Damian Flynn

List of Publications by Year
in descending order

166 papers	5,666 citations	136950 32 h-index	110387 64 g-index
179 all docs	179 docs citations	179 times ranked	4455 citing authors

#	Article	IF	Citations
1	Evaluation of Power System Flexibility. IEEE Transactions on Power Systems, 2012, 27, 922-931.	6.5	455
2	Optimal Charging of Electric Vehicles in Low-Voltage Distribution Systems. IEEE Transactions on Power Systems, 2012, 27, 268-279.	6.5	441
3	Wind and solar energy curtailment: A review of international experience. Renewable and Sustainable Energy Reviews, 2016, 65, 577-586.	16.4	375
4	Methodologies to Determine Operating Reserves Due to Increased Wind Power. IEEE Transactions on Sustainable Energy, 2012, 3, 713-723.	8.8	238
5	Studying the Maximum Instantaneous Non-Synchronous Generation in an Island Systemâ€"Frequency Stability Challenges in Ireland. IEEE Transactions on Power Systems, 2014, 29, 2943-2951.	6.5	231
6	Local Versus Centralized Charging Strategies for Electric Vehicles in Low Voltage Distribution Systems. IEEE Transactions on Smart Grid, 2012, 3, 1020-1028.	9.0	203
7	Transmission, Variable Generation, and Power System Flexibility. IEEE Transactions on Power Systems, 2015, 30, 57-66.	6.5	146
8	Wind Power Integration: Connection and system operational aspects. , 2007, , .		146
9	Decoupled-DFIG Fault Ride-Through Strategy for Enhanced Stability Performance During Grid Faults. IEEE Transactions on Sustainable Energy, 2010, 1, 152-162.	8.8	145
10	Frequency Response of Power Systems With Variable Speed Wind Turbines. IEEE Transactions on Sustainable Energy, 2012, 3, 683-691.	8.8	131
11	Impact assessment of varying penetrations of electric vehicles on low voltage distribution systems. , 2010, , .		127
12	Rolling Multi-Period Optimization to Control Electric Vehicle Charging in Distribution Networks. IEEE Transactions on Power Systems, 2014, 29, 340-348.	6.5	102
13	Evolution of operating reserve determination in wind power integration studies. , 2010, , .		98
14	Impact on transient and frequency stability for a power system at very high wind penetration. , 2010, , .		94
15	Potential for wind generation on the Guyana coastlands. Renewable Energy, 1999, 18, 175-189.	8.9	78
16	Using Energy Storage to Manage High Net Load Variability at Sub-Hourly Time-Scales. IEEE Transactions on Power Systems, 2015, 30, 2139-2148.	6.5	76
17	The Impact of Combined-Cycle Gas Turbine Short-Term Dynamics on Frequency Control. IEEE Transactions on Power Systems, 2005, 20, 1456-1464.	6.5	75
18	The role of power system flexibility in generation planning. , 2011, , .		73

#	Article	IF	Citations
19	Thermal Power Plant Simulation and Control. , 2003, , .		73
20	Dynamic frequency control with increasing wind generation. , 0, , .		67
21	Emulated Inertial Response From Wind Turbines: Gain Scheduling and Resource Coordination. IEEE Transactions on Power Systems, 2016, 31, 3747-3755.	6.5	66
22	Emissions from cycling of thermal power plants in electricity systems with high penetration of wind power: Life cycle assessment for Ireland. Applied Energy, 2014, 131, 1-8.	10.1	65
23	The impact of increased interconnection on electricity systems with large penetrations of wind generation: A case study of Ireland and Great Britain. Energy Policy, 2010, 38, 6946-6954.	8.8	63
24	Non-synchronous fast frequency reserves in renewable energy integrated power systems: A critical review. International Journal of Electrical Power and Energy Systems, 2019, 106, 488-501.	5.5	63
25	Demand side resource operation on the Irish power system with high wind power penetration. Energy Policy, 2011, 39, 2925-2934.	8.8	62
26	Efficient Large-Scale Energy Storage Dispatch: Challenges in Future High Renewable Systems. IEEE Transactions on Power Systems, 2017, 32, 3439-3450.	6.5	58
27	Unit Commitment With Dynamic Cycling Costs. IEEE Transactions on Power Systems, 2012, 27, 2196-2205.	6.5	56
28	Technical impacts of high penetration levels of wind power on power system stability. Wiley Interdisciplinary Reviews: Energy and Environment, 2017, 6, e216.	4.1	52
29	Wind Power Integration: Connection and System Operational Aspects. , 2014, , .		51
30	Backboneâ€"An Adaptable Energy Systems Modelling Framework. Energies, 2019, 12, 3388.	3.1	50
31	Review of wind generation within adequacy calculations and capacity markets for different power systems. Renewable and Sustainable Energy Reviews, 2020, 119, 109540.	16.4	47
32	Addressing technical challenges in 100% variable inverterâ€based renewable energy power systems. Wiley Interdisciplinary Reviews: Energy and Environment, 2020, 9, e376.	4.1	47
33	Neural network based control for synchronous generators. IEEE Transactions on Energy Conversion, 1999, 14, 1673-1678.	5.2	43
34	System Impact Studies for Near 100% Renewable Energy Systems Dominated by Inverter Based Variable Generation. IEEE Transactions on Power Systems, 2022, 37, 3249-3258.	6.5	43
35	Neural control of turbogenerator systems. Automatica, 1997, 33, 1961-1973.	5.0	40
36	Inertia considerations within unit commitment and economic dispatch for systems with high non-synchronous penetrations. , 2015, , .		40

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37	Integration of Renewable Energy into Present and Future Energy Systems. , 2011, , 609-706.		39
38	Implementation of demand response strategies in a multi-purpose commercial building using a whole-building simulation model approach. Energy and Buildings, 2016, 131, 76-86.	6.7	39
39	Multi-Mode Operation of Combined-Cycle Gas Turbines With Increasing Wind Penetration. IEEE Transactions on Power Systems, 2012, 27, 484-492.	6.5	37
40	Validation of Fixed Speed Induction Generator Models for Inertial Response Using Wind Farm Measurements. IEEE Transactions on Power Systems, 2011, 26, 1454-1461.	6.5	36
41	Operational challenges for low and high temperature electrolyzers exploiting curtailed wind energy for hydrogen production. International Journal of Hydrogen Energy, 2021, , .	7.1	36
42	Impact of remotely connected wind turbines on steady state operation of radial distribution networks. IET Generation, Transmission and Distribution, 2000, 147, 157.	1.1	34
43	Analysing the impact of large-scale decentralised demand side response on frequency stability. International Journal of Electrical Power and Energy Systems, 2016, 80, 1-9.	5.5	33
44	Assessment of power system flexibility: A high-level approach. , 2012, , .		32
45	Transient stability analysis of a power system with high wind penetration. , 2008, , .		30
46	Integration of variable generation: Capacity value and evaluation of flexibility. , 2010, , .		29
47	Coordinating Demand Response Aggregation With LV Network Operational Constraints. IEEE Transactions on Power Systems, 2021, 36, 979-990.	6.5	28
48	Self-tuning turbine generator control for power plant. Mechatronics, 1999, 9, 513-537.	3.3	27
49	RoCoF-Constrained Scheduling Incorporating Non-Synchronous Residential Demand Response. IEEE Transactions on Power Systems, 2019, 34, 3372-3383.	6.5	27
50	System-wide inertial response from fixed speed and variable speed wind turbines. , 2011, , .		26
51	Characterization of Gas Turbine Lean Blowout During Frequency Excursions in Power Networks. IEEE Transactions on Power Systems, 2015, 30, 1877-1887.	6.5	26
52	Coordinated utilisation of wind farm reactive power capability for system loss optimisation. European Transactions on Electrical Power, 2011, 21, 40-51.	1.0	25
53	Investigation of the Multi-Point Injection of Green Hydrogen from Curtailed Renewable Power into a Gas Network. Energies, 2020, 13, 6047.	3.1	24
54	Modelling the Impact of Wind Power Fluctuations on the Load following Capability of an Isolated Thermal Power System. Wind Engineering, 2000, 24, 399-415.	1.9	23

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55	Effects of Large Scale Wind Power on Total System Variability and Operation: Case Study of Northern Ireland. Wind Engineering, 2003, 27, 3-20.	1.9	23
56	Measurement-based estimation of wind farm inertia. , 2005, , .		22
57	Impact of voltage dip induced delayed active power recovery on wind integrated power systems. Control Engineering Practice, 2017, 61, 124-133.	5.5	22
58	C-E (curtailment â€“ Energy share) map: An objective and quantitative measure to evaluate wind and solar curtailment. Renewable and Sustainable Energy Reviews, 2022, 160, 112212.	16.4	22
59	Graphical determination of network limits for wind power integration. IET Generation, Transmission and Distribution, 2009, 3, 841-849.	2.5	21
60	Multi-objective reactive power support from wind farms for network performance enhancement. International Transactions on Electrical Energy Systems, 2013, 23, 135-150.	1.9	21
61	Local and regional microgrid models to optimise the design of isolated electrification projects. Renewable Energy, 2018, 119, 795-808.	8.9	21
62	Frequency stability issues for islanded power systems. , 0, , .		19
63	Active use of DFIG based wind farms for transient stability improvement during grid disturbances. , 2009, , .		19
64	Power system flexibility assessment — State of the art. , 2012, , .		19
65	Modelling of a Multi-purpose Commercial Building for Demand Response Analysis. Energy Procedia, 2015, 78, 2166-2171.	1.8	19
66	Controlled Charging of Electric Vehicles to Minimize Energy Losses in Distribution Systems. IFAC-PapersOnLine, 2016, 49, 324-329.	0.9	19
67	Power system stability in the transition to a low carbon grid: A technoâ€economic perspective on challenges and opportunities. Wiley Interdisciplinary Reviews: Energy and Environment, 2021, 10, e399.	4.1	19
68	Study of fault ride-through for DFIG based wind turbines. , 2004, , .		18
69	Optimal allocation of distributed reactive power resources under network constraints for system loss minimization. , 2011, , .		18
70	Potential for electric vehicles to provide power system reserve. , 2012, , .		17
71	Methodologies to determine operating reserves due to increased wind power. , 2013, , .		17
72	A self-tuning automatic voltage regulator designed for an industrial environment. IEEE Transactions on Energy Conversion, 1996, 11, 429-434.	5.2	15

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73	Synergetic frequency response from multiple flexible loads. Electric Power Systems Research, 2017, 145, 185-196.	3.6	15
74	Autonomous plug and play electric vehicle charging scenarios including reactive power provision: a probabilistic load flow analysis. IET Generation, Transmission and Distribution, 2017, 11, 768-775.	2.5	15
75	Flicker mitigation strategy for DFIGs during variable wind conditions. , 2010, , .		14
76	Shortâ€term frequency response of power systems with high nonâ€synchronous penetration levels. Wiley Interdisciplinary Reviews: Energy and Environment, 2015, 4, 452-470.	4.1	14
77	System-Level Operational and Adequacy Impact Assessment of Photovoltaic and Distributed Energy Storage, with Consideration of Inertial Constraints, Dynamic Reserve and Interconnection Flexibility. Energies, 2017, 10, 989.	3.1	14
78	Impact of modelling non-normality and stochastic dependence of variables on operating reserve determination of power systems with high penetration of wind power. International Journal of Electrical Power and Energy Systems, 2018, 97, 146-154.	5.5	14
79	Gridâ€forming requirements based on stability assessment for 100% converterâ€based Irish power system. IET Renewable Power Generation, 2022, 16, 447-458.	3.1	14
80	Load Inertia Estimation Using White and Grey-Box Estimators for Power Systems with High Wind Penetration. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 399-404.	0.4	13
81	Utilising Time of Use Surveys to Predict Domestic Hot Water Consumption and Heat Demand Profiles of Residential Building Stocks. British Journal of Environment and Climate Change, 2016, 6, 77-89.	0.3	13
82	Stability enhancement strategies for a 100% gridâ€forming and gridâ€following converterâ€based Irish power system. IET Renewable Power Generation, 2022, 16, 125-138.	3.1	13
83	Expert control of a self-tuning automatic voltage regulator. Control Engineering Practice, 1995, 3, 1571-1579.	5.5	12
84	Nonlinear Identification and Control of a Turbogeneratorâ€"An On-Line Scheduled Multiple Model/Controller Approach. IEEE Transactions on Energy Conversion, 2005, 20, 237-245.	5.2	12
85	Increasing wind farm capacity. IET Generation, Transmission and Distribution, 2006, 153, 493.	1.1	12
86	Wind Farm Induced Oscillations. , 2006, , .		12
87	Steps for a Complete Wind Integration Study. , 2013, , .		12
88	DATA MINING TECHNIQUES APPLIED TO POWER PLANT PERFORMANCE MONITORING. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 369-374.	0.4	11
89	Capacity Value of Wave Power. IEEE Transactions on Power Systems, 2013, 28, 412-420.	6.5	11
90	Network studies for a 100% converterâ€based power system. Journal of Engineering, 2019, 2019, 5250-5254.	1.1	11

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91	Benchmarking leachate co-treatment strategies in municipal wastewater treatment plants under dynamic conditions and energy prices. Journal of Environmental Management, 2020, 260, 110129.	7.8	11
92	Voltage security constrained reactive power optimization incorporating wind generation. , 2012, , .		10
93	Impact of electric vehicle load response variation on frequency stability. , 2016, , .		10
94	Multiple model nonlinear control of synchronous generators. Transactions of the Institute of Measurement and Control, 2002, 24, 215-230.	1.7	9
95	The Impact of Wind Farm Power Oscillations on the Irish Power System. , 2007, , .		9
96	A new method for transmission loss allocation considering the circulating currents between generators. European Transactions on Electrical Power, 2010, 20, 1177-1189.	1.0	9
97	Optimal charging of electric vehicles in low-voltage distribution systems. , 2012, , .		9
98	The importance of sub-hourly modeling with a high penetration of wind generation. , 2012, , .		9
99	Wind power within European grid codes: Evolution, status and outlook. Wiley Interdisciplinary Reviews: Energy and Environment, 2018, 7, e285.	4.1	9
100	Predicting wastewater treatment plant performance during aeration demand shifting with a dual-layer reaction settling model. Water Science and Technology, 2020, 81, 1365-1374.	2.5	9
101	Controlled charging of electric vehicles in residential distribution networks. , 2012, , .		8
102	Variable Generation, Reserves, Flexibility and Policy Interactions. , 2014, , .		8
103	Voltage Dip Induced Frequency Events in Wind Integrated Power Systems. IFAC-PapersOnLine, 2015, 48, 572-577.	0.9	8
104	Self-tuning expert control for turbogenerator systems. Transactions of the Institute of Measurement and Control, 1994, 16, 40-47.	1.7	7
105	Managing variability of wind energy with heating load control. , 2008, , .		7
106	Use of electricity price to match heat load with wind power generation. , 2009, , .		7
107	A new method for determining the demand reserve offer function. Electric Power Systems Research, 2013, 100, 55-64.	3.6	7
108	Validating unit commitment models: A case for benchmark test systems. , 2016, , .		6

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109	Freezing Grid-Forming Converter Virtual Angular Speed to Enhance Transient Stability Under Current Reference Limiting. , 2020, , .		6
110	Coordinated investment in windâ€rich regions using dynamic line rating, energy storage and distributed static series compensation to facilitate congestion management. IET Renewable Power Generation, 2022, 16, 1882-1896.	3.1	6
111	Statistical model for power plant performance monitoring and analysis. , 2007, , .		5
112	System-wide contribution to frequency response from variable speed wind turbines. , 2012, , .		5
113	Frequency response of power systems with variable speed wind turbines. , 2013, , .		5
114	Building a Better Model: A Novel Approach for Mapping Organisational and Functional Structure. Procedia Computer Science, 2015, 44, 194-203.	2.0	5
115	Automatic voltage control (AVC) system under uncertainty from wind power. , 2016, , .		5
116	Drivers for sub-hourly scheduling in unit commitment models. , 2018, , .		5
117	Transient Stability Enhancement with High Shares of Grid-Following Converters in a 100% Converter Grid. , 2020, , .		5
118	Wind intermittency - mitigation measures and load management. , 2005, , .		4
119	Demand Side Management Potential of Domestic Water Heaters and Space Heaters. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 693-698.	0.4	4
120	The flexible demand influence on the joint energy and reserve markets. , 2012, , .		4
121	Co-ordination of frequency responsive wind plant in future power systems. , 2013, , .		4
122	Integration of compressed air energy storage with wind generation into the electricity grid. IOP Conference Series: Earth and Environmental Science, 0, 188, 012075.	0.3	4
123	Fast frequency response provision from commercial demand response, from scheduling to stability in power systems. IET Renewable Power Generation, 2022, 16, 1908-1924.	3.1	4
124	Flexibility From the Electrification of Energy: How Heating, Transport, and Industries Can Support a 100% Sustainable Energy System. IEEE Power and Energy Magazine, 2022, 20, 55-65.	1.6	4
125	Partial Least Squares for Power Plant Performance Monitoring. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2003, 36, 243-248.	0.4	3
126	Optimization of FRT active power performance of a DFIG during transient grid faults. , 2009, , .		3

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127	Energy storage for wind integration: Hydropower and other contributions. , 2012, , .		3
128	Operational security at high penetrations of stochastic, non-synchronous generation. , 2013, , .		3
129	Rolling multi-period optimization to control electric vehicle charging in distribution networks. , 2014, , .		3
130	Recommended Practices for wind integration studies. , 2014, , .		3
131	Stability-constrained unit commitment with water network loads. , 2016, , .		3
132	Multiâ€sectoral flexibility measures to facilitate wind and solar power integration. IET Renewable Power Generation, 0, , .	3.1	3
133	Real-time expert control for turbogenerator systems. , 1994, , .		2
134	Nonlinear identification of turbogenerator AVR loop dynamics using fuzzy clustering. , 0, , .		2
135	Condenser Maintenance Cost Optimisation Using Genetic Algorithms. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2003, 36, 337-342.	0.4	2
136	The impact of generation mix on the scheduling of power systems with high wind penetration. , 2008, , .		2
137	Optimal Power Flow under Variable Wind Generation. International Journal of Energy Technology and Policy, 2008, 6, 608.	0.2	2
138	Local versus centralized charging strategies for electric vehicles in low voltage distribution systems. , 2013, , .		2
139	Investigation of frequency stability during high penetration of CCGTs and variable-speed wind generators in electricity networks. , 2015, , .		2
140	Cycling and flexibility concerns revealed in high variability systems employing sub-hourly UC. , 2015, , .		2
141	Impact of Wide-Scale Data Centre Growth on Power System Operation with Large Share of Renewables. , 2020, , .		2
142	Demand response through reject water scheduling in water resource recovery facilities: A demonstration with BSM2. Water Research, 2021, 188, 116516.	11.3	2
143	Expert adaptive control applied to turbogenerator systems. IET Control Theory and Applications, 1997, 144, 2-7.	1.7	1
144	Reserve trading within power purchase agreements. , 0, , .		1

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145	SUB-SPACE PRINCIPAL COMPONENT ANALYSIS FOR POWER PLANT MONITORING. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2006, 39, 243-248.	0.4	1
146	Challenges in utilisation of demand side response for operating reserve provision. , 2014, , .		1
147	Provision of flexibility at high wind penetration levels using modern storage heater load. , 2014, , .		1
148	Building a better model A novel approach for mapping organisational and functional structure. , 2015, , .		1
149	Characterization of gas turbine lean blowout during frequency excursions in power networks. , 2015, , .		1
150	Transmission planning, flexibility measures and renewables integration for ireland power system. , 2016, , .		1
151	Intraday dispatch, energy storage and the value of re-scheduling in systems with high wind shares. , 2019, , .		1
152	Guest Editorial: Multiâ€carrier Energy Storage for Harnessing RenewableGeneration. IET Renewable Power Generation, 2020, 14, 333-334.	3.1	1
153	Data mining for performance monitoring and optimisation. , 2003, , 309-344.		1
154	Water resource recovery facilities as potential energy generation units and their dynamic economic dispatch. Applied Energy, 2022, 318, 119199.	10.1	1
155	Expert Self-Tuning Control for an Automatic Voltage Regulator. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1995, 28, 1-6.	0.4	0
156	Expert self-tuning control applied to automatic voltage regulation. , 1995, , .		0
157	Neural Modelling and Control of a Synchronous Generator. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1997, 30, 367-372.	0.4	0
158	Excitation controllers. , 1998, , .		0
159	Local Model Networks Applied to Nonlinear Generator Excitation Control. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2003, 36, 91-96.	0.4	0
160	Modernising and Rationalising the First Course in Power Systems on the Island of Ireland. IEEE Power Engineering Society General Meeting, 2007, , .	0.0	0
161	Impact of large scale demand side response on system frequency- A case study. , 2015, , .		0
162	Sub-hour Unit Commitment MILP Model withÂBenchmark Problem Instances. Lecture Notes in Computer Science, 2017, , 635-651.	1.3	0

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163	Operational implications of ESB/NIE power system interconnection. Power Engineering Journal, 1996, 10, 128-128.	0.1	0
164	SUB-SPACE PRINCIPAL COMPONENT ANALYSIS FOR POWER PLANT MONITORING. , 2007, , 243-248.		0
165	WEIGHTED FOULING MODEL FOR POWER PLANT CONDENSER MONITORING. , 2007, , 401-406.		0
166	Guest Editorial: Special issue from 9th IET Renewable Power Generation Conference. IET Renewable Power Generation, 2022, 16, 1809-1813.	3.1	0