Curriculum Vitae

Guennadi A. Kouzaev

Professor, Dr. Sci. (El. Eng.), and PhD (Phys./Math.)

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Theoretical and Applied Electromagnetism, Microwave and Terahertz Techniques, Quantum Electromagnetics, and Computer Engineering

Job History

08/2005 - present

Professor, Department of Electronics Systems, NTNU (Trondheim, Norway)
Researched the theory and experimental verification of several novel miniature coaxial heaters for microwave (MW)-assisted chemistry, including glass-metal and rotating liquid-thin-film designs. Took part in molecular simulation of dipole dynamics in the MW field in open space, near conducting surfaces, and inside nano coaxial reactors. Proposed predicate and variable predicate logic processor designs and managed two projects on their FPGA verification. Proposed two designs of graphene H-waveguides for terahertz lasing and performed their electromagnetic analytical and numerical simulations. Research focused on the analysis of viral RNA sequences and their mapping for visual and mathematical characterization. Proposed a conception of seamless simulation and design of quantum and electronic integrations by commercial and modified circuit simulators. Derived new compact Hertz-quantum self-consistent equations for prospective CAD tools of quantum/EM integrations. Did research on theoretical modeling of traps and guides of ultra-cold atoms by DC and MW fields, solving the linear and nonlinear Schrödinger equations. Initiated a project and took part in the study of the Anderson effect in random optical traps for ultra-cold atoms. Proposed a new type of signal with topologically modulated space-time EM fields (3D vector-manifold signals for terabit optical multichannel communication). Did research on the topological theory of boundary value problems. Supervised several PhD and Postdoc projects

03-06.2025

Sabbatical Research Professor at MaCH-3DP Corp. (Burlington, Ontario, Canada)
Did research on numerical modeling of microwave reactors, wrote and submitted one journal paper and two preprints

05-06/2024

Sabbatical Research Professor at Ankara University (Turkey)
Did research on numerical modeling of microwave heating of reference liquids in coaxial waveguide reactors

01-06/2019, 01-06/ 2020 **Sabbatical Research Professor at MaCH-3DP Corp. (Burlington, Ontario, Canada)**
Did research on the possible non-thermal nature of accelerating chemical reactions in the MW field. Developed semi-analytical models of graphene microstrip transmission lines. Proposed novel waveguides for terahertz lasing initiated by light. Performed analytical modeling

2013 **Sabbatical Research Professor at the European Laboratory of Nonlinear Sciences (Florence, Italy)**
Did theoretical research on catching ultra-cold atoms by random light-trapping potentials based on the Anderson effect

10/2001-08/2005 **Res. Assoc. Acad., McMaster University (Hamilton, Canada)**
Developed fast analytical EM models of planar and 3D components for advanced multi-ten-gigabit motherboards: via-holes, lossy microstrip transmission lines, and low-loss substrate integrated waveguides (up to 100 GHz), shorted-patch antennas, and miniaturized antennas for medical applications. Measurements and full-wave simulations verified the developed models.

07/2000-08/2001 **Senior IC Design Engineer, Gennum Corp. (Burlington, Canada)**
Designed CMOS and bipolar multigigabit IC equalizers and broadband PCBs for them. Evaluated and characterized the designed high-speed subsystems and components. Wrote a code for joint time-frequency analysis of distorted picosecond signals.

01/1989-05/2000 **Professor, Assoc. Professor, Senior Research Assoc.**
Moscow State Institute of Electronics and Mathematics (Technical University), a part of the High School of Economics, now
Developed a topological theory of the boundary EM problems. Proposed a new type of space-time topologically modulated EM signals and hardware for their processing: MW passive gates for radars, sub-picosecond passive switches, multivalued and predicate gates, and reconfigurable logic components for quantum logic modeling. Proposed a conception of a new reconfigurable pseudo-holographic architecture for a ULSI processor.
Took part in a pioneering project on developing the first 3D MW integrated circuits for airspace applications and was responsible for the electromagnetics and analytical/numerical modeling of 3D integrated components and subsystems. Supervised projects supported by the Russia Fund for Basic Research, the Russian Ministry of Science, and national and private institutions. Gave lectures on electromagnetism, MW and high-speed electronics, MW optics, and information security. Supervised the Engineer and PhD students.

08/1994-11/1997 **Department Head (Part-Time), Project Head (Part-Time)**
Research Inst. of Advanced Technology, Russian Academy of Natural Sciences (Moscow)
Managed projects on highly sensitive techniques and hardware for receiving and processing weak optical and MW human-body signals. Managed the development of highly sensitive MW and millimeter-wave radiometers and radiometric imagers of weak human-body radiation. I researched numerical techniques for the radiometer time-domain calibration using methods of stochastic dynamics.

04/1984-01/1989 **Research Associate, Russia Science Research Institute of Space Device Engineering (Moscow)**
Developed, tested, and tuned MW miniature planar and three-dimensional integrated components. Developed several FORTRAN codes for computations of planar and multilayered transmission lines, directional couplers, filters, etc. Simulated and studied multilevel slot transmission lines and their discontinuities using integral equations and variational techniques. Studied spin-wave physics in ferrites. Developed a new analytical model of a distributed spin-wave amplifier.

Invented a 3D ferrite circulator and multilayered filters. Implemented the developed circuits and software into the aerospace industry.

Scientific Degrees and Teaching Certificates

1986	**Ph.D. in Phys.&Math**.: Radio Wave Physics, including Quantum Physics (Kotelnikov's Institute of Radio Eng. & Electronics, USSR Academy of Sci., Moscow)
1998	**Dr. Sci. (Habil.) in El. Eng**.: Computer and Control Systems Components with Microwave Techniques (Moscow State Institute of Electronics and Mathematics - Techn. University, now a branch of High School of Economics (HSE))
1999	**Professor Diploma in Microwave Techniques,** issued by the Ministry of Education and Science, Russia
2015	**Certificate**, NTNU's Educational Program for Academic Staff (PEDUP)

Lecturing Experience

2005-present	Microwave and High-speed Electronic Passive Components; Microwave Techniques; **Microwave and Terahertz Techniques** (current); Antennas; Wave Propagation: PhD Course on Advanced Applied Electromagnetics; **Numerical Electromagnetics and CAD** (current), NTNU
1991-2000	Electrodynamics and Microwave Techniques (Pensum), Moscow State Institute of Electronics and Mathematics-Technical University

Honors

1990	Soviet Union Government Prize for Young Scientists
1997	Russia Government Prize in the Field of Science and Engineering
2008	Diploma, NTNU IET Ambassador'2008
2011-2019	Gratitude Letters for MegaGrant and RSF Proposal Assessment Work, Ministry of Education and Science of the Russian Federation
2024/2025	Outstanding Reviewer, Journal of Modern Physics
2025	Certificate of Recognition for presentation on *ATG Walks in Virus Genomics* on the International Scientific Conference "Applied Microbiology and Beneficial Microbes," Vienna, Austria, Sept. 25-26, 2025
2026	IMRF International Distinguished Professor and Researcher Award 2026

Memberships in Scientific Societies and other Activities

2004-2025	Member, IEEE Society
2022-2025	Member, IEEE Computer Society
2014	Member, Association for Computing Machinery - ACM (USA)
2007-2008	Member, Int. Microelectronics and Packaging Society
2001-2019	Member, Program Director, Alliance of Technology and Science Specialists, Canada

1999-2003	Scientific Consultant, American Assoc. of Inventors and Authors, Los Angeles, USA
1992-2000	Member, A.S. Popov-Society for Radio Eng., Electronics and Telecom., Russia
1996-2000	Member, Trans Black Sea Region Scientific Union of Appl. Electromagnetism, Greece
2015-2022	Invited International Expert, Russian Science Fund (RSF)
2011-2013	An Invited International Expert in the German Space Agency for the Russian Governmental Initiative in Science and Technology - MegaGrants
2012-present	Evaluator, Cor Baayen ERCIM Award Competition (EU)
2010-2012	Panel Reader, Nature
2015	Head of an official NTNU's Delegation to Kyoto University (Japan)
2023-current	Nominator, VinFuture Prize
	Editorial Board Member for Frontiers Antennas and Propagation, MDPI Atoms, Wave Physics and Radiotechnical Systems (Russia), Int. J. Applied Physics, J. Modern Physics (SCIRP), Int. J. of Electrical Engineering and Computer Science (EEACS) - Assoc. Editor, Thermodynamics Research: Open Access, CSK Scientific Journal of Physics and Chemistry, World Journal of Mathematics and Statistics, Telecommunication System & Management, Universal Library of Physics, Journal of Modern Classical Physics and Quantum Neuroscience, Transactions on Applied Science, Engineering and Technology
	Reviewer for several journals and books, including those from the IEEE, Elsevier, SPIE, CRC, several MDPI journals, Radio Science Lett., Sci. Research, Nature Publ., AIP, and Editorial Board Member for Frontiers Antennas and Propagation, and MDPI Atoms.
	Member of Science and Technical Committees of many international conferences, and chair of several international conferences

Publications

More than 200 publications, two books, several chapters of books, edited conference proceedings, 14 invention certificates, patents, and published patent applications (UK)

Citizenship

Canada, Russia, and Norwegian Settlement Permit

List of Publications

Guennadi A. Kouzaev

I. EM Quantum Mechanics, Cold Matter, Molecular Physics, and Virus Genomics

1. Kouzaev, G.A. (2024): **Applications of Advanced Electromagnetics. Microwave Components and Systems**, 2nd Edition, Springer Nature Switzerland, 374 pp. https://doi.org/10.1007/978-3-031-73892-0
2. Belinsky, A. and Kouzaev, G. (2024): DNA walks in virus genomics, **JP Journal of Biostatistics**. Vol. 24. P. 251-286. http://dx.doi.org/10.17654/0973514324017
3. Belinsky, A. and Kouzaev, G. (2022): Visual and quantitative analyses of virus genomic sequences using a metric-based algorithm, **WSEAS Transactions on Circuits and Systems**. Vol. 21. P. 323-348. http://dx.doi.org/10.37394/23201.2022.21.35 . See also: **BioArxiv**: https://www.biorxiv.org/content/10.1101/2021.06.17.448868v3
4. Kouzaev, G.A. (2021): The geometry of ATG-walks of the Omicron SARS CoV-2 virus RNAs. **BioArxiv**: https://www.biorxiv.org/content/10.1101/2021.12.20.473613v1
5. Belinsky, A. and Kouzaev, G. (2021): Geometrical Study of Virus RNA Sequences. **BioArxiv**: https://www.biorxiv.org/content/10.1101/2021.09.06.459135v1
6. Kouzaev, G.A. (2019): Frequency dependence of microwave-assisted electron-transfer chemical reactions, **Molecular Physics**. Vol. 118. P. e1685691(1-6). https://doi.org/10.1080/00268976.2019.1685691
7. Kapranov, S.V. and Kouzaev, G.A. (2019): Nonlinear dynamics of dipoles in microwave electric field of a nanocoaxial tubular reactor, **Molecular Physics**, Vol. 117. P. 489-506. https://doi.org/10.1080/00268976.2018.1524526
8. Kapranov, S.V. and Kouzaev, G.A. (2018): Effects of microwave electric fields on the translational diffusion of dipolar molecules in surface potential: A simulation study. **Surface Science,** Vol. 667. P. 66-78. https://doi.org/10.1016/j.susc.2017.09.004
9. Kouzaev, G.A. (2017): Propagation control of edge Hall-effect modes in 2D electron waveguides with random confining potential. **Am. Inst. Phys. Conf. Proc**., Vol. 1863. P. 390004. https://doi.org/10.1063/1.4992569
10. Kouzaev, G.A. (2017): Preface of the "Symposium on Numerical Methods and Models in Applied Quantum Mechanics and Nanoelectronics". **Am. Inst. Phys. Conf. Proc**., Vol. 1863. P. 390001. https://doi.org/10.1063/1.4992569
11. Ying, G. and Kouzaev, G.A. (2016): Eigenmodal analysis of Anderson localization: Applications to photonic lattices and Bose-Einstein condensates. **Physica B Condensed Matter,** Vol. 499**.** P. 87-96. https://doi.org/10.1016/j.physb.2016.07.018
12. Kapranov, S.V. and Kouzaev, G.A. (2016): A simulation study of microwave field effects on 3D orthorhombic lattice of rotating dipoles: short-range potential energy variation. **Europ. Phys. J. B. (EPJB). Condensed Matter and Complex Systems,** Vol. 89**.** P. 126 (1-16). https://doi.org/10.1140/epjb/e2016-70027-5

13. Kouzaev, G.A. (2016): Simulation of quantum and EM-quantum components using the available circuit simulators. **Abstracts from the 2016 Emerging Technologies Research Conference**, **ETCMOS'2016**, Montreal, May 25-27, 2016. River Publishers, P. 34. e-ISBN: 9788793379558. https://www.riverpublishers.com/flyer_pdf/create_flyer.php?id=386
14. Kapranov. S.V., Kouzaev, G.A., and Evstigneyev, M.P. (2016): Nonlinear and stochastic dynamics of dipoles underlying the thermal and non-thermal effects of RF-electric fields in polar dielectrics (in Russian). **Proc. 9th Scientific-practical Seminar Emerging Problems of Condensed Matter Physics**, RAS Scientific Council, Sevastopol, October 12-14, 2016. P. 7-8.
15. Kouzaev, G.A. Electronic control of edge modes in integer-Hall-effect 2D electron waveguides, 2016.http://arxiv.org/abs/1506.03294
16. Kouzaev, G.A. (2014): Controlled localized eigenmodes in pseudo-random multilayer electron waveguides, **Int. J. Modern Phys**. **B,** Vol. 28. P. 1350192 (1-21). https://doi.org/10.1142/S0217979213501920
17. Kouzaev, G.A. (2014): Computer-aided design of hybrid quantum-classical integrations, **Proc. Int. Sci. and Practical Conf. Innovative Information Technologies,** Vol. 3, Prague, April 21-25, 2014. P. 313-317.
18. Kouzaev, G.A. (2014): Circuit modelling of Schrödinger equations for CAD of hybrid electronic-quantum integrations. Invited Plenary Lecture Abstract. **Proc. 8th Int. Conf. Circuits, Systems, Signals and Telecommunications**, Tenerife, Spain, Jan. 10-12, 2014, P. 13.
19. G. Ying and G.A. Kouzaev (2013): Circuit models for Josephson effects in weakly-coupled Bose-Einstein condensates and in superconductor junctions. **Proc. 4th Int. Conf. Circuits, Systems, Control, Signals**, Valencia, Spain, Aug. 6-8, 2013, P. 74-78.
20. Kapranov, S.V. and Kouzaev, G.A. (2013): On the time evolution of the separatrix stochastic layer of a harmonically-perturbed nonlinear pendulum. **Proc. 4th Int. Conf. Circuits, Systems, Control, Signals**, Valencia, Spain, Aug. 6-8, 2013, P. 97-101.
21. Kapranov, S.V. and Kouzaev, G.A. (2013): Stochastic dynamics of an electric dipole in the external electric fields: a perturbed nonlinear pendulum approach, **Physica D: Nonlinear Phenomena**, Vol. 252. June 1, 2013, P. 1-21. https://doi.org/10.1016/j.physd.2013.02.007
22. Kouzaev, G.A. (2010): Hertz vectors and the electromagnetic-quantum equations, **Modern Phys. Lett. B,** Vol. 24. No 20, P. 2117-2129. https://ui.adsabs.harvard.edu/link_gateway/2010MPLB...24.2117K/doi:10.1142/S0217984910024523
23. Kouzaev, G.A. (2010): Simulation of quantum effects by the Agilent ADS, **On-line Presentation at Agilent Corp**., Sept. 3, 2010, 38 p.,
24. Kouzaev, G.A. (2010): Calculation of linear and nonlinear Schrödinger equations by the equivalent network approach and envelope technique, **Modern Phys. Letters B,** Vol. 2. No. 1. P. 29-38. https://ui.adsabs.harvard.edu/abs/2010MPLB...24...29K/abstract
25. Kouzaev, G.A. (2009): Co-design of quantum and electronic integrations by available circuit simulators, **Proc. 13th Int. Conf. Circuits**, Rhodes, Greece, July 22-24, 2009. P. 152-155.
26. Kapranov, S. and Kouzaev, G.A. (2010): Relaxation mechanism of microwave heating of near-critical polar gases, **Int. J. Thermal Sciences**, Vol. 49. No. 12. P. 2319-2330. https://doi.org/10.1016/j.ijthermalsci.2010.07.008
27. Sand, K.J., and Kouzaev, G.A. (2008): Controlling cold matter by the RF and DC fields, **Recent Advances in Systems Engineering and Applied Mathematics**, P. 90-93, 2008.
28. Kouzaev, G.A. and Sand, K.J. (2008): Quasi-synaptic effect to control the cold matter transfer (invited paper), **Neuroquantology** (www.neuroquantology.com), April 2008. http://dx.doi.org/10.14704/nq.2008.6.1.152

29. Kouzaev, G.A. and Sand, K.J. (2008): 3D multicell designs for registering of Bose-Einstein condensate clouds, **Modern Phys. Lett. B,** Vol. 22. No. 25. P. 2469-2479. https://doi.org/10.1142/S0217984908016777
30. Kapranov, S.V. and Kouzaev, G.A. (2008): Stochasticity in nonlinear pendulum motion of dipoles in electric field. **Recent Advances in Systems Eng. and Appl. Math**., P. 107-111, 2008.
31. Kouzaev, G.A. and Sand, K.J. (2007): Inter-wire transfer of cold dressed atoms, **Modern Phys. Lett. B,** Vol. 21. P. 1653-1665. https://doi.org/10.1142/S0217984907014140
32. Kouzaev, G.A. and Sand, K.J. (2007): RF controllable Ioffe-Pritchard trap for cold dressed atoms. **Modern Phys. Lett. B.** Vol. 21. P. 59-68. http://arxiv.org/abs/cond-mat/0602210
33. Sand, K.J. and Kouzaev, G.A. (2007): Numerical simulations of the Ioffe-Pritchard trap for cold dressed atoms, **Wave Processes and Radiotechnical Systems**. Vol. 10. No 1. P. 53-56.
34. Kouzaev, G.A. (2006): Quantum synapse for cold atoms, **Proc. 5th Int. Conf. Physics, Technology, and Application of Wave Processes**. Samara, Russia, Sept. 2006, P. 32-33; El. Archive: http://arxiv.org/abs/quant-ph/0703189.

II. Advanced Electromagnetics, including Topological Approach, Microwave Planar and 3-D Integrated Circuits, and Waveguide Components

35. Kouzaev, G.A. (2026): Towards miniature multi-bore coaxial reactors for microwave-assisted parallel liquid heating: Basis experimental research. **AIMS Electronics and Electrical Engineering**. Vol. 10. Issue 1. P. 1-25. https://doi.org/10.3934/electreng.2026001
36. Kouzaev, G.A. (2025): Coaxial open-ended T-junction reactor for microwave-assisted heating of liquids and semi-liquid pastes. **TechArxiv Preprint**. https://doi.org/10.36227/techrxiv.175339623.37072150/v1
37. Kouzaev, G.A. (2025): Parallel microwave-assisted heating in multi-bore coaxial reactors. **TechArxiv Preprint**. https://doi.org/10.36227/techrxiv.174803702.26670533/v1
38. Kouzaev, G.A. (2025): Microwave-assisted heating in thin-film liquid spinning coaxial reactors for enhanced chemical processes. Book Chapter: In: **Chemical and Materials Sciences: Developments and Innovations.** Vol. 9. P. 62-85. https://doi.org/10.9734/bpi/cmsdi/v9/3845
39. Kouzaev, G.A. (2024): Microwave-assisted liquid heating in spinning coaxial reactors, **AIMS Electronics and Electrical Engineering**. Vol. 8. Issue 4. P. 478-497. https://doi.org/10.3934/electreng.2024023
40. Kouzaev, G.A. (2023): Thin-film rotating coaxial reactor for microwave-assisted rapid Chemistry, **TechRxiv Preprint**: https://doi.org/10.36227/techrxiv.24718350.v1
41. Sharma, G. and Kouzaev, G.A. (2023): Miniature glass-metal coaxial waveguide reactors for microwave-assisted liquid heating. **AIMS Electronics and Electrical Engineering.** Vol. 7. Issue 1. P. 100-120. https://doi.org/10.3934/electreng.2023006
42. Kouzaev, G. (2022): Glass-metal coaxial-waveguide reactors for on-demand microwave-assisted chemistry. **TechRxiv Preprint**. https://doi.org/10.36227/techrxiv.20045006.v3
43. Kouzaev, G. and Kapranov, S. (2020): Microwave coaxial reactors for on-demand chemistry. **TechRxiv Preprint**. https://doi.org/10.36227/techrxiv.11649678.v2

44. Kouzaev, G.A. (2021): Terahertz rectangular waveguides with inserted graphene films biased by light and their quasi-linear electromagnetic modeling**. J. Comput. Electronics**. Vol. 20. P. 169-177. https://link.springer.com/article/10.1007/s10825-020-01609-z#citeas
45. Kouzaev, G.A. (2023): Correction to: Terahertz rectangular waveguides with inserted graphene films biased by light and their quasi-linear electromagnetic modeling. **J. Comput. Electronics**. Vol. 22. P. 602. http://dx.doi.org/10.1007/s10825-022-02004-6
46. Kouzaev, G.A. (2020): Graphene H-waveguide for terahertz lasing applications: electromagnetic quasi-linear theory. **Nanomaterials.** Vol. 10. P. 2415(1-20). https://doi.org/10.3390/nano10122415
47. Lerer, A.M., Kouzaev, G.A., and Makeeva, G.S. (2020): Electrodynamic and probabilistic calculation of performances of THz devices based on periodic multilayer graphene-dielectric structures. **Proc. 2020 IEEE Moscow Workshop on Electronic and Networking Technologies (MWENT)**, pp. 1-4. https://doi.org/10.1109/MWENT47943.2020.9067449
48. Kouzaev G.A. (2019): Physics-based analytical engineering models of graphene micro- and nanostrip lines. **IEEE Transactions on Components, Packaging, and Manufacturing Technology**. Vol. 9. P. 1-9. http://dx.doi.org/10.1109/TCPMT.2019.2940232
49. Kapranov, S.V. and Kouzaev, G.A. (2019): Study of microwave heating of reference liquids in a coaxial waveguide reactor using the experimental, semi-analytical, and numerical means, **Int. J. Thermal Sci.** Vol. 140. P. 505-520. https://doi.org/10.1016/j.ijthermalsci.2019.03.023
50. Kapranov, S.V. and Kouzaev, G.A. (2017): Models of water, methanol, and ethanol and their applications in the design of miniature microwave heating reactors, **Int. J. Thermal Sci**. Vol. 122, P. 53-73. https://doi.org/10.1016/j.ijthermalsci.2017.08.007
51. Makeeva, G.S., Golovanov, O.A., and Kouzaev, G.A. (2017): Numerical analysis of tunable parametric terahertz devices based on graphene nanostructures using the projection method and autonomous blocks, **Am. Inst. Phys. Proc**. Vol. 1863(1). P. 390003 https://doi.org/10.1063/1.4992568
52. Kouzaev, G.A. (2014): Simulation and study of chaotic dynamics in a stadium-shaped optically-large resonator, **Proc. 8th Int. Conf. Circuits, Systems, Signals and Telecommunications**, Tenerife, Spain, Jan. 10-12, 2014, P. 169-171.
53. Makeeva, G.S., Golovanov, O.A., Rinkevich, A.B., and Kouzaev, G.A. (2014): Rigorous modelling of microwave devices on magnetic opal nanocomposites by the method of multimode autonomous blocks, **Proc. 8th Int. Conf. Circuits, Systems, Signals and Telecommunications**, Tenerife, Spain, Jan. 10-12, 2014, P. 74-78.
54. Kouzaev, G.A. (2013): **Applications of Advanced Electromagnetics. Components and Systems,** 531 pp., Springer-Verlag, Berlin-Heidelberg. ISBN 978-3-642-30309-8.
55. Kouzaev, G.A., Topology, signaling, and computing. Invited Plenary Lecture Abstract (2013): **Proc. 4th Int. Conf. Circuits, Systems, Control, Signals**, Valencia, Spain, Aug. 6-8, 2013, P.13.
56. Makeeva, G.S., Golovanov, O.A., and Kouzaev, G.A. (2013): Transmission of H_{10} mode through the magnetic nanowire-based 3D structures in the waveguide at short microwaves, **Proc. 4th Int. Conf. Circuits, Systems, Control, Signals**, Valencia, Spain, Aug. 6-8, 2013, P. 79-82.
57. Makeeva, G.S., Golovanov, O.A., and Kouzaev, G.A. (2013): Propagation of short microwaves and their nonlinear interactions with 3D arrays of magnetically functionalized carbon nanotubes, **Proc. 4th Int. Conf. Circuits, Systems, Control, Signals**, Valencia, Spain, Aug. 6-8, 2013, P. 83-86.
58. Kouzaev, G.A., Deen, M. J., and Nikolova, N.K. (2012): Transmission lines and passive components. Chpt. 2. In: **Silicon-Based Millimetre-wave Technology. Measurement, Modeling and Applications** (Ed. M.J. Deen). P. 119-222, Elsevier –Academic Press. ISBN 978-0-12-394298-

2. https://www.elsevier.com/books/advances-in-imaging-and-electron-physics/deen/978-0-12-394298-2

59. Kouzaev, G.A. (2011): Electromagnetic model of differential substrate integrated waveguide, **Proc. Eur. Computing Conf**., April 27-29, 2011, P. 282-284, Paris, France.
60. Kouzaev, G.A. (2009): Basics of topological electromagnetics and its applications, Plenary lecture abstract. **Proc. 8th Int. Conf. Appl. of El. Eng**., Houston, USA, April 30-May 2, 2009, P. 195-198.
61. Makeeva, G.S., Golovanov, O.A., Pardavi-Horvath, M., and Kouzaev, G.A. (2009): A method of autonomous blocks partially filled by nonlinear gyromagnetic media for nanoelectromagnetic applications, **Proc. 8th Int. Conf. Appl. of El. Eng**., Houston, USA, April 30-May 2, 2009, P. 204-207.
62. Kouzaev, G.A. (2008): Topological theory of electromagnetic boundary problems. Plenary lecture abstract. **In: New Aspects of Computing Research, Proc. 2nd Eur. Comp. Conf. (ECC'08)**, P. 18.
63. Makeeva, G.S., Golovanov, O.A., Pardavi-Horvath, M., and Kouzaev, G.A. (2008): Decomposition approach to nonlinear diffraction problems of nanoelectromagnetics and nanophotonics using autonomous blocks with Floquet channels, **Proc. 7th Int. Conf. Appl. of El. Eng. (AEE'08)**, P. 31-35, 2008.
64. Kouzaev, G.A., Deen, M.J., Nikolova, N.K., and Rahal, A. (2006): Cavity models of planar components grounded by via-holes and their experimental verification. **IEEE Trans., Microwave Theory and Techniques**, Vol. 54. P. 1033-1042. https://doi.org/10.1109/TMTT.2005.864137
65. Kouzaev, G.A., Deen, M.J., Nikolova, N.K., and Rahal, A. (2005): An approximate parallel-plate waveguide model of a lossy multilayered microstrip line. **Microwave and Optical Techn. Lett**., Vol. 45. P. 23-26. https://doi.org/10.1002/mop.20712
66. Kouzaev, G.A., Deen, M.J., and Nikolova, N.K. (2005): A parallel-plate waveguide model of lossy microstrip line. **IEEE Microwave and Wireless Components Lett.** Vol. 15. P. 27-29. https://doi.org/10.1109/LMWC.2004.840970
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68. Kouzaev, G.A., Georgieva, N.K., and Deen, M.J. (2003): Circular-pad via model based on cavity field analysis**. IEEE Microwave and Wireless Components Lett**. Vol. 13. P. 481-483. https://doi.org/10.1109/LMWC.2003.818519
69. Bykov, D.V., Gvozdev, V.I., and Kouzaev, G.A. (1997): The significant achievements of the MSIEM's scientists: microwave components for 3D ICs. **Instruments and Control Systems**. No 5. P. 4-7.
70. Kouzaev, G.A., Portnov, D.Yu., and Pshenitchnikov, Yu.E. (1997): Broadband modal filters (In Russian). **Proc. 9th Int. Conf. Electrodynamics and Technique of Microwave and EHF**, Samara, Russia, 8-13 September 1997. P. 60-61.
71. Gvozdev, V.I., Kouzaev, G.A., and Podkovyrin, S.I. (1996): Microwave volume-metrical monolithic integrated circuits. **Proc. Trans Black Sea Region Symp. on Applied Electromagnetism**, Metsovo, Epirus-Hellas. Athens, Greece, 17-19 April 1996. P. 173. https://doi.org/10.1109/AEM.1996.873123
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