

Xiao-Dong Wang

List of Publications by Year in descending order

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153
papers

3,887
citations

126907

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155660

55
g-index

154
all docs

154
docs citations

154
times ranked

2491
citing authors

#	ARTICLE	IF	CITATIONS
19	Synthesis and properties optimization of high-performance nanostructured metallic glass thin films. <i>Materials Today Nano</i> , 2021, 14, 100114.	4.6	4
20	Anisotropic and size-dependent mechanical responses of free-standing Ni-Nb metallic glass thin film. <i>Scripta Materialia</i> , 2021, 198, 113832.	5.2	4
21	Structural rejuvenation in a Zr-based bulk metallic glass via electropulsing treatment. <i>Applied Physics Letters</i> , 2021, 119, .	3.3	5
22	Tuning nanostructure and mechanical property of Fe-Co-Ni-Cr-Mn high-entropy alloy thin films by substrate temperature. <i>Materials Today Nano</i> , 2021, 15, 100130.	4.6	4
23	A dual-phase alloy with ultrahigh strength-ductility synergy over a wide temperature range. <i>Science Advances</i> , 2021, 7, .	10.3	61
24	A Self-Healing Anode for Li-Ion Batteries by Rational Interface Modification of Room-Temperature Liquid Metal. <i>ACS Applied Energy Materials</i> , 2021, 4, 12224-12231.	5.1	18
25	Ultra-strong nanostructured Co-Ni-V medium entropy alloy thin film designed by interface strengthening. <i>Thin Solid Films</i> , 2021, 734, 138866.	1.8	13
26	Tuning microstructure and enhancing mechanical properties of Co-Ni-V-Al medium entropy alloy thin films via deposition power. <i>Journal of Alloys and Compounds</i> , 2021, 875, 160003.	5.5	23
27	Fluence-dependent microstructure and nanomechanical property in Co-Ni-V medium entropy alloy thin films. <i>Scripta Materialia</i> , 2021, 203, 114050.	5.2	7
28	Unravelling the origin of in-cage vibrations in a La ₅₀ Al ₁₅ Ni ₃₅ metallic glass. <i>Materials Today Physics</i> , 2021, 21, 100515.	6.0	4
29	Shape memory effect in metallic glasses. <i>Matter</i> , 2021, 4, 3327-3338.	10.0	3
30	The relationship between viscosity and local structure in liquid zirconium via electromagnetic levitation and molecular dynamics simulations. <i>Journal of Molecular Liquids</i> , 2020, 298, 111992.	4.9	18
31	Tracing intermediate phases during crystallization in a Ni-Zr metallic glass. <i>Acta Materialia</i> , 2020, 186, 396-404.	7.9	8
32	Unraveling the origin of stress-dependent glass transition temperature in metallic glasses. <i>Journal of the Mechanics and Physics of Solids</i> , 2020, 137, 103853.	4.8	5
33	Atomic dynamics transition in a Cu-Zr-Al metallic glass. <i>Scripta Materialia</i> , 2020, 186, 268-271.	5.2	3
34	Different Thermal Responses of Local Structures in Pd ₄₃ Cu ₂₇ Ni ₁₀ Pd ₂₀ Alloy from Glass to Liquid. <i>Journal of Physical Chemistry C</i> , 2020, 124, 19817-19828.	3.1	5
35	Contribution of cryogenic thermal cycling to the atomic dynamics in a La-based bulk metallic glass with different initial states. <i>Journal of Applied Physics</i> , 2020, 127, .	2.5	4
36	Phase Selection, Lattice Distortions, and Mechanical Properties in High-Entropy Alloys. <i>Advanced Engineering Materials</i> , 2020, 22, 2000466.	3.5	59

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37	Tailoring nanostructured Ni-Nb metallic glassy thin films by substrate temperature. <i>Acta Materialia</i> , 2020, 194, 13-26.	7.9	28
38	Aging Behaviors in a La-Based Metallic Glass Revealed by Two-Time Correlation Functions. <i>Journal of Physical Chemistry C</i> , 2020, 124, 22753-22760.	3.1	2
39	Temperature-induced structural evolution in liquid Ag-Ga alloys. <i>Physical Review B</i> , 2020, 102, .	3.2	1
40	Structural evolution in liquid Galn eutectic alloy under high temperature and pressure. <i>Journal of Applied Physics</i> , 2019, 126, .	2.5	6
41	Structural evolution of low-temperature liquid Galn eutectic alloy. <i>Journal of Molecular Liquids</i> , 2019, 293, 111464.	4.9	7
42	Correlation of viscosity with atomic packing in Cu ₅₀ Zr ₅₀ melt. <i>Journal of Molecular Liquids</i> , 2019, 293, 111544.	4.9	10
43	Temperature Dependences of Peak Positions in Pair Distribution Function of Metallic Liquids. <i>Journal of Physical Chemistry B</i> , 2019, 123, 7055-7060.	2.6	7
44	Power-law Feature of Structure in Metallic Glasses. <i>Journal of Physical Chemistry C</i> , 2019, 123, 27868-27874.	3.1	4
45	Temperature- and Pressure-Induced Polyamorphic Transitions in AuCuSi Alloy. <i>Journal of Physical Chemistry C</i> , 2019, 123, 20342-20350.	3.1	8
46	Broadband Optical Absorber Based on Nanopatterned Metallic Glass Thin Films. <i>Journal of Physical Chemistry Letters</i> , 2019, 10, 6055-6060.	4.6	3
47	Temperature-Dependent Structural Evolution in Au ₄₄ Ga ₅₆ Liquid Eutectic Alloy. <i>Journal of Physical Chemistry C</i> , 2019, 123, 25209-25219.	3.1	10
48	Thickness dependent electrical resistivity in amorphous Mg-Zn-Ca thin films. <i>Thin Solid Films</i> , 2019, 672, 182-185.	1.8	2
49	Identifying surface structural changes in a newly-developed Ga-based alloy with melting temperature below 10 ³ Å°C. <i>Applied Surface Science</i> , 2019, 492, 143-149.	6.1	21
50	In-situ TEM study of oxygen-modulated crystallization pathway in Ni-Zr metallic glass. <i>Journal of Alloys and Compounds</i> , 2019, 800, 254-260.	5.5	4
51	Nanometer-scale phase separation in Al ₆₀ Ge ₃₀ Mn ₁₀ amorphous alloy. <i>Journal of Alloys and Compounds</i> , 2019, 802, 166-172.	5.5	3
52	Improved Tensile Ductility by Severe Plastic Deformation for Nano-Structured Metallic Glass. <i>Materials</i> , 2019, 12, 1611.	2.9	6
53	Intermediate structural state for maximizing the rejuvenation effect in metallic glass via thermo-cycling treatment. <i>Journal of Alloys and Compounds</i> , 2019, 795, 493-500.	5.5	34
54	Substrate temperature effect on growth behavior and microstructure-properties relationship in amorphous Ni Nb thin films. <i>Journal of Non-Crystalline Solids</i> , 2019, 510, 112-120.	3.1	14

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55	The effect of thickness and annealing treatment on microstructure and magnetic properties of amorphous Fe-Si-B-P-C thin films. <i>Journal of Non-Crystalline Solids</i> , 2019, 505, 52-61.	3.1	10
56	Temperature-induced structural evolution in liquid Sn ₈₅ Zn ₁₅ eutectic alloy. <i>Scripta Materialia</i> , 2018, 148, 68-72.	5.2	11
57	Thickness dependent structural evolution in Mg-Zn-Ca thin film metallic glasses. <i>Journal of Alloys and Compounds</i> , 2018, 742, 524-535.	5.5	19
58	Glass forming ability and bending plasticity evolutions in Zr-Co-Al bulk metallic glasses and their structural origin. <i>Journal of Non-Crystalline Solids</i> , 2018, 488, 52-62.	3.1	14
59	Anomalous deformation mode transition in amorphous Mg-Zn-Ca thin films. <i>Scripta Materialia</i> , 2018, 149, 139-143.	5.2	7
60	Structural connection between gallium crystals and near-T liquids under ambient pressure. <i>Scripta Materialia</i> , 2018, 143, 86-89.	5.2	4
61	Temperature dependent structural evolution in liquid Ag ₅₀ Ga ₅₀ alloy. <i>Journal of Physics Condensed Matter</i> , 2018, 30, 015402.	1.8	6
62	Pressure-induced structural change and nucleation in liquid aluminum. <i>Journal of Applied Physics</i> , 2018, 124, 225903.	2.5	2
63	Surface compressive and softening effect on deformation mode transition in Ni-Nb metallic glassy thin films: A molecular dynamics study. <i>Journal of Applied Physics</i> , 2018, 124, 205304.	2.5	1
64	Structure and dynamical properties of liquid Ni ₆₄ Zr ₃₆ and Ni ₆₅ Hf ₃₅ alloys: an ab initio molecular dynamics study. <i>Journal of Physics Condensed Matter</i> , 2018, 30, 365401.	1.8	2
65	Structural Signature of $\hat{\Gamma}^2$ -Relaxation in La-Based Metallic Glasses. <i>Journal of Physical Chemistry Letters</i> , 2018, 9, 4308-4313.	4.6	20
66	Temperature-dependent structure evolution in liquid gallium. <i>Acta Materialia</i> , 2017, 128, 304-312.	7.9	57
67	Structural evolution and dynamical properties of Al ₂ Ag and Al ₂ Cu liquids studied by experiments and ab initio molecular dynamics simulations. <i>Journal of Non-Crystalline Solids</i> , 2017, 459, 160-168.	3.1	11
68	Relationship of deformation mode with strain-dependent shear transformation zone size in Cu-Zr metallic glasses using molecular dynamics simulations. <i>Journal of Non-Crystalline Solids</i> , 2017, 469, 45-50.	3.1	9
69	Co content effect on elastic strain limit in ZrCuNiAlCo bulk metallic glasses. <i>Scripta Materialia</i> , 2017, 137, 94-99.	5.2	15
70	Pressure-induced structural change in liquid GaIn eutectic alloy. <i>Scientific Reports</i> , 2017, 7, 1139.	3.3	17
71	Structural evolution and atomic dynamics in Ni $\hat{\Gamma}$ -Nb metallic glasses: A molecular dynamics study. <i>Journal of Chemical Physics</i> , 2017, 147, 144503.	3.0	18
72	Perspective on Structural Evolution and Relations with Thermophysical Properties of Metallic Liquids. <i>Advanced Materials</i> , 2017, 29, 1703136.	21.0	11

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73	Structural evolution in liquid calcium under pressure. <i>Journal of Non-Crystalline Solids</i> , 2017, 472, 25-30.	3.1	3
74	Liquid-to-liquid crossover in the Galn eutectic alloy. <i>Physical Review B</i> , 2017, 95, .	3.2	21
75	Composition dependent relaxation in La-Al-Ni/Cu metallic glasses. <i>Journal of Alloys and Compounds</i> , 2017, 726, 1024-1029.	5.5	5
76	Structural signature in Au-based amorphous alloys. <i>Acta Materialia</i> , 2017, 140, 31-38.	7.9	7
77	Size effect on atomic structure in low-dimensional Cu-Zr amorphous systems. <i>Scientific Reports</i> , 2017, 7, 7291.	3.3	11
78	Structural stability of high entropy alloys under pressure and temperature. <i>Journal of Applied Physics</i> , 2017, 121, .	2.5	44
79	Composition- and temperature-dependent liquid structures in Al-Cu alloys: an <i>ab initio</i> molecular dynamics and x-ray diffraction study. <i>Journal of Physics Condensed Matter</i> , 2017, 29, 035101.	1.8	13
80	Correlation Between Local Structure and Boson Peak in Metallic Glasses. <i>Journal of Low Temperature Physics</i> , 2017, 186, 172-181.	1.4	6
81	Non-localized deformation in Cu Zr multi-layer amorphous films under tension. <i>Journal of Alloys and Compounds</i> , 2016, 678, 410-420.	5.5	35
82	Structure alterations in Al-Y-based metallic glasses with La and Ni addition. <i>Journal of Applied Physics</i> , 2016, 119, .	2.5	8
83	Breakdown of intermediate range order in AsSe chalcogenide glass. <i>Journal of Applied Physics</i> , 2016, 120, 145901.	2.5	6
84	Reversible devitrification in amorphous As ₂ Se ₃ under pressure. <i>Physical Review B</i> , 2016, 94, .	3.2	4
85	Deformation behavior of metallic glasses with shear band like atomic structure: a molecular dynamics study. <i>Scientific Reports</i> , 2016, 6, 30935.	3.3	33
86	On the critical thickness for non-localized to localized plastic flow transition in metallic glasses: A molecular dynamics study. <i>Scripta Materialia</i> , 2016, 114, 93-97.	5.2	48
87	Atomic packing in Fe-based metallic glasses. <i>Acta Materialia</i> , 2016, 102, 116-124.	7.9	76
88	Properties of Tunability and Stored Energy Density in the Ferroelectric Multilayers. <i>Ferroelectrics</i> , 2015, 488, 112-118.	0.6	0
89	Effects of substrate temperature on structure, thermal stability and mechanical property of a Zr-based metallic glass thin film. <i>Thin Solid Films</i> , 2015, 595, 17-24.	1.8	19
90	Enhanced plasticity in Zr-Cu-Ag-Al-Be bulk metallic glasses. <i>Journal of Non-Crystalline Solids</i> , 2015, 412, 35-44.	3.1	17

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91	Evolution of atomic structure in Al ₇₅ Cu ₂₅ liquid from experimental and <i>ab initio</i> molecular dynamics simulation studies. Journal of Physics Condensed Matter, 2015, 27, 035102.	1.8	10
92	Atomic picture of elastic deformation in a metallic glass. Scientific Reports, 2015, 5, 9184.	3.3	22
93	The size-dependent non-localized deformation in a metallic alloy. Scripta Materialia, 2015, 101, 48-51.	5.2	50
94	Structural and dynamical properties of liquid Ag ₇₄ Ge ₂₆ alloy studied by experiments and <i>ab initio</i> molecular dynamics simulation. Acta Materialia, 2015, 92, 109-116.	7.9	31
95	Phase selection during solidification of liquid magnesium via <i>ab initio</i> molecular dynamics simulations. Journal of Applied Physics, 2015, 117, 114905.	2.5	12
96	Role of string-like collective atomic motion on diffusion and structural relaxation in glass forming Cu-Zr alloys. Journal of Chemical Physics, 2015, 142, 164506.	3.0	97
97	Free-volume dependent atomic dynamics in beta relaxation pronounced La-based metallic glasses. Acta Materialia, 2015, 99, 290-296.	7.9	39
98	Modification of eutectic Si in Al-Si alloys with Eu addition. Acta Materialia, 2015, 84, 153-163.	7.9	166
99	Thermal behaviors of liquid La-based bulk metallic glasses. Journal of Applied Physics, 2014, 116, .	2.5	4
100	Effects of spin orbital coupling on atomic and electronic structures in Al ₂ Cu and Al ₂ Au crystal and liquid phases via <i>ab initio</i> molecular dynamics simulations. Journal of Alloys and Compounds, 2014, 613, 55-61.	5.5	7
101	Evolution of local atomic structure during solidification of Al ₂ Au liquid: An <i>ab initio</i> study. Acta Materialia, 2014, 68, 1-8.	7.9	34
102	The crystallization process of liquid vanadium studied by <i>ab initio</i> molecular dynamics. Journal of Physics Condensed Matter, 2014, 26, 155101.	1.8	12
103	The influence of glass transition temperature on the critical size for deformation mode transition in metallic glassy films. Scripta Materialia, 2014, 77, 64-67.	5.2	17
104	Atomic structure evolution during solidification of liquid niobium from <i>ab initio</i> molecular dynamics simulations. Journal of Physics Condensed Matter, 2014, 26, 055004.	1.8	16
105	Temperature dependence of electronic transport property in ferroelectric polymer films. Applied Surface Science, 2014, 316, 497-500.	6.1	7
106	Non-localized deformation in metallic alloys with amorphous structure. Acta Materialia, 2014, 68, 32-41.	7.9	62
107	Nucleation driven by orientational order in supercooled niobium as seen via <i>ab initio</i> molecular dynamics. Physical Review B, 2014, 89, .	3.2	23
108	Atomic structure of Pd ₈₁ Si ₁₉ glassy alloy under high pressure. Acta Materialia, 2014, 81, 420-427.	7.9	33

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109	Synthesis and magnetic properties of amorphous Fe ₄₀ B thin films. Journal of Alloys and Compounds, 2014, 606, 196-203.	5.5	7
110	Annealing effect on beta-relaxation in a La-based bulk metallic glass. Journal of Non-Crystalline Solids, 2014, 383, 97-101.	3.1	14
111	Interfacial Free Energy Controlling Glass-Forming Ability of Cu-Zr Alloys. Scientific Reports, 2014, 4, 5167.	3.3	33
112	Decoupling of pronounced beta and alpha relaxations and related mechanical property change. Journal of Alloys and Compounds, 2013, 577, 257-260.	5.5	18
113	A heterostructured Ag@In ₂ S ₃ composite with enhanced lithium storage capacity. Journal of Materials Chemistry A, 2013, 1, 5208.	10.3	13
114	Structural evolution in bulk metallic glass under high-temperature tension. Applied Physics Letters, 2013, 102, 051909.	3.3	5
115	Pressure-induced amorphous-to-amorphous reversible transformation in Pr ₇₅ Al ₂₅ . Journal of Applied Physics, 2013, 114, 213516.	2.5	14
116	Negative expansions of interatomic distances in metallic melts. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 10068-10072.	7.1	115
117	Super elastic strain limit in metallic glass films. Scientific Reports, 2012, 2, 852.	3.3	68
118	Electro-optical characteristics for AlGaIn solar-blind p-i-n photodiode: Experiment and simulation. , 2012, , .		2
119	Pressure-induced amorphous-to-amorphous configuration change in Ca-Al metallic glasses. Scientific Reports, 2012, 2, 376.	3.3	47
120	Cu ₄₀ Zr ₄₀ Al ₁₀ Ti Bulk Metallic Glass with Enhanced Glass-Forming Ability, Mechanical Properties, Corrosion Resistance and Biocompatibility. Advanced Engineering Materials, 2012, 14, 195-199.	3.5	11
121	Effect of structural relaxation on plastic flow in a Ni ₄₀ Nb metallic glassy film. Acta Materialia, 2012, 60, 3667-3676.	7.9	34
122	The pitting corrosion behavior of shear bands in a Zr-based bulk metallic glass. Scripta Materialia, 2012, 67, 376-379.	5.2	26
123	Electro-optical characteristics of separate absorption and multiplication GaN avalanche photodiode. , 2011, , .		1
124	The effect of oxidation on the corrosion resistance and mechanical properties of a Zr-based metallic glass. Corrosion Science, 2011, 53, 3557-3565.	6.6	42
125	Atomic-level structural modifications induced by severe plastic shear deformation in bulk metallic glasses. Scripta Materialia, 2011, 64, 81-84.	5.2	95
126	Photoresponse study of visible blind GaN/AlGaIn p-i-n ultraviolet photodetector. Optical and Quantum Electronics, 2011, 42, 755-764.	3.3	36

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127	A plastic Zr-Cu-Ag-Al bulk metallic glass. <i>Acta Materialia</i> , 2011, 59, 1037-1047.	7.9	55
128	Heterogeneities in CuZr-based bulk metallic glasses studied by x-ray scattering. <i>Journal of Physics Condensed Matter</i> , 2011, 23, 075402.	1.8	15
129	Thermal expansion of a La-based bulk metallic glass: insight from <i>in situ</i> high-energy x-ray diffraction. <i>Journal of Physics Condensed Matter</i> , 2011, 23, 254204.	1.8	32
130	Atomic packing in Mg ₆₁ Cu ₂₈ Gd ₁₁ bulk metallic glass. <i>Applied Physics Letters</i> , 2011, 98, 031901.	3.3	9
131	73 mm-diameter bulk metallic glass rod by copper mould casting. <i>Applied Physics Letters</i> , 2011, 99, .	3.3	84
132	Structures at Glassy, Supercooled Liquid, and Liquid States in La-Based Bulk Metallic Glasses. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2010, 41, 1634-1639.	2.2	17
133	Tensile behavior of orthorhombic β -titanium alloy studied by <i>in situ</i> X-ray diffraction. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2010, 527, 6596-6600.	5.6	19
134	Effect of pre-existing shear bands on the tensile mechanical properties of a bulk metallic glass. <i>Acta Materialia</i> , 2010, 58, 1276-1292.	7.9	117
135	Shear band evolution and hardness change in cold-rolled bulk metallic glasses. <i>Acta Materialia</i> , 2010, 58, 4827-4840.	7.9	95
136	Low-density to high-density transition in Ce ₇₅ Al ₂₃ Si ₂ metallic glass. <i>Journal of Physics Condensed Matter</i> , 2010, 22, 375404.	1.8	29
137	Homogeneity of the superplastic Zr _{64.13} Cu _{15.75} Ni _{10.12} Al ₁₀ bulk metallic glass. <i>Journal of Materials Research</i> , 2009, 24, 3116-3120.	2.6	11
138	Are there two glass transitions in Fe-M-Y-B (M = Mo, W, Nb) bulk metallic glasses?. <i>Scripta Materialia</i> , 2009, 60, 152-155.	5.2	39
139	Mechanical properties of monolithic Zr ₆₂ Al ₈ Ni ₁₃ Cu ₁₇ bulk metallic glass. <i>Journal of Alloys and Compounds</i> , 2009, 483, 132-135.	5.5	6
140	Origin of high glass forming ability of Y-containing FeB-based alloys. <i>Journal of Alloys and Compounds</i> , 2009, 485, L35-L38.	5.5	15
141	Local strain behavior of bulk metallic glasses under tension studied by <i>in situ</i> x-ray diffraction. <i>Applied Physics Letters</i> , 2009, 94, 011911.	3.3	24
142	Dark current simulation of InP/In _{0.53} Ga _{0.47} As/InP p-i-n photodiode. <i>Optical and Quantum Electronics</i> , 2008, 40, 1261-1266.	3.3	29
143	Zr-Cu-Ag-Al bulk metallic glasses. <i>Acta Materialia</i> , 2008, 56, 1785-1796.	7.9	239
144	Formation of bulk metallic glasses in the Fe-M-Y-B (M = transition metal) system. <i>Journal of Alloys and Compounds</i> , 2008, 460, 708-713.	5.5	43

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145	Atomic structure of binary Cu _{64.5} Zr _{35.5} bulk metallic glass. Applied Physics Letters, 2008, 92, 011902.	3.3	97
146	Atomic structure and glass forming ability of Cu ₄₆ Zr ₄₆ Al ₈ bulk metallic glass. Journal of Applied Physics, 2008, 104, .	2.5	50
147	New Class of Plastic Bulk Metallic Glass. Physical Review Letters, 2008, 100, 075501.	7.8	182
148	Tensile behavior of bulk metallic glasses by <i>in situ</i> x-ray diffraction. Applied Physics Letters, 2007, 91, .	3.3	42
149	Reversible structural relaxation and crystallization of Zr ₆₂ Al ₈ Ni ₁₃ Cu ₁₇ bulk metallic glass. Journal of Non-Crystalline Solids, 2007, 353, 4157-4161.	3.1	21
150	La-based bulk metallic glasses with critical diameter up to 30mm. Acta Materialia, 2007, 55, 4409-4418.	7.9	112
151	Atomic structure in Zr ₇₀ Ni ₃₀ metallic glass. Journal of Applied Physics, 2007, 102, .	2.5	43
152	Crystallization behavior of preannealed bulk amorphous alloy Zr ₆₂ Al ₈ Ni ₁₃ Cu ₁₇ . Materials Letters, 2006, 60, 935-938.	2.6	20
153	High-quality GaNAs/GaAs quantum wells with light emission up to 1.44 μ m grown by molecular-beam epitaxy. Applied Physics Letters, 2005, 87, 141913.	3.3	12