Patrick Desjardins

List of Publications by Year in descending order

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121 papers 3,422 citations

32 h-index 54 g-index

125 all docs 125
docs citations

times ranked

125

4107 citing authors

#	Article	IF	CITATIONS
1	Longitudinal piezoelectric, elastic, and dielectric properties of rare-earth aluminum nitride alloys determined by density-functional perturbation theory. Physical Review Materials, 2022, 6, .	2.4	2
2	Impact of applied biaxial stress on the piezoelectric, elastic, and dielectric properties of scandium aluminum nitride alloys determined by density functional perturbation theory. AIP Advances, 2021, 11, .	1.3	3
3	Double-walled carbon nanotube film as the active electrode in an electro-optical modulator for the mid-infrared and terahertz regions. Journal of Applied Physics, 2020, 128, .	2.5	8
4	Ab initio piezoelectric properties of wurtzite ZnO-based alloys: Impact of the c/a cell ratio. Physical Review Materials, 2020, 4, .	2.4	4
5	Alignment of semiconducting graphene nanoribbons on vicinal Ge(001). Nanoscale, 2019, 11, 4864-4875.	5.6	26
6	Growth and Luminescence of Polytypic InP on Epitaxial Graphene. Advanced Functional Materials, 2018, 28, 1705592.	14.9	17
7	Antiresonances in the Mid-Infrared Vibrational Spectrum of Functionalized Graphene. Journal of Physical Chemistry C, 2017, 121, 9053-9062. (i>Ab initio(/i> piezoelectric properties of <mml:math< td=""><td>3.1</td><td>7</td></mml:math<>	3.1	7
8	xmlns:mml="http://www.w3.org/1998/Math/MathML"> <mml:mrow><mml:msub><mml:mi>Al</mml:mi><mml:mathvariant="normal">N</mml:mathvariant="normal"></mml:msub></mml:mrow> : Impact of alloy configuration on the <mml:math< td=""><td>2.4</td><td>18</td></mml:math<>	2.4	18
9	xmlns:mml="http://www.w3.org/1998/Math/MathML"> <mml:msub><mml:mi>d</mml:mi><mml:mrow><mml:mi ,="" .="" .<="" 1,="" 2016,="" 2017,="" gated="" graphene.,="" intense-thz-probe="" materials,="" of="" optical-pump="" physical="" review="" spectroscopy="" td=""><td>1>33<!--11111</td--><td>O</td></td></mml:mi></mml:mrow></mml:msub>	1>33 11111</td <td>O</td>	O
10	Polarization-Resolved Raman Study of Bulk-like and Davydov-Induced Vibrational Modes of Exfoliated Black Phosphorus. Nano Letters, 2016, 16, 7761-7767.	9.1	59
11	Surface induced magnetization reversal of MnP nanoclusters embedded in GaP. Journal of Applied Physics, 2016, 119, 103901.	2.5	1
12	Intense terahertz field effects on photoexcited carrier dynamics in gated graphene. Applied Physics Letters, 2015, 107, .	3.3	18
13	Tailoring the Growth Rate and Surface Facet for Synthesis of High-Quality Continuous Graphene Films from CH ₄ at 750 °C via Chemical Vapor Deposition. Journal of Physical Chemistry C, 2015, 119, 11516-11523.	3.1	14
14	Direct oriented growth of armchair graphene nanoribbons on germanium. Nature Communications, 2015, 6, 8006.	12.8	157
15	Impact of nucleation on step-meandering instabilities during step-flow growth on vicinal surfaces. Physical Review E, 2014, 89, 032406.	2.1	6
16	Graphene CVD: Interplay Between Growth and Etching on Morphology and Stacking by Hydrogen and Oxidizing Impurities. Journal of Physical Chemistry C, 2014, 118, 21532-21540.	3.1	60
17	Ferromagnetic resonance measurements of GaP epilayers with embedded MnP nanoclusters grown on GaP(001). Physical Review B, 2013, 87, .	3.2	13
18	No Graphene Etching in Purified Hydrogen. Journal of Physical Chemistry Letters, 2013, 4, 1100-1103.	4.6	76

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19	Influence of statistical distributions on the electrical properties of disordered and aligned carbon nanotube networks. Journal of Applied Physics, 2013, 114, 114312.	2.5	21
20	Strain and composition effects on Raman vibrational modes of silicon-germanium-tin ternary alloys. Applied Physics Letters, $2013,103,\ldots$	3.3	63
21	Thin film Ni-Si solid-state reactions: Phase formation sequence on amorphized Si. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2013, 31, .	1.2	4
22	MnP nanoclusters embedded in GaP epitaxial films grown by organometallic vapor-phase epitaxy: A reciprocal space mapping and transmission electron microscopy study. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2012, 30, .	2.1	13
23	Abnormal broadening of the optical transitions in (Ga,As)N/GaAs quantum wells. Physical Review B, 2012, 85, .	3.2	O
24	Fano Resonances in the Midinfrared Spectra of Single-Walled Carbon Nanotubes. Physical Review Letters, 2012, 109, 097402.	7.8	14
25	Temperature dependence of the photoluminescence spectra from InAs(P)/InP multilayers containing thick quantum dots: Dot-size-dependent carrier dynamics. Physical Review B, 2011, 83, .	3.2	8
26	The thermally-induced reaction of thin Ni films with Si: Effect of the substrate orientation. Journal of Applied Physics, $2011, 110, \ldots$	2.5	35
27	Continuum model of surface roughening and epitaxial breakdown during low-temperature Ge(001) molecular beam epitaxy. Journal of Applied Physics, 2011, 109, 063513.	2.5	3
28	Modified interfacial tensions measured in situ in ternary polymer blends demonstrating partial wetting. Polymer, 2010, 51, 1472-1484.	3.8	23
29	Metastable phase formation during the reaction of Ni films with Si(001): The role of texture inheritance. Journal of Applied Physics, 2010, 107, .	2.5	50
30	Evidence of valence band perturbations in GaAsN/GaAs(001): Combined variable-angle spectroscopic ellipsometry and modulated photoreflectance investigation. Physical Review B, 2009, 80, .	3.2	11
31	Adjusting the magnetic properties of semiconductor epilayers by the crystallographic orientation of embedded highly anisotropic magnetic nanoclusters. Journal of Applied Physics, 2009, 105, 07C119.	2.5	9
32	Adhesion of Human U937 Monocytes to Nitrogenâ€Rich Organic Thin Films: Novel Insights into the Mechanism of Cellular Adhesion. Macromolecular Bioscience, 2009, 9, 911-921.	4.1	39
33	In Situ Measure of Interfacial Tensions in Ternary and Quaternary Immiscible Polymer Blends Demonstrating Partial Wetting. Macromolecules, 2009, 42, 7518-7529.	4.8	49
34	Carbon Nanotubes as Injection Electrodes for Organic Thin Film Transistors. Nano Letters, 2009, 9, 1457-1461.	9.1	71
35	Chemical Characterisation of Nitrogenâ€Rich Plasmaâ€Polymer Films Deposited in Dielectric Barrier Discharges at Atmospheric Pressure. Plasma Processes and Polymers, 2008, 5, 631-644.	3.0	78
36	Plasma Process. Polym. 7/2008. Plasma Processes and Polymers, 2008, 5, NA-NA.	3.0	0

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37	GaAs1â^xNx on GaAs(001): Nitrogen incorporation kinetics from trimethylgallium, tertiarybutylarsine, and 1,1-dimethylhydrazine organometallic vapor-phase epitaxy. Journal of Crystal Growth, 2008, 310, 1040-1048.	1.5	6
38	Mechanism of the Far-Infrared Absorption of Carbon-Nanotube Films. Physical Review Letters, 2008, 101, 267403.	7.8	76
39	Vacancy-mediated intermixing in InAs/InP(001) quantum dots subjected to ion implantation. Journal of Applied Physics, 2008, 104, 043527.	2.5	3
40	Magnetic anisotropy in GaP(001) epilayers containing MnP nanoclusters observed by angle dependent ferromagnetic resonance measurements. Journal of Applied Physics, 2008, 103, 07D531.	2.5	8
41	Low-temperature emission in dilute GaAsN alloys grown by metalorganic vapor phase epitaxy. Journal of Applied Physics, 2008, 103, 063526.	2.5	7
42	Electroluminescence from Single-Wall Carbon Nanotube Network Transistors. Nano Letters, 2008, 8, 2351-2355.	9.1	74
43	Effects of grown-in defects on interdiffusion dynamics in InAsâ^•InP(001) quantum dots subjected to rapid thermal annealing. Journal of Applied Physics, 2008, 103, 083526.	2.5	7
44	Intermixing during growth of InAs self-assembled quantum dots in InP: A photoluminescence and tight-binding investigation. Physical Review B, 2008, 77, .	3.2	22
45	Experimental investigation of the variation of the absorption coefficient with nitrogen content in GaAsN and GaInAsN grown on GaAs (001). Journal of Applied Physics, 2008, 104, 083511.	2.5	13
46	Metal-organic vapor phase epitaxy of crystallographically oriented MnP magnetic nanoclusters embedded in GaP(001). Journal of Applied Physics, 2008, 104, 083501.	2.5	18
47	Self-Organization oflnAs/InPQuantum Dot Multilayers: Pseudophase Diagram Describing the Transition from Aligned to Antialigned Structures. Physical Review Letters, 2008, 100, 046101.	7.8	12
48	Transport in the metallic regime of Mn-doped III-V semiconductors. Physical Review B, 2008, 77, .	3.2	5
49	Magnetotransport in the insulating regime of Mn-doped GaAs. Physical Review B, 2008, 78, .	3.2	9
50	Effects of long jumps, reversible aggregation, and Meyer-Neldel rule on submonolayer epitaxial growth. Physical Review E, 2008, 78, 021604.	2.1	4
51	Drastic ion-implantation-induced inter-mixing during the annealing of self-assembled InAs/InP(001) quantum dots. Nanotechnology, 2007, 18, 015404.	2.6	11
52	Optical emission from InAs/InP self-assembled quantum dots: evidence for As/P intermixing. Semiconductor Science and Technology, 2007, 22, 1282-1286.	2.0	8
53	Compositional dependence of the elastic constants of dilute GaAs1â^'xNx alloys. Journal of Applied Physics, 2007, 101, 113507.	2.5	5
54	Optical response of singleâ€wall carbon nanotube sheets in the farâ€infrared spectral range from 1 THz to 40 THz. Physica Status Solidi (B): Basic Research, 2007, 244, 3950-3954.	1.5	18

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55	Carbon nanotube sheets as electrodes in organic light-emitting diodes. Applied Physics Letters, 2006, 88, 183104.	3.3	218
56	Interface broadening due to ion mixing during thin film growth at the radio-frequency-biased electrode in a plasma-enhanced chemical vapor deposition environment. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2006, 24, 2061-2069.	2.1	8
57	Thin film reaction of transition metals with germanium. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2006, 24, 474-485.	2.1	208
58	lon-surface interactions on c-Si(001) at the radiofrequency-powered electrode in low-pressure plasmas:Ex situspectroscopic ellipsometry and Monte Carlo simulation study. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2006, 24, 45-54.	2.1	5
59	Ultrafast Dynamics of Delocalized and Localized Electrons in Carbon Nanotubes. Physical Review Letters, 2006, 96, 027401.	7.8	39
60	Nitrogen incorporation and lattice constant of strained diluteGaAs1â^'xNxlayers on GaAs (001): Anab initiostudy. Physical Review B, 2006, 74, .	3.2	11
61	Reaction of thin Ni films with Ge: Phase formation and texture. Journal of Applied Physics, 2006, 100, 034306.	2.5	62
62	Tuning of the electronic properties of self-assembled InAsâ^•InP(001) quantum dots using grown-in defect mediated intermixing. Applied Physics Letters, 2006, 89, 131905.	3.3	16
63	Experimental and theoretical studies of theE+optical transition inGaAsNalloys. Physical Review B, 2006, 74, .	3.2	13
64	Dynamics of ion bombardment-induced modifications of Si(001) at the radio-frequency-biased electrode in low-pressure oxygen plasmas: In situ spectroscopic ellipsometry and Monte Carlo study. Journal of Applied Physics, 2006, 100, 063526.	2.5	4
65	Atmospheric Pressure Deposition of Micropatterned Nitrogen-Rich Plasma-Polymer Films for Tissue Engineering. Plasma Processes and Polymers, 2005, 2, 263-270.	3.0	150
66	Green's function matching method for one- and zero-dimensional heterostructures. Physical Review B, 2005, 72, .	3.2	0
67	Sn-mediated Geâ^•Ge(001) growth by low-temperature molecular-beam epitaxy: Surface smoothening and enhanced epitaxial thickness. Journal of Applied Physics, 2005, 97, 044904.	2.5	45
68	III-V compliant substrates implemented by nanocavities introduced by ion implantation. Journal of Applied Physics, 2005, 97, 064309.	2.5	2
69	High Contrast Imaging of Interphases in Ternary Polymer Blends Using Focused Ion Beam Preparation and Atomic Force Microscopy. Macromolecules, 2005, 38, 2368-2375.	4.8	38
70	Organometallic vapor phase epitaxy of GaAs[sub 1â^'x]N[sub x] alloy layers on GaAs(001): Nitrogen incorporation and lattice parameter variation. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2004, 22, 771.	2.1	18
71	Evidence for large configuration-induced band-gap fluctuations inGaAs1â^'xNxalloys. Physical Review B, 2004, 70, .	3.2	21
72	Electronic and optical properties of GaAsN/GaAs quantum wells: A tight-binding study. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2004, 22, 1606-1609.	2.1	6

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73	Lateral confinement and band mixing in ultrathin semiconductor quantum wells with steplike interfaces. Physical Review B, 2004, 70, .	3.2	8
74	Tuning of the electronic properties of self-assembled InAs/InP(001) quantum dots by rapid thermal annealing. Applied Physics Letters, 2004, 84, 3382-3384.	3.3	42
75	Characterization of GaAs[sub 1â^'x]N[sub x] epitaxial layers by ion beam analysis. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2004, 22, 908.	2.1	5
76	Study of TiO2 film growth mechanisms in low-pressure plasma by in situ real-time spectroscopic ellipsometry. Thin Solid Films, 2004, 447-448, 40-45.	1.8	43
77	Interface engineering during plasma-enhanced chemical vapor deposition of porous/dense SiN1.3 optical multilayers. Thin Solid Films, 2004, 469-470, 47-53.	1.8	16
78	Empirical tight-binding calculations of the electronic structure of dilute III–V–N semiconductor alloys. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2004, 22, 776.	2.1	9
79	Lateral confinement of carriers in ultrathin semiconductor quantum wells. Microelectronics Journal, 2003, 34, 459-462.	2.0	2
80	Silâ^'yCy/Si(001) gas-source molecular beam epitaxy from Si2H6 and CH3SiH3: Surface reaction paths and growth kinetics. Journal of Applied Physics, 2003, 93, 3944-3950.	2.5	9
81	Empirical tight-binding model for the electronic structure of dilute GaNAs alloys. Physical Review B, 2003, 67, .	3.2	45
82	Temperature dependent contactless electroreflectance study of intersubband transitions in a self-assembled InAs/InP (001) quantum dot structure. Journal of Applied Physics, 2003, 94, 4995.	2.5	8
83	Effect of steady-state hydrogen coverage on the evolution of crosshatch morphology during Silâ^'xGex/Si(001) growth from hydride precursors. Journal of Applied Physics, 2003, 93, 1918-1925.	2.5	16
84	Nanocavities in He implanted InP. Journal of Applied Physics, 2003, 94, 6116-6121.	2.5	11
85	Sn-enhanced epitaxial thickness during low-temperature Ge(001) molecular-beam epitaxy. Applied Physics Letters, 2003, 82, 4247-4249.	3.3	11
86	Mechanism for epitaxial breakdown during low-temperature Ge(001) molecular beam epitaxy. Physical Review B, 2003, 67 , .	3.2	48
87	Hydrogen-mediated quenching of strain-induced surface roughening during gas-source molecular beam epitaxy of fully-coherent Si0.7Ge0.3 layers on Si(001). Journal of Applied Physics, 2002, 91, 3579-3588.	2.5	11
88	Carbon incorporation pathways and lattice sites in Si1â^'yCy alloys grown on Si(001) by molecular-beam epitaxy. Journal of Applied Physics, 2002, 91, 5716-5727.	2.5	12
89	Electronic states of ultrathin InAs/InP (001) quantum wells: A tight-binding study of the effects of band offset, strain, and intermixing. Physical Review B, 2002, 66, .	3.2	22
90	C lattice site distributions in metastable Ge1â^'yCy alloys grown on Ge(001) by molecular-beam epitaxy. Journal of Applied Physics, 2002, 91, 3644-3652.	2.5	13

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91	Structural properties of InAs nanocrystals formed by sequential implantation of In and As ions in the Si (100) matrix. Journal of Applied Physics, 2002, 92, 4664-4671.	2.5	11
92	C incorporation and segregation during Si1â^'yCy/Si() gas-source molecular beam epitaxy from Si2H6 and CH3SiH3. Surface Science, 2002, 513, 475-484.	1.9	11
93	Electronic structure of ScN determined using optical spectroscopy, photoemission, andab initiocalculations. Physical Review B, 2001, 63, .	3.2	139
94	Epitaxial NaCl structure δ-TaNx(001): Electronic transport properties, elastic modulus, and hardness versus N/Ta ratio. Journal of Applied Physics, 2001, 90, 2879-2885.	2.5	88
95	Interfacial reaction pathways and kinetics during annealing of epitaxial Al/TiN(001) model diffusion barrier systems. Thin Solid Films, 2001, 391, 69-80.	1.8	19
96	Interfacial reactions in epitaxial Al/TiN(111) model diffusion barriers: Formation of an impervious self-limited wurtzite-structure AIN(0001) blocking layer. Journal of Applied Physics, 2001, 89, 7841-7845.	2.5	22
97	Synchrotron x-ray diffraction and transmission electron microscopy studies of interfacial reaction paths and kinetics during annealing of fully-002-textured Al/TiN bilayers. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2001, 19, 182-191.	2.1	17
98	Interfacial reaction pathways and kinetics during annealing of 111-textured Al/TiN bilayers: A synchrotron x-ray diffraction and transmission electron microscopy study. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2001, 19, 2207-2216.	2.1	12
99	Ultra-highly doped Si $1\hat{a}$ °xGex(001):B gas-source molecular-beam epitaxy: Boron surface segregation and its effect on film growth kinetics. Journal of Applied Physics, 2001, 89, 194-205.	2.5	8
100	Quantitative C lattice site distributions in epitaxial Gelâ^'yCy/Ge(001) layers. Journal of Applied Physics, 2001, 90, 3910-3918.	2.5	13
101	Temperature-modulated Si(001):As gas-source molecular beam epitaxy: Growth kinetics and As incorporation. Applied Physics Letters, 2001, 79, 3263-3265.	3.3	2
102	Si(011)16×2 gas-source molecular beam epitaxy: Growth kinetics. Applied Physics Letters, 2000, 76, 2853-2855.	3.3	8
103	Ultrahigh B doping(<~1022cmâ^3)during Si(001) gas-source molecular-beam epitaxy: B incorporation, electrical activation, and hole transport. Physical Review B, 2000, 61, 7628-7644.	3.2	34
104	Epitaxial metastable Ge1â^'yCy (yâ $@1/20.02$) alloys grown on Ge(001) from hyperthermal beams: C incorporation and lattice sites. Journal of Applied Physics, 2000, 88, 96-104.	2.5	8
105	Arsenic incorporation during Si(001):As gas-source molecular-beam epitaxy from Si2H6 and AsH3: Effects on film-growth kinetics. Journal of Applied Physics, 2000, 88, 7067-7078.	2.5	13
106	Role of fast sputtered particles during sputter deposition: Growth of epitaxialGe0.99C0.01/Ge(001). Physical Review B, 2000, 62, 11203-11208.	3.2	9
107	Arsenic-doped Si(001) gas-source molecular-beam epitaxy: Growth kinetics and transport properties. Applied Physics Letters, 1999, 74, 1290-1292.	3.3	7
108	Hybrid surface roughening modes during low-temperature heteroepitaxy: Growth of fully-strained metastableGe1â^2xSnxalloys onGe(001)2×1. Physical Review B, 1999, 60, 15993-15998.	3.2	15

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109	Growth of Silâ^'xGex(011) on Si(011)16×2 by gas-source molecular beam epitaxy: Growth kinetics, Ge incorporation, and surface phase transitions. Journal of Applied Physics, 1999, 85, 501-511.	2.5	11
110	Microstructural evolution and Poisson ratio of epitaxial ScN grown on TiN(001)/MgO(001) by ultrahigh vacuum reactive magnetron sputter deposition. Journal of Applied Physics, 1999, 86, 5524-5529.	2.5	68
111	Low-temperature growth and critical epitaxial thicknesses of fully strained metastable Ge1â^ $^{\circ}$ xSnx (xâ $^{\circ}$ 20.26) alloys on Ge(001)2Ã $^{\circ}$ 1. Journal of Applied Physics, 1998, 83, 162-170.	2.5	124
112	Raman scattering from fully strained Ge1â^'xSnx (xâ $@1/20.22$) alloys grown on Ge(001)2Ã -1 by low-temperature molecular beam epitaxy. Journal of Applied Physics, 1998, 84, 2219-2223.	2.5	40
113	Pathways for hydrogen desorption fromSi1â^'xGex(001)during gas-source molecular-beam epitaxy and ultrahigh-vacuum chemical vapor deposition. Physical Review B, 1998, 58, 4803-4808.	3.2	30
114	Toward quantum dot laser diodes emitting at 1.5 î½m. , 1998, 3491, 271.		5
115	Metalorganic vapor phase epitaxy of coherent self-assembled InAs nanometer-sized islands in InP(001). Applied Physics Letters, 1997, 71, 527-529.	3.3	97
116	Strain and relaxation effects in InAsP/InP multiple quantum well optical modulator devices grown by metal-organic vapor phase epitaxy. Journal of Applied Physics, 1997, 81, 1905-1915.	2.5	17
117	Microstructure and strain relaxation in organometallic vapor phase epitaxy of strain-compensated GalnP/InAsP multilayers on InP(001). Journal of Applied Physics, 1997, 81, 3501-3511.	2.5	10
118	Metalorganic vapor phase epitaxial growth and structural characterization of self-assembled InAs nanometer-sized Islands on InP(001). Journal of Electronic Materials, 1997, 26, 1205-1213.	2.2	7
119	In situ scanning tunneling microscopy studies of the evolution of surface morphology and microstructure in epitaxial TiN(001) grown by ultra-high-vacuum reactive magnetron sputtering. Surface and Coatings Technology, 1997, 94-95, 403-408.	4.8	31
120	Stepâ€flow epitaxial growth on twoâ€domain surfaces. Journal of Applied Physics, 1996, 79, 1423-1434.	2.5	9
121	Self-consistent determination of the band offsets inlnAsxP1â^'x/InPstrained-layer quantum wells and the bowing parameter of bulkInAsxP1â^'x. Physical Review B, 1996, 53, 1990-1996.	3.2	53