Bernhard C Bayer

List of Publications by Year
in descending order

71 papers	3,798 citations	126708 33 h-index	123241 61 g-index
71 all docs	71 docs citations	71 times ranked	5793 citing authors

#	Article	IF	Citations
1	In Situ Characterization of Alloy Catalysts for Low-Temperature Graphene Growth. Nano Letters, 2011, 11, 4154-4160.	4.5	258
2	Observing Graphene Grow: Catalystâ€“Graphene Interactions during Scalable Graphene Growth on Polycrystalline Copper. Nano Letters, 2013, 13, 4769-4778.	4.5	231
3	Nanoscale Zirconia as a Nonmetallic Catalyst for Graphitization of Carbon and Growth of Single- and Multiwall Carbon Nanotubes. Journal of the American Chemical Society, 2009, 131, 12144-12154.	6.6	219
4	Metal Oxide Induced Charge Transfer Doping and Band Alignment of Graphene Electrodes for Efficient Organic Light Emitting Diodes. Scientific Reports, 2014, 4, 5380.	1.6	202
5	In Situ Observations during Chemical Vapor Deposition of Hexagonal Boron Nitride on Polycrystalline Copper. Chemistry of Materials, 2014, 26, 6380-6392.	3.2	190
6	The Phase of Iron Catalyst Nanoparticles during Carbon Nanotube Growth. Chemistry of Materials, 2012, 24, 4633-4640.	3.2	180
7	Nucleation Control for Large, Single Crystalline Domains of Monolayer Hexagonal Boron Nitride via Si-Doped Fe Catalysts. Nano Letters, 2015, 15, 1867-1875.	4.5	139
8	Growth of Ultrahigh Density Vertically Aligned Carbon Nanotube Forests for Interconnects. ACS Nano, 2010, 4, 7431-7436.	7.3	136
9	Ultrafast electronic response of graphene to a strong and localized electric field. Nature Communications, 2016, 7, 13948.	5.8	125
10	Controlling Catalyst Bulk Reservoir Effects for Monolayer Hexagonal Boron Nitride CVD. Nano Letters, 2016, 16, 1250-1261.	4.5	114
11	The influence of intercalated oxygen on the properties of graphene on polycrystalline Cu under various environmental conditions. Physical Chemistry Chemical Physics, 2014, 16, 25989-26003.	1.3	108
12	Introducing Carbon Diffusion Barriers for Uniform, High-Quality Graphene Growth from Solid Sources. Nano Letters, 2013, 13, 4624-4631.	4.5	104
13	Interdependency of Subsurface Carbon Distribution and Grapheneâ€“Catalyst Interaction. Journal of the American Chemical Society, 2014, 136, 13698-13708.	6.6	95
14	On the Mechanisms of Niâ€Catalysed Graphene Chemical Vapour Deposition. ChemPhysChem, 2012, 13, 2544-2549.	1.0	90
15	Selective ligand removal to improve accessibility of active sites in hierarchical MOFs for heterogeneous photocatalysis. Nature Communications, 2022, 13, 282.	5.8	83
16	In Situ Observations of Phase Transitions in Metastable Nickel (Carbide)/Carbon Nanocomposites. Journal of Physical Chemistry C, 2016, 120, 22571-22584.	1.5	80
17	Highly chiral-selective growth of single-walled carbon nanotubes with a simple monometallic Co catalyst. Physical Review B, 2012, 85, .	1.1	68
18	Understanding Capacitance Variation in Sub-nanometer Pores by <i>in Situ</i> Tuning of Interlayer Constrictions. ACS Nano, 2016, 10, 747-754.	7.3	64

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19	High-kâ€ˆ(k=30) amorphous hafnium oxide films from high rate room temperature deposition. Applied Physics Letters, 2011, 98, .	1.5	61
20	Supportâ˜'Catalystâ˜'Gas Interactions during Carbon Nanotube Growth on Metallic Ta Films. Journal of Physical Chemistry C, 2011, 115, 4359-4369.	1.5	60
21	Use of carbon nanotubes for VLSI interconnects. Diamond and Related Materials, 2009, 18, 957-962.	1.8	54
22	Nanostructured hematite photoelectrochemical electrodes prepared by the low temperature thermal oxidation of iron. Solar Energy Materials and Solar Cells, 2011, 95, 1819-1825.	3.0	54
23	Effects of polymethylmethacrylate-transfer residues on the growth of organic semiconductor molecules on chemical vapor deposited graphene. Applied Physics Letters, 2015, 106, .	1.5	54
24	Growth of vertically-aligned carbon nanotube forests on conductive cobalt disilicide support. Journal of Applied Physics, 2010, 108, .	1.1	53
25	Atomic-Scale <i>in Situ</i> Observations of Crystallization and Restructuring Processes in Two-Dimensional MoS₂ Films. ACS Nano, 2018, 12, 8758-8769.	7.3	51
26	Doping of metalâ€“organic frameworks towards resistive sensing. Scientific Reports, 2017, 7, 2439.	1.6	45
27	Growth, structure and stability of sputter-deposited MoS₂ thin films. Beilstein Journal of Nanotechnology, 2017, 8, 1115-1126.	1.5	44
28	Growth of high-density vertically aligned arrays of carbon nanotubes by plasma-assisted catalyst pretreatment. Applied Physics Letters, 2009, 95, .	1.5	43
29	Use of plasma treatment to grow carbon nanotube forests on TiN substrate. Journal of Applied Physics, 2011, 109, .	1.1	37
30	Effect of Catalyst Pretreatment on Chirality-Selective Growth of Single-Walled Carbon Nanotubes. Journal of Physical Chemistry C, 2014, 118, 5773-5781.	1.5	37
31	Visualising the strain distribution in suspended two-dimensional materials under local deformation. Scientific Reports, 2016, 6, 28485.	1.6	37
32	Manipulation of the catalyst-support interactions for inducing nanotube forest growth. Journal of Applied Physics, 2011, 109, 044303-044303-7.	1.1	35
33	Introducing Overlapping Grain Boundaries in Chemical Vapor Deposited Hexagonal Boron Nitride Monolayer Films. ACS Nano, 2017, 11, 4521-4527.	7.3	35
34	In-situ study of growth of carbon nanotube forests on conductive CoSi2 support. Journal of Applied Physics, 2011, 109, .	1.1	33
35	Grain boundary-mediated nanopores in molybdenum disulfide grown by chemical vapor deposition. Nanoscale, 2017, 9, 1591-1598.	2.8	31
36	CVD Growth of Carbon Nanostructures from Zirconia: Mechanisms and a Method for Enhancing Yield. Journal of the American Chemical Society, 2014, 136, 17808-17817.	6.6	30

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37	Low temperature growth of carbon nanotubes on tetrahedral amorphous carbon using Feâ€"Cu catalyst. Carbon, 2015, 81, 639-649.	5.4	30
38	Electrochemical Behavior of Graphene in a Deep Eutectic Solvent. ACS Applied Materials & Interfaces, 2020, 12, 40937-40948.	4.0	29
39	Structural, Electrical, and UV Detection Properties of ZnO/Si Heterojunction Diodes. IEEE Transactions on Electron Devices, 2016, 63, 1949-1956.	1.6	27
40	Optical-nanofiber-based interface for single molecules. Physical Review A, 2018, 97, .	1.0	26
41	Hafnia nanoparticles â€" a model system for graphene growth on a dielectric. Physica Status Solidi - Rapid Research Letters, 2011, 5, 341-343.	1.2	25
42	Applications of Carbon Nanotubes Grown by Chemical Vapor Deposition. Japanese Journal of Applied Physics, 2012, 51, 01AH01.	0.8	25
43	Highâ€density remote plasma sputtering of highâ€dielectricâ€constant amorphous hafnium oxide films. Physica Status Solidi (B): Basic Research, 2013, 250, 957-967.	0.7	25
44	Co-Catalytic Solid-State Reduction Applied to Carbon Nanotube Growth. Journal of Physical Chemistry C, 2012, 116, 1107-1113.	1.5	23
45	Applications of Carbon Nanotubes Grown by Chemical Vapor Deposition. Japanese Journal of Applied Physics, 2012, 51, 01AH01.	0.8	23
46	Nitrogen controlled iron catalyst phase during carbon nanotube growth. Applied Physics Letters, 2014, 105, .	1.5	22
47	Graphene-based nanolaminates as ultra-high permeation barriers. Npj 2D Materials and Applications, 2017, 1, .	3.9	21
48	Reduced Graphene Oxide as a Monolithic Multifunctional Conductive Binder for Activated Carbon Supercapacitors. ACS Omega, 2018, 3, 9246-9255.	1.6	21
49	Carbon nanotube forest growth on NiTi shape memory alloy thin films for thermal actuation. Thin Solid Films, 2011, 519, 6126-6129.	0.8	19
50	Single Indium Atoms and Few-Atom Indium Clusters Anchored onto Graphene via Silicon Heteroatoms. ACS Nano, 2021, 15, 14373-14383.	7.3	19
51	Reactive intercalation and oxidation at the buried graphene-germanium interface. APL Materials, 2019, 7, .	2.2	16
52	Tantalum-oxide catalysed chemical vapour deposition of single- and multi-walled carbon nanotubes. RSC Advances, 2013, 3, 4086.	1.7	15
53	Co-catalytic Absorption Layers for Controlled Laser-Induced Chemical Vapor Deposition of Carbon Nanotubes. ACS Applied Materials & Interfaces, 2014, 6, 4025-4032.	4.0	14
54	Plasma stabilisation of metallic nanoparticles on silicon for the growth of carbon nanotubes. Journal of Applied Physics, 2012, 112, 034303.	1.1	13

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55	Complementary metal-oxide-semiconductor-compatible and self-aligned catalyst formation for carbon nanotube synthesis and interconnect fabrication. Journal of Applied Physics, 2012, 111, .	1.1	13
56	Synthesis of Graphene-layer Nanosheet Coatings by PECVD. Materials Today: Proceedings, 2015, 2, 4247-4255.	0.9	13
57	Peeling graphite layer by layer reveals the charge exchange dynamics of ions inside a solid. Communications Physics, 2021, 4, .	2.0	13
58	The role of contaminations in ion beam spectroscopy with freestanding 2D materials: A study on thermal treatment. Journal of Chemical Physics, 2020, 153, 014702.	1.2	11
59	Resolving few-layer antimonene/graphene heterostructures. Npj 2D Materials and Applications, 2021, 5, .	3.9	11
60	Aerosol Jet Printing of Graphene and Carbon Nanotube Patterns on Realistically Rugged Substrates. ACS Omega, 2021, 6, 34301-34313.	1.6	11
61	Highly stable amorphous zinc tin oxynitride thin film transistors under positive bias stress. Applied Physics Letters, 2017, 111, 122109.	1.5	10
62	Process Pathway Controlled Evolution of Phase and Vanâ€derâ€Waals Epitaxy in In/In₂O₃ on Graphene Heterostructures. Advanced Functional Materials, 2020, 30, 2003300.	7.8	9
63	Effect of substrate on processing of multi-gun sputter deposited, near-stoichiometric Ni2MnGa thin films. Thin Solid Films, 2010, 518, 2659-2664.	0.8	8
64	Catalyst design for the growth of highly packed nanotube forests. Physica Status Solidi (B): Basic Research, 2011, 248, 2528-2531.	0.7	8
65	New imaging modes for analyzing suspended ultra-thin membranes by double-tip scanning probe microscopy. Scientific Reports, 2020, 10, 4839.	1.6	5
66	Carbon nanotubes growth: From entanglement to vertical alignment. Physica Status Solidi (B): Basic Research, 2010, 247, 2656-2659.	0.7	4
67	Mechanisms of titania nanoparticle mediated growth of turbostratic carbon nanotubes and nanofibers. Journal of Applied Physics, 2017, 122, 014301.	1.1	4
68	Direct visualization of local deformations in suspended few-layer graphene membranes by coupled in situ atomic force and scanning electron microscopy. Applied Physics Letters, 2021, 118, 103104.	1.5	3
69	Analysis of Amorphous Indium-Gallium-Zinc-Oxide Thin-Film Transistors with Bi-Layer Gate Dielectric Stacks Using Maxwell-Wagner Instability Model. ECS Transactions, 2017, 80, 347-356.	0.3	2
70	Single indium atoms and few-atom indium clusters anchored onto graphene via silicon heteroatoms. Microscopy and Microanalysis, 2021, 27, 3346-3347.	0.2	0
71	Aerosol Jet Printed Nanocarbons on Heat Sink Materials. Proceedings (mdpi), 2020, 56, 30.	0.2	0