Hakim Amara

List of Publications by Year
in descending order

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62 papers	2,458 citations	218381 26 h-index	197535 49 g-index
63 all docs	63 docs citations	63 times ranked	2868 citing authors

#	Article	IF	Citations
1	Scanning tunneling microscopy fingerprints of point defects in graphene: A theoretical prediction. Physical Review B, 2007, 76, .	1.1	164
2	Understanding the Nucleation Mechanisms of Carbon Nanotubes in Catalytic Chemical Vapor Deposition. Physical Review Letters, 2008, 100, 056105.	2.9	141
3	Evidence of Correlation between Catalyst Particles and the Single-Wall Carbon Nanotube Diameter: A First Step towards Chirality Control. Physical Review Letters, 2012, 108, 195503.	2.9	119
4	Tight-binding potential for atomistic simulations of carbon interacting with transition metals: Application to the Ni-C system. Physical Review B, 2009, 79, .	1.1	109
5	Interdependency of Subsurface Carbon Distribution and Grapheneâ€“Catalyst Interaction. Journal of the American Chemical Society, 2014, 136, 13698-13708.	6.6	95
6	Long-range interactions between substitutional nitrogen dopants in graphene: Electronic properties calculations. Physical Review B, 2012, 86, .	1.1	91
7	Atomistic modelling of CVD synthesis of carbon nanotubes and graphene. Nanoscale, 2013, 5, 6662.	2.8	88
8	Importance of Carbon Solubility and Wetting Properties of Nickel Nanoparticles for Single Wall Nanotube Growth. Physical Review Letters, 2012, 109, 185501.	2.9	85
9	Nickel-Assisted Healing of Defective Graphene. ACS Nano, 2010, 4, 6114-6120.	7.3	79
10	Charge transfer and electronic doping in nitrogen-doped graphene. Scientific Reports, 2015, 5, 14564.	1.6	79
11	Early Stages in the Nucleation Process of Carbon Nanotubes. ACS Nano, 2009, 3, 511-516.	7.3	75
12	Linking growth mode to lengths of single-walled carbon nanotubes. Carbon, 2017, 113, 231-236.	5.4	75
13	Entropy-driven stability of chiral single-walled carbon nanotubes. Science, 2018, 362, 212-215.	6.0	75
14	Formation of carbon nanostructures on nickel surfaces: A tight-binding grand canonical Monte Carlo study. Physical Review B, 2006, 73, .	1.1	73
15	Nucleation and Growth of Single-Walled Nanotubes: The Role of Metallic Catalysts. Journal of Nanoscience and Nanotechnology, 2004, 4, 346-359.	0.9	71
16	Electronic Interaction between Nitrogen Atoms in Doped Graphene. ACS Nano, 2015, 9, 670-678.	7.3	69
17	Excitons in boron nitride single layer. Physical Review B, 2016, 94, .	1.1	68
18	Growth modes and chiral selectivity of single-walled carbon nanotubes. Nanoscale, 2018, 10, 6744-6750.	2.8	67

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19	Direct and indirect excitons in boron nitride polymorphs: A story of atomic configuration and electronic correlation. Physical Review B, 2018, 98, .	1.1	63
20	Excitons in few-layer hexagonal boron nitride: Davydov splitting and surface localization. 2D Materials, 2018, 5, 045017.	2.0	63
21	Size Dependent Phase Diagrams of Nickel-Carbon Nanoparticles. Physical Review Letters, 2015, 115, 205502.	2.9	54
22	Aluminum and vacancies in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Î±</mml:mi></mml:math>-iron: Dissolution, diffusion, and clustering. Physical Review B, 2010, 81, .	1.1	53
23	Catalytically Assisted Tip Growth Mechanism for Single-Wall Carbon Nanotubes. ACS Nano, 2007, 1, 202-207.	7.3	44
24	Probing the role of carbon solubility in transition metal catalyzing single-walled carbon nanotubes growth. Carbon, 2017, 120, 226-232.	5.4	37
25	Computational Studies of Metalâ^'Carbon Nanotube Interfaces for Regrowth and Electronic Transport. Nano Letters, 2009, 9, 1117-1120.	4.5	31
26	Key roles of carbon solubility in single-walled carbon nanotube nucleation and growth. Nanoscale, 2015, 7, 20284-20289.	2.8	27
27	A deep learning approach for determining the chiral indices of carbon nanotubes from high-resolution transmission electron microscopy images. Carbon, 2020, 169, 465-474.	5.4	27
28	Carbon solubility in nickel nanoparticles: A grand canonical Monte Carlo study. Physica Status Solidi (B): Basic Research, 2012, 249, 2629-2634.	0.7	26
29	Magnetism: the driving force of order in CoPt, a first-principles study. Journal of Physics Condensed Matter, 2013, 25, 056005.	0.7	26
30	Modeling the Growth of Single-Wall Carbon Nanotubes. Topics in Current Chemistry, 2017, 375, 55.	3.0	26
31	Characterization of single-walled carbon nanotubes containing defects from their local vibrational densities of states. Carbon, 2007, 45, 349-356.	5.4	24
32	Exciton interference in hexagonal boron nitride. Physical Review B, 2018, 97, .	1.1	23
33	Two-photon absorption in two-dimensional materials: The case of hexagonal boron nitride. Physical Review B, 2018, 98, .	1.1	22
34	Interaction of carbon clusters with Ni(100): Application to the nucleation of carbon nanotubes. Surface Science, 2008, 602, 77-83.	0.8	21
35	Structural Properties of Double-Walled Carbon Nanotubes Driven by Mechanical Interlayer Coupling. ACS Nano, 2017, 11, 4840-4847.	7.3	21
36	Computational studies of graphene growth mechanisms. Physical Review B, 2012, 85, .	1.1	20

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37	Study of the polarizability of fullerenes with a monopoleâ€“dipole interaction model. Diamond and Related Materials, 2007, 16, 2145-2149.	1.8	19
38	Direct Measurement of the Surface Energy of Bimetallic Nanoparticles: Evidence of Vegardâ€™s Rulelike Dependence. Physical Review Letters, 2018, 120, 025901.	2.9	19
39	Role of defect healing on the chirality of single-wall carbon nanotubes. Physical Review B, 2012, 85, .	1.1	18
40	Random vs realistic amorphous carbon models for high resolution microscopy and electron diffraction. Journal of Applied Physics, 2013, 114, .	1.1	18
41	Tuning bimetallic catalysts for a selective growth of SWCNTs. Nanoscale, 2019, 11, 4091-4100.	2.8	16
42	Size-dependent hydrogen trapping in palladium nanoparticles. Journal of Materials Chemistry A, 2021, 9, 10354-10363.	5.2	15
43	Quantitative In Situ Visualization of Thermal Effects on the Formation of Gold Nanocrystals in Solution. Advanced Materials, 2021, 33, e2102514.	11.1	15
44	Selective shortening of gold nanorods: when surface functionalization dictates the reactivity of nanostructures. Nanoscale, 2020, 12, 22658-22667.	2.8	13
45	Colloidal synthesis of nanoparticles: from bimetallic to high entropy alloys. Nanoscale, 2022, 14, 9832-9841.	2.8	13
46	Spin-Unrestricted Calculations of Bare-Edged Nanographenes Using DFT and Many-Body Perturbation Theory. Journal of Chemical Theory and Computation, 2009, 5, 1719-1722.	2.3	12
47	Effect of size on the surface energy of noble metal nanoparticles from analytical and numerical approaches. Physical Review B, 2022, 105, .	1.1	10
48	Morphology control of metallic nanoparticles supported on carbon substrates in catalytic conditions. Carbon, 2020, 159, 504-511.	5.4	9
49	High density synthesis of topological point defects in graphene on 6Hâ€“SiC(0001Â¯). Carbon, 2020, 170, 174-181.	5.4	9
50	A Tight-Binding Grand Canonical Monte Carlo Study of the Catalytic Growth of Carbon Nanotubes. Journal of Nanoscience and Nanotechnology, 2008, 8, 6099-6104.	0.9	8
51	Imaging the symmetry breaking of molecular orbitals in single-wall carbon nanotubes. Physical Review B, 2010, 81, .	1.1	8
52	Quantitative insights into the growth mechanisms of nanopores in hexagonal boron nitride. Physical Review Materials, 2020, 4, .	0.9	8
53	Density functional theory and tight binding-based dynamical studies of carbon metal systems of relevance to carbon nanotube growth. Nano Research, 2009, 2, 774-782.	5.8	7
54	Magnetism as indirect tool for carbon content assessment in nickel nanoparticles. Journal of Applied Physics, 2017, 122, 213902.	1.1	2

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55	Ni2C surface carbide to catalyze low-temperature graphene growth. Physical Review B, 2018, 97, .	1.1	2
56	Computational studies of catalyst-free single walled carbon nanotube growth. Journal of Chemical Physics, 2013, 139, 054308.	1.2	1
57	Revealing the Surface Energetics and Reactivity of Bimetallic Copper-Gold Catalyst Nanoparticles by In Situ Environmental TEM. Microscopy and Microanalysis, 2019, 25, 33-34.	0.2	1
58	Strain and electronic properties at the van der Waals interface of phosphorus/boron nitride heterobilayers. Physical Review B, 2020, 102, .	1.1	1
59	Revealing the Dynamics of Functional Nanomaterials in Their Formation and Application Media with Liquid and Gas-phase TEM. Microscopy and Microanalysis, 2020, 26, 196-198.	0.2	1
60	Simulation of thermodynamic properties of magnetic transition metals from an efficient tight-binding model: The case of cobalt and beyond. Physical Review B, 2022, 105, .	1.1	1
61	INVESTIGATION OF THE POLARIZABILITY AND OF THE LOCAL ELECTRIC FIELD OF FULLERENES WITH VARIOUS SHAPES AND DEFECTS USING A MONOPOLE-DIPOLE INTERACTION MODEL. , 2007, , .		0
62	Quantitative Study of Temperature Effects on The Nucleation and Growth of Gold Nanocrystals in Water. Microscopy and Microanalysis, 2021, 27, 29-30.	0.2	0