Dr. MICHAEL GOLOSOVSKY
List of Publications (2019)

M.Sc.These (1978)
"*The effect of superconducting transition on nonlinear acoustic attenuation in lead*"

Ph.D. These (1983)
"*Optical damping of dislocations in ionic crystals*"

Articles in refereed journals:

Nonlinear ultrasonic attenuation in superconductors

1. Ya.M.Soifer, M.A.Golosovski, N.P.Kobelev, "*The effect of dislocation dynamic drag on the nonlinear acoustic properties of lead*", J. Phys. (Paris) Colloq. 42, C5-173 (1981).
2. Ya.M.Soifer, M.A.Golosovski, N.P.Kobelev, "*Dislocation damping and acoustic attenuation in lead*", Fiz.Tverd.Tela 23, 1740 (1981) [Sov.Phys.-Solid State 23, 1013, (1981)].
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Ionic crystals, dislocations, photochemistry

4. M.A.Golosovsky and Ya.M.Soifer, "*F-stimulated inversion of the dislocation charge in γ-irradiated NaCl crystals*", Fiz.Tverd.Tela 21, 2789 (1979) [Sov.Phys.-Solid State 21,1609 (1979)].
5. M.A.Golosovsky and Ya.M.Soifer, "*Kinetics of the photostimulated variation of the dislocation electric charge in NaCl*", Zh. Eksp. Teor. Fiz. 51, 1919 (1980) [Sov.Phys.-JETP 51, 2964 (1980)].
6. M.A.Golosovsky and Ya.M.Soifer, "*The nature of the optically-induced drag of dislocations in NaCl crystals with F-centers*", Zh.Eksp.Teor.Fiz. 53, 2068 (1981) [Sov.Phys.-JETP 53, 1078 (1981)].
7. M.A. Golosovsky, Ya.M.Soifer, "*Dislocation photodamping in NaCl with F-centers*", J. Phys. (Paris) Colloq. 42, C5-301 (1981).
8. M.A. Golosovsky, Ya.M.Soifer, "*Optical damping of dislocations in KCl*", Fiz.Tverd.Tela 24, 3327 (1982) [Sov.Phys.-Solid State 24, 1890 (1982)].
9. M.A. Golosovsky, Ya.M. Soifer, Yu.A.Ossipyan," *The photoplastic effect in AgCl*", Fiz.Tverd.Tela 24, 602 (1982) [Sov.Phys.-Solid State 24, 339 (1982)].
10. M.A. Golosovsky, Ya.M.Soifer, "*The photodamping of dislocations in KCl single crystals*", J. Phys. Chem. Solids 44, 991 (1983).

Microwave properties of superconductors

11. M. Golosovsky, D.Davidov, C.Rettori, A.Stern, "*Magnetic field modulation effect on the microwave transmission through thin superconducting YBCO films*", Phys.Rev. B 40, 9299 (1989).
12. M.Schieber, T.Tsach, M.Maharizi, M.Levinsky, B.L.Zhou, M. Golosovsky, D.Davidov, "*Films of BSCCO superconductors prepared by spray pyrolysis of carboxyllates*" Cryogenics 30, 451(1990).
13. M. Golosovsky, D.Davidov, E.Farber, M.Schieber, T.Tsach, "*Harmonic generation by field modulation of the microwave complex impedance of high-Tc superconductors*", Physica A 168, 353 (1990).
14. M. Golosovsky, Y.Naveh, and D.Davidov, "*Anisotropic viscous flux motion in high -Tc superconducting films*", Physica C 180, 164 (1991).

15. M. Golosovsky, D.Davidov, Y.Naveh, M.Schieber, H.Raffy, "*Harmonic generation by current modulation of the microwave transmission through granular high-Tc superconducting films*", Physica C 176, 379 (1991).
16. M. Golosovsky, D.Davidov, E.Farber, T.Tsach, M.Schieber, "*Microwave transmission and harmonic generation in granular high- Tc superconducting films: Evidence for viscous flux motion and weak links*", Phys. Rev. B.43, 10390 (1991).
17. M. Golosovsky, Y.Naveh, D.Davidov, "*Fluxon viscosity in high-Tc superconductors*", Phys.Rev.B 45, 7495 (1992).
18. M.Tsindlekht, M. Golosovsky, H.Chayett, D.Davidov, S.Chocron "*Frequency modulation of the superconducting parallel-plate resonator by laser irradiation*", Appl.Phys.Lett. 65, 2875 (1994).
19. M. Golosovsky, M.Tsindlekht, H.Chayett, D.Davidov, N.Bontemps, S.Chocron, E.Iskevitch, B.Brodskii, J.P.Contour, "*Anisotropic magnetic-field-dependent surface resistance of YBCO epitaxial films by the parallel-plate resonator technique*", Physica C 235-240, 3147 (1994).
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21. D.Shaltiel, V.Ginodman, M. Golosovsky, U.Katz, H.Boasson, W.Gerhouser, P.Fischer, "*Investigation of the magnetic-field-induced microwave absorption across Tc in single crystals of Y-Ba-Cu-O and Bi-Sr-Ca-Cu-O*", Physica C 202, 303 (1992).
22. M.Golosovsky,V.Ginodman,D.Shaltiel,W.Gerhouser,P.Fischer "*Scaling of the anisotropic microwave absorption peaks in YBCO and BSCCO single crystals*", Phys.Rev.B 47, 9010 (1993).
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24. D.Shaltiel, M. Golosovsky,M.Bezalel, E.Zeldov, B.Revaz, E.Walker, T.Tamegai, S. Ooi, "*Nonlinear microwave response to magnetic modulation in BSCCO*", Physica B 284, 937-938, (2000).
25. M. A. Golosovsky, H. Snortland and M.R.Beasley, "*Nonlinear microwave properties of Nb microstrip lines*", Phys.Rev.B 51, 6462, (1995).
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31. D. Shaltiel, H-A Krug von Nidda, B. Rosenstein, B. Ya. Shapiro, M. Golosovsky, I. Shapiro, A. Loidl, B. Bogoslavsky, T. Fujii, T. Watanabe, and T. Tamegai "*Field cooling memory effect in Bi2212 and Bi2223 single crystals*", Supercond. Sci. Technol. 23, 075001 (2010).

Artificial dielectrics, waves in random media

32. M. Golosovsky, M.Tsindlekht, D.Davidov "*Microwave propagation through superconductor-insulator composites*", Phys.Rev.B 46, 11439 (1992).

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34. D.Davidov, N.Bontemps, M.Golosovsky, G.Waysand, "M*agnetic field distribution in superconducting composites as revealed by ESR probe and magnetization*", Physica C 297, 111 (1998).

Near-field microwave scanning probe-technique

35. M. Golosovsky, D.Davidov "*Novel millimeter-wave near-field resistivity microscope*", Appl. Phys. Lett. 68, 1579 (1996).

36. M. Golosovsky, A.Galkin, D.Davidov "*High spatial resolution resistivity mapping of large-area YBCO films by a near-field millimeter-wave resistivity microscope*", IEEE Trans. on Microwave Theory and Techniques 44, 1390 (1996).

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Microwave scanning probe -applications

44. F. Sakran, M. Golosovsky, H. Goldberger, D. Davidov, A. Frenkel, "*High-frequency eddy-current technique for thickness measurement of micron-thick conducting layers*", Appl.Phys.Lett. 78, 1634 (2001).

45. A. Lann, M. Abu-Tair, M. Golosovsky, D. Davidov, A. Goldgirsch, V. Beilin "M*agnetic field modulated microwave reflectivity of high Tc superconductors*", Appl. Phys. Lett. 75, 1766 (1999).

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Local magnetic resonance- ESR, FMR, and SWR

49. F. Sakran, A. Copty, M. Golosovsky, N. Bontemps, D. Davidov, A. Frenkel, "*Electron spin resonance microscopic surface imaging using a microwave scanning probe*", Appl. Phys. Lett. 82, 1479 (2003).
50. F. Sakran, A. Copty, M. Golosovsky, D. Davidov, P.Monod, "*Scanning ferromagnetic resonance microscopy and resonant heating of magnetite nanoparticles: Demonstration of thermally-detected magnetic resonance*", Appl. Phys. Lett. 84, 4499 (2004).
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Localized microwave heating, microwave effect on biological objects

52. A. Copty, F. Sakran, M. Golosovsky, D. Davidov, A. Frenkel, "*Low Power Near-Field Microwave Applicator for Localized Heating of Soft Matter*", Appl. Phys. Lett. 84, 5109 (2004).
53. A. Copty, M. Golosovsky, D. Davidov, A. Frenkel, "*Localized Heating of Biological Media Using a 1 Watt Microwave Near-Field Probe*", IEEE Trans. On Microwave Theory and Techniques, 52, 1957 (2004).
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55. A. Copty, Y. Neve-Oz, Y. Barak, M. Golosovsky, D.Davidov, "*Evidence for a specific microwave Radiation Effect on the Green Fluorescent Protein*", Biophysical Journal 91 1413-1423 (2006).
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Photonic crystals and negative refraction materials

57. M. Golosovsky, Y. Saado, D. Davidov, "*Self-assembly of floating magnetic particles into ordered structures - a promising route for the fabrication of photonic bandgap materials*", Appl. Phys. Lett. 75, 4168 (1999).
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59. Y. Saado, M. Golosovsky, D. Davidov, "*Fabrication of artificial crystals with tunable lattice constant via self-assembly of floating magnetic particles*", Synthetic Metals 116, 427 (2001).
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65. M. Golosovsky, Y. Neve-Oz, D. Davidov, A. Frenkel "*Phase shift upon reflection from metallodielectric photonic bandgap materials*", Phys. Rev. B 70, 115105 (2004).

66. M. Golosovsky, Y. Neve-Oz, , D. Davidov, "*Magnetic-field tunable photonic stop band in the three-dimensional array of conducting spheres*", Phys. Rev. B 71, 195105 (2005).

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Microwave spectroscopy, ferromagnetic resonance

73. M. Golosovsky, M. Abu-Teir, D. Davidov, O. Arnache, P. Monod, N. Bontemps, R.C. Budhani, "*Microwave studies of thin manganite films on SrTi03 substrate*", J. Appl. Phys. 98, 084902 (2005).

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Surface plasmon, infrared spectroscopy, biophysics

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83. V. Yashunsky, V. Lirtsman, M.Golosovsky, D.Davidov, and B. Aroeti, "*Real-Time Monitoring of Epithelial Cell-Cell and Cell-Substrate Interactions by Infrared Surface Plasmon Spectroscopy*", Biophysical J. 99, 4028 (2010).

84. A. Zilbershtein, M.Golosovsky, V. Lirtsman, B. Aroeti, D.Davidov, "*Quantitative surface plasmon spectroscopy: Determination of the infrared optical constants of living cells*", Vibrational Spectroscopy 61, 43 (2012).

85. V.Yashunsky, V. Lirtsman, A. Zilbershtein, A.Bein, B. Schwartz, B.Aroeti, M.Golosovsky, D.Davidov, "*Surface Plasmon Based Infrared Spectroscopy for Cell Biosensing*", J. Biomedical Optics 17, 081409 (2012).

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88. A. Zilbershtein, A. Bein, V. Lirtsman, B. Schwartz, M.Golosovsky, D.Davidov," *Surface plasmon resonance-based infrared biosensor for cell studies with simultaneous control*", J. Biomedical Optics 19, 111608 (2014).

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Complex Networks

92. M. Golosovsky and S. Solomon," *Runaway Events Dominate the Heavy Tail of Citation Distributions*", Eur. Phys. J. Special Topics **205**, 303 (2012).

93. M. Golosovsky and S. Solomon," *Stochastic dynamic model of a growing network based on self-exciting point process*", Phys. Rev. Lett. **109**, 098701 (2012).

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95. M. Golosovsky and S. Solomon," *Growing complex network of citations of scientific papers: Modeling and measurements*", Phys. Rev. E: **95**, 012324 (2017).

96. M. Golosovsky, "*Power-law citation distributions are not scale-free*", Phys. Rev. E 96, 032306 (2017).

97. M. Golosovsky, "*Mechanisms of complex network growth: Synthesis of the preferential attachment and fitness models*", Phys. Rev. E 97, 062310 (2018).

98. Alex Kindler, Michael Golosovsky, and Sorin Solomon "*Early prediction of the outcome of Kickstarter campaigns: is the success due to virality?*", Palgrave Communications 5:49 (2019).

Conference proceedings

1. M.A. Golosovsky, Ya.M. Soifer, "*Illumination effect on the dislocation electric charge and acoustic attenuation in NaCl with F-centers*", in "Internal friction in metals and inorganic materials" (Moscow, Nauka,1982), p.180. (in Russian)
2. M.A. Golosovsky, Ya.M.Soifer, "*Dislocation photodamping in AgCl single crystals*", in Proc. of the 9-th International Conference on Internal Friction and Ultrasonic Attenuation in Solids", Bejing, 1989, ed. by T.S.Ke, Pergamon Press, p.167.
3. M. Golosovsky, D. Davidov, C. Rettori, A. Stern, "*Microwave properties of thin films of high-Tc superconductor Y-Ba-Cu-O*", in Proc. 43rd Ann.Symp. on Frequency Control, 1989, p.115.
4. A.Stern, M. Golosovsky, Y.Elbaz, A.Hertz, A.Lepek, "*TFL's high performance ruggedized rubidium frequency standard*", in Proc. 43rd Ann.Symp. on Frequency Control, 1989, p.124.
5. A.Stern, M. Golosovsky, "*Zero-crossing technique for clock -transition detection in a Rb-frequency standard*", in Proc. 44th Ann. Symp. on Frequency Control, 1990.
6. M. Tsindlekht, M. Golosovsky, D. Davidov, A.F. Jacob, "*Nonlinear surface impedance of YBCO films in a dc magnetic field*", Czech. J. of Phys. 46, 1621 (1996).
7. M. Golosovsky, M. Tsindlekht, D.Davidov "*High-frequency vortex dynamics in YBCO- is the superclean limit achieved?*", in "Coherence in high-temperature superconductors", ed. by G. Deutscher and A. Revcolevschi, World Scientific, pp. 247-270 (1996).
8. M. Golosovsky, N. Bontemps, D. Davidov, G. Waysand, "*Magnetic field inhomogeneity in superconducting composites*", Czech. J. of Phys. 46, 1551 (1996).
9. M. Golosovsky, D. Davidov, "*Mm-wave near-field scanning probe microscope*", IEEE Trans. on Microwave Theory and Techn. -IEEE-MTTS, p.1333, (1997).
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12. M. Golosovsky, A.Copty, D.Davidov, A.Frenkel, "*Localized heat processing of soft materials using a low-power microwave applicator*", Proc. of 23rd IEEE Convention of Electrical and Electronics Engineers in Israel, (2004), p.273-276.
13. Y. Neve-Oz, T. Pollok, Sven Burger, Michael Golosovsky, and Dan Davidov, *Fast Light and Focusing in 2D Photonic Quasicrystals*, PIERS Proceedings, Moscow, Russia, August 18-21, (2009), pp.330-334.
14. Y. Neve-Oz, T. Pollok, S. Burger, M. Golosovsky, and D. Davidov, *Localized resonant states and transmission in a two- dimensional photonic quasicrystal*, Proc. of the 5th International Conference on Applied Mathematics, Simulation, Modelling (ASM 'II), Corfu, 2011, N. Mastorakis (Ed.), Vol. 1, pp. 178-182, (2011).
15. V. Yashunsky, A. Zilbershtein, V. Lirtsman, T. Marciano, B. Aroeti, M.Golosovsky, D.Davidov, *Infrared surface plasmon spectroscopy and biosensing* SPIE Proc. Vol.8234 (2012).

Books and book chapters

1. Michael Golosovsky, *Citation Analysis and Dynamics of Citation Networks*, Springer International publishing, (2019).
2. M. Golosovsky, V. Yashunsky, A. Zilberstein, T. Marciano,V. Lirtsman, D. Davidov, B. Aroeti "*Infrared Surface Plasmon Spectroscopy of Living Cells*", in Plasmons: Theory and Applications, ed. by K.N. Helsey, Nova Science Publishers, (2010).
3. V.Yashunsky, A. Zilbershtein, T. Marciano, V. Lirtsman, , M.Golosovsky, B. Aroeti, D.Davidov, "*Studying living cells by infrared surface plasmon spectroscopy*", in Plasmon: Structure, Properties, and Applications, ed. by A.I. Turunen and J.O. Niemi, Nova Science Publishers, (2011).
4. M. Golosovsky, "*Hyperbolic growth of the human population of the Earth: analysis of existing models*", in History and Mathematics, pp. 188-204. Ed. by L. Grinin, P. Herrmann, A. Kototayev, and A. Tausch, Uchitel Publishing house, Volgograd, Russia, (2010). (arXiv:0910.3056v1).

Patents

1. M.A. Golosovsky and Ya.M.Soifer, "*Device for recording of optical irradiation*", USSR patent 1275226 (1986).
2. D.Davidov and M. Golosovsky "*Millimeter-wave near-field resistivity microscope*", US patent 5,781.018 (1998).
3. D.Davidov and M. Golosovsky,"*Polarization-sensitive near-field microwave microscope*", US patent 6,100,703 (2000).
4. A. Frenkel, M. Golosovsky and D.Davidov, "*Microwave near-field microscope based on a dielectric resonator*", US patent 6,538,454 B1 (2003).
5. D.Davidov,B. Aroeti, M. Golosovsky, V. Lirtsman "*Method and apparatus for monitoring processes in living cells*", USPTO Applicaton 20110188043 (pending).

Participation in international scientific conferences

1989- 43rd Annual Symposium on Frequency Control, Denver USA (contributed talk).

1990- Israel Physical Society (contributed talk)

1991- International Workshop on High-Tc Superconducting Thin Films, Rome, Italy (contributed talk).

1991- Materials Research Society Meeting-MRS 1991 Fall meeting, Boston, USA (contributed talk).

1992- Superconductivity, Materials, Physics and Applications, ICMAS-92, Paris, France (poster presentation)

1992- European Material Research Society (EMRS) Fall Meeting, Strasbourg, France (poster presentation)

1992- International Conference on High-Temperature Superconductivity, Eilat, Israel (poster presentation).

1994- 8-th International Conference on Materials and mechanisms of Superconductivity in High-Temperature Superconductors, Grenoble, France (poster presentation)

1994- III symposium on high-Tc superconductors in high-frequency fields, Cologne, Germany (contributed talk)

1995- French-Israeli-Japanese workshop on high-Tc superconductivity, Herzliya, Israel

1995- Israel Physical Society (contributed talk)

1996- The 3rd International Workshop on Vortex Matter, Shoresh, Israel (poster presentation)

1996- Applied Superconductivity Conference, Pittsburgh,USA (contributed talk)

1996- Review of Progress in Quantitative Nondestructive Evaluation, Portland, USA (contributed talk)

1997- IEEE-MTT-S International Microwave Symposium, Denver, USA (contributed talk)

1997- 8-th International Symposium on Nondestructive characterization of materials, Boulder, USA (contributed talk)

1997- ISF-MINERVA joint workshop on high-Tc superconductivity, Herzliya, Israel (invited talk)

1997- 27 European microwave conference-97, Jerusalem, Israel (contributed talk)

1997- The 8-th International Workshop on rf superconductivity,Abano-Terme, Italy (invited talk)

1997- 4-th International Conference on Near-Field Optics, Jerusalem, Israel (contributed talk).

1998- 11 International Conference on high-power electromagnetics, Tel-Aviv, Israel (contributed talk)

1998- Materials Research Society Meeting -MRS 1998 Fall meeting-, Boston, USA (poster presentation)

1999- Materials Research Society Meeting (MRS 1999 Fall meeting), Boston,USA (contributed talk)

1999- 4-th European conference on applied superconductivity (EUCAS'99), Sitges, Spain (poster presentation)

2000- 4-th International Topical Conference on Optical Probes of Conjugated Polymers and Photonic Crystals, Salt Lake City, USA (contributed talk)

2001- International Conference on Broadband Dielectric Spectroscopy and the Time Domain Dielectric Spectroscopy, Jerusalem.

2002- Israel Physical Society (contributed talk)

2003- French-Israeli Symposium on Non-linear and Quantum Optics-FRISNO-7, Les Houches, France (poster presentation).

2003- 10th International Symposium on Continuum Models and Discrete Systems (CMDS10), Shoresh, Israel (contributed talk)

2004- Workshop on Photonic crystal fibers, Bath, UK (invited talk)

2004- International Conference on Low-Energy Electrodynamics in Solids 2004, LEES-2004, Kloster Banz, Germany (contributed talk)

2004- 23rd IEEE Convention of Electrical and Electronics Engineers in Israel, Tel-Aviv 2004 (contributed talk)

2005- Subtle Thermal Effects of RF-fields in vitro and in vivo, FGF COST workshop, Stuttgart, Germany.

2007- ISF-MINERVA joint workshop, Ramat-Gan, Israel (invited talk)

2008- 5th European Conference on Complex Systems Jerusalem, Israel 2008 (contributed talk)

2009- Progress in Electromagnetics Research Symposium (PIERS 2009), Moscow (three contributed talks)

2011- 6th Congress of the Federation of the Israel Societies for Experimental Biology (FISEB-ILANIT), Eilat, Israel (poster and talk)

2012- COST Action "Physics of Competition and Conflicts", Complexity - An Interdisciplinary Perspective, Jerusalem, Israel (contributed talk).

2012- COST Action "Physics of Competition and Conflicts", Evaluating Science: Modern Scientometric Methods, Sofia, Bulgaria (invited talk).

2013- COST Action "Physics of Competition and Conflicts", Knowescape, Analyzing the dynamics of information and knowledge landscapes, Aalto, Finland (invited talk).

2015- 7th International Conference on Surface Plasmon Photonics (SPP7) Jerusalem, Israel (poster)

2015- ETOPIM 10, Tenth International Symposium on Electrical, Transport, and Optical properties of Inhomogeneous Media, Neveh Ilan, Israel (contributed talk)

2017- Network Science, NetSci-X 2017, Tel-Aviv, Israel (contributed talk).

2018- 7-th International Conference on Complex Systems, ICCS 2018, Cambridge, MA, USA (contributed talk).