Aleksey Gorbachev

List of Publications by Year
in descending order

87 papers	820 citations	471509 17 h-index	642732 23 g-index
88 all docs	88 docs citations	88 times ranked	524 citing authors

#	Article	IF	Citations
1	Influence of CVD diamond growth conditions on nitrogen incorporation. Diamond and Related Materials, 2017, 72, 1-6.	3.9	47
2	Novel microwave plasma-assisted CVD reactor for diamond delta doping. Physica Status Solidi - Rapid Research Letters, 2016, 10, 324-327.	2.4	43
3	Diamond films grown by millimeter wave plasma-assisted CVD reactor. Diamond and Related Materials, 2006, 15, 502-507.	3.9	40
4	Homoepitaxial single crystal diamond growth at different gas pressures and MPACVD reactor configurations. Diamond and Related Materials, 2010, 19, 432-436.	3.9	38
5	Numerical modeling of a microwave plasma CVD reactor. Diamond and Related Materials, 2001, 10, 342-346.	3.9	37
6	Electron density in moderate pressure diamond deposition discharges. Diamond and Related Materials, 2000, 9, 322-327.	3.9	30
7	Nanometric diamond delta doping with boron. Physica Status Solidi - Rapid Research Letters, 2017, 11, 1600329.	2.4	27
8	Microcrystalline diamond growth in presence of argon in millimeter-wave plasma-assisted CVD reactor. Diamond and Related Materials, 2008, 17, 1055-1061.	3.9	26
9	Growthâ€rate Enhancement of Highâ€quality, Lowâ€loss <scp>CVD</scp>â€produced Diamond Disks Grown for Microwave Windows Application. Chemical Vapor Deposition, 2014, 20, 32-38.	1.3	25
10	High power active<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>X</mml:mi></mml:math>-band pulse compressor using plasma switches. Physical Review Special Topics: Accelerators and Beams, 2009, 12, .	1.8	19
11	Investigation of the optimized parameters of microwave plasma-assisted chemical vapour deposition reactor operation in a pulsed mode. Journal Physics D: Applied Physics, 2012, 45, 395202.	2.8	19
12	Active Microwave Pulse Compressor Using an Electron-Beam Triggered Switch. Physical Review Letters, 2013, 110, 115002.	7.8	19
13	Multimode cavity type MPACVD reactor for large area diamond film deposition. Diamond and Related Materials, 2018, 83, 8-14.	3.9	19
14	Comparative study of homoepitaxial single crystal diamond growth at continuous and pulsed mode of MPACVD reactor operation. Diamond and Related Materials, 2011, 20, 1225-1228.	3.9	18
15	Method of power density determination in microwave discharge, sustained in hydrogenâ€“methane gas mixture. Diamond and Related Materials, 2016, 66, 177-182.	3.9	18
16	Characterization of interfaces in mosaic CVD diamond crystal. Journal of Crystal Growth, 2016, 442, 62-67.	1.5	17
17	Study of microwave discharge at high power density conditions in diamond chemical vapor deposition reactor by optical emission spectroscopy. Diamond and Related Materials, 2019, 97, 107407.	3.9	17
18	Studies of pulsed and continuous microwave discharges used to deposit diamond films. Plasma Physics Reports, 2005, 31, 338-346.	0.9	16

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19	Active quasioptical Ka-band rf pulse compressor switched by a diffraction grating. Physical Review Special Topics: Accelerators and Beams, 2009, 12, .	1.8	15
20	Investigation of homoepitaxial growth by microwave plasma CVD providing high growth rate and high quality of diamond simultaneously. Materials Today Communications, 2020, 22, 100816.	1.9	15
21	Combined single-crystalline and polycrystalline CVD diamond substrates for diamond electronics. Semiconductors, 2012, 46, 263-266.	0.5	14
22	Investigation of boron incorporation in delta doped diamond layers by secondary ion mass spectrometry. Thin Solid Films, 2018, 653, 215-222.	1.8	14
23	NVâ€Center Formation in Single Crystal Diamond at Different CVD Growth Conditions. Physica Status Solidi (A) Applications and Materials Science, 2018, 215, 1800205.	1.8	14
24	Active microwave pulse compressor utilizing an axisymmetric mode of a circular waveguide. Technical Physics Letters, 1998, 24, 791-792.	0.7	12
25	Comparison of pulsed and CW regimes of MPACVD reactor operation. Diamond and Related Materials, 2003, 12, 272-276.	3.9	12
26	Nanosecond microwave discharge as an ozone source in the upper atmosphere. Physics Letters, Section A: General, Atomic and Solid State Physics, 1995, 207, 209-213.	2.1	11
27	Self-consistent simulation of pulsed and continuous microwave discharges in hydrogen. Plasma Physics Reports, 2005, 31, 965-977.	0.9	11
28	X-band active-passive rf pulse compressor with plasma switches. Physical Review Special Topics: Accelerators and Beams, 2011, 14, .	1.8	11
29	Two-channel 100-MW microwave compressor for the three-centimeter wavelength range. Radiophysics and Quantum Electronics, 2008, 51, 597-609.	0.5	10
30	Contraction of Microwave Discharge in the Reactor for Chemical Vapor Deposition of Diamond. Technical Physics Letters, 2019, 45, 89-92.	0.7	10
31	Physics and application of gas discharge in millimeter wave beams. Journal Physics D: Applied Physics, 2019, 52, 014001.	2.8	10
32	Modeling of plasma chemical processes in the artificial ionized layer in the upper atmosphere by the nanosecond corona discharge. Physics Letters, Section A: General, Atomic and Solid State Physics, 1993, 179, 122-126.	2.1	9
33	Diamond pâ€“iâ€“n Diode with Nitrogen Containing Intrinsic Region for the Study of Nitrogenâ€Vacancy Center Electroluminescence. Physica Status Solidi - Rapid Research Letters, 2020, 14, 2000347.	2.4	9
34	A plasma switch based on TE02 â†' TE01 round waveguide mode conversion for high-power X-band microwave compressors. Technical Physics Letters, 2007, 33, 785-787.	0.7	8
35	Study of microwave plasma-assisted chemical vapor deposition of poly-and single-crystalline diamond films. Radiophysics and Quantum Electronics, 2007, 50, 913-921.	0.5	8
36	Active Bragg Compressor of 3-cm Wavelength Microwave Pulses. Radiophysics and Quantum Electronics, 2008, 51, 539-555.	0.5	8

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37	Characterization of single-crystal diamond grown from the vapor phase on substrates of natural diamond. Semiconductors, 2011, 45, 392-396.	0.5	8
38	A wafer of combined single-crystalline and polycrystalline CVD diamond. Materials Letters, 2015, 139, 1-3.	2.6	8
39	Studies of pulse operation regime of microwave plasma CVD reactor. Diamond and Related Materials, 2002, 11, 579-583.	3.9	7
40	Hydrocarbon plasma chemistry in a continuous microwave discharge. Plasma Physics Reports, 2007, 33, 871-879.	0.9	6
41	Criterion for comparison of MPACVD reactors working at different microwave frequencies and diamond growth conditions. Physica Status Solidi (A) Applications and Materials Science, 2016, 213, 2564-2569.	1.8	6
42	Investigation of Highâ€Density Nitrogen Vacancy Center Ensembles Created in Electronâ€Irradiated and Vacuumâ€Annealed Deltaâ€Doped Layers. Physica Status Solidi - Rapid Research Letters, 2021, 15, 2000550.	2.4	6
43	Investigation of silicon-vacancy center formation during the CVD diamond growth of thin and delta doped layers. Journal of Materials Chemistry C, 0, , .	5.5	6
44	Homoepitaxial single crystal diamond grown on natural diamond seeds (type IIa) with boron-implanted layer demonstrating the highest mobility of 1150cm2/Vs at 300K for ion-implanted diamond. Diamond and Related Materials, 2011, 20, 1243-1245.	3.9	5
45	Investigation of NV centers charge states in CVD diamond layers doped by nitrogen and phosphorous. Journal of Luminescence, 2021, 239, 118404.	3.1	5
46	Investigation of the ozone formation process in a nanosecond microwave discharge in air and oxygen. Technical Physics, 1997, 42, 260-268.	0.7	4
47	Study of Ka-band components for a future high-gradient linear accelerator. , 0, , .		4
48	The Nucleation and Growth of Nanocrystalline Diamond Films in Millimeter-Wave CVD Reactor. Fullerenes Nanotubes and Carbon Nanostructures, 2012, 20, 600-605.	2.1	4
49	A continuous microwave discharge maintained by two crossing millimeter-wave beams in hydrogen and argon: numerical simulation and experiment. Plasma Sources Science and Technology, 2016, 25, 065022.	3.1	4
50	Study of grown single crystal diamond by optical and X-ray spectroscopy. EPJ Web of Conferences, 2017, 149, 02029.	0.3	4
51	Investigation of Microwave Plasma during Diamond Doping by Phosphorus Using Optical Emission Spectroscopy. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1900234.	1.8	4
52	Creation of Localized NV Center Ensembles in CVD Diamond by Electron Beam Irradiation. Technical Physics Letters, 2019, 45, 281-284.	0.7	4
53	Optical investigation of as-grown NV centers in heavily nitrogen doped delta layers in CVD diamond. Materials Today Communications, 2020, 24, 101019.	1.9	4
54	Pulsed discharges produced by surface waves. European Physical Journal Special Topics, 1998, 08, Pr7-317-Pr7-326.	0.2	4

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55	Spatial structures of continuous microwave discharge. Journal of Experimental and Theoretical Physics, 2001, 93, 324-335.	0.9	3
56	Study of Active Microwave Compressors Excited by Magnicon Radiation at a Frequency of 11.4ÂGHz. Radiophysics and Quantum Electronics, 2003, 46, 802-809.	0.5	3
57	Efficiency enhancement of gyrotron based setups for materials processing. , 2009, , .		3
58	Electron emission amplification of cold cathode by two-layer diamond coating. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 1779-1784.	1.8	3
59	Study of a Continuous Microwave Discharge in Two Crossed Wave Beams of the Millimeter Wavelength Band. Radiophysics and Quantum Electronics, 2015, 57, 868-880.	0.5	3
60	Experimental Study of High-Current Cathodes Based on Diamond Films as Elements of High-Power Compressors of Microwave Pulses. Radiophysics and Quantum Electronics, 2015, 57, 711-719.	0.5	3
61	Bragg superlattices formed in growing chemically vapor deposited diamond. Journal of Applied Physics, 2016, 120, 224901.	2.5	3
62	Misorientation Angle Dependence of Boron Incorporation Into CVD Diamond Delta Layers. Physica Status Solidi (B): Basic Research, 2019, 256, 1800606.	1.5	3
63	Formation of Low-Resistivity Au/Mo/Ti Ohmic Contacts to p-Diamond Epitaxial Layers. Technical Physics, 2019, 64, 1827-1836.	0.7	3
64	Thermodiffusional stratification of a continuous microwave discharge plasma. JETP Letters, 1998, 67, 567-572.	1.4	2
65	Experiments on Active RF Pulse Compressors Using Plasma Switches. AIP Conference Proceedings, 2006, , .	0.4	2
66	A quasi-optical phase shifter based on an active grating for the 8-mm wavelength range. Technical Physics Letters, 2009, 35, 421-424.	0.7	2
67	Millimeter-wave electron-beam-switched resonance phase shifter. Technical Physics, 2009, 54, 1648-1654.	0.7	2
68	Atomic composition and electrical characteristics of epitaxial CVD diamond layers doped with boron. Semiconductors, 2016, 50, 1569-1573.	0.5	2
69	Experimental study of plasma decay in pulsed microwave discharges of H2, CH4and their mixtures. Plasma Sources Science and Technology, 2016, 25, 035017.	3.1	2
70	Maintenance of Plasma Layer in Intersected Microwave Beams in the Range of Frequency from 10 to 60ÂGHz: Analysis and Simulation. Plasma Chemistry and Plasma Processing, 2020, 40, 221-233.	2.4	2
71	The Use of Pulsed Laser Annealing to Form Ohmic Mo/Ti Contacts to Diamond. Technical Physics Letters, 2020, 46, 551-555.	0.7	2
72	Study of Undoped Nanocrystalline Diamond Films Grown by Microwave Plasma-Assisted Chemical Vapor Deposition. Semiconductors, 2021, 55, 66-75.	0.5	2

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73	A nitrogen laser excited by a nanosecond microwave discharge. Journal Physics D: Applied Physics, 1995, 28, 523-529.	2.8	1
74	First Experiments at the Yale University Ka-band Test Facility. , 2009, , .		1
75	A Study of Interaction of an Electron Beam with a Strong High-Frequency Field in the Waveguide Switch of a High-Power Microwave Compressor. Radiophysics and Quantum Electronics, 2016, 58, 816-824.	0.5	1
76	Influence of CVD diamond growth conditions and misorientation angle on nitrogen incorporation. EPJ Web of Conferences, 2017, 149, 02003.	0.3	1
77	Formation of Multilayered Nanostructures of NV Sites in Single-Crystal CVD Diamond. Technical Physics Letters, 2020, 46, 641-645.	0.7	1
78	On investigation as grown NV centers in delta doped layers in diamond. AIP Conference Proceedings, 2020, , .	0.4	1
79	Stimulated ultraviolet radiation from a nanosecond microwave discharge excited in the field of a cylindrical TE wave. Quantum Electronics, 1994, 24, 595-598.	1.0	0
80	Investigation of the Millimeter-Wave Plasma Assisted CVD Reactor. AIP Conference Proceedings, 2006, , .	0.4	0
81	PECVD technologies assisted with millimeter waves. , 2009, , .		0
82	Growth and characterization of combined single-crystalline and polycrystalline CVD diamond wafer. Materials Research Society Symposia Proceedings, 2015, 1734, 7.	0.1	0
83	Dependence of boron incorporation in delta layers on CVD diamond growth process and misorientation angle. EPJ Web of Conferences, 2017, 149, 02014.	0.3	0
84	Diamond Bragg superlattice grown in microwave gas discharge for obtaining photoluminescence of single diamond color centers comprising a dense 3D ensemble. EPJ Web of Conferences, 2017, 149, 02004.	0.3	0
85	CVD diamond with boron-doped delta-layers deposited by microwave plasma. EPJ Web of Conferences, 2017, 149, 01010.	0.3	0
86	Ohmic Contacts to CVD Diamond with Boron-Doped Delta Layers. Semiconductors, 2019, 53, 1348-1352.	0.5	0
87	Creation of Localized Ensembles of NV Centers in a Diamond Grown in a Microwave CVD Reactor and Study of Their Properties. Radiophysics and Quantum Electronics, 2020, 63, 530.	0.5	0