Voltage Substations”, *The 2009 World Congress on Electronics and Electrical Engineering, WCEEENG'09*, Aprilie 2009, Cairo, Egipt, Publicat pe CD-ROM.

## **d2) Studii publicate în volumele unor manifestări științifice internaționale recunoscute din țară**

9. **C. Munteanu**, V. Topa, E. Simion, L. Bortels, J. Deconinck, “3D Numerical Modelling of the Induced Voltages on Pipelines by Neighbour HV Transmission Lines”, *Proceedings al Simpozionului National de Electrotehnica Teoretica, SNET '03*, Bucuresti, iunie 2003, pp. 19-26, ISBN 973-652-800-6.
10. **C. Munteanu**, V. Topa, L. Grindei, L. Bortels, J. Deconinck, “Analysis of Electromagnetic Interferences Induced by High Voltage Lines under Normal and Fault Conditions”, *Proceedings al Simpozionului National de Electrotehnica Teoretica, SNET '05*, Bucuresti, Mai 2005, pp. 286-291, ISBN 973-618-268-5.
11. **C. Munteanu**, V. Topa, T. Muresan, A. Costin, “Solutions for the Utilization of the Energetic System Infrastructure for the Development of the Mobile Communication Networks”, *Al VI-lea Simpozion National de Informatica si Telecomunicatii in Energetica, SIE 2006*, Sinaia, Romania, Nov. 2006, pp. 437-442.
12. **C. Munteanu**, V. Topa, L. Grindei, L. Bortels, J. Deconinck, “Analysis of Electromagnetic Interferences Induced by High Voltage Lines under Normal and Fault Conditions”, *Revue Roumaine des Sciences Techniques, Serie Electrotechnique et Energetique*, Tome 51, No. 4, 2006, pp. 439-450.
13. **C. Munteanu**, A. Racasan, C. Pacurar, E. Merdan, N. Bogdan, S. Nedelcu, „Determinarea intensitatii campului electromagnetic in doua statii de transformare 110 kV / MT – lucrare experimentală”, *Conf. Nat. si Expozitia de Energetica CNEE 2009*, Octombrie 2009, Sinaia, Romania, pp. 237-243.
14. **C. Munteanu**, T. Serban, I. T. Pop, A. Racasan, C. Stanescu, V. Topa, “Recent Advances in the Analysis of the Electromagnetic Field Distribution inside HV Substations”, *Revista Energetica*, Vol. 58, No. 5, 2010, pp. 211-214, ISSN 1453-2360.
15. **C. Munteanu**, G. Visan, T. Serban, E. Merdan, I.T. Pop, I. Sucala, “Recent Advances on the Electromagnetic Field Analysis inside High Voltage Substations”, *Acta Electrotehnica, Special Issue, Proceedings of the 3<sup>rd</sup> International Conference on Modern Power Systems MPS 2010*, Cluj-Napoca, România, Mai 2010, Vol. 51, No. 5, pp. 281-284.
16. **C. Munteanu**, V. Topa, M. Purcar, L. Grindei, A. Racasan, “Study of the Electric Field Generated by the High Voltage Substations”, *Proc. of 12<sup>th</sup> WSEAS International Conference on Mathematical Method and Computational Techniques in Electrical Engineering, MMACTEE'10*, Octombrie 2010, Timisoara, Romania, pp. 74-77.
17. **C. Munteanu**, V. Topa, M. Purcar, L. Grindei, A. Racasan, “Numerical Computation of the Induced Potential on Pipelines by Overhead Lines”, *Acta Electrotehnica*, Vol. 51, No. 4, 2010, pp. 285-289.

## **E – Brevete (pentru întreaga activitate)**

1. *Sistem electric de alimentare și protecție a blocurilor de radiocomunicații*, Brevet OSIM 120998/ 2006, autori Teofil Muresan, **Calin Munteanu**, Vasile Topa.