Francesca Iacopi

List of Publications by Year
in descending order

123	3,985	159585 30	128289 60
papers	citations	h-index	g-index

126	126	126	3543
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Low dielectric constant materials for microelectronics. Journal of Applied Physics, 2003, 93, 8793-8841.	2.5	1,494
2	Graphene growth on silicon carbide: A review. Physica Status Solidi (A) Applications and Materials Science, 2016, 213, 2277-2289.	1.8	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.	2.6	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.	2.5	119
5	Challenges in the implementation of low-k dielectrics in the back-end of line. Microelectronic Engineering, 2005, 80, 337-344.	2.4	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.	10.3	87
7	Mechanical and electromechanical properties of graphene and their potential application in MEMS. Journal Physics D: Applied Physics, 2017, 50, 053003.	2.8	73
8	Power electronics with wide bandgap materials: Toward greener, more efficient technologies. MRS Bulletin, 2015, 40, 390-395.	3.5	71
9	A catalytic alloy approach for graphene on epitaxial SiC on silicon wafers. Journal of Materials Research, 2015, 30, 609-616.	2.6	60
10	Orientation-dependent stress relaxation in hetero-epitaxial 3C-SiC films. Applied Physics Letters, 2013, 102, .	3.3	59
11	Grapheneâ€Based Planar Microsupercapacitors: Recent Advances and Future Challenges. Advanced Materials Technologies, 2019, 4, 1800200.	5.8	54
12	Challenges for structural stability of ultra-low-k-based interconnects. Microelectronic Engineering, 2004, 75, 54-62.	2.4	47
13	Low-k dielectric materials. Materials Today, 2004, 7, 34-39.	14.2	47
14	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
15	Microresonators with Q-factors over a million from highly stressed epitaxial silicon carbide on silicon. Applied Physics Letters, 2014, 104, .	3.3	46
16	Characterization of a Molecular Sieve Coating Using Ellipsometric Porosimetry. Langmuir, 2007, 23, 12811-12816.	3.5	43
17	Optical Property Changes in Low-k Films upon Ultraviolet-Assisted Curing. Journal of the Electrochemical Society, 2008, 155, G115.	2.9	42
18	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

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19	Graphitized silicon carbide microbeams: wafer-level, self-aligned graphene on silicon wafers. Nanotechnology, 2014, 25, 325301.	2.6	39
20	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
21	Thermomechanical properties of thin organosilicate glass films treated with ultraviolet-assisted cure. Acta Materialia, 2007, 55, 1407-1414.	7.9	37
22	Zeolite-Inspired Low-kDielectrics Overcoming Limitations of Zeolite Films. Journal of the American Chemical Society, 2008, 130, 17528-17536.	13.7	36
23	Evidence of a highly compressed nanolayer at the epitaxial silicon carbide interface with silicon. Acta Materialia, 2013, 61, 6533-6540.	7.9	36
24	The transition from 3C SiC(111) to graphene captured by Ultra High Vacuum Scanning Tunneling Microscopy. Carbon, 2015, 91, 378-385.	10.3	36
25	Evidence of Large Voids in Pureâ€Silicaâ€Zeolite Lowâ€k Dielectrics Synthesized by Spinâ€on of Nanoparticle Suspensions. Advanced Materials, 2008, 20, 3110-3116.	21.0	34
26	Compressive stress relaxation through buckling of a low-k polymer-thin cap layer system. Applied Physics Letters, 2003, 82, 1380-1382.	3.3	33
27	On-grid batteries for large-scale energy storage: Challenges and opportunities for policy and technology. MRS Energy & Sustainability, 2018, 5, 1.	3.0	33
28	A resonant method for determining the residual stress and elastic modulus of a thin film. Applied Physics Letters, 2013, 103, .	3.3	32
29	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
30	Cryogenic plasmas for controlled processing of nanoporous materials. Physical Chemistry Chemical Physics, 2011, 13, 3634.	2.8	31
31	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
32	A Review of Algorithms and Hardware Implementations for Spiking Neural Networks. Journal of Low Power Electronics and Applications, 2021, 11, 23.	2.0	27
33	Plasma assisted growth of nanotubes and nanowires. Surface and Coatings Technology, 2007, 201, 9215-9220.	4.8	26
34	Electrical Equivalent Sidewall Damage in Patterned Low-k Dielectrics. Electrochemical and Solid-State Letters, 2004, 7, G79.	2.2	24
35	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
36	Engineering the Dissipation of Crystalline Micromechanical Resonators. Physical Review Applied, 2020, 13, .	3.8	23

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37	Ultraviolet-Assisted Curing of Organosilicate Glass Low-k Dielectric by Excimer Lamps. Journal of the Electrochemical Society, 2008, 155, G231.	2.9	22
38	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
39	Diffusion barrier integrity and electrical performance of Cu/porous dielectric damascene lines. IEEE Electron Device Letters, 2003, 24, 147-149.	3.9	21
40	Reaction of Trimethylchlorosilane in Spin-On Silicalite-1 Zeolite Film. Langmuir, 2008, 24, 4894-4900.	3.5	21
41	3D-Printed Low-Profile Single-Substrate Multi-Metal Layer Antennas and Array With Bandwidth Enhancement. IEEE Access, 2020, 8, 217370-217379.	4.2	21
42	Characterisation and integration feasibility of JSRâ€™s low-k dielectric LKD-5109. Microelectronic Engineering, 2002, 64, 25-33.	2.4	20
43	Size-Dependent Characteristics of Indium-Seeded Si Nanowire Growth. Electrochemical and Solid-State Letters, 2008, 11, K98.	2.2	20
44	Characterization of spin-on zeolite films prepared from Silicalite-1 nanoparticle suspensions. Microporous and Mesoporous Materials, 2009, 118, 458-466.	4.4	20
45	Time evolution of graphene growth on SiC as a function of annealing temperature. Carbon, 2016, 98, 307-312.	10.3	20
46	Solid source growth of graphene with Niâ€“Cu catalysts: towards high qualityin situgraphene on silicon. Journal Physics D: Applied Physics, 2017, 50, 095302.	2.8	20
47	Toward Label-Free Biosensing With Silicon Carbide: A Review. IEEE Access, 2016, 4, 477-497.	4.2	19
48	A thin film approach for SiC-derived graphene as an on-chip electrode for supercapacitors. Nanotechnology, 2015, 26, 434005.	2.6	18
49	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
50	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
51	On-Silicon Supercapacitors with Enhanced Storage Performance. Journal of the Electrochemical Society, 2017, 164, A638-A644.	2.9	16
52	Compact Multilayer Bandpass Filter Using Low-Temperature Additively Manufacturing Solution. IEEE Transactions on Electron Devices, 2021, 68, 3163-3169.	3.0	16
53	Catastrophic degradation of the interface of epitaxial silicon carbide on silicon at high temperatures. Applied Physics Letters, 2016, 109, .	3.3	15
54	All-solid-state supercapacitors on silicon using graphene from silicon carbide. Applied Physics Letters, 2016, 108, 183903.	3.3	15

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55	Towards low- loss on-chip nanophotonics with coupled graphene and silicon carbide: a review. JPhys Materials, 2020, 3, 032005.	4.2	15
56	Barrier studies on porous silk semiconductor dielectric. Microelectronic Engineering, 2003, 70, 352-357.	2.4	13
57	Correlation between barrier integrity and TDDB performance of copper porous low-k interconnects. Microelectronic Engineering, 2004, 76, 70-75.	2.4	13
58	Impact of the barrier/dielectric interface quality on reliability of Cu porous-low-k interconnects. , 0, , .		13
59	Quasi free-standing epitaxial graphene fabrication on 3Câ€“SiC/Si(111). Nanotechnology, 2018, 29, 145601.	2.6	13
60	Electrical leakage phenomenon in heteroepitaxial cubic silicon carbide on silicon. Journal of Applied Physics, 2018, 123, .	2.5	13
61	On a More Accurate Assessment of Scaled Copper/Low-k Interconnects Performance. IEEE Transactions on Semiconductor Manufacturing, 2007, 20, 333-340.	1.7	12
62	Non-invasive on-skin sensors for brain machine interfaces with epitaxial graphene. Journal of Neural Engineering, 2021, 18, 066035.	3.5	12
63	Electronic and Transport Properties of Epitaxial Graphene on SiC and 3C-SiC/Si: A Review. Applied Sciences (Switzerland), 2020, 10, 4350.	2.5	11
64	Nanoindentation for reliability assessment of ULK films and interconnects structures. Microelectronic Engineering, 2013, 106, 182-187.	2.4	10
65	Controlling the surface roughness of epitaxial SiC on silicon. Journal of Applied Physics, 2014, 115, .	2.5	10
66	Review of graphene for the generation, manipulation, and detection of electromagnetic fields from microwave to terahertz. 2D Materials, 2022, 9, 022002.	4.4	10
67	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
68	Ashing of photoresists using dielectric barrier discharge cryoplasmas. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2013, 31, 061202.	1.2	9
69	Factors affecting the fâ€‰Ã—â€‰Q product of 3C-SiC microstrings: What is the upper limit for sensitivity?. Journal of Applied Physics, 2016, 119, .	2.5	9
70	Epitaxial graphene growth on FIB patterned 3C-SiC nanostructures on Si (111): reducing milling damage. Nanotechnology, 2017, 28, 345602.	2.6	9
71	Characterization of porous structure in ultra-low-Îº dielectrics by depositing thin conductive cap layers. Microelectronic Engineering, 2003, 65, 123-131.	2.4	8
72	Impact of LKD5109â„¢ low-k to cap/liner interfaces in single damascene process and performance. Microelectronic Engineering, 2003, 70, 293-301.	2.4	8

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73	Controlling the intrinsic bending of hetero-epitaxial silicon carbide micro-cantilevers. Journal of Applied Physics, 2015, 118, .	2.5	8
74	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
75	Color Chart for Thin SiC Films Grown on Si Substrates. Materials Science Forum, 0, 740-742, 279-282.	0.3	7
76	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
77	Opportunities and perspectives for green chemistry in semiconductor technologies. Green Chemistry, 2019, 21, 3250-3255.	9.0	7
78	Enhanced Absorption with Graphene-Coated Silicon Carbide Nanowires for Mid-Infrared Nanophotonics. Nanomaterials, 2021, 11, 2339.	4.1	7
79	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
80	A novel approach to resistivity and interconnect modeling. Microelectronic Engineering, 2006, 83, 2417-2421.	2.4	6
81	Potential of epitaxial silicon carbide microbeam resonators for chemical sensing. Physica Status Solidi (A) Applications and Materials Science, 2017, 214, 1600437.	1.8	6
82	Growth of graphitic carbon layers around silicon carbide nanowires. Journal of Applied Physics, 2019, 126, .	2.5	6
83	Electron effective attenuation length in epitaxial graphene on SiC. Nanotechnology, 2019, 30, 025704.	2.6	6
84	Post patterning meso porosity creation: a potential solution for pore sealing. , 0, , .		5
85	A graphene platform on silicon for the Internet of Everything. , 2018, , .		5
86	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
87	Graphitic–Based Solid–State Supercapacitors: Enabling Redox Reaction by In Situ Electrochemical Treatment. Batteries and Supercaps, 2020, 3, 587-595.	4.7	4
88	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
89	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
90	Ultra-violet-assisted cure of spin-on silicalite-1 films. Studies in Surface Science and Catalysis, 2007, 170, 594-599.	1.5	3

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91	MoS₂/Epitaxial graphene layered electrodes for solid-state supercapacitors. Nanotechnology, 2021, 32, 195401.	2.6	3
92	Physical and electrical characterization of silsesquioxane-based ultra-low k dielectric films. , 0, , .		2
93	Integration feasibility of porous SiLK* semiconductor dielectric. , 2001, , .		2
94	Characterisation of JSRâ€™s spin-on hardmask FF-02. Microelectronic Engineering, 2003, 70, 308-313.	2.4	2
95	Understanding integration damage to low-k films: mechanisms and dielectric behaviour at 100kHz and 4GHz. , 2006, , .		2
96	Alternative Catalysts For Si-Technology Compatible Growth Of Si Nanowires. Materials Research Society Symposia Proceedings, 2007, 1017, 14.	0.1	2
97	Shaping the future of nanoelectronics beyond the Si roadmap with new materials and devices. Proceedings of SPIE, 2010, , .	0.8	2
98	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
99	An Efficient Event-driven Neuromorphic Architecture for Deep Spiking Neural Networks. , 2019, , .		2
100	A Fully Integrated Conductive and Dielectric Additive Manufacturing Technology for Microwave Circuits and Antennas. , 2021, , .		2
101	Designing concentric nanoparticles for surface-enhanced light-matter interaction in the mid-infrared. Optics Express, 2022, 30, 24118.	3.4	2
102	Cu/LKD-5109 damascene integration demonstration using FF-02 low-k spin-on hard-mask and embedded etch-stop. , 0, , .		1
103	Integration of Single Damascene 85/85 nm L/S copper trenches in Black Diamond using 193 nm optical lithography with dipole illumination. , 0, , .		1
104	Aggressive scaling of Cu/low k: impact on metrology. AIP Conference Proceedings, 2005, , .	0.4	1
105	Use of Nanoindentation to Characterise the Plasma Damage Region in Low-k Dielectric Films. , 2006, , 51.		1
106	Stress in Next Generation Interconnects. AIP Conference Proceedings, 2006, , .	0.4	1
107	Seedless Templated Growth of Hetero-Nanostructures for Novel Microelectronics Devices. Materials Research Society Symposia Proceedings, 2009, 1178, 44.	0.1	1
108	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

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109	Additively Manufactured Multi-Layer Bandpass Filter Based on Vertically Integrated Composite Right and Left Handed Resonator. , 2021, , .		1
110	Unique multi -level metal layer electronics solutions offered by advanced 3D printing. , 2022, , .		1
111	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
112	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
113	Low-k properties and integration processes enabling reliable interconnect scaling to the 32 nm technology node. , 2006, , .		0
114	6C-2 Use of SAWs for Sub-Micron Detection of Dielectric Damage in Interconnects for Microelectronics. , 2006, , .		0
115	Indium-assisted Growth of Si Nanowires: Perspectives on Controlled Growth for CMOS Applications. Materials Research Society Symposia Proceedings, 2008, 1080, 1.	0.1	0
116	Stress corrosion of organosilicate glass films in aqueous environments: Role of pH. Journal of Materials Research, 2008, 23, 862-868.	2.6	0
117	Effects of Silica Sources on Nanoporous Organosilicate Films Templated with Tetraalkylammonium Cations. Materials Research Society Symposia Proceedings, 2009, 1156, 1.	0.1	0
118	Microprobing the mechanical effects of varying dielectric porosity in advanced interconnect structures. , 2012, , .		0
119	Highly compressed nano-layers in epitaxial silicon carbide membranes for MEMs sensors. , 2014, , .		0
120	Potential of epitaxial silicon carbide microbeam resonators for chemical sensing. Physica Status Solidi (A) Applications and Materials Science, 2017, 214, 1770122.	1.8	0
121	Electrical Challenges of Heteroepitaxial 3C-Sic on Silicon. Materials Science Forum, 0, 924, 297-301.	0.3	0
122	Graphitiâ€Based Solidâ€State Supercapacitors: Enabling Redox Reaction by In Situ Electrochemical Treatment. Batteries and Supercaps, 2020, 3, 569-569.	4.7	0
123	Enhanced Mid -Infrared Reflectance with Graphene Coated Silicon Carbide Nanowires. , 2020, , .		0