

Steve Bull

List of Publications by Year in descending order

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67
papers

3,185
citations

236925

25
h-index

149698

56
g-index

68
all docs

68
docs citations

68
times ranked

2576
citing authors

#	ARTICLE	IF	CITATIONS
1	On the hardness of coated systems. <i>Surface and Coatings Technology</i> , 1998, 99, 171-183.	4.8	518
2	An explanation of the indentation size effect in ceramics. <i>Philosophical Magazine Letters</i> , 1989, 59, 281-288.	1.2	316
3	Nanoindentation of coatings. <i>Journal Physics D: Applied Physics</i> , 2005, 38, R393-R413.	2.8	305
4	New developments in the modelling of the hardness and scratch adhesion of thin films. <i>Surface and Coatings Technology</i> , 1990, 42, 149-164.	4.8	261
5	Multilayer coatings for improved performance. <i>Surface and Coatings Technology</i> , 1996, 78, 173-184.	4.8	232
6	Assessment of the toughness of thin coatings using nanoindentation under displacement control. <i>Thin Solid Films</i> , 2006, 494, 1-7.	1.8	112
7	On the factors affecting the critical indenter penetration for measurement of coating hardness. <i>Vacuum</i> , 2009, 83, 911-920.	3.5	108
8	The effect of processing parameters on the mechanical characteristics of PLA produced by a 3D FFF printer. <i>International Journal of Advanced Manufacturing Technology</i> , 2020, 111, 695-709.	3.0	102
9	Modelling of the hardness of electroplated nickel coatings on copper substrates. <i>Surface and Coatings Technology</i> , 2000, 127, 1-8.	4.8	82
10	Engineering with surface coatings: The role of coating microstructure. <i>Surface and Coatings Technology</i> , 1989, 39-40, 315-328.	4.8	75
11	On the origins and mechanisms of the indentation size effect. <i>International Journal of Materials Research</i> , 2003, 94, 787-792.	0.8	74
12	Impact of strained-Si thickness and Ge out-diffusion on gate oxide quality for strained-Si surface channel n-MOSFETs. <i>IEEE Transactions on Electron Devices</i> , 2006, 53, 1142-1152.	3.0	74
13	On the relationship between plastic zone radius and maximum depth during nanoindentation. <i>Surface and Coatings Technology</i> , 2006, 201, 4289-4293.	4.8	73
14	A comparison of nanoindentation pile-up in bulk materials and thin films. <i>Thin Solid Films</i> , 2014, 572, 189-199.	1.8	62
15	The abrasive wear resistance of sputter ion plated titanium nitride coatings. <i>Surface and Coatings Technology</i> , 1988, 36, 743-754.	4.8	61
16	Why does titanium alloy wear cobalt chrome alloy despite lower bulk hardness: A nanoindentation study?. <i>Thin Solid Films</i> , 2013, 549, 79-86.	1.8	57
17	Interface engineering and graded films: Structure and characterization. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2001, 19, 1404-1414.	2.1	53
18	A critical examination of the relationship between plastic deformation zone size and Young's modulus to hardness ratio in indentation testing. <i>Journal of Materials Research</i> , 2006, 21, 2617-2627.	2.6	50

#	ARTICLE	IF	CITATIONS
19	Modelling the hardness response of bulk materials, single and multilayer coatings. Thin Solid Films, 2001, 398-399, 291-298.	1.8	39
20	The investigation of creep of electroplated Sn and Niâ€“Sn coating on copper at room temperature by nanoindentation. Surface and Coatings Technology, 2009, 203, 1609-1617.	4.8	37
21	Investigation of the effect of raster angle, build orientation, and infill density on the elastic response of 3D printed parts using finite element microstructural modeling and homogenization techniques. International Journal of Advanced Manufacturing Technology, 2022, 118, 1485-1510.	3.0	37
22	Phase transformations associated with micropitting in rolling/sliding contacts. Journal of Materials Science, 2005, 40, 4767-4774.	3.7	32
23	Nanoindentation in studying mechanical properties of heterogeneous materials. Journal of Mining Science, 2015, 51, 470-476.	0.6	29
24	Thermal effects on the microstructure and mechanical properties of ion implanted ceramics. Journal of Materials Science, 1991, 26, 3086-3106.	3.7	26
25	How hard is fullerene-like CN_x? Some observations from the nanoindentation response of a magnetron-sputtered coating. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 2002, 82, 2133-2147.	0.6	26
26	Mechanism of improvement of TiN-coated tool life by nitrogen implantation. Journal of Materials Research, 2001, 16, 3293-3303.	2.6	23
27	Dependence of Process Parameters on Stress Generation in Aluminum Thin Films. IEEE Transactions on Device and Materials Reliability, 2004, 4, 482-487.	2.0	20
28	Critical review of claims for ultra-hardness in nanocomposite coatings. Philosophical Magazine, 2012, 92, 1601-1630.	1.6	20
29	Elastic properties of eta carbide ($\bar{\eta}$ -Fe ₂ C) from ab initio calculations: application to cryogenically treated gear steel. Journal of Materials Science, 2014, 49, 2383-2390.	3.7	19
30	The charge state of titanium ions implanted into sapphire: An EXAFS investigation. Journal of Materials Science, 1986, 21, 1547-1552.	3.7	18
31	Experimental assessment of the elastic properties of thin TiN/AlN superlattice and nano-multilayer coatings. Surface and Coatings Technology, 2014, 257, 87-94.	4.8	18
32	Microbiological influence of metal ion electrodeposition: Studies using graphite electrodes, [AuCl ₄] ⁻ and Shewanella putrefaciens. Electrochimica Acta, 2014, 115, 344-351.	5.2	17
33	A simple method for the assessment of the contact modulus for coated systems. Philosophical Magazine, 2015, 95, 1907-1927.	1.6	15
34	Structural performance of composite tidal turbine blades. Composite Structures, 2021, 278, 114679.	5.8	15
35	Test Chip for the Development and Evaluation of Sensors for Measuring Stress in Metal Interconnects. IEEE Transactions on Semiconductor Manufacturing, 2005, 18, 255-261.	1.7	14
36	Microstructure and indentation response of TiN coatings: The effect of measurement method. Thin Solid Films, 2019, 688, 137452.	1.8	14

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37	Fatigue damage analysis of GFRP composites using digital image correlation. Journal of Ocean Engineering and Marine Energy, 2021, 7, 25-40.	1.7	14
38	Chemomechanical effects in ion-implanted MgO. Journal Physics D: Applied Physics, 1989, 22, 941-947.	2.8	13
39	Mechanistic Study of the Wear of Ceramic Heads by Metallic Stems in Modular Implants. Journal of Bio- and Tribo-Corrosion, 2017, 3, 1.	2.6	12
40	A novel sensor for the direct measurement of process induced residual stress in interconnects. , 0, , .		11
41	Calibration of MEMS-based test structures for predicting thermomechanical stress in integrated circuit interconnect structures. IEEE Transactions on Device and Materials Reliability, 2005, 5, 713-719.	2.0	11
42	Intentional Polymer Particle Contamination and the Simulation of Adhesion Failure due to Transit Scratches in Ultra-thin Solar Control Coatings on Glass. Journal of Adhesion Science and Technology, 2008, 22, 121-132.	2.6	9
43	Size effects in the mechanical response of nanoscale multilayer coatings on glass. Thin Solid Films, 2014, 571, 290-295.	1.8	9
44	Application of dynamic thermal engineering principles to improve the efficiency of resource use in UK pork production chains. Energy and Buildings, 2017, 139, 53-62.	6.7	9
45	Finite element modeling of nanoindentation response of elastic fiber-matrix composites. Journal of Materials Research, 2018, 33, 2494-2503.	2.6	9
46	Nanometer strain profiling through Si/SiGe quantum layers. Journal of Applied Physics, 2008, 104, .	2.5	7
47	Measuring and modelling the instrumented indentation (nanoindentation) response of coated systems. Philosophical Magazine, 2006, 86, 5331-5346.	1.6	6
48	Investigation of the relationship between work done during indentation and the hardness and Young's modulus obtained by indentation testing. International Journal of Materials Research, 2008, 99, 852-857.	0.3	6
49	Effect of microstructure on hardness of submicrometre thin films and nanostructured devices. Materials Science and Technology, 2012, 28, 1177-1185.	1.6	6
50	Using CFD Modelling to Relate Pig Lying Locations to Environmental Variability in Finishing Pens. Sustainability, 2020, 12, 1928.	3.2	6
51	Investigation of anisotropy effects in glass fibre reinforced polymer composites on tensile and shear properties using full field strain measurement and finite element multi-scale techniques. Journal of Composite Materials, 0, , 002199832110542.	2.4	4
52	Measurement of the residual macro and microstrain in strained Si/SiGe using Raman spectroscopy. Materials Research Society Symposia Proceedings, 2004, 809, B3.4.1.	0.1	3
53	Elastic properties of multilayer oxide coatings on float glass. Vacuum, 2015, 114, 150-157.	3.5	3
54	Obtaining mechanical parameters for metallisation stress sensor design using nanoindentation. International Journal of Materials Research, 2022, 96, 1262-1266.	0.3	3

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55	Effectiveness of the Reverse Bending and Straightening Tests in Detecting Laminations in Wires for Civil Engineering Applications. Archives of Civil Engineering, 2013, 59, 423-439.	0.7	2
56	Fatigue of Sandwich Composites in Air and Seawater. Journal of Bio- and Tribo-Corrosion, 2016, 2, 1.	2.6	2
57	Modelling of the mechanical and tribological properties of coatings and surface treatments. Materials Research Society Symposia Proceedings, 2002, 750, 1.	0.1	1
58	Assessment of aluminium metallisation by nanoindentation. Materials Research Society Symposia Proceedings, 2002, 750, 1.	0.1	1
59	Determination of mechanical parameters for rotating MEMS structures as a function of deposition method. Materials Research Society Symposia Proceedings, 2003, 795, 535.	0.1	1
60	Hardness across the multi-scales of structure and loading rate: A post-meeting response to the "pre-editorial". Materials Science and Technology, 2012, 28, 1025-1027.	1.6	1
61	Potential of households' solar PV consumption in South Africa. African Journal of Science, Technology, Innovation and Development, 0, , 1-10.	1.6	1
62	Hinge Sensitivity in a Micro-Rotating Structure for predicting Induced Thermo Mechanical Stress in Integrated Circuit Metal Interconnects. Materials Research Society Symposia Proceedings, 2003, 795, 52.	0.1	0
63	Calibration and optimization of interconnect based MEMS test structures for predicting thermo-mechanical stress in metallization. , 0, , .		0
64	Test chip for the development and evaluation of test structures for measuring stress in metal interconnect. , 0, , .		0
65	Investigation of Chemomechanical Effects on Sapphire Surfaces Modified by Ion-Implantation-Induced Carbon Impurities. Journal of Bio- and Tribo-Corrosion, 2021, 7, 1.	2.6	0
66	Technique for measuring the residual strain in strained Si/SiGe MOSFET structures using Raman spectroscopy. International Journal of Materials Research, 2022, 95, 340-344.	0.3	0
67	Unravelling the combined effect of cooling rate and microalloying on the microstructure and tribological performance of Cu50Zr50. Wear, 2022, 494-495, 204276.	3.1	0