

Shuqi Zheng

List of Publications by Year in descending order

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92
papers

2,768
citations

147566

31
h-index

197535

49
g-index

92
all docs

92
docs citations

92
times ranked

2246
citing authors

#	ARTICLE	IF	CITATIONS
1	Mechanism of (Mg,Al,Ca)-oxide inclusion-induced pitting corrosion in 316L stainless steel exposed to sulphur environments containing chloride ion. <i>Corrosion Science</i> , 2013, 67, 20-31.	3.0	192
2	Simultaneous optimization of electrical and thermal transport properties of Bi _{0.5} Sb _{1.5} Te ₃ thermoelectric alloy by twin boundary engineering. <i>Nano Energy</i> , 2017, 37, 203-213.	8.2	164
3	Review of recent progress in the study of corrosion products of steels in a hydrogen sulphide environment. <i>Corrosion Science</i> , 2018, 139, 124-140.	3.0	119
4	Initiation and developmental stages of steel corrosion in wet H ₂ S environments. <i>Corrosion Science</i> , 2015, 93, 109-119.	3.0	116
5	The effect of the partial pressure of H ₂ S on the permeation of hydrogen in low carbon pipeline steel. <i>Corrosion Science</i> , 2013, 67, 184-192.	3.0	106
6	Computational prediction of high thermoelectric performance in p-type half-Heusler compounds with low band effective mass. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 4411-4417.	1.3	88
7	Synthesizing SnTe nanocrystals leading to thermoelectric performance enhancement via an ultra-fast microwave hydrothermal method. <i>Nano Energy</i> , 2016, 28, 78-86.	8.2	79
8	Investigations of the diverse corrosion products on steel in a hydrogen sulfide environment. <i>Corrosion Science</i> , 2014, 87, 397-406.	3.0	76
9	Controlled synthesis of tellurium nanowires and nanotubes via a facile, efficient, and relatively green solution phase method. <i>Journal of Materials Chemistry A</i> , 2013, 1, 15046.	5.2	55
10	Computational prediction of a high $\langle i \rangle ZT \langle /i \rangle$ of n-type Mg ₃ Sb ₂ -based compounds with isotropic thermoelectric conduction performance. <i>Physical Chemistry Chemical Physics</i> , 2018, 20, 7686-7693.	1.3	55
11	The non-linear fitting method to analyze the measured M [∞] S plots of bipolar passive films. <i>Electrochimica Acta</i> , 2010, 55, 2498-2504.	2.6	53
12	Effects of environmental conditions on hydrogen permeation of X52 pipeline steel exposed to high H ₂ S-containing solutions. <i>Corrosion Science</i> , 2014, 89, 30-37.	3.0	53
13	Thermoelectric Performance of Se/Cd Codoped SnTe via Microwave Solvothermal Method. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 22612-22619.	4.0	51
14	Electrochemical characteristics of the early corrosion stages of API X52 steel exposed to H ₂ S environments. <i>Materials Chemistry and Physics</i> , 2015, 149-150, 295-301.	2.0	50
15	Effect of hydrogen and inclusions on the tensile properties and fracture behaviour of A350LF2 steels after exposure to wet H ₂ S environments. <i>Corrosion Science</i> , 2012, 60, 59-68.	3.0	49
16	Influence of H ₂ S interaction with prestrain on the mechanical properties of high-strength X80 steel. <i>International Journal of Hydrogen Energy</i> , 2016, 41, 10412-10420.	3.8	46
17	Point defect engineering and machinability in n-type Mg ₃ Sb ₂ -based materials. <i>Materials Today Physics</i> , 2020, 15, 100269.	2.9	46
18	Self-assembled 3D flower-like hierarchical Ti-doped Cu ₃ SbSe ₄ microspheres with ultralow thermal conductivity and high zT. <i>Nano Energy</i> , 2018, 49, 221-229.	8.2	45

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19	The manipulation of substitutional defects for realizing high thermoelectric performance in Mg ₃ Sb ₂ -based Zintl compounds. <i>Journal of Materials Chemistry A</i> , 2019, 7, 19316-19323.	5.2	45
20	Cu/Sb Codoping for Tuning Carrier Concentration and Thermoelectric Performance of GeTe-Based Alloys with Ultralow Lattice Thermal Conductivity. <i>ACS Applied Energy Materials</i> , 2019, 2, 2596-2603.	2.5	45
21	Influence of hydrogen pressure on fatigue properties of X80 pipeline steel. <i>International Journal of Hydrogen Energy</i> , 2017, 42, 15669-15678.	3.8	44
22	Effect of immersion time on the hydrogen content and tensile properties of A350LF2 steel exposed to hydrogen sulphide environments. <i>Corrosion Science</i> , 2013, 69, 164-174.	3.0	43
23	An efficient precursor to synthesize various FeS ₂ nanostructures via a simple hydrothermal synthesis method. <i>CrystEngComm</i> , 2016, 18, 6262-6271.	1.3	43
24	Effect of H ₂ /CO ₂ partial pressure ratio on the tensile properties of X80 pipeline steel. <i>International Journal of Hydrogen Energy</i> , 2015, 40, 11925-11930.	3.8	42
25	Electronic structure and thermoelectric properties of p-type half-Heusler compound NbFeSb: a first-principles study. <i>RSC Advances</i> , 2016, 6, 10507-10512.	1.7	42
26	Investigation of the Iron-Sulfide Phase Transformation in Nanoscale. <i>Crystal Growth and Design</i> , 2014, 14, 4295-4302.	1.4	36
27	Synergistic modulation of power factor and thermal conductivity in Cu ₃ SbSe ₄ towards high thermoelectric performance. <i>Nano Energy</i> , 2020, 71, 104658.	8.2	36
28	Synthesis of Calcium Hexaboride Powder via the Reaction of Calcium Carbonate with Boron Carbide and Carbon. <i>Journal of the American Ceramic Society</i> , 2001, 84, 2725-2727.	1.9	35
29	Synergistic action of hydrogen and stress concentration on the fatigue properties of X80 pipeline steel. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2017, 700, 321-330.	2.6	35
30	Dependence of the abnormal protective property on the corrosion product film formed on H ₂ S-adjacent API-X52 pipeline steel. <i>International Journal of Hydrogen Energy</i> , 2014, 39, 13919-13925.	3.8	34
31	Investigating the influence mechanism of hydrogen partial pressure on fracture toughness and fatigue life by in-situ hydrogen permeation. <i>International Journal of Hydrogen Energy</i> , 2021, 46, 20621-20629.	3.8	34
32	Designing high-performance n-type Mg ₃ Sb ₂ -based thermoelectric materials through forming solid solutions and biaxial strain. <i>Journal of Materials Chemistry A</i> , 2018, 6, 20454-20462.	5.2	32
33	Effect of Amorphous FeS Semiconductor on the Corrosion Behavior of Pipe Steel in H ₂ S-Containing Environments. <i>Industrial & Engineering Chemistry Research</i> , 2016, 55, 10932-10940.	1.8	30
34	Tensile and impact properties of X70 pipeline steel exposed to wet H ₂ S environments. <i>International Journal of Hydrogen Energy</i> , 2015, 40, 11514-11521.	3.8	29
35	Synergistically improving thermoelectric and mechanical properties of Ge _{0.94} Bi _{0.06} Te through dispersing nano-SiC. <i>Scripta Materialia</i> , 2020, 183, 22-27.	2.6	29
36	Comparison of tensile and impact behavior of carbon steel in H ₂ S environments. <i>Materials & Design</i> , 2014, 58, 234-241.	5.1	28

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37	First-principles calculations of the structural, elastic and thermodynamic properties of mackinawite (FeS) and pyrite (FeS ₂). <i>Physica B: Condensed Matter</i> , 2017, 525, 119-126.	1.3	28
38	Adsorption and dissociation mechanism of hydrogen sulfide on layered FeS surfaces: A dispersion-corrected DFT study. <i>Applied Surface Science</i> , 2021, 537, 147905.	3.1	28
39	Synergistic action of hydrogen gas and weld defects on fracture toughness of X80 pipeline steel. <i>International Journal of Fatigue</i> , 2019, 120, 23-32.	2.8	27
40	Effect of vacancy on adsorption/dissociation and diffusion of H ₂ S on Fe(110) surfaces: A density functional theory study. <i>Applied Surface Science</i> , 2019, 465, 833-845.	3.1	27
41	Synergistic band convergence and defect engineering boost thermoelectric performance of SnTe. <i>Journal of Materials Science and Technology</i> , 2021, 86, 204-209.	5.6	27
42	Microwave-assisted synthesis of pyrite FeS ₂ microspheres with strong absorption performance. <i>RSC Advances</i> , 2015, 5, 65575-65582.	1.7	25
43	Defect Chemistry for N-Type Doping of Mg ₃ Sb ₂ -Based Thermoelectric Materials. <i>Journal of Physical Chemistry C</i> , 2019, 123, 20781-20788.	1.5	23
44	Band Engineering for Realizing Large Effective Mass in Cu ₃ SbSe ₄ by Sn/La Codoping. <i>Journal of Physical Chemistry C</i> , 2020, 124, 10336-10343.	1.5	22
45	Vapor-deposited iron sulfide films as a novel hydrogen permeation barrier for steel: Deposition condition, defect effect, and hydrogen diffusion mechanism. <i>International Journal of Hydrogen Energy</i> , 2018, 43, 15564-15574.	3.8	21
46	First-principles study of hydrogen diffusion mechanism in Cr ₂ O ₃ . <i>Science China Technological Sciences</i> , 2011, 54, 88-94.	2.0	20
47	Validity of Rigid-Band Approximation in the Study of Thermoelectric Properties of p-Type FeNbSb-Based Half-Heusler Compounds. <i>Journal of Electronic Materials</i> , 2017, 46, 3030-3035.	1.0	20
48	Hierarchical Structuring to Break the Amorphous Limit of Lattice Thermal Conductivity in High-Performance SnTe-Based Thermoelectrics. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 36370-36379.	4.0	20
49	Enhancing thermoelectric performance through one-pot solution phase synthesis of Bi ₂ S ₃ nanobundles. <i>Materials Letters</i> , 2016, 185, 67-71.	1.3	19
50	Single-crystalline Bi ₂ Te ₃ nanosheets with uniform morphology via a simple, efficient, and high-yield microwave-assisted synthesis. <i>Journal of Crystal Growth</i> , 2014, 406, 104-110.	0.7	18
51	Band Engineering and Thermoelectric Performance Optimization of p-Type GeTe-Based Alloys through Ti/Sb Co-Doping. <i>Journal of Physical Chemistry C</i> , 2020, 124, 5583-5590.	1.5	16
52	Icosahedral phase in rapidly solidified Al-Fe-Ce alloy. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2002, 323, 226-231.	2.6	15
53	Improvement of thermoelectric properties of Cu ₃ SbSe ₄ hierarchical with in-situ second phase synthesized by microwave-assisted solvothermal method. <i>Journal of Alloys and Compounds</i> , 2019, 806, 676-682.	2.8	15
54	Computational prediction of high thermoelectric performance in p-type CuGaTe ₂ with a first-principles study. <i>Computational Materials Science</i> , 2019, 158, 369-375.	1.4	15

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55	Interdiffusion at Si/SiGe interface analyzed by high-resolution X-ray diffraction. <i>Thin Solid Films</i> , 2006, 508, 156-159.	0.8	12
56	Effect of H ₂ S partial pressure on the tensile properties of A350LF2 steel in the absence and presence of pre-immersion. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2014, 609, 161-167.	2.6	12
57	Rational design and controlled synthesis of Te/Bi ₂ Te ₃ heterostructure nanostring composites. <i>Journal of Crystal Growth</i> , 2015, 421, 13-18.	0.7	12
58	Effects of shot peening on tensile properties and fatigue behavior of X80 pipeline steel in hydrogen environment. <i>International Journal of Fatigue</i> , 2019, 129, 105235.	2.8	12
59	Enhanced thermoelectric performance of In and Se co-doped GeTe compounds. <i>Journal of Materials Research and Technology</i> , 2020, 9, 4106-4113.	2.6	12
60	Rational design, high-yield synthesis, and low thermal conductivity of Te/Bi ₂ Te ₃ core/shell heterostructure nanotube composites. <i>Journal of Alloys and Compounds</i> , 2014, 617, 247-252.	2.8	11
61	Effect of H ₂ /CO ₂ partial pressure ratio on the tensile properties of X80 pipeline steel in the absence and presence of water. <i>International Journal of Hydrogen Energy</i> , 2015, 40, 11917-11924.	3.8	11
62	Ab initio molecular dynamics study of wet H ₂ S adsorption and dissociation on Fe(100) surface. <i>Journal of Molecular Liquids</i> , 2020, 319, 114135.	2.3	11
63	High-Yield Synthesis, Controllable Evolution, and Thermoelectric Properties of Te/Bi ₂ Te ₃ Heterostructure Nanostrings. <i>Journal of Electronic Materials</i> , 2015, 44, 2061-2067.	1.0	10
64	P-type doping of transition metal elements to optimize the thermoelectric properties of CuGaTe ₂ . <i>Chemical Engineering Journal</i> , 2022, 427, 131807.	6.6	10
65	Influence of effective strain on the corrosion behavior of nickel-based GH4710 superalloy in chloride solutions. <i>Corrosion Science</i> , 2022, 204, 110386.	3.0	10
66	Reaction synthesis and formation mechanism of barium hexaboride. <i>Materials Letters</i> , 2003, 57, 1330-1333.	1.3	9
67	Enhanced Electronic Transport Properties of Se-Doped SnTe _{1-x} Se _x Nanoparticles by Microwave-Assisted Solvothermal Method. <i>Journal of Electronic Materials</i> , 2017, 46, 2847-2853.	1.0	9
68	Hydrogen-Assisted Crack Growth in the Heat-Affected Zone of X80 Steels during in Situ Hydrogen Charging. <i>Materials</i> , 2019, 12, 2575.	1.3	9
69	Realizing ultralow thermal conductivity in Cu ₃ SbSe ₄ via all-scale phonon scattering by co-constructing multiscale heterostructure and IIIb element doping. <i>Materials Today Energy</i> , 2021, 19, 100620.	2.5	9
70	Defect engineering synergistically modulates power factor and thermal conductivity of CuGaTe ₂ for ultra-high thermoelectric performance. <i>Journal of Materials Science and Technology</i> , 2022, 128, 213-220.	5.6	9
71	Sn Doped FeNbSb Half-Heusler Compounds for Tuning Thermoelectric Performance. <i>Journal of Electronic Materials</i> , 2020, 49, 2862-2871.	1.0	8
72	Realizing High Thermoelectric Performance in the ZnTe-Alloyed CuGaTe ₂ through Band Engineering. <i>ACS Applied Energy Materials</i> , 2020, 3, 12400-12406.	2.5	8

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73	The effects of double notches on the mechanical properties of a high-strength pipeline steel under hydrogen atmosphere. <i>International Journal of Hydrogen Energy</i> , 2020, 45, 23134-23141.	3.8	8
74	Effects of solution cooling rate on the grain boundary and mechanical properties of GH4710 alloy. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2022, 832, 142459.	2.6	8
75	The structural deformations in the Si/SiGe system induced by thermal annealing. <i>Journal of Materials Science</i> , 2007, 42, 5312-5317.	1.7	7
76	A novel antiferromagnetic semiconductor hidden in pyrite. <i>Computational Materials Science</i> , 2020, 183, 109852.	1.4	7
77	Achieving high thermoelectric performance through carrier concentration optimization and energy filtering in Cu ₃ SbSe ₄ -based materials. <i>Journal of Materiomics</i> , 2022, 8, 929-936.	2.8	7
78	Crowding-out effect strategy using AgCl for realizing a super low lattice thermal conductivity of SnTe. <i>Sustainable Materials and Technologies</i> , 2020, 25, e00183.	1.7	6
79	Exploring the Evolution Mechanism of Sulfur Vacancies by Investigating the Role of Vacancy Defects in the Interaction between H ₂ S and the FeS(001) Surface. <i>ACS Omega</i> , 2021, 6, 19212-19221.	1.6	6
80	The dependence of anti-corrosion behaviors of iron sulfide films on different reactants. <i>International Journal of Hydrogen Energy</i> , 2020, 45, 17548-17556.	3.8	6
81	Corrosion Electrochemical Characteristics of the Passive Films Formed on Inconel 718 Alloy in the Environments Containing High H ₂ S and CO ₂ Partial Pressures. <i>Nanoscience and Nanotechnology Letters</i> , 2011, 3, 204-208.	0.4	5
82	Roles of carbon dioxide and steam on the hydrogen embrittlement of 3Cr tube steel in synthetic natural gas environment. <i>Corrosion Engineering Science and Technology</i> , 2018, 53, 1-10.	0.7	5
83	Effect of Impurity Atoms on the Adsorption/Dissociation of Hydrogen Sulfide and Hydrogen Diffusion on the Fe(100) Surface. <i>ACS Omega</i> , 2021, 6, 14701-14712.	1.6	5
84	Slab model studies of H ₂ S adsorption/dissociation and diffusion on pristine FeS(001) surfaces and FeS(001) surfaces with pre-adsorbed X atoms (X = H, O, and S). <i>Journal of Materials Research and Technology</i> , 2022, 18, 1124-1136.	2.6	5
85	Synergistically improving the thermoelectric and mechanical performance for p-type MnGe _{1-x} Sb _x Te ₂ alloys. <i>Physical Chemistry Chemical Physics</i> , 2022, 24, 9247-9255.	1.3	4
86	Enhanced thermoelectric performance in n-type Mg ₃ Sb _{1.5} Bi _{0.5} doping with lanthanides at the Mg site. <i>Journal of Materials Science and Technology</i> , 2022, 127, 108-114.	5.6	3
87	Significantly enhanced thermoelectric figure of merit of n-type Mg ₃ Sb ₂ -based Zintl phase compounds via co-doped of Mg and Sb site. <i>Materials Today Physics</i> , 2022, 26, 100721.	2.9	3
88	Investigation of the degradation of smooth SiGe epitaxial layer on Si substrate. <i>Microelectronics Journal</i> , 2008, 39, 53-56.	1.1	2
89	New insights of the interaction of H ₂ S with mackinawite FeS in a wet environment: An ab initio molecular dynamics study. <i>International Journal of Hydrogen Energy</i> , 2021, , .	3.8	2
90	Decoupling of thermoelectric transport performance of Ag doped and Se alloyed tellurium induced by carrier mobility compensation. <i>Journal of Materials Science and Technology</i> , 2022, 101, 71-79.	5.6	2

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91	Investigation of Hydrogen Embrittlement Susceptibility of X80 Weld Joints by Thermal Simulation. Journal of Materials Engineering and Performance, 2018, 27, 2513-2523.	1.2	1
92	Theoretical Study on Thermoelectric Performance of N-type Mg ₃ (Sb,Bi) ₂ Single Crystal for Cooling or Power Generation. Advanced Theory and Simulations, 0, , 2200049.	1.3	1