Francesca Iacopi

List of Publications by Year
in descending order

123 papers	3,985 citations	159585 30 h-index	128289 60 g-index
126 all docs	126 docs citations	126 times ranked	3543 citing authors

#	Article	IF	Citations
1	A low-power, high-accuracy with fully on-chip ternary weight hardware architecture for Deep Spiking Neural Networks. Microprocessors and Microsystems, 2022, 90, 104458.	2.8	4
2	Review of graphene for the generation, manipulation, and detection of electromagnetic fields from microwave to terahertz. 2D Materials, 2022, 9, 022002.	4.4	10
3	Unique multi -level metal layer electronics solutions offered by advanced 3D printing. , 2022, , .		1
4	Designing concentric nanoparticles for surface-enhanced light-matter interaction in the mid-infrared. Optics Express, 2022, 30, 24118.	3.4	2
5	Additively Manufactured Millimeter-Wave Dual-Band Single-Polarization Shared Aperture Fresnel Zone Plate Metalens Antenna. IEEE Transactions on Antennas and Propagation, 2021, 69, 6261-6272.	5.1	32
6	A Fully Integrated Conductive and Dielectric Additive Manufacturing Technology for Microwave Circuits and Antennas. , 2021, , .		2
7	MoS₂/Epitaxial graphene layered electrodes for solid-state supercapacitors. Nanotechnology, 2021, 32, 195401.	2.6	3
8	A Review of Algorithms and Hardware Implementations for Spiking Neural Networks. Journal of Low Power Electronics and Applications, 2021, 11, 23.	2.0	27
9	Compact Multilayer Bandpass Filter Using Low-Temperature Additively Manufacturing Solution. IEEE Transactions on Electron Devices, 2021, 68, 3163-3169.	3.0	16
10	Enhanced Absorption with Graphene-Coated Silicon Carbide Nanowires for Mid-Infrared Nanophotonics. Nanomaterials, 2021, 11, 2339.	4.1	7
11	Additively Manufactured Multi-Layer Bandpass Filter Based on Vertically Integrated Composite Right and Left Handed Resonator. , 2021, , .		1
12	Non-invasive on-skin sensors for brain machine interfaces with epitaxial graphene. Journal of Neural Engineering, 2021, 18, 066035.	3.5	12
13	p-Type Epitaxial Graphene on Cubic Silicon Carbide on Silicon for Integrated Silicon Technologies. ACS Applied Nano Materials, 2020, 3, 830-841.	5.0	18
14	Graphiticâ€Based Solidâ€State Supercapacitors: Enabling Redox Reaction by In Situ Electrochemical Treatment. Batteries and Supercaps, 2020, 3, 569-569.	4.7	0
15	Electronic and Transport Properties of Epitaxial Graphene on SiC and 3C-SiC/Si: A Review. Applied Sciences (Switzerland), 2020, 10, 4350.	2.5	11
16	Fabrication of free-standing silicon carbide on silicon microstructures via massive silicon sublimation. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2020, 38, 062202.	1.2	1
17	3D-Printed Low-Profile Single-Substrate Multi-Metal Layer Antennas and Array With Bandwidth Enhancement. IEEE Access, 2020, 8, 217370-217379.	4.2	21
18	Towards low- loss on-chip nanophotonics with coupled graphene and silicon carbide: a review. JPhys Materials, 2020, 3, 032005.	4.2	15

#	Article	IF	Citations
19	Graphiticâ€Based Solidâ€State Supercapacitors: Enabling Redox Reaction by In Situ Electrochemical Treatment. Batteries and Supercaps, 2020, 3, 587-595.	4.7	4
20	Engineering the Dissipation of Crystalline Micromechanical Resonators. Physical Review Applied, 2020, 13, .	3.8	23
21	Enhanced Mid -Infrared Reflectance with Graphene Coated Silicon Carbide Nanowires. , 2020, , .		0
22	Growth of graphitic carbon layers around silicon carbide nanowires. Journal of Applied Physics, 2019, 126, .	2.5	6
23	Opportunities and perspectives for green chemistry in semiconductor technologies. Green Chemistry, 2019, 21, 3250-3255.	9.0	7
24	Grapheneâ€Based Planar Microsupercapacitors: Recent Advances and Future Challenges. Advanced Materials Technologies, 2019, 4, 1800200.	5.8	54
25	An Efficient Event-driven Neuromorphic Architecture for Deep Spiking Neural Networks. , 2019, , .		2
26	Electron effective attenuation length in epitaxial graphene on SiC. Nanotechnology, 2019, 30, 025704.	2.6	6
27	Quasi free-standing epitaxial graphene fabrication on 3Câ€“SiC/Si(111). Nanotechnology, 2018, 29, 145601.	2.6	13
28	On-grid batteries for large-scale energy storage: Challenges and opportunities for policy and technology. MRS Energy & Sustainability, 2018, 5, 1.	3.0	33
29	A graphene platform on silicon for the Internet of Everything. , 2018, , .		5
30	Electrical leakage phenomenon in heteroepitaxial cubic silicon carbide on silicon. Journal of Applied Physics, 2018, 123, .	2.5	13
31	Mechanical and electromechanical properties of graphene and their potential application in MEMS. Journal Physics D: Applied Physics, 2017, 50, 053003.	2.8	73
32	Solid source growth of graphene with Niâ€“Cu catalysts: towards high quality<i>in situ</i>graphene on silicon. Journal Physics D: Applied Physics, 2017, 50, 095302.	2.8	20
33	On-Silicon Supercapacitors with Enhanced Storage Performance. Journal of the Electrochemical Society, 2017, 164, A638-A644.	2.9	16
34	Potential of epitaxial silicon carbide microbeam resonators for chemical sensing. Physica Status Solidi (A) Applications and Materials Science, 2017, 214, 1770122.	1.8	0
35	Potential of epitaxial silicon carbide microbeam resonators for chemical sensing. Physica Status Solidi (A) Applications and Materials Science, 2017, 214, 1600437.	1.8	6
36	Epitaxial graphene growth on FIB patterned 3C-SiC nanostructures on Si (111): reducing milling damage. Nanotechnology, 2017, 28, 345602.	2.6	9

#	Article	IF	Citations
37	Graphene growth on silicon carbide: A review. Physica Status Solidi (A) Applications and Materials Science, 2016, 213, 2277-2289.	1.8	188
38	Catastrophic degradation of the interface of epitaxial silicon carbide on silicon at high temperatures. Applied Physics Letters, 2016, 109, .	3.3	15
39	Factors affecting the <i>f</i>â€‰Ã—â€‰<i>Q</i> product of 3C-SiC microstrings: What is the upper limit for sensitivity?. Journal of Applied Physics, 2016, 119, .	2.5	9
40	All-solid-state supercapacitors on silicon using graphene from silicon carbide. Applied Physics Letters, 2016, 108, 183903.	3.3	15
41	Response to â€œComment on â€˜Catastrophic degradation of the interface of epitaxial silicon carbide on silicon at high temperaturesâ€™â€•[Appl. Phys. Lett. 109, 196101 (2016)]. Applied Physics Letters, 2016, 109, 196102.	3.3	2
42	Time evolution of graphene growth on SiC as a function of annealing temperature. Carbon, 2016, 98, 307-312.	10.3	20
43	Effect of substrate polishing on the growth of graphene on 3Câ€“SiC(111)/Si(111) by high temperature annealing. Nanotechnology, 2016, 27, 185601.	2.6	7
44	Toward Label-Free Biosensing With Silicon Carbide: A Review. IEEE Access, 2016, 4, 477-497.	4.2	19
45	Controlling the intrinsic bending of hetero-epitaxial silicon carbide micro-cantilevers. Journal of Applied Physics, 2015, 118, .	2.5	8
46	Power electronics with wide bandgap materials: Toward greener, more efficient technologies. MRS Bulletin, 2015, 40, 390-395.	3.5	71
47	A catalytic alloy approach for graphene on epitaxial SiC on silicon wafers. Journal of Materials Research, 2015, 30, 609-616.	2.6	60
48	The transition from 3C SiC(111) to graphene captured by Ultra High Vacuum Scanning Tunneling Microscopy. Carbon, 2015, 91, 378-385.	10.3	36
49	A thin film approach for SiC-derived graphene as an on-chip electrode for supercapacitors. Nanotechnology, 2015, 26, 434005.	2.6	18
50	Graphitized silicon carbide microbeams: wafer-level, self-aligned graphene on silicon wafers. Nanotechnology, 2014, 25, 325301.	2.6	39
51	Controlling the surface roughness of epitaxial SiC on silicon. Journal of Applied Physics, 2014, 115, .	2.5	10
52	Highly compressed nano-layers in epitaxial silicon carbide membranes for MEMs sensors. , 2014, , .		0
53	Evolution of epitaxial graphene layers on 3C SiC/Si (1 1 1) as a function of annealing temperature in UHV. Carbon, 2014, 68, 563-572.	10.3	87
54	Microresonators with <i>Q</i>-factors over a million from highly stressed epitaxial silicon carbide on silicon. Applied Physics Letters, 2014, 104, .	3.3	46

#	Article	IF	Citations
55	Nanoindentation for reliability assessment of ULK films and interconnects structures. Microelectronic Engineering, 2013, 106, 182-187.	2.4	10
56	Evidence of a highly compressed nanolayer at the epitaxial silicon carbide interface with silicon. Acta Materialia, 2013, 61, 6533-6540.	7.9	36
57	Orientation-dependent stress relaxation in hetero-epitaxial 3C-SiC films. Applied Physics Letters, 2013, 102, .	3.3	59
58	Ashing of photoresists using dielectric barrier discharge cryoplasmas. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2013, 31, 061202.	1.2	9
59	A resonant method for determining the residual stress and elastic modulus of a thin film. Applied Physics Letters, 2013, 103, .	3.3	32
60	Microprobing the mechanical effects of varying dielectric porosity in advanced interconnect structures. , 2012, , .		0
61	Cryogenic plasmas for controlled processing of nanoporous materials. Physical Chemistry Chemical Physics, 2011, 13, 3634.	2.8	31
62	Shaping the future of nanoelectronics beyond the Si roadmap with new materials and devices. Proceedings of SPIE, 2010, , .	0.8	2
63	Effects of Silica Sources on Nanoporous Organosilicate Films Templated with Tetraalkylammonium Cations. Materials Research Society Symposia Proceedings, 2009, 1156, 1.	0.1	0
64	Characterization of spin-on zeolite films prepared from Silicalite-1 nanoparticle suspensions. Microporous and Mesoporous Materials, 2009, 118, 458-466.	4.4	20
65	Transition between amorphous and crystalline phases of SiC deposited on Si substrate using H3SiCH3. Journal of Crystal Growth, 2009, 311, 4442-4446.	1.5	22
66	Seedless Templated Growth of Hetero-Nanostructures for Novel Microelectronics Devices. Materials Research Society Symposia Proceedings, 2009, 1178, 44.	0.1	1
67	Evidence of Large Voids in Pureâ€•Silicaâ€•Zeolite Lowâ€•<i>k</i> Dielectrics Synthesized by Spinâ€•on of Nanoparticle Suspensions. Advanced Materials, 2008, 20, 3110-3116.	21.0	34
68	Zeolite-Inspired Low-kDielectrics Overcoming Limitations of Zeolite Films. Journal of the American Chemical Society, 2008, 130, 17528-17536.	13.7	36
69	Reaction of Trimethylchlorosilane in Spin-On Silicalite-1 Zeolite Film. Langmuir, 2008, 24, 4894-4900.	3.5	21
70	Ultraviolet-Assisted Curing of Organosilicate Glass Low-k Dielectric by Excimer Lamps. Journal of the Electrochemical Society, 2008, 155, G231.	2.9	22
71	Indium-assisted Growth of Si Nanowires: Perspectives on Controlled Growth for CMOS Applications. Materials Research Society Symposia Proceedings, 2008, 1080, 1.	0.1	0
72	Size-Dependent Characteristics of Indium-Seeded Si Nanowire Growth. Electrochemical and Solid-State Letters, 2008, 11, K98.	2.2	20

#	Article	IF	Citations
73	Stress corrosion of organosilicate glass films in aqueous environments: Role of pH. Journal of Materials Research, 2008, 23, 862-868.	2.6	0
74	Optical Property Changes in Low-k Films upon Ultraviolet-Assisted Curing. Journal of the Electrochemical Society, 2008, 155, G115.	2.9	42
75	Plasma-enhanced chemical vapour deposition growth of Si nanowires with low melting point metal catalysts: an effective alternative to Au-mediated growth. Nanotechnology, 2007, 18, 505307.	2.6	120
76	On a More Accurate Assessment of Scaled Copper/Low-k Interconnects Performance. IEEE Transactions on Semiconductor Manufacturing, 2007, 20, 333-340.	1.7	12
77	Alternative Catalysts For Si-Technology Compatible Growth Of Si Nanowires. Materials Research Society Symposia Proceedings, 2007, 1017, 14.	0.1	2
78	Ultra-violet-assisted cure of spin-on silicalite-1 films. Studies in Surface Science and Catalysis, 2007, 170, 594-599.	1.5	3
79	Characterization of a Molecular Sieve Coating Using Ellipsometric Porosimetry. Langmuir, 2007, 23, 12811-12816.	3.5	43
80	Ultraviolet-Assisted Curing of Polycrystalline Pure-Silica Zeolites:â€‰ Hydrophobization, Functionalization, and Cross-Linking of Grains. Journal of the American Chemical Society, 2007, 129, 9288-9289.	13.7	38
81	Plasma assisted growth of nanotubes and nanowires. Surface and Coatings Technology, 2007, 201, 9215-9220.	4.8	26
82	Thermomechanical properties of thin organosilicate glass films treated with ultraviolet-assisted cure. Acta Materialia, 2007, 55, 1407-1414.	7.9	37
83	Sidewall damage in silica-based low-k material induced by different patterning plasma processes studied by energy filtered and analytical scanning TEM. Microelectronic Engineering, 2007, 84, 517-523.	2.4	23
84	Understanding integration damage to low-k films: mechanisms and dielectric behaviour at 100kHz and 4GHz. , 2006, , .		2
85	Low-k properties and integration processes enabling reliable interconnect scaling to the 32 nm technology node. , 2006, , .		0
86	Irradiation-induced damage in porous low-k materials during low-energy heavy-ion elastic recoil detection analysis. Nuclear Instruments & Methods in Physics Research B, 2006, 249, 189-192.	1.4	6
87	A novel approach to resistivity and interconnect modeling. Microelectronic Engineering, 2006, 83, 2417-2421.	2.4	6
88	Use of Nanoindentation to Characterise the Plasma Damage Region in Low-k Dielectric Films. , 2006, , 51.		1
89	Stress in Next Generation Interconnects. AIP Conference Proceedings, 2006, , .	0.4	1
90	Extent of plasma damage to porous organosilicate films characterized with nanoindentation, x-ray reflectivity, and surface acoustic waves. Journal of Materials Research, 2006, 21, 3161-3167.	2.6	7

#	Article	IF	Citations
91	6C-2 Use of SAWs for Sub-Micron Detection of Dielectric Damage in Interconnects for Microelectronics. , 2006, , .		0
92	Short-ranged structural rearrangement and enhancement of mechanical properties of organosilicate glasses induced by ultraviolet radiation. Journal of Applied Physics, 2006, 99, 053511.	2.5	119
93	Challenges in the implementation of low-k dielectrics in the back-end of line. Microelectronic Engineering, 2005, 80, 337-344.	2.4	99
94	Aggressive scaling of Cu/low k: impact on metrology. AIP Conference Proceedings, 2005, , .	0.4	1
95	Electrical Equivalent Sidewall Damage in Patterned Low-k Dielectrics. Electrochemical and Solid-State Letters, 2004, 7, G79.	2.2	24
96	Correlation between barrier integrity and TDDB performance of copper porous low-k interconnects. Microelectronic Engineering, 2004, 76, 70-75.	2.4	13
97	Challenges for structural stability of ultra-low-k-based interconnects. Microelectronic Engineering, 2004, 75, 54-62.	2.4	47
98	Low-k dielectric materials. Materials Today, 2004, 7, 34-39.	14.2	47
99	Characterization of porous structure in ultra-low-Îº dielectrics by depositing thin conductive cap layers. Microelectronic Engineering, 2003, 65, 123-131.	2.4	8
100	Characterisation of JSRâ€™s spin-on hardmask FF-02. Microelectronic Engineering, 2003, 70, 308-313.	2.4	2
101	Barrier studies on porous silk semiconductor dielectric. Microelectronic Engineering, 2003, 70, 352-357.	2.4	13
102	Influence of low-k dry etch chemistries on the properties of copper and a Ta-based diffusion barrier. Microelectronic Engineering, 2003, 70, 285-292.	2.4	9
103	Impact of LKD5109â„¢ low-k to cap/liner interfaces in single damascene process and performance. Microelectronic Engineering, 2003, 70, 293-301.	2.4	8
104	Low dielectric constant materials for microelectronics. Journal of Applied Physics, 2003, 93, 8793-8841.	2.5	1,494
105	Compressive stress relaxation through buckling of a low-k polymer-thin cap layer system. Applied Physics Letters, 2003, 82, 1380-1382.	3.3	33
106	Diffusion barrier integrity and electrical performance of Cu/porous dielectric damascene lines. IEEE Electron Device Letters, 2003, 24, 147-149.	3.9	21
107	Factors affecting an efficient sealing of porous low-kdielectrics by physical vapor deposition Ta(N) thin films. Journal of Applied Physics, 2002, 92, 1548-1554.	2.5	41
108	Properties of porous HSQ-based films capped by plasma enhanced chemical vapor deposition dielectric layers. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2002, 20, 109.	1.6	27

#	Article	IF	Citations
109	Dependence of the minimal PVD TA(N) sealing thickness on the porosity of Zirkonâ„¢ LK dielectric films. Microelectronic Engineering, 2002, 64, 351-360.	2.4	16
110	Experimental and simulation study of the behaviour and operation modes of MSGC+GEM detectors. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2002, 489, 121-139.	1.6	0
111	Characterisation and integration feasibility of JSRâ€™s low-k dielectric LKD-5109. Microelectronic Engineering, 2002, 64, 25-33.	2.4	20
112	Robustness test of a system of MSGC+GEM detectors at the cyclotron facility of the Paul Scherrer institute. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2001, 471, 380-391.	1.6	4
113	An optimized process for the production of advanced planar wire grid plates as detectors for high energy physics experiments. Sensors and Actuators A: Physical, 2001, 93, 76-83.	4.1	0
114	Integration feasibility of porous SiLK* semiconductor dielectric. , 2001, , .		2
115	A YAP camera 40/spl times/40 mm/sup 2/ with fast readout electronics. IEEE Transactions on Nuclear Science, 1998, 45, 2302-2308.	2.0	3
116	Scintillating array gamma camera for clinical use. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1997, 392, 295-298.	1.6	46
117	Physical and electrical characterization of silsesquioxane-based ultra-low k dielectric films. , 0, , .		2
118	Cu/LKD-5109 damascene integration demonstration using FF-02 low-k spin-on hard-mask and embedded etch-stop. , 0, , .		1
119	Integration of Single Damascene 85/85 nm L/S copper trenches in Black Diamond using 193 nm optical lithography with dipole illumination. , 0, , .		1
120	Post patterning meso porosity creation: a potential solution for pore sealing. , 0, , .		5
121	Impact of the barrier/dielectric interface quality on reliability of Cu porous-low-k interconnects. , 0, , .		13
122	Color Chart for Thin SiC Films Grown on Si Substrates. Materials Science Forum, 0, 740-742, 279-282.	0.3	7
123	Electrical Challenges of Heteroepitaxial 3C-Sic on Silicon. Materials Science Forum, 0, 924, 297-301.	0.3	0