Julien Pernot

List of Publications by Year
in descending order

99 papers	2,750 citations	172207 29 h-index	205818 48 g-index
101 all docs	101 docs citations	101 times ranked	2354 citing authors

#	Article	IF	Citations
1	Metal-insulator transition and superconductivity in boron-doped diamond. Physical Review B, 2007, 75, .	1.1	162
2	Extreme dielectric strength in boron doped homoepitaxial diamond. Applied Physics Letters, 2010, 97, .	1.5	160
3	Hall hole mobility in boron-doped homoepitaxial diamond. Physical Review B, 2010, 81, .	1.1	125
4	Diamond power devices: state of the art, modelling, figures of merit and future perspective. Journal Physics D: Applied Physics, 2020, 53, 093001.	1.3	124
5	High hole mobility in boron doped diamond for power device applications. Applied Physics Letters, 2009, 94, .	1.5	120
6	Zr/oxidized diamond interface for high power Schottky diodes. Applied Physics Letters, 2014, 104, .	1.5	114
7	Electrical transport inn-type 4H silicon carbide. Journal of Applied Physics, 2001, 90, 1869-1878.	1.1	107
8	Direct Imaging of pâ€“n Junction in Coreâ€“Shell GaN Wires. Nano Letters, 2014, 14, 3491-3498.	4.5	77
9	Electrical transport properties of aluminum-implanted 4Hâ€“SiC. Journal of Applied Physics, 2005, 98, 023706.	1.1	74
10	Si Donor Incorporation in GaN Nanowires. Nano Letters, 2015, 15, 6794-6801.	4.5	71
11	Hall electron mobility in diamond. Applied Physics Letters, 2006, 89, 122111.	1.5	69
12	Activation of aluminum implanted at high doses in 4Hâ€“SiC. Journal of Applied Physics, 2000, 88, 1971-1977.	1.1	61
13	Free electron density and mobility in high-quality 4Hâ€“SiC. Applied Physics Letters, 2000, 77, 4359-4361.	1.5	61
14	Deep-Depletion Mode Boron-Doped Monocrystalline Diamond Metal Oxide Semiconductor Field Effect Transistor. IEEE Electron Device Letters, 2017, 38, 1571-1574.	2.2	53
15	Electron mobility in phosphorous doped {111} homoepitaxial diamond. Applied Physics Letters, 2008, 93, .	1.5	52
16	Metal oxide semiconductor structure using oxygen-terminated diamond. Applied Physics Letters, 2013, 102, .	1.5	52
17	High breakdown voltage Schottky diodes synthesized on pâ€type CVD diamond layer. Physica Status Solidi (A) Applications and Materials Science, 2010, 207, 2088-2092.	0.8	47
18	Deep depletion concept for diamond MOSFET. Applied Physics Letters, 2017, 111, .	1.5	46

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19	Study of boron doping in MPCVD grown homoepitaxial diamond layers based on cathodoluminescence spectroscopy, secondary ion mass spectroscopy and capacitanceâ€“voltage measurements. Diamond and Related Materials, 2011, 20, 912-916.	1.8	41
20	Oxygen termination of homoepitaxial diamond surface by ozone and chemical methods: An experimental and theoretical perspective. Applied Surface Science, 2018, 433, 408-418.	3.1	40
21	Ultrawide bandgap semiconductors. Applied Physics Letters, 2021, 118, .	1.5	38
22	Energy-band diagram configuration of Al2O3/oxygen-terminated p-diamond metal-oxide-semiconductor. Applied Physics Letters, 2015, 107, .	1.5	35
23	Polarity-Dependent High Electrical Conductivity of ZnO Nanorods and Its Relation to Hydrogen. Journal of Physical Chemistry C, 2018, 122, 22767-22775.	1.5	34
24	Zinc Vacancyâ€“Hydrogen Complexes as Major Defects in ZnO Nanowires Grown by Chemical Bath Deposition. Journal of Physical Chemistry C, 2020, 124, 16652-16662.	1.5	33
25	High conductivity in Si-doped GaN wires. Applied Physics Letters, 2013, 102, .	1.5	32
26	Comprehensive electrical analysis of metal/Al2O3/O-terminated diamond capacitance. Journal of Applied Physics, 2018, 123, .	1.1	32
27	Thermoelectric and micro-Raman measurements of carrier density and mobility in heavily Si-doped GaN wires. Applied Physics Letters, 2013, 103, 202101.	1.5	30
28	Carrier depletion and exciton diffusion in a single ZnO nanowire. Nanotechnology, 2011, 22, 475704.	1.3	29
29	Hole transport in boron delta-doped diamond structures. Applied Physics Letters, 2012, 101, .	1.5	29
30	Properties of boron-doped epitaxial diamond layers grown on (110) oriented single crystal substrates. Diamond and Related Materials, 2015, 53, 29-34.	1.8	29
31	High Lateral Breakdown Voltage in Thin Channel AlGaN/GaN High Electron Mobility Transistors on AlN/Sapphire Templates. Micromachines, 2019, 10, 690.	1.4	28
32	Boron incorporation issues in diamond when TMB is used as precursor: Toward extreme doping levels. Diamond and Related Materials, 2012, 22, 136-141.	1.8	27
33	Model implementation towards the prediction of J(V) characteristics in diamond bipolar device simulations. Diamond and Related Materials, 2014, 43, 34-42.	1.8	26
34	Electrical resistivity and metal-nonmetal transition inn-type doped4Hâ˜'SiC. Physical Review B, 2006, 74, .	1.1	25
35	Mg and In Codoped p-type AlN Nanowires for pn Junction Realization. Nano Letters, 2019, 19, 8357-8364.	4.5	25
36	Deep hole traps in boron-doped diamond. Physical Review B, 2010, 81, .	1.1	23

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37	Recent progress in deep-depletion diamond metalâ€“oxideâ€“semiconductor field-effect transistors. Journal Physics D: Applied Physics, 2021, 54, 233002.	1.3	22
38	Mg doping and its effect on the semipolar GaN(112Â¯2) growth kinetics. Applied Physics Letters, 2009, 95, 171908.	1.5	20
39	Role of deep and shallow donor levels on <i>n</i>-type conductivity of hydrothermal ZnO. Applied Physics Letters, 2012, 100, .	1.5	20
40	Effect of nâ€•and pâ€type doping concentrations and compensation on the electrical properties of semiconducting diamond. Physica Status Solidi (A) Applications and Materials Science, 2016, 213, 2036-2043.	0.8	20
41	Direct assessment of pâ€“n junctions in single GaN nanowires by Kelvin probe force microscopy. Nanotechnology, 2016, 27, 385202.	1.3	20
42	Atomic composition of WC/ and Zr/O-terminated diamond Schottky interfaces close to ideality. Applied Surface Science, 2017, 395, 200-207.	3.1	20
43	Schottky diode architectures on p-type diamond for fast switching, high forward current density and high breakdown field rectifiers. Diamond and Related Materials, 2011, 20, 285-289.	1.8	19
44	High quality Al2O3/(100) oxygen-terminated diamond interface for MOSFETs fabrication. Applied Physics Letters, 2018, 112, .	1.5	19
45	Ultrahigh conversion efficiency of betavoltaic cell using diamond pn junction. Applied Physics Letters, 2020, 117, .	1.5	19
46	2D hole gas mobility at diamond/insulator interface. Applied Physics Letters, 2020, 116, 162105.	1.5	19
47	Potential barrier heights at metal on oxygen-terminated diamond interfaces. Journal of Applied Physics, 2015, 118, .	1.1	18
48	Hydrogen-induced passivation of boron acceptors in monocrystalline and polycrystalline diamond. Physical Chemistry Chemical Physics, 2011, 13, 11511.	1.3	16
49	Residual and intentional n-type doping of ZnO thin films grown by metal-organic vapor phase epitaxy on sapphire and ZnO substrates. Journal of Applied Physics, 2014, 115, 113508.	1.1	16
50	Determination of alumina bandgap and dielectric functions of diamond MOS by STEM-VEELS. Applied Surface Science, 2018, 461, 93-97.	3.1	16
51	Comparison of Three E-Beam Techniques for Electric Field Imaging and Carrier Diffusion Length Measurement on the Same Nanowires. Nano Letters, 2016, 16, 2938-2944.	4.5	15
52	Modeling the infrared reflectance of nâ€“/n+ SiC layers on top of n+ SiC substrates for epitaxy control application. Physica Status Solidi A, 2003, 195, 38-43.	1.7	14
53	<i>Ab initio</i>study of boron-hydrogen complexes in diamond and their effect on electronic properties. Physical Review B, 2008, 78, .	1.1	14
54	Stability of Bâ€“H and Bâ€“D complexes in diamond under electron beam excitation. Applied Physics Letters, 2008, 93, 062108.	1.5	14

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55	Oxygen vacancy and<i>E</i>_Câˆ’ 1 eV electron trap in ZnO. Journal Physics D: Applied Physics, 2014, 47, 465103.	1.3	14
56	Non-metal to metal transition in n-type ZnO single crystal materials. Journal of Applied Physics, 2017, 121, .	1.1	14
57	Diamond/Î³-alumina band offset determination by XPS. Applied Surface Science, 2021, 535, 146301.	3.1	14
58	H-Terminated Diamond Surface Band Bending Characterization by Angle-Resolved XPS. Surfaces, 2020, 3, 61-71.	1.0	13
59	Gate Oxide Electrical Stability of p-type Diamond MOS Capacitors. IEEE Transactions on Electron Devices, 2018, 65, 3361-3364.	1.6	12
60	Electronic properties of boron-doped {111}-oriented homoepitaxial diamond layers. Diamond and Related Materials, 2006, 15, 582-585.	1.8	11
61	Metallic core conduction in unintentionally doped ZnO nanowire. Applied Physics Express, 2015, 8, 025001.	1.1	11
62	Europium-Implanted AlN Nanowires for Red Light-Emitting Diodes. ACS Applied Nano Materials, 2022, 5, 972-984.	2.4	11
63	Modulating the growth of chemically deposited ZnO nanowires and the formation of nitrogen- and hydrogen-related defects using pH adjustment. Nanoscale Advances, 2022, 4, 1793-1807.	2.2	11
64	Control of Al-implantation doping in 4Hâ€“SiC. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2001, 80, 362-365.	1.7	10
65	Electronic properties of deep defects in n-type GaN. Superlattices and Microstructures, 2004, 36, 435-443.	1.4	10
66	Electronic properties of E3 electron trap in nâ€‘type ZnO. Physica Status Solidi (B): Basic Research, 2014, 251, 206-210.	0.7	10
67	<i>In situ</i>biasing and off-axis electron holography of a ZnO nanowire. Nanotechnology, 2018, 29, 025710.	1.3	10
68	Axial pâ€“n junction and space charge limited current in single GaN nanowire. Nanotechnology, 2018, 29, 01LT01.	1.3	10
69	Engineering nitrogen- and hydrogen-related defects in ZnO nanowires using thermal annealing. Physical Review Materials, 2021, 5, .	0.9	10
70	Boron-deuterium complexes in diamond: How inhomogeneity leads to incorrect carrier type identification. Journal of Applied Physics, 2011, 110, 033718.	1.1	9
71	Metalâ€“oxideâ€“diamond interface investigation by TEM: Toward MOS and Schottky power device behavior. Physica Status Solidi (A) Applications and Materials Science, 2014, 211, 2367-2371.	0.8	8
72	200V, 4MV/cm lateral diamond MOSFET. , 2017, , .		7

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73	Deposition, evaluation and control of 4H and 6H SiC epitaxial layers for device applications. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2001, 80, 332-336.	1.7	6
74	Hole traps profile and physical properties of deep levels in various homoepitaxial diamond films studied by isothermal and deep level transient spectroscopies. Diamond and Related Materials, 2011, 20, 722-725.	1.8	6
75	Spectroscopic XPEEM of highly conductive SI-doped GaN wires. Ultramicroscopy, 2015, 159, 476-481.	0.8	6
76	Impact of Nonhomoepitaxial Defects in Depleted Diamond MOS Capacitors. IEEE Transactions on Electron Devices, 2018, 65, 1830-1837.	1.6	6
77	Control of the Alumina Microstructure to Reduce Gate Leaks in Diamond MOSFETs. Nanomaterials, 2018, 8, 584.	1.9	6
78	Formation of p-n⁺diamond homojunctions by shallow doping of phosphorus through liquid emersion excimer laser irradiation. Materials Research Letters, 2022, 10, 666-674.	4.1	6
79	Evaluation of MESFET structures from temperature-dependent Hall effect measurements. Physica Status Solidi A, 2003, 195, 243-247.	1.7	5
80	Evidence of deuterium re-trapping by boron after electron beam dissociation of Bâ€"D pairs in diamond. Diamond and Related Materials, 2009, 18, 839-842.	1.8	5
81	Hole injection contribution to transport mechanisms in metal/pâˆ'/p++ and metal/oxide/pâˆ'/p++ diamond structures. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 2501-2506.	0.8	5
82	175V, > 5.4 MV/cm, $50 mathrm{m}Omega.ext{cm}^{2}$ at 250Â°C Diamond MOSFET and its reverse conduction. , 2019, , .		5
83	High temperature operation of a monolithic bidirectional diamond switch. Diamond and Related Materials, 2021, 111, 108185.	1.8	5
84	Transport mechanism in O-terminated diamond/ZrO2 based MOSCAPs. Diamond and Related Materials, 2022, 121, 108745.	1.8	5
85	DX center formation in highly Si doped AlN nanowires revealed by trap assisted space-charge limited current. Applied Physics Letters, 2022, 120, 162104.	1.5	5
86	Electron beam dose dependence of surface recombination velocity and surface space charge in semiconductor nanowires. Nanotechnology, 2017, 28, 235701.	1.3	4
87	Exciton diffusion coefficient measurement in ZnO nanowires under electron beam irradiation. Nanotechnology, 2018, 29, 105703.	1.3	4
88	Lattice performance during initial steps of the Smart-Cutâ„¢ process in semiconducting diamond: A STEM study. Applied Surface Science, 2020, 528, 146998.	3.1	4
89	Shallow donor and DX state in Si doped AlN nanowires grown by molecular beam epitaxy. Applied Physics Letters, 2021, 119, .	1.5	4
90	Equivalence of donor and acceptor fits of temperature dependent Hall carrier density and Hall mobility data: Case of ZnO. Journal of Applied Physics, 2014, 115, 163706.	1.1	3

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91	Nanoscale Dopant Profiling of Individual Semiconductor Wires by Capacitanceâ€"Voltage Measurement. Nano Letters, 2021, 21, 3372-3378.	4.5	3
92	Nonâ€Volatile Photoâ€Switch Using a Diamond pn Junction. Advanced Electronic Materials, 0, , 2100542.	2.6	3
93	Characterization of Diamond and Silicon Carbide Detectors With Fission Fragments. Frontiers in Physics, 2021, 9, .	1.0	2
94	Determination of Current Leakage Sites in Diamond pâ€"n Junction. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1900243.	0.8	1
95	Vacancy-type defects in GaN self-assembled nanowires probed using monoenergetic positron beam. Journal of Applied Physics, 2019, 125, 175705.	1.1	1
96	Analytic modeling of a hybrid power module based on diamond and SiC devices. Diamond and Related Materials, 2022, 124, 108936.	1.8	1
97	Hydrogen implantation-induced blistering in diamond: Toward diamond layer transfer by the Smart Cutâ„¢ technique. Diamond and Related Materials, 2022, 126, 109085.	1.8	1
98	Nonâ€Volatile Photoâ€Switch Using a Diamond pn Junction (Adv. Electron. Mater. 1/2022). Advanced Electronic Materials, 2022, 8, .	2.6	0
99	Nanoscale imaging of dopant incorporation in n-type and p-type GaN nanowires by scanning spreading resistance microscopy. Journal of Applied Physics, 2022, 131, 075701.	1.1	0