

Babu R Chalamala

List of Publications by Year in descending order

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83
papers

3,712
citations

236925

25
h-index

128289

60
g-index

84
all docs

84
docs citations

84
times ranked

3336
citing authors

#	ARTICLE	IF	CITATIONS
1	Current saturation mechanisms in carbon nanotube field emitters. Applied Physics Letters, 2000, 76, 375-377.	3.3	371
2	Microelectronics: Perspectives on Technology and Applications. Proceedings of the IEEE, 2005, 93, 1239-1256.	21.3	320
3	The environmental stability of field emission from single-walled carbon nanotubes. Applied Physics Letters, 1999, 75, 3017-3019.	3.3	289
4	Energy Management and Optimization Methods for Grid Energy Storage Systems. IEEE Access, 2018, 6, 13231-13260.	4.2	247
5	Highly flexible transparent electrodes for organic light-emitting diode-based displays. Applied Physics Letters, 2004, 85, 3450-3452.	3.3	245
6	Degradation of Commercial Lithium-Ion Cells as a Function of Chemistry and Cycling Conditions. Journal of the Electrochemical Society, 2020, 167, 120532.	2.9	221
7	Redox Flow Batteries: An Engineering Perspective. Proceedings of the IEEE, 2014, 102, 976-999.	21.3	188
8	Evaporation of carbon nanotubes during electron field emission. Applied Physics Letters, 2001, 79, 1873-1875.	3.3	180
9	Three behavioral states observed in field emission from single-walled carbon nanotubes. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1999, 17, 1959.	1.6	158
10	Field emission microscopy of carbon nanotube caps. Journal of Applied Physics, 1999, 85, 3832-3836.	2.5	152
11	Spontaneous Ordering of Oxide Nanostructures. Science, 2000, 287, 2235-2237.	12.6	130
12	FED up with fat tubes. IEEE Spectrum, 1998, 35, 42-51.	0.7	116
13	Effect of growth conditions on surface morphology and photoelectric work function characteristics of iridium oxide thin films. Applied Physics Letters, 1999, 74, 1394-1396.	3.3	80
14	Collision dynamics of OH($X^2\Sigma^+$, v=9). Journal of Chemical Physics, 1993, 99, 5807-5811.	3.0	61
15	Special Issue on Flexible Electronics Technology, Part 1: Systems and Applications. Proceedings of the IEEE, 2005, 93, 1235-1238.	21.3	61
16	Multi-scale thermal stability study of commercial lithium-ion batteries as a function of cathode chemistry and state-of-charge. Journal of Power Sources, 2019, 435, 226777.	7.8	60
17	Effect of O ₂ on the electron emission characteristics of active molybdenum field emission cathode arrays. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1998, 16, 2859.	1.6	55
18	Rechargeable alkaline zinc-manganese oxide batteries for grid storage: Mechanisms, challenges and developments. Materials Science and Engineering Reports, 2021, 143, 100593.	31.8	49

#	ARTICLE	IF	CITATIONS
19	Experimental studies of the cap structure of single-walled carbon nanotubes. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2003, 21, 868.	1.6	47
20	Maintaining Balance: The Increasing Role of Energy Storage for Renewable Integration. IEEE Power and Energy Magazine, 2017, 15, 31-39.	1.6	43
21	A Database for Comparative Electrochemical Performance of Commercial 18650-Format Lithium-Ion Cells. Journal of the Electrochemical Society, 2017, 164, A2697-A2706.	2.9	35
22	Field emission characteristics of iridium oxide tips. Journal of Applied Physics, 2002, 91, 6141-6146.	2.5	33
23	Special Issue on Flexible Electronics Technology, Part II: Materials and Devices. Proceedings of the IEEE, 2005, 93, 1391-1393.	21.3	33
24	Market Evaluation of Energy Storage Systems Incorporating Technology-Specific Nonlinear Models. IEEE Transactions on Power Systems, 2019, 34, 3706-3715.	6.5	31
25	Surface chemical changes on field emitter arrays due to device aging. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1999, 17, 233.	1.6	26
26	Surface conditioning of active molybdenum field emission cathode arrays with H ₂ and helium. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1998, 16, 2855.	1.6	24
27	Perspective "On the Need for Reliability and Safety Studies of Grid-Scale Aqueous Batteries. Journal of the Electrochemical Society, 2020, 167, 090545.	2.9	22
28	Argon inclusion in sputtered films and the effect of the gas on molybdenum field emitter arrays. Applied Physics Letters, 2001, 78, 2151-2153.	3.3	20
29	Fabrication of iridium field emitter arrays. Applied Physics Letters, 2000, 77, 3284-3286.	3.3	18
30	Laser-Induced Fluorescence of the B ² Σ ⁺ -X ² Σ ⁺ System of OH: Molecular Constants for B ² Σ ⁺ (v = 0, 1) and X ² Σ ⁺ (v = 7-9, 11-13). Journal of Molecular Spectroscopy, 1993, 161, 243-252.	1.2	17
31	Optimal sizing of distributed energy resources for planning 100% renewable electric power systems. Energy, 2022, 239, 122436.	8.8	17
32	Sizing of Energy Storage for Grid Inertial Support in Presence of Renewable Energy. IEEE Transactions on Power Systems, 2022, 37, 3769-3778.	6.5	17
33	Ab Initio Studies of Hydrogen Ion Insertion into $\hat{1}^2$ -, R-, and $\hat{1}^3$ -MnO ₂ Polymorphs and the Implications for Shallow-Cycled Rechargeable Zn/MnO ₂ Batteries. Journal of the Electrochemical Society, 2018, 165, A3517-A3524.	2.9	16
34	Poisoning of Spindt-type molybdenum field emitter arrays by CO ₂ . Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1998, 16, 2866.	1.6	15
35	Fabrication of molybdenum carbide and hafnium carbide field emitter arrays. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2001, 19, 42.	1.6	15
36	Mechanical Performance of Thin Films in Flexible Displays. Materials Research Society Symposia Proceedings, 2004, 814, 307.	0.1	15

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37	Predictive-Maintenance Practices: For Operational Safety of Battery Energy Storage Systems. IEEE Power and Energy Magazine, 2020, 18, 86-97.	1.6	15
38	Effect of CH ₄ on the electron emission characteristics of active molybdenum field emitter arrays. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1998, 16, 3073.	1.6	14
39	Interaction of H ₂ O with active Spindt-type molybdenum field emitter arrays. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1999, 17, 303.	1.6	13
40	Real-time measurement of pressure inside field-emission displays. Applied Physics Letters, 2001, 79, 2648-2650.	3.3	13
41	Big and bendable [flexible plastic-based circuits. IEEE Spectrum, 2005, 42, 50-56.	0.7	13
42	Open Data, Models, and Codes for Vanadium Redox Batch Cell Systems: A Systems Approach Using Zero-Dimensional Models. Journal of Electrochemical Energy Conversion and Storage, 2020, 17, .	2.1	13
43	Stability and chemical composition of thermally grown iridium-oxide thin films. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2000, 18, 1919.	1.6	12
44	Electrification, decarbonization, and the future carbon-free grid: the role of energy storage in the electric grid infrastructure [point of view]. Proceedings of the IEEE, 2022, 110, 324-333.	21.3	12
45	Cyberphysical Security of Grid Battery Energy Storage Systems. IEEE Access, 2022, 10, 59675-59722.	4.2	11
46	Branching and anisotropy of barrier tunneling and fluorescent decay in H ₂ . I. Experiment. Physical Review A, 1996, 54, 522-530.	2.5	10
47	Studies on the interaction between thin film materials and Mo field emitter arrays. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2000, 18, 1825.	1.6	10
48	Gas-induced current decay of molybdenum field emitter arrays. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2003, 21, 1187.	1.6	10
49	Introduction to the Issue on Organic Light-Emitting Diodes. IEEE Journal of Selected Topics in Quantum Electronics, 2004, 10, 1-2.	2.9	10
50	Opportunities for Energy Storage in CAISO: Day-Ahead and Real-Time Market Arbitrage. , 2018, , .		10
51	Maximising the investment returns of a grid-connected battery considering degradation cost. IET Generation, Transmission and Distribution, 2020, 14, 4711-4718.	2.5	10
52	Growth and control of nanoprotusions on iridium field emitters. Applied Physics Letters, 2001, 78, 2375-2377.	3.3	9
53	Portable Electronics and the Widening Energy Gap. Proceedings of the IEEE, 2007, 95, 2106-2107.	21.3	9
54	Maximizing The Revenue of Energy Storage Systems in Market Areas Considering Nonlinear Storage Efficiencies. , 2018, , .		9

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55	Development of thin-film metal hydrides for integration into field emission displays. Applied Physics Letters, 2001, 78, 2967-2969.	3.3	8
56	Driving Zn-MnO ₂ grid-scale batteries: A roadmap to cost-effective energy storage. MRS Energy & Sustainability, 2022, 9, 13-18.	3.0	8
57	Apparatus for temperature programmed desorption studies of thin films. Review of Scientific Instruments, 2000, 71, 320-321.	1.3	7
58	Microelectronics Packaging and Integration. MRS Bulletin, 2003, 28, 11-20.	3.5	7
59	Apparatus for quantitative analysis of residual gases in flat panel vacuum packages. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2000, 18, 343-348.	2.1	6
60	Energy Storage—Part I: Batteries and Energy Conversion Systems. Proceedings of the IEEE, 2014, 102, 936-938.	21.3	6
61	9.4: Residual Gas Effects on the Emission Characteristics of Active Mo Field Emission Cathode Arrays. Digest of Technical Papers SID International Symposium, 1998, 29, 107.	0.3	5
62	A compact electron energy analyzer for measuring field emission energy distributions. Review of Scientific Instruments, 1999, 70, 3299-3302.	1.3	5
63	Engineering Energy-Storage Projects: Applications and Financial Aspects [Viewpoint]. IEEE Electrification Magazine, 2018, 6, 4-12.	1.8	5
64	Feasibility of thin film microfabricated hydrogen ion sources. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2002, 20, 1132.	1.6	4
65	Estimation of Transport and Kinetic Parameters of Vanadium Redox Batteries Using Static Cells. ECS Transactions, 2018, 85, 43-64.	0.5	4
66	Displaying a bright future [vacuum microelectronics]. IEEE Circuits and Devices: the Magazine of Electronic and Photonic Systems, 2000, 16, 19-30.	0.4	3
67	8.1: New Insights Into the Degradation of Field Emission Displays. Digest of Technical Papers SID International Symposium, 2001, 32, 81.	0.3	3
68	An improved method for detecting hot spots in field emission cathode arrays. Review of Scientific Instruments, 1999, 70, 3889-3891.	1.3	2
69	Cathode Lifetime Issues in Field Emission Displays. Materials Research Society Symposia Proceedings, 1999, 558, 49.	0.1	2
70	Scanning the issue - Special issue on flat-panel display technology. Proceedings of the IEEE, 2002, 90, 447-452.	21.3	2
71	Energy Storage—Part II: Realizing the Value [Scanning the Issue]. Proceedings of the IEEE, 2014, 102, 1050-1051.	21.3	2
72	Oxidation of Molybdenum Thin Films and its Impact on Molybdenum Field Emitter Arrays. Materials Research Society Symposia Proceedings, 2001, 685, 1.	0.1	1

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73	8.3: Operation of FEAs in Hydrogen and the Development of Thin Film Metal Hydrides for Integration into FEDs. Digest of Technical Papers SID International Symposium, 2001, 32, 89.	0.3	1
74	Dissipativity-based Voltage Control in Distribution Grids. , 2022, , .		1
75	Ion accelerators and electron scattering. Nuclear Instruments & Methods in Physics Research B, 1993, 79, 85-87.	1.4	0
76	<title>Device reliability issues in field emission displays</title>. , 1998, 3363, 236.		0
77	Field Emission Energy Distribution and Current-Voltage Characteristics Using Single Tip Gated Diodes. Materials Research Society Symposia Proceedings, 1999, 558, 85.	0.1	0
78	28.3: Evaluation of Thin Film Materials for Field Emission Displays. Digest of Technical Papers SID International Symposium, 2000, 31, 424-427.	0.3	0
79	Anomalies in the Behavior of Mo Field Emitter Arrays in Inert Gases and Some Insights into the Degradation Mechanisms. Materials Research Society Symposia Proceedings, 2001, 685, 1.	0.1	0
80	Prospects for Growth: High-Tech Enterprises in India. Proceedings of the IEEE, 2007, 95, 1715-1717.	21.3	0
81	3.4: Development of large area lateral edge emitter arrays on 5"×5" glass substrates. , 2010, , .		0
82	Prolog to the Section on Advanced Materials for Electronics, Photonics, and Energy Storage. Proceedings of the IEEE, 2012, 100, 1452-1453.	21.3	0
83	Data-Driven Incident Detection in Power Distribution Systems. , 2021, , .		0