

Francesca Iacopi

List of Publications by Year in descending order

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122
papers

3,985
citations

159525

30
h-index

128225

60
g-index

126
all docs

126
docs citations

126
times ranked

3543
citing authors

#	ARTICLE	IF	CITATIONS
1	Low dielectric constant materials for microelectronics. Journal of Applied Physics, 2003, 93, 8793-8841.	1.1	1,494
2	Graphene growth on silicon carbide: A review. Physica Status Solidi (A) Applications and Materials Science, 2016, 213, 2277-2289.	0.8	188
3	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.	1.3	120
4	Short-ranged structural rearrangement and enhancement of mechanical properties of organosilicate glasses induced by ultraviolet radiation. Journal of Applied Physics, 2006, 99, 053511.	1.1	119
5	Challenges in the implementation of low-k dielectrics in the back-end of line. Microelectronic Engineering, 2005, 80, 337-344.	1.1	99
6	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.	5.4	87
7	Mechanical and electromechanical properties of graphene and their potential application in MEMS. Journal Physics D: Applied Physics, 2017, 50, 053003.	1.3	73
8	Power electronics with wide bandgap materials: Toward greener, more efficient technologies. MRS Bulletin, 2015, 40, 390-395.	1.7	71
9	A catalytic alloy approach for graphene on epitaxial SiC on silicon wafers. Journal of Materials Research, 2015, 30, 609-616.	1.2	60
10	Orientation-dependent stress relaxation in hetero-epitaxial 3C-SiC films. Applied Physics Letters, 2013, 102, .	1.5	59
11	Graphene-Based Planar Microsupercapacitors: Recent Advances and Future Challenges. Advanced Materials Technologies, 2019, 4, 1800200.	3.0	54
12	Challenges for structural stability of ultra-low-k-based interconnects. Microelectronic Engineering, 2004, 75, 54-62.	1.1	47
13	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.	0.7	46
14	Microresonators with Q -factors over a million from highly stressed epitaxial silicon carbide on silicon. Applied Physics Letters, 2014, 104, .	1.5	46
15	Characterization of a Molecular Sieve Coating Using Ellipsometric Porosimetry. Langmuir, 2007, 23, 12811-12816.	1.6	43
16	Optical Property Changes in Low-k Films upon Ultraviolet-Assisted Curing. Journal of the Electrochemical Society, 2008, 155, G115.	1.3	42
17	Factors affecting an efficient sealing of porous low-k dielectrics by physical vapor deposition Ta(N) thin films. Journal of Applied Physics, 2002, 92, 1548-1554.	1.1	41
18	Graphitized silicon carbide microbeams: wafer-level, self-aligned graphene on silicon wafers. Nanotechnology, 2014, 25, 325301.	1.3	39

#	ARTICLE	IF	CITATIONS
19	Ultraviolet-Assisted Curing of Polycrystalline Pure-Silica Zeolites: Hydrophobization, Functionalization, and Cross-Linking of Grains. <i>Journal of the American Chemical Society</i> , 2007, 129, 9288-9289.	6.6	38
20	Thermomechanical properties of thin organosilicate glass films treated with ultraviolet-assisted cure. <i>Acta Materialia</i> , 2007, 55, 1407-1414.	3.8	37
21	Zeolite-Inspired Low-k Dielectrics Overcoming Limitations of Zeolite Films. <i>Journal of the American Chemical Society</i> , 2008, 130, 17528-17536.	6.6	36
22	Evidence of a highly compressed nanolayer at the epitaxial silicon carbide interface with silicon. <i>Acta Materialia</i> , 2013, 61, 6533-6540.	3.8	36
23	The transition from 3C SiC(111) to graphene captured by Ultra High Vacuum Scanning Tunneling Microscopy. <i>Carbon</i> , 2015, 91, 378-385.	5.4	36
24	Evidence of Large Voids in Pure-Silica Zeolite Low-k Dielectrics Synthesized by Spin-Coating of Nanoparticle Suspensions. <i>Advanced Materials</i> , 2008, 20, 3110-3116.	11.1	34
25	Compressive stress relaxation through buckling of a low-k polymer-thin cap layer system. <i>Applied Physics Letters</i> , 2003, 82, 1380-1382.	1.5	33
26	On-grid batteries for large-scale energy storage: Challenges and opportunities for policy and technology. <i>MRS Energy & Sustainability</i> , 2018, 5, 1.	1.3	33
27	A resonant method for determining the residual stress and elastic modulus of a thin film. <i>Applied Physics Letters</i> , 2013, 103, .	1.5	32
28	Additively Manufactured Millimeter-Wave Dual-Band Single-Polarization Shared Aperture Fresnel Zone Plate Metalens Antenna. <i>IEEE Transactions on Antennas and Propagation</i> , 2021, 69, 6261-6272.	3.1	32
29	Cryogenic plasmas for controlled processing of nanoporous materials. <i>Physical Chemistry Chemical Physics</i> , 2011, 13, 3634.	1.3	31
30	Properties of porous HSQ-based films capped by plasma enhanced chemical vapor deposition dielectric layers. <i>Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 2002, 20, 109.	1.6	27
31	A Review of Algorithms and Hardware Implementations for Spiking Neural Networks. <i>Journal of Low Power Electronics and Applications</i> , 2021, 11, 23.	1.3	27
32	Plasma assisted growth of nanotubes and nanowires. <i>Surface and Coatings Technology</i> , 2007, 201, 9215-9220.	2.2	26
33	Electrical Equivalent Sidewall Damage in Patterned Low-k Dielectrics. <i>Electrochemical and Solid-State Letters</i> , 2004, 7, G79.	2.2	24
34	Sidewall damage in silica-based low-k material induced by different patterning plasma processes studied by energy filtered and analytical scanning TEM. <i>Microelectronic Engineering</i> , 2007, 84, 517-523.	1.1	23
35	Engineering the Dissipation of Crystalline Micromechanical Resonators. <i>Physical Review Applied</i> , 2020, 13, .	1.5	23
36	Ultraviolet-Assisted Curing of Organosilicate Glass Low-k Dielectric by Excimer Lamps. <i>Journal of the Electrochemical Society</i> , 2008, 155, G231.	1.3	22

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37	Transition between amorphous and crystalline phases of SiC deposited on Si substrate using H ₃ SiCH ₃ . Journal of Crystal Growth, 2009, 311, 4442-4446.	0.7	22
38	Diffusion barrier integrity and electrical performance of Cu/porous dielectric damascene lines. IEEE Electron Device Letters, 2003, 24, 147-149.	2.2	21
39	Reaction of Trimethylchlorosilane in Spin-On Silicalite-1 Zeolite Film. Langmuir, 2008, 24, 4894-4900.	1.6	21
40	3D-Printed Low-Profile Single-Substrate Multi-Metal Layer Antennas and Array With Bandwidth Enhancement. IEEE Access, 2020, 8, 217370-217379.	2.6	21
41	Characterisation and integration feasibility of JSR's low-k dielectric LKD-5109. Microelectronic Engineering, 2002, 64, 25-33.	1.1	20
42	Size-Dependent Characteristics of Indium-Seeded Si Nanowire Growth. Electrochemical and Solid-State Letters, 2008, 11, K98.	2.2	20
43	Characterization of spin-on zeolite films prepared from Silicalite-1 nanoparticle suspensions. Microporous and Mesoporous Materials, 2009, 118, 458-466.	2.2	20
44	Time evolution of graphene growth on SiC as a function of annealing temperature. Carbon, 2016, 98, 307-312.	5.4	20
45	Solid source growth of graphene with Ni-Cu catalysts: towards high quality <i>in situ</i> graphene on silicon. Journal Physics D: Applied Physics, 2017, 50, 095302.	1.3	20
46	Toward Label-Free Biosensing With Silicon Carbide: A Review. IEEE Access, 2016, 4, 477-497.	2.6	19
47	A thin film approach for SiC-derived graphene as an on-chip electrode for supercapacitors. Nanotechnology, 2015, 26, 434005.	1.3	18
48	p-Type Epitaxial Graphene on Cubic Silicon Carbide on Silicon for Integrated Silicon Technologies. ACS Applied Nano Materials, 2020, 3, 830-841.	2.4	18
49	Dependence of the minimal PVD TA(N) sealing thickness on the porosity of Zirconium LK dielectric films. Microelectronic Engineering, 2002, 64, 351-360.	1.1	16
50	On-Silicon Supercapacitors with Enhanced Storage Performance. Journal of the Electrochemical Society, 2017, 164, A638-A644.	1.3	16
51	Compact Multilayer Bandpass Filter Using Low-Temperature Additively Manufacturing Solution. IEEE Transactions on Electron Devices, 2021, 68, 3163-3169.	1.6	16
52	Catastrophic degradation of the interface of epitaxial silicon carbide on silicon at high temperatures. Applied Physics Letters, 2016, 109, .	1.5	15
53	All-solid-state supercapacitors on silicon using graphene from silicon carbide. Applied Physics Letters, 2016, 108, 183903.	1.5	15
54	Towards low-loss on-chip nanophotonics with coupled graphene and silicon carbide: a review. JPhys Materials, 2020, 3, 032005.	1.8	15

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55	Barrier studies on porous silk semiconductor dielectric. <i>Microelectronic Engineering</i> , 2003, 70, 352-357.	1.1	13
56	Correlation between barrier integrity and TDDB performance of copper porous low-k interconnects. <i>Microelectronic Engineering</i> , 2004, 76, 70-75.	1.1	13
57	Impact of the barrier/dielectric interface quality on reliability of Cu porous-low-k interconnects. , 0, , .		13
58	Quasi free-standing epitaxial graphene fabrication on 3C-SiC/Si(111). <i>Nanotechnology</i> , 2018, 29, 145601.	1.3	13
59	Electrical leakage phenomenon in heteroepitaxial cubic silicon carbide on silicon. <i>Journal of Applied Physics</i> , 2018, 123, .	1.1	13
60	On a More Accurate Assessment of Scaled Copper/Low-k Interconnects Performance. <i>IEEE Transactions on Semiconductor Manufacturing</i> , 2007, 20, 333-340.	1.4	12
61	Non-invasive on-skin sensors for brain machine interfaces with epitaxial graphene. <i>Journal of Neural Engineering</i> , 2021, 18, 066035.	1.8	12
62	Electronic and Transport Properties of Epitaxial Graphene on SiC and 3C-SiC/Si: A Review. <i>Applied Sciences (Switzerland)</i> , 2020, 10, 4350.	1.3	11
63	Nanoindentation for reliability assessment of ULK films and interconnects structures. <i>Microelectronic Engineering</i> , 2013, 106, 182-187.	1.1	10
64	Controlling the surface roughness of epitaxial SiC on silicon. <i>Journal of Applied Physics</i> , 2014, 115, .	1.1	10
65	Review of graphene for the generation, manipulation, and detection of electromagnetic fields from microwave to terahertz. <i>2D Materials</i> , 2022, 9, 022002.	2.0	10
66	Influence of low-k dry etch chemistries on the properties of copper and a Ta-based diffusion barrier. <i>Microelectronic Engineering</i> , 2003, 70, 285-292.	1.1	9
67	Ashing of photoresists using dielectric barrier discharge cryoplasmas. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2013, 31, 061202.	0.6	9
68	Factors affecting the $f \times Q$ product of 3C-SiC microstrings: What is the upper limit for sensitivity?. <i>Journal of Applied Physics</i> , 2016, 119, .	1.1	9
69	Epitaxial graphene growth on FIB patterned 3C-SiC nanostructures on Si (111): reducing milling damage. <i>Nanotechnology</i> , 2017, 28, 345602.	1.3	9
70	Characterization of porous structure in ultra-low- ϵ^p dielectrics by depositing thin conductive cap layers. <i>Microelectronic Engineering</i> , 2003, 65, 123-131.	1.1	8
71	Impact of LKD5109, low-k to cap/liner interfaces in single damascene process and performance. <i>Microelectronic Engineering</i> , 2003, 70, 293-301.	1.1	8
72	Controlling the intrinsic bending of hetero-epitaxial silicon carbide micro-cantilevers. <i>Journal of Applied Physics</i> , 2015, 118, .	1.1	8

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73	Extent of plasma damage to porous organosilicate films characterized with nanoindentation, x-ray reflectivity, and surface acoustic waves. <i>Journal of Materials Research</i> , 2006, 21, 3161-3167.	1.2	7
74	Color Chart for Thin SiC Films Grown on Si Substrates. <i>Materials Science Forum</i> , 0, 740-742, 279-282.	0.3	7
75	Effect of substrate polishing on the growth of graphene on 3C-SiC(111)/Si(111) by high temperature annealing. <i>Nanotechnology</i> , 2016, 27, 185601.	1.3	7
76	Opportunities and perspectives for green chemistry in semiconductor technologies. <i>Green Chemistry</i> , 2019, 21, 3250-3255.	4.6	7
77	Enhanced Absorption with Graphene-Coated Silicon Carbide Nanowires for Mid-Infrared Nanophotonics. <i>Nanomaterials</i> , 2021, 11, 2339.	1.9	7
78	Irradiation-induced damage in porous low-k materials during low-energy heavy-ion elastic recoil detection analysis. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2006, 249, 189-192.	0.6	6
79	A novel approach to resistivity and interconnect modeling. <i>Microelectronic Engineering</i> , 2006, 83, 2417-2421.	1.1	6
80	Potential of epitaxial silicon carbide microbeam resonators for chemical sensing. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2017, 214, 1600437.	0.8	6
81	Growth of graphitic carbon layers around silicon carbide nanowires. <i>Journal of Applied Physics</i> , 2019, 126, .	1.1	6
82	Electron effective attenuation length in epitaxial graphene on SiC. <i>Nanotechnology</i> , 2019, 30, 025704.	1.3	6
83	Post patterning meso porosity creation: a potential solution for pore sealing. , 0, , .		5
84	A graphene platform on silicon for the Internet of Everything. , 2018, , .		5
85	Robustness test of a system of MSGC+GEM detectors at the cyclotron facility of the Paul Scherrer institute. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2001, 471, 380-391.	0.7	4
86	Graphitic-Based Solid-State Supercapacitors: Enabling Redox Reaction by In Situ Electrochemical Treatment. <i>Batteries and Supercaps</i> , 2020, 3, 587-595.	2.4	4
87	A low-power, high-accuracy with fully on-chip ternary weight hardware architecture for Deep Spiking Neural Networks. <i>Microprocessors and Microsystems</i> , 2022, 90, 104458.	1.8	4
88	A YAP camera 40/spl times/40 mm/sup 2/ with fast readout electronics. <i>IEEE Transactions on Nuclear Science</i> , 1998, 45, 2302-2308.	1.2	3
89	Ultra-violet-assisted cure of spin-on silicalite-1 films. <i>Studies in Surface Science and Catalysis</i> , 2007, 170, 594-599.	1.5	3
90	MoS ₂ /Epitaxial graphene layered electrodes for solid-state supercapacitors. <i>Nanotechnology</i> , 2021, 32, 195401.	1.3	3

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91	Physical and electrical characterization of silsesquioxane-based ultra-low k dielectric films. , 0, , .		2
92	Integration feasibility of porous SiLK* semiconductor dielectric. , 2001, , .		2
93	Characterisation of JSR™s spin-on hardmask FF-02. Microelectronic Engineering, 2003, 70, 308-313.	1.1	2
94	Understanding integration damage to low-k films: mechanisms and dielectric behaviour at 100kHz and 4GHz. , 2006, , .		2
95	Alternative Catalysts For Si-Technology Compatible Growth Of Si Nanowires. Materials Research Society Symposia Proceedings, 2007, 1017, 14.	0.1	2
96	Shaping the future of nanoelectronics beyond the Si roadmap with new materials and devices. Proceedings of SPIE, 2010, , .	0.8	2
97	Response to "Comment on "Catastrophic degradation of the interface of epitaxial silicon carbide on silicon at high temperatures" [Appl. Phys. Lett. 109, 196101 (2016)]. Applied Physics Letters, 2016, 109, 196102.	1.5	2
98	An Efficient Event-driven Neuromorphic Architecture for Deep Spiking Neural Networks. , 2019, , .		2
99	A Fully Integrated Conductive and Dielectric Additive Manufacturing Technology for Microwave Circuits and Antennas. , 2021, , .		2
100	Designing concentric nanoparticles for surface-enhanced light-matter interaction in the mid-infrared. Optics Express, 2022, 30, 24118.	1.7	2
101	Cu/LKD-5109 damascene integration demonstration using FF-02 low-k spin-on hard-mask and embedded etch-stop. , 0, , .		1
102	Integration of Single Damascene 85/85 nm L/S copper trenches in Black Diamond using 193 nm optical lithography with dipole illumination. , 0, , .		1
103	Aggressive scaling of Cu/low k: impact on metrology. AIP Conference Proceedings, 2005, , .	0.3	1
104	Use of Nanoindentation to Characterise the Plasma Damage Region in Low-k Dielectric Films. , 2006, , 51.		1
105	Stress in Next Generation Interconnects. AIP Conference Proceedings, 2006, , .	0.3	1
106	Seedless Templated Growth of Hetero-Nanostructures for Novel Microelectronics Devices. Materials Research Society Symposia Proceedings, 2009, 1178, 44.	0.1	1
107	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.	0.6	1
108	Additively Manufactured Multi-Layer Bandpass Filter Based on Vertically Integrated Composite Right and Left Handed Resonator. , 2021, , .		1

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109	Unique multi-level metal layer electronics solutions offered by advanced 3D printing. , 2022, , .		1
110	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.	2.0	0
111	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.	0.7	0
112	Low-k properties and integration processes enabling reliable interconnect scaling to the 32 nm technology node. , 2006, , .		0
113	6C-2 Use of SAWs for Sub-Micron Detection of Dielectric Damage in Interconnects for Microelectronics. , 2006, , .		0
114	Indium-assisted Growth of Si Nanowires: Perspectives on Controlled Growth for CMOS Applications. Materials Research Society Symposia Proceedings, 2008, 1080, 1.	0.1	0
115	Stress corrosion of organosilicate glass films in aqueous environments: Role of pH. Journal of Materials Research, 2008, 23, 862-868.	1.2	0
116	Effects of Silica Sources on Nanoporous Organosilicate Films Templated with Tetraalkylammonium Cations. Materials Research Society Symposia Proceedings, 2009, 1156, 1.	0.1	0
117	Microprobing the mechanical effects of varying dielectric porosity in advanced interconnect structures. , 2012, , .		0
118	Highly compressed nano-layers in epitaxial silicon carbide membranes for MEMs sensors. , 2014, , .		0
119	Potential of epitaxial silicon carbide microbeam resonators for chemical sensing. Physica Status Solidi (A) Applications and Materials Science, 2017, 214, 1770122.	0.8	0
120	Electrical Challenges of Heteroepitaxial 3C-Sic on Silicon. Materials Science Forum, 0, 924, 297-301.	0.3	0
121	Graphiticâ€Based Solidâ€State Supercapacitors: Enabling Redox Reaction by In Situ Electrochemical Treatment. Batteries and Supercaps, 2020, 3, 569-569.	2.4	0
122	Enhanced Mid -Infrared Reflectance with Graphene Coated Silicon Carbide Nanowires. , 2020, , .		0