

Luigi Colombo

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

99
papers

28,740
citations

42
h-index

108
g-index

108
ext. papers

31,610
ext. citations

8.4
avg, IF

6.8
L-index

#	Paper	IF	Citations
99	Large-area synthesis of high-quality and uniform graphene films on copper foils. <i>Science</i> , 2009 , 324, 1312-13	33.3	8900
98	Transfer of large-area graphene films for high-performance transparent conductive electrodes. <i>Nano Letters</i> , 2009 , 9, 4359-63	11.5	2532
97	2D materials. Graphene, related two-dimensional crystals, and hybrid systems for energy conversion and storage. <i>Science</i> , 2015 , 347, 1246501	33.3	2450
96	Science and technology roadmap for graphene, related two-dimensional crystals, and hybrid systems. <i>Nanoscale</i> , 2015 , 7, 4598-810	7.7	2015
95	Electronics based on two-dimensional materials. <i>Nature Nanotechnology</i> , 2014 , 9, 768-79	28.7	1953
94	Evolution of graphene growth on Ni and Cu by carbon isotope labeling. <i>Nano Letters</i> , 2009 , 9, 4268-72	11.5	1245
93	Large-area graphene single crystals grown by low-pressure chemical vapor deposition of methane on copper. <i>Journal of the American Chemical Society</i> , 2011 , 133, 2816-9	16.4	1041
92	The role of surface oxygen in the growth of large single-crystal graphene on copper. <i>Science</i> , 2013 , 342, 720-3	33.3	868
91	Graphene films with large domain size by a two-step chemical vapor deposition process. <i>Nano Letters</i> , 2010 , 10, 4328-34	11.5	836
90	Production and processing of graphene and 2d crystals. <i>Materials Today</i> , 2012 , 15, 564-589	21.8	745
89	Realization of a high mobility dual-gated graphene field-effect transistor with Al ₂ O ₃ dielectric. <i>Applied Physics Letters</i> , 2009 , 94, 062107	3.4	737
88	Band alignment of two-dimensional transition metal dichalcogenides: Application in tunnel field effect transistors. <i>Applied Physics Letters</i> , 2013 , 103, 053513	3.4	543
87	The unusual mechanism of partial Fermi level pinning at metal-MoS ₂ interfaces. <i>Nano Letters</i> , 2014 , 14, 1714-20	11.5	505
86	Toward the controlled synthesis of hexagonal boron nitride films. <i>ACS Nano</i> , 2012 , 6, 6378-85	16.7	242
85	Surface Defects on Natural MoS ₂ . <i>ACS Applied Materials & Interfaces</i> , 2015 , 7, 11921-9	9.5	240
84	Oxygen-activated growth and bandgap tunability of large single-crystal bilayer graphene. <i>Nature Nanotechnology</i> , 2016 , 11, 426-31	28.7	227
83	Synthesis of Graphene Films on Copper Foils by Chemical Vapor Deposition. <i>Advanced Materials</i> , 2016 , 28, 6247-52	24	225

82	Impurities and Electronic Property Variations of Natural MoS ₂ Crystal Surfaces. <i>ACS Nano</i> , 2015 , 9, 9124-9137	13.7	207
81	Quantum engineering of transistors based on 2D materials heterostructures. <i>Nature Nanotechnology</i> , 2018 , 13, 183-191	28.7	198
80	Production and processing of graphene and related materials. <i>2D Materials</i> , 2020 , 7, 022001	5.9	179
79	Reducing extrinsic performance-limiting factors in graphene grown by chemical vapor deposition. <i>ACS Nano</i> , 2012 , 6, 3224-9	16.7	177
78	HfSe ₂ thin films: 2D transition metal dichalcogenides grown by molecular beam epitaxy. <i>ACS Nano</i> , 2015 , 9, 474-80	16.7	155
77	Nonvolatile Memories Based on Graphene and Related 2D Materials. <i>Advanced Materials</i> , 2019 , 31, e1806663	16.7	145
76	Large ferroelectric polarization of TiN/Hf _{0.5} Zr _{0.5} O ₂ /TiN capacitors due to stress-induced crystallization at low thermal budget. <i>Applied Physics Letters</i> , 2017 , 111, 242901	3.4	133
75	Systematic study of electronic structure and band alignment of monolayer transition metal dichalcogenides in Van der Waals heterostructures. <i>2D Materials</i> , 2017 , 4, 015026	5.9	108
74	Effective mobility of single-layer graphene transistors as a function of channel dimensions. <i>Journal of Applied Physics</i> , 2011 , 109, 104511	2.5	105
73	Atomic layer deposition of dielectrics on graphene using reversibly physisorbed ozone. <i>ACS Nano</i> , 2012 , 6, 2722-30	16.7	98
72	CMOS-compatible synthesis of large-area, high-mobility graphene by chemical vapor deposition of acetylene on cobalt thin films. <i>ACS Nano</i> , 2011 , 5, 7198-204	16.7	98
71	Dielectric thickness dependence of carrier mobility in graphene with HfO ₂ top dielectric. <i>Applied Physics Letters</i> , 2010 , 97, 123105	3.4	91
70	Nucleation and growth of WSe ₂ : enabling large grain transition metal dichalcogenides. <i>2D Materials</i> , 2017 , 4, 045019	5.9	79
69	Effect of film thickness on the ferroelectric and dielectric properties of low-temperature (400 °C) Hf _{0.5} Zr _{0.5} O ₂ films. <i>Applied Physics Letters</i> , 2018 , 112, 172902	3.4	75
68	Resonant Raman spectroscopy of graphene grown on copper substrates. <i>Solid State Communications</i> , 2012 , 152, 1317-1320	1.6	75
67	Rapid Selective Etching of PMMA Residues from Transferred Graphene by Carbon Dioxide. <i>Journal of Physical Chemistry C</i> , 2013 , 117, 23000-23008	3.8	69
66	Scanning tunnelling microscopy of suspended graphene. <i>Nanoscale</i> , 2012 , 4, 3065-8	7.7	64
65	Grain Boundary Effect on Electrical Transport Properties of Graphene. <i>Journal of Physical Chemistry C</i> , 2014 , 118, 2338-2343	3.8	61

64	Partially Fluorinated Graphene: Structural and Electrical Characterization. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 5002-8	9.5	58
63	Ab initio study of metal gate electrode work function. <i>Applied Physics Letters</i> , 2005 , 86, 073118	3.4	58
62	Two-dimensional weak anti-localization in Bi ₂ Te ₃ thin film grown on Si(111)-(7 × 7) surface by molecular beam epitaxy. <i>Applied Physics Letters</i> , 2013 , 102, 163118	3.4	57
61	A kinetic Monte Carlo simulation method of van der Waals epitaxy for atomistic nucleation-growth processes of transition metal dichalcogenides. <i>Scientific Reports</i> , 2017 , 7, 2977	4.9	56
60	In situ studies of Al ₂ O ₃ and HfO ₂ dielectrics on graphite. <i>Applied Physics Letters</i> , 2009 , 95, 133106	3.4	52
59	First principles kinetic Monte Carlo study on the growth patterns of WSe ₂ monolayer. <i>2D Materials</i> , 2016 , 3, 025029	5.9	49
58	Bilayer Graphene-Hexagonal Boron Nitride Heterostructure Negative Differential Resistance Interlayer Tunnel FET. <i>IEEE Electron Device Letters</i> , 2015 , 36, 405-407	4.4	46
57	Carbon-assisted chemical vapor deposition of hexagonal boron nitride. <i>2D Materials</i> , 2017 , 4, 025117	5.9	42
56	Scaling properties of polycrystalline graphene: a review. <i>2D Materials</i> , 2017 , 4, 012002	5.9	42
55	High surface area graphene foams by chemical vapor deposition. <i>2D Materials</i> , 2016 , 3, 045013	5.9	42
54	W Te ₂ thin films grown by beam-interrupted molecular beam epitaxy. <i>2D Materials</i> , 2017 , 4, 025044	5.9	41
53	Synthesis, Characterization, and Properties of Large-Area Graphene Films. <i>ECS Transactions</i> , 2009 , 19, 41-52	1	39
52	. <i>Proceedings of the IEEE</i> , 2013 , 101, 1536-1556	14.3	38
51	Index of refraction, dispersion, bandgap and light scattering in GeSe and GeSbSe glasses. <i>Journal of Non-Crystalline Solids</i> , 1987 , 93, 1-16	3.9	38
50	Low-voltage operation and high endurance of 5-nm ferroelectric Hf _{0.5} Zr _{0.5} O ₂ capacitors. <i>Applied Physics Letters</i> , 2018 , 113, 182903	3.4	34
49	Finite element thermal analysis on the crystal growth of HgCdTe by the travelling heater method. <i>Journal of Crystal Growth</i> , 1989 , 98, 595-609	1.6	30
48	Low temperature synthesis of graphite on Ni films using inductively coupled plasma enhanced CVD. <i>Journal of Materials Chemistry C</i> , 2015 , 3, 5192-5198	7.1	27
47	Physics-based 1/f noise model for MOSFETs with nitrated high- κ gate dielectrics. <i>Solid-State Electronics</i> , 2008 , 52, 711-724	1.7	27

46	Ultrathin, wafer-scale hexagonal boron nitride on dielectric surfaces by diffusion and segregation mechanism. <i>2D Materials</i> , 2017 , 4, 025052	5.9	26
45	Trimethyl-aluminum and ozone interactions with graphite in atomic layer deposition of Al ₂ O ₃ . <i>Journal of Applied Physics</i> , 2012 , 112, 104110	2.5	25
44	Sub-10 nm Tunable Hybrid Dielectric Engineering on MoS for Two-Dimensional Material-Based Devices. <i>ACS Nano</i> , 2017 , 11, 10243-10252	16.7	24
43	Growth Kinetics and Defects of CVD Graphene on Cu. <i>ECS Transactions</i> , 2010 , 28, 109-114	1	24
42	Oxygen-Promoted Chemical Vapor Deposition of Graphene on Copper: A Combined Modeling and Experimental Study. <i>ACS Nano</i> , 2018 , 12, 9372-9380	16.7	23
41	Strong spin-orbit coupling and Zeeman spin splitting in angle dependent magnetoresistance of Bi ₂ Te ₃ . <i>Applied Physics Letters</i> , 2014 , 104, 223111	3.4	23
40	Low-frequency noise characteristics of HfSiON gate-dielectric metal-oxide-semiconductor-field-effect transistors. <i>Applied Physics Letters</i> , 2005 , 86, 082102	3.4	23
39	Hydrogen-Robust Submicron IrOx/Pb(Zr, Ti)O ₃ /Ir Capacitors for Embedded Ferroelectric Memory. <i>Japanese Journal of Applied Physics</i> , 2001 , 40, 2911-2916	1.4	22
38	Movement of edge dislocations in KCl by large electric fields. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , 1982 , 46, 211-215		21
37	Stress-Induced Crystallization of Thin HfZr O Films: The Origin of Enhanced Energy Density with Minimized Energy Loss for Lead-Free Electrostatic Energy Storage Applications. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 5208-5214	9.5	18
36	Direct measurements of dislocation charges in Ca ²⁺ -doped KCl by using large electric fields. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , 1984 , 49, 395-407		18
35	Nonpolar Resistive Switching of Multilayer-hBN-Based Memories. <i>Advanced Electronic Materials</i> , 2020 , 6, 1900979	6.4	17
34	Dislocation driven spiral and non-spiral growth in layered chalcogenides. <i>Nanoscale</i> , 2018 , 10, 15023-15034	7.4	16
33	Issues with characterizing transport properties of graphene field effect transistors. <i>Solid State Communications</i> , 2012 , 152, 1311-1316	1.6	16
32	Polycrystalline Few-Layer Graphene as a Durable Anticorrosion Film for Copper. <i>Nano Letters</i> , 2021 , 21, 1161-1168	11.5	16
31	Effect of hydrogen derived from oxygen source on low-temperature ferroelectric TiN/Hf _{0.5} Zr _{0.5} O ₂ /TiN capacitors. <i>Applied Physics Letters</i> , 2019 , 115, 182901	3.4	15
30	Ab initio study of AlNi bilayers on SiO ₂ : Implications to effective work function modulation in gate stacks. <i>Journal of Applied Physics</i> , 2009 , 105, 013711	2.5	15
29	Probing carbon isotope effects on the Raman spectra of graphene with different C ₁₃ concentrations. <i>Physical Review B</i> , 2015 , 92,	3.3	14

28	Atomic-Layer-Deposited Al ₂ O ₃ as Gate Dielectrics for Graphene-Based Devices. <i>ECS Transactions</i> , 2009 , 19, 225-230	1	13
27	WSe (2k) Te x alloys grown by molecular beam epitaxy. <i>2D Materials</i> , 2019 , 6, 045027	5.9	12
26	Dislocation charges in Ca ²⁺ -doped KC1 effects of impurity concentration and temperature. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , 1984 , 49, 409-423		11
25	Growth of large diameter (Hg,Cd)Te crystals by incremental quenching. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 1985 , 3, 100-104	2.9	11
24	Atomic Layer Deposition of Layered Boron Nitride for Large-Area 2D Electronics. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 36688-36694	9.5	11
23	A new model for 1/f noise in high- Γ MOSFETs 2007 ,		10
22	Ferroelectric TiN/Hf _{0.5} Zr _{0.5} O ₂ /TiN Capacitors with Low-Voltage Operation and High Reliability for Next-Generation FRAM Applications 2018 ,		9
21	Roadmap for Ferroelectric Domain Wall Nanoelectronics. <i>Advanced Functional Materials</i> , 2018 , 2110263	15.6	9
20	Dependence of h-BN Film Thickness as Grown on Nickel Single-Crystal Substrates of Different Orientations. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 44862-44870	9.5	9
19	In-situ Studies of High- Γ Dielectrics for Graphene-Based Device. <i>ECS Transactions</i> , 2009 , 19, 215-224	1	8
18	Application of advanced sensors to the liquid phase epitaxy (LPE) growth of MCT 1994 , 2228, 342		5
17	Large-volume production of HgCdTe by dipping liquid phase epitaxy 1994 ,		5
16	Flicker noise in nitrided high-k dielectric NMOS transistors 2005 ,		4
15	Producibility of Vertically Integrated Photodiode (VIP)tm scanning focal plane arrays 1994 , 2228, 237		4
14	Emerging properties of non-crystalline phases of graphene and boron nitride based materials. <i>Nano Materials Science</i> , 2021 ,	10.2	4
13	Photon-Assisted CVD Growth of Graphene Using Metal Adatoms As Catalysts. <i>Journal of Physical Chemistry C</i> , 2012 , 116, 18263-18269	3.8	3
12	Fullerene-Based Hybrid Devices for High-Density Nonvolatile Memory. <i>IEEE Nanotechnology Magazine</i> , 2011 , 10, 572-575	2.6	3
11	Contact Resistance Studies of Metal on HOPG and Graphene Stacks 2009 ,		3

10	Hot-Carrier- and Constant-Voltage-Stress-Induced Low-Frequency Noise in Nitrided High- κ Dielectric MOSFETs. <i>IEEE Transactions on Device and Materials Reliability</i> , 2009 , 9, 203-208	1.6	3
9	Growth of (Hg,Cd)Te from Te-rich solutions 1990 ,		3
8	Materials Science of Graphene for Novel Device Applications. <i>ECS Transactions</i> , 2009 , 19, 185-199	1	2
7	Cross-Contamination during Ferroelectric Nonvolatile Memory Fabrication. <i>Journal of the Electrochemical Society</i> , 2001 , 148, G195	3.9	2
6	Dislocation charges in pure and Ca ⁺⁺ -doped kc1 in the temperature range from 82 to 294 k. <i>Radiation Effects</i> , 1983 , 75, 227-234		2
5	Transport Properties of Graphene Transistors. <i>ECS Transactions</i> , 2011 , 35, 229-237	1	1
4	Ambipolar Gate Modulation Technique for the Reduction of Offset and Flicker Noise in Graphene Hall-Effect Sensors. <i>IEEE Sensors Journal</i> , 2021 , 21, 25675-25686	4	1
3	Triangular-Pulse Measurement for Hysteresis of High-Performance and Flexible Graphene Field-Effect Transistors. <i>IEEE Electron Device Letters</i> , 2014 , 35, 277-279	4.4	0
2	Intelligent processing of focal plane arrays: sensors and controls for (Hg,Cd)Te LPE 1992 , 1683, 58		
1	Wafer Scale Graphene Field Effect Transistors on Thin Thermal Oxide. <i>ECS Transactions</i> , 2018 , 86, 51-57	1	