Abhijit Chandra

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/4714945/publications.pdf

Version: 2024-02-01

102	2,320	186265	233421
papers	citations	28 h-index	45 g-index

103	103	103	1413
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Molecular dynamics simulation of nanoscale machining of copper. Nanotechnology, 2003, 14, 390-396.	2.6	134
2	A plasticity-based model of material removal in chemical-mechanical polishing (CMP). IEEE Transactions on Semiconductor Manufacturing, 2001, 14, 406-417.	1.7	129
3	A generalized self-consistent mechanics method for composite materials with multiphase inclusions. Journal of the Mechanics and Physics of Solids, 1994, 42, 491-504.	4.8	119
4	A study of microbend test by strain gradient plasticity. International Journal of Plasticity, 2003, 19, 365-382.	8.8	97
5	A generalized self-consistent mechanics method for microcracked solids. Journal of the Mechanics and Physics of Solids, 1994, 42, 1273-1291.	4.8	92
6	Modeling of thermal stresses and lifetime prediction of planar solid oxide fuel cell under thermal cycling conditions. Journal of Power Sources, 2010, 195, 2310-2318.	7.8	88
7	Experimental and modeling characterization of wear and life expectancy of electroplated CBN grinding wheels. International Journal of Machine Tools and Manufacture, 2017, 121, 70-80.	13.4	73
8	A Unified Bifurcation Analysis of Sheet Metal Forming Limits. Journal of Engineering Materials and Technology, Transactions of the ASME, 2001, 123, 329-333.	1.4	69
9	Multiple void-crack interaction. International Journal of Solids and Structures, 1993, 30, 1473-1489.	2.7	68
10	Prediction of scratch generation in chemical mechanical planarization. CIRP Annals - Manufacturing Technology, 2008, 57, 559-562.	3.6	65
11	Using vibration-assisted grinding to reduce subsurface damage. Precision Engineering, 2000, 24, 329-337.	3.4	61
12	Pad effects on material-removal rate in chemical-mechanical planarization. Journal of Electronic Materials, 2002, 31, 1022-1031.	2.2	59
13	Characteristics of single-grit rotating scratch with a conical tool on pure titanium. Wear, 2001, 249, 566-581.	3.1	50
14	The numerical calculation of two-dimensional effective moduli for microcracked solids. International Journal of Solids and Structures, 1996, 33, 1575-1586.	2.7	48
15	A boundary element formulation for design sensitivities in materially nonlinear problems. Acta Mechanica, 1989, 78, 243-253.	2.1	47
16	A Scratch Intersection Model of Material Removal During Chemical Mechanical Planarization (CMP). Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2005, 127, 545-554.	2.2	44
17	Fabrication of solid oxide fuel cell anode electrode by spray pyrolysis. Journal of Power Sources, 2010, 195, 7046-7053.	7.8	38
18	Shape design sensitivity analysis for geometrically and materially nonlinear problems by the boundary element method. International Journal of Solids and Structures, 1992, 29, 2503-2525.	2.7	37

#	Article	IF	Citations
19	A model for wafer scale variation of material removal rate in chemical mechanical polishing based on viscoelastic pad deformation. Journal of Electronic Materials, 2002, 31, 1066-1073.	2.2	36
20	Performance and modeling of paired polishing process. International Journal of Machine Tools and Manufacture, 2016, 109, 49-57.	13.4	36
21	A unified energy approach to a class of micromechanics models for composite materials. Acta Mechanica Sinica/Lixue Xuebao, 1995, 11, 59-75.	3.4	35
22	Life expectancy of modular Ti6Al4V hip implants: Influence of stress and environment. Journal of the Mechanical Behavior of Biomedical Materials, 2011, 4, 1990-2001.	3.1	35
23	A Boundary Element Method Analysis of the Thermal Aspects of Metal Cutting Processes. Journal of Engineering for Industry, 1991, 113, 311-319.	0.8	34
24	Boundary element formulations for large strain-large deformation problems of viscoplasticity. International Journal of Solids and Structures, 1984, 20, 41-53.	2.7	33
25	The relationship between wafer surface pressure and wafer backside loading in Chemical Mechanical Polishing. Thin Solid Films, 2005, 474, 217-221.	1.8	33
26	A finite element analysis of metal-forming problems with an elastic-viscoplastic material model. International Journal for Numerical Methods in Engineering, 1984, 20, 1613-1628.	2.8	31
27	Simulation of chemical mechanical planarization of copper with molecular dynamics. Applied Physics Letters, 2002, 81, 1875-1877.	3.3	30
28	An analytical dishing and step height reduction model for chemical mechanical planarization (CMP). IEEE Transactions on Semiconductor Manufacturing, 2003, 16, 477-485.	1.7	30
29	A model for wafer scale variation of removal rate in chemical mechanical polishing based on elastic pad deformation. Journal of Electronic Materials, 2001, 30, 400-408.	2.2	29
30	Role of surfaces and interfaces in solar cell manufacturing. CIRP Annals - Manufacturing Technology, 2014, 63, 797-819.	3.6	28
31	A Fracture Mechanics Approach to Modeling Strength Degradation in Ceramic Grinding Processes. Journal of Engineering for Industry, 1993, 115, 73-84.	0.8	25
32	A boundary element formulation for design sensitivities in problems involving both geometric and material nonlinearities. Mathematical and Computer Modelling, 1991, 15, 245-255.	2.0	24
33	Modeling of Solid Oxide Fuel Cells with Particle Size and Porosity Grading in Anode Electrode. Fuel Cells, 2012, 12, 97-108.	2.4	24
34	The effective elastic moduli of microcracked composite materials. International Journal of Solids and Structures, 1993, 30, 1907-1918.	2.7	23
35	On interacting bridged-crack systems. International Journal of Solids and Structures, 1994, 31, 599-611.	2.7	23
36	Atmospheric pressure plasma enabled polishing of single crystal sapphire. CIRP Annals - Manufacturing Technology, 2015, 64, 515-518.	3.6	23

#	Article	IF	Citations
37	Boundary element method analysis for the transient conduction â€“ convection in 2-D with spatially variable convective velocity. Applied Mathematical Modelling, 1998, 22, 81-112.	4.2	22
38	Surface Evolution during the Chemical Mechanical Planarization of Copper. CIRP Annals - Manufacturing Technology, 2006, 55, 605-608.	3.6	21
39	Modeling of Niâ€“CGO anode in a solid oxide fuel cell deposited by spray pyrolysis. Journal of Power Sources, 2012, 210, 129-137.	7.8	21
40	Modeling of separator failure in lithium-ion pouch cells under compression. Journal of Power Sources, 2019, 435, 226756.	7.8	21
41	Microstructural and electrochemical impedance study of nickelâ€“Ce0.9Gd0.1O1.95 anodes for solid oxide fuel cells fabricated by ultrasonic spray pyrolysis. Journal of Power Sources, 2011, 196, 3026-3032.	7.8	20
42	An algorithm for handling corners in the boundary element method: Application to conduction-convection equations. Applied Mathematical Modelling, 1991, 15, 244-255.	4.2	19
43	Shape optimization in elasticity and elasto-viscoplasticity by the boundary element method. International Journal of Solids and Structures, 1994, 31, 533-550.	2.7	19
44	Analytical Dishing and Step Height Reduction Model for CMP With a Viscoelastic Pad. Journal of the Electrochemical Society, 2004, 151, G583.	2.9	19
45	Diffusion-Limited Agglomeration and Defect Generation during Chemical Mechanical Planarization. Journal of the Electrochemical Society, 2008, 155, D534.	2.9	16
46	Modeling Wear Process of Electroplated CBN Grinding Wheel. , 2015, , .		16
47	A finite element analysis of metal forming processes with thermomechanical coupling. International Journal of Mechanical Sciences, 1984, 26, 661-676.	6.7	15
48	Influence of strain-rate sensitivity on necking and instability in sheet metal forming. Journal of Materials Processing Technology, 1999, 96, 133-138.	6.3	15
49	Fracture Modeling of Lithium-Silicon Battery Based on Variable Elastic Moduli. Journal of the Electrochemical Society, 2017, 164, E3606-E3612.	2.9	15
50	A Boundary Element Method Formulation for Design Sensitivities in Steady-State Conduction-Convection Problems. Journal of Applied Mechanics, Transactions ASME, 1992, 59, 182-190.	2.2	14
51	Experimental Characterization of Electroplated CBN Grinding Wheel Wear: Topology Evolution and Interfacial Toughness. , 2014, , .		14
52	Chemo-economic analysis of battery aging and capacity fade in lithium-ion battery. Journal of Energy Storage, 2019, 25, 100911.	8.1	14
53	Chemical mechanical paired grinding: a tool for multi-wavelength planarization. International Journal of Advanced Manufacturing Technology, 2017, 89, 611-617.	3.0	13
54	Thermal aspects of machining: A BEM approach. International Journal of Solids and Structures, 1994, 31, 1657-1693.	2.7	12

#	Article	IF	Citations
55	A Stochastic Model for the Effects of Pad Surface Topography Evolution on Material Removal Rate Decay in Chemicalâ€“Mechanical Planarization. IEEE Transactions on Semiconductor Manufacturing, 2005, 18, 695-708.	1.7	12
56	Package structural integrity analysis considering moisture. , 2008, , .		12
57	Simulation-driven Selection of Electrode Materials Based on Mechanical Performance for Lithium-Ion Battery. Materials, 2019, 12, 831.	2.9	11
58	A BEM approach to thermal aspects of machining processes and their design sensitivities. Applied Mathematical Modelling, 1991, 15, 562-575.	4.2	10
59	A boundary element analysis of the axisymmetric extrusion processes. International Journal of Non-Linear Mechanics, 1991, 26, 1-13.	2.6	9
60	Analyses of metal forming problems by the boundary element method. International Journal of Solids and Structures, 1994, 31, 1695-1736.	2.7	9
61	Interactions among cracks and rigid lines near a free surface. International Journal of Solids and Structures, 1993, 30, 1919-1937.	2.7	8
62	BEM FORMULATION FOR STEADY-STATE CONDUCTION-CONVECTION PROBLEMS WITH VARIABLE VELOCITIES. Numerical Heat Transfer, Part B: Fundamentals, 1994, 25, 415-432.	0.9	8
63	Parametric Analysis of Electrode Materials on Thermal Performance of Lithium-Ion Battery: A Material Selection Approach. Journal of the Electrochemical Society, 2018, 165, A1587-A1594.	2.9	7
64	A boundary element formulation for large strain problems of compressible plasticity. Engineering Analysis, 1986, 3, 71-78.	0.1	6
65	A Quantitative Analysis of Multi-Scale Response of CMP Pad and Implication to Process Assessments. ECS Journal of Solid State Science and Technology, 2019, 8, P3145-P3153.	1.8	6
66	Simulation of Rolling Processes by the Boundary Element Method. , 1988, , 93-100.		6
67	Void Nucleation and Growth during Plane Strain Extrusion. International Journal of Damage Mechanics, 1993, 2, 330-348.	4.2	5
68	Yield improvement in wafer planarization: Modeling and simulation. Journal of Manufacturing Systems, 2003, 22, 239-247.	13.9	5
69	Prognosis of anterior cruciate ligament reconstruction: a data-driven approach. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2015, 471, 20140526.	2.1	5
70	A boundary element analysis of axisymmetric upsetting. Mathematical and Computer Modelling, 1991, 15, 81-92.	2.0	4
71	Multi-Scale Characterization of Pad Role on Material Removal Rate in CMP. Materials Research Society Symposia Proceedings, 2003, 767, 1.	0.1	4
72	Modelling and analysis of pad surface topography and slurry particle size distribution effects on material removal rate in chemical mechanical planarisation. International Journal of Manufacturing Technology and Management, 2005, 7, 504.	0.1	4

#	Article	IF	Citations
73	MOLECULAR APPROACH TO MATERIAL DETACHMENT MECHANISM DURING CHEMICAL MECHANICAL PLANARIZATION. Machining Science and Technology, 2007, 11, 515-530.	2.5	4
74	Measurement of Ultrathin Film Mechanical Properties by Integrated Nano-scratch/indentation Approach. Materials Research Society Symposia Proceedings, 2007, 1049, 1.	0.1	4
75	On removing Condorcet effects from pairwise election tallies. Social Choice and Welfare, 2013, 40, 1143-1158.	0.8	4
76	Data-driven prognosis: a multi-physics approach verified via balloon burst experiment. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2015, 471, 20140525.	2.1	4
77	Yield improvement via minimisation of step height non-uniformity in chemical mechanical planarisation (CMP) with pressure and velocity as control variables. International Journal of Manufacturing Technology and Management, 2005, 7, 467.	0.1	3
78	Synergy between Chemical Dissolution and Mechanical Abrasion during Chemical Mechanical Polishing of Copper. Materials Research Society Symposia Proceedings, 2005, 867, 581.	0.1	3
79	Defectivity Avoidance in Chemical Mechanical Planarization: Role of Multi-Scale and Multi-Physics Interactions. ECS Transactions, 2010, 33, 9-20.	0.5	2
80	A synthesized design for arc welding processes. Robotics and Computer-Integrated Manufacturing, 1988, 4, 347-358.	9.9	1
81	Mechanistic Understanding of Material Detachment During CMP Processing. Materials Research Society Symposia Proceedings, 2002, 732, 1.	0.1	1
82	Role of Forming In Micro- And Nano-Scale Material Removal Mechanisms During Surface Machining of Ductile Materials. AIP Conference Proceedings, 2004, , .	0.4	1
83	Life Prediction of a Solid Oxide Fuel Cell Under Thermal Cycling Conditions. , 2009, , .		1
84	Focused Electric Field-Induced Ion Transport: Experiments and Modeling. Electrochemical and Solid-State Letters, 2010, 13, D100.	2.2	1
85	Chip Segmentation in Machining: A Study of Deformation Localization Characteristics in Ti6Al4V. , 2013, , .		1
86	Mixed Strategy Combination of Pressure and Velocity Control for Chemical Mechanical Planarization of Patterned Wafers. ECS Journal of Solid State Science and Technology, 2015, 4, P5105-P5111.	1.8	1
87	A Boundary Element Formulation for Design Sensitivities in Materially Nonlinear Problems. , 1988, , 423-432.		1
88	A boundary element formulation for design sensitivities in thermoplastic problems involving nonhomogeneous media. Engineering Analysis With Boundary Elements, 1992, 10, 49-57.	3.7	0
89	Generalized Predictive Kinetic Energy Controller for Vibration Suppression in Turning. , 1999, , .		0
90	An Analytical Dishing and Step Height Reduction Model for Chemical Mechanical Planarization (CMP). , 2002, , 85.		0

#	Article	IF	Citations
91	Yield Improvement via minimization of step height non-uniformity in Chemical Mechanical Planarization (CMP). Materials Research Society Symposia Proceedings, 2005, 867, 521.	0.1	0
92	Surface Stress Generation During Formation of Alkanethiol Self-assembled Monolayer (SAM). Materials Research Society Symposia Proceedings, 2006, 951, 5.	0.1	0
93	Single Asperity Wear and Stress-Assisted Dissolution of Copper. Materials Research Society Symposia Proceedings, 2007, 1025, 1.	0.1	0
94	Understanding Multi Scale Pad Effects in Chemical Mechanical Planarization. Materials Research Society Symposia Proceedings, 2009, 1157, 1.	0.1	0
95	Modeling and Control of Surface Quality in Chemical Mechanical Planarization (CMP). , 2017, , .		0
96	Wafer Scale Modeling and Control for Yield Improvement in Wafer Planarization. , 2002, , .		0
97	512 MECHANISTIC UNDERSTANDING OF MATERIAL DETACHMENT DURING MICRO-SCALE POLISHING. The Proceedings of the JSME Materials and Processing Conference (M&P), 2002, 10.1, 331-336.	0.1	0
98	On reducing the influence of Condorcet cycles from pairwise election data. , 2010, , .		0
99	Deposition of Porous Anode Electrode of a Solid Oxide Fuel Cell by Ultrasonic Spray Pyrolysis. , 2010, , .		0
100	Analysis of Ring Compression by the Boundary Element Method. , 1988, , 107-108.		0
101	A BEM Approach for Transient Conduction-Convection in Machining Processes. Springer Series in Computational Mechanics, 1993, , 55-79.	0.3	0
102	Simulation of Brain Response to Noncontact Impacts Using Coupled Eulerianâ€“Lagrangian Method. Journal of Biomechanical Engineering, 2020, 142, .	1.3	0