



проф. дфн Т. Мишов

1. Списък на публикациите (статии и препринти)
2. Участие в конференции, конгреси и др.

1. СПИСКЪТ НА ПУБЛИКАЦИИТЕ НА ПРОФ. ДФН Т.М. МИШОНОВ

1. Todor M. Mishonov, Mehran Kardar, Bert Van Schaeybroeck, Hans Hooyberghs, Chang-You Lin, Nguyen Van Thu, Tran Huu Phat, Joseph O. Indekeu, Capillary waves at the interface of two Bose-Einstein condensates, arXiv:1410.6124, <http://arxiv.org/pdf/1410.6124v1.pdf> (2014).
2. Dimitrov, Z. D.; Mishonov, T. M., *Self-Sustained Turbulence in a Magnetized Shear Flow*, 4th Black Sea Biennial School and Workshop on Space Plasma Physics, Bulgaria, Aug 19-26, 2012, Space Plasma Physics, Book Series: AIP Conference Proceedings, Volume: 1551 (2013), Edited by: Zhelyazkov, I; Mishonov, T.
3. Topchiyska, R. V.; Zahariev, N. I.; Mishonov, T. M., *Self Consistent 1D Numerical Calculation of the Temperature Profile of Solar Corona Heated by Alfvén Waves*, 4th Black Sea Biennial School and Workshop on Space Plasma Physics, Bulgaria, Aug 19-26, 2012, Space Plasma Physics, Book Series: AIP Conference Proceedings, Volume: 1551 (2013), Edited by: Zhelyazkov, I; Mishonov, T.
4. Todor M. Mishonov, Nedeltcho I. Zahariev, Rositsa V. Topchiyska, Boian V. Lazov, Stefan B. Mladenov, *Heating of the Solar Corona by Alfvén Waves: Self-Induced Opacity*, <http://arxiv.org/pdf/1103.2233.pdf> (1 Sep 2014); N.I. Zahariev and T.M. Mishonov, 3rd School and Workshop on Space Plasma Physics, AIP Conf. Proc. **1356**, 123-137 (2011); American Institute of Physics 978-0-7354-0914-9.
5. Z.D. Dimitrov, Y.G. Maneva, T.S. Hristov and T.M. Mishonov, *Nonlinear Terms of MHD Equations for Homogeneous Magnetized Shear Flow*, AIP Conference Proceedings **1356**, pp. 80-91 (2011).
6. Z.D. Dimitrov, Y.G. Maneva, T. S. Hristov and T.M. Mishonov. *Over-reflection of Slow Magnetosonic Waves by Homogeneous Shear Flow. Analytical Solution*, Phys. Plasmas **18**, (2011).
7. Z.D. Dimitrov, S.K. Varbev, K.J. Omar, A.A. Stefanov, E.S. Penev, T.M. Mishonov, *Correlation between T_c and the Cu 4s level reveals the mechanism of high-temperature superconductivity*, Bulg. J. Phys. **38** (2011) 106-113.
8. Stoev, M.; Mishonov, T. M., LCAO model for 3D Fermi surface of high-T-c cuprate $Tl_2Ba_2CuO_{6+\delta}$, European Physical Journal B, **73**, (1) 109-115 (2010).
9. O.V. Dimitrova and T.M. Mishonov, *Predicted light scattering by Josephson vortices in layered cuprates*, (2010), <http://arxiv.org/pdf/1008.3830v1.pdf>
10. T.M. Mishonov, Z.D. Dimitrov, Y.G. Maneva, and T.S. Hristov, *Amplification of Slow Magnetosonic Waves by Shear Flow: Heating and Friction Mechanisms of Accretion Disks*, in Space Plasma Physics, Proceedings of the School and Workshop on Space Plasma Physics, 31 August □ 7 September 2008, Sozopol, Bulgaria, Editor: I. Zhelyazkov, American Institute of Physics, AIP Conference Proceedings **1121** (2009), pp. 28-54.
11. V.F. Kozhevnikov, C.V. Giuraniuc, M.J. Van Bael, K. Temst, C. Van Haesendonck, T.M. Mishonov, T. Charlton, R.M. Dalgliesh, Yu. N. Khaidukov, Yu. V. Nikitenko, V.L. Aksenov, V.N. Gladilin, V.M. Fomin, J.T. Devreese, and J.O. Indekeu, *Evidence for nonmonotonic magnetic field penetration in a type-I superconductor*, <http://dx.doi.org/10.1103/PhysRevB.78.012502>; Phys. Rev. B **78**, 012502 (2008), *in Web of Science Cited 4 times*
12. T.M. Mishonov, Y.G. Maneva, Z.D. Dimitrov, and T. S. Hristov, *On the theory of MHD waves in a shear flow of a magnetized turbulent plasma*, Bulg. Astron. J. **9**, 51 □ 92 (2007)
13. T.M. Mishonov, M.V. Stoev, Y.G. Maneva, *Theory of heating of hot magnetized plasma by Alfvén waves. Application for solar corona* (2007), <http://arxiv.org/pdf/astro-ph/0701554v2>
14. T.M. Mishonov, M.V. Stoev, *Corbino experimental set-up for Cooper pair mass spectroscopy and determination of mobility in normal phase*, (2007), <http://arxiv.org/pdf/0704.2582v2>
15. T. Mishonov, M. Stoev, and Y.G. Maneva, *“On the origin of solar wind. Alfvén waves induced jump of the coronal temperature”*, <http://arxiv.org/pdf/astro-ph/0701908v3>, Eur. Phys. J. D **44**, 533-536 (2007),
16. T.M. Mishonov, Y.G. Maneva, Z.D. Dimitrov, and T.S. Hristov, *“On the theory of MHD waves in a shear flow of a magnetized turbulent plasma”*, Bulgarian Astronomical Journal **9**, 51-98 (2007);
17. T. Mishonov and M. Stoev, *“Determination of density of states of high- T_c films by FET type microstructures”*, cond-mat/0612169; European Physical Journal B **54**, 419-421 (2006).
18. T.M. Mishonov, Y.G. Maneva, *“Burgulence and Alfvén waves heating mechanism of solar corona”*, astro-ph/0609609.
19. T.M. Mishonov, Y.G. Maneva, *“Boltzmann equation for fluctuation Cooper pairs in Lawrence-Doniach model. Possible negative out-of-plane differential conductivity”*, cond-mat/0604494.
20. T.M. Mishonov and M.T. Mishonov, *“Theory of terahertz electric oscillations by supercooled superconductors”*, Supercond. Sci. Technol. **18** (2005) 1506-1512.

21. T.M. Mishonov, Y.G. Maneva, T.S. Hristov, "Heating and stress tensor of shear flow of magnetized turbulent plasma", astro-ph/0507696 (2005)
22. T.M. Mishonov and M.V. Stoev, "Quantization of conductivity of nanotechnological point contacts. Simple derivation of Landauer formula", Physics/0507131; Physica (Sofia) **30**, 16-22 (2005).
23. T. M. Mishonov, S. I. Klenov and E. S. Penev, "Temperature dependence of specific heat for anisotropic-gap BCS superconductors", cond-mat/0212491 (2002), Phys. Rev. B **71**, 024520 (2005).
24. T.M. Mishonov, Comment on "Band-Structure Trends in Hole-Doped Cuprates and Correlation with T_c -max", cond-mat/0406357.
25. T.M. Mishonov, V.L. Pokrovsky and H. Wei, "Thermodynamics of MgB_2 described by the weak-coupling two-band BCS model", Phys. Rev. **71**, 012514 (2005); cond-mat/0312210 (2005).
26. A. Lascialfari, T. Mishonov, A. Rigamonti, I. Zucca, G. Behr, W. Loser, and S.-L. Drechsler, "Precursor diamagnetism above the superconducting transition in YNi_2B_2C ", Eur. Phys. J. B **35**, 325-329 (2004).
27. S.-L. Drechsler, H. Rosner, J.M. An, W.E. Pickett, V.D.P. Servedio, T. Mishonov, and K. Winzer, "Conventional Electronic Structure of MgB_2 and ZrB_2 : LDA vs de Haas-v. Alphen & ARPES data", J. Low Temp. Phys. **131**, 1175-1180 (2003).
28. T. M. Mishonov, G. V. Pachov, I. N. Genchev, L. A. Atanasova and D. C. Damianov, "Kinetics and Boltzmann kinetic equation for fluctuation Cooper pairs", Phys. Rev. B **68**, 054525 (2003); cond-mat/0302046; (original first manuscript: T.M. Mishonov and D. Ch. Damianov, "Fluctuation conductivity of superconductors within the framework of time-dependent Ginzburg-Landau theory", Submitted to Phys. Rev. B, (1996) Ms. Code: Bu 5876).
29. T. Mishonov and E. Penev, "Bernoulli potential, Hall constant, and Cooper pair effective masses in disordered BCS superconductors", Int. J. Mod. Phys. B **17**, 2883-2895, (2003); cond-mat/0302168.
30. T. M. Mishonov, L. A. Atanasova, P. A. Ivanov and T. I. Valchev, "Plasma spectrum of degenerated electron gas. $T=0$ Green function method", cond-mat/0302048.
31. T. M. Mishonov, T. I. Valchev, L. A. Atanasova and P. A. Ivanov, "RKKY interaction in framework of $T=0$ Green function method", cond-mat/0301548.
32. T. M. Mishonov, E. S. Penev, J. O. Indekeu and V. L. Pokrovsky, "Specific heat discontinuity in impure two band superconductors", Phys. Rev. B **68**, 104517 (2003); cond-mat/0209342.
33. T. Mishonov, S.-L. Drechsler and E. Penev, "Influence of the Van Hove singularity on the specific heat jump in BCS superconductors", cond-mat/0209192, Mod. Phys. Lett. B **17**, 755-762 (2003).
34. Cheenne, N, Mishonov, T, Indekeu, JO, "Observation of a sharp lambda peak in the third harmonic voltage response of high-T-c superconductor thin films", cond-mat/0110632, Eur. Phys. Journal B **32** (4) 437-444 (2003).
35. T. M. Mishonov, J. O. Indekeu and E. S. Penev, "Superconductivity of overdoped cuprates: the modern face of the ancestral two-electron exchange", cond-mat/0209191, J. Phys.: Condens. Matter **15**, 4429-4456 (2003).
36. T. M. Mishonov, E. S. Penev and J. O. Indekeu, Comment on "Anisotropic s-wave superconductivity: comparison with experiments on MgB_2 [A. I. Posazhennikova, T. Dahm and K. Maki, cond-mat/0204545; Europhys. Lett. **60** (2002) 134], cond-mat/0205104, Europhys. Lett. **61** (4), pp. 577-578 (2003).
37. T. M. Mishonov, J. O. Indekeu and E. S. Penev, "The 3d-to-4s-by-2p highway to superconductivity in cuprates", cond-mat/0206350, IJMPB **16**, No. 30 (2002) 4577-4585.
38. T. M. Mishonov, J. P. Wallington, E. S. Penev and J. O. Indekeu, "Reduced pairing Hamiltonian for interatomic two-electron exchange in layered cuprates", cond-mat/0205616, Mod. Phys. Lett. B **16**, 693-699 (2002).
39. T. Mishonov and E. Penev, "Thermodynamics of anisotropic-gap and multiband clean BCS superconductors", cond-mat/0206118, IJMPB, **16**, No. **24** (2002) 3573-3586.
40. T. M. Mishonov, E. S. Penev and J. O. Indekeu, Comment on "Anisotropic s-wave superconductivity in MgB_2 " [S. Haas and K. Maki, cond-mat/0104207; Phys. Rev. B **65**, 020502 (R) 2001], Phys. Rev. B, **66**, 066501 (2002); cond-mat/0204545.
41. V. D. Servedio, S.-L. Drechsler, and T. Mishonov, "Surface states, interpretation of ARPES data, and possible consequences for the superconductivity in MgB_2 " IJMPB **16**, Nos. 11 & 12 (2002) 1613-1617.
42. A. Lascialfari, T. Mishonov, A. Rigamonti, P. Tedesco, and A. Varlamov, "Superconducting Diamagnetic Fluctuations in MgB_2 ", cond-mat/0109404, Phys. Rev. B **65**, 180501 (R) (2002).
43. V. D. Servedio, S.-L. Drechsler, and T. Mishonov, "Surface states and their possible role in the superconductivity of MgB_2 ", cond-mat/0111434, Phys. Rev. B (R) **66**, 140502 (2002).
44. T. M. Mishonov, N. Chéenne, D. Robbes and J. O. Indekeu, "Generation of 3rd and 5th harmonics in a thin superconducting film by temperature oscillations and isothermal nonlinear current response", cond-mat/0109478, Eur. Phys. J. B **26**, 291-296 (2002).
45. T. Mishonov, A. Posazhennikova, J. Indekeu, "Fluctuation conductivity in superconductors in strong electric fields", cond-mat/0106168, Phys. Rev. B **65**, 064519 (2002).
46. T. Mishonov, D. Nikolova, K. Kaloyanov, Sl. Klenov, "Bernoulli effect in the quantum Hall regime and type-II superconductors in magnetic field" in "High T_c Superconductors and Related Materials: Material Science, Fundamental Properties, and Some Future Electronic Applications", edited by S.-L. Drechsler and T. Mishonov, Kluwer, Dordrecht, 2001.
47. T. Mishonov, Comment on "First Observation for a Cuprate Superconductor of Fluctuation-Induced Diamagnetism Well Inside the Finite-Magnetic-Field Regime", cond-mat/0007178.

48. T.M. Mishonov and E.S. Penev, "Thermodynamics of Gaussian fluctuations and paraconductivity in layered superconductors", Int. J. Mod. Physics B, Vol. **14**, No.32 (2000) 3831-3879 (review article); cond-mat/0004023.
49. T.M. Mishonov, "In search for the vortex charge and the Cooper pair", (cond-mat/0004286.), in Superconducting and Related Oxides: Physics and Nanoengineering IV, Proceedings of SPIE Orlando, Florida, USA, 24-28 April 2000, edited by I. Bozovic and D. Pavuna, Vol. **4058**, pp. 97-108 (2000).
50. T.M. Mishonov and E.S. Penev, "Tight-binding modelling of band structure of layered superconducting perovskites", cond-mat/0001049, J. Phys.: Condens. Matter **12**, No. 2 (2000) 143-159.
51. T.M. Mishonov and M.T. Mishonov, "Simple model for linear temperature dependence of the electrical resistivity of layered cuprates", cond-mat/0001031, Physica A **278**, Issue 3-4 (2000) 553-562.
52. A. Lozev, S. Vlaev and T. Mishonov, "Local density of states for solids in an electric field", Phys. Status Solidi B **220**, 747-752 (2000).
53. A. Lozev, S. Vlaev and T. Mishonov, "A convolution technique for calculation of local densities of states", J. Phys.: Condens. Matter **11** (1999) 7501-7505.
54. M.V. Ramallo, C. Carballera, J. Vina, J.A. Veira, T. Mishonov, D. Pavuna and F. Vidal, "Relaxation time of the Cooper pairs near T_c in cuprate superconductors", Europhys. Lett., **48** (1), (1999) 79-85.
55. T.M. Mishonov and N.I. Zahariev, "Predicted new electrodynamic effect for thin films of layered - cuprates surface Hall currents induced by electric induction D_{film} ", Superlattices and Microstructures **26**, No. 1 (1999), 57-60.
56. T.M. Mishonov, A.V. Groshev and A.A. Donkov, "Pairing in layered cuprates by two-electron exchange between adjacent oxygen ions", Bulg. J. Phys. **25** (1998) 62-80.
57. T.M. Mishonov, I.N. Genchev, R.K. Koleva, and E.S. Penev, "Influence of the orthorhombic distortion on the van Hove singularities in the DOS and ARPES spectra of layered cuprates", Superlattices and Microstructures Vol. **24**, No. 5 (1998) 381-384, Article No. sm960483.
58. T.M. Mishonov, A.A. Donkov, R.K. Koleva, and E.S. Penev, "Superconducting gap anisotropy within the framework of a simple exchange model for layered cuprates", cond-mat/0001033, Bulg. J. Phys., **24**, (1997) 114-125.
59. T.M. Mishonov and A.A. Donkov, "Simple lattice model for d-type gap anisotropy in layered cuprates" Proceedings of MOS'96 Conference, Karlsruhe, Germany, 2-6 Aug. 1996; J. Low Temp. Phys. Vol. **107** Nos. 5/6, 541-546 (1997).
60. T.M. Mishonov, I.N. Genchev, R.K. Koleva, and E.S. Penev, "LCAO analysis of Sr_2RuO_4 band structure", Proceedings of MOS'96 Conference, Karlsruhe, Germany, 2-6 Aug. 1996; J. Low Temp. Phys. Vol. **105**, Nos. 5/6, 1611-1616 (1996).
61. T.M. Mishonov, I.N. Genchev, R.K. Koleva, and E.S. Penev, "LCAO analysis of the electron band structure and Fermi surface of cubic superconducting perovskites", Superlattices and Microstructures Vol. **21**, No. 3, (1997) 471-475, Proceedings of 5th World Congress on Superconductivity, Budapest, Hungary, 7-11 July 1996.
62. D.Ch. Damianov and T.M. Mishonov, "Fluctuation paraconductivity within the framework of time-dependent Ginzburg-Landau theory", Superlattices and Microstructures Vol. **21**, No. 3, (1997) 467-470, Proceedings of 5th World Congress on Superconductivity, Budapest, Hungary, 7-11 July 1996.
63. A.A. Donkov and T.M. Mishonov, "Gap anisotropy of layered cuprates in the framework of a correlated hopping model", Superlattices and Microstructures Vol. **21**, No. 3 (1997) 463-466, Proceedings of 5th World Congress on Superconductivity, Budapest, Hungary, 7-11 July 1996.
64. T.M. Mishonov, I.N. Genchev, R.K. Koleva, and E.S. Penev, "Alternatives for Fermi level location in cubic bismuthates deduced from ACAR spectra", Superlattices and Microstructures Vol. **21**, No. 3, (1997) 476-479, Proceedings of 5th World Congress on Superconductivity, Budapest, Hungary, 7-11 July 1996.
65. T.M. Mishonov and A.A. Donkov, "Disorder induced transition between s- and d-type order parameter $\Delta(p)$ within the framework of the valence bond Hamiltonian applied for layered cuprates", Czechoslovak Journal of Physics Vol. **46** - Suppl. Part S2 (1997) 1051 (as of 1 January 2007 this journal was merged with [The European Physical Journal](http://www.edpsci.org)), Proceedings of the 21st International Conference on Low Temperature Physics, Prague, August 8-14, 1996.
66. T.M. Mishonov, I.N. Genchev, R.K. Koleva, and E.S. Penev, "Simple tight-binding model for the Fermi surface of Sr_2RuO_4 ", Czechoslovak Journal of Physics Vol. **46** - Suppl. Part S2 (1997) 953, Proceedings of the 21st International Conference on Low Temperature Physics, Prague, August 8-14, 1996.
67. T.M. Mishonov and D.Ch. Damianov, "Kinetic equation for fluctuation Cooper pairs applied to fluctuation Hall effect in thin superconducting films", Czechoslovak Journal of Physics Vol. **46**-Suppl. Part S2 (1997) 631, Proceedings of the 21st International Conference on Low Temperature Physics, Prague, August 8-14, 1996.
68. T.M. Mishonov, R.K. Koleva, I.N. Genchev and E.S. Penev, "Quantum chemical calculation of oxygen-oxygen electron hopping amplitude - first principles evaluation of conduction bandwidth in layered cuprates", Czechoslovak Journal of Physics Vol. **46**-Suppl. Part S5 (1997) 2645, Proceedings of the 21st International Conference on Low Temperature Physics, Prague, August 8-14, 1996.

69. T. Mishonov and A. Groshev, "Two-electron exchange between adjacent oxygen atoms as a possible origin of the pairing in layered cuprates", Proceedings of the XX International Conference on Low Temperature Physics (LT-20), 4-11 August Oregon USA (1993), Physica B **194-196** (1994) 1427.
70. T. Mishonov, "Theory of Cooper-pair mass spectroscopy by current-induced contact potential difference", Phys. Rev. B **50**, No. 6 (1994) 4009. <http://journals.aps.org/prb/abstract/10.1103/PhysRevB.50.4009>
71. T. Mishonov, "Predicted far infrared transparency of high- T_c superconductors with strong anisotropy as a tool for investigation of plasmons and the superconducting gap", IC/90/121 – Trieste, Proceedings of the International Conference on Materials and Mechanisms of Superconductivity IV (M2S-HTSC-IV) Grenoble, France, July 1994, Physica C **235-240** (1994) 1853-1854.
72. T. Mishonov, "Technique for measuring the Cooper pair velocity, density and mass using Doppler splitting of plasmons in low-dimensional superconducting structures", Phys. Rev. B **50**, (1994), 4004. <http://journals.aps.org/prb/abstract/10.1103/PhysRevB.50.4004>
73. Mishonov, "Predicted far infrared transparency of high- T_c superconductors with strong anisotropy as a tool for investigation of plasmons and the superconducting gap", IC/90/121 - Trieste, PHYSICA C 235 (3), 1853-1854 (1994).
74. T. Mishonov and M. Simkin, "How to measure the effective mass of Cooper pairs with the help of the Hall effect in high- T_c superconducting films", Fiz. Nizk. Temp. **17**, (1991) 1425; Sov. J. Low Temp. Phys. **17** (1991) 772.
75. T. Mishonov, Comment on "Metallic and Superconducting Surfaces of YBaCuO Probed by Electrostatic Charge modulation", Phys. Rev. Lett. **67** (1991) 3195.
76. T. Mishonov, "Predicted Plasma Oscillations in the $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ High-Temperature Superconductor", Phys. Rev. B **44** (1991) 12033.
77. T. Mishonov, "Acoustic Phonon Emission by Two-Dimensional Plasmons", Phys. Rev. B **43**, No. 10 (1991) 7787.
78. T. Mishonov, and T. Christov, "Noise of superconducting magnets", JINR - Dubna (1990) E17-90-563.
79. T. Mishonov, "Magnetoplasma waves in thin high temperature superconducting layers", Phys. Rev. B **42**, No. 10 (1990) 6715.
80. T. Mishonov and A. Groshev, "Plasmon Excitations in Josephson Arrays and Thin Superconducting Layers", Phys. Rev. Lett. **64**, No. 18 (1990) 2199.
81. T. Mishonov, "On the theory of type-I superconductor surface tension and twinning-plane-superconductivity", J. Phys. France **51** (1990) 447.
82. T. Mishonov, "Fluctuation Torque for High Temperature Superconductors in High Magnetic Fields", Workshop on Physics and Materials Science of High Temperature Superconductors, Bad Windsheim, FRG, 13-26 August 1989, in "Physics and Materials Science of High Temperature Superconductors", Edited by R. Kossowsky, S. Methfessel and D. Wohlleben, Proc. of NATO ASI, Bad Windsheim (Kluwer Academic Publishers, 1990, Dordrecht), NATO ASI E **181**.
83. T. Mishonov and A. Groshev, "Plasma waves in Josephson arrays and thin superconducting layers", JINR - Dubna (1989) E17-89-752. Workshop on Macroscopic Quantum Phenomena, Univ Sussex, Brighton, England aug 23-24, 1990. Macroscopic Quantum Phenomena, 163-166 (1991).
84. T. Mishonov and A. Groshev, "Plasmon Excitations in Josephson Arrays", Poster in Conference on Physics and Materials Science of High Temperature Superconductors, Bad Windsheim, FRG, 13-26 August 1989.
85. T. Mishonov, "Phonon emission of two dimensional plasmons", J. Phys.: Condensed Matter **1**, No. 3 (1989) 585.
86. T. Mishonov, "On the theory of twinning plane superconductivity", Bulg. J. Phys. **15**, No. 4 (1988) 352-367.
87. Al. Blagoev, T. Mishonov, S. Kovachev and N. Pilosof, "Bootstrap and jackknife solving of linear equation system for experimental data processing" - JINR - Dubna, (1988) E5-88-463.
88. N.B. Ivanov and T.M. Mishonov, "Heat capacity of a Thick Superconducting Plate with Proximity Effect", Phys. Stat. Sol. B **142** K 19 (1987).
89. Al. Blagoev, Iv. Ivanov, T. Mishonov and Tc. Popov, "Absolute calibration of arbitrary total cross-section for electron excitation of Xe metastable states in the near-threshold region", J. Phys. B: At. Mol. Phys. **17** (1984) L1647 - L1652.
90. Al. Blagoev, T. Mishonov and Tc. Popov, "Superelastic collisions between slow electrons and excited Kr and Xe atoms. Possible reaction mechanism for rare-gas atoms", J. Phys. B: At. Mol. Phys. **17** (1984) 435-441.
91. Al. Blagoev, T. Mishonov and Tc. Popov, "Interaction between metastable Xe atoms in the afterglow plasma", Phys. Lett. A **99** (1983) 221-223.
92. T. Mishonov, "An exactly averaged conductivity in a disordered electronic model", IC/82/73 - Trieste.
93. T. Mishonov and Tz. Sariisky, "Acoustic plasma waves in inversion layers and sandwich structures", IC/82/72 - Trieste.
94. Al. Blagoev, T. Mishonov and Tc. Popov, "On Ne, Ar and Kr chemionization rate coefficient", Proc. of the XI International Conference on Phenomena in Ionized Gases, ICPIG, Minsk, USSR (1981), Part I, p. 381
95. Tz. Sariisky and T. Mishonov, "New plasma waves and soft modes in narrow gap inversion layers", J. Physique-LETTRES, **42** (1981) L1503.

Линкове към препринти в електронна форма

http://arxiv.org/find/grp_q-bio,grp_cs,grp_physics,grp_math,grp_nlin/1/au:+Mishonov/0/1/0/all/0/1



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http://mishonov.objectis.net/publications/Articles/BibliographyFolder_view

http://phys.uni-sofia.bg/~tmishonov/papers_PDF/

Книги

1. T.M. Mishonov and E.S. Penev, *Theory of high-temperature superconductivity. A Conventional Approach*, World Scientific, 2011, New Jersey, ISBN-13 978-981-4343-14-5, ISBN-10 981-4343-14-5
2. Цв. Сарийски и Т. Мишоноу, *Фазови преходи и критични явления*, Наука и Изкуство, София, 1987.
3. Т. Мишоноу, А. Грошев и Т. Христов, *Задачи по Механика, Термодинамика и Молекулна Физика*, Министерство на Просветата, 1983 г. София
4. Т. Мишоноу, *Увод във физиката на свръхпроводимостта*, Издателство на Софийски университет, 450 стр., 189 фигури (предадена за печат)

Редактор на сборници от конференции

5. "High Tc Superconductors and Related Materials: Material Science, Fundamental Properties, and Some Future Electronic Applications", edited by S.-L. Drechsler and T. Mishonov, (Kluwer, Dordrecht, 2001), 568 pp., NATO Science Partnership Sub-Series: 3: High Technology continued within NATO Science Series II: Mathematics, Physics and Chemistry, Volume 86. [ISBN 0-7923-6872-X](#)
6. 3rd School and Workshop on Space Plasma Physics (AIP Conference Proceedings / Astronomy and Astrophysics), by Ivan Zhelyazkov (Editor), Todor Mishonov (Editor), ISBN-13: 978-0735409149, ISBN-10: 0735409145, 2011.
7. 4th Black Sea Biennial School and Workshop on Space Plasma Physics, Albena, Bulgaria, 19-26 August 2012, AIP Conference Proceedings, Volume: 1551 (2013), by Ivan Zhelyazkov (Editor), Todor Mishonov (Editor), ISBN: 9780735411760.

Патенти

[\(WO/2004/079893\) Generation of electric oscillations by continuous, supercooled superconductors under a voltage](#)

Автореферат http://phys.uni-sofia.bg/~tmishonov/mishonov_avtoref.pdf

и докторската дисертация на Т. Мишоноу (2007)

http://phys.uni-sofia.bg/~tmishonov/mishonov_thesis.pdf

2. УЧАСТИЕ В КОНФЕРЕНЦИИ, КОНГРЕСИ И ДР.

Поканени доклади:

- "Fluctuation Torque for High Temperature Superconductors in High Magnetic Fields", NATO ASI on Physics and Materials Science of High Temperature Superconductors, Bad Windsheim, Germany, 13-26 August 1989.
- Strongly Correlated Electron Systems and High-Tc Superconductivity: 14th International School of Theoretical Physics, Szczyrk, Poland 15-22 September 1990.
- "Bernoulli effect in the quantum Hall regime and type-II superconductors in magnetic field", NATO ASI Albena 13-26 September, 1998 Bulgaria.
- "In search for the vortex charge and the Cooper pair mass", Superconducting and Related Oxides: Physics and Nanoengineering IV, Orlando, Florida, USA, 24-28 April 2000.
- "The 3d-to-4s-by-2p highway to superconductivity in cuprates" DAAD Summer-school "Quantum Statistics on Many-Particle Systems" Dubna, Russia, July 21 - August 10, 2002.
- "Superconductivity of overdoped cuprates: the modern face of the ancestral two-electron exchange", 17 Sep. 2003, Texas A&M University, USA; also invited talk in "First Workshop on Predictive Capabilities for Strongly Correlated Systems" 7-9 November 2003, The University of Tennessee, Knoxville, USA.



- “Superconductivity of overdoped cuprates: the modern face of the ancestral two-electron exchange”, 17 Sep. 2003, Texas A&M University, USA; also invited talk in “First Workshop on Predictive Capabilities for Strongly Correlated Systems” 7–9 November 2003, The University of Tennessee, Knoxville, USA.
- “Theory of terahertz oscillations by supercooled under a DC voltage superconductors”, International Summer School and Conference on Arrays of Quantum Dots and Josephson Junctions, Kiten, Bulgaria, 9th–24th June, 2005.
- “Kinetic equation for the spectral density of Alfvén waves in a shear flow effective heating mechanism of accreting turbulent plasma”, T. M. Mishonov, Y. G. Maneva, and T. S. Hristov, *Black Sea School on Plasma Physics (Kiten, July 1–9, 2006)*.
- “THz generators by high- T_c superconductors”, Sixth International Conference of the Balkan Physical Union, 22–26 August 2006, Istanbul, Turkey.
- “The enigma of high- T_c superconductivity – 20 years later”, 6th International Student Conference of the Balkan Physical Union 21–24 August 2008, Bodrum, Turkey.
- “Capillary waves at the interface of two Bose-Einstein condensates” *Francqui Symposium, Leuven, 20 August 2013*.

Поканени доклади (семинари и др.):

- “Thermodynamics of Gaussian Fluctuations and Paraconductivity in Layered Superconductors”, Oak Ridge, USA, 2 May 2000.
- “Simple model for linear temperature dependence of the electrical resistivity of layered cuprates”, Knoxville, USA, May 2000
- “In search for the vortex charge and the Cooper pair mass”, Clemson, USA, May 2000
- “Statistics and Boltzmann kinetic equation for fluctuating Cooper pairs”, IFW Dresden, 21 November 2000.
- “Electric field effects in superconductors as a tool for determination of fundamental properties: Cooper pair mass spectroscopy based on the Bernoulli effect” Paris, 6 March 2003, ESPCI, France.
- “Boltzmann equation for fluctuation Cooper pairs and the effects of energy cutoff for paraconductivity”, September 2001, Pavia Italy.
- “Simple model for linear temperature dependence of the electrical resistivity of layered cuprates”, May 2002, Pavia Italy.
- “Boltzmann kinetic approach for fluctuation Cooper pairs” Dutch National Seminar on Statistical Mechanics, 13 June 2003, Utrecht University, Netherlands.
- “Correlation between Cu 4s single site energy and T_c as crucial text for understanding the mechanism High- T_c superconductivity”, March 2004, Max Planck Institute on Solid State Physics, Germany.
- “Cu s-d exchange theory of high- T_c superconductivity”, April, 2004, Bristol, UK
- “Theory of high- T_c superconductivity”, 8 June, 2004, ESPCI- Paris, France.
- “The mechanism of high- T_c superconductivity”, 22 February 2005, University of Neuchatel, Switzerland.
- “Heating and stress tensor of shear flow of magnetized turbulent plasma”, September 2005, Sternberg Institute of Astronomy (Moscow), Russia; Joint Institute of Nuclear Research, Dubna, Russia, and the Joint Seminar of the Institute of Astronomy, BAS □ Sofia and the Department of Astronomy of the University of Sofia, 2006.
- “On the theory of MHD waves in a shear flow of a magnetized turbulent plasma”, T. Mishonov, Y. Maneva, Z. Dimitrov & T. Hristov, School and Workshop on Space Plasma Physics, Sozopol, Bulgaria, August 31–September 7, 2008.
- „Heating of the Solar Corona by Alfvén Waves: Self-Induced Opacity“, 3rd School and Workshop on Space Plasma Physics, 1–12 September 2010, Kiten, Bulgaria.
- Correlation between Cu 4s level and critical temperature of high T_c cuprates”, Aug 2011, Bogolyubov Laboratory on Theoretical Physics, JINR, Dubna, Russia.
- “Intra-atomic s-d mechanism for pairing in HTS cuprates”, University of Tennessee, Knoxville, 2004, March 15, 2004.
- “On the s-d exchange mechanism of high T_c superconductivity, Amphi Holweck, ESPCI, Paris, France, 8 June 2004.
- “Amplification of slow magnetosonic waves by shear flows – heating mechanism in quasars”, Sternberg Institut of Astronomy, Moscow, Russia, August 2005.

Доклади и постери на конференции

- Beijing International Conference on High Temperature Superconductors, Beijing China, September 4–8, 1989.
- International Conference on Materials and Mechanisms of Superconductivity IV (M2S–HTSC-IV) Grenoble, France, July 1994.
- XX International Conference on Low Temperature Physics, Oregon USA (1994).
- 5th World Congress on Superconductivity, Budapest, Hungary, 7–11 July 1996.
- 21st International Conference on Low Temperature Physics, Prague, August 8–14, 1996.
- MOS'96 Conference, Karlsruhe, Germany, 2–6 August 1996.
- Advances in Superconductivity XII: International symposium on superconductivity (ISS'99), October 17–19, 1999, Morioka, Japan



- “Fluctuation magnetism of MgB_2 ” – oral presentation, Gordon Research Conference, 9–14 September 2001 Oxford UK.
- “Fluctuation Conductivity in superconductors in Strong Electric Fields” □ poster, Gordon Research Conference, 9–14 September 2001 Oxford UK.
- “Thermodynamic functions for d-type cuprate superconductor in the framework of s-d model”, CMD 19 CMMP, 7–11 April 2002, Brighton UK.
- “Thermodynamic functions for d-type cuprate superconductor in the framework of s-d model”, International Conference Field Theory and Statistical Mechanics, Rome (Italy) 10–15 June 2002.
- “Pairing Mechanism of high- T_c superconductivity in cuprates” 26 May 2003, Rio de Janeiro, 7th International Conference on Materials and Mechanisms of Superconductivity and High Temperature Superconductors; International Conference on Magnetism and Magnetic Materials, 28 July □ 1 August 2003, Rome, Italy.
- R. V. Topchiyska and T. M. Mishonov, “Self-induced Opacity of hot Hydrogen Plasma, a Model for Heating the Solar Corona” and Z. D. Dimitrov¹, Y. Maneva, T. S. Hristov, and T. M. Mishonov, “Amplification of slow magnetosonic Waves by homogeneous Shear Flow: Analytical Solution”, 511th WE-Heraeus-Seminar, From the Heliosphere into the Sun, – Sailing against the Wind –Collection of presentations, Edited by Hardi Peter (peter@mps.mpg.de) Physikzentrum Bad Honnef, Germany 31 January – 3 February, 2012, <http://www.mps.mpg.de/meetings/heliocorona>
- 10th Conference of the Society of Physicists of Macedonia, Skopje, 25-28 September 2014.
- Bulgarian National Scientific Conference on Physics, Plovdiv, 10-12 October 2014.

Обща научна среща на Белгийското физично дружество

- “Simple Model for the Linear Temperature Dependence of Electrical Resistivity of Layered Cuprates”, T. Mishonov and M. Mishonov, Vrije Universiteit Brussel, May 20–21, 1999 (talk: Session on Condensed Matter and Low Dimensional Physics).
- “Predicted new electrodynamic effect for thin films of layered cuprates – surface Hall currents induced by electric induction perpendicular to the film”, T. Mishonov and N. Zahariev, Vrije Universiteit Brussel, May 20–21, 1999 (poster: Session on Condensed Matter and Low Dimensional Physics).
- “Kinetics and the Boltzmann kinetic equation for fluctuation Cooper pairs above T_c ”, T. Mishonov and D. Damianov, Vrije Universiteit Brussel, May 20–21, 1999 (talk: Session on Mathematical Physics and Statistical Mechanics).
- “Reduced pairing Hamiltonian for two-electron exchange in layered cuprates”, J. Wallington, E. Penev, T. Mishonov and J. Indekeu, Université Catholique de Louvain, May 25–26, 2000 (poster presentation).
- T. Mishonov, A. Posazhennikova, J. Indekeu, *Fluctuational Conductivity in a Strong Electric Field as a Probe of Fundamental Properties of Superconductors*, Katholieke Universiteit Leuven, May 16–17, 2001.
- “Observation of a Sharp Lambda Peak in the Third Harmonic Voltage Response of High T_c Superconductor Thin Films”, N. Chéenne, T.M. Mishonov and J.O. Indekeu, (poster presentation) 5 and 6 June 2002, Université de Liège.
- “Thermodynamic functions for d-type cuprate superconductor in the framework of s-d model”, T. M. Mishonov, E.S. Penev and J.O. Indekeu, oral presentation, 5 and 6 June 2002, Université de Liège.



Списание	Импакт фактор 2013 / 2014	Брой статии	Общ IF
1 Physical Review B	3.664	15	54.96
2 Physical Review Letters	7.728	2	15.456
3 Physics Letters A	1.626	1	1.626
4 Physics of Plasmas	2.249	1	2.249
5 Physica A - Statistical Mechanics And Its Applications	1.722	1	1.722
6 Physica B - Condensed Matter	1.276	1	1.276
7 Physica C- Superconductivity And Its Applications	1.11	1	1.11
8 European Physical Journal B	1.463	5	7.315
9 European Physical Journal D	1.398	1	1.398
10 Superconductor Science & Technology	2.796	1	2.796
11 Superlattices And Microstructures	1.979	6	11.874
12 Journal of Low Temperature Physics	1.036	3	3.108
13 Journal of Physics B - Atomic Molecular & Optical Physics	1.916	2	3.832
14 International Journal of Modern Physics B	0.455	5	2.275
15 Modern Physics Letters B	0.687	2	1.374
16 Journal of Physics - Condensed Matter	2.223	4	8.892
17 Europhysics Letters	2.269	2	4.538
18 Physica Status Solidi B	1.605	2	3.21
19 Czechoslovak Journal of Physics	0.574	4	2.296
20 Journal De Physique Paris	0.351	1	0.351
21 Journal of Magnetism and Magnetic Materials	2.002	1	2.002
Общо:		61	133.7