Abhijit Chandra

List of Publications by Year
in descending order

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102	2,320	185998	233125
papers	citations	28 h-index	45 g-index

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

#	Article	IF	Citations
1	Simulation of Brain Response to Noncontact Impacts Using Coupled Eulerianâ€“Lagrangian Method. Journal of Biomechanical Engineering, 2020, 142, .	0.6	0
2	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.	0.9	6
3	Chemo-economic analysis of battery aging and capacity fade in lithium-ion battery. Journal of Energy Storage, 2019, 25, 100911.	3.9	14
4	Modeling of separator failure in lithium-ion pouch cells under compression. Journal of Power Sources, 2019, 435, 226756.	4.0	21
5	Simulation-driven Selection of Electrode Materials Based on Mechanical Performance for Lithium-Ion Battery. Materials, 2019, 12, 831.	1.3	11
6	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.	1.3	7
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.	6.2	73
8	Chemical mechanical paired grinding: a tool for multi-wavelength planarization. International Journal of Advanced Manufacturing Technology, 2017, 89, 611-617.	1.5	13
9	Fracture Modeling of Lithium-Silicon Battery Based on Variable Elastic Moduli. Journal of the Electrochemical Society, 2017, 164, E3606-E3612.	1.3	15
10	Modeling and Control of Surface Quality in Chemical Mechanical Planarization (CMP). , 2017, , .		0
11	Performance and modeling of paired polishing process. International Journal of Machine Tools and Manufacture, 2016, 109, 49-57.	6.2	36
12	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.	0.9	1
13	Modeling Wear Process of Electroplated CBN Grinding Wheel. , 2015, , .		16
14	Atmospheric pressure plasma enabled polishing of single crystal sapphire. CIRP Annals - Manufacturing Technology, 2015, 64, 515-518.	1.7	23
15	Prognosis of anterior cruciate ligament reconstruction: a data-driven approach. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2015, 471, 20140526.	1.0	5
16	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.	1.0	4
17	Experimental Characterization of Electroplated CBN Grinding Wheel Wear: Topology Evolution and Interfacial Toughness. , 2014, , .		14
18	Role of surfaces and interfaces in solar cell manufacturing. CIRP Annals - Manufacturing Technology, 2014, 63, 797-819.	1.7	28

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19	On removing Condorcet effects from pairwise election tallies. Social Choice and Welfare, 2013, 40, 1143-1158.	0.4	4
20	Chip Segmentation in Machining: A Study of Deformation Localization Characteristics in Ti6Al4V. , 2013, , .		1
21	Modeling of Niâ€“CGO anode in a solid oxide fuel cell deposited by spray pyrolysis. Journal of Power Sources, 2012, 210, 129-137.	4.0	21
22	Modeling of Solid Oxide Fuel Cells with Particle Size and Porosity Grading in Anode Electrode. Fuel Cells, 2012, 12, 97-108.	1.5	24
23	Life expectancy of modular Ti6Al4V hip implants: Influence of stress and environment. Journal of the Mechanical Behavior of Biomedical Materials, 2011, 4, 1990-2001.	1.5	35
24	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.	4.0	20
25	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.	4.0	88
26	Fabrication of solid oxide fuel cell anode electrode by spray pyrolysis. Journal of Power Sources, 2010, 195, 7046-7053.	4.0	38
27	Focused Electric Field-Induced Ion Transport: Experiments and Modeling. Electrochemical and Solid-State Letters, 2010, 13, D100.	2.2	1
28	Defectivity Avoidance in Chemical Mechanical Planarization: Role of Multi-Scale and Multi-Physics Interactions. ECS Transactions, 2010, 33, 9-20.	0.3	2
29	On reducing the influence of Condorcet cycles from pairwise election data. , 2010, , .		0
30	Deposition of Porous Anode Electrode of a Solid Oxide Fuel Cell by Ultrasonic Spray Pyrolysis. , 2010, , .		0
31	Life Prediction of a Solid Oxide Fuel Cell Under Thermal Cycling Conditions. , 2009, , .		1
32	Understanding Multi Scale Pad Effects in Chemical Mechanical Planarization. Materials Research Society Symposia Proceedings, 2009, 1157, 1.	0.1	0
33	Prediction of scratch generation in chemical mechanical planarization. CIRP Annals - Manufacturing Technology, 2008, 57, 559-562.	1.7	65
34	Diffusion-Limited Agglomeration and Defect Generation during Chemical Mechanical Planarization. Journal of the Electrochemical Society, 2008, 155, D534.	1.3	16
35	Package structural integrity analysis considering moisture. , 2008, , .		12
36	MOLECULAR APPROACH TO MATERIAL DETACHMENT MECHANISM DURING CHEMICAL MECHANICAL PLANARIZATION. Machining Science and Technology, 2007, 11, 515-530.	1.4	4

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37	Single Asperity Wear and Stress-Assisted Dissolution of Copper. Materials Research Society Symposia Proceedings, 2007, 1025, 1.	0.1	0
38	Measurement of Ultrathin Film Mechanical Properties by Integrated Nano-scratch/indentation Approach. Materials Research Society Symposia Proceedings, 2007, 1049, 1.	0.1	4
39	Surface Evolution during the Chemical Mechanical Planarization of Copper. CIRP Annals - Manufacturing Technology, 2006, 55, 605-608.	1.7	21
40	Surface Stress Generation During Formation of Alkanethiol Self-assembled Monolayer (SAM). Materials Research Society Symposia Proceedings, 2006, 951, 5.	0.1	0
41	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
42	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
43	The relationship between wafer surface pressure and wafer backside loading in Chemical Mechanical Polishing. Thin Solid Films, 2005, 474, 217-221.	0.8	33
44	Synergy between Chemical Dissolution and Mechanical Abrasion during Chemical Mechanical Polishing of Copper. Materials Research Society Symposia Proceedings, 2005, 867, 581.	0.1	3
45	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
46	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.	1.3	44
47	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.	1.4	12
48	Analytical Dishing and Step Height Reduction Model for CMP With a Viscoelastic Pad. Journal of the Electrochemical Society, 2004, 151, G583.	1.3	19
49	Role of Forming In Micro- And Nano-Scale Material Removal Mechanisms During Surface Machining of Ductile Materials. AIP Conference Proceedings, 2004, , .	0.3	1
50	A study of microbend test by strain gradient plasticity. International Journal of Plasticity, 2003, 19, 365-382.	4.1	97
51	Yield improvement in wafer planarization: Modeling and simulation. Journal of Manufacturing Systems, 2003, 22, 239-247.	7.6	5
52	Molecular dynamics simulation of nanoscale machining of copper. Nanotechnology, 2003, 14, 390-396.	1.3	134
53	An analytical dishing and step height reduction model for chemical mechanical planarization (CMP). IEEE Transactions on Semiconductor Manufacturing, 2003, 16, 477-485.	1.4	30
54	Multi-Scale Characterization of Pad Role on Material Removal Rate in CMP. Materials Research Society Symposia Proceedings, 2003, 767, 1.	0.1	4

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55	An Analytical Dishing and Step Height Reduction Model for Chemical Mechanical Planarization (CMP). , 2002, , 85.		0
56	Simulation of chemical mechanical planarization of copper with molecular dynamics. Applied Physics Letters, 2002, 81, 1875-1877.	1.5	30
57	Mechanistic Understanding of Material Detachment During CMP Processing. Materials Research Society Symposia Proceedings, 2002, 732, 1.	0.1	1
58	Pad effects on material-removal rate in chemical-mechanical planarization. Journal of Electronic Materials, 2002, 31, 1022-1031.	1.0	59
59	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.	1.0	36
60	Wafer Scale Modeling and Control for Yield Improvement in Wafer Planarization. , 2002, , .		0
61	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
62	A plasticity-based model of material removal in chemical-mechanical polishing (CMP). IEEE Transactions on Semiconductor Manufacturing, 2001, 14, 406-417.	1.4	129
63	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.	1.0	29
64	Characteristics of single-grit rotating scratch with a conical tool on pure titanium. Wear, 2001, 249, 566-581.	1.5	50
65	A Unified Bifurcation Analysis of Sheet Metal Forming Limits. Journal of Engineering Materials and Technology, Transactions of the ASME, 2001, 123, 329-333.	0.8	69
66	Using vibration-assisted grinding to reduce subsurface damage. Precision Engineering, 2000, 24, 329-337.	1.8	61
67	Generalized Predictive Kinetic Energy Controller for Vibration Suppression in Turning. , 1999, , .		0
68	Influence of strain-rate sensitivity on necking and instability in sheet metal forming. Journal of Materials Processing Technology, 1999, 96, 133-138.	3.1	15
69	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.	2.2	22
70	The numerical calculation of two-dimensional effective moduli for microcracked solids. International Journal of Solids and Structures, 1996, 33, 1575-1586.	1.3	48
71	A unified energy approach to a class of micromechanics models for composite materials. Acta Mechanica Sinica/Lixue Xuebao, 1995, 11, 59-75.	1.5	35
72	Analyses of metal forming problems by the boundary element method. International Journal of Solids and Structures, 1994, 31, 1695-1736.	1.3	9

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73	Shape optimization in elasticity and elasto-viscoplasticity by the boundary element method. International Journal of Solids and Structures, 1994, 31, 533-550.	1.3	19
74	On interacting bridged-crack systems. International Journal of Solids and Structures, 1994, 31, 599-611.	1.3	23
75	Thermal aspects of machining: A BEM approach. International Journal of Solids and Structures, 1994, 31, 1657-1693.	1.3	12
76	A generalized self-consistent mechanics method for composite materials with multiphase inclusions. Journal of the Mechanics and Physics of Solids, 1994, 42, 491-504.	2.3	119
77	A generalized self-consistent mechanics method for microcracked solids. Journal of the Mechanics and Physics of Solids, 1994, 42, 1273-1291.	2.3	92
78	BEM FORMULATION FOR STEADY-STATE CONDUCTION-CONVECTION PROBLEMS WITH VARIABLE VELOCITIES. Numerical Heat Transfer, Part B: Fundamentals, 1994, 25, 415-432.	0.6	8
79	The effective elastic moduli of microcracked composite materials. International Journal of Solids and Structures, 1993, 30, 1907-1918.	1.3	23
80	Multiple void-crack interaction. International Journal of Solids and Structures, 1993, 30, 1473-1489.	1.3	68
81	Interactions among cracks and rigid lines near a free surface. International Journal of Solids and Structures, 1993, 30, 1919-1937.	1.3	8
82	A Fracture Mechanics Approach to Modeling Strength Degradation in Ceramic Grinding Processes. Journal of Engineering for Industry, 1993, 115, 73-84.	0.8	25
83	Void Nucleation and Growth during Plane Strain Extrusion. International Journal of Damage Mechanics, 1993, 2, 330-348.	2.4	5
84	A BEM Approach for Transient Conduction-Convection in Machining Processes. Springer Series in Computational Mechanics, 1993, , 55-79.	0.3	0
85	A Boundary Element Method Formulation for Design Sensitivities in Steady-State Conduction-Convection Problems. Journal of Applied Mechanics, Transactions ASME, 1992, 59, 182-190.	1.1	14
86	A boundary element formulation for design sensitivities in thermoplastic problems involving nonhomogeneous media. Engineering Analysis With Boundary Elements, 1992, 10, 49-57.	2.0	0
87	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.	1.3	37
88	An algorithm for handling corners in the boundary element method: Application to conduction-convection equations. Applied Mathematical Modelling, 1991, 15, 244-255.	2.2	19
89	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
90	A boundary element analysis of axisymmetric upsetting. Mathematical and Computer Modelling, 1991, 15, 81-92.	2.0	4

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91	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
92	A boundary element analysis of the axisymmetric extrusion processes. International Journal of Non-Linear Mechanics, 1991, 26, 1-13.	1.4	9
93	A BEM approach to thermal aspects of machining processes and their design sensitivities. Applied Mathematical Modelling, 1991, 15, 562-575.	2.2	10
94	A boundary element formulation for design sensitivities in materially nonlinear problems. Acta Mechanica, 1989, 78, 243-253.	1.1	47
95	A synthesized design for arc welding processes. Robotics and Computer-Integrated Manufacturing, 1988, 4, 347-358.	6.1	1
96	Simulation of Rolling Processes by the Boundary Element Method. , 1988, , 93-100.		6
97	A Boundary Element Formulation for Design Sensitivities in Materially Nonlinear Problems. , 1988, , 423-432.		1
98	Analysis of Ring Compression by the Boundary Element Method. , 1988, , 107-108.		0
99	A boundary element formulation for large strain problems of compressible plasticity. Engineering Analysis, 1986, 3, 71-78.	0.1	6
100	A finite element analysis of metal forming processes with thermomechanical coupling. International Journal of Mechanical Sciences, 1984, 26, 661-676.	3.6	15
101	Boundary element formulations for large strain-large deformation problems of viscoplasticity. International Journal of Solids and Structures, 1984, 20, 41-53.	1.3	33
102	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.	1.5	31