Rafik Addou

List of Publications by Year
in descending order

84 papers	7,441 citations	76196 40 h-index	54797 84 g-index
85 all docs	85 docs citations	85 times ranked	10835 citing authors

#	Article	IF	Citations
1	Near-unity photoluminescence quantum yield in MoS ₂. Science, 2015, 350, 1065-1068.	6.0	993
2	Defect-Dominated Doping and Contact Resistance in MoS₂. ACS Nano, 2014, 8, 2880-2888.	7.3	690
3	Atomically thin resonant tunnel diodes built from synthetic van der Waals heterostructures. Nature Communications, 2015, 6, 7311.	5.8	382
4	Manganese Doping of Monolayer MoS₂: The Substrate Is Critical. Nano Letters, 2015, 15, 6586-6591.	4.5	357
5	Covalent Nitrogen Doping and Compressive Strain in MoS₂ by Remote N₂ Plasma Exposure. Nano Letters, 2016, 16, 5437-5443.	4.5	323
6	Surface Defects on Natural MoS₂. ACS Applied Materials & Interfaces, 2015, 7, 11921-11929.	4.0	303
7	Impact of intrinsic atomic defects on the electronic structure of MoS₂monolayers. Nanotechnology, 2014, 25, 375703.	1.3	244
8	Impurities and Electronic Property Variations of Natural MoS₂Crystal Surfaces. ACS Nano, 2015, 9, 9124-9133.	7.3	240
9	Recombination Kinetics and Effects of Superacid Treatment in Sulfur- and Selenium-Based Transition Metal Dichalcogenides. Nano Letters, 2016, 16, 2786-2791.	4.5	233
10	HfSe₂ Thin Films: 2D Transition Metal Dichalcogenides Grown by Molecular Beam Epitaxy. ACS Nano, 2015, 9, 474-480.	7.3	195
11	Hole Contacts on Transition Metal Dichalcogenides: Interface Chemistry and Band Alignments. ACS Nano, 2014, 8, 6265-6272.	7.3	173
12	Realizing Large-Scale, Electronic-Grade Two-Dimensional Semiconductors. ACS Nano, 2018, 12, 965-975.	7.3	172
13	MoS2 functionalization for ultra-thin atomic layer deposited dielectrics. Applied Physics Letters, 2014, 104, .	1.5	171
14	Monolayer graphene growth on Ni(111) by low temperature chemical vapor deposition. Applied Physics Letters, 2012, 100, .	1.5	169
15	Direct Observation of Interlayer Hybridization and Dirac Relativistic Carriers in Graphene/MoS₂ van der Waals Heterostructures. Nano Letters, 2015, 15, 1135-1140.	4.5	163
16	Tuning the Electronic and Photonic Properties of Monolayer MoS₂ via In Situ Rhenium Substitutional Doping. Advanced Functional Materials, 2018, 28, 1706950.	7.8	137
17	Atomically Thin Heterostructures Based on Single-Layer Tungsten Diselenide and Graphene. Nano Letters, 2014, 14, 6936-6941.	4.5	132
18	Defects and Surface Structural Stability of MoTe₂ Under Vacuum Annealing. ACS Nano, 2017, 11, 11005-11014.	7.3	117

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19	Contact Metalâ€“MoS₂ Interfacial Reactions and Potential Implications on MoS₂-Based Device Performance. Journal of Physical Chemistry C, 2016, 120, 14719-14729.	1.5	114
20	HfO ₂ on UVâ€“O ₃ exposed transition metal dichalcogenides: interfacial reactions study. 2D Materials, 2015, 2, 014004.	2.0	98
21	Nucleation and growth of WSe ₂ : enabling large grain transition metal dichalcogenides. 2D Materials, 2017, 4, 045019.	2.0	96
22	Interface properties of CVD grown graphene transferred onto MoS₂(0001). Nanoscale, 2014, 6, 1071-1078.	2.8	95
23	Growth of a two-dimensional dielectric monolayer on quasi-freestanding graphene. Nature Nanotechnology, 2013, 8, 41-45.	15.6	88
24	Intrinsic air stability mechanisms of two-dimensional transition metal dichalcogenide surfaces: basal versus edge oxidation. 2D Materials, 2017, 4, 025050.	2.0	87
25	Partially Fluorinated Graphene: Structural and Electrical Characterization. ACS Applied Materials & Interfaces, 2016, 8, 5002-5008.	4.0	82
26	Al₂O₃ on Black Phosphorus by Atomic Layer Deposition: An <i>in Situ</i> Interface Study. ACS Applied Materials & Interfaces, 2015, 7, 13038-13043.	4.0	81
27	WSe ₂ -contact metal interface chemistry and band alignment under high vacuum and ultra high vacuum deposition conditions. 2D Materials, 2017, 4, 025084.	2.0	77
28	Surface Analysis of WSe₂ Crystals: Spatial and Electronic Variability. ACS Applied Materials & Interfaces, 2016, 8, 26400-26406.	4.0	73
29	Enhanced Visible-Light-Driven Hydrogen Production through MOF/MOF Heterojunctions. ACS Applied Materials & Interfaces, 2021, 13, 14239-14247.	4.0	73
30	Highâ€Mobility Helical Tellurium Fieldâ€Effect Transistors Enabled by Transferâ€Free, Lowâ€Temperature Direct Growth. Advanced Materials, 2018, 30, e1803109.	11.1	71
31	New Mo₆Te₆ Subâ€Nanometerâ€Diameter Nanowire Phase from 2Hâ€MoTe₂. Advanced Materials, 2017, 29, 1606264.	11.1	64
32	Carbon-assisted chemical vapor deposition of hexagonal boron nitride. 2D Materials, 2017, 4, 025117.	2.0	54
33	Influence of Hydroxyls on Pd Atom Mobility and Clustering on Rutile TiO₂(011)-2 Ã— 1. ACS Nano, 2014, 8, 6321-6333.	7.3	49
34	Wâ€‰Te ₂ thin films grown by beam-interrupted molecular beam epitaxy. 2D Materials, 2017, 4, 025044.	2.0	48
35	Charge doping of graphene in metal/graphene/dielectric sandwich structures evaluated by C-1s core level photoemission spectroscopy. APL Materials, 2013, 1, .	2.2	47
36	One dimensional metallic edges in atomically thin WSe ₂ induced by air exposure. 2D Materials, 2018, 5, 025017.	2.0	47

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37	Transition metal dichalcogenide and hexagonal boron nitride heterostructures grown by molecular beam epitaxy. Microelectronic Engineering, 2015, 147, 306-309.	1.1	46
38	Atomically Controlled Tunable Doping in Highâ€Performance WSe₂ Devices. Advanced Electronic Materials, 2020, 6, 1901304.	2.6	46
39	Graphene monolayer rotation on Ni(111) facilitates bilayer graphene growth. Applied Physics Letters, 2012, 100, .	1.5	44
40	Structure investigation of the (100) surface of the orthorhombic<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>Al</mml:mtext></mml:mrow><mml:mrow><mml:mn>13</mml:m Physical Review B, 2009, 80, .	1.1	43
41	Scalable BEOL compatible 2D tungsten diselenide. 2D Materials, 2020, 7, 015029.	2.0	41
42	Electronic properties of MoS2/MoOx interfaces: Implications in Tunnel Field Effect Transistors and Hole Contacts. Scientific Reports, 2016, 6, 33562.	1.6	40
43	Fermi Level Manipulation through Native Doping in the Topological Insulator Bi₂Se₃. ACS Nano, 2018, 12, 6310-6318.	7.3	37
44	Schottky Barrier Height of Pd/MoS₂ Contact by Large Area Photoemission Spectroscopy. ACS Applied Materials & Interfaces, 2017, 9, 38977-38983.	4.0	36
45	Graphene on ordered Ni-alloy surfaces formed by metal (Sn, Al) intercalation between graphene/Ni(111). Surface Science, 2012, 606, 1108-1112.	0.8	35
46	Enhancing Interconnect Reliability and Performance by Converting Tantalum to 2D Layered Tantalum Sulfide at Low Temperature. Advanced Materials, 2019, 31, e1902397.	11.1	35
47	Defects and Domain Boundaries in Self-Assembled Terephthalic Acid (TPA) Monolayers on CVD-Grown Graphene on Pt(111). Langmuir, 2013, 29, 6354-6360.	1.6	25
48	Dislocation driven spiral and non-spiral growth in layered chalcogenides. Nanoscale, 2018, 10, 15023-15034.	2.8	24
49	Engineering the Palladiumâ€“WSe2 Interface Chemistry for Field Effect Transistors with High-Performance Hole Contacts. ACS Applied Nano Materials, 2019, 2, 75-88.	2.4	24
50	Structure of the (010) surface of the orthorhombic complex metallic alloy<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi mathvariant="normal">T</mml:mi><mml:msub><mml:mrow><mml:mtext>-Al</mml:mtext></mml:mrow><mml:mn>3</mml:mn></mml Physical Review B, 2010, 81, .	1.1	22
51	Tuning electronic transport in epitaxial graphene-based van der Waals heterostructures. Nanoscale, 2016, 8, 8947-8954.	2.8	21
52	Covalent nitrogen doping in molecular beam epitaxy-grown and bulk WSe2. APL Materials, 2018, 6, .	2.2	21
53	<i>In situ</i> exfoliated 2D molybdenum disulfide analyzed by XPS. Surface Science Spectra, 2020, 27, .	0.3	21
54	Origins of Fermi-Level Pinning between Molybdenum Dichalcogenides (MoSe₂,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 67 T Physical Chemistry C, 2019, 123, 23919-23930.	1.5	20

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55	WSe _(2â^’ <i>x</i>) Te _{<i>x</i>} alloys grown by molecular beam epitaxy. 2D Materials, 2019, 6, 045027.	2.0	20
56	Light soaking in metal halide perovskites studied via steady-state microwave conductivity. Communications Physics, 2020, 3, .	2.0	20
57	Molecular Beam Epitaxy of Transition Metal Dichalcogenides. , 2018, , 515-531.		19
58	Origins of Fermi Level Pinning between Tungsten Dichalcogenides (WS2, WTe2) and Bulk Metal Contacts: Interface Chemistry and Band Alignment. Journal of Physical Chemistry C, 2020, 124, 14550-14563.	1.5	19
59	Lead adsorption on the Al₁₃Co₄(100) surface: heterogeneous nucleation and pseudomorphic growth. New Journal of Physics, 2011, 13, 103011.	1.2	17
60	Atomic and electronic structure of graphene/Sn-Ni(111) and graphene/Sn-Cu(111) surface alloy interfaces. Applied Physics Letters, 2012, 101, 051602.	1.5	17
61	Preparation and characterization of Ni(111)/graphene/Y2O3(111) heterostructures. Journal of Applied Physics, 2013, 113, 194305.	1.1	17
62	Effect of Ambient Conditions on Radiation-Induced Chemistries of a Nanocluster Organotin Photoresist for Next-Generation EUV Nanolithography. ACS Applied Nano Materials, 2020, 3, 2266-2277.	2.4	17
63	Seeding Atomic Layer Deposition of Alumina on Graphene with Yttria. ACS Applied Materials & Interfaces, 2015, 7, 2082-2087.	4.0	15
64	Surface and interfacial study of half cycle atomic layer deposited Al2O3 on black phosphorus. Microelectronic Engineering, 2015, 147, 1-4.	1.1	15
65	Interface between Graphene and SrTiO3(001) Investigated by Scanning Tunneling Microscopy and Photoemission. Journal of Physical Chemistry C, 2013, 117, 21006-21013.	1.5	14
66	High-Îº Dielectric on ReS2: In-Situ Thermal Versus Plasma-Enhanced Atomic Layer Deposition of Al2O3. Materials, 2019, 12, 1056.	1.3	14
67	Engineering the interface chemistry for scandium electron contacts in WSe₂ transistors and diodes. 2D Materials, 2019, 6, 045020.	2.0	13
68	Molecular-scale investigation of the oxidation behavior of chromia-forming alloys in high-temperature CO2. Npj Materials Degradation, 2021, 5, .	2.6	13
69	Combined Surface Science and DFT Study of the Adsorption of Dinitrotoluene (2,4-DNT) on Rutile TiO₂(110): Molecular Scale Insight into Sensing of Explosives. Journal of Physical Chemistry C, 2013, 117, 16468-16476.	1.5	12
70	Modification of the Electronic Transport in Atomically Thin WSe₂ by Oxidation. Advanced Materials Interfaces, 2020, 7, 2000422.	1.9	11
71	Surface chemistry of 2-propanol and O2 mixtures on SnO2(110) studied with ambient-pressure x-ray photoelectron spectroscopy. Journal of Chemical Physics, 2020, 152, 054713.	1.2	10
72	Impact of Etch Processes on the Chemistry and Surface States of the Topological Insulator Bi₂Se₃. ACS Applied Materials & Interfaces, 2019, 11, 32144-32150.	4.0	9

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73	(Invited) Integration of 2D Materials for Advanced Devices: Challenges and Opportunities. ECS Transactions, 2017, 79, 11-20.	0.3	7
74	2D bismuth telluride analyzed by XPS. Surface Science Spectra, 2019, 26, .	0.3	6
75	Wet-transfer of CVD-grown graphene onto sulfur-protected W(110). Surface Science, 2015, 634, 9-15.	0.8	5
76	Using photoelectron spectroscopy in the integration of 2D materials for advanced devices. Journal of Electron Spectroscopy and Related Phenomena, 2019, 231, 94-103.	0.8	5
77	Contribution of the Subâ€Surface to Electrocatalytic Activity in Atomically Precise La_{0.7}Sr_{0.3}MnO₃ Heterostructures. Small, 2021, 17, e2103632.	5.2	4
78	Pseudomorphy, surface alloys and the role of elementary clusters on the domain orientations in the Cu/Al₁₃Co₄(100) system. Journal of Physics Condensed Matter, 2011, 23, 435009.	0.7	3
79	2D topological insulator bismuth selenide analyzed by in situ XPS. Surface Science Spectra, 2019, 26, 024014.	0.3	3
80	Structural investigation of Pb adsorption on the (010) surface of the orthorhombic T-Al3(Mn,Pd) crystal. Surface Science, 2013, 611, 74-79.	0.8	2
81	(Invited) Excellent Wetting Behavior of Yttria on 2D Materials. ECS Transactions, 2015, 69, 325-336.	0.3	2
82	In Situ Heating Study of 2H-MoTe2 to Mo6Te6 Nanowire Phase Transition. Microscopy and Microanalysis, 2017, 23, 1764-1765.	0.2	2
83	2D Materials: Tuning the Electronic and Photonic Properties of Monolayer MoS2 via In Situ Rhenium Substitutional Doping (Adv. Funct. Mater. 16/2018). Advanced Functional Materials, 2018, 28, 1870105.	7.8	1
84	Operando study of the preferential growth of SiO2 during the dry thermal oxidation of Si0.60Ge0.40(001) by ambient pressure x-ray photoelectron spectroscopy. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2021, 39, 053202.	0.9	1