

Nasim Alem

List of Publications by Year in descending order

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#	ARTICLE	IF	CITATIONS
1	Spatially Resolved Investigation of the Bandgap Variation across a $\text{In}^{2-}(\text{Al}_{x}\text{Ga}_{1-x})\text{O}_{3}$ - $\text{In}^{2-}\text{Ga}_{2}\text{O}_{3}$ Interface by STEM-VEELS. ACS Applied Electronic Materials, 2022, 4, 585-591.	2.9	2
2	Understanding Signatures of Emergent Magnetism in Topological Insulator/Ferrite Bilayers. Physical Review Letters, 2022, 128, 126802.	2.9	9
3	Nanoscale Mapping and Defect-Assisted Manipulation of Surface Plasmon Resonances in 2D $\text{Bi}_{2}\text{Te}_{3}/\text{Sb}_{2}\text{Te}_{3}$ In-Plane Heterostructures. Advanced Optical Materials, 2022, 10, .	3.6	4
4	Alloyed $\text{In}^{2-}(\text{Al}_{x}\text{Ga}_{1-x})\text{O}_{3}$ bulk Czochralski single $\text{In}^{2-}(\text{Al}_{0.1}\text{Ga}_{0.9})\text{O}_{3}$ and polycrystals	1.1	16
5	$\text{SnP}_{2}\text{S}_{6}$: A Promising Infrared Nonlinear Optical Crystal with Strong Nonresonant Second Harmonic Generation and Phase-Matchability. ACS Photonics, 2022, 9, 1724-1732.	3.2	11
6	Surface Modification of Proppant Using Hydrophobic Coating To Enhance Long-Term Production. SPE Production and Operations, 2021, 36, 116-127.	0.4	6
7	Self-regulated growth of [111]-oriented perovskite oxide films using hybrid molecular beam epitaxy. APL Materials, 2021, 9, .	2.2	4
8	Picometer-Precision Atomic Position Tracking through Electron Microscopy. Journal of Visualized Experiments, 2021, , .	0.2	1
9	Cryogenic Transmission Electron Microscopy Investigation of Carbon Nanothreads. Microscopy and Microanalysis, 2021, 27, 684-685.	0.2	1
10	Illuminating Invisible Grain Boundaries in Coalesced Single-Orientation WS_{2} Monolayer Films. Nano Letters, 2021, 21, 6487-6495.	4.5	26
11	Ferroelectrics everywhere: Ferroelectricity in magnesium substituted zinc oxide thin films. Journal of Applied Physics, 2021, 130, .	1.1	55
12	Controllable p-Type Doping of 2D WSe_{2} via Vanadium Substitution. Advanced Functional Materials, 2021, 31, 2105252.	7.8	40
13	In Situ Dielectric $\text{Al}_{2}\text{O}_{3}/\text{In}^{2-}\text{Ga}_{2}\text{O}_{3}$ Interfaces Grown Using Metal-Organic Chemical Vapor Deposition. Advanced Electronic Materials, 2021, 7, 2100333.	2.6	17
14	A ReaxFF Force Field for 2D- WS_{2} and Its Interaction with Sapphire. Journal of Physical Chemistry C, 2021, 125, 17950-17961.	1.5	10
15	Wafer-Scale Epitaxial Growth of Unidirectional WS_{2} Monolayers on Sapphire. ACS Nano, 2021, 15, 2532-2541.	7.3	149
16	Formation of metal vacancy arrays in coalesced WS_{2} monolayer films. 2D Materials, 2021, 8, 011003.	2.0	10
17	Atomic-scale characterization of structural and electronic properties of Hf doped $\text{In}^{2-}\text{Ga}_{2}\text{O}_{3}$. Applied Physics Letters, 2021, 119, .	1.5	6
18	Substrate Modification during Chemical Vapor Deposition of hBN on Sapphire. ACS Applied Materials & Interfaces, 2021, 13, 54516-54526.	4.0	15

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19	Measurement of mixed mode interfacial strengths with cementitious materials. Engineering Fracture Mechanics, 2020, 223, 106739.	2.0	14
20	Monolayer Vanadium-Doped Tungsten Disulfide: A Room-Temperature Dilute Magnetic Semiconductor. Advanced Science, 2020, 7, 2001174.	5.6	104
21	High-Resolution STEM/STEM-EELS Characterization of Entropy-stabilized Oxides Thin Films. Microscopy and Microanalysis, 2020, 26, 1196-1197.	0.2	2
22	Delta-doped In^{2+} -Ga ₂ O ₃ films with narrow FWHM grown by metalorganic vapor-phase epitaxy. Applied Physics Letters, 2020, 117, .	1.5	17
23	Oxide-Free Three-Dimensional Germanium/Silicon Core-Shell Metalattice Made by High-Pressure Confined Chemical Vapor Deposition. ACS Nano, 2020, 14, 12810-12818.	7.3	6
24	Modeling for Structural Engineering and Synthesis of Two-Dimensional WSe ₂ Using a Newly Developed ReaxFF Reactive Force Field. Journal of Physical Chemistry C, 2020, 124, 28285-28297.	1.5	20
25	Point Defect and Their Influence on the Atomic and Electronic Structure of $\text{In}^{2+}(\text{Al}_x\text{Ga}_{1-x})_2\text{O}_3$ Alloys by STEM-EELS. Microscopy and Microanalysis, 2020, 26, 622-623.	0.2	2
26	Sputtered Sr _x NbO ₃ as a UV-Transparent Conducting Film. ACS Applied Materials & Interfaces, 2020, 12, 30520-30529.	4.0	18
27	Giant room temperature anomalous Hall effect and tunable topology in a ferromagnetic topological semimetal Co ₂ MnAl. Nature Communications, 2020, 11, 3476.	5.8	127
28	Surface-Modified Graphite Nanoplatelets To Enhance Cement Sheath Durability. SPE Drilling and Completion, 2020, 35, 452-464.	0.9	7
29	Chemical vapor transport synthesis, characterization and compositional tuning of Zr _x Se _{2-x} for optoelectronic applications. Journal of Crystal Growth, 2020, 542, 125609.	0.7	7
30	Quantum transport in three-dimensional metalattices of platinum featuring an unprecedentedly large surface area to volume ratio. Physical Review Materials, 2020, 4, .	0.9	3
31	Property and cation valence engineering in entropy-stabilized oxide thin films. Physical Review Materials, 2020, 4, .	0.9	20
32	Autocorrected off-axis holography of two-dimensional materials. Physical Review Research, 2020, 2, .	1.3	5
33	Investigation of the Atomic and Electronic Structure of $\text{In}^{2+}(\text{Al}_{0.2}\text{Ga}_{0.8})_2\text{O}_3$ Alloys by STEM-EELS. Microscopy and Microanalysis, 2019, 25, 2186-2187.	0.2	1
34	Plasmonic Metalattices: A Correlated Monochromated Electron Energy Loss Study and Theoretical Calculations. Microscopy and Microanalysis, 2019, 25, 678-679.	0.2	0
35	High Resolution S/Transmission Electron Microscopy Investigation of Ca ₃ Mn ₂ O ₇ Phase Transformation under In-situ Heating Condition. Microscopy and Microanalysis, 2019, 25, 1876-1877.	0.2	0
36	Atomic-scale measurement of polar entropy. Physical Review B, 2019, 100, .	1.1	7

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37	Direct Correction of Residual Symmetric Aberrations in Electron Holograms of Weak Phase Objects. <i>Microscopy and Microanalysis</i> , 2019, 25, 98-99.	0.2	1
38	Structural, Optical and Thermal Behavior investigation of 2D Bi ₂ Te ₃ /Sb ₂ Te ₃ in-plane Heterostructures via Aberration Corrected STEM and EELS. <i>Microscopy and Microanalysis</i> , 2019, 25, 2012-2013.	0.2	1
39	Large tetragonality and room temperature ferroelectricity in compressively strained CaTiO ₃ thin films. <i>APL Materials</i> , 2019, 7, .	2.2	10
40	Competing Polar and Antipolar Structures in the Ruddlesden-Popper Layered Perovskite Li ₂ SrNb ₂ O ₇ . <i>Chemistry of Materials</i> , 2019, 31, 4418-4425.	3.2	28
41	Multi-Step Topochemical Pathway to Metastable Mo ₂ AlB ₂ and Related Two-Dimensional Nanosheet Heterostructures. <i>Journal of the American Chemical Society</i> , 2019, 141, 10852-10861.	6.6	84
42	Full orientation control of epitaxial MoS ₂ on hBN assisted by substrate defects. <i>Physical Review B</i> , 2019, 99, .	6.6	26
43	Local Structure and Bonding of Carbon Nanothreads Probed by High-Resolution Transmission Electron Microscopy. <i>Journal of the American Chemical Society</i> , 2019, 141, 6937-6945.	6.6	26
44	Defect-Controlled Nucleation and Orientation of WSe ₂ on hBN: A Route to Single-Crystal Epitaxial Monolayers. <i>ACS Nano</i> , 2019, 13, 3341-3352.	7.3	107
45	Observation of an intrinsic anomalous Hall effect in antiferromagnetic topological insulator MnBi. <i>Physical Review Letters</i> , 2019, 122, 177201.	1.3	204
46	Diffusion-Controlled Epitaxy of Large Area Coalesced WSe ₂ Monolayers on Sapphire. <i>Nano Letters</i> , 2018, 18, 1049-1056.	4.5	197
47	Advanced Synthesis of Na ₄ Si ₂₄ . <i>MRS Advances</i> , 2018, 3, 1427-1433.	0.5	3
48	Superior Electro-Oxidation and Corrosion Resistance of Monolayer Transition Metal Disulfides. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 4285-4294.	4.0	23
49	Confined Chemical Fluid Deposition of Ferromagnetic Metal lattices. <i>Nano Letters</i> , 2018, 18, 546-552.	4.5	21
50	Carbon Nitride Nanowire Crystals Derived from Pyridine. <i>Journal of the American Chemical Society</i> , 2018, 140, 4969-4972.	6.6	81
51	Electronic and Structural Characterization of Diamondoid Carbon Nanowires by Transmission Electron Microscopy. <i>Microscopy and Microanalysis</i> , 2018, 24, 1992-1993.	0.2	1
52	Investigation of Surface Plasmon Resonances in Silver Infiltrated Metal lattices by Monochromated Electron Energy Loss Spectroscopy. <i>Microscopy and Microanalysis</i> , 2018, 24, 432-433.	0.2	1
53	Low-dose Transmission Electron Microscopy of Highly-Oriented Polyacetylene. <i>Microscopy and Microanalysis</i> , 2018, 24, 2030-2031.	0.2	4
54	In-situ TEM Study of Formation of an Ordered Hollow Structure Metal lattice from Silica Nano-Opals through High-Temperature Annealing. <i>Microscopy and Microanalysis</i> , 2018, 24, 320-321.	0.2	0

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55	Overlapping growth windows to build complex oxide superlattices. <i>APL Materials</i> , 2018, 6, 111104.	2.2	3
56	High Resolution S/TEM Imaging of High Density Domain Stacking and Coexisting Polar-nonpolar Phases in Layered Perovskite Ca ₃ Mn ₂ O ₇ . <i>Microscopy and Microanalysis</i> , 2018, 24, 1916-1917.	0.2	0
57	4D-STEM Differential Phase Contrast Microscopy Across Ferroelectric Domain Walls. <i>Microscopy and Microanalysis</i> , 2018, 24, 228-229.	0.2	0
58	Synthesis and Properties of Single-Crystalline Na ₄ Si ₂₄ . <i>Crystal Growth and Design</i> , 2018, 18, 7410-7418.	1.4	9
59	Atomic Structure of W _{1-x} Mo _x S ₂ Alloys and Heterostructures. <i>Microscopy and Microanalysis</i> , 2018, 24, 1628-1629.	0.2	0
60	High Resolution S/TEM Study of Defects in MOCVD Grown Mono to Few Layer WS ₂ . <i>Microscopy and Microanalysis</i> , 2018, 24, 1636-1637.	0.2	0
61	Topochemical Deintercalation of Al from MoAlB: Stepwise Etching Pathway, Layered Intergrowth Structures, and Two-Dimensional MBene. <i>Journal of the American Chemical Society</i> , 2018, 140, 8833-8840.	6.6	204
62	Polar Oxides without Inversion Symmetry through Vacancy and Chemical Order. <i>Journal of the American Chemical Society</i> , 2017, 139, 2833-2841.	6.6	34
63	Low-temperature Synthesis of Heterostructures of Transition Metal Dichalcogenide Alloys (W _x Mo _{1-x} S ₂) and Graphene with Superior Catalytic Performance for Hydrogen Evolution. <i>ACS Nano</i> , 2017, 11, 5103-5112.	7.3	157
64	Defect Coupling and Sub-Angstrom Structural Distortions in W _x Mo _{1-x} S ₂ Monolayers. <i>Nano Letters</i> , 2017, 17, 2802-2808.	4.5	42
65	Low Dose Characterization of Diamondoid Carbon Nanothreads by Transmission Electron Microscopy. <i>Microscopy and Microanalysis</i> , 2017, 23, 1846-1847.	0.2	4
66	In-situ TEM Study on Size-dependent Thermal Stability of Nickel Filled Silica Nano-Opals. <i>Microscopy and Microanalysis</i> , 2017, 23, 956-957.	0.2	1
67	High-Performance Polymers Sandwiched with Chemical Vapor Deposited Hexagonal Boron Nitrides as Scalable High-Temperature Dielectric Materials. <i>Advanced Materials</i> , 2017, 29, 1701864.	11.1	270
68	Statistical Measurement of Polar Displacements in Complex Oxides. <i>Microscopy and Microanalysis</i> , 2017, 23, 1660-1661.	0.2	0
69	Aberration Corrected STEM Imaging of Domain Walls in Congruent LiNbO ₃ . <i>Microscopy and Microanalysis</i> , 2016, 22, 914-915.	0.2	5
70	Observation of a Quasi-ordered Structure in Monolayer W _x Mo _(1-x) S ₂ Alloys. <i>Microscopy and Microanalysis</i> , 2016, 22, 1548-1549.	0.2	1
71	Study on Chemical Vapor Deposition Growth and Transmission electron Microscopy MoS ₂ /h-BN Heterostructure. <i>Microscopy and Microanalysis</i> , 2016, 22, 1640-1641.	0.2	2
72	Monochromated Low-Dose Aberration-Corrected Transmission Electron Microscopy of Diamondoid Carbon Nanothreads. <i>Microscopy and Microanalysis</i> , 2016, 22, 1840-1841.	0.2	6

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73	Atomic scale imaging of competing polar states in a Ruddlesden-Popper layered oxide. Nature Communications, 2016, 7, 12572.	5.8	26
74	Creating Ruddlesden-Popper phases by hybrid molecular beam epitaxy. Applied Physics Letters, 2016, 109, .	1.5	18
75	Spontaneous Formation of Atomically Thin Stripes in Transition Metal Dichalcogenide Monolayers. Nano Letters, 2016, 16, 6982-6987.	4.5	48
76	Influence of Carbon in Metalorganic Chemical Vapor Deposition of Few-Layer WSe ₂ Thin Films. Journal of Electronic Materials, 2016, 45, 6273-6279.	1.0	47
77	Low-dose Microscopy and Beam Damage Study of Infiltrated Zeolite Y. Microscopy and Microanalysis, 2016, 22, 1638-1639.	0.2	3
78	Individual Mo Dopant Atoms in WS ₂ Monolayers: Atomic Structure and Induced Strain. Microscopy and Microanalysis, 2015, 21, 435-436.	0.2	3
79	Freestanding van der Waals Heterostructures of Graphene and Transition Metal Dichalcogenides. ACS Nano, 2015, 9, 4882-4890.	7.3	157
80	Recent Advances in Two-Dimensional Materials beyond Graphene. ACS Nano, 2015, 9, 11509-11539.	7.3	2,069
81	Wafer-scale growth of VO ₂ thin films using a combinatorial approach. Nature Communications, 2015, 6, 8475.	5.8	117
82	Benzene-derived carbon nanothreads. Nature Materials, 2015, 14, 43-47.	13.3	250
83	Tuning Carbon Content and Morphology of FeCo/Graphitic Carbon Core-Shell Nanoparticles using a Salt-Matrix-Assisted CVD Process. Particle and Particle Systems Characterization, 2014, 31, 474-480.	1.2	11
84	Dislocation motion and grain boundary migration in two-dimensional tungsten disulphide. Nature Communications, 2014, 5, 4867.	5.8	192
85	Atomic-scale Observation of Grains and Grain Boundaries in Monolayers of WS ₂ . Microscopy and Microanalysis, 2014, 20, 1084-1085.	0.2	3
86	In Situ High Temperature Atomic Resolution Transmission Electron Microscopy of 2D Nanomaterials. Microscopy and Microanalysis, 2014, 20, 1770-1771.	0.2	0
87	Atomic Resolution Imaging of Grain Boundary Defects in Monolayer Chemical Vapor Deposition-Grown Hexagonal Boron Nitride. Journal of the American Chemical Society, 2013, 135, 6758-6761.	6.6	225
88	Low pressure chemical vapor deposition synthesis of hexagonal boron nitride on polycrystalline metal foils. Physica Status Solidi (B): Basic Research, 2013, 250, 2727-2731.	0.7	21
89	Subangstrom Edge Relaxations Probed by Electron Microscopy in Hexagonal Boron Nitride. Physical Review Letters, 2012, 109, 205502.	2.9	52
90	Probing the Out-of-Plane Distortion of Single Point Defects in Atomically Thin Hexagonal Boron Nitride at the Picometer Scale. Physical Review Letters, 2011, 106, 126102.	2.9	62

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91	Longitudinal Splitting of Boron Nitride Nanotubes for the Facile Synthesis of High Quality Boron Nitride Nanoribbons. <i>Nano Letters</i> , 2011, 11, 3221-3226.	4.5	122
92	Determination of the Local Chemical Structure of Graphene Oxide and Reduced Graphene Oxide. <i>Advanced Materials</i> , 2010, 22, 4467-4472.	11.1	1,044
93	A direct transfer of layer-area graphene. <i>Applied Physics Letters</i> , 2010, 96, .	1.5	335
94	Transfer-Free Batch Fabrication of Large-Area Suspended Graphene Membranes. <i>ACS Nano</i> , 2010, 4, 4762-4768.	7.3	103
95	Correlative deformation mechanisms in $\text{Ni}_x\text{Co}_{1-x}\text{O}/\text{ZrO}_2(\text{CaO})$ directionally solidified eutectic composites with a confined metallic interphase. <i>Acta Materialia</i> , 2008, 56, 4378-4389.	3.8	4
96	Characterization of $\text{Ni}_x\text{Co}_{1-x}\text{O}/\text{ZrO}_2(\text{CaO})$ directionally solidified eutectic (DSE) ceramic composites with a ductile interphase. <i>Journal of Materials Research</i> , 2007, 22, 1797-1805.	1.2	3
97	Site-Specific Fabrication and Epitaxial Conversion of Functional Oxide Nanodisk Arrays. <i>Nano Letters</i> , 2006, 6, 2344-2348.	4.5	25
98	Interfacial Fracture Phenomena in Ceramic Composite Directionally Solidified Eutectics with a Ductile Interphase. <i>Journal of the American Ceramic Society</i> , 2006, 89, 767-772.	1.9	3