Masahiko Ogura

List of Publications by Year
in descending order

140 papers	3,070 citations	172457 29 h-index	197818 49 g-index
141 all docs	141 docs citations	141 times ranked	2017 citing authors

#	Article	IF	Citations
1	Electrically driven single-photon source at room temperature in diamond. Nature Photonics, 2012, 6, 299-303.	31.4	291
2	Inversion channel diamond metal-oxide-semiconductor field-effect transistor with normally off characteristics. Scientific Reports, 2016, 6, 31585.	3.3	150
3	Leakage current analysis of diamond Schottky barrier diode. Applied Physics Letters, 2007, 90, 073506.	3.3	121
4	Misorientation-angle dependence of boron incorporation into (001)-oriented chemical-vapor-deposited (CVD) diamond. Journal of Crystal Growth, 2011, 317, 60-63.	1.5	90
5	Direct Nanoscale Sensing of the Internal Electric Field in Operating Semiconductor Devices Using Single Electron Spins. ACS Nano, 2017, 11, 1238-1245.	14.6	82
6	Diamond Schottky-pn diode with high forward current density and fast switching operation. Applied Physics Letters, 2009, 94, .	3.3	77
7	600 V Diamond Junction Field-Effect Transistors Operated at 200$^{circ}{m C}$. IEEE Electron Device Letters, 2014, 35, 241-243.	3.9	74
8	High performance of diamond p+-i-n+ junction diode fabricated using heavily doped p+ and n+ layers. Applied Physics Letters, 2009, 94, .	3.3	73
9	Enhancement in emission efficiency of diamond deep-ultraviolet light emitting diode. Applied Physics Letters, 2011, 99, .	3.3	73
10	Characterization of leakage current on diamond Schottky barrier diodes using thermionic-field emission modeling. Diamond and Related Materials, 2006, 15, 1949-1953.	3.9	66
11	Diamond Junction Field-Effect Transistors with Selectively Grown n^{+}-Side Gates. Applied Physics Express, 2012, 5, 091301.	2.4	61
12	n-Type Control by Sulfur Ion Implantation in Homoepitaxial Diamond Films Grown by Chemical Vapor Deposition. Japanese Journal of Applied Physics, 1999, 38, L1519-L1522.	1.5	60
13	Selective Growth of Buried n+Diamond on (001) Phosphorus-Doped n-Type Diamond Film. Applied Physics Express, 2009, 2, 055502.	2.4	55
14	Negative electron affinity of diamond and its application to high voltage vacuum power switches. Physica Status Solidi (A) Applications and Materials Science, 2013, 210, 1961-1975.	1.8	53
15	High-Efficiency Excitonic Emission with Deep-Ultraviolet Light from (001)-Oriented Diamondp-i-nJunction. Japanese Journal of Applied Physics, 2006, 45, L1042-L1044.	1.5	52
16	Electrical characterization of diamond Pi<scp>N</scp> diodes for high voltage applications. Physica Status Solidi (A) Applications and Materials Science, 2013, 210, 2035-2039.	1.8	52
17	Diamond bipolar junction transistor device with phosphorus-doped diamond base layer. Diamond and Related Materials, 2012, 27-28, 19-22.	3.9	51
18	High-Temperature Operation of Diamond Junction Field-Effect Transistors With Lateral p-n Junctions. IEEE Electron Device Letters, 2013, 34, 1175-1177.	3.9	51

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19	N-type control of single-crystal diamond films by ultra-lightly phosphorus doping. Applied Physics Letters, 2016, 109, .	3.3	49
20	Ohmic contacts on p-type homoepitaxial diamond and their thermal stability. Semiconductor Science and Technology, 2005, 20, 860-863.	2.0	44
21	Atomically flat diamond (111) surface formation by homoepitaxial lateral growth. Diamond and Related Materials, 2008, 17, 1051-1054.	3.9	43
22	Generation and transportation mechanisms for two-dimensional hole gases in GaN/AlGaN/GaN double heterostructures. Journal of Applied Physics, 2014, 115, .	2.5	42
23	Deterministic Electrical Charge-State Initialization of Single Nitrogen-Vacancy Center in Diamond. Physical Review X, 2014, 4, .	8.9	41
24	Fabrication of bipolar junction transistor on (001)-oriented diamond by utilizing phosphorus-doped n-type diamond base. Diamond and Related Materials, 2013, 34, 41-44.	3.9	38
25	Normally-Off Diamond Junction Field-Effect Transistors With Submicrometer Channel. IEEE Electron Device Letters, 2016, 37, 209-211.	3.9	36
26	Temperature dependence on currentâ€“voltage characteristics of nickel/diamond Schottky diodes on high quality boron-doped homoepitaxial diamond film. Applied Physics Letters, 2003, 82, 4367-4369.	3.3	34
27	Diamond Schottkyâ€pn diode without tradeâ€off relationship between onâ€resistance and blocking voltage. Physica Status Solidi (A) Applications and Materials Science, 2010, 207, 2105-2109.	1.8	34
28	Electrical properties of lateral pâ€“n junction diodes fabricated by selective growth of n⁺ diamond. Physica Status Solidi (A) Applications and Materials Science, 2012, 209, 1761-1764.	1.8	32
29	Electronic properties of diamond Schottky barrier diodes fabricated on silicon-based heteroepitaxially grown diamond substrates. Applied Physics Express, 2015, 8, 104103.	2.4	30
30	Low-resistance p+ layer formation into diamond using heavily B ion implantation. Applied Physics Letters, 2006, 89, 012101.	3.3	29
31	Diamond electronic devices fabricated using heavily doped hopping p⁺and n⁺layers. Japanese Journal of Applied Physics, 2014, 53, 05FA12.	1.5	29
32	Electrical properties of B-related acceptor in B-doped homoepitaxial diamond layers grown by microwave plasma CVD. Diamond and Related Materials, 2004, 13, 198-202.	3.9	28
33	High-Temperature Bipolar-Mode Operation of Normally-Off Diamond JFET. IEEE Journal of the Electron Devices Society, 2017, 5, 95-99.	2.1	27
34	Single crystal diamond membranes for nanoelectronics. Nanoscale, 2018, 10, 4028-4035.	5.6	27
35	EPR study of hydrogen-related defects in boron-doped p-type CVD homoepitaxial diamond films. Diamond and Related Materials, 2004, 13, 2096-2099.	3.9	26
36	Investigation of specific contact resistance of ohmic contacts to B-doped homoepitaxial diamond using transmission line model. Diamond and Related Materials, 2004, 13, 2121-2124.	3.9	25

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37	Carbon 1s X-ray photoelectron spectra of realistic samples of hydrogen-terminated and oxygen-terminated CVD diamond (111) and (001). Diamond and Related Materials, 2019, 93, 105-130.	3.9	25
38	Hydrogen plasma etching mechanism on (001) diamond. Journal of Crystal Growth, 2006, 293, 311-317.	1.5	24
39	Electron Emission from a Diamond (111) pâ€"iâ€"n+Junction Diode with Negative Electron Affinity during Room Temperature Operation. Applied Physics Express, 2010, 3, 041301.	2.4	24
40	Heavily phosphorus-doped nano-crystalline diamond electrode for thermionic emission application. Diamond and Related Materials, 2016, 63, 165-168.	3.9	23
41	Strong Excitonic Emission from (001)-Oriented DiamondP-NJunction. Japanese Journal of Applied Physics, 2005, 44, L1190-L1192.	1.5	22
42	Electrical properties of a B doped layer in diamond formed by hot B implantation and high-temperature annealing. Diamond and Related Materials, 2009, 18, 128-131.	3.9	22
43	Fabrication of graphene on atomically flat diamond (111) surfaces using nickel as a catalyst. Diamond and Related Materials, 2017, 75, 105-109.	3.9	22
44	High-Voltage Vacuum Switch with a Diamond pâ€"iâ€"n Diode Using Negative Electron Affinity. Japanese Journal of Applied Physics, 2012, 51, 090113.	1.5	22
45	Electrical and optical characterization of boron-doped (111) homoepitaxial diamond films. Diamond and Related Materials, 2005, 14, 1964-1968.	3.9	21
46	Diamond Schottky pâ€"n diode with high forward current density. Physica Status Solidi (A) Applications and Materials Science, 2009, 206, 2086-2090.	1.8	20
47	Nanometer Scale Height Standard Using Atomically Controlled Diamond Surface. Applied Physics Express, 0, 2, 055001.	2.4	20
48	Energy distribution of Al2O3/diamond interface states characterized by high temperature capacitance-voltage method. Carbon, 2020, 168, 659-664.	10.3	20
49	Surface conductive layers on oxidized (111) diamonds. Applied Physics Letters, 2005, 87, 262107.	3.3	19
50	Carrier transport in homoepitaxial diamond films with heavy phosphorus doping. Japanese Journal of Applied Physics, 2014, 53, 05FP05.	1.5	19
51	Anisotropic lateral growth of homoepitaxial diamond (111) films by plasma-enhanced chemical vapor deposition. Japanese Journal of Applied Physics, 2014, 53, 04EH04.	1.5	19
52	Inversion channel mobility and interface state density of diamond MOSFET using N-type body with various phosphorus concentrations. Applied Physics Letters, 2019, 114, .	3.3	19
53	Characterization of capacitanceâ€"voltage features of Ni/diamond Schottky diodes on oxidized boron-doped homoepitaxial diamond film. Diamond and Related Materials, 2003, 12, 1340-1345.	3.9	18
54	Electrical and light-emitting properties of (001)-oriented homoepitaxial diamond pâ€"iâ€"n junction. Diamond and Related Materials, 2007, 16, 1025-1028.	3.9	18

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55	High-Voltage Vacuum Switch with a Diamond pâ€“iâ€“n Diode Using Negative Electron Affinity. Japanese Journal of Applied Physics, 2012, 51, 090113.	1.5	17
56	Vector Electrometry in a Wide-Gap-Semiconductor Device Using a Spin-Ensemble Quantum Sensor. Physical Review Applied, 2020, 14, .	3.8	17
57	Reduction of nâ€type diamond contact resistance by graphite electrode. Physica Status Solidi - Rapid Research Letters, 2014, 8, 137-140.	2.4	16
58	Electrical and optical characterizations of (001)-oriented homoepitaxial diamond pâ€“n junction. Diamond and Related Materials, 2006, 15, 513-516.	3.9	15
59	p-type doping by B ion implantation into diamond at elevated temperatures. Diamond and Related Materials, 2006, 15, 157-159.	3.9	15
60	Enhancement of Dopant Activation in B-Implanted Diamond by High-Temperature Annealing. Japanese Journal of Applied Physics, 2008, 47, 7047.	1.5	15
61	Schottky junction properties on high quality boron-doped homoepitaxial diamond thin films. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2004, 22, 2084.	1.6	14
62	Free exciton luminescence from a diamond pâ€“iâ€“n diode grown on a substrate produced by heteroepitaxy. Physica Status Solidi (A) Applications and Materials Science, 2014, 211, 2251-2256.	1.8	14
63	Direct determination of the barrier height of Au ohmic-contact on a hydrogen-terminated diamond (001) surface. Diamond and Related Materials, 2017, 73, 182-189.	3.9	14
64	Direct observation of inversion capacitance in p-type diamond MOS capacitors with an electron injection layer. Japanese Journal of Applied Physics, 2018, 57, 04FR01.	1.5	14
65	Electron emission suppression from hydrogen-terminated n-type diamond. Diamond and Related Materials, 2008, 17, 986-988.	3.9	13
66	Electrical and Structural Properties of Al and B Implanted 4H-SiC. Materials Science Forum, 2000, 338-342, 909-912.	0.3	12
67	Improvement of (001)-oriented diamond p-i-n diode by use of selective grown n+ layer. Physica Status Solidi (A) Applications and Materials Science, 2010, 207, 2099-2104.	1.8	12
68	Desorption time of phosphorus during MPCVD growth of n-type (001) diamond. Diamond and Related Materials, 2016, 64, 208-212.	3.9	11
69	Estimation of Inductively Coupled Plasma Etching Damage of Boronâ€Doped Diamond Using Xâ€Ray Photoelectron Spectroscopy. Physica Status Solidi (A) Applications and Materials Science, 2017, 214, 1700233.	1.8	11
70	Temperature dependence of electrical characteristics for diamond Schottky-pn diode in forward bias. Diamond and Related Materials, 2018, 85, 49-52.	3.9	11
71	Characterization of Schottky Barrier Diodes on Heteroepitaxial Diamond on 3C-SiC/Si Substrates. IEEE Transactions on Electron Devices, 2020, 67, 212-216.	3.0	11
72	Insight into Al2O3/B-doped diamond interface states with high-temperature conductance method. Applied Physics Letters, 2020, 117, .	3.3	11

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73	Fabrication of inversion p-channel MOSFET with a nitrogen-doped diamond body. Applied Physics Letters, 2021, 119, .	3.3	11
74	Electron emission from CVD diamond pâ€“iâ€“n junctions with negative electron affinity during room temperature operation. Diamond and Related Materials, 2011, 20, 917-921.	3.9	10
75	Analysis of selective growth of n-type diamond in lateral pâ€“n junction diodes by cross-sectional transmission electron microscopy. Japanese Journal of Applied Physics, 2014, 53, 05FP01.	1.5	10
76	Influence of substrate misorientation on the surface morphology of homoepitaxial diamond (111) films. Physica Status Solidi (A) Applications and Materials Science, 2016, 213, 2051-2055.	1.8	10
77	Dynamic properties of diamond high voltage pâ€“iâ€“n diodes. Japanese Journal of Applied Physics, 2017, 56, 04CR14.	1.5	10
78	Passivation effects of deuterium exposure on boron-doped CVD homoepitaxial diamond. Diamond and Related Materials, 2005, 14, 2023-2026.	3.9	9
79	Effect of laser irradiation during B ion implantation into diamond. Diamond and Related Materials, 2005, 14, 1969-1972.	3.9	9
80	Inversion channel MOSFET on heteroepitaxially grown free-standing diamond. Carbon, 2021, 175, 615-619.	10.3	9
81	Photoelectrical detection of nitrogen-vacancy centers by utilizing diamond lateral pâ€“iâ€“n diodes. Applied Physics Letters, 2021, 118, .	3.3	9
82	High-performance diamond/amorphous silicon p-n+ heterojunctions. Applied Physics Letters, 2004, 85, 2110-2112.	3.3	8
83	Exciton-derived Electron Emission from (001) Diamond<i>p</i>â€“<i>n</i>Junction Diodes with Negative Electron Affinity. Applied Physics Express, 2008, 1, 015004.	2.4	8
84	Lifetime and migration length of B-related admolecules on diamond {1 0 0}-surface: Comparative study of hot-filament and microwave plasma-enhanced chemical vapor deposition. Journal of Crystal Growth, 2017, 479, 52-58.	1.5	8
85	Temperature evolution of photocurrent spectra in undoped and boron-doped homoepitaxial CVD diamond film. Diamond and Related Materials, 2006, 15, 577-581.	3.9	7
86	A 10kV vacuum switch with negative electron affinity of diamond p-i-n electron emitter. , 2012, , .		7
87	Polarizationâ€controlled dressedâ€photonâ€“phonon etching of patterned diamond structures. Physica Status Solidi (A) Applications and Materials Science, 2014, 211, 2339-2342.	1.8	7
88	Fabrication of diamond lateral pâ€“n junction diodes on (111) substrates. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 2548-2552.	1.8	7
89	Microstructures of dome-shaped hillocks formed on B doped CVD homoepitaxial diamond films. Diamond and Related Materials, 2019, 97, 107422.	3.9	7
90	Trapping of hydrogen in silicon-implanted aluminum. Nuclear Instruments & Methods in Physics Research B, 1997, 121, 470-473.	1.4	6

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91	Thermal behavior of hydrogen in helium-implanted high-purity SUS316L. Nuclear Instruments & Methods in Physics Research B, 1998, 136-138, 483-487.	1.4	6
92	Device Design of Diamond Schottky-pn Diode for Low-Loss Power Electronics. Japanese Journal of Applied Physics, 2012, 51, 090116.	1.5	6
93	Maskless Selective Growth Method for pâ€“n Junction Applications on (001)-Oriented Diamond. Japanese Journal of Applied Physics, 2012, 51, 090118.	1.5	6
94	Observation of Interface Defects in Diamond Lateral p-n-Junction Diodes and Their Effect on Reverse Leakage Current. IEEE Transactions on Electron Devices, 2017, 64, 3298-3302.	3.0	6
95	The annealing behavior of hydrogen implanted into Al-1.5 at.% Si alloy. Radiation Physics and Chemistry, 1997, 49, 645-649.	2.8	5
96	Effect of implanted silicon on hydrogen behavior in aluminum and nickel. Nuclear Instruments & Methods in Physics Research B, 2000, 161-163, 401-405.	1.4	5
97	Diamond Schottky barrier diodes with low specific on-resistance. Semiconductor Science and Technology, 2005, 20, 1203-1206.	2.0	5
98	Mapping of extended defects in B-doped (001) homoepitaxial diamond films by electron-beam-induced current (EBIC) and cathodoluminescence (CL) combination technique. Diamond and Related Materials, 2008, 17, 489-493.	3.9	5
99	Formation of a heavily B doped diamond layer using an ion implantation technique. Diamond and Related Materials, 2008, 17, 498-501.	3.9	5
100	Dopingâ€induced changes in the valence band edge structure of homoepitaxial Bâ€doped diamond films below Mott's critical density. Physica Status Solidi (A) Applications and Materials Science, 2009, 206, 1991-1995.	1.8	5
101	Carrier transport of diamond p⁺â€iâ€n⁺ junction diode fabricated using lowâ€resistance hopping p⁺ and n⁺ layers. Physica Status Solidi (A) Applications and Materials Science, 2011, 208, 937-942.	1.8	5
102	Diamond semiconductor JFETs by selectively grown n⁺-diamond side gates for next generation power devices. , 2012, , .		5
103	Potential of diamond power devices. , 2013, , .		5
104	Carrier transport mechanism of diamond p⁺â€“n junction at low temperature using Schottkyâ€“pn junction structure. Japanese Journal of Applied Physics, 2021, 60, 030905.	1.5	5
105	Device Design of Diamond Schottky-pn Diode for Low-Loss Power Electronics. Japanese Journal of Applied Physics, 2012, 51, 090116.	1.5	5
106	Maskless Selective Growth Method for pâ€“n Junction Applications on (001)-Oriented Diamond. Japanese Journal of Applied Physics, 2012, 51, 090118.	1.5	5
107	The dose effect of silicon implantation on hydrogen trapping in aluminum. Nuclear Instruments & Methods in Physics Research B, 1998, 136-138, 478-482.	1.4	4
108	XPS study of diamond surface after mass-separated low-energy phosphorus ion irradiation. Diamond and Related Materials, 2005, 14, 389-392.	3.9	4

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109	Energetics of dopant atoms in subsurface positions of diamond semiconductor. Superlattices and Microstructures, 2006, 40, 574-579.	3.1	4
110	Growth and characterization of boron-doped CVD homoepitaxial diamond films. Journal of Crystal Growth, 2007, 299, 235-242.	1.5	4
111	Isotope Effect of Deuterium Microwave Plasmas on the Formation of Atomically Flat (111) Diamond Surfaces. Japanese Journal of Applied Physics, 2012, 51, 090106.	1.5	4
112	Unique temperature dependence of deep ultraviolet emission intensity for diamond light emitting diodes. Japanese Journal of Applied Physics, 2014, 53, 05FP02.	1.5	4
113	Reverseâ€recovery of diamond pâ€iâ€n diodes. IET Power Electronics, 2018, 11, 695-699.	2.1	4
114	Temperature dependence of diamond MOSFET transport properties. Japanese Journal of Applied Physics, 2020, 59, SGGD19.	1.5	4
115	Structure due to indirect exciton in photocurrent spectrum of homoepitaxial diamond film. Solid State Communications, 2005, 133, 469-472.	1.9	3
116	Hydrogen passivation effects on carbon dangling bond defects accompanying a nearby hydrogen atom in p-type CVD diamond. Physica B: Condensed Matter, 2006, 376-377, 300-303.	2.7	3
117	Photoelectron emission from heavily B-doped homoepitaxial diamond films. Diamond and Related Materials, 2008, 17, 813-816.	3.9	3
118	Study of ion-implanted nitrogen related defects in diamond Schottky barrier diode by transient photocapacitance and photoluminescence spectroscopy. Japanese Journal of Applied Physics, 2021, 60, SBBD07.	1.5	3
119	Ion-beam annealing of diamond using Ar ions up to 400 keV. Nuclear Instruments & Methods in Physics Research B, 2000, 161-163, 1043-1047.	1.4	2
120	Coimplantation Effects of (C and Si)/Ga in 6H-SiC. Materials Science Forum, 2000, 338-342, 917-920.	0.3	2
121	Defect Characteristics in Sulfur-Implanted CVD Homoepitaxial Diamond. Solid State Phenomena, 2001, 78-79, 171-176.	0.3	2
122	Muon spin relaxation in CVD polycrystalline diamond film. Diamond and Related Materials, 2004, 13, 709-712.	3.9	2
123	Diamond Doped by Hot Ion Implantation. Materials Science Forum, 0, 600-603, 1353-1356.	0.3	2
124	Hall effect of photocurrent in CVD diamond film. Diamond and Related Materials, 2009, 18, 779-781.	3.9	2
125	Current enhancement by conductivity modulation in diamond JFETs for next generation low-loss power devices. , 2015, , .		2
126	Study of defects in diamond Schottky barrier diode by photocurrent spectroscopy. Japanese Journal of Applied Physics, 2020, 59, SGGK14.	1.5	2

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127	Diamond microfabrication by imprinting with nickel mold under high temperature. Diamond and Related Materials, 2021, 114, 108294.	3.9	2
128	Distinguishing dislocation densities in intrinsic layers of pin diamond diodes using two photon-excited photoluminescence imaging. Diamond and Related Materials, 2021, 117, 108463.	3.9	2
129	Isotope Effect of Deuterium Microwave Plasmas on the Formation of Atomically Flat (111) Diamond Surfaces. Japanese Journal of Applied Physics, 2012, 51, 090106.	1.5	2
130	Potential profile evaluation of a diamond lateral pâ€"n junction diode using Kelvin probe force microscopy. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 2589-2594.	1.8	1
131	Determination of Current Leakage Sites in Diamond pâ€"n Junction. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1900243.	1.8	1
132	Trapping of hydrogen in aluminum- and silicon-irradiated aluminum. , 1997, , .		0
133	Substitution and electrical activation of carbon in C- and C+P-implanted InP. Nuclear Instruments & Methods in Physics Research B, 2002, 190, 869-872.	1.4	0
134	Electron Emission from Diamond (111) p+-i-n+ Junction Diode. Materials Research Society Symposia Proceedings, 2009, 1203, 1.	0.1	0
135	Single photon, spin, and charge in diamond semiconductor at room temperature. , 2013, , .		0
136	High voltage vacuum switch with negative electron affinity of diamond PIN diode emitter. , 2013, , .		0
137	Electron emission from nitrogen-containing diamond with narrow-gap coplanar electrodes. Japanese Journal of Applied Physics, 2014, 53, 05FP08.	1.5	0
138	High voltage vacuum power switch with diamond electron emitters. , 2014, , .		0
139	Progress on diamond PIN diode emitters with negative electron affinity for high-voltage d.c. vacuum switches. , 2015, , .		0
140	Optically detected magnetic resonance of nitrogen-vacancy centers in vertical diamond Schottky diodes. Japanese Journal of Applied Physics, 2022, 61, SC1061.	1.5	0