

Raul Bermejo

List of Publications by Year in descending order

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114
papers

2,121
citations

236612

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315357

38
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118
all docs

118
docs citations

118
times ranked

1352
citing authors

#	ARTICLE	IF	CITATIONS
1	Stereolithographic 3D Printing of Ceramics: Challenges and Opportunities for Structural Integrity. <i>Advanced Engineering Materials</i> , 2023, 25, .	1.6	14
2	Micro-scale fracture toughness of textured alumina ceramics. <i>Journal of the European Ceramic Society</i> , 2023, 43, 2943-2950.	2.8	6
3	Effect of binder system on the thermophysical properties of 3D-printed zirconia ceramics. <i>International Journal of Applied Ceramic Technology</i> , 2022, 19, 174-180.	1.1	10
4	Multifunctional performance of Ti ₂ AlC MAX phase/2D braided alumina fiber laminates. <i>Journal of the American Ceramic Society</i> , 2022, 105, 120-130.	1.9	3
5	Effect of crystal orientation on the hardness and strength of piezoelectric LiNbO ₃ substrates for microelectronic applications. <i>Materials and Design</i> , 2022, 213, 110306.	3.3	2
6	Contact damage tolerance of alumina-based layered ceramics with tailored microstructures. <i>Journal of the American Ceramic Society</i> , 2022, 105, 4387-4399.	1.9	9
7	Fabrication of 3D metal-ceramic (Al-AlN) architectures using laser-powder bed fusion process. <i>Additive Manufacturing</i> , 2021, 38, 101799.	1.7	4
8	Additive manufacturing of highly textured alumina ceramics. <i>Open Ceramics</i> , 2021, 5, 100085.	1.0	21
9	Additive manufacturing of high-strength alumina through a multi-material approach. <i>Open Ceramics</i> , 2021, 5, 100082.	1.0	12
10	Mechanical failure dependence on the electrical history of lead zirconate titanate thin films. <i>Journal of the European Ceramic Society</i> , 2021, 41, 2465-2471.	2.8	3
11	Effects of acid leaching treatment of soda-lime silicate glass on crack initiation and fracture. <i>Journal of the American Ceramic Society</i> , 2021, 104, 4550-4558.	1.9	10
12	Preparation and photocatalytic activity of TiO ₂ nanotube arrays prepared on transparent spinel substrate. <i>Ceramics International</i> , 2021, 47, 12970-12980.	2.3	12
13	Subcritical Crack Growth: Modeling of the $v\text{-}K$ Curve in Different Environments. , 2021, , 811-817.		2
14	Design of damage tolerant and crack-free layered ceramics with textured microstructure. <i>Journal of the European Ceramic Society</i> , 2020, 40, 427-435.	2.8	23
15	Mechanical properties of zirconia ceramics biomimetically coated with calcium deficient hydroxyapatite. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2020, 111, 104006.	1.5	14
16	Thickness Dependence of crack initiation and propagation in stacks for piezoelectric microelectromechanical systems. <i>Acta Materialia</i> , 2020, 191, 245-252.	3.8	16
17	Strength of additive manufactured alumina. <i>Journal of the European Ceramic Society</i> , 2020, 40, 4737-4745.	2.8	34
18	Influence of the Test Configuration and Temperature on the Mechanical Behaviour of WC-Co. <i>Metals</i> , 2020, 10, 322.	1.0	1

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19	A novel approach to assess the mechanical reliability of thin, ceramic-based multilayer architectures. Journal of the European Ceramic Society, 2020, 40, 4727-4736.	2.8	8
20	Microstructure, ionic conductivity and mechanical properties of tape-cast Li _{1.5} Al _{0.5} Ti _{1.5} P ₃ O ₁₂ electrolyte sheets. Journal of the European Ceramic Society, 2020, 40, 1975-1982.	2.8	15
21	Influence of acid leaching surface treatment on indentation cracking of soda lime silicate glass. Journal of Non-Crystalline Solids, 2020, 543, 120144.	1.5	21
22	Strength limits in mesoscaled 3Y-TZP ceramics for micro-surgical instruments. Journal of the Mechanical Behavior of Biomedical Materials, 2019, 91, 99-108.	1.5	1
23	Enhanced thermal shock response of Al ₂ O ₃ -graphite composites through a layered architectural design. Journal of the American Ceramic Society, 2019, 102, 3673-3684.	1.9	6
24	Mechanical strength of cold-sintered zinc oxide under biaxial bending. Journal of Materials Science, 2019, 54, 4518-4522.	1.7	26
25	Incipient plasticity and surface damage in LiTaO ₃ and LiNbO ₃ single crystals. Materials and Design, 2018, 153, 221-231.	3.3	31
26	Improved fracture behavior and mechanical properties of alumina textured ceramics. Materials Letters, 2018, 221, 252-255.	1.3	18
27	Atomistic origins of the differences in anisotropic fracture behaviour of LiTaO ₃ and LiNbO ₃ single crystals. Acta Materialia, 2018, 150, 373-380.	3.8	17
28	Mechanical characterization of Ti(C,N)-based cermets fabricated through different colloidal processing routes. Journal of Alloys and Compounds, 2018, 732, 806-817.	2.8	25
29	Influence of temperature on the biaxial strength of cemented carbides with different microstructures. International Journal of Refractory Metals and Hard Materials, 2018, 71, 82-91.	1.7	8
30	Understanding the tensile strength of ceramics in the presence of small critical flaws. Engineering Fracture Mechanics, 2018, 201, 167-175.	2.0	34
31	Understanding the effect of surface flaws on the strength distribution of brittle single crystals. Journal of the American Ceramic Society, 2018, 101, 5705-5716.	1.9	9
32	What is the tensile strength of a ceramic to be used in numerical models for predicting crack initiation?. International Journal of Fracture, 2018, 212, 89-103.	1.1	16
33	Influence of the scatter of strength and of measurement uncertainties on the determination of the subcritical crack growth exponent in ceramics and glasses. Journal of the European Ceramic Society, 2017, 37, 1873-1878.	2.8	5
34	Effect of metallization on the strength and fracture behaviour of functional co-fired multilayer ceramics. Journal of the European Ceramic Society, 2017, 37, 4389-4396.	2.8	8
35	“Toward seashells under stress”: Bioinspired concepts to design tough layered ceramic composites. Journal of the European Ceramic Society, 2017, 37, 3823-3839.	2.8	27
36	Strength distribution and fracture analyses of LiNbO ₃ and LiTaO ₃ single crystals under biaxial loading. Journal of the European Ceramic Society, 2017, 37, 4397-4406.	2.8	26

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37	Hierarchical Architectures to Enhance Structural and Functional Properties of Brittle Materials. <i>Advanced Engineering Materials</i> , 2017, 19, 1600683.	1.6	10
38	Novel colloidal approach for the microstructural improvement in Ti(C,N)/FeNi cermets. <i>Journal of Alloys and Compounds</i> , 2017, 724, 327-338.	2.8	21
39	Texture-engineered ceramics—Property enhancements through crystallographic tailoring. <i>Journal of Materials Research</i> , 2017, 32, 3219-3241.	1.2	110
40	Subcritical crack growth in multilayer Low Temperature Co-fired Ceramics designed with surface compressive stresses. <i>Journal of the European Ceramic Society</i> , 2016, 36, 4095-4105.	2.8	14
41	Assessment of crack-related problems in layered ceramics using the finite fracture mechanics and coupled stress-energy criterion. <i>Procedia Structural Integrity</i> , 2016, 2, 2014-2021.	0.3	10
42	Mechanical properties of tape casted Lanthanum Tungstate for membrane substrate application. <i>Ceramics International</i> , 2016, 42, 15177-15182.	2.3	10
43	Modelling of edge crack formation and propagation in ceramic laminates using the stress—energy coupled criterion. <i>Engineering Fracture Mechanics</i> , 2016, 167, 45-55.	2.0	8
44	Influence of subcritical crack growth on the determination of fracture toughness in brittle materials. <i>Journal of the European Ceramic Society</i> , 2016, 36, 1307-1312.	2.8	12
45	Understanding the edge crack phenomenon in ceramic laminates. <i>Frattura Ed Integrita Strutturale</i> , 2016, , .	0.5	0
46	Evaluation of Mechanical Strength of Miniaturized Functional Substrates and Components in Different Environments. <i>Journal of Microelectronics and Electronic Packaging</i> , 2016, 13, 17-22.	0.8	2
47	Stress and Deflection Development During Die Embedding into Printed Circuit Boards. <i>Materials Today: Proceedings</i> , 2015, 2, 4196-4205.	0.9	5
48	Application of the coupled stress-energy criterion to predict the fracture behaviour of layered ceramics designed with internal compressive stresses. <i>European Journal of Mechanics, A/Solids</i> , 2015, 54, 94-104.	2.1	24
49	Quantification of crystalline texture in ferroelectric materials by polarized Raman spectroscopy using Reverse Monte Carlo modelling. <i>Journal of the European Ceramic Society</i> , 2015, 35, 4321-4325.	2.8	8
50	Influence of temperature and humidity on the strength of low temperature co-fired ceramics. <i>Journal of the European Ceramic Society</i> , 2015, 35, 1823-1830.	2.8	7
51	Strength of an electrolyte supported solid oxide fuel cell. <i>Journal of Power Sources</i> , 2015, 297, 158-167.	4.0	19
52	Edge cracking due to a compressive residual stress in ceramic laminates. <i>Comptes Rendus - Mecanique</i> , 2015, 343, 192-198.	2.1	9
53	Fracture toughness and strength distribution at room temperature of zirconia tapes used for electrolyte supported solid oxide fuel cells. <i>Journal of Power Sources</i> , 2015, 275, 217-226.	4.0	24
54	Design of alumina-zirconia composites with spatially tailored strength and toughness. <i>Journal of the European Ceramic Society</i> , 2015, 35, 631-640.	2.8	24

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55	High temperature mechanical properties of zirconia tapes used for electrolyte supported solid oxide fuel cells. Journal of Power Sources, 2015, 273, 237-243.	4.0	35
56	Comparison of Different Methods for Stress and Deflection Analysis in Embedded Die Packages During the Assembly Process. Journal of Microelectronics and Electronic Packaging, 2015, 12, 80-85.	0.8	6
57	Mechanical testing and fracture analyses of miniaturized ZnO-based multilayer components. International Symposium on Microelectronics, 2015, 2015, 000163-000168.	0.3	1
58	Mechanical Characterization of Ceramics. , 2014, , 285-298.		5
59	Improved Fracture Behavior of Alumina Microstructural Composites with Highly Textured Compressive Layers. Journal of the American Ceramic Society, 2014, 97, 3643-3651.	1.9	29
60	Influence of the T-stress on the Crack Bifurcation Phenomenon in Ceramic Laminates. , 2014, 3, 1062-1067.		3
61	Analysis on the mechanical strength of WC-Co cemented carbides under uniaxial and biaxial bending. Materials & Design, 2014, 55, 851-856.	5.1	31
62	Processing and characterisation of cermet/hardmetal laminates with strong interfaces. Materials & Design, 2014, 58, 226-233.	5.1	12
63	Effect of aging on the onset of cracks due to redistribution of residual stresses in functionally graded environmental barrier coatings of mullite/ZrO ₂ . Composites Part B: Engineering, 2014, 61, 199-205.	5.9	14
64	Simulation of stress distribution in assembled silicon dies and deflection of printed circuit boards. , 2014, , .		3
65	Numerical Analysis of Sub-critical Crack Growth in Particulate Ceramic Composites. , 2014, 3, 2071-2076.		7
66	Determination of Strength and Fracture Toughness of Small Ceramic Discs Using the Small Punch Test and the Ball-on-three-balls Test. , 2014, 3, 961-966.		23
67	On the determination of the stress-free temperature for alumina-zirconia multilayer structures. Ceramics International, 2014, 40, 5787-5793.	2.3	22
68	Layered Ceramics. , 2013, , 733-751.		2
69	The Effect of Phase Composition on the Mechanical Properties of <sc>LTCC</sc> Material. International Journal of Applied Ceramic Technology, 2013, 10, 449-457.	1.1	5
70	Multi-physics simulation of the component attachment within embedding process. , 2013, , .		4
71	Prediction of the crack bifurcation in layered ceramics with high residual stresses. Engineering Fracture Mechanics, 2013, 108, 120-138.	2.0	18
72	Subcritical crack growth in Low Temperature Co-fired Ceramics under biaxial loading. Engineering Fracture Mechanics, 2013, 100, 108-121.	2.0	37

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73	Fracture Behavior of Layered Alumina Microstructural Composites with Highly Textured Layers. Journal of the American Ceramic Society, 2013, 96, 1577-1585.	1.9	30
74	ZACCARINIITE, RhNiAs, A NEW PLATINUM-GROUP MINERAL FROM LOMA PEGUERA, DOMINICAN REPUBLIC. Canadian Mineralogist, 2012, 50, 1321-1329.	0.3	12
75	Ni ²⁺ /NiO composites obtained by controlled oxidation of green compacts. Corrosion Science, 2012, 55, 172-179.	3.0	15
76	Influence of deposited metal structures on the failure mechanisms of silicon-based components. Journal of the European Ceramic Society, 2012, 32, 4371-4380.	2.8	14
77	Experimental approach to assess the effect of metallization on the strength of functional ceramic components. Scripta Materialia, 2012, 66, 546-549.	2.6	17
78	Influence of measurement uncertainties on the determination of the Weibull distribution. Journal of the European Ceramic Society, 2012, 32, 251-255.	2.8	46
79	Numerical investigation of the process of embedding components into Printed Circuit Boards. , 2011, , .		4
80	Local strength measurement technique for miniaturised silicon-based components. , 2011, , .		2
81	Strength and fracture analysis of silicon-based components for embedding. Journal of the European Ceramic Society, 2011, 31, 549-558.	2.8	29
82	Strength reliability of 3D low temperature co-fired multilayer ceramics under biaxial loading. Journal of the European Ceramic Society, 2011, 31, 745-753.	2.8	33
83	Strategies for fracture toughness, strength and reliability optimisation of ceramic-ceramic laminates. International Journal of Materials Research, 2011, 102, 613-626.	0.1	54
84	Influence of the Load Dependent Material Properties on the Performance of Multilayer Piezoelectric Actuators. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2011, , 243-253.	0.1	0
85	Raman spectroscopy for the investigation of indentation-induced domain texturing in lead zirconate titanate piezoceramics. Scripta Materialia, 2010, 63, 343-346.	2.6	16
86	Modelling of the ferroic material behaviour of piezoelectrics: Characterisation of temperature-sensitive functional properties. Journal of the European Ceramic Society, 2010, 30, 249-254.	2.8	22
87	Fracture resistance of a doped PZT ceramic for multilayer piezoelectric actuators: Effect of mechanical load and temperature. Journal of the European Ceramic Society, 2010, 30, 705-712.	2.8	34
88	Mechanical characterisation of miniaturised direct inkjet printed 3Y-TZP specimens for microelectronic applications. Journal of the European Ceramic Society, 2010, 30, 3145-3152.	2.8	34
89	Numerical analysis on special cracking phenomena of residual compressive inter-layers in ceramic laminates. Engineering Fracture Mechanics, 2010, 77, 2567-2576.	2.0	22
90	High failure resistance layered ceramics using crack bifurcation and interface delamination as reinforcement mechanisms. Engineering Fracture Mechanics, 2010, 77, 2126-2135.	2.0	57

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91	Prediction of crack propagation in layered ceramics with strong interfaces. Engineering Fracture Mechanics, 2010, 77, 2192-2199.	2.0	44
92	Optimal strength and toughness of Al ₂ O ₃ /ZrO ₂ laminates designed with external or internal compressive layers. Journal of the European Ceramic Society, 2008, 28, 1575-1583.	2.8	85
93	Loading configuration effects on the strength reliability of alumina/zirconia multilayered ceramics. Composites Science and Technology, 2008, 68, 244-250.	3.8	8
94	Influence of notch radius and R-curve behaviour on the fracture toughness evaluation of WC/Co cemented carbides. Engineering Fracture Mechanics, 2008, 75, 4422-4430.	2.0	22
95	Fatigue Behavior of Alumina/Zirconia Multilayered Ceramics. Journal of the American Ceramic Society, 2008, 91, 1618-1625.	1.9	31
96	Position Resolved Residual Stress Determination in Alumina-Zirconia Multilayered Ceramics. Materials Science Forum, 2008, 571-572, 421-425.	0.3	0
97	Investigation of the Behavior of Multilayer Piezoelectric Actuators: Modeling and Experiments. , 2008, , .		1
98	Geometry Effect on the Thermal Shock Response of Al ₂ O ₃ /ZrO ₂ Multilayered Ceramics. Key Engineering Materials, 2007, 333, 251-254.	0.4	1
99	High-temperature mechanical behaviour of flaw tolerant alumina/zirconia multilayered ceramics. Acta Materialia, 2007, 55, 4891-4901.	3.8	43
100	Threshold strength evaluation on an Al ₂ O ₃ /ZrO ₂ multilayered system. Journal of the European Ceramic Society, 2007, 27, 1443-1448.	2.8	70
101	Processing optimisation and fracture behaviour of layered ceramic composites with highly compressive layers. Composites Science and Technology, 2007, 67, 1930-1938.	3.8	73
102	Fracture behaviour of an Al ₂ O ₃ /ZrO ₂ multilayered ceramic with residual stresses due to phase transformations*. Fatigue and Fracture of Engineering Materials and Structures, 2006, 29, 71-78.	1.7	31
103	Residual stresses, strength and toughness of laminates with different layer thickness ratios. Acta Materialia, 2006, 54, 4745-4757.	3.8	119
104	Tensiones residuales en cerámicas multicapa de Al ₂ O ₃ -ZrO ₂ : naturaleza, evaluación y consecuencias sobre la integridad estructural. Boletín De La Sociedad Española De Cerámica Y Vidrio, 2006, 45, 352-357.	0.9	21
105	Residual Stress Profile Determined by Piezo-Spectroscopy in Alumina/Alumina-Zirconia Layers Separated by a Compositionally Graded Intermediate Layer. Key Engineering Materials, 2005, 290, 328-331.	0.4	2
106	Thermal Shock Behavior of an Al ₂ O ₃ /ZrO ₂ Multilayered Ceramic with Residual Stresses due to Phase Transformations. Key Engineering Materials, 2005, 290, 191-198.	0.4	24
107	Modelización de la energía absorbida en la fusión de un metal por un haz láser. Revista De Metalurgia, 1998, 34, 421-427.	0.1	0
108	Influence of Internal Architectures on the Fracture Response of LTCC Components. Key Engineering Materials, 0, 409, 275-278.	0.4	11

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109	Fracture of Layered Ceramics. Key Engineering Materials, 0, 409, 94-106.	0.4	10
110	Fracture Mechanisms of Structural and Functional Multilayer Ceramic Structures. Key Engineering Materials, 0, 465, 41-46.	0.4	3
111	Study of Influence of Residual Stresses on Crack Propagation in Particulate Ceramic Composites. Solid State Phenomena, 0, 258, 178-181.	0.3	3
112	Residual Lifetime Determination of Low Temperature Co-Fired Ceramics. Key Engineering Materials, 0, 713, 266-269.	0.4	0
113	Thermal Shock Behavior of an $\text{Al}_2\text{O}_3/\text{ZrO}_2$ Multilayered Ceramic with Residual Stresses due to Phase Transformations. Key Engineering Materials, 0, , 191-198.	0.4	2
114	Residual Stress Profile Determined by Piezo-Spectroscopy in Alumina/Alumina-Zirconia Layers Separated by a Compositionally Graded Intermediate Layer. Key Engineering Materials, 0, , 328-331.	0.4	1