

Victor Khilkevich, Ph. D.

Research Associate Professor, EMC Laboratory.
Department of Electrical and Computer engineering.
Missouri University of Science and Technology.
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DEGREES :

M.S. Moscow Power Engineering Institute (MPEI), 1997.
Thesis title: "Reconstruction of Permittivity Profile of Dielectric Objects"
Ph. D. Moscow Power Engineering Institute (MPEI), 2001.
Thesis title: "Solving of Radio Frequency Inverse Problems with Neural Networks"

TECHNICAL AREAS OF INTEREST:

Signal processing, microwave structures design and analysis, electromagnetic simulation, signal integrity, time-domain measurement of network parameters, near-field scanning, electromagnetic field transformation, measurement and processing of random signal and fields, EMI mitigation techniques, EMI source and coupling path identification.

ACADEMIC EXPERIENCE

2011-present	Research Associate Professor. Missouri University of Science and Technology. EMC Laboratory.
2008-2011	Post Doctorate Fellow. Missouri University of Science and Technology. EMC Laboratory.
2002-2008	Associated Professor. Radio engineering department. Moscow Power Engineering Institute.
2000-2002	Assistant Professor. Radio engineering department. Moscow Power Engineering Institute.
1997-2000	Ph. D. student. Moscow Power Engineering Institute.
1991-1997	Student. Moscow Power Engineering Institute.

NON-ACADEMIC EXPERIENCE

1998-2008	Translator (English, Russian). Kinoscenarii (Film scripts) Magazine. Certified free-diver. Bronze medalist of open Russian free-diving championship in 2006.
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PROFESSIONAL SOCIETIES

IEEE (Member)

PUBLICATIONS

1. H. Li, V. Khilkevich, D. Pommerenke, “Identification and Visualization of Coupling Paths – Part I: Energy Parcel and Its Trajectory” *IEEE Transactions on Electromagnetic Compatibility*. (accepted for publication)
2. H. Li, V. Khilkevich, D. Pommerenke, “Identification and Visualization of Coupling Paths – Part II: Practical Application” *IEEE Transactions on Electromagnetic Compatibility*. (accepted for publication)
3. A. Radchenko, V. Khilkevich, D. Pommerenke, M. Gonser, J. Hansen, Ch. Keller “Transfer Function Method for Predicting the Emissions in a CISPR-25 Test-Setup” 2014 *IEEE Transactions on Electromagnetic Compatibility*. (accepted for publication)
4. H. Wang, V. Khilkevich, Y.-J. Zhang, J. Fan. “Estimating Radio-Frequency Interference to an Antenna Due to Near-Field Coupling Using Decomposition Method Based on Reciprocity” 2013 *IEEE Transactions on Electromagnetic Compatibility*. 55 (6), pp. 1125-1131
5. J. Zhang, K.W. Kam, J. Min, V.V. Khilkevich, D. Pommerenke, J. Fan. “An effective method of probe calibration in phase-resolved near-field scanning for EMI application” 2013 *IEEE Transactions on Instrumentation and Measurement* 62 (3) , pp. 648-658
6. H. Li, D. Pommerenke, V. Khilkevich, et al. “Nonlinear Capacitors for ESD Protection”, *IEEE Electromagnetic Compatibility Magazine*, 2012 Vol. 1. Issue 4, pp38-46
7. M. Koledintseva, V. Khilkevich, A. Razmadze, et al. “Evaluation of absorptive properties and permeability of thin sheet magneto-dielectric materials”, *Journal of Magnetism and Magnetic Materials*, 2012, Vol. 324, Issue 21, October 2012, pp. 3389-3392.
8. M. Koledintseva, A. Razmadze, A. Gafarov, V. Khilkevich, J. Drewniak, T. Tsutaoka. “Attenuation in extended structures coated with thin magneto-dielectric absorber layer”, 2011, *Progress in Electromagnetics Research* 118 , pp. 441-459.
9. L. Belov, V. Khilkevitch. “Generators with Dielectric Resonators for Frequency Stabilization”. *Electronics: Science, Technology, Business*. Issue 7, pp. 54-59, 2006. (In Russian)
10. V. Khilkevich. “Reconstructing permittivity profiles using neural networks”. *Radiotekhnicheskie tetradi*. Issue 18, pp. 76-78. 2000. (In Russian)
11. V. Khilkevich. L. Belov. “Radio-wave methods for measuring electrodynamic parameters of non-homogenous materials”. *Radiotekhnicheskie tetradi*. Issue 18, pp. 49-52. 1999. (In Russian)

PUBLICATIONS IN PREPARATION

1. V. Khilkevich, A. Radchenko, M. Gonser. “An efficient and fast method of calculating transfer functions between equivalent current sources and antennas”. (Planned for IEEE transactions on Microwave Theory and Techniques).
2. V. Khilkevich, X. Shuai, D. Pommerenke. “Prediction of the heat sink EMI using near field measurement”. (Planned for IEEE transactions on EMC).
3. V. Khilkevich, X. Shuai, D. Pommerenke. “Inductive probe for common mode current measurement”. (Planned for IEEE transactions on EMC).

CONFERENCE PAPERS

1. V. Khilkevich, D. Pommerenke, Li Gang, Xu Shuai, “An Inductive Probe for the Measurement of Common Mode Currents on Differential Traces”, IEEE International Symposium on Electromagnetic Compatibility, Aug. 5 - 10, 2012.
2. M. Gonser, C. Keller, J. Hansen, V. Khilkevich, A. Radchenko, D. Pommerenke, R. Weigel. “Simulation of Automotive EMC Emission Test Procedures Based on Cable Bundle Measurements”, IEEE International Microwave Symposium, 2012, 17-22 June, Montreal, Canada.
3. V. Khilkevich, B. Achkir, J. Drewniak. “Improvements in time-domain TRL accuracy for transmission measurements”, DesignCon 2012. January 30 – February 2, 2012, Santa Clara, California.
4. H. Li, V. Khilkevich, D. Pommerenke, et al. “On the possibility to detect and visualize electromagnetic coupling paths”, IEEE International Symposium on Electromagnetic Compatibility, 14-19 Aug. 2011, pp. 559-563.
5. V. Khilkevich, V. Sivarajan, D. Liu. “A Systematic Approach to PCB Material Characterization Using Time Domain TRL Calibration”. DesignCon 2010. February 1 - 4, 2010, Santa Clara, California.
6. V. Khilkevich. V. Lapitsky. “Classification of Signals with Digital Modulation by Neural Network”. VII International Conference for Young Researchers “Wave Electronics and its Applications in the Information and Telecommunication Systems”, 12-15 September, 2004, Saint-Petersburg, Russia.
7. V. Hilkevich. “Hardware Implementation of Dynamical Neural Networks Suitable for Online Training”. 2nd IEEE International Conference on Circuits and Systems for Communications, June 30 - July 2, 2004, Moscow, Russia.
8. V. Khilkevich. “Measuring parameters of soils using neural network method”. All-Russian scientific conference on aerospace soil and atmosphere probing, pp 147-151, June 20-22, 2001, Murom, Russia. (In Russian).
9. V. Khilkevich. “Neural methods for solving inverse problems of radioelectronics”. International Forum on Wave Electronics and Its Applications in the Information and Telecommunication Systems. 14-18 September 2000. – St. Petersburg, Russia, 2000. – P. 119.

10. V. Khilkevich. "Self-learning algorithms for solving inverse problems of electrodynamics". 6th international scientific conference of Master and PhD students "Radio, Electrical and Power Engineering", vol. 1. pp. 53-54, March 1-2, 2000, Moscow, Russia. (In Russian)
11. V. Khilkevich. "Reconstruction of permittivity profile using radio-frequency measurements" 5th international scientific conference of Master and PhD students "Radio, Electrical and Power Engineering", vol. 1. pp. 48-49, March 2-3, 1999, Moscow, Russia. (In Russian)
12. V. Khilkevich. "Comparison of different radio-wave methods of permittivity profile reconstruction". Annual scientific conference of Master and PhD students "Radio and Electrical Engineering in the National Economy", vol. 1, p. 41. February 25-26, 1998, Moscow, Russia. (In Russian)

CONFERENCE PAPERS (submitted)

1. P. Maheshwari, V. Khilkevich. "Application of Synthetic Aperture Radar Technique to EMI source Identification in the GHz range". 2014 IEEE International Symposium on Electromagnetic Compatibility
2. X. Jiao, V. Khilkevich, P. Dixon, J. Drewniak. "EMI mitigation with lossy material at 10 GHz". 2014 IEEE International Symposium on Electromagnetic Compatibility.
3. G. Shen, S. Yang, V. Khilkevich, D. Pommerenke. Simple D flip-flop Behavioral Model of ESD Immunity for use in the IOS10605 Standard. 2014 IEEE International Symposium on Electromagnetic Compatibility.
4. S. Yang, P. Maheshwari, V. Khilkevich, D. Pommerenke. Coupling Path Visualization using a movable scatterer. 2014 IEEE International Symposium on Electromagnetic Compatibility.

BOOKS

1. V. Khilkevich. *Artificial Neural Networks and their Application*. MPEI Publishing, Moscow, Russia, 2004. (In Russian)