Hideyuki Watanabe

List of Publications by Year
in descending order

69 papers	2,325 citations	279798 23 h-index	214800 47 g-index
71 all docs	71 docs citations	71 times ranked	2048 citing authors

#	Article	IF	Citations
1	Investigation of the effect of hydrogen on electrical and optical properties in chemical vapor deposited on homoepitaxial diamond films. Journal of Applied Physics, 1997, 81, 744-753.	2.5	254
2	Isotope engineering of silicon and diamond for quantum computing and sensing applications. MRS Communications, 2014, 4, 143-157.	1.8	212
3	Optical and Spin Coherence Properties of Nitrogen-Vacancy Centers Placed in a 100 nm Thick Isotopically Purified Diamond Layer. Nano Letters, 2012, 12, 2083-2087.	9.1	161
4	Diamond and biology. Journal of the Royal Society Interface, 2007, 4, 439-461.	3.4	134
5	High-Sensitivity Magnetometry Based on Quantum Beats in Diamond Nitrogen-Vacancy Centers. Physical Review Letters, 2013, 110, 130802.	7.8	119
6	High-Quality B-Doped Homoepitaxial Diamond Films using Trimethylboron. Japanese Journal of Applied Physics, 1998, 37, L1129-L1131.	1.5	114
7	Homoepitaxial diamond film with an atomically flat surface over a large area. Diamond and Related Materials, 1999, 8, 1272-1276.	3.9	100
8	Broadband, large-area microwave antenna for optically detected magnetic resonance of nitrogen-vacancy centers in diamond. Review of Scientific Instruments, 2016, 87, 053904.	1.3	94
9	Strong excitonic recombination radiation from homoepitaxial diamond thin films at room temperature. Applied Physics Letters, 1998, 73, 981-983.	3.3	92
10	High density nitrogen-vacancy sensing surface created via He+ ion implantation of 12C diamond. Applied Physics Letters, 2016, 108, .	3.3	63
11	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
12	Low-temperature direct bonding of Î²-Ga2O3 and diamond substrates under atmospheric conditions. Applied Physics Letters, 2020, 116, .	3.3	53
13	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
14	Diamond films epitaxially grown by step-flow mode. Journal of Crystal Growth, 1998, 183, 338-346.	1.5	46
15	High-temperature characteristics of charge collection efficiency using single CVD diamond detectors. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2015, 789, 50-56.	1.6	40
16	Photochemical Amine Layer Formation on H-Terminated Single-Crystalline CVD Diamond. Chemistry of Materials, 2007, 19, 2852-2859.	6.7	37
17	Nonlinear Effects Excitonic Emission from High Quality Homoepitaxial Diamond Films. Japanese Journal of Applied Physics, 2000, 39, L835-L837.	1.5	36
18	Insulatorâˆ'Metal Transition of Intrinsic Diamond. Journal of the American Chemical Society, 2005, 127, 11236-11237.	13.7	35

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19	Atomic force microscopy study of atomically flat (001) diamond surfaces treated with hydrogen plasma. Applied Surface Science, 1998, 125, 120-124.	6.1	26
20	Characteristics of excitonic emission in diamond. Physica Status Solidi A, 2005, 202, 2051-2058.	1.7	25
21	Hydrogen-related gap states in the near surface of chemical vapor deposited homoepitaxial diamond films. Diamond and Related Materials, 1997, 6, 303-307.	3.9	24
22	Hydrogen plasma etching mechanism on (001) diamond. Journal of Crystal Growth, 2006, 293, 311-317.	1.5	24
23	AC magnetic field sensing using continuous-wave optically detected magnetic resonance of nitrogen-vacancy centers in diamond. Applied Physics Letters, 2018, 113, .	3.3	24
24	Growth and evaluation of self-standing CVD diamond single crystals on off-axis (001) surface of HP/HT type IIa substrates. Diamond and Related Materials, 2012, 26, 45-49.	3.9	23
25	Misorientation angle dependence of surface morphology in homoepitaxial diamond film growth at a low CH4/H2 ratio. Journal of Crystal Growth, 2002, 235, 300-306.	1.5	22
26	Strong Excitonic Emission from (001)-Oriented DiamondP-NJunction. Japanese Journal of Applied Physics, 2005, 44, L1190-L1192.	1.5	22
27	High-performance diamond radiation detectors produced by lift-off method. Europhysics Letters, 2016, 113, 62001.	2.0	22
28	Coherent control of solid state nuclear spin nano-ensembles. Npj Quantum Information, 2018, 4, .	6.7	22
29	Electrical and optical characterization of boron-doped (111) homoepitaxial diamond films. Diamond and Related Materials, 2005, 14, 1964-1968.	3.9	21
30	Emission properties from dense exciton gases in diamond. Physica Status Solidi (A) Applications and Materials Science, 2006, 203, 3226-3244.	1.8	21
31	N-type doping on (001)-oriented diamond. Diamond and Related Materials, 2006, 15, 548-553.	3.9	20
32	Demonstration of vector magnetic field sensing by simultaneous control of nitrogen-vacancy centers in diamond using multi-frequency microwave pulses. Applied Physics Letters, 2019, 114, .	3.3	20
33	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
34	A diamond 14 MeV neutron energy spectrometer with high energy resolution. Review of Scientific Instruments, 2016, 87, 023503.	1.3	18
35	Imaging Topological Spin Structures Using Light-Polarization and Magnetic Microscopy. Physical Review Applied, 2021, 15, .	3.8	18
36	Hydrogen-Induced Luminescent States In The Subsurface Region Of Homoepitaxial Diamond Films. Materials Research Society Symposia Proceedings, 1996, 442, 699.	0.1	17

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37	Direct observation of hydrogenâ€related luminescent states in subsurface region of homoepitaxial diamond films. Applied Physics Letters, 1996, 69, 1122-1124.	3.3	17
38	Spatial uniformity of Schottky contacts between aluminum and hydrogenated homoepitaxial diamond films. Applied Surface Science, 2000, 159-160, 572-577.	6.1	17
39	Origin of band-A emission in homoepitaxial diamond films. Diamond and Related Materials, 2001, 10, 526-530.	3.9	17
40	Laser-Assisted Field Evaporation and Three-Dimensional Atom-by-Atom Mapping of Diamond Isotopic Homojunctions. Nano Letters, 2016, 16, 1335-1344.	9.1	17
41	Quantized electronic properties of diamond. Journal of Applied Physics, 2008, 103, 013712.	2.5	16
42	Electrical and optical characterizations of (001)-oriented homoepitaxial diamond pâ€“n junction. Diamond and Related Materials, 2006, 15, 513-516.	3.9	15
43	Fano factor evaluation of diamond detectors for alpha particles. Physica Status Solidi (A) Applications and Materials Science, 2016, 213, 2629-2633.	1.8	13
44	Dynamic nuclear polarization enhanced magnetic field sensitivity and decoherence spectroscopy of an ensemble of near-surface nitrogen-vacancy centers in diamond. Applied Physics Letters, 2017, 110, .	3.3	13
45	Bandwidth analysis of AC magnetic field sensing based on electronic spin double-resonance of nitrogen-vacancy centers in diamond. Japanese Journal of Applied Physics, 2019, 58, 100901.	1.5	13
46	Nitrogen-vacancy centers created by N+ ion implantation through screening SiO2 layers on diamond. Applied Physics Letters, 2017, 110, .	3.3	10
47	Wide-Field Dynamic Magnetic Microscopy Using Double-Double Quantum Driving of a Diamond Defect Ensemble. Physical Review Applied, 2021, 15, .	3.8	10
48	Friction Modification by Shifting of Phonon Energy Dissipation in Solid Atoms. Tribology Online, 2015, 10, 156-161.	0.9	9
49	Observation of whispering gallery modes in cathode luminescence in TiO2:Eu3+ microspheres. Applied Physics Letters, 2006, 89, 061126.	3.3	8
50	Influence of Dynamical Decoupling Sequences with Finite-Width Pulses on Quantum Sensing for AC Magnetometry. Physical Review Applied, 2018, 10, .	3.8	8
51	Detection and control of single proton spins in a thin layer of diamond grown by chemical vapor deposition. Applied Physics Letters, 2020, 117, .	3.3	7
52	Near-field radio-frequency imaging by spin-locking with a nitrogen-vacancy spin sensor. Journal of Applied Physics, 2021, 130, .	2.5	6
53	Photochemical attachment of amine-layers on H-terminated undoped single crystalline CVD diamonds. Diamond and Related Materials, 2008, 17, 1376-1379.	3.9	5
54	Formation of Nitrogen-Vacancy Centers in Homoepitaxial Diamond Thin Films Grown via Microwave Plasma-Assisted Chemical Vapor Deposition. IEEE Nanotechnology Magazine, 2016, 15, 614-618.	2.0	5

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55	XPS study of diamond surface after mass-separated low-energy phosphorus ion irradiation. Diamond and Related Materials, 2005, 14, 389-392.	3.9	4
56	Growth and characterization of boron-doped CVD homoepitaxial diamond films. Journal of Crystal Growth, 2007, 299, 235-242.	1.5	4
57	Control of all the transitions between ground state manifolds of nitrogen vacancy centers in diamonds by applying external magnetic driving fields. Japanese Journal of Applied Physics, 2020, 59, 110907.	1.5	4
58	Excitonic Emission from High-Quality Homoepitaxial Diamond Film. Solid State Phenomena, 2001, 78-79, 165-170.	0.3	3
59	Amine-layer growth and electronic properties on H-terminated undoped single crystalline CVD diamond. Diamond and Related Materials, 2008, 17, 892-895.	3.9	3
60	Defect Characteristics in Sulfur-Implanted CVD Homoepitaxial Diamond. Solid State Phenomena, 2001, 78-79, 171-176.	0.3	2
61	Muon spin relaxation in CVD polycrystalline diamond film. Diamond and Related Materials, 2004, 13, 709-712.	3.9	2
62	Finite-pulse-width effect on quantum sensing for an asynchronous alternating-current magnetic field to dynamical decoupling sequences. AIP Advances, 2019, 9, 075013.	1.3	2
63	Sensitive measurement of phase shift of an AC magnetic field by quantum sensing with multiple-pulse decoupling sequences. Journal of Applied Physics, 2019, 126, .	2.5	2
64	Improvement of Crystal Quality of a Homoepitaxially Grown Diamond Layer Using Plasma Etching Treatment for a Diamond Substrate. Progress in Nuclear Science and Technology, 2011, 1, 255-258.	0.3	2
65	Doping Position Control of Nitrogen-vacancy Centers in Diamond using Nitrogen-doped Chemical Vapor Deposition on Micropatterned Substrate. , 2013, , .		1
66	A Study of the Origin of Band-A Emission in Homoepitaxial Diamond Thin Films. Materials Research Society Symposia Proceedings, 1999, 588, 87.	0.1	0
67	Defects Analysis of Diamond Films in Cross Section Using Cathodoluminescence and High-Resolution Transmission Electron Microscopy. Solid State Phenomena, 2001, 78-79, 197-204.	0.3	0
68	Microscopic Detection of DNA Hybridization using Miniaturized Diamond DNA-FETs. Materials Research Society Symposia Proceedings, 2007, 1039, 1.	0.1	0
69	Position and density control of nitrogen-vacancy centers in diamond using micropatterned substrate for chemical vapor deposition. , 2013, , .		0