Pascal Gentile

List of Publications by Year
in descending order

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130 papers	3,531 citations	101496 36 h-index	161767 54 g-index
132 all docs	132 docs citations	132 times ranked	3680 citing authors

#	Article	IF	Citations
1	Size Effects in Mechanical Deformation and Fracture of Cantilevered Silicon Nanowires. Nano Letters, 2009, 9, 525-529.	4.5	216
2	Dynamically stable gallium surface coverages during plasma-assisted molecular-beam epitaxy of (0001) GaN. Journal of Applied Physics, 2002, 91, 9638.	1.1	164
3	3D hierarchical assembly of ultrathin MnO2 nanoflakes on silicon nanowires for high performance micro-supercapacitors in Li- doped ionic liquid. Scientific Reports, 2015, 5, 9771.	1.6	150
4	Control of Gold Surface Diffusion on Si Nanowires. Nano Letters, 2008, 8, 1544-1550.	4.5	108
5	Multifunctional Devices and Logic Gates With Undoped Silicon Nanowires. Nano Letters, 2012, 12, 3074-3079.	4.5	91
6	Single-electron charging effect in individual Si nanocrystals. Applied Physics Letters, 2001, 79, 1175-1177.	1.5	80
7	Highly doped silicon nanowires based electrodes for micro-electrochemical capacitor applications. Electrochemistry Communications, 2012, 25, 109-111.	2.3	75
8	Diamond-coated silicon wires for supercapacitor applications in ionic liquids. Diamond and Related Materials, 2015, 51, 1-6.	1.8	75
9	High performance of symmetric micro-supercapacitors based on silicon nanowires using N-methyl-N-propylpyrrolidinium bis(trifluoromethylsulfonyl)imide as electrolyte. Nano Energy, 2014, 9, 273-281.	8.2	71
10	Ordering of Ge quantum dots with buried Si dislocation networks. Applied Physics Letters, 2002, 80, 3078-3080.	1.5	69
11	Silicon nanowires: Diameter dependence of growth rate and delay in growth. Applied Physics Letters, 2010, 96, .	1.5	64
12	Effect of HCl on the doping and shape control of silicon nanowires. Nanotechnology, 2012, 23, 215702.	1.3	64
13	Designing 3D Multihierarchical Heteronanostructures for High-Performance On-Chip Hybrid Supercapacitors: Poly(3,4-(ethylenedioxy)thiophene)-Coated Diamond/Silicon Nanowire Electrodes in an Aprotic Ionic Liquid. ACS Applied Materials & Interfaces, 2016, 8, 18069-18077.	4.0	64
14	Novel hybrid micro-supercapacitor based on conducting polymer coated silicon nanowires for electrochemical energy storage. RSC Advances, 2014, 4, 26462-26467.	1.7	63
15	An innovative 3-D nanoforest heterostructure made of polypyrrole coated silicon nanotrees for new high performance hybrid micro-supercapacitors. Journal of Materials Chemistry A, 2015, 3, 13978-13985.	5.2	63
16	Micro-ultracapacitors with highly doped silicon nanowires electrodes. Nanoscale Research Letters, 2013, 8, 38.	3.1	61
17	Wide-voltage-window silicon nanowire electrodes for micro-supercapacitors via electrochemical surface oxidation in ionic liquid electrolyte. Electrochemistry Communications, 2014, 41, 31-34.	2.3	61
18	Ultra-dense and highly doped SiNWs for micro-supercapacitors electrodes. Electrochimica Acta, 2014, 117, 159-163.	2.6	59

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19	Si nanowire growth and characterization using a microelectronics-compatible catalyst: PtSi. Applied Physics Letters, 2006, 89, 233111.	1.5	58
20	Surface Recombination Velocity Measurements of Efficiently Passivated Gold-Catalyzed Silicon Nanowires by a New Optical Method. Nano Letters, 2010, 10, 2323-2329.	4.5	56
21	Critical condition for growth of silicon nanowires. Journal of Applied Physics, 2007, 102, 094906.	1.1	55
22	Are tomorrow's micro-supercapacitors hidden in a forest of silicon nanotrees?. Journal of Power Sources, 2014, 269, 740-746.	4.0	52
23	Solder-reflow resistant solid-state micro-supercapacitors based on ionogels. Journal of Materials Chemistry A, 2016, 4, 11835-11843.	5.2	50
24	The Importance of the Radial Growth in the Faceting of Silicon Nanowires. Nano Letters, 2010, 10, 2335-2341.	4.5	49
25	Direct Quantification of Gold along a Single Si Nanowire. Nano Letters, 2008, 8, 3709-3714.	4.5	46
26	Growth kinetics of Si on fullsheet, patterned and silicon-on-insulator substrates. Journal of Crystal Growth, 2003, 257, 19-30.	0.7	42
27	The growth of small diameter silicon nanowires to nanotrees. Nanotechnology, 2008, 19, 125608.	1.3	42
28	Ultra-thin oxides grown on silicon (1 0 0) by rapid thermal oxidation for CMOS and advanced devices. Applied Surface Science, 2001, 175-176, 726-733.	3.1	41
29	Nucleation control of CVD growth silicon nanocrystals for quantum devices. Microelectronic Engineering, 2002, 61-62, 511-515.	1.1	41
30	The effects of HCl on silicon nanowire growth: surface chlorination and existence of a â€˜diffusion-limited minimum diameterâ€™. Nanotechnology, 2009, 20, 475307.	1.3	41
31	Tuning silicon nanowires doping level and morphology for highly efficient micro-supercapacitors. Nano Energy, 2014, 5, 20-27.	8.2	41
32	High-performance silicon nanowire field-effect transistor with silicided contacts. Semiconductor Science and Technology, 2011, 26, 085020.	1.0	40
33	Controlled surface nanopatterning with buried dislocation arrays. Surface Science, 2003, 545, 211-219.	0.8	39
34	A step forward into hierarchically nanostructured materials for high performance micro-supercapacitors: Diamond-coated SiNW electrodes in protic ionic liquid electrolyte. Electrochemistry Communications, 2016, 63, 34-38.	2.3	39
35	In Situ Transmission Electron Microscopy Analysis of Aluminumâ€“Germanium Nanowire Solid-State Reaction. Nano Letters, 2019, 19, 2897-2904.	4.5	39
36	Silicon nanowires and nanotrees: elaboration and optimization of new 3D architectures for high performance on-chip supercapacitors. RSC Advances, 2016, 6, 81017-81027.	1.7	38

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37	Low thermal budget surface preparation of Si and SiGe. Applied Surface Science, 2004, 225, 256-266.	3.1	37
38	Tensile Strained Germanium Nanowires Measured by Photocurrent Spectroscopy and X-ray Microdiffraction. Nano Letters, 2015, 15, 2429-2433.	4.5	36
39	Powering electrodes for high performance aqueous micro-supercapacitors: Diamond-coated silicon nanowires operating at a wide cell voltage of 3 V. Electrochimica Acta, 2017, 242, 173-179.	2.6	36
40	Self-assembled block polymer templates as high resolution lithographic masks. Surface Science, 2007, 601, 2611-2614.	0.8	34
41	Recombination Dynamics of Spatially Confined Electronâ˜'Hole System in Luminescent Gold Catalyzed Silicon Nanowires. Nano Letters, 2009, 9, 2575-2578.	4.5	33
42	Hidden defects in silicon nanowires. Nanotechnology, 2012, 23, 025701.	1.3	33
43	Structural investigation of silicon nanowires using GIXD and GISAXS: Evidence of complex saw-tooth faceting. Surface Science, 2008, 602, 2675-2680.	0.8	32
44	Atomic Layer Deposition Alumina-Passivated Silicon Nanowires: Probing the Transition from Electrochemical Double-Layer Capacitor to Electrolytic Capacitor. ACS Applied Materials & Interfaces, 2017, 9, 13761-13769.	4.0	32
45	Coherent-diffraction imaging of single nanowires of diameter 95 nanometers. Physical Review B, 2009, 79, .	1.1	30
46	Joule-Assisted Silicidation for Short-Channel Silicon Nanowire Devices. ACS Nano, 2011, 5, 7117-7123.	7.3	27
47	Application of the RHEED oscillation technique to the growth of IIâ€“VI compounds: CdTe, HgTe and their related alloys. Journal of Crystal Growth, 1991, 111, 711-714.	0.7	26
48	Controlled growth of SiGe nanowires by addition of HCl in the gas phase. Journal of Applied Physics, 2011, 110, 024311.	1.1	26
49	Vertically integrated silicon-germanium nanowire field-effect transistor. Applied Physics Letters, 2011, 99, 193107.	1.5	23
50	Nonlinear interdiffusion in semiconductor superlattices: Case of CdTe/HgTe. Applied Physics Letters, 1993, 62, 2548-2550.	1.5	22
51	Growth mechanism of Si nanowhiskers and SiGe heterostructures in Si nanowhiskers: X-ray scattering and electron microscopy investigations. Applied Physics Letters, 2006, 89, 153129.	1.5	21
52	Photoluminescence of confined electron-hole plasma in core-shell silicon/silicon oxide nanowires. Applied Physics Letters, 2008, 93, .	1.5	20
53	Cu nanoparticles on 2D and 3D silica substrates: controlled size and density, and critical size in catalytic silicon nanowire growth. Journal of Materials Chemistry C, 2013, 1, 1583.	2.7	20
54	Assessment of the structural quality of CdTe/Cd1â˜'xZnxTe strained superlattices by highâ€resolution xâ€ray diffraction and photoluminescence studies. Journal of Applied Physics, 1990, 68, 6229-6233.	1.1	19

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55	Enhancement of the photoluminescence of silicon oxide defect states by combining silicon oxide with silicon nanowires. Journal of Applied Physics, 2007, 102, 016103.	1.1	19
56	Growth and characterization of gold catalyzed SiGe nanowires and alternative metal-catalyzed Si nanowires. Nanoscale Research Letters, 2011, 6, 187.	3.1	19
57	One Step Deposition of PEDOTâ€“PSS on ALD Protected Silicon Nanowires: Toward Ultrarobust Aqueous Microsupercapacitors. ACS Applied Energy Materials, 2019, 2, 436-447.	2.5	19
58	Epitaxial growth of CdTe(0 0 1) studied by scanning tunnelling microscopy. Journal of Crystal Growth, 1998, 184-185, 203-207.	0.7	18
59	Highly organised and dense vertical silicon nanowire arrays grown in porous alumina template on <100> silicon wafers. Nanoscale Research Letters, 2013, 8, 287.	3.1	18
60	Highly N-doped Silicon Nanowires as a Possible Alternative to Carbon for On-chip Electrochemical Capacitors. Electrochemistry, 2013, 81, 777-782.	0.6	18
61	New electrolyte mixture of propylene carbonate and butyltrimethylammonium bis(trifluoromethylsulfonyl)imide (N1114 TFSI) for high performance silicon nanowire (SiNW)-based supercapacitor applications. Electrochimica Acta, 2017, 254, 368-374.	2.6	18
62	Growth of Ge_{1â^'x}Sn_x Nanowires by Chemical Vapor Deposition via Vaporâ€“Liquidâ€“Solid Mechanism Using GeH₄ and SnCl₄. Physica Status Solidi (A) Applications and Materials Science, 2018, 215, 1700743.	0.8	18
63	Quantum confinement effects and strain-induced band-gap energy shifts in core-shell Si-SiO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow /><mml:mrow><mml:mn>2</mml:mn></mml:mrow></mml:msub></mml:mrow></mml:math>nanowires. Physical Review B, 2011, 83, .	1.1	17
64	Electrical characteristics of a vertically integrated field-effect transistor using non-intentionally doped Si nanowires. Microelectronic Engineering, 2011, 88, 3312-3315.	1.1	17
65	Reduced pressure chemical vapour deposition of Si/Si1ÂxÂyGexCyheterostructures using a chlorinated chemistry. Semiconductor Science and Technology, 2003, 18, 352-360.	1.0	16
66	The morphology of silicon nanowires grown in the presence of trimethylaluminium. Nanotechnology, 2009, 20, 245602.	1.3	16
67	Gold Contamination in VLS-Grown Si Nanowires: Multiwavelength Anomalous Diffraction Investigations. Chemistry of Materials, 2012, 24, 4511-4516.	3.2	16
68	Growth strategies to control tapering in Ge nanowires. APL Materials, 2014, 2, .	2.2	16
69	Geometrical control of photocurrent in active Si nanowire devices. Nano Energy, 2012, 1, 714-722.	8.2	15
70	Interdiffusion studies in CdTe/HgTe superlattices. Semiconductor Science and Technology, 1993, 8, S276-S280.	1.0	14
71	Photoluminescence of silicon nanowires obtained by epitaxial chemical vapor deposition. Physica E: Low-Dimensional Systems and Nanostructures, 2009, 41, 963-965.	1.3	14
72	Impact of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>n</mml:mi></mml:math>-type doping on the carrier dynamics of silicon nanowires studied using optical-pump terahertz-probe spectroscopy. Physical Review B, 2014, 89, .	1.1	14

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73	Functionalized silicon nanowires/conjugated polymer hybrid solar cells: Optical, electrical and morphological characterizations. Journal of Luminescence, 2015, 168, 315-324.	1.5	14
74	Electrochemical performance of silicon nanostructures in low-temperature ionic liquids for microelectronic applications. Journal of Materials Chemistry A, 2017, 5, 22708-22716.	5.2	14
75	Fabrication and characterization of silicon nanowire p-i-n MOS gated diode for use as p-type tunnel FET. Applied Physics A: Materials Science and Processing, 2015, 121, 1285-1290.	1.1	13
76	Dielectric Coatingâ€Induced Absorption Enhancement in Si Nanowire Junctions. Advanced Optical Materials, 2015, 3, 120-128.	3.6	13
77	Tailoring Strain and Morphology of Coreâ€“Shell SiGe Nanowires by Low-Temperature Ge Condensation. Nano Letters, 2017, 17, 7299-7305.	4.5	13
78	Understanding the energy storage mechanisms of poly(3,4-ethylenedioxythiophene)-coated silicon nanowires by electrochemical quartz crystal microbalance. Materials Letters, 2019, 240, 59-61.	1.3	13
79	In-Situ Transmission Electron Microscopy Imaging of Aluminum Diffusion in Germanium Nanowires for the Fabrication of Sub-10 nm Ge Quantum Disks. ACS Applied Nano Materials, 2020, 3, 1891-1899.	2.4	12
80	Grazing Incidence X-ray Diffraction investigation of strains in silicon nanowires obtained by gold catalytic growth. Surface Science, 2011, 605, 570-576.	0.8	11
81	Supported platinum nanotubes array as new fuel cell electrode architecture. Electrochimica Acta, 2012, 78, 98-108.	2.6	11
82	Dopant profiling in silicon nanowires measured by scanning capacitance microscopy. Physica Status Solidi - Rapid Research Letters, 2014, 8, 312-316.	1.2	11
83	Hybrid nanocomposites based on conducting polymer and silicon nanowires for photovoltaic application. Journal of Luminescence, 2014, 156, 30-35.	1.5	11
84	Toward two-dimensional self-organization of nanostructures using wafer bonding and nanopatterned silicon surfaces. IEEE Journal of Quantum Electronics, 2002, 38, 995-1005.	1.0	10
85	Ge quantum dots growth on nanopatterned Si(001) surface: Morphology and stress relaxation study. Surface Science, 2006, 600, 3187-3193.	0.8	10
86	A new architecture for selfâ€organized silicon nanowire growth integrated on a ã€ˆ100ã€‰ silicon substrate. Physica Status Solidi (A) Applications and Materials Science, 2008, 205, 1606-1614.	0.8	10
87	Self-connected horizontal silicon nanowire field effect transistor. Solid State Communications, 2009, 149, 799-801.	0.9	10
88	Highâ€density guided growth of silicon nanowires in nanoporous alumina on Si(100) substrate: Estimation of activation energy. Physica Status Solidi - Rapid Research Letters, 2009, 3, 19-21.	1.2	10
89	SiNWs-based electrochemical double layer micro-supercapacitors with wide voltage window (4 V) and long cycling stability using a protic ionic liquid electrolyte. Advances in Natural Sciences: Nanoscience and Nanotechnology, 2015, 6, 015004.	0.7	10
90	Measurement of anisotropic thermal conductivity of a dense forest of nanowires using the 3Ï‰ method. Review of Scientific Instruments, 2018, 89, 084902.	0.6	10

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91	Ultradense and planarized antireflective vertical silicon nanowire array using a bottom-up technique. Nanoscale Research Letters, 2013, 8, 123.	3.1	9
92	Self-organized vicinal surfaces: a template for the growth of nanostructures. Journal of Crystal Growth, 1999, 201-202, 101-105.	0.7	7
93	Silicon nanowires grown in nanoporous alumina matrices on oriented silicon substrates investigated by electron microscopy. Superlattices and Microstructures, 2008, 44, 354-361.	1.4	6
94	Chemical-vapour-deposition growth and electrical characterization of intrinsic silicon nanowires. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2009, 159-160, 83-86.	1.7	6
95	High density core-shell silicon nanowire array for the realization of third generation solar cell. Energy Procedia, 2011, 10, 33-37.	1.8	6
96	Strain control in germanium nanowires: the use of a silicon nitride shell. Physica Status Solidi - Rapid Research Letters, 2014, 8, 317-320.	1.2	6
97	Verifying the band gap narrowing in tensile strained Ge nanowires by electrical means. Nanotechnology, 2021, 32, 145711.	1.3	6
98	Impact of droplet composition on the nucleation rate and morphology of vapor-liquid-solid GeSn nanowires. Nanotechnology, 2020, 31, 405602.	1.3	5
99	Preparation of a nanopatterned surface of bonded silicon wafers using electrochemical thinning and chemical etching: A scanning tunnel microscopy investigation. Surface Science, 2006, 600, 4931-4936.	0.8	4
100	Off axis holography of doped and intrinsic silicon nanowires: Interpretation and influence of fields in the vacuum. Journal of Physics: Conference Series, 2010, 209, 012027.	0.3	4
101	Organized porous alumina membranes for high density silicon nanowires growth. Microelectronic Engineering, 2011, 88, 2844-2847.	1.1	4
102	Control of the interfacial abruptness of Au-catalyzed Si-Si1â^'xGex heterostructured nanowires grown by vaporâ€“liquidâ€“solid. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2014, 32, .	0.9	4
103	Uniform phosphorus doping of untapered germanium nanowires. Nanotechnology, 2016, 27, 485701.	1.3	4
104	Reversible Al Propagation in Si_xGe_{1â€“x} Nanowires: Implications for Electrical Contact Formation. ACS Applied Nano Materials, 2020, 3, 10427-10436.	2.4	4
105	Quantum confined stark effect (QCSE) and self-electro-optic effect device (SEED) in IIâ€“VI heterostructures. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 1993, 21, 224-227.	1.7	3
106	Hydrogen cleaning and smoothing of semiconductor surfaces: The case of IIâ€“VI compounds. Applied Physics Letters, 1999, 75, 677-679.	1.5	3
107	STM study of ultra-thin (<2 nm) silicon oxide. Journal of Non-Crystalline Solids, 2003, 322, 174-178.	1.5	3
108	Direct Wafer Bonding for Nanostructure Preparations. Solid State Phenomena, 2007, 121-123, 29-32.	0.3	3

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109	Confined growth of silicon nanowires as a possible process for third generation solar cells. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 812-815.	0.8	3
110	Diamond-coated silicon nanowires for enhanced micro-supercapacitor with ionic liquids. , 2015, , .		3
111	Redefining high-k dielectric materials vision at nanoscale for energy storage: A new electrochemically active protection barrier. Electrochimica Acta, 2021, 389, 138727.	2.6	3
112	Room temperature electro-optic effect in CdHgTe multiple quantum well heterostructures at 1.5 Î¼m. Applied Physics Letters, 1997, 70, 856-858.	1.5	2
113	Structural investigation of silicon nanowires with grazing incidence small angle Xâ€ray scattering. Micro and Nano Letters, 2013, 8, 709-712.	0.6	2
114	Radial photovoltaic junction with single Si nanowire coreâ€“shell structure. Micro and Nano Letters, 2015, 10, 37-39.	0.6	2
115	Fabrication and characterization of a germanium nanowire light emitting diode. Applied Physics Letters, 2017, 111, 233103.	1.5	2
116	Germanium growth on nanopatterned surface studied by STM. Journal of Crystal Growth, 2005, 275, e1609-e1613.	0.7	1
117	Optical manipulation of silicon nanowires on silicon nitride waveguides. , 2008, , .		1
118	PtSi Clustering in Silicon Probed by Transport Spectroscopy. Physical Review X, 2013, 3, .	2.8	1
119	Band structure engineering of strained and doped germanium nanowires and 2D layers. , 2014, , .		1
120	In depth characterization of Ge-Si core-shell nanowires using X-ray coherent diffraction and time resolved pump-probe spectroscopy. Journal of Applied Physics, 2019, 126, 204304.	1.1	1
121	Controlled Silicon (001) Surface Periodic Nanopatterning by Direct Wafer Bonding. ECS Transactions, 2006, 3, 261-267.	0.3	0
122	Growth and low temperature photoluminescence of silicon nanowires for different catalysts. Materials Research Society Symposia Proceedings, 2009, 1178, 50.	0.1	0
123	The Benefits of HCl in the Growth of Silicon Nanowires by Chemical Vapour Deposition: Growth of Small Diameter Nanowires and Controlled Facet Evolution. Materials Research Society Symposia Proceedings, 2010, 1258, 1.	0.1	0
124	ELECTRICAL CHARACTERIZATION OF PLANAR SILICON NANOWIRE FIELD-EFFECT TRANSISTORS. International Journal of Nanoscience, 2012, 11, 1240011.	0.4	0
125	From planar to vertical nanowires field-effect transistors. Materials Research Society Symposia Proceedings, 2012, 1439, 101-107.	0.1	0
126	Electrical characterisation of horizontal and vertical gate-all-around Si/SiGe nanowires field effect transistors. , 2014, , .		0

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127	Photocurrent spectroscopy and X-ray microdiffraction study of highly strained germanium nanostructures. , 2015, , .		0
128	Thermally propagated Al contacts on SiGe nanowires characterized by electron beam induced current in a scanning transmission electron microscope. Nanotechnology, 2022, 33, 035712.	1.3	0
129	Surface chemistry along a single silicon nanowire: Quantitative x-ray photoelectron emission microscopy (XPEEM) of the metal catalyst diffusion. , 2008, , 151-152.		0
130	Enhancing the incorporation of Sn in vaporâ€“liquidâ€“solid GeSn nanowires by modulation of the droplet composition. Nanotechnology, 2022, 33, 245605.	1.3	0