Nitin P Padture

List of Publications by Year
in descending order

250 papers	26,788 citations	4960 84 h-index	6471 157 g-index
256 all docs	256 docs citations	256 times ranked	16662 citing authors

#	Article	IF	Citations
1	Thermal Barrier Coatings for Gas-Turbine Engine Applications. Science, 2002, 296, 280-284.	12.6	3,626
2	Advanced structural ceramics in aerospace propulsion. Nature Materials, 2016, 15, 804-809.	27.5	1,134
3	Thermal-barrier coatings for more efficient gas-turbine engines. MRS Bulletin, 2012, 37, 891-898.	3.5	1,079
4	Lowâ€Thermalâ€Conductivity Rareâ€Earth Zirconates for Potential Thermalâ€Barrierâ€Coating Applications. Journal of the American Ceramic Society, 2002, 85, 3031-3035.	3.8	576
5	In Situ-Toughened Silicon Carbide. Journal of the American Ceramic Society, 1994, 77, 519-523.	3.8	466
6	Synthetic Approaches for Halide Perovskite Thin Films. Chemical Reviews, 2019, 119, 3193-3295.	47.7	454
7	Highly stable and efficient all-inorganic lead-free perovskite solar cells with native-oxide passivation. Nature Communications, 2019, 10, 16.	12.8	430
8	Direct Observation of Ferroelectric Domains in Solution-Processed CH₃NH₃PbI₃ Perovskite Thin Films. Journal of Physical Chemistry Letters, 2014, 5, 3335-3339.	4.6	411
9	Cesium Titanium(IV) Bromide Thin Films Based Stable Lead-free Perovskite Solar Cells. Joule, 2018, 2, 558-570.	24.0	403
10	Room-temperature crystallization of hybrid-perovskite thin films via solventâ€“solvent extraction for high-performance solar cells. Journal of Materials Chemistry A, 2015, 3, 8178-8184.	10.3	385
11	Methylamineâ€Gasâ€Induced Defectâ€Healing Behavior of CH₃NH₃PbI₃ Thin Films for Perovskite Solar Cells. Angewandte Chemie - International Edition, 2015, 54, 9705-9709.	13.8	377
12	Contact-damage-resistant ceramic/single-wall carbon nanotubes and ceramic/graphite composites. Nature Materials, 2004, 3, 539-544.	27.5	369
13	Failure modes in plasma-sprayed thermal barrier coatings. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2003, 342, 120-130.	5.6	348
14	Microstructures of Organometal Trihalide Perovskites for Solar Cells: Their Evolution from Solutions and Characterization. Journal of Physical Chemistry Letters, 2015, 6, 4827-4839.	4.6	344
15	Low-Thermal-Conductivity Rare-Earth Zirconates for Potential Thermal-Barrier-Coating Applications.. ChemInform, 2003, 34, no.	0.0	334
16	Earth-Abundant Nontoxic Titanium(IV)-based Vacancy-Ordered Double Perovskite Halides with Tunable 1.0 to 1.8 eV Bandgaps for Photovoltaic Applications. ACS Energy Letters, 2018, 3, 297-304.	17.4	314
17	Interfacial toughening with self-assembled monolayers enhances perovskite solar cell reliability. Science, 2021, 372, 618-622.	12.6	313
18	Squareâ€Centimeter Solutionâ€Processed Planar CH₃NH₃PbI₃ Perovskite Solar Cells with Efficiency Exceeding 15%. Advanced Materials, 2015, 27, 6363-6370.	21.0	311

#	Article	IF	Citations
19	Making Ceramics "Ductile". Science, 1994, 263, 1114-1116.	12.6	308
20	Chronic Fine Particulate Matter Exposure Induces Systemic Vascular Dysfunction via NADPH Oxidase and TLR4 Pathways. Circulation Research, 2011, 108, 716-726.	4.5	275
21	Toughness Properties of a Silicon Carbide with an in Situ Induced Heterogeneous Grain Structure. Journal of the American Ceramic Society, 1994, 77, 2518-2522.	3.8	254
22	Novel thermal barrier coatings that are resistant to high-temperature attack by glassy deposits. Acta Materialia, 2007, 55, 6734-6745.	7.9	253
23	Heterojunctionâ€Depleted Leadâ€Free Perovskite Solar Cells with Coarseâ€Grained Bâ€Î³â€CsSnI₃ Thin Films. Advanced Energy Materials, 2016, 6, 1601130.	19.5	247
24	Effect of Grain Size on Hertzian Contact Damage in Alumina. Journal of the American Ceramic Society, 1994, 77, 1825-1831.	3.8	230
25	Towards durable thermal barrier coatings with novelmicrostructures deposited by solution-precursor plasma spray. Acta Materialia, 2001, 49, 2251-2257.	7.9	230
26	Toward Eco-friendly and Stable Perovskite Materials for Photovoltaics. Joule, 2018, 2, 1231-1241.	24.0	224
27	Composition effects of thermal barrier coating ceramics on their interaction with molten Caâ€"Mgâ€"Alâ€"silicate (CMAS) glass. Acta Materialia, 2012, 60, 5437-5447.	7.9	208
28	Carrier separation and transport in perovskite solar cells studied by nanometre-scale profiling of electrical potential. Nature Communications, 2015, 6, 8397.	12.8	205
29	Jet Engine Coatings for Resisting Volcanic Ash Damage. Advanced Materials, 2011, 23, 2419-2424.	21.0	198
30	Additive-Modulated Evolution of HC(NH₂)₂PbI₃ Black Polymorph for Mesoscopic Perovskite Solar Cells. Chemistry of Materials, 2015, 27, 7149-7155.	6.7	197
31	Interpenetrating interfaces for efficient perovskite solar cells with high operational stability and mechanical robustness. Nature Communications, 2021, 12, 973.	12.8	189
32	Improved processing and oxidation-resistance of ZrB2 ultra-high temperature ceramics containing SiC nanodispersoids. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2007, 464, 216-224.	5.6	184
33	Calcia-magnesia-alumino-silicate (CMAS)-induced degradation and failure of air plasma sprayed yttria-stabilized zirconia thermal barrier coatings. Acta Materialia, 2016, 105, 355-366.	7.9	181
34	Exceptional Morphology-Preserving Evolution of Formamidinium Lead Triiodide Perovskite Thin Films via Organic-Cation Displacement. Journal of the American Chemical Society, 2016, 138, 5535-5538.	13.7	178
35	Low Thermal Conductivity in Garnets. Journal of the American Ceramic Society, 1997, 80, 1018-1020.	3.8	166
36	Continuous Grain-Boundary Functionalization for High-Efficiency Perovskite Solar Cells with Exceptional Stability. CheM, 2018, 4, 1404-1415.	11.7	165

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37	Long Minorityâ€Carrier Diffusion Length and Low Surfaceâ€Recombination Velocity in Inorganic Leadâ€Free CsSnI₃ Perovskite Crystal for Solar Cells. Advanced Functional Materials, 2017, 27, 1604818.	14.9	164
38	Air-plasma-sprayed thermal barrier coatings that are resistant to high-temperature attack by glassy deposits. Acta Materialia, 2010, 58, 6835-6844.	7.9	163
39	Doping and alloying for improved perovskite solar cells. Journal of Materials Chemistry A, 2016, 4, 17623-17635.	10.3	157
40	Transformative Evolution of Organolead Triiodide Perovskite Thin Films from Strong Room-Temperature Solidâ€"Gas Interaction between HPbI₃-CH₃NH₂ Precursor Pair. Journal of the American Chemical Society, 2016, 138, 750-753.	13.7	156
41	Low-thermal-conductivity plasma-sprayed thermal barrier coatings with engineered microstructures. Acta Materialia, 2006, 54, 3343-3349.	7.9	155
42	Indentation fatigue. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1993, 68, 1003-1016.	0.6	148
43	A machine learning approach to fracture mechanics problems. Acta Materialia, 2020, 190, 105-112.	7.9	146
44	Thermal Barrier Coatings Made by the Solution Precursor Plasma Spray Process. Journal of Thermal Spray Technology, 2008, 17, 124-135.	3.1	132
45	One-step, solution-processed formamidinium lead trihalide (FAPbI_(3â^’x)Cl_x) for mesoscopic perovskiteâ€"polymer solar cells. Physical Chemistry Chemical Physics, 2014, 16, 19206-19211.	2.8	130
46	Progress in Tandem Solar Cells Based on Hybrid Organicâ€"Inorganic Perovskites. Advanced Energy Materials, 2017, 7, 1602400.	19.5	130
47	Growth control of compact CH₃NH₃PbI₃ thin films via enhanced solid-state precursor reaction for efficient planar perovskite solar cells. Journal of Materials Chemistry A, 2015, 3, 9249-9256.	10.3	128
48	Engineering the resistance to sliding-contact damage through controlled gradients in elastic properties at contact surfaces. Acta Materialia, 1999, 47, 3915-3926.	7.9	127
49	Highly durable thermal barrier coatings made by the solution precursor plasma spray process. Surface and Coatings Technology, 2004, 177-178, 97-102.	4.8	127
50	Vapour-based processing of hole-conductor-free CH₃NH₃PbI₃ perovskite/C₆₀ fullerene planar solar cells. RSC Advances, 2014, 4, 28964-28967.	3.6	127
51	Hertzianâ€Crack Suppression in Ceramics with Elasticâ€Modulusâ€Graded Surfaces. Journal of the American Ceramic Society, 1998, 81, 2301-2308.	3.8	125
52	Improved interfacial mechanical properties of Al2O3-13wt%TiO2 plasma-sprayed coatings derived from nanocrystalline powders. Acta Materialia, 2003, 51, 2959-2970.	7.9	122
53	Towards multifunctional thermal environmental barrier coatings (TEBCs) based on rare-earth pyrosilicate solid-solution ceramics. Scripta Materialia, 2018, 154, 111-117.	5.2	122
54	Mechanisms of ceramic coating deposition in solution-precursor plasma spray. Journal of Materials Research, 2002, 17, 2363-2372.	2.6	121

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55	Mapping the Photoresponse of CH₃NH₃PbI₃ Hybrid Perovskite Thin Films at the Nanoscale. Nano Letters, 2016, 16, 3434-3441.	9.1	120
56	Flexible perovskite solar cells with simultaneously improved efficiency, operational stability, and mechanical reliability. Joule, 2021, 5, 1587-1601.	24.0	120
57	High quality, transferrable graphene grown on single crystal Cu(111) thin films on basal-plane sapphire. Applied Physics Letters, 2011, 98, .	3.3	113
58	Environmental-barrier coating ceramics for resistance against attack by molten calcia-magnesia-aluminosilicate (CMAS) glass: Part II, Î²-Yb2Si2O7 and Î²-Sc2Si2O7. Journal of the European Ceramic Society, 2018, 38, 3914-3924.	5.7	112
59	2ZrO₂Â·Y₂O₃ Thermal Barrier Coatings Resistant to Degradation by Molten <scp>CMAS</scp>: Part I, Optical Basicity Considerations and Processing. Journal of the American Ceramic Society, 2014, 97, 3943-3949.	3.8	111
60	Plasma sprayed gadolinium zirconate thermal barrier coatings that are resistant to damage by molten Caâ€“Mgâ€“Alâ€“silicate glass. Surface and Coatings Technology, 2012, 206, 3911-3916.	4.8	110
61	Damage-resistant alumina-based layer composites. Journal of Materials Research, 1996, 11, 204-210.	2.6	107
62	Multifunctional Composites of Ceramics and Singleâ€Walled Carbon Nanotubes. Advanced Materials, 2009, 21, 1767-1770.	21.0	107
63	Mitigation of damage from molten fly ash to air-plasma-sprayed thermal barrier coatings. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 7214-7221.	5.6	105
64	Bandgap Optimization of Perovskite Semiconductors for Photovoltaic Applications. Chemistry - A European Journal, 2018, 24, 2305-2316.	3.3	103
65	Flaw-Tolerance and Crack-Resistance Properties of Alumina-Aluminum Titanate Composites with Tailored Microstructures. Journal of the American Ceramic Society, 1993, 76, 2312-2320.	3.8	102
66	Crystal chemistry of epitaxial ZnO on (111) MgAl2O4 produced by hydrothermal synthesis. Journal of Crystal Growth, 2003, 259, 103-109.	1.5	102
67	Thick ceramic thermal barrier coatings with high durability deposited using solution-precursor plasma spray. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2005, 405, 313-320.	5.6	102
68	Lead-Free Dionâ€“Jacobson Tin Halide Perovskites for Photovoltaics. ACS Energy Letters, 2019, 4, 276-277.	17.4	101
69	Thermal conductivity of ceramics in the ZrO₂-GdO_{1.5}system. Journal of Materials Research, 2002, 17, 3193-3200.	2.6	100
70	Wear-resistant ultra-fine-grained ceramics. Acta Materialia, 2005, 53, 271-277.	7.9	100
71	Thermo-mechanical behavior of organic-inorganic halide perovskites for solar cells. Scripta Materialia, 2018, 150, 36-41.	5.2	100
72	Improved SnO₂ Electron Transport Layers Solutionâ€Deposited at Near Room Temperature for Rigid or Flexible Perovskite Solar Cells with High Efficiencies. Advanced Energy Materials, 2019, 9, 1900834.	19.5	100

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73	High-Performance Formamidinium-Based Perovskite Solar Cells via Microstructure-Mediated Î´-to-Î± Phase Transformation. Chemistry of Materials, 2017, 29, 3246-3250.	6.7	99
74	Aqueous colloidal processing of single-wall carbon nanotubes and their composites with ceramics. Nanotechnology, 2006, 17, 1770-1777.	2.6	96
75	High-Performance Lead-Free Solar Cells Based on Tin-Halide Perovskite Thin Films Functionalized by a Divalent Organic Cation. ACS Energy Letters, 2020, 5, 2223-2230.	17.4	96
76	Transmission Electron Microscopy of Halide Perovskite Materials and Devices. Joule, 2019, 3, 641-661.	24.0	94
77	Gradients in elastic modulus for improved contact-damage resistance. Part I: The silicon nitrideâ€“oxynitride glass system. Acta Materialia, 2001, 49, 3255-3262.	7.9	93
78	Crystal Morphologies of Organolead Trihalide in Mesoscopic/Planar Perovskite Solar Cells. Journal of Physical Chemistry Letters, 2015, 6, 2292-2297.	4.6	93
79	Lewisâ€Adduct Mediated Grainâ€Boundary Functionalization for Efficient Idealâ€Bandgap Perovskite Solar Cells with Superior Stability. Advanced Energy Materials, 2018, 8, 1800997.	19.5	93
80	Carrier lifetime enhancement in halide perovskite via remote epitaxy. Nature Communications, 2019, 10, 4145.	12.8	93
81	Environmental degradation of high-temperature protective coatings for ceramic-matrix composites in gas-turbine engines. Npj Materials Degradation, 2019, 3, .	5.8	92
82	Sub-1.4eV bandgap inorganic perovskite solar cells with long-term stability. Nature Communications, 2020, 11, 151.	12.8	92
83	Manipulating Crystallization of Organolead Mixed-Halide Thin Films in Antisolvent Baths for Wide-Bandgap Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2016, 8, 2232-2237.	8.0	91
84	Contact Fatigue of a Silicon Carbide with a Heterogeneous Grain Structure. Journal of the American Ceramic Society, 1995, 78, 1431-1438.	3.8	89
85	Thinâ€Film Transformation of NH₄PbI₃ to CH₃NH₃PbI₃ Perovskite: A Methylamineâ€Induced Conversionâ€“Healing Process. Angewandte Chemie - International Edition, 2016, 55, 14723-14727.	13.8	83
86	2ZrO₂Â·Y₂O₃ Thermal Barrier Coatings Resistant to Degradation by Molten <scp>CMAS</scp>: Part <scp>II</scp>, Interactions with Sand and Fly Ash. Journal of the American Ceramic Society, 2014, 97, 3950-3957.	3.8	82
87	Simultaneous Evolution of Uniaxially Oriented Grains and Ultralow-Density Grain-Boundary Network in CH₃NH₃PbI₃ Perovskite Thin Films Mediated by Precursor Phase Metastability. ACS Energy Letters, 2017, 2, 2727-2733.	17.4	82
88	Quantum-Dot-Induced Cesium-Rich Surface Imparts Enhanced Stability to Formamidinium Lead Iodide Perovskite Solar Cells. ACS Energy Letters, 2019, 4, 1970-1975.	17.4	82
89	Microstructural design of sliding-wear-resistant liquid-phase-sintered SiC: An overview. Journal of the European Ceramic Society, 2007, 27, 3351-3357.	5.7	80
90	Toward Siteâ€Specific Stamping of Graphene. Advanced Materials, 2009, 21, 1243-1246.	21.0	80

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91	Identification of coating deposition mechanisms in the solution-precursor plasma-spray process using model spray experiments. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2003, 362, 204-212.	5.6	79
92	Mechanical characterization of plasma sprayed ceramic coatings on metal substrates by contact testing. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1996, 208, 158-165.	5.6	78
93	Stable Formamidiniumâ€Based Perovskite Solar Cells via In Situ Grain Encapsulation. Advanced Energy Materials, 2018, 8, 1800232.	19.5	78
94	Environmental-barrier coating ceramics for resistance against attack by molten calcia-magnesia-aluminosilicate (CMAS) glass: Part I, YAlO3 and Î³-Y2Si2O7. Journal of the European Ceramic Society, 2018, 38, 3905-3913.	5.7	77
95	Model for Toughness Curves in Two-Phase Ceramics: I, Basic Fracture Mechanics. Journal of the American Ceramic Society, 1993, 76, 2235-2240.	3.8	76
96	Effect of microstructural coarsening on Hertzian contact damage in silicon nitride. Journal of Materials Science, 1995, 30, 869-878.	3.7	76
97	Crack Suppression in Strongly Bonded Homogeneous/Heterogeneous Laminates: A Study on Glass/Glassâ€Ceramic Bilayers. Journal of the American Ceramic Society, 1996, 79, 634-640.	3.8	74
98	A model for microcrack initiation and propagation beneath hertzian contacts in polycrystalline ceramics. Acta Metallurgica Et Materialia, 1994, 42, 1683-1693.	1.8	71
99	Processing parameter effects on solution precursor plasma spray process spray patterns. Surface and Coatings Technology, 2004, 183, 51-61.	4.8	70
100	Thermal-gradient testing of thermal barrier coatings under simultaneous attack by molten glassy deposits and its mitigation. Surface and Coatings Technology, 2010, 204, 2683-2688.	4.8	70
101	Homogenous Alloys of Formamidinium Lead Triiodide and Cesium Tin Triiodide for Efficient Idealâ€Bandgap Perovskite Solar Cells. Angewandte Chemie - International Edition, 2017, 56, 12658-12662.	13.8	69
102	Subgrain Special Boundaries in Halide Perovskite Thin Films Restrict Carrier Diffusion. ACS Energy Letters, 2018, 3, 2669-2670.	17.4	68
103	Model for Toughness Curves in Two-Phase Ceramics: II, Microstructural Variables. Journal of the American Ceramic Society, 1993, 76, 2241-2247.	3.8	67
104	Effect of Microstructure on Material-Removal Mechanisms and Damage Tolerance in Abrasive Machining of Silicon Carbide. Journal of the American Ceramic Society, 1995, 78, 2443-2448.	3.8	67
105	Gradients in elastic modulus for improved contact-damage resistance. part ii: the silicon nitrideâ€"silicon carbide system. Acta Materialia, 2001, 49, 3263-3268.	7.9	67
106	Coatings of metastable ceramics deposited by solution-precursor plasma spray: I. Binary ZrO2â€"Al2O3 system. Acta Materialia, 2006, 54, 4913-4920.	7.9	67
107	The Compelling Case for Indentation as a Functional Exploratory and Characterization Tool. Journal of the American Ceramic Society, 2015, 98, 2671-2680.	3.8	67
108	Single-wall carbon nanotubes at ceramic grain boundaries. Scripta Materialia, 2007, 56, 461-463.	5.2	66

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109	Enhanced Machinability of Silicon Carbide via Microstructural Design. Journal of the American Ceramic Society, 1995, 78, 215-217.	3.8	65
110	Effect of Microstructure on Slidingâ€Wear Properties of Liquidâ€Phaseâ€Sintered Î±â€SiC. Journal of the American Ceramic Society, 2005, 88, 2159-2163.	3.8	65
111	Ions Matter: Description of the Anomalous Electronic Behavior in Methylammonium Lead Halide Perovskite Devices. Advanced Functional Materials, 2017, 27, 1606584.	14.9	65
112	Enhancing Chemical Stability and Suppressing Ion Migration in CH₃NH₃PbI₃ Perovskite Solar Cells <i>via</i> Direct Backbone Attachment of Polyesters on Grain Boundaries. Chemistry of Materials, 2020, 32, 5104-5117.	6.7	64
113	Coarsening in liquid-phase-sintered Î±-SiC. Acta Materialia, 1999, 47, 481-487.	7.9	62
114	Microstructural Evolution in Liquidâ€Phaseâ€Sintered SiC: Part I, Effect of Starting Powder. Journal of the American Ceramic Society, 2001, 84, 1578-1584.	3.8	61
115	Sliding-Wear-Resistant Liquid-Phase-Sintered SiC Processed Using ?-SiC Starting Powders. Journal of the American Ceramic Society, 2007, 90, 541-545.	3.8	61
116	In situ Raman spectroscopy studies of high-temperature degradation of thermal barrier coatings by molten silicate deposits. Scripta Materialia, 2014, 76, 29-32.	5.2	59
117	Methylammoniumâ€Mediated Evolution of Mixedâ€Organicâ€Cation Perovskite Thin Films: A Dynamic Compositionâ€Tuning Process. Angewandte Chemie - International Edition, 2017, 56, 7674-7678.	13.8	59
118	Low thermal conductivity in high-entropy rare-earth pyrosilicate solid-solutions for thermal environmental barrier coatings. Scripta Materialia, 2021, 191, 40-45.	5.2	59
119	Hydrothermal Synthesis of Thin Films of Barium Titanate Ceramic Nanoâ€Tubes at 200Â°C. Journal of the American Ceramic Society, 2003, 86, 2215-2217.	3.8	58
120	Hertzian Contact Damage in Porous Alumina Ceramics. Journal of the American Ceramic Society, 1997, 80, 1027-1031.	3.8	58
121	Room temperature â€œone-potâ€• solution synthesis of nanoscale CsSnI3 orthorhombic perovskite thin films and particles. Materials Letters, 2013, 110, 127-129.	2.6	58
122	Interaction between ceramic powder and molten calcia-magnesia-alumino-silicate (CMAS) glass, and its implication on CMAS-resistant thermal barrier coatings. Scripta Materialia, 2016, 112, 118-122.	5.2	56
123	Anomalous 3D nanoscale photoconduction in hybrid perovskite semiconductors revealed by tomographic atomic force microscopy. Nature Communications, 2020, 11, 3308.	12.8	53
124	Fatigue in ceramics with interconnecting weak interfaces: A study using cyclic Hertzian contacts. Acta Metallurgica Et Materialia, 1995, 43, 1609-1617.	1.8	52
125	Deposition of thermal barrier coatings using the solution precursor plasma spray process. Journal of Materials Science, 2004, 39, 1639-1646.	3.7	51
126	Gas-Induced Formation/Transformation of Organicâ€“Inorganic Halide Perovskites. ACS Energy Letters, 2017, 2, 2166-2176.	17.4	51

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127	Facile healing of cracks in organicâ€“inorganic halide perovskite thin films. Acta Materialia, 2020, 187, 112-121.	7.9	51
128	High-performance methylammonium-free ideal-band-gap perovskite solar cells. Matter, 2021, 4, 1365-1376.	10.0	51
129	Coatings of metastable ceramics deposited by solution-precursor plasma spray: II. Ternary ZrO2â€“Y2O3â€“Al2O3 system. Acta Materialia, 2006, 54, 4921-4928.	7.9	50
130	Observation of phase-retention behavior of the HC(NH₂)₂PbI₃ black perovskite polymorph upon mesoporous TiO₂ scaffolds. Chemical Communications, 2016, 52, 7273-7275.	4.1	50
131	Densification of liquid-phase-sintered silicon carbide. Journal of Materials Science Letters, 2000, 19, 1011-1014.	0.5	49
132	Deposition mechanisms of thermal barrier coatings in the solution precursor plasma spray process. Surface and Coatings Technology, 2004, 177-178, 103-107.	4.8	49
133	Hybrid Perovskite Quantum Nanostructures Synthesized by Electrospray Antisolventâ€“Solvent Extraction and Intercalation. ACS Applied Materials & Interfaces, 2016, 8, 854-861.	8.0	49
134	Mechanisms of spallation of solution precursor plasma spray thermal barrier coatings. Surface and Coatings Technology, 2004, 188-189, 101-106.	4.8	48
135	Inhomogeneous oxidation of ZrB2-SiC ultra-high-temperature ceramic particulate composites and its mitigation. Acta Materialia, 2017, 129, 138-148.	7.9	47
136	Improved Sliding-Wear Resistance in In Situ-Toughened Silicon Carbide. Journal of the American Ceramic Society, 2005, 88, 3531-3534.	3.8	45
137	Fusing Nanowires into Thin Films: Fabrication of Gradedâ€Heterojunction Perovskite Solar Cells with Enhanced Performance. Advanced Energy Materials, 2019, 9, 1900243.	19.5	45
138	Enhanced Thermoelectric Performance in Lead-Free Inorganic CsSn_{1<i>â€“x</i>}Ge_{<i>x</i>}I₃ Perovskite Semiconductors. Journal of Physical Chemistry C, 2020, 124, 11749-11753.	3.1	45
139	Effect of liquid-phase content on the contact-mechanical properties of liquid-phase-sintered Î±-SiC. Journal of the European Ceramic Society, 2007, 27, 2521-2527.	5.7	44
140	Bipolar resistive switching in individual Auâ€“NiOâ€“Au segmented nanowires. Applied Physics Letters, 2009, 95, .	3.3	44
141	Improved Flaw Tolerance in Alumina Containing 1 vol% Anorthite via Crystallization of the Intergranular Glass. Journal of the American Ceramic Society, 1992, 75, 1870-1875.	3.8	43
142	Quantitative Phaseâ€Composition Analysis of Liquidâ€Phaseâ€Sintered Silicon Carbide Using the Rietveld Method. Journal of the American Ceramic Society, 2000, 83, 2282-2286.	3.8	41
143	Intercalation crystallization of phase-pure Î±-HC(NH₂)₂PbI₃upon microstructurally engineered PbI₂thin films for planar perovskite solar cells. Nanoscale, 2016, 8, 6265-6270.	5.6	41
144	Phase and microstructural stability of solution precursor plasma sprayed thermal barrier coatings. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 381, 189-195.	5.6	40

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145	Encapsulated X-Ray Detector Enabled by All-Inorganic Lead-Free Perovskite Film With High Sensitivity and Low Detection Limit. IEEE Transactions on Electron Devices, 2020, 67, 3191-3198.	3.0	40
146	High-temperature properties of liquid-phase-sintered Î±-SiC. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2000, 282, 109-114.	5.6	39
147	Comment on â€œEffect of sintering temperature on a single-wall carbon nanotube-toughened alumina-based compositeâ€• Scripta Materialia, 2008, 58, 989-990.	5.2	39
148	Correlations between Electrochemical Ion Migration and Anomalous Device Behaviors in Perovskite Solar Cells. ACS Energy Letters, 2021, 6, 1003-1014.	17.4	39
149	CNT-based bifacial perovskite solar cells toward highly efficient 4-terminal tandem photovoltaics. Energy and Environmental Science, 2022, 15, 1536-1544.	30.8	39
150	Stepwiseâ€Graded Si₃N₄â€“SiC Ceramics with Improved Wear Properties. Journal of the American Ceramic Society, 2002, 85, 2059-2064.	3.8	38
151	Template-based, near-ambient synthesis of crystalline metal-oxide nanotubes, nanowires and coaxial nanotubes. Acta Materialia, 2007, 55, 3007-3014.	7.9	38
152	Nanostructured, Infraredâ€Transparent Magnesiumâ€Aluminate Spinel with Superior Mechanical Properties. International Journal of Applied Ceramic Technology, 2012, 9, 83-90.	2.1	38
153	Asymmetric alkyl diamine based Dionâ€“Jacobson low-dimensional perovskite solar cells with efficiency exceeding 15%. Journal of Materials Chemistry A, 2020, 8, 9919-9926.	10.3	38
154	Effect of sintering atmosphere on the mechanical properties of liquid-phase-sintered SiC. Journal of the European Ceramic Society, 2004, 24, 3245-3249.	5.7	37
155	Coal Ash Deposition on Nozzle Guide Vanesâ€”Part I: Experimental Characteristics of Four Coal Ash Types. Journal of Turbomachinery, 2013, 135, .	1.7	37
156	In situ direct observation of toughening in isotropic nanocomposites of alumina ceramic and multiwall carbon nanotubes. Acta Materialia, 2017, 127, 203-210.	7.9	37
157	Crystallization behavior of air-plasma-sprayed ytterbium-silicate-based environmental barrier coatings. Journal of the European Ceramic Society, 2021, 41, 3696-3705.	5.7	37
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