

# Deepakraj Divan

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

111  
papers

1,178  
citations

17  
h-index

29  
g-index

145  
ext. papers

1,659  
ext. citations

4.9  
avg, IF

5.31  
L-index

#	Paper	IF	Citations
111	Solid-State Transformer and Hybrid Transformer with Integrated Energy Storage in Active Distribution Grids: Technical and Economic Comparison, Dispatch, and Control. <i>IEEE Journal of Emerging and Selected Topics in Power Electronics</i> , <b>2022</b> , 1-1	5.6	9
110	New Modulation and Impact of Transformer Leakage Inductance on Current-Source Solid-State Transformer. <i>IEEE Transactions on Power Electronics</i> , <b>2022</b> , 37, 562-576	7.2	9
109	Current-Source Solid-State DC Transformer Integrating LVDC Microgrid, Energy Storage, and Renewable Energy Into MVDC Grid. <i>IEEE Transactions on Power Electronics</i> , <b>2022</b> , 37, 1044-1058	7.2	16
108	7.2 kV Three-Port SiC Single-Stage Current-Source Solid-State Transformer with 90 kV Lightning Protection. <i>IEEE Transactions on Power Electronics</i> , <b>2022</b> , 1-1	7.2	4
107	Predictive Direct DC-Link Control for 7.2 kV Three-Port Low-Inertia Solid-State Transformer with Active Power Decoupling. <i>IEEE Transactions on Power Electronics</i> , <b>2022</b> , 1-1	7.2	3
106	Laminated Permanent Magnets Enable Compact Magnetic Components in Current-Source Converters. <i>IEEE Transactions on Power Electronics</i> , <b>2022</b> , 1-1	7.2	1
105	DC-Link Current Minimization Control for Current Source Converter-Based Solid-State Transformer. <i>IEEE Transactions on Power Electronics</i> , <b>2022</b> , 1-1	7.2	1
104	Laminated Permanent Magnets Enable Compact Magnetic Components in Current Source Converters <b>2021</b> ,		1
103	Comparative Investigation of System-Level Optimized Power Conversion System Architectures to Reduce LCOE for Large-Scale PV-Plus-Storage Farms <b>2021</b> ,		2
102	Feed-Forward Compensation for Model Predictive Control in Tri-port Current-Source Medium-Voltage String Inverters for PV-Plus-Storage Farms <b>2021</b> ,		1
101	A Multiport DC Transformer to Enable Flexible Scalable DC as a Service <b>2021</b> ,		1
100	Layout, Packaging, and Efficiency Implications of a 1.7 kV Hybrid Si/SiC Reverse Blocking Switch Module in Soft-Switching Current Source Converters <b>2021</b> ,		2
99	Unified Control (UniCon) Strategies for Grid-Connected Inverters <b>2021</b> ,		1
98	Insulation Coordination Design for Grid-Connected Solid-State Transformers. <i>IEEE Journal of Emerging and Selected Topics in Power Electronics</i> , <b>2021</b> , 1-1	5.6	3
97	Suppression of Device Voltage Stress from Ground Leakage Current for Soft-Switching Solid-State Transformer <b>2021</b> ,		3
96	An Edge-Intelligent, Clip-on Rogowski Current Sensor With Wide Dynamic Range. <i>IEEE Sensors Journal</i> , <b>2021</b> , 21, 1059-1071	4	4
95	. <i>IEEE Transactions on Power Electronics</i> , <b>2021</b> , 36, 5236-5249	7.2	31

94	Characterization of 3.3-kV Reverse-Blocking SiC Modules for Use in Current-Source Zero-Voltage-Switching Converters. <i>IEEE Transactions on Power Electronics</i> , <b>2021</b> , 36, 876-887	7.2	12
93	The Case for Soft Switching in Four-Quadrant Power Converters. <i>IEEE Journal of Emerging and Selected Topics in Power Electronics</i> , <b>2021</b> , 1-1	5.6	1
92	Online Detection of Inter-Turn Winding Faults in Single-Phase Distribution Transformers Using Smart Meter Data. <i>IEEE Transactions on Smart Grid</i> , <b>2021</b> , 1-1	10.7	0
91	Stacked Low-Inertia Converter or Solid-State Transformer: Modeling and Model Predictive Priority-Shifting Control for Voltage Balance. <i>IEEE Transactions on Power Electronics</i> , <b>2021</b> , 36, 8934-8952	7.2	13
90	SiC-Based 5-kV Universal Modular Soft-Switching Solid-State Transformer (M-S4T) for Medium-Voltage DC Microgrids and Distribution Grids. <i>IEEE Transactions on Power Electronics</i> , <b>2021</b> , 36, 11326-11343	7.2	21
89	Robust Predictive Control for Modular Solid-State Transformer With Reduced DC Link and Parameter Mismatch. <i>IEEE Transactions on Power Electronics</i> , <b>2021</b> , 36, 14295-14311	7.2	9
88	Distribution Transformer Health Monitoring using Smart Meter Data <b>2020</b> ,		4
87	7.2 kV Three-Port Single-Phase Single-Stage Modular Soft-Switching Solid-State Transformer with Active Power Decoupling and Reduced DC-Link <b>2020</b> ,		17
86	Improving Energy Efficiency and Productivity at Industrial Plants Using Dynamic Voltage Management. <i>IEEE Transactions on Industry Applications</i> , <b>2020</b> , 56, 1250-1257	4.3	3
85	Intrinsically-Safe Modular Power Converters for Electric Transportation <b>2020</b> ,		2
84	A New Representation based on Virtual Capacitor for Virtual Synchronous Generators <b>2020</b> ,		1
83	Novel Modulation Strategy to Eliminate Device Overvoltage Stress and Enable True ZVS Operation in the Soft-Switching Solid-State Transformer <b>2020</b> ,		1
82	Predictive Direct DC-Link Control for Active Power Decoupling of A Single-Phase Reduced DC-Link MV Solid-State Transformer <b>2020</b> ,		3
81	Dynamic DC-Link Current Minimization Control to Improve Current-Source Solid-State Transformer Efficiency <b>2020</b> ,		1
80	Enabling High Efficiency in Low-Voltage Soft-Switching Current Source Converters <b>2020</b> ,		1
79	Design of Control Architecture for Stacked Low-Inertia Converters with Fast Dynamic Control <b>2020</b> ,		1
78	Core Losses of Nanocrystalline Materials Under DC Bias Conditions <b>2020</b> ,		3
77	New Single-Stage Soft-Switching Solid-State Transformer with Reduced Conduction Loss and Minimal Auxiliary Switch <b>2020</b> ,		11

76	Lightning Impulse Protection for Grid-connected Solid-state Transformers <b>2020</b> ,		5
75	Collaborative Volt-VAR Control Using Grid-Connected PV Inverters <b>2019</b> ,		3
74	Enabling a Decentralized Smart Grid Using Autonomous Edge Control Devices. <i>IEEE Internet of Things Journal</i> , <b>2019</b> , 6, 7406-7419	10.7	14
73	A Novel Approach to Implement Low-Cost AMI Functionality using Delay-Tolerant Communication <b>2019</b> ,		6
72	A Novel Approach for Bump-less Connection of Microgrids with the Grid <b>2019</b> ,		1
71	Decentralized Real-Time Pricing to Achieve Integrated Transactive and Physical Grids. <i>IEEE Access</i> , <b>2019</b> , 7, 132525-132541	3.5	4
70	The IEEE Empower a Billion Lives Competition: Regional Round Results [Entrepreneur Viewpoint]. <i>IEEE Power Electronics Magazine</i> , <b>2019</b> , 6, 12-16	1.5	
69	Team SoULS Wins US\$100,000 in the IEEE Empower a Billion Lives Global Competition [Entrepreneur Viewpoint]. <i>IEEE Power Electronics Magazine</i> , <b>2019</b> , 6, 12-16	1.5	
68	Systematic Study of Data Requirements and AMI Capabilities for Smart Meter Analytics <b>2019</b> ,		9
67	Asset Monitoring using Smart Sensing and Advanced Analytics for the Distribution Network <b>2019</b> ,		3
66	Improving Energy Efficiency and Productivity at Industrial Plants Using Dynamic Voltage Management <b>2019</b> ,		2
65	Optimal Design of the Resonant Tank of the Soft-Switching Solid-State Transformer <b>2019</b> ,		9
64	Estimation of Eddy Current Winding Losses in Soft-Switching Solid-State Transformer <b>2019</b> ,		1
63	Real-Time Modeling and HIL Simulation of Stacked Low-Inertia Converters with Soft-Switching and Fast Dynamic Control <b>2019</b> ,		3
62	Design of a 10-kVVA Soft-Switching Solid-State Transformer (S4T). <i>IEEE Transactions on Power Electronics</i> , <b>2018</b> , 33, 5724-5738	7.2	32
61	Soft-Switching Solid-State Transformer (S4T). <i>IEEE Transactions on Power Electronics</i> , <b>2018</b> , 33, 2933-2947.2		73
60	Standards: Entrepreneurs' Friend or Foe? [Entrepreneur Viewpoint]. <i>IEEE Power Electronics Magazine</i> , <b>2018</b> , 5, 18-20	1.5	
59	Fast Dynamic Control of Stacked Low Inertia Converters <b>2018</b> ,		11

58	Modular Universal Converter for MVDC Applications <b>2018</b> ,		23
57	Soft-Switching Characterization of 3.3 kV Reverse-blocking SiC Devices <b>2018</b> ,		2
56	Soft-switching The Key to High Power WBG Converters <b>2018</b> ,		3
55	Reducing Energy Consumption in Industrial Plants Using Behind the Meter Conservation Voltage Reduction <b>2018</b> ,		5
54	Update on the Empower a Billion Lives Initiative [Entrepreneur Viewpoint]. <i>IEEE Power Electronics Magazine</i> , <b>2018</b> , 5, 18-19	1.5	
53	Impact of Transformer Leakage Inductance on the Soft-Switching Solid-State Transformer <b>2018</b> ,		15
52	Grounded Controllable Network Transformer for Cost-Effective Grid Control <b>2018</b> ,		2
51	Implementing Volt-Var Control in Meshed Low Voltage Grids <b>2018</b> ,		1
50	Dyna-C: A Minimal Topology for Bidirectional Solid-State Transformers. <i>IEEE Transactions on Power Electronics</i> , <b>2017</b> , 32, 995-1005	7.2	47
49	High-frequency transformer design for the soft-switching solid state transformer (S4T) <b>2017</b> ,		8
48	A soft-switching dynamic VAr compensator <b>2017</b> ,		2
47	Turning Distribution Feeders Into STATCOMs. <i>IEEE Transactions on Industry Applications</i> , <b>2017</b> , 53, 1372-1380	13.8	10
46	Soft-switching isolated tri-port converter for integration of PV, storage and single-phase AC grid <b>2017</b> ,		12
45	Single-stage soft-switching solid-state transformer for bidirectional motor drives <b>2017</b> ,		15
44	Managing distribution feeder voltage issues caused by high PV penetration <b>2016</b> ,		9
43	Identifying and Avoiding Some Common Traps [Entrepreneur Viewpoint]. <i>IEEE Power Electronics Magazine</i> , <b>2016</b> , 3, 64-65	1.5	1
42	Entrepreneurs Drive Creative Destruction [Entrepreneur Viewpoint]. <i>IEEE Power Electronics Magazine</i> , <b>2016</b> , 3, 38-39	1.5	
41	Distributed Power Electronics: An Enabler for the Future Grid. <i>CPSS Transactions on Power Electronics and Applications</i> , <b>2016</b> , 1, 57-65	3.5	16

40	What's the Difference Between a US\$0 Million and a US\$0 Billion Company? [Entrepreneur Viewpoint]. <i>IEEE Power Electronics Magazine</i> , <b>2016</b> , 3, 69-70	1.5	1
39	Slow and Steady Wins the Race: Other Models for Entrepreneurship [Entrepreneur Viewpoint]. <i>IEEE Power Electronics Magazine</i> , <b>2016</b> , 3, 16-17	1.5	
38	Flexible transformers for distribution grid control <b>2016</b> ,		3
37	Soft-switching solid state transformer (S4T) <b>2016</b> ,		8
36	High speed switching issues of high power rated silicon-carbide devices and the mitigation methods <b>2015</b> ,		39
35	You Have Decided to Take The Plunge - Now How Do You Fund It? [Entrepreneur Viewpoint]. <i>IEEE Power Electronics Magazine</i> , <b>2015</b> , 2, 54-55	1.5	
34	Validation of the Plug-and-Play AC/AC Power Electronics Building Block (AC-PEBB) for Medium-Voltage Grid Control Applications. <i>IEEE Transactions on Industry Applications</i> , <b>2014</b> , 50, 3549-3557	4.3	8
33	Transient droop for improved transient load sharing in microgrids <b>2014</b> ,		13
32	Stable operation of multiple power routers <b>2013</b> ,		2
31	A Practical Directional Third Harmonic Hybrid Active Filter for Medium-Voltage Utility Applications. <i>IEEE Transactions on Industry Applications</i> , <b>2013</b> , 49, 2674-2683	4.3	4
30	Smart On-Sensors for the Smart Grid. <i>IEEE Transactions on Smart Grid</i> , <b>2012</b> , 3, 241-252	10.7	52
29	Loss comparison between SiC, hybrid Si/SiC, and Si devices in direct AC/AC converters <b>2012</b> ,		11
28	Plug-and-play AC/AC power electronics building blocks (AC-PEBBs) for grid control <b>2012</b> ,		4
27	Experimental validation of active snubber circuit for direct AC/AC converters <b>2012</b> ,		6
26	Power flow controller for meshed systems with a fractionally rated BTB converter <b>2012</b> ,		6
25	Design and testing of a medium voltage Controllable Network Transformer Prototype with an integrated hybrid active filter <b>2011</b> ,		8
24	Mitigating distribution transformer lifetime degradation caused by grid-enabled vehicle (GEV) charging <b>2011</b> ,		10
23	Evaluating the application of energy storage and day-ahead solar forecasting to firm the output of a photovoltaic plant <b>2011</b> ,		4

22	Active AC snubber for direct AC/AC power converters <b>2011,</b>		5
21	Directional Triplen Hybrid Active Filter for radial systems <b>2011,</b>		2
20	Reducing transmission investment to meet Renewable Portfolio Standards Using Smart Wires <b>2010</b>		14
19	Scaling the Dynamic Capacitor (D-CAP) to medium voltages <b>2010,</b>		1
18	Smart tie-line control using Controllable Network Transformers <b>2010,</b>		5
17	Protection of meshed microgrids with communication overlay <b>2010,</b>		19
16	Reducing transmission investment to meet Renewable Portfolio Standards using Controlled Energy Flows <b>2010,</b>		8
15	Overhead conductor thermal dynamics identification by using Echo State Networks <b>2009,</b>		10
14	Design and implementation of power line sensor net for overhead transmission lines <b>2009,</b>		22
13	Integrated fault current limiter and power flow controller for grid tie-lines <b>2009,</b>		1
12	Control of multilevel direct AC converters <b>2009,</b>		7
11	MLPN based Parameter Estimation to Evaluate Overhead Power Line Dynamic Thermal Rating <b>2009</b>		7
10	Condition Monitoring of Power Electronic Circuits Using Artificial Neural Networks. <i>IEEE Transactions on Power Electronics</i> , <b>2009</b> , 24, 2363-2367	7.2	43
9	Inverter-less STATCOMs. <i>Power Electronics Specialist Conference (PESC), IEEE</i> , <b>2008,</b>		7
8	Controllable Network Transformers. <i>Power Electronics Specialist Conference (PESC), IEEE</i> , <b>2008,</b>		26
7	Thin AC converters DA new approach for making existing grid assets smart and controllable. <i>Power Electronics Specialist Conference (PESC), IEEE</i> , <b>2008,</b>		22
6	A Survey on Technologies for Implementing Sensor Networks for Power Delivery Systems. <i>IEEE Power Engineering Society General Meeting</i> , <b>2007,</b>		57
5	Distributed FACTS A New Concept for Realizing Grid Power Flow Control. <i>IEEE Transactions on Power Electronics</i> , <b>2007</b> , 22, 2253-2260	7.2	109

4	Zero Energy Storage Voltage Sag Correctors for Industrial Applications <b>2007</b> ,	6
3	Voltage Synthesis Using Dual Virtual Quadrature Sources - A New Concept in AC Power Conversion <b>2007</b> ,	15
2	Design Considerations for Series-Connected Distributed FACTS Converters. <i>IEEE Transactions on Industry Applications</i> , <b>2007</b> , 43, 1609-1618	4-3 52
1	Zero Energy Sag Correctors - Optimizing Dynamic Voltage Restorers for Industrial Applications. <i>Conference Record - IAS Annual Meeting (IEEE Industry Applications Society)</i> , <b>2007</b> ,	2