Jiabing Hu

List of Publications by Year
in descending order

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Version: 2024-02-01

116 papers	5,124 citations	101384 36 h-index	91712 69 g-index
116 all docs	116 docs citations	116 times ranked	2817 citing authors

#	Article	IF	Citations
1	Modeling of VSC Connected to Weak Grid for Stability Analysis of DC-Link Voltage Control. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2015, 3, 1193-1204.	3.7	266
2	Transient Stability Analysis and Control Design of Droop-Controlled Voltage Source Converters Considering Current Limitation. IEEE Transactions on Smart Grid, 2019, 10, 578-591.	6.2	266
3	Modeling of Grid-Connected VSCs for Power System Small-Signal Stability Analysis in DC-Link Voltage Control Timescale. IEEE Transactions on Power Systems, 2017, 32, 3981-3991.	4.6	231
4	Improved Voltage-Vector Sequences on Dead-Beat Predictive Direct Power Control of Reversible Three-Phase Grid-Connected Voltage-Source Converters. IEEE Transactions on Power Electronics, 2013, 28, 254-267.	5.4	213
5	Modeling of Grid-Connected DFIG-Based Wind Turbines for DC-Link Voltage Stability Analysis. IEEE Transactions on Sustainable Energy, 2015, 6, 1325-1336.	5.9	193
6	Virtual Synchronous Control for Grid-Connected DFIG-Based Wind Turbines. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2015, 3, 932-944.	3.7	176
7	Synchronous Instability Mechanism of P-f Droop-Controlled Voltage Source Converter Caused by Current Saturation. IEEE Transactions on Power Systems, 2016, 31, 5206-5207.	4.6	173
8	Voltage Dynamics of Current Control Time-Scale in a VSC-Connected Weak Grid. IEEE Transactions on Power Systems, 2016, 31, 2925-2937.	4.6	163
9	Sliding-Mode-Based Direct Power Control of Grid-Connected Wind-Turbine-Driven Doubly Fed Induction Generators Under Unbalanced Grid Voltage Conditions. IEEE Transactions on Energy Conversion, 2012, 27, 362-373.	3.7	156
10	A Virtual Synchronous Control for Voltage-Source Converters Utilizing Dynamics of DC-Link Capacitor to Realize Self-Synchronization. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2017, 5, 1565-1577.	3.7	154
11	Integrated Modeling and Enhanced Control of DFIG Under Unbalanced and Distorted Grid Voltage Conditions. IEEE Transactions on Energy Conversion, 2012, 27, 725-736.	3.7	152
12	DC-Bus Voltage Control Stability Affected by AC-Bus Voltage Control in VSCs Connected to Weak AC Grids. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2016, 4, 445-458.	3.7	149
13	Coordinated Control of DFIG's RSC and GSC Under Generalized Unbalanced and Distorted Grid Voltage Conditions. IEEE Transactions on Industrial Electronics, 2013, 60, 2808-2819.	5.2	135
14	Inertia Provision and Estimation of PLL-Based DFIG Wind Turbines. IEEE Transactions on Power Systems, 2017, 32, 510-521.	4.6	134
15	Small Signal Dynamics of DFIG-Based Wind Turbines During Riding Through Symmetrical Faults in Weak AC Grid. IEEE Transactions on Energy Conversion, 2017, 32, 720-730.	3.7	115
16	Modeling of Type 3 Wind Turbines With df/dt Inertia Control for System Frequency Response Study. IEEE Transactions on Power Systems, 2017, 32, 2799-2809.	4.6	114
17	Power system stability issues, classifications and research prospects in the context of high-penetration of renewables and power electronics. Renewable and Sustainable Energy Reviews, 2021, 145, 111111.	8.2	113
18	Improved Nearest-Level Modulation for a Modular Multilevel Converter With a Lower Submodule Number. IEEE Transactions on Power Electronics, 2016, 31, 5369-5377.	5.4	110

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19	Small Signal Instability of PLL-Synchronized Type-4 Wind Turbines Connected to High-Impedance AC Grid During LVRT. IEEE Transactions on Energy Conversion, 2016, 31, 1676-1687.	3.7	109
20	Modeling of DFIG-Based Wind Turbine for Power System Transient Response Analysis in Rotor Speed Control Timescale. IEEE Transactions on Power Systems, 2018, 33, 6795-6805.	4.6	102
21	Analysis and Enhanced Control of Hybrid-MMC-Based HVDC Systems During Asymmetrical DC Voltage Faults. IEEE Transactions on Power Delivery, 2017, 32, 1394-1403.	2.9	93
22	Dynamic Stability Analysis and Improved LVRT Schemes of DFIG-Based Wind Turbines During a Symmetrical Fault in a Weak Grid. IEEE Transactions on Power Electronics, 2020, 35, 303-318.	5.4	86
23	Improved Design and Control of FBSM MMC With Boosted AC Voltage and Reduced DC Capacitance. IEEE Transactions on Industrial Electronics, 2018, 65, 1919-1930.	5.2	83
24	Feedforward Current References Control for DFIG-Based Wind Turbine to Improve Transient Control Performance During Grid Faults. IEEE Transactions on Energy Conversion, 2018, 33, 670-681.	3.7	80
25	Improved Dead-Beat Predictive DPC Strategy of Grid-Connected DCâ€“AC Converters With Switching Loss Minimization and Delay Compensations. IEEE Transactions on Industrial Informatics, 2013, 9, 728-738.	7.2	73
26	Impact of Inertia Control of DFIG-Based WT on Electromechanical Oscillation Damping of SG. IEEE Transactions on Power Systems, 2018, 33, 3450-3459.	4.6	67
27	Modeling of DFIG-Based WTs for Small-Signal Stability Analysis in DVC Timescale in Power Electronized Power Systems. IEEE Transactions on Energy Conversion, 2017, 32, 1151-1165.	3.7	66
28	Imbalance Mechanism and Balanced Control of Capacitor Voltage for a Hybrid Modular Multilevel Converter. IEEE Transactions on Power Electronics, 2018, 33, 5686-5696.	5.4	65
29	Fault Current Analysis of Type-3 WTs Considering Sequential Switching of Internal Control and Protection Circuits in Multi Time Scales During LVRT. IEEE Transactions on Power Systems, 2018, 33, 6894-6903.	4.6	64
30	Analysis of Modal Resonance Between PLL and DC-Link Voltage Control in Weak-Grid Tied VSCs. IEEE Transactions on Power Systems, 2019, 34, 1127-1138.	4.6	64
31	Stability of DC-link voltage as affected by phase locked loop in VSC when attached to weak grid. , 2014, , .		61
32	Inertia and Primary Frequency Provisions of PLL-Synchronized VSC HVDC When Attached to Islanded AC System. IEEE Transactions on Power Systems, 2018, 33, 4179-4188.	4.6	54
33	Modeling and Stability Analysis of VSC Internal Voltage in DC-Link Voltage Control Timescale. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2018, 6, 16-28.	3.7	54
34	Fullâ€Capacity Wind Turbine with Inertial Support by Adjusting Phaseâ€Locked Loop Response. IET Renewable Power Generation, 2017, 11, 44-53.	1.7	51
35	Modeling of DFIG Wind Turbine Based on Internal Voltage Motion Equation in Power Systems Phase-Amplitude Dynamics Analysis. IEEE Transactions on Power Systems, 2018, 33, 1484-1495.	4.6	45
36	Application of Type 3 Wind Turbines for System Restoration. IEEE Transactions on Power Systems, 2018, 33, 3040-3051.	4.6	39

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37	Mechanism Analysis of DFIG-Based Wind Turbineâ€™s Fault Current During LVRT With Equivalent Inductances. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2020, 8, 1515-1527.	3.7	38
38	High-Frequency Oscillation Mechanism Analysis and Suppression Method of VSC-HVDC. IEEE Transactions on Power Electronics, 2020, 35, 8892-8896.	5.4	37
39	Motion Equation Modeling of LCC-HVDC Stations for Analyzing DC and AC Network Interactions. IEEE Transactions on Power Delivery, 2020, 35, 1563-1574.	2.9	34
40	Mechanism Analysis of the Required Rotor Current and Voltage for DFIG-Based WTs to Ride-Through Severe Symmetrical Grid Faults. IEEE Transactions on Power Electronics, 2018, 33, 7300-7304.	5.4	32
41	Fundamental-Frequency Reactive Circulating Current Injection for Capacitor Voltage Balancing in Hybrid-MMC HVDC Systems During Riding Through PTG Faults. IEEE Transactions on Power Delivery, 2018, 33, 1348-1357.	2.9	30
42	Inertia Characteristic of DFIG-Based WT Under Transient Control and its Impact on the First-Swing Stability of SGs. IEEE Transactions on Energy Conversion, 2017, 32, 1502-1511.	3.7	29
43	Modeling and Analysis of Modular Multilevel Converter in DC Voltage Control Timescale. IEEE Transactions on Industrial Electronics, 2019, 66, 6449-6459.	5.2	28
44	Small-Signal Modeling and Analysis of MMC Under Unbalanced Grid Conditions Based on Linear Time-Periodic (LTP) Method. IEEE Transactions on Power Delivery, 2021, 36, 205-214.	2.9	28
45	Synchronizing stability of DFIG-based wind turbines attached to weak AC grid. , 2014, , .		26
46	Multi-time scale dynamics in power electronics-dominated power systems. Frontiers of Mechanical Engineering, 2017, 12, 303-311.	2.5	26
47	Voltage Polarity Reversing-Based DC Short Circuit FRT Strategy for Symmetrical Bipolar FBSM-MMC HVDC System. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2018, 6, 1008-1020.	3.7	26
48	Understanding Inertial Response of Variable-Speed Wind Turbines by Defined Internal Potential Vector. Energies, 2017, 10, 22.	1.6	25
49	An Improved Phase-Shifted-Carrier Technique for Hybrid Modular Multilevel Converter With Boosted Modulation Index. IEEE Transactions on Power Electronics, 2020, 35, 1340-1352.	5.4	25
50	Admissible Region of Large-Scale Uncertain Wind Generation Considering Small-Signal Stability of Power Systems. IEEE Transactions on Sustainable Energy, 2016, 7, 1611-1623.	5.9	23
51	Poleâ€toâ€ground fault ride through strategy for halfâ€fullâ€bridge hybrid MMCâ€based radial multiâ€terminal HVDC systems with lowâ€impedance grounded. IET Generation, Transmission and Distribution, 2018, 12, 1038-1044.	1.4	22
52	Impact of Inertia Control of DFIG-Based WT on Torsional Vibration in Drivetrain. IEEE Transactions on Sustainable Energy, 2020, 11, 2525-2534.	5.9	22
53	Commonâ€mode voltage injectionâ€based nearest level modulation with loss reduction for modular multilevel converters. IET Renewable Power Generation, 2016, 10, 798-806.	1.7	20
54	Analysis and Mitigation of Electromechanical Oscillations for DFIG Wind Turbines Involved in Fast Frequency Response. IEEE Transactions on Power Systems, 2019, 34, 4547-4556.	4.6	19

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55	Coordinated Control of DFIG Converters to Comply with Reactive Current Requirements in Emerging Grid Codes. Journal of Modern Power Systems and Clean Energy, 2022, 10, 502-514.	3.3	18
56	Zero DC voltage ride through of a hybrid modular multilevel converter in HVDC systems. IET Renewable Power Generation, 2017, 11, 35-43.	1.7	16
57	Reactive Current Constraints and Coordinated Control of DFIGâ€™s RSC and GSC During Asymmetric Grid Condition. IEEE Access, 2020, 8, 184339-184349.	2.6	16
58	DC fault rideâ€through of MMCs for HVDC systems: a review. Journal of Engineering, 2016, 2016, 321-331.	0.6	15
59	Analysis of Low-Frequency Stability in Grid-Tied DFIGs by Nonminimum Phase Zero Identification. IEEE Transactions on Energy Conversion, 2018, 33, 716-729.	3.7	15
60	Coordinated control of power loss and capacitor voltage ripple reduction for AC voltage boosted FBSM MMC with second harmonic circulating current injection. High Voltage, 2018, 3, 272-278.	2.7	15
61	Pole-to-ground Fault Analysis for HVDC Grid Based on Common- and Differential-mode Transformation. Journal of Modern Power Systems and Clean Energy, 2020, 8, 521-530.	3.3	15
62	Modelling and analysis of halfâ€fullâ€bridge hybrid MMC when riding through DCâ€side poleâ€toâ€ground fault. High Voltage, 2022, 7, 496-509.	2.7	15
63	Mechanism Analysis of Subsynchronous Torsional Interaction With PMSG-Based WTs and LCC-HVDC. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2021, 9, 1708-1724.	3.7	13
64	Impact of DFIGâ€based wind turbine's fault current on distance relay during symmetrical faults. IET Renewable Power Generation, 2020, 14, 3097-3102.	1.7	13
65	Effect of reactive power control on stability of DC-link voltage control in VSC connected to weak grid. , 2014, , .		11
66	Truncation Number Selection of Harmonic State-Space Model Based on the Floquet Characteristic Exponent. IEEE Transactions on Industrial Electronics, 2023, 70, 3222-3228.	5.2	11
67	Nonlinear analysis of a simple amplitudeâ€“phase motion equation for power-electronics-based power system. Nonlinear Dynamics, 2019, 95, 1965-1976.	2.7	10
68	Dynamic modeling and improved control of DFIG under unbalanced and distorted grid voltage conditions. , 2012, , .		9
69	A novel inertial control strategy for full-capacity wind turbine with PLL by optimizing internal potential response. , 2014, , .		9
70	Interaction analysis of multi VSCs integrated into weak grid in current control time-scale. , 2016, , .		9
71	Stationary-Frame Modeling of VSC Based on Current-Balancing Driven Internal Voltage Motion for Current Control Timescale Dynamic Analysis. Energies, 2018, 11, 374.	1.6	9
72	Modeling of VSCs Considering Input and Output Active Power Dynamics for Multi-Terminal HVDC Interaction Analysis in DC Voltage Control Timescale. IEEE Transactions on Energy Conversion, 2019, 34, 2008-2018.	3.7	9

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73	Stability of DC-link voltage affected by phase-locked loop for DFIG-based wind turbine connected to a weak AC system. , 2014, , .		8
74	Operational inductance of DFIG-based wind turbines for fault current analysis during LVRT. , 2017, , .		8
75	AC- and DC-side start-up strategies for half-/full-bridge hybrid modular multilevel converter. , 2018, , .		8
76	Optimized Autonomous Operation Control to Maintain the Frequency, Voltage and Accurate Power Sharing for DGs in Islanded Systems. IEEE Transactions on Smart Grid, 2020, 11, 3885-3895.	6.2	8
77	Comparative study on primary frequency control schemes for variableâ€speed wind turbines. Journal of Engineering, 2017, 2017, 1332-1337.	0.6	7
78	Comparative analysis of stability limitations in weak gridâ€connected synchronous generator, VSC, and DFIG systems considering the power flow control dynamics. IET Renewable Power Generation, 2019, 13, 94-102.	1.7	7
79	Dynamic Modeling of Asymmetrical-Faulted Grid by Decomposing Coupled Sequences via Complex Vector. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2021, 9, 2452-2464.	3.7	7
80	Modeling, analysis and parameters design of rotor current control in DFIG-based wind turbines for dynamic performance optimizing. , 2017, , .		6
81	Impedance Modeling and Stability Factor Assessment of Grid-connected Converters Based on Linear Active Disturbance Rejection Control. Journal of Modern Power Systems and Clean Energy, 2021, 9, 1327-1338.	3.3	6
82	Amplitude-phase-locked loop: Estimator of three-phase grid voltage vector. , 2015, , .		5
83	Modal analysis of a gridâ€connected DFIGâ€based WT considering multiâ€timescale control interactions. Journal of Engineering, 2017, 2017, 1118-1123.	0.6	5
84	Short-circuit current of grid-connected voltage source converters: Multi-timescale analysis method. , 2017, , .		5
85	Analytic Quantification of Interactions in MTDC Systems Based on Self-/En-Stabilizing Coefficients in DC Voltage Control Timescale. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2021, 9, 2980-2991.	3.7	5
86	PLL Synchronization Stability of Grid-Connected VSCs Under Asymmetric AC Faults. IEEE Transactions on Energy Conversion, 2022, 37, 2438-2448.	3.7	5
87	Overcurrent Suppression Method for Multiple Wind Farms Connected to MMC-HVDC. IEEE Transactions on Circuits and Systems II: Express Briefs, 2022, 69, 4473-4477.	2.2	5
88	A design method of hybrid modular multilevel converter with negative output generated by FBSM. , 2017, , .		4
89	Reduced-order modeling of DFIG-based wind turbine connected into weak AC grid based on electromechanical time scale. Energy Reports, 2020, 6, 886-895.	2.5	4
90	Synchronization Mechanism Between Power-Synchronized VS and PLL-Controlled CS and the Resulting Oscillations. IEEE Transactions on Power Systems, 2022, 37, 4129-4132.	4.6	4

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91	Functionality identification for the testing systems with large-scale highly-concentrated wind power integration by long-distance transmission lines. , 2014, , .		3
92	Modeling and analysis of DC voltage dynamics in modular multilevel converter. , 2017, , .		3
93	Loss reduction analysis and control of ACâ€voltageâ€boosted FBSM MMC by injecting second harmonic circulating current. Journal of Engineering, 2019, 2019, 2328-2331.	0.6	3
94	Modeling and Analysis of MMC in AC Current Control Timescale Considering PLL Dynamics. , 2019, , .		3
95	Pole-to-Ground Fault Analysis for MMC-HVDC Grid. , 2019, , .		3
96	Impact of Nonlinearity on Type-3 WT's Fault Current. , 2018, , .		2
97	Inertia Characteristics Analysis of DFIG-Based Wind Turbines with Virtual Synchronous Control in Different Operation Areas. , 2019, , .		2
98	Small-Signal Stability of MMC Grid-Tied System under Two Typical Unbalanced Grid Conditions. , 2021, , .		2
99	Concerns to the emerging grid codes for wind turbines' LVRT in weak AC grid. , 2014, , .		1
100	TOV in SMs during MMC riding through zero DC voltage fault: analysis and suppression. Journal of Engineering, 2016, 2016, 386-393.	0.6	1
101	Impact of Mechanical Power Variation on Transient Stability of DFIG-based Wind Turbine. , 2018, , .		1
102	Characteristic of the Equivalent Inertia of PLL-Based DFIG Wind Turbine and Its Impact on System Frequency Dynamic. , 2019, , .		1
103	Dynamic interaction between synchronous machine and DCâ€powerâ€modulated LCC in electromechanical timescale. Journal of Engineering, 2019, 2019, 1864-1868.	0.6	1
104	Fault Current Analysis of Type-3 Wind Turbine Considering Dynamic Influence of Phase Locked Loop. , 2019, , .		1
105	A Damping Control Strategy for Torsional Oscillations of DFIG-based WTs Caused by Inertia Control. , 2020, , .		1
106	Massâ€“springâ€“damper modeling and stability analysis of type-4 wind turbines connected into asymmetrical weak AC grid. Energy Reports, 2020, 6, 649-655.	2.5	1
107	Small-Signal Stability of MMC Grid-Tied System Under Two Typical Unbalanced Grid Conditions. IEEE Transactions on Industry Applications, 2022, 58, 5005-5014.	3.3	1
108	Dynamic compensating strategy and en-stabilizing compensator to enhance the stability of wind farms integrated into weak grid. , 2014, , .		0

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109	Shortâ€circuit current analysis of gridâ€connected LCL VSC by operational inductance. Journal of Engineering, 2017, 2017, 1101-1105.	0.6	0
110	Simplified Frequency-Domain Model of Modular Multilevel Converter. , 2019, , .		0
111	Interaction Analysis of Multi-terminal HVDC systems in DC Voltage Control Timescale. , 2019, , .		0
112	Enhanced Frequency Control for DFIG WTs to Improve Transient Power Sharing with SGs. , 2019, , .		0
113	Interaction analysis of MTDC systems based on self-/en-stabilizing coefficients in weak AC grid conditions in DC voltage control timescale. , 2021, , .		0
114	Time-Varying Amplitude-Frequency Characteristics Analysis of VSC Internal Voltage Under Grid Fault. , 2019, , .		0
115	Stability and Adaptability Analysis for PLL-Synchronized VSC-HVDC with Frequency Regulation Scheme Under Islanded Grid. , 2019, , .		0
116	AC Network Response Behaviors to Time-Varying Amplitude-Frequency Internal Voltage of Voltage Source Converters. , 2019, , .		0