Hideki Hyuga

List of Publications by Year
in descending order

130 papers	2,210 citations	279701 23 h-index	289141 40 g-index
143 all docs	143 docs citations	143 times ranked	1349 citing authors

#	Article	IF	Citations
1	A Tough Silicon Nitride Ceramic with High Thermal Conductivity. Advanced Materials, 2011, 23, 4563-4567.	11.1	212
2	Development of high-thermal-conductivity silicon nitride ceramics. Journal of Asian Ceramic Societies, 2015, 3, 221-229.	1.0	106
3	Complete Homochirality Induced by Nonlinear Autocatalysis and Recycling. Journal of the Physical Society of Japan, 2004, 73, 33-35.	0.7	98
4	Tribological behavior of ceramic materials (Si 3 N 4 , SiC and Al 2 O 3) in aqueous medium. Journal of the European Ceramic Society, 2004, 24, 3279-3284.	2.8	97
5	Substitution Model of Monovalent (Li, Na, and K), Divalent (Mg), and Trivalent (Al) Metal Ions for beta-Tricalcium Phosphate. Journal of the American Ceramic Society, 2006, 89, 688-690.	1.9	92
6	Highly Transparent Luâ€Î±â€SiAlON. Journal of the American Ceramic Society, 2004, 87, 714-716.	1.9	71
7	Effect of high temperature cycling on both crack formation in ceramics and delamination of copper layers in silicon nitride active metal brazing substrates. Ceramics International, 2017, 43, 5080-5088.	2.3	50
8	High Thermal Conductivity Silicon Nitride Ceramics. Journal of the Korean Ceramic Society, 2012, 49, 380-384.	1.1	50
9	Wear properties of Yâ€“Î±/Î² composite sialon ceramics. Journal of the European Ceramic Society, 2003, 23, 1743-1750.	2.8	48
10	Fabrication process and electrical properties of BaTiO3/Ni nanocomposites. Scripta Materialia, 1997, 9, 547-550.	0.5	40
11	Nitridation enhancing effect of ZrO2 on silicon powder. Materials Letters, 2008, 62, 3475-3477.	1.3	38
12	Correlation of wear behavior and indentation fracture resistance in silicon nitride ceramics hot-pressed with alumina and yttria. Journal of the European Ceramic Society, 2009, 29, 1535-1542.	2.8	38
13	Effects of yttria and magnesia on densification and thermal conductivity of sintered reactionâ€bonded silicon nitrides. Journal of the American Ceramic Society, 2019, 102, 1579-1588.	1.9	37
14	Comparison of fracture resistance as measured by the indentation fracture method and fracture toughness determined by the single-edge-precracked beam technique using silicon nitrides with different microstructures. Journal of the European Ceramic Society, 2007, 27, 2347-2354.	2.8	36
15	Effects of Impurity Oxygen Content in Raw Si Powder on Thermal and Mechanical Properties of Sintered Reactionâ€Bonded Silicon Nitrides. International Journal of Applied Ceramic Technology, 2012, 9, 229-238.	1.1	36
16	Optical and Mechanical Properties of Î±/Î² Composite Sialons. Journal of the American Ceramic Society, 2003, 86, 520-522.	1.9	35
17	Reaction joining of SiC ceramics using TiB2-based composites. Journal of the European Ceramic Society, 2010, 30, 3203-3208.	2.8	34
18	Improved resistance to thermal fatigue of active metal brazing substrates for silicon carbide power modules using tough silicon nitrides with high thermal conductivity. Ceramics International, 2018, 44, 8870-8876.	2.3	32

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19	Influence of Rareâ€Earth Additives on Wear Properties of Hotâ€Pressed Silicon Nitride Ceramics under Dry Sliding Conditions. Journal of the American Ceramic Society, 2004, 87, 1683-1686.	1.9	29
20	Enhancement of thermoelectric performance in rare earth-doped Sr3Ti2O7 by symmetry restoration of TiO6 octahedra. Journal of Electroceramics, 2010, 24, 76-82.	0.8	29
21	Fabrication of pressureless sintered dense Î²-SiAlON via a reaction-bonding route with ZrO2 addition. Ceramics International, 2009, 35, 1927-1932.	2.3	28
22	Formation mechanism of Ti2AlC under the self-propagating high-temperature synthesis (SHS) mode. Materials Research Bulletin, 2012, 47, 1164-1168.	2.7	28
23	Relationship between fracture toughness determined by surface crack in flexure and fracture resistance measured by indentation fracture for silicon nitride ceramics with various microstructures. Ceramics International, 2009, 35, 493-501.	2.3	26
24	Fabrication of porous silica ceramics by gelation-freezing of diatomite slurry. Journal of the European Ceramic Society, 2017, 37, 5259-5264.	2.8	24
25	Influence of carbon fibre content on the processing and tribological properties of silicon nitride/carbon fibre composites. Journal of the European Ceramic Society, 2004, 24, 877-885.	2.8	23
26	Effects of Impurity Iron Content on Characteristics of Sintered Reactionâ€Bonded Silicon Nitride. International Journal of Applied Ceramic Technology, 2013, 10, 690-700.	1.1	23
27	Pressureless sintering of boron carbide ceramics. Journal of the Ceramic Society of Japan, 2008, 116, 1319-1321.	0.5	22
28	Nitridation behaviors of silicon powder doped with various rare earth oxides. Journal of the Ceramic Society of Japan, 2011, 119, 251-253.	0.5	22
29	Effect of nanorelief structure formed in situ on tribological properties of ceramics in dry sliding. Ceramics International, 2019, 45, 13818-13824.	2.3	22
30	Processing and Tribological Properties of Si₃N₄/Carbon Short Fiber Composites. Journal of the American Ceramic Society, 2003, 86, 1081-1087.	1.9	21
31	Joining of SiC by Al infiltrated TiC tape: Effect of joining parameters on the microstructure and mechanical properties. Journal of the European Ceramic Society, 2012, 32, 149-156.	2.8	21
32	Effect of Aluminum Content on Mechanical Properties and Thermal Conductivities of Sintered Reactionâ€Bonded Silicon Nitride. International Journal of Applied Ceramic Technology, 2014, 11, 534-542.	1.1	21
33	Fracture Resistance Behavior of Highâ€Thermalâ€Conductivity Silicon Nitride Ceramics. International Journal of Applied Ceramic Technology, 2014, 11, 872-882.	1.1	20
34	Influence of zirconia addition on reaction bonded silicon nitride produced from various silicon particle sizes. Journal of the Ceramic Society of Japan, 2008, 116, 688-693.	0.5	19
35	Fabrication of Dense Î²-SiAlON Ceramics with ZrO2 Additions Via a Rapid Reaction-Bonding and Postsintering Route. Journal of the American Ceramic Society, 2011, 94, 1014-1018.	1.9	19
36	Joining of silicon nitride by microwave local heating. Journal of the Ceramic Society of Japan, 2010, 118, 959-962.	0.5	18

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37	Microstructure of boron carbide pressureless sintered in an Ar atmosphere containing gaseous metal species. Journal of the European Ceramic Society, 2010, 30, 999-1005.	2.8	18
38	Synthesis of precursor for fibrous mullite powder by alkoxide hydrolysis method. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2010, 173, 66-71.	1.7	18
39	Effect of amounts and types of silicon nitride on thermal conductivity of Si₃N₄/epoxy resin composite. Journal of the Ceramic Society of Japan, 2015, 123, 908-912.	0.5	18
40	Wear behaviour of single phase and composite sialon ceramics stabilized with Y 2 O 3 and Lu 2 O 3. Journal of the European Ceramic Society, 2004, 24, 3271-3277.	2.8	17
41	Effect of gelatin gel strength on microstructures and mechanical properties of cellular ceramics created by gelation freezing route. Journal of Materials Research, 2017, 32, 3286-3293.	1.2	17
42	A study on formation mechanisms of relief structure formed in situ on the surface of ceramics. Ceramics International, 2019, 45, 23143-23148.	2.3	17
43	Improving the thermal conductivity of epoxy composites using a combustion-synthesized aggregated Î²-Si3N4 filler with randomly oriented grains. Scientific Reports, 2020, 10, 14926.	1.6	17
44	Comparison of Tribological Behavior Between alpha-Sialon/Si3N4 and Si3N4/Si3N4 Sliding Pairs in Water Lubrication. Journal of the American Ceramic Society, 2005, 88, 1655-1658.	1.9	16
45	Stereo fabric modeling technology in ceramics manufacture. Journal of the European Ceramic Society, 2008, 28, 1079-1083.	2.8	16
46	Tribological Behavior of a Si₃N₄/Carbon Short Fiber Composite under Water Lubrication. Journal of the American Ceramic Society, 2004, 87, 699-702.	1.9	15
47	Wear properties of self-reinforced Î±-SiAlON ceramics produced by spark plasma sintering. Wear, 2004, 257, 292-296.	1.5	15
48	Friction and Wear Properties of Si3N4/Carbon Fiber Composites with Aligned Microstructure. Journal of the American Ceramic Society, 2005, 88, 1239-1243.	1.9	15
49	Enhancement of Seebeck coefficient for SrO(SrTiO3)2 by Sm substitution: Crystal symmetry restoration of distorted TiO6 octahedra. Applied Physics Letters, 2007, 91, 242102.	1.5	15
50	Crack profiles under a Vickers indent in silicon nitride ceramics with various microstructures. Ceramics International, 2010, 36, 173-179.	2.3	15
51	Mechanism for the formation of SiC by carbothermal reduction reaction using a microwave heating technique. Journal of the Ceramic Society of Japan, 2011, 119, 740-744.	0.5	15
52	Reaction sintering of Î²-tricalcium phosphates and their mechanical properties. Journal of the European Ceramic Society, 2007, 27, 3215-3220.	2.8	14
53	Processing and Properties of in Situâ€Reinforced Î±â€SiAlONs Stabilized with Y₂O₃ and Lu₂O₃. Journal of the American Ceramic Society, 2004, 87, 710-713.	1.9	13
54	In SituMeasurement of Shrinkage During Postreaction Sintering of Reaction-Bonded Silicon Nitride. Journal of the American Ceramic Society, 2008, 91, 3413-3415.	1.9	13

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55	Low-temperature joining of boron carbide ceramics. Journal of the Ceramic Society of Japan, 2012, 120, 207-210.	0.5	13
56	Exergy Consumption Through the Life Cycle of Ceramic Parts. International Journal of Applied Ceramic Technology, 2008, 5, 373-381.	1.1	12
57	Joining of silicon nitride with silicon slurry via reaction bonding and post sintering. Journal of the Ceramic Society of Japan, 2010, 118, 9-12.	0.5	12
58	Processing and Tribological Properties of SiC/Carbon Short Fiber Composites. Journal of the Ceramic Society of Japan, 2006, 114, 323-328.	1.3	11
59	Fabrication and characterization of porous ZrO2 with a high volume fraction of fine closed pores. Journal of the European Ceramic Society, 2013, 33, 61-66.	2.8	11
60	Frictional and Mechanical Properties of Fe5Si3-Particles-Dispersed Si3N4 Formed by the Reaction during Sintering.. Journal of the Ceramic Society of Japan, 2002, 110, 942-949.	1.3	10
61	Fabrication and Mechanical Properties of Si₃N₄/Carbon Fiber Composites with Aligned Microstructure Produced by a Seeding and Extrusion Method. Journal of the American Ceramic Society, 2004, 87, 894-899.	1.9	10
62	Nitridation behaviour of ZrO2 added silicon powder with different ZrO2 particle sizes. Journal of the Ceramic Society of Japan, 2009, 117, 157-161.	0.5	10
63	Synthesis, microstructure and mechanical properties of reaction-infiltrated TiB2â€“SiCâ€“Si composites. Journal of Alloys and Compounds, 2011, 509, 1819-1823.	2.8	10
64	Study of modification on alumina surface by using of organosilicon polymer. Journal of the Ceramic Society of Japan, 2011, 119, 378-381.	0.5	10
65	Influence of joining time and temperature on the flexural strength of joined boron carbide ceramics. Journal of the Ceramic Society of Japan, 2012, 120, 393-399.	0.5	10
66	Round-robin test on the fracture toughness of ceramic thin plates through modified single edge-precracked plate method. Journal of the European Ceramic Society, 2016, 36, 3245-3248.	2.8	10
67	Fabrication of Thick Silicon Nitride by Reaction Bonding and Post-Sintering. Journal of the Ceramic Society of Japan, 2007, 115, 285-289.	1.3	9
68	In Situ Synthesis and Microstructures of Tungsten Carbideâ€Nanoparticleâ€Reinforced Silicon Nitrideâ€Matrix Composites. Journal of the American Ceramic Society, 2004, 87, 337-341.	1.9	8
69	Wear properties under dry sliding of Lu-Î± sialons with in situ reinforced microstructures. Journal of the European Ceramic Society, 2004, 24, 3581-3589.	2.8	8
70	Reaction sintering of two-dimensional silicon carbide fiber-reinforced silicon carbide composite by sheet stacking method. Journal of Nuclear Materials, 2007, 367-370, 769-773.	1.3	8
71	Dielectric breakdown of silicon nitride substrates with various thicknesses. Journal of the Ceramic Society of Japan, 2018, 126, 693-698.	0.5	8
72	Preparation of porous diatomite ceramics by an alkali treatment near room temperature. Journal of the European Ceramic Society, 2021, 41, 849-855.	2.8	8

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73	Reaction Bonded Silicon Nitride - Silicon Carbide and SiAlON - Silicon Carbide Refractories for Aluminium Smelting. Key Engineering Materials, 0, 403, 235-238.	0.4	7
74	Semi-homogeneous joining of silicon nitride with a silicon nitride powder insert. Journal of the Ceramic Society of Japan, 2011, 119, 322-324.	0.5	7
75	Thermal conductivity analysis using threeâ€dimensional microstructures of gelation freezing derived cellular mullite. Journal of the American Ceramic Society, 2018, 101, 3266-3270.	1.9	7
76	Effect of rare-earth species on the wear properties of Î± sialon and Î² silicon nitride ceramics under tribochemical type conditions. Journal of Materials Research, 2004, 19, 2750-2758.	1.2	6
77	In situ synthesis of Mo5Si3 particle reinforced Si3N4 composite with crystallized grain boundary phase of Yb2Si2O7. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2005, 395, 160-166.	2.6	6
78	Measurement of Indentation Fracture Toughness of Silicon Nitride Ceramics: II, Effect of the Experimental Conditions. Key Engineering Materials, 2007, 352, 45-48.	0.4	6
79	Exergy Analysis on the Ceramic Manufacturing Process. Journal of the Ceramic Society of Japan, 2007, 115, 987-992.	0.5	6
80	Corrosion behavior of reaction bonded Si3N4-SiC and SiAlON-SiC composites in simulated aluminum smelting conditions. Journal of the Ceramic Society of Japan, 2008, 116, 712-716.	0.5	6
81	Measurements of fracture toughness of ceramic thin plates through single-edge V-notch plate method. Journal of the European Ceramic Society, 2016, 36, 4327-4331.	2.8	6
82	Nitridation behavior of silicon powder compacts of various thicknesses with Y₂O₃ and MgO as sintering additives. International Journal of Applied Ceramic Technology, 2017, 14, 1157-1163.	1.1	6
83	Frictional Properties of Si3N4 with Improved Oilphilic Property.. Journal of the Ceramic Society of Japan, 2002, 110, 1084-1091.	1.3	5
84	Influence of Carbon Fiber Additions on Friction Properties and Running-In Behavior of Silicon Nitride-Based Composites Under Water Lubrication. Journal of the American Ceramic Society, 2005, 88, 3474-3477.	1.9	5
85	Enhancement of Hydrophilic Properties of Alumina-Based Ceramics. Journal of the Ceramic Society of Japan, 2006, 114, 347-350.	1.3	5
86	Changes in Microstructure and Properties of ZnO-Added Al2O3 upon Sliding. Journal of the Ceramic Society of Japan, 2006, 114, 599-602.	1.3	5
87	Effect of composition and joining parameters on microstructure and mechanical properties of silicon carbide joints. Journal of the Ceramic Society of Japan, 2010, 118, 799-804.	0.5	5
88	Joining of SiC with Si infiltrated tape-cast TiB2â€“C interlayer: Effect of interlayer composition and thickness on the microstructure and mechanical properties. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 530, 580-584.	2.6	5
89	Semi-homogeneous joining of silicon nitride using oxynitride glass insert containing silicon nitride powder and post-heat treatment. Journal of the Ceramic Society of Japan, 2012, 120, 119-122.	0.5	5
90	Energy efficient synthesis of porous ZrO2 with fine closed pores by microwave irradiation. Materials Letters, 2013, 93, 293-296.	1.3	5

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91	Surface modification of graphite powder with lanthanum ultraphosphate by chemical process and its oxidation resistance. Advanced Powder Technology, 2015, 26, 901-906.	2.0	5
92	Effect of mechanical properties of the ceramic substrate on the thermal fatigue of Cu metallized ceramic substrates. , 2016, , .		5
93	Improvement in Thermal Conductivity of Silicon Nitride Ceramics via Microstructural Control and Their Application to Heat Dissipation Substrates. Funtai Oyobi Fummatsu Yakin/Journal of the Japan Society of Powder and Powder Metallurgy, 2017, 64, 439-444.	0.1	5
94	Mechanical and wear properties of Si₃N₄â€“W composites using tungsten boride powder. Journal of Materials Research, 2003, 18, 2262-2267.	1.2	4
95	Measurement of Indentation Fracture Toughness of Silicon Nitride Ceramics: I, Effect of Microstructure of Materials. Key Engineering Materials, 2007, 352, 41-44.	0.4	4
96	The application of automated image analysis to dense heterogeneities in partially sintered alumina. Journal of the European Ceramic Society, 2007, 27, 1927-1933.	2.8	4
97	Joining of B4C by Alâ€“Si infiltrated TiC tape: Effect of Si content on joint microstructure and corrosion resistance. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2012, 539, 238-242.	2.6	4
98	Review and Overview of Silicon Nitride and SiAlON, Including their Applications. , 2013, , 245-266.		4
99	Microstructural characteristics in silicon nitride/tungsten composites by different in-situ processing. Materials Letters, 2004, 58, 21-24.	1.3	3
100	Strength and Microstructure of Silicon Nitride Fabricated by Post-Sintering Process Using Low-Purity Silicon Powder as Raw Materials. Journal of the Ceramic Society of Japan, 2004, 112, 214-218.	1.3	3
101	The Relationship Between Multiple Scratch Tests and Wear Behavior of Hot-Pressed Silicon Nitride Ceramics with Various Rare-Earth Additive Systems. Journal of the American Ceramic Society, 2007, 91, 071031103425001-???.	1.9	3
102	Tribological Behavior of Si3N4and Si3N4/Carbon Fiber Composites Against Stainless Steel Under Water Lubrication for a Thrust-Bearing Application. International Journal of Applied Ceramic Technology, 2008, 5, 111-118.	1.1	3
103	A rationalization guideline for the utilization of energy and resources considering total manufacturing processes. Synthesiology, 2009, 1, 199-208.	0.2	3
104	Tribological Behaviour of Î±/ÃŸ Composite SiAlON Ceramics. Key Engineering Materials, 2003, 237, 203-210.	0.4	2
105	Effect of Ta2O5 Addition on Microstructure of Mo5Si3 Particle Reinforced Si3N4 Composite with Grain Boundary Phase of Yb2Si2O7. Journal of the Ceramic Society of Japan, 2005, 113, 320-324.	1.3	2
106	Effect of Yb2O3 Addition on Si3N4-Lu2O3-SiO2 Ceramics. Journal of the Ceramic Society of Japan, 2006, 114, 1097-1099.	1.3	2
107	Improvement of Oxidation Resistance of Graphite Powder Treated with Phosphate. Key Engineering Materials, 2007, 352, 133-136.	0.4	2
108	Effect of Green Machining on Strength of Silicon Nitride with As-Sintered Surface. Journal of the Ceramic Society of Japan, 2007, 115, 504-506.	0.5	2

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109	Exergy Analysis on the Life Cycle of Ceramic Parts. Key Engineering Materials, 0, 403, 261-264.	0.4	2
110	Roundâ€robin exercise on the threeâ€and fourâ€point flexural strength of thin ceramic plates for power modules. International Journal of Applied Ceramic Technology, 2019, 16, 2121-2130.	1.1	2
111	Oil Wettability and Sliding Properties of Organic and Inorganic Hybrid Coating Films Prepared from Methyltriethoxysilane and Various Metal Alkoxides. Journal of the Ceramic Society of Japan, 2006, 114, 580-582.	1.3	1
112	Joining of SiC by Tape-Cast SiC-Al₂O₃-Y₂O₃ Interlayer. Key Engineering Materials, 2011, 484, 26-31.	0.4	1
113	Hydraulic alumina as an inorganic binder for extruding and sintering Si₃N₄ ceramics. Journal of the Ceramic Society of Japan, 2012, 120, 330-333.	0.5	1
114	Microwave joining of alumina with alumina/zirconia insert under low pressure and high temperature. Journal of the Ceramic Society of Japan, 2012, 120, 362-365.	0.5	1
115	Green Manufacturing of Silicon Nitride Ceramics. , 2016, , 223-243.		1
116	Accelerated thermal fatigue test of metallized ceramic substrates for SiC power modules by repeated four-point bending. , 2018, , .		1
117	Fracture-Toughness Test of Silicon Nitrides with Different Microstructures Using Vickers Indentation. , 0, , 433-442.		1
118	Wear Properties of SiAlON Ceramics. Key Engineering Materials, 2003, 247, 293-296.	0.4	0
119	Influence of Sintering Conditions on the Microstructure and Mechanical Properties of Si3N4 Ceramics with WB Addition. Journal of the Ceramic Society of Japan, 2004, 112, 153-158.	1.3	0
120	Formation and Microstructure of Silicide-Particle-Reinforced Si3N4 Composites with Crystallized Grain Boundary Phase of Yb2Si2O7. Journal of the Ceramic Society of Japan, 2006, 114, 1126-1132.	1.3	0
121	Influence of the Measuring Method for Crack Length on the Fracture Toughness of Silicon Nitride Ceramics Obtained by the Indentation Fracture Technique. Journal of the Ceramic Society of Japan, 2006, 114, 787-790.	1.3	0
122	Dry Sliding Wear of Lu₂O₃ Sialon Ceramics. Key Engineering Materials, 2006, 317-318, 351-354.	0.4	0
123	Fabrication and Wettability Test of Silicon Nitrides with Ordered Protrusions. Solid State Phenomena, 2007, 127, 173-178.	0.3	0
124	Expansion of Silicon Nitride-Boron Nitride Composite by Reaction Bonding. Journal of the Ceramic Society of Japan, 2007, 115, 147-150.	1.3	0
125	Effect of Calcium Compounds in Lubrication Oil on the Frictional Properties of Fe2O3-Al2O3 Ceramics under Boundary Lubricating Conditions. Journal of the Ceramic Society of Japan, 2007, 115, 32-36.	1.3	0
126	Fracture Resistance and Wear Properties of Silicon Nitride Ceramics. Key Engineering Materials, 0, 403, 53-56.	0.4	0

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127	Joining of Silicon Nitride by Slurry or Paste. Ceramic Engineering and Science Proceedings, 2010, , 131-134.	0.1	0
128	Environmental Impact Evaluation and Rationalization of Ceramics Process on the Basis of Exergy Analysis. Materials Science Forum, 2010, 654-656, 1982-1985.	0.3	0
129	Rolling Contact Fatigue Properties and Fracture Resistance for Silicon Nitride Ceramics with Various Microstructures. Ceramic Engineering and Science Proceedings, 0, , 90-99.	0.1	0
130	Study of Factors Affecting the Lengths of Surface Cracks in Silicon Nitride Introduced by Vickers Indentation. , 0, , 389-398.		0