

Lista de lucrări – Mircea RUBA

Lista celor maximum 10 lucrări considerate de candidat a fi cele mai relevante pentru realizările profesionale proprii,

1. Raul Nemeș, Mircea Ruba, Raluca Raia, Tudor Moldovan, Claudia Marțiș, "Validation of EMR simulation platform of a permanent magnet synchronous machine used for electric propulsion" , IEEE Vehicular Power and Propulsion 2021 (IEEE VPPC 2021) , - in print
2. Raul Nemeș, Mircea Ruba, Claudia Marțiș, " HiL testing of Li-Ion battery pack based on real-time virtual vehicle model ", IEEE Vehicular Power and Propulsion 2021 (IEEE VPPC 2021) , - in print
3. R. Nemeș, S. Ciornei, M. Ruba, C. Marțiș and H. Hedeșiu, "Urban light electric vehicle real-time model architecture using VeriStand Software," 2021 IEEE 19th International Power Electronics and Motion Control Conference (PEMC), 2021, pp. 292-297, doi: 10.1109/PEMC48073.2021.9432634.
4. M. Ruba, R. Nemeș, S. Ciornei, C. Marțiș and H. Hedeșiu, "A review on analytical methods for multilevel simulation of urban light electric vehicles," 2021 IEEE 19th International Power Electronics and Motion Control Conference (PEMC), 2021, pp. 377-382, doi: 10.1109/PEMC48073.2021.9432513.
5. M. R. Raia, M. Ruba, R. A. Inte, C. Martis, G. M. Sirbu and C. Husar, "Modelling and Virtual Testing of a Wound Rotor Synchronous Machine for Electrical Vehicles Propulsion System," 2021 International Aegean Conference on Electrical Machines and Power Electronics (ACEMP) & 2021 International Conference on Optimization of Electrical and Electronic Equipment (OPTIM), 2021, pp. 129-134, doi: 10.1109/OPTIM-ACEMP50812.2021.9590075.
6. R. Nemes et al., "Hardware in the Loop Testing of an Urban Electric Vehicle Model Supplied with Supercapacitors," 2021 International Aegean Conference on Electrical Machines and Power Electronics (ACEMP) & 2021 International Conference on Optimization of Electrical and Electronic Equipment (OPTIM), 2021, pp. 123-128, doi: 10.1109/OPTIM-ACEMP50812.2021.9590059.
7. H. Hedeșiu, M. Ruba, C. Martis, H. Grebla, C. Kilyen and H. F. Moldovan, "PV Monitoring System using Industrial Internet of Things Technologies based on Graphical Programming," 2021 International Conference on Applied and Theoretical Electricity (ICATE), 2021, pp. 1-4, doi: 10.1109/ICATE49685.2021.9465023.
8. M. R. Raia, M. Ruba, C. Martis, C. Husar and G. M. Sirbu, "Battery electric vehicle (BEV) powertrain modelling and testing for real-time control prototyping platform integration,"

2021 23rd European Conference on Power Electronics and Applications (EPE'21 ECCE Europe), 2021, pp. P.1-P.10.

9. Raul Nemeş , Mircea Ruba, Claudia Martis, Radu A. Munteanu, "Sensorless Field-Oriented Control MRAS Based of Interior Permanent Magnet Synchronous Motor with MTPA ", Acta Electrotehnica . 2020, Vol. 61 Issue 4, p297-300 4p.

10. Ciornei, Sorina; Nemes, Raul; Ciceo, Sebastian; Ruba, Mircea; Munteanu, Radu A.; Martis, Claudia Steluta, " Parameters Identification using Experimental Measurements for Equivalent Circuit Ultracapacitor Model ", Acta Electrotehnica . 2020, Vol. 61 Issue 4, p294-297. 4p.

Teza de doctorat:

Proiectarea și studierea unei mașini cu reluctanță variabilă autocomutată de construcție modulară

Coordonator: Prof.Dr.Ing. Szabo Lorand

Brevete de invenție:

1. M. Ruba, L. Szabo, "Mașina cu reluctanta comutată tolerantă la defecte de construcție modulară", OSIM, No. A /00504c/2010

2. M.Ruba, D. Fodorean, "Mașină cu reluctanță comutată cu autoventilație la rotor", OSIM No.A/2012/00884,

3. F. Jurca, M. Ruba, " Sistem janta cu motor electric încorporat pentru vehicule electrice", OSIM No. A 00665 2015

4. M. Ruba, "Procedură programabilă de detecție a defectelor la senzorii de curent a unui convertor electronic trifazat", OSIM No. A/00156/04.07.2018

5. R.Nemeş, M. Ruba, "Sistem de echilibrare activ a celulelor unei baterii fără pierderi, sincron cu procesul de încărcare", OSIM No.A/00390/12.08.2019 – în așteptare

6. L.Szabo, M. Ruba, "Motor rotativ-liniar pentru acționarea integrată a propulsiei și a direcției asistate a autovehiculelor electrice", OSIM No. A/00446/22.07.2019 – în așteptare

Cărți:

1. Daniel Fodorean, Florin Nicolae Jurca, Mircea Ruba, Dan-Cristian Popa:

"MOTORIZATION VARIANTS FOR LIGHT ELECTRIC VEHICLES - Design, Magnetic, Mechanical and Thermal Aspects", Editura Alma Mater, 2013, ISBN: 978-606-504-160-8

2. Claudia Martis, Horia Hedesiu, Florin Jurca, Claudiu Oprea, Mircea Ruba:

"INTRODUCERE ÎN SISTEME ELECTROMECHANICE", Editura Alma Mater, Cluj-Napoca, 2012, ISBN: 978-606-504-136-3

3. Mircea Ruba, Raul-Octavian Nemeș, Eduard-Edis Răclau, Călin-Ioan Husar

ANALIZA PRIN MODELARE ÎN MEDIUL SIMCENTER AMESIM SISTEMELOR ELECTROMECHANICE

ÎNDRUMAR DE LABORATOR, UTPRESS Cluj-Napoca, 2021 ISBN 978-606-737-513-8

4. Raul-Octavian Nemeș, Mircea Ruba, Călin-Ioan Husar

REPREZENTAREA MACROSCOPIC - ENERGETICĂ A SISTEMELOR INTEGRATE - APLICAȚIILE PRACTICE, UTPRESS Cluj-Napoca, 2021 ISBN 978-606-737-514-5

Capitole în cărți internaționale:

1. APPLIED ELECTROMECHANICAL DEVICES AND MACHINES FOR ELECTRIC MOBILITY SOLUTIONS

Book edited by: Dr. Adel El-Shahat & Dr. Mircea Ruba, ISBN 978-1-78985-728-3

Chapter 3- Parameter Identification, Modeling and Testing of Li-Ion Batteries Used in Electric Vehicles

Mircea Ruba, Raul Nemeș, Sorina Ciornei and Claudia Martis

2. NEW PERSPECTIVES ON ELECTRIC VEHICLES

Chapter - Powerful Multilevel Simulation Tool for HiL Analysis of Urban Electric vehicle's Propulsion Systems

Raul Octavian Nemeș, Mircea Ruba, Sorina Maria Ciornei and Raluca Maria Raia

Publisher InTech, Published: June 24th 2021, DOI: 10.5772/intechopen.98532

3. Hybrid Electric Vehicles

Edited by Teresa Donato, ISBN 978-953-51-3298-1, Print ISBN 978-953-51-3297-4, 158 pages,

Publisher: InTech, Chapters published June 21, 2017 under CC BY 3.0 license, DOI: 10.5772/66000

Chapter 5 - Performance Analysis of an Integrated Starter-Alternator- Booster for Hybrid Electric Vehicles

Florin-Nicolae Jurca and Mircea Ruba

4. Switched Reluctance Motor - Concept, Control and Applications

Edited by Ahmed Tahour and Abdel Ghani Aissaoui, ISBN 978-953-51-3268-4, Print ISBN 978-953-51-3267-7, 122 pages, Publisher: InTech, Chapters published June 21, 2017 under CC BY 3.0 license, DOI: 10.5772/66849 Edited Volume

Chapter 4 - Design, Power Electronics and Torque Control of Switched Reluctance Machines

Mircea Ruba and Petre Dorel Teodosescu

5. Fault Diagnosis and Detection

Edited by Mustafa Demetgul and Muhammet Unal, ISBN 978-953-51-3204-2, Print ISBN 978-953-51-3203-5, 334 pages, Publisher: InTech, Chapters published May 31, 2017 under CC BY 3.0 license, DOI: 10.5772/63169

Chapter 8 - Fault-Tolerant Electrical Machines and Drives

Mircea Ruba

Articole/studii in extenso, publicate în reviste (ISI) din fluxul științific internațional principal

1. D. Fodorean, D.C.Popa, M.Ruba : On the Fault Tolerance of Permanent Magnet Synchronous Machines and Drives Used in Hybrid Vehicle Applications, Journal of International Review of Electrical Engineering (IREE), Vol.7 N.2, Pp.3795-3803, ISSN:1827-6660, March-April 2012.

2. M.Ruba D.Fodorean : Analysis of Fault-Tolerant Multiphase Power Converter for a Nine-Phase Permanent Magnet, IEEE Trans. On Industrial Applications, Vol. 48, no. 6, pp. 2092-2101, ISSN: 0093-9994, 2012

3. Szabo L., M.Ruba : Segmental Stator Switched Reluctance Machine for Safety-Critical Applications, IEEE Trans. On Industrial Applications, Vol. 48, no. 6, pp. 2223-2229, ISSN: 0093-9994, 2012

4. Ruba M. – Viorel I.A. – Szabó L.: Modular stator switched reluctance motor for fault tolerant drive systems, IET Electric Power Applications, vol. 7, no. 3 (March 2013), pp. 159-169, 2013, ISSN: 1751-8660).

5. Szabó L. – Ruba M. – Szász Cs. – Chindris V. – Husi G.: Fault Tolerant Bio-Inspired System Controlled Modular Switched Reluctance Machine, Automatika – Journal for Control, Measurement, Electronics, Computing and Communications, vol. 55, no. 1, pp. 53-63, 2014. ISSN: 1848-3380 (ISI).

6. Mircea Ruba ; Florin Jurca ; Levente Czumbil ; Dan D. Micu ; Claudia Martis ; Alexis Polycarpou ; Renato Rizzo, "Synchronous reluctance machine geometry optimisation through a genetic algorithm based technique", IET Electric Power Applications, Vol.: 12, Issue: 3, 22 March 2018, DOI: 10.1049/iet-epa.2017.0455
7. Raul-Octavian Nemeş, Sorina-Maria Ciornei, Mircea Ruba, Claudia Marţiş "Real-time simulation of scaled propulsion unit for light electric vehicles", Electrical Engineering, Springer Link, 25 April 2019, ISSN: 0948-7921,
8. M. Ruba, R. O. Nemeş, S. M. Ciornei and C. Marţiş, "Simple and Robust Current Sensor Fault Detection and Compensation Method for 3-Phase Inverters," in IEEE Access, vol. 8, pp. 34820-34832, 2020, doi: 10.1109/ACCESS.2020.2974769.
9. M. Raia, M. Ruba, et al., "Artificial Neural Network and Data Dimensionality Reduction Based on Machine Learning Methods for PMSM Model Order Reduction," IEEE Access, vol. 9, pp. 102345-102354, 2021, doi: 10.1109/ACCESS.2021.3095668.

Publicații in extenso, apărute în lucrări ale principalelor conferințe internaționale și naționale de specialitate

99. C. HUSAR et al., "Multi-level simulation of a BEV using EMR methodology," 2020 IEEE Vehicle Power and Propulsion Conference (VPPC), Gijon, Spain, 2020, pp. 1-6, doi: 10.1109/VPPC49601.2020.9330943.
98. A. -M. Nicorici, M. Ruba, C. S. Marţiş, L. Szabó and Z. Máthé, "Comparative Analysis of Permanent Magnet Synchronous Machines Designed for Electric Power Steering Applications," 2020 XI International Conference on Electrical Power Drive Systems (ICEPDS), St. Petersburg, Russia, 2020, pp. 1-6, doi: 10.1109/ICEPDS47235.2020.9249074.
97. S. M. Ciornei, M. Ruba, R. O. Nemeş and C. Marţiş, "Multi-level models for a light electric vehicle propulsion system using EMR organisation," 2020 International Symposium on Power Electronics, Electrical Drives, Automation and Motion (SPEEDAM), Sorrento, Italy, 2020, pp. 357-362, doi: 10.1109/SPEEDAM48782.2020.9161855.
96. S. Ciornei, R. Nemeş, M. Ruba, C. Marţiş and H. Hedeşiu, "Performance analysis of urban light electric vehicle propulsion system's multi-level modelling," 2020 IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR), Cluj-Napoca, Romania, 2020, pp. 1-6, doi: 10.1109/AQTR49680.2020.9129938.
95. C. Antonya, C. Irimia, M. Grovu, C. Husar and M. Ruba, "Co-Simulation Environment for the Analysis of the Driving Simulator's Actuation," 2019 7th International Conference on Control, Mechatronics and Automation (ICCMA), Delft, Netherlands, 2019, pp. 315-321, doi: 10.1109/ICCMA46720.2019.8988628.

94. A. Desreuveaux, M. Ruba, A. Bouscayrol, G. M. Sirbu and C. Martis, "Comparisons of Models of Electric Drives for Electric Vehicles," 2019 IEEE Vehicle Power and Propulsion Conference (VPPC), Hanoi, Vietnam, 2019, pp. 1-5, doi: 10.1109/VPPC46532.2019.8952540.
93. M. Ruba, R. O. Nemes, S. M. Ciornei, C. Martis, A. Bouscayrol and H. Hedesiu, "Digital Twin Real-Time FPGA Implementation for Light Electric Vehicle Propulsion System Using EMR Organization," 2019 IEEE Vehicle Power and Propulsion Conference (VPPC), Hanoi, Vietnam, 2019, pp. 1-6, doi: 10.1109/VPPC46532.2019.8952428.
92. Sorina Maria Ciornei, Mircea Ruba, Raul Octavian Nemes, "Modeling, control and simulation of a light electric vehicle propulsion system based on EMR", 2019 International Annual Conferente, Firenze, Italy, 18-20 September 2019.
91. Ruba, M., Ciornei, S., Nemeş, R., Martis, C., "Detailed Design of Second Order Model of Lithium-Ion Battery Simulator Based on Experimental Measurements", 11th International Symposium on Advanced Topics in Electrical Engineering, ATEE 2019; Bucharest; Romania; 28 March 2019 through 30 March 2019; DOI: 10.1109/ATEE.2019.8724878
90. Nemes, R.O., Maria Ciornei, S., Ruba, M., Martis, C., "Parameters identification using experimental measurements for equivalent circuit Lithium-Ion cell models", 11th International Symposium on Advanced Topics in Electrical Engineering, ATEE 2019; Bucharest; Romania; 28 March 2019 through 30 March 2019; DOI: 10.1109/ATEE.2019.8724878
89. Blidar, O.C., Munteanu, R.A., Iudean, D., Ruba, M., Nistor, G. "Simulation of a Boost Converter for the Automotive Industry", 8th International Conference on Modern Power Systems, MPS 2019; Technical University of Cluj-Napoca Cluj-Napoca; Romania; 21 May 2019 through 23 May 201, DOI: 10.1109/MPS.2019.8759769
88. Nemes, R., Ciornei, S., Ruba, M., Hedesiu, H., Martis, C., "Modeling and simulation of first-order Li-Ion battery cell with experimental validation", 8th International Conference on Modern Power Systems, MPS 2019; Technical University of Cluj-Napoca Cluj-Napoca; Romania; 21 May 2019 through 23 May 201, DOI: 10.1109/MPS.2019.8759769
87. Pop Piglesan Florin ; Ruba Mircea ; Pop Adrian-Cornel ; Radu Martis ; Claudia Martis, "Comparative Analysis for an Electric Power Steering System" , 2018 XIII International Conference on Electrical Machines (ICEM), 3-6 Sept. 2018, DOI: 10.1109/ICELMACH.2018.8507038
86. Sorina-Maria Ciornei ; Raul-Octavian Nemes ; Mircea Ruba ; Calin Husar ; Horia Hedesiu ; Claudia Martis, "Real-Time Simulation of a Complete Electric Vehicle Based on NI VeriStand Integration Platform", 2018 International Conference and Exposition on Electrical And Power Engineering (EPE), 18-19 Oct. 2018, DOI: 10.1109/ICEPE.2018.8559877
85. Raul-Octavian Nemes ; Mircea Ruba ; Sorina Ciornei ; Horia Hedesiu ; Claudia Martis ; Calin Husar, "Real-Time Co-simulation of Electric Power Steering System", 2018 International Conference and Exposition on Electrical And Power Engineering (EPE), 18-19 Oct. 2018, DOI: 10.1109/ICEPE.2018.8559877

84. Raul-Octavian Nemes ; Mircea Ruba ; Claudia Martis, "Integration of Real-Time Electric Power Steering System Matlab/Simulink Model into National Instruments VeriStand Environment", 2018 IEEE 18th International Power Electronics and Motion Control Conference (PEMC), 26-30 Aug. 2018, Budapest, Hungary, DOI: 10.1109/EPEPEMC.2018.8521888

83. Pop Piglesan Florin ; Ruba Mircea ; Nemes Raul ; Claudia Martis ; Pop Adrian-Cornel, "Real-time Model in the Loop analysis of PMSM for electric power steering system based on FPGA implementation", 2018 International Symposium on Power Electronics, Electrical Drives, Automation and Motion (SPEEDAM), 20-22 June 2018, Amalfi, Italy, DOI: 10.1109/SPEEDAM.2018.8445395

82. Radu Martis ; Florin Pop Pîglesan ; Claudia Martis ; Lor Szabo ; Mircea Ruba, "Design and Optimization Platform for Synchronous Motors", 2018 International Symposium on Power Electronics, Electrical Drives, Automation and Motion (SPEEDAM), 20-22 June 2018, Amalfi, Italy, DOI: 10.1109/SPEEDAM.2018.8445210

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80. Mircea Ruba ; Raul Nemes ; Florin Pop Piglesan ; Horia Hedeşiu ; Claudia Martis, "Complete electric power steering system real-time model in the loop simulator", 2018 ELEKTRO, 21-23 May 2018, Mikulov, Czech Republic, DOI: 10.1109/ELEKTRO.2018.8398345

79. Raul-Octavian Nemes ; Sorina-Maria Ciornei ; Mircea Ruba ; Claudia Martis, "Real-time simulation of scaled propulsion unit for light electric vehicles", 2018 ELEKTRO, 21-23 May 2018, Mikulov, Czech Republic, DOI: 10.1109/ELEKTRO.2018.8398345

78. Mircea Ruba, Raul Nemes, Claudia Martis, "FPGA based real-time electric power assisted steering motor-drive simulator designed for HiL testing in the automotive industry", 2017 IEEE Vehicle Power and Propulsion Conference (VPPC), 11-14 December 2017, pp. xx-xx, DOI: 10.1109/VPPC.2017.8331024

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75. M. Ruba; D. Fodorean, "Development of a complete motor-drive solution for light EV based on a SRM", 2016 International Conference and Exposition on Electrical and Power Engineering (EPE), Iasi, Romania, Pages: 197 - 204, DOI: 10.1109/ICEPE.2016.7781332
74. M. Ruba, H.Nagy, H.Hedesiu, Claudia Martis , "FPGA based processor in the loop analysis of variable reluctance machine with speed control", 2016 IEEE International Conference on Automation, Quality and Testing, Robotics, AQTR 2016, 19th -21st May, Cluj Napoca, Romania, ISBN: 978-1-4673-8691-3.
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72. M.Ruba, Nagy H., H. Hedeshiu, C. Martis, Real-Time FPGA Model in the Loop Analysis of Permanent Magnet Synchronous Machine for LEV, 2016 International Conference and Exposition on Electrical and Power Engineering (EPE), pp.219 - 224, 20-22 October 2016, DOI: 10.1109/ICEPE.2016.7781336
71. Jurca F. N., Ruba M., Martis C., "Design and Control of Synchronous Reluctances Motors for Electric Traction Vehicle", International Symposium on Power Electronics, Electrical Drives, Automation and Motion, SPEEDAM2016, pp.1147-1150, ISBN:978-1-5090-2067-6
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68. M. Ruba, H.Nagy, H.Hedesiu, Claudia Martis , "FPGA based processor in the loop analysis of variable reluctance machine with speed control", 2016 IEEE International Conference on Automation, Quality and Testing, Robotics, AQTR 2016, 19th -21st May, Cluj Napoca, Romania, ISBN: 978-1-4673-8691-3.
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65. Ruba M., F. Jurca,L. Szabo: Efficiency Improvement of Switched Reluctance Motors by Means of Using Higher Quality Laminations, Acta Electrotehnica, 2015, MEDIAMIRA SCIENCE PUBLISHER ACADEMY OF TECHNICAL SCIENCES OF ROMANIA TECHNICAL UNIVERSITY OF CLUJ-NAPOCA, ROMANIA, Vol.56, no.4, 10/2/2015, ISBN 2344-5637, pp.148-151.

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61. Florin Nicolae Jurca, Mircea Ruba, Claudia Martis - Analysis of Permanent Magnet Synchronous Machine for Integrated Starter-Alternator-Booster Applications - 2015 International Conference on Electrical Drives and Power Electronics (EDPE) The High Tatras, 21 – 23 September 2015, ISBN 978-1-4673-9661-5, pp.272-276.
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59. M Ruba, MM Radulescu, -Analysis of a grid-connected wind energy conversion system based on complex simulation program- Ecological Vehicles and Renewable Energies (EVER), 2015 Tenth International Conference on-, March 31 2015-April 2 2015 pp.1-6, 978-1-4673-6784-4 .
58. Ruba M., F. Jurca, L. Szabo: Comparative study of switched and synchronous reluctance machines for electric propulsion, 'ELECTROMOTION' Quarterly No. 1-2, Vol. 22 (2015), pp. 15-18, ISSN 1223-057X.
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