

Rajendra K Bordia

List of Publications by Year in descending order

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80
papers

2,928
citations

159585

30
h-index

175258

52
g-index

84
all docs

84
docs citations

84
times ranked

2269
citing authors

#	ARTICLE	IF	CITATIONS
1	Current understanding and future research directions at the onset of the next century of sintering science and technology. Journal of the American Ceramic Society, 2017, 100, 2314-2352.	3.8	222
2	Polymeric and ceramic silicon-based coatings – a review. Journal of Materials Chemistry A, 2019, 7, 1936-1963.	10.3	205
3	Crack Growth and Damage in Constrained Sintering Films. Journal of the American Ceramic Society, 1993, 76, 2475-2485.	3.8	156
4	Ceramic Fibers Based on SiC and SiCN Systems: Current Research, Development, and Commercial Status. Advanced Engineering Materials, 2014, 16, 621-636.	3.5	118
5	High performance environmental barrier coatings, Part I: Passive filler loaded SiCN system for steel. Journal of the European Ceramic Society, 2011, 31, 3003-3010.	5.7	115
6	Conversion behaviour and resulting mechanical properties of polysilazane-based coatings. Journal of the European Ceramic Society, 2012, 32, 1883-1892.	5.7	112
7	Sintering of TiO ₂ -Al ₂ O ₃ Composites: A Model Experimental Investigation. Journal of the American Ceramic Society, 1988, 71, 302-310.	3.8	109
8	Anisotropic constitutive laws for sintering bodies. Acta Materialia, 2006, 54, 111-118.	7.9	96
9	Evolution of defect size and strength of porous alumina during sintering. Journal of the European Ceramic Society, 2000, 20, 2561-2568.	5.7	93
10	Processing of Polymer-Derived Ceramic Composite Coatings on Steel. Journal of the American Ceramic Society, 2008, 91, 41-45.	3.8	87
11	High performance environmental barrier coatings, Part II: Active filler loaded SiOC system for superalloys. Journal of the European Ceramic Society, 2011, 31, 3011-3020.	5.7	87
12	Isotropic Constitutive Model for Sintering Particle Packings. Journal of the American Ceramic Society, 1990, 73, 2266-2273.	3.8	79
13	Evolution of Defects During Sintering: Discrete Element Simulations. Journal of the American Ceramic Society, 2009, 92, 1435-1441.	3.8	73
14	Fracture of Alumina with Controlled Pores. Journal of the American Ceramic Society, 1998, 81, 2449-2457.	3.8	63
15	Corrosion resistant polymer derived ceramic composite environmental barrier coatings. Journal of the European Ceramic Society, 2014, 34, 3597-3606.	5.7	63
16	Effect of Macropore Anisotropy on the Mechanical Response of Hierarchically Porous Ceramics. Journal of the American Ceramic Society, 2016, 99, 979-987.	3.8	62
17	Challenges in Ceramic Science: A Report from the Workshop on Emerging Research Areas in Ceramic Science. Journal of the American Ceramic Society, 2012, 95, 3699-3712.	3.8	59
18	Mechanical properties of polymer-derived ceramic composite coatings on steel. Journal of the European Ceramic Society, 2008, 28, 253-257.	5.7	58

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19	Impact Strength of High Density Solid-State Microcellular Polycarbonate Foams. Journal of Engineering Materials and Technology, Transactions of the ASME, 2001, 123, 229-233.	1.4	57
20	Analysis of Sintering of a Composite with a Glass or Ceramic Matrix. Journal of the American Ceramic Society, 1986, 69, C-55-C-57.	3.8	53
21	Composite polymer derived ceramic system for oxidizing environments. Journal of Materials Science, 2006, 41, 4617-4622.	3.7	52
22	Sintering, Phase Stability, and Properties of Calcium Phosphate-Mullite Composites. Journal of the American Ceramic Society, 2010, 93, 1639-1649.	3.8	49
23	Critical Evaluation of Hot Forging Experiments: Case Study in Alumina. Journal of the American Ceramic Society, 2003, 86, 1099-1105.	3.8	46
24	Constrained Sintering of Alumina Thin Films: Comparison Between Experiment and Modeling. Journal of the American Ceramic Society, 2007, 90, 1733-1737.	3.8	46
25	Planar, Polysilazane-Derived Porous Ceramic Supports for Membrane and Catalysis Applications. Journal of the American Ceramic Society, 2015, 98, 3047-3053.	3.8	41
26	A novel processing approach for free-standing porous non-oxide ceramic supports from polycarbosilane and polysilazane precursors. Journal of the European Ceramic Society, 2015, 35, 2679-2683.	5.7	39
27	Evolution of Young's Modulus, Strength, and Microstructure during Liquid-Phase Sintering. Journal of the American Ceramic Society, 1998, 81, 1852-1860.	3.8	38
28	Phase and microstructural evolution in polymer-derived composite systems and coatings. Journal of Materials Research, 2007, 22, 1959-1966.	2.6	32
29	Freeze Tape Cast Thick Mo Doped $\text{Li}_{0.4}\text{Ti}_{0.5}\text{O}_{12}$ Electrodes for Lithium-Ion Batteries. Journal of the Electrochemical Society, 2017, 164, A2603-A2610.	2.9	32
30	Processing of Hierarchical and Anisotropic Porosity LSM/YSZ Composites. Journal of the American Ceramic Society, 2013, 96, 2745-2753.	3.8	31
31	Effect of Green-State Processing on the Sintering Stress and Viscosity of Alumina Compacts. Journal of the American Ceramic Society, 2007, 90, 1637-1640.	3.8	28
32	Simulation of the toughness of partially sintered ceramics with realistic microstructures. Acta Materialia, 2012, 60, 4685-4694.	7.9	25
33	Anisotropic sintering behavior of freeze-cast ceramics by optical dilatometry and discrete-element simulations. Acta Materialia, 2018, 155, 343-349.	7.9	24
34	Role of carbon on the thermal and electrical properties of graphene-enriched silicon oxycarbides. Ceramics International, 2020, 46, 28156-28164.	4.8	23
35	Simulation of the elastic properties of porous ceramics with realistic microstructure. Modelling and Simulation in Materials Science and Engineering, 2012, 20, 045009.	2.0	22
36	Microstructural Evolution and Anisotropic Shrinkage in Constrained Sintering and Sinter Forging. Journal of the American Ceramic Society, 2012, 95, 2389-2397.	3.8	22

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37	Asymmetric polysilazane-derived ceramic structures with multiscalar porosity for membrane applications. <i>Microporous and Mesoporous Materials</i> , 2016, 232, 196-204.	4.4	22
38	Sintered ceramics with controlled microstructures: numerical investigations with the Discrete Element Method. <i>Journal of the Ceramic Society of Japan</i> , 2016, 124, 340-345.	1.1	22
39	The Conversion of Perhydropolysilazane into SiON Films Characterized by X-ray Photoelectron Spectroscopy. <i>Journal of the American Ceramic Society</i> , 2012, 95, 3722-3725.	3.8	20
40	Thermoelectric Properties of Reduced Polycrystalline $\text{Sr}_{0.5}\text{Ba}_{0.5}\text{Nb}_2\text{O}_6$ Fabricated Via Solution Combustion Synthesis. <i>Journal of the American Ceramic Society</i> , 2013, 96, 2230-2237.	3.8	20
41	Photoluminescent electrospun submicron fibers of hybrid organosiloxane and derived silica. <i>RSC Advances</i> , 2013, 3, 7591.	3.6	20
42	Strength of hierarchically porous ceramics: Discrete simulations on X-ray nanotomography images. <i>Scripta Materialia</i> , 2016, 113, 250-253.	5.2	20
43	Fabricating ceramics with embedded microchannels using an integrated additive manufacturing and laser machining method. <i>Journal of the American Ceramic Society</i> , 2019, 102, 1071-1082.	3.8	18
44	Magnetic behavior of Ni and Co doped CuMn_2O_4 spinels. <i>Journal of Applied Physics</i> , 2012, 111, .	2.5	17
45	Effect of Rigid Inclusions on the Densification and Constitutive Parameters of Liquid-Phase-Sintered $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$ Powder Compacts. <i>Journal of the American Ceramic Society</i> , 2003, 86, 883-892.	3.8	16
46	High temperature oxidation behaviors of SiON coated AISI 441 in $\text{Ar}+\text{O}_2$, $\text{Ar}+\text{H}_2\text{O}$, and $\text{Ar}+\text{CO}_2$ atmospheres. <i>Corrosion Science</i> , 2020, 166, 108429.	6.6	15
47	Evolution of anisotropy in hierarchical porous ceramics during sinter-forging. <i>Journal of the European Ceramic Society</i> , 2016, 36, 2937-2945.	5.7	14
48	Site occupancy and cation binding states in reduced polycrystalline $\text{Sr}_x\text{Ba}_{1-x}\text{Nb}_2\text{O}_6$. <i>Applied Physics Letters</i> , 2014, 104, 101607.	3.3	13
49	Densification and Microstructural Evolution of Hierarchically Porous Ceramics During Sintering. <i>Journal of the American Ceramic Society</i> , 2015, 98, 3424-3430.	3.8	13
50	Effective transport properties of 3D multi-component microstructures with interface resistance. <i>Computational Materials Science</i> , 2015, 96, 277-283.	3.0	13
51	An optimized process for in situ formation of multi-walled carbon nanotubes in templated pores of polymer-derived silicon oxycarbide. <i>Ceramics International</i> , 2017, 43, 3854-3860.	4.8	12
52	The effect of gelation on statically and dynamically freeze-cast structures. <i>Journal of the American Ceramic Society</i> , 2019, 102, 5796-5806.	3.8	12
53	Effect of isotropic and anisotropic porous microstructure on electrochemical performance of Li ion battery cathodes: An experimental and computational study. <i>Journal of Power Sources</i> , 2020, 474, 228490.	7.8	11
54	Ultrafast, selective, nonmelting, laser sintering of alumina with anisotropic and size-suppressed grains. <i>Journal of the American Ceramic Society</i> , 2021, 104, 1997-2006.	3.8	10

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55	Low/intermediate temperature pyrolyzed polysiloxane derived ceramics with increased carbon for electrical applications. Journal of the European Ceramic Society, 2021, 41, 5882-5889.	5.7	10
56	Thick Er-doped silica films sintered using CO ₂ laser for scintillation applications. Optical Materials, 2017, 68, 63-69.	3.6	9
57	A semi-empirical power-law model for the dip-coating of a substrate into a particle-containing, non-Newtonian, complex fluid system. Ceramics International, 2019, 45, 6655-6664.	4.8	9
58	Effect of drying conditions on patterned ceramic films processed by soft micromolding. Journal of the Ceramic Society of Japan, 2010, 118, 321-325.	1.1	8
59	FEM Modeling of In-Plane Stress Distribution in Thick Brittle Coatings/Films on Ductile Substrates Subjected to Tensile Stress to Determine Interfacial Strength. Materials, 2018, 11, 497.	2.9	8
60	The effect of laser sintering on the microstructure, relative density, and cracking of sol-gel derived silica thin films. Journal of the American Ceramic Society, 2020, 103, 70-81.	3.8	8
61	In Situ Carbon Nanotube Formation in Templated Pores of Polymer-Derived Ceramics. Advanced Engineering Materials, 2011, 13, 906-912.	3.5	7
62	Ceramics for Sustainable Energy Technologies with a Focus on Polymer-Derived Ceramics. , 2014, , 501-533.		7
63	Feasibility of in-situ deagglomeration during powder consolidation. Journal of the American Ceramic Society, 2019, 102, 628-643.	3.8	7
64	Advances in Sintering Science and Technology. Journal of the American Ceramic Society, 2009, 92, 1383-1383.	3.8	6
65	Laser pyrolyzed organosilazane-based Al/ZrO ₂ composite coating on stainless steel: Resulting microstructure and mechanical properties. International Journal of Applied Ceramic Technology, 2022, 19, 856-865.	2.1	6
66	Reaction kinetics to infer the effect of dopants on ion transport - A case study for Mo ⁺⁶ doped lithium titanates (Li ₂ TiO ₃ and Li ₄ Ti ₅ O ₁₂). Ceramics International, 2018, 44, 12580-12592.	4.8	5
67	Macrostructural design of highly porous SiOC ceramic foams by preceramic polymer viscosity tailoring. Ceramics International, 2022, 48, 224-231.	4.8	5
68	Stress-induced anisotropy during sintering of hierarchical porosity ceramics. Journal of the American Ceramic Society, 2018, 102, 768.	3.8	4
69	Fabrication of Porous Carbon Films and Their Impact on Carbon/Polypropylene Interfacial Bonding. Journal of Composites Science, 2021, 5, 108.	3.0	4
70	Advances in Sintering Research. Journal of the American Ceramic Society, 2012, 95, 2357-2357.	3.8	3
71	Interfacial-shear strength of the perfluorocyclobutane films on silicon. Journal of Materials Research, 2006, 21, 1759-1769.	2.6	2
72	Direct inkjet printing of mullite nano-ribbons from the sol-gel precursor. Journal of Sol-Gel Science and Technology, 2020, 95, 66-76.	2.4	2

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73	Influence of TiO ₂ on the densification behaviour of Yb ₂ O ₃ . Journal of the European Ceramic Society, 2021, , .	5.7	2
74	Progress in research on sintering and microstructural development. Journal of Materials Science, 2012, 47, 7035-7035.	3.7	1
75	Ultra-Fast Laser Fabrication of Alumina Micro-Sample Array and High-Throughput Characterization of Microstructure and Hardness. Crystals, 2021, 11, 890.	2.2	1
76	Hollow Spheres. , 2006, , 177-192.		0
77	Preface for the special section of the JACerS on sintering. Journal of the American Ceramic Society, 2018, 102, 537.	3.8	0
78	Simultaneous three-dimensional elemental mapping of Hollandite and Pyrochlore material phases in ceramic waste form materials. Journal of the American Ceramic Society, 2019, 102, 5620-5631.	3.8	0
79	Constrained sintering of alumina micro-ring films on stiff and compliant substrates: Constriction or dilation?. Acta Materialia, 2021, 216, 117159.	7.9	0
80	Emerging challenges in solid-state sintering science and technology. Izvestiya Vuzov Poroshkovaya Metallurgiya I Funktsionalnye Pokrytiya, 2018, , 28-31.	0.2	0