

Сведения об официальных оппонентах
по диссертации Кодирзода Заъфари Абдуламина
«Структура электромагнитного поля и резонансы в
высокочастотных емкостных разрядах низкого давления»

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Ученое звание: Профессор

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Список основных научных публикаций по специальности рецензируемой диссертации за последние 5 лет:

1. Skvortsova, N.N., Stepakhin, V.D., Sorokin, A.A., Gusein-zade N.G, ...Voronova, E.V., Shishilov, O.N. Microwave simulation experiments on regolith (Lunar dust) deposition on stainless steel. Materials, 2021, 14(21), 6472.
2. Saifulin, D.A., Andreev, S.E., Bogachev, N.N., Gusein-zade, N.G. Frequency Dependence of the Directionality of the Output Radiation of a Plasma Relativistic Ultra-Frequency Generator Journal of Communications Technology and Electronics, 2021, 66(9), стр. 1016–1019
3. Andreev, S.E., Bogdankevich, I.L., Gusein-zade, N.G., Loza, O.T. Effect of the Erosion of Collector Surface on the Operation of a Pulse-Periodic Plasma Relativistic Microwave Generator. Plasma Physics Reports, 2021, 47(3), стр. 257–268.
4. Konchekov, E.M., Gusein-Zade, N.G., Kolik, L.V., Artem'ev, K.V., Pulish, A.V. Using of direct piezo-discharge in generation of plasma-activated liquid media. IOP Conference Series: Materials Science and Engineering, 2020, 848(1), 012037.

5. Artem'ev, K.V., Bogachev, N.N., Gusein-zade, N.G., ...Konchekov, E.M., Andreev, S.E. Study of Characteristics of the Cold Atmospheric Plasma Source Based on a Piezo Transformer. *Russian Physics Journal*, 2020, 62(11), стр. 2073–2080.
6. Kharchevskii, A.A., Bogachev, N.N., Belukhov, S.P., ...Skvortsova, N.N., Gusein-Zade, N.G. Modernization of the filtration system for the Doppler reflectometry diagnostics of the L-2M stellarator for operation in regimes high-power ECR heating. *Journal of Instrumentation*, 2020, 15(1), C01038
7. Bogachev, N.N., Gusein-zade, N.G., Zhluktova, I.V., ...Tsvetkov, V.B., Shokhrin, D.V. Semiconductor Plasma Antennas Formed by Laser Radiation. *Technical Physics Letters*, 2019, 45(12), стр. 1223–1225.
8. Akopdzhanov, A.G., Shimanovskii, N.L., Stepanova, D.S., ...Kolik, L.V., Konchekov, E.M. The Cytotoxicity of Cold Atmospheric Plasma against HeLa Cancer Cells and its Modification with Pharmaceutical Substances. *Biophysics (Russian Federation)*, 2019, 64(6), стр. 926–929.
9. Bogandkevich, I.L., Andreev, S.E., Gusein-zade, N.G., Ulyanov, D.K. Effect of the Distance of Plasma–Beam Interaction on the Oscillation Regimes in a Plasma Relativistic Microwave Oscillator. *Journal of Russian Laser Research*, 2019, 40(5), стр. 435–446.
10. Sinkevich, O.A., Gusein-zade, N.G. Charged Particles of Dust, Electrical Discharges, and the Generation of Vortices in Atmospheres of Planets and the Moon. *Journal of Russian Laser Research*, 2019, 40(5), стр. 447–451.
11. Maslov, S.A., Bronin, S.Y., Gusein-zade, N.G., Trigger, S.A. Photon Distribution Function in Weakly Coupled Maxwellian Plasma. *Bulletin of the Lebedev Physics Institute*, 2019, 46(8), стр. 263–266.
12. Andreev, S.E., Bogdankevich, I.L., Gusein-zade, N.G., Ul'yanov, D.K. Change in the Generation Mode of the Plasma Relativistic Microwave Oscillator. *Plasma Physics Reports*, 2019, 45(7), стр. 674–684.
13. Bogachev, N.N., Gusein-zade, N.G., Nefedov, V.I. Radiation Pattern and Radiation Spectrum of the Plasma Asymmetrical Dipole Antenna. *Plasma Physics Reports*, 2019, 45(4), стр. 372–375.
14. Bogachev, N.N., Gusein-Zade, N.G., Filatova, S.A., ...Tsvetkov, V.B., Zhluktova, I.V. Plasma antennas formed in a Ge crystal under laser irradiation. *Proceedings of SPIE - The International Society for Optical Engineering*, 2019, 11322, 113221P
15. Maslov, S.A., Goussein-zade, N.G., Trigger, S.A. Low-Frequency Behavior of the Spectral Energy Distribution Function of Equilibrium Radiation in a

Degenerate Electron Gas. Bulletin of the Lebedev Physics Institute, 2018, 45(12), стр. 381–384.

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Список основных научных публикаций по специальности рецензируемой диссертации за последние 5 лет:

1. Lebedev, Y.A., Tatarinov, A.V., Epstein, I.L., Titov, A.Y. Features of Processes in the Microwave Discharge in Water Vapor. Plasma Physics Reports, 2022, 48(1), стр. 55–58.
2. Lebedev, Y.A., Krashevskaya, G.V., Batukaev, T.S., Mikhaylyuk, A.V. Time resolved study of ignition of microwave discharge in liquid hydrocarbons. Plasma Processes and Polymers, 2022.
3. Lebedev, Y.A., Shakhatov, V.A. The Rate Constant of Electron Impact Dissociation of Carbon Dioxide (Analytical Review of Calculation Methods and Known Results) High Energy Chemistry, 2021, 55(6), стр. 419–435.
4. Lebedev, Y.A., Tatarinov, A.V., Epshtein, I.L., Titov, A.Y. One-Dimensional Simulation of Microwave Discharge in a Gas Bubble in Water. High Energy Chemistry, 2021, 55(6), стр. 507–518.
5. Lebedev, Y.A., Krashevskaya, G.V., Batukaev, T.S., Epstein, I.L. Light emission from microwave discharges in liquid hydrocarbons at the initial stages of their development.
6. Lebedev, Y.A. Microwave discharges in liquid hydrocarbons: Physical and chemical characterization. Polymers, 2021, 13(11), 1678.
7. Lebedev, Y.A., Shakhatov, V.A. Optical emission spectra of microwave discharge in different liquid hydrocarbons. Plasma Processes and Polymers, 2020, 17(8), 2000003.
8. Lebedev, Y.A., Tatarinov, A.V., Epstein, I.L. Effect of charging solid particles on their growth process and parameters of microwave discharge in liquid n-heptane. Plasma Sources Science and Technology, 2020, 29(6), 065013

9. Lebedev, Y.A., Tatarinov, A.V., Epshtein, I.L. Simulation of Microwave Discharge in Liquid n-Heptane in the Presence of Argon in the Discharge Region. *High Energy Chemistry*, 2020, 54(3), сtp. 217–226.
10. Averin, K.A., Borisov, R.S., Lebedev, Y.A. Microwave Discharge in Liquid Hydrocarbons: Study of a Liquid Hydrocarbon after Its Discharge Treatment Including Air Bubbling. *High Energy Chemistry*, 2020, 54(3), сtp. 210–216.
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12. Lebedev, Y.A., Shakhatov, V.A. Gas temperature in the microwave discharge in liquid n-heptane with argon bubbling. *European Physical Journal D*, 2019, 73(8), 167.
13. Lebedev, Y.A., Shakhatov, V.A. On the Mechanism of the Population of the $H_2(d_3\Pi_u)$ State in Nonequilibrium Hydrogen Plasma. *High Temperature*, 2019, 57(4), сtp. 458–461.
14. Averin, K.A., Lebedev, Y.A., Tatarinov, A.V. Main Gaseous Products of Microwave Discharge in Various Liquid Hydrocarbons. *High Energy Chemistry*, 2019, 53(4), сtp. 331–335.
15. Lebedev, Y.A., Tatarinov, A.V., Epstein, I.L. Effect of Nitrogen Additive on Inhomogeneous Microwave Discharge in Hydrogen at Reduced Pressures. *Plasma Physics Reports*, 2019, 45(4), сtp. 397 – 400.

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Список основных научных публикаций по специальности рецензируемой диссертации за последние 5 лет:

1. Bobrov, V.B., Maslov, S.A., Trigger, S.A. On the transverse dielectric permittivity of the collisionless plasmas with quantum effects. *Physics of Plasmas*, 2018, 25(7), 072116.
2. Bobrov, V.B., Trigger, S.A., Sokolov, I.M. Spectral energy distribution of the equilibrium radiation and its asymptotic behavior in ideal gaseous plasmas. *Physics of Plasmas*, 2020, 27(2), 022106.
3. Bobrov, V.B. On the Self-Consistency Conditions in the Statistical Thermodynamics of the Coulomb System. *High Temperature*, 2020, 58(5), стр. 689–693.
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10. Bobrov, V.B. On the transverse dielectric permittivity of degenerate electron plasma. *High Temperature*, 2017, 55(4), стр. 473–476
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13. Bobrov, V.B. Inhomogeneous Electron Density in the Static Field of Nuclei. *Theoretical and Mathematical Physics (Russian Federation)*, 2020, 202(1), стр. 89–103.
14. Bobrov, V.V., Trigger, S.A. Bose–Einstein Condensate and Singularities of the Frequency Dispersion of the Permittivity in a Disordered Coulomb System. *Theoretical and Mathematical Physics (Russian Federation)*, 2018, 194(3), стр. 404–414.
15. Bobrov, V.B., Trigger, S.A., Zagorodny, A.G. Nonstationary equation for the one-particle wave function of the Bose–Einstein condensate *Fizika Nizkikh Temperatur*, 2021, 47(4), стр. 378–381.
16. Bobrov, V.B., Trigger, S.A. Kramers–Kronig Relations for the Dielectric Permittivity of the Coulomb System with a Single-Species Bose–Einstein Condensate. *Journal of Low Temperature Physics*, 2020, 200(3-4), стр. 118–130.
17. Bobrov, V.B. On the response function of a degenerate Bose gas. *Low Temperature Physics*, 2019, 45(5), A59.
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21. Bobrov, V.B., Zagorodny, A.G., Trigger, S.A. On the ground-state energy of a finite inhomogeneous degenerate Bose gas. *Low Temperature Physics*, 2018, 44(11), стр. 1211–1214.

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23. Bobrov, V.B. Thermodynamics of a quantum gas and a two-particle Green's function. *JETP Letters*, 2017, 106(6), стр. 390–392.
24. Bobrov, V.B., Trigger, S.A. Quantum effects in the transverse dielectric permittivity of a Maxwellian Plasma. *Theoretical and Mathematical Physics (Russian Federation)*, 2017, 192(3), стр. 1396–1407
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26. Bobrov, V.B., Zagorodny, A.G., Trigger, S.A. Another approach for obtaining the excitation spectra in degenerate Bose gases with delta-shaped interaction potentials. *Low Temperature Physics*, 2017, 43(3), стр. 343–350.
27. Bobrov, V.B. On statistical theory of rarefied gas in the Coulomb model of matter. Particle identity and effective interaction potential of initial atoms. *High Temperature*, 2017, 55(2), стр. 174–182.
28. Bobrov, V.B., Zagorodny, A.G., Trigger, S.A. One more approach to the spectra of excitations in degenerate Bose gas with delta shaped interaction potential. *Fizika Nizkikh Temperatur*, 2017, 43(3), стр. 420–429
29. Bobrov, V.B., Trigger, S.A., Petrov, O.F. On the relationship between microcanonical and canonical Gibbs distributions. *High Temperature*, 2017, 55(1), стр. 158–161
30. Bobrov, V.B., Trigger, S.A. On the Ground-State Energy and Local Pressure of an Inhomogeneous Bose Gas. *Journal of Low Temperature Physics*, 2017, 186(1-2), стр. 1–9.