

Damian Flynn

List of Publications by Year in descending order

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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	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
2	Grid-forming requirements based on stability assessment for 100% converter-based Irish power system. IET Renewable Power Generation, 2022, 16, 447-458.	3.1	14
3	Stability enhancement strategies for a 100% grid-forming and grid-following converter-based Irish power system. IET Renewable Power Generation, 2022, 16, 125-138.	3.1	13
4	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
5	C-E (curtailment " 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
6	Coordinated investment in wind-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
7	Water resource recovery facilities as potential energy generation units and their dynamic economic dispatch. Applied Energy, 2022, 318, 119199.	10.1	1
8	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
9	Guest Editorial: Special issue from 9th IET Renewable Power Generation Conference. IET Renewable Power Generation, 2022, 16, 1809-1813.	3.1	0
10	Demand response through reject water scheduling in water resource recovery facilities: A demonstration with BSM2. Water Research, 2021, 188, 116516.	11.3	2
11	Coordinating Demand Response Aggregation With LV Network Operational Constraints. IEEE Transactions on Power Systems, 2021, 36, 979-990.	6.5	28
12	Power system stability in the transition to a low carbon grid: A techno-economic perspective on challenges and opportunities. Wiley Interdisciplinary Reviews: Energy and Environment, 2021, 10, e399.	4.1	19
13	Operational challenges for low and high temperature electrolyzers exploiting curtailed wind energy for hydrogen production. International Journal of Hydrogen Energy, 2021, , .	7.1	36
14	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
15	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
16	Investigation of the Multi-Point Injection of Green Hydrogen from Curtailed Renewable Power into a Gas Network. Energies, 2020, 13, 6047.	3.1	24
17	Impact of Wide-Scale Data Centre Growth on Power System Operation with Large Share of Renewables. , 2020, , .		2
18	Addressing technical challenges in 100% variable inverter-based renewable energy power systems. Wiley Interdisciplinary Reviews: Energy and Environment, 2020, 9, e376.	4.1	47

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19	Guest Editorial: Multi-carrier Energy Storage for Harnessing Renewable Generation. IET Renewable Power Generation, 2020, 14, 333-334.	3.1	1
20	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
21	Transient Stability Enhancement with High Shares of Grid-Following Converters in a 100% Converter Grid. , 2020, , .		5
22	Freezing Grid-Forming Converter Virtual Angular Speed to Enhance Transient Stability Under Current Reference Limiting. , 2020, , .		6
23	Backbone – An Adaptable Energy Systems Modelling Framework. Energies, 2019, 12, 3388.	3.1	50
24	Network studies for a 100% converter-based power system. Journal of Engineering, 2019, 2019, 5250-5254.	1.1	11
25	RoCoF-Constrained Scheduling Incorporating Non-Synchronous Residential Demand Response. IEEE Transactions on Power Systems, 2019, 34, 3372-3383.	6.5	27
26	Intraday dispatch, energy storage and the value of re-scheduling in systems with high wind shares. , 2019, , .		1
27	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
28	Wind power within European grid codes: Evolution, status and outlook. Wiley Interdisciplinary Reviews: Energy and Environment, 2018, 7, e285.	4.1	9
29	Local and regional microgrid models to optimise the design of isolated electrification projects. Renewable Energy, 2018, 119, 795-808.	8.9	21
30	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
31	Drivers for sub-hourly scheduling in unit commitment models. , 2018, , .		5
32	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
33	Synergetic frequency response from multiple flexible loads. Electric Power Systems Research, 2017, 145, 185-196.	3.6	15
34	Efficient Large-Scale Energy Storage Dispatch: Challenges in Future High Renewable Systems. IEEE Transactions on Power Systems, 2017, 32, 3439-3450.	6.5	58
35	Impact of voltage dip induced delayed active power recovery on wind integrated power systems. Control Engineering Practice, 2017, 61, 124-133.	5.5	22
36	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

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37	Sub-hour Unit Commitment MILP Model with Benchmark Problem Instances. Lecture Notes in Computer Science, 2017, , 635-651.	1.3	0
38	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
39	Impact of electric vehicle load response variation on frequency stability. , 2016, , .		10
40	Stability-constrained unit commitment with water network loads. , 2016, , .		3
41	Controlled Charging of Electric Vehicles to Minimize Energy Losses in Distribution Systems. IFAC-PapersOnLine, 2016, 49, 324-329.	0.9	19
42	Wind and solar energy curtailment: A review of international experience. Renewable and Sustainable Energy Reviews, 2016, 65, 577-586.	16.4	375
43	Automatic voltage control (AVC) system under uncertainty from wind power. , 2016, , .		5
44	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
45	Validating unit commitment models: A case for benchmark test systems. , 2016, , .		6
46	Transmission planning, flexibility measures and renewables integration for ireland power system. , 2016, , .		1
47	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
48	Emulated Inertial Response From Wind Turbines: Gain Scheduling and Resource Coordination. IEEE Transactions on Power Systems, 2016, 31, 3747-3755.	6.5	66
49	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
50	Modelling of a Multi-purpose Commercial Building for Demand Response Analysis. Energy Procedia, 2015, 78, 2166-2171.	1.8	19
51	Impact of large scale demand side response on system frequency- A case study. , 2015, , .		0
52	Building a better model A novel approach for mapping organisational and functional structure. , 2015, , .		1
53	Voltage Dip Induced Frequency Events in Wind Integrated Power Systems. IFAC-PapersOnLine, 2015, 48, 572-577.	0.9	8
54	Investigation of frequency stability during high penetration of CCGTs and variable-speed wind generators in electricity networks. , 2015, , .		2

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55	Characterization of Gas Turbine Lean Blowout During Frequency Excursions in Power Networks. IEEE Transactions on Power Systems, 2015, 30, 1877-1887.	6.5	26
56	Short-term frequency response of power systems with high non-synchronous penetration levels. Wiley Interdisciplinary Reviews: Energy and Environment, 2015, 4, 452-470.	4.1	14
57	Building a Better Model: A Novel Approach for Mapping Organisational and Functional Structure. Procedia Computer Science, 2015, 44, 194-203.	2.0	5
58	Inertia considerations within unit commitment and economic dispatch for systems with high non-synchronous penetrations. , 2015, , .		40
59	Characterization of gas turbine lean blowout during frequency excursions in power networks. , 2015, , .		1
60	Cycling and flexibility concerns revealed in high variability systems employing sub-hourly UC. , 2015, , .		2
61	Transmission, Variable Generation, and Power System Flexibility. IEEE Transactions on Power Systems, 2015, 30, 57-66.	6.5	146
62	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
63	Challenges in utilisation of demand side response for operating reserve provision. , 2014, , .		1
64	Studying the Maximum Instantaneous Non-Synchronous Generation in an Island System – Frequency Stability Challenges in Ireland. IEEE Transactions on Power Systems, 2014, 29, 2943-2951.	6.5	231
65	Rolling multi-period optimization to control electric vehicle charging in distribution networks. , 2014, , .		3
66	Variable Generation, Reserves, Flexibility and Policy Interactions. , 2014, , .		8
67	Recommended Practices for wind integration studies. , 2014, , .		3
68	Rolling Multi-Period Optimization to Control Electric Vehicle Charging in Distribution Networks. IEEE Transactions on Power Systems, 2014, 29, 340-348.	6.5	102
69	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
70	Provision of flexibility at high wind penetration levels using modern storage heater load. , 2014, , .		1
71	Wind Power Integration: Connection and System Operational Aspects. , 2014, , .		51
72	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

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73	Capacity Value of Wave Power. IEEE Transactions on Power Systems, 2013, 28, 412-420.	6.5	11
74	A new method for determining the demand reserve offer function. Electric Power Systems Research, 2013, 100, 55-64.	3.6	7
75	Operational security at high penetrations of stochastic, non-synchronous generation. , 2013, , .		3
76	Methodologies to determine operating reserves due to increased wind power. , 2013, , .		17
77	Local versus centralized charging strategies for electric vehicles in low voltage distribution systems. , 2013, , .		2
78	Co-ordination of frequency responsive wind plant in future power systems. , 2013, , .		4
79	Steps for a Complete Wind Integration Study. , 2013, , .		12
80	Frequency response of power systems with variable speed wind turbines. , 2013, , .		5
81	System-wide contribution to frequency response from variable speed wind turbines. , 2012, , .		5
82	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
83	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
84	Optimal charging of electric vehicles in low-voltage distribution systems. , 2012, , .		9
85	Unit Commitment With Dynamic Cycling Costs. IEEE Transactions on Power Systems, 2012, 27, 2196-2205.	6.5	56
86	Power system flexibility assessment — State of the art. , 2012, , .		19
87	Assessment of power system flexibility: A high-level approach. , 2012, , .		32
88	Potential for electric vehicles to provide power system reserve. , 2012, , .		17
89	Frequency Response of Power Systems With Variable Speed Wind Turbines. IEEE Transactions on Sustainable Energy, 2012, 3, 683-691.	8.8	131
90	Multi-Mode Operation of Combined-Cycle Gas Turbines With Increasing Wind Penetration. IEEE Transactions on Power Systems, 2012, 27, 484-492.	6.5	37

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91	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
92	Optimal Charging of Electric Vehicles in Low-Voltage Distribution Systems. IEEE Transactions on Power Systems, 2012, 27, 268-279.	6.5	441
93	Evaluation of Power System Flexibility. IEEE Transactions on Power Systems, 2012, 27, 922-931.	6.5	455
94	Methodologies to Determine Operating Reserves Due to Increased Wind Power. IEEE Transactions on Sustainable Energy, 2012, 3, 713-723.	8.8	238
95	The flexible demand influence on the joint energy and reserve markets. , 2012, , .		4
96	Energy storage for wind integration: Hydropower and other contributions. , 2012, , .		3
97	Controlled charging of electric vehicles in residential distribution networks. , 2012, , .		8
98	The importance of sub-hourly modeling with a high penetration of wind generation. , 2012, , .		9
99	Voltage security constrained reactive power optimization incorporating wind generation. , 2012, , .		10
100	The role of power system flexibility in generation planning. , 2011, , .		73
101	System-wide inertial response from fixed speed and variable speed wind turbines. , 2011, , .		26
102	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
103	Optimal allocation of distributed reactive power resources under network constraints for system loss minimization. , 2011, , .		18
104	Integration of Renewable Energy into Present and Future Energy Systems. , 2011, , 609-706.		39
105	Coordinated utilisation of wind farm reactive power capability for system loss optimisation. European Transactions on Electrical Power, 2011, 21, 40-51.	1.0	25
106	Demand side resource operation on the Irish power system with high wind power penetration. Energy Policy, 2011, 39, 2925-2934.	8.8	62
107	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
108	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

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109	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
110	Flicker mitigation strategy for DFIGs during variable wind conditions. , 2010, , .		14
111	Impact assessment of varying penetrations of electric vehicles on low voltage distribution systems. , 2010, , .		127
112	Impact on transient and frequency stability for a power system at very high wind penetration. , 2010, , .		94
113	Evolution of operating reserve determination in wind power integration studies. , 2010, , .		98
114	Integration of variable generation: Capacity value and evaluation of flexibility. , 2010, , .		29
115	Use of electricity price to match heat load with wind power generation. , 2009, , .		7
116	Optimization of FRT active power performance of a DFIG during transient grid faults. , 2009, , .		3
117	Active use of DFIG based wind farms for transient stability improvement during grid disturbances. , 2009, , .		19
118	Graphical determination of network limits for wind power integration. IET Generation, Transmission and Distribution, 2009, 3, 841-849.	2.5	21
119	Transient stability analysis of a power system with high wind penetration. , 2008, , .		30
120	Managing variability of wind energy with heating load control. , 2008, , .		7
121	The impact of generation mix on the scheduling of power systems with high wind penetration. , 2008, , .		2
122	Optimal Power Flow under Variable Wind Generation. International Journal of Energy Technology and Policy, 2008, 6, 608.	0.2	2
123	Modernising and Rationalising the First Course in Power Systems on the Island of Ireland. IEEE Power Engineering Society General Meeting, 2007, , .	0.0	0
124	The Impact of Wind Farm Power Oscillations on the Irish Power System. , 2007, , .		9
125	Statistical model for power plant performance monitoring and analysis. , 2007, , .		5
126	Wind Power Integration: Connection and system operational aspects. , 2007, , .		146

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127	SUB-SPACE PRINCIPAL COMPONENT ANALYSIS FOR POWER PLANT MONITORING. , 2007, , 243-248.		0
128	WEIGHTED FOULING MODEL FOR POWER PLANT CONDENSER MONITORING. , 2007, , 401-406.		0
129	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
130	Increasing wind farm capacity. IET Generation, Transmission and Distribution, 2006, 153, 493.	1.1	12
131	Wind Farm Induced Oscillations. , 2006, , .		12
132	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
133	Wind intermittency - mitigation measures and load management. , 2005, , .		4
134	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
135	Measurement-based estimation of wind farm inertia. , 2005, , .		22
136	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
137	Study of fault ride-through for DFIG based wind turbines. , 2004, , .		18
138	Partial Least Squares for Power Plant Performance Monitoring. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2003, 36, 243-248.	0.4	3
139	Condenser Maintenance Cost Optimisation Using Genetic Algorithms. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2003, 36, 337-342.	0.4	2
140	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
141	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
142	Thermal Power Plant Simulation and Control. , 2003, , .		73
143	Data mining for performance monitoring and optimisation. , 2003, , 309-344.		1
144	Multiple model nonlinear control of synchronous generators. Transactions of the Institute of Measurement and Control, 2002, 24, 215-230.	1.7	9

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145	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
146	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
147	Self-tuning turbine generator control for power plant. Mechatronics, 1999, 9, 513-537.	3.3	27
148	Potential for wind generation on the Guyana coastlands. Renewable Energy, 1999, 18, 175-189.	8.9	78
149	Neural network based control for synchronous generators. IEEE Transactions on Energy Conversion, 1999, 14, 1673-1678.	5.2	43
150	Excitation controllers. , 1998, , .		0
151	Neural Modelling and Control of a Synchronous Generator. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1997, 30, 367-372.	0.4	0
152	Expert adaptive control applied to turbogenerator systems. IET Control Theory and Applications, 1997, 144, 2-7.	1.7	1
153	Neural control of turbogenerator systems. Automatica, 1997, 33, 1961-1973.	5.0	40
154	A self-tuning automatic voltage regulator designed for an industrial environment. IEEE Transactions on Energy Conversion, 1996, 11, 429-434.	5.2	15
155	Operational implications of ESB/NIE power system interconnection. Power Engineering Journal, 1996, 10, 128-128.	0.1	0
156	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
157	Expert control of a self-tuning automatic voltage regulator. Control Engineering Practice, 1995, 3, 1571-1579.	5.5	12
158	Expert self-tuning control applied to automatic voltage regulation. , 1995, , .		0
159	Real-time expert control for turbogenerator systems. , 1994, , .		2
160	Self-tuning expert control for turbogenerator systems. Transactions of the Institute of Measurement and Control, 1994, 16, 40-47.	1.7	7
161	Reserve trading within power purchase agreements. , 0, , .		1
162	Nonlinear identification of turbogenerator AVR loop dynamics using fuzzy clustering. , 0, , .		2

#	ARTICLE	IF	CITATIONS
163	Frequency stability issues for islanded power systems. , 0, , .		19
164	Dynamic frequency control with increasing wind generation. , 0, , .		67
165	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
166	Multi-sectoral flexibility measures to facilitate wind and solar power integration. IET Renewable Power Generation, 0, , .	3.1	3