# Emilio Gomez-Lazaro

List of Publications by Year
in descending order



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|---|---|---|---|
| 102 papers | 3,315 citations | 236912 25 h-index | 161844 54 g-index |
| 104 all docs | 104 docs citations | 104 times ranked | 3193 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Wind and solar energy curtailment: A review of international experience. Renewable and Sustainable Energy Reviews, 2016, 65, 577-586. | 16.4 | 375 |
| 2 | Impacts of large amounts of wind power on design and operation of power systems, results of IEA collaboration. Wind Energy, 2011, 14, 179-192. | 4.2 | 342 |
| 3 | Power systems with high renewable energy sources: A review of inertia and frequency control strategies over time. Renewable and Sustainable Energy Reviews, 2019, 115, 109369. | 16.4 | 278 |
| 4 | Methodologies to Determine Operating Reserves Due to Increased Wind Power. IEEE Transactions on Sustainable Energy, 2012, 3, 713-723. | 8.8 | 238 |
| 5 | Wind turbine reliability: A comprehensive review towards effective condition monitoring development. Applied Energy, 2018, 228, 1569-1583. | 10.1 | 156 |
| 6 | Combining feed-in tariffs and net-metering schemes to balance development in adoption of photovoltaic energy: Comparative economic assessment and policy implications for European countries. Energy Policy, 2017, 102, 440-452. | 8.8 | 105 |
| 7 | Influence of solar technology in the economic performance of PV power plants in Europe. A comprehensive analysis. Renewable and Sustainable Energy Reviews, 2018, 82, 488-501. | 16.4 | 92 |
| 8 | Probabilistic Characterization of Thermostatically Controlled Loads to Model the Impact of Demand Response Programs. IEEE Transactions on Power Systems, 2011, 26, 241-251. | 6.5 | 89 |
| 9 | Performance evaluation of large solar photovoltaic power plants in Spain. Energy Conversion and Management, 2019, 183, 515-528. | 9.2 | 78 |
| 10 | Influence of voltage dips on industrial equipment: Analysis and assessment. International Journal of Electrical Power and Energy Systems, 2012, 41, 87-95. | 5.5 | 74 |
| 11 | Generic dynamic wind turbine models for power system stability analysis: A comprehensive review. Renewable and Sustainable Energy Reviews, 2018, 81, 1939-1952. | 16.4 | 73 |
| 12 | Using SCADA Data for Wind Turbine Condition Monitoring: A Systematic Literature Review. Energies, 2020, 13, 3132. | 3.1 | 68 |
| 13 | Demand-Side Contribution to Primary Frequency Control With Wind Farm Auxiliary Control. IEEE Transactions on Power Systems, 2014, 29, 2391-2399. | 6.5 | 59 |
| 14 | A techno-economic analysis of a real wind farm repowering experience: The Malpica case. Energy Conversion and Management, 2018, 172, 182-199. | 9.2 | 58 |
| 15 | Power quality surveys of photovoltaic power plants: characterisation and analysis of gridâ€code requirements. IET Renewable Power Generation, 2015, 9, 466-473. | 3.1 | 57 |
| 16 | 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 |
| 17 | Experience and Challenges With Short-Term Balancing in European Systems With Large Share of Wind Power. IEEE Transactions on Sustainable Energy, 2012, 3, 853-861. | 8.8 | 46 |
| 18 | Variability in largeâ€scale wind power generation. Wind Energy, 2016, 19, 1649-1665. | 4.2 | 41 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Current signature analysis to monitor DFIG wind turbine generators: A case study. Renewable Energy, 2018, 116, 5-14. | 8.9 | 41 |
| 20 | Hydro power flexibility for power systems with variable renewable energy sources: an IEA Task 25 collaboration. Wiley Interdisciplinary Reviews: Energy and Environment, 2017, 6, e220. | 4.1 | 40 |
| 21 | Current Signature and Vibration Analyses to Diagnose an In-Service Wind Turbine Drive Train. Energies, 2018, 11, 960. | 3.1 | 36 |
| 22 | Field Validation of a Standard Type 3 Wind Turbine Model for Power System Stability, According to the Requirements Imposed by IEC 61400-27-1. IEEE Transactions on Energy Conversion, 2018, 33, 137-145. | 5.2 | 29 |
| 23 | On the participation of wind energy in response and reserve markets in Great Britain and Spain. Renewable and Sustainable Energy Reviews, 2019, 115, 109360. | 16.4 | 28 |
| 24 | An Integrated Tool for Assessing the Demand Profile Flexibility. IEEE Transactions on Power Systems, 2004, 19, 668-675. | 6.5 | 27 |
| 25 | The role of wind energy production in addressing the European renewable energy targets: The case of Spain. Journal of Cleaner Production, 2018, 196, 1198-1212. | 9.3 | 27 |
| 26 | In-Service Wind Turbine DFIG Diagnosis Using Current Signature Analysis. IEEE Transactions on Industrial Electronics, 2020, 67, 2262-2271. | 7.9 | 27 |
| 27 | Characterization and Visualization of Voltage Dips in Wind Power Installations. IEEE Transactions on Power Delivery, 2009, 24, 2071-2078. | 4.3 | 26 |
| 28 | Spectral coherence model for power fluctuations in a wind farm. Journal of Wind Engineering and Industrial Aerodynamics, 2012, 102, 14-21. | 3.9 | 26 |
| 29 | Validation of a DFIG wind turbine model submitted to two-phase voltage dips following the Spanish grid code. Renewable Energy, 2013, 57, 27-34. | 8.9 | 26 |
| 30 | 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 |
| 31 | A New Solar Module Modeling for PV Applications Based on a Symmetrized and Shifted Gompertz Model. IEEE Transactions on Energy Conversion, 2015, 30, 51-59. | 5.2 | 21 |
| 32 | Probability Density Function Characterization for Aggregated Large-Scale Wind Power Based on Weibull Mixtures. Energies, 2016, 9, 91. | 3.1 | 21 |
| 33 | Field tests of wind turbines submitted to real voltage dips under the new Spanish grid code requirements. Wind Energy, 2007, 10, 483-495. | 4.2 | 20 |
| 34 | Behavioral modeling of grid-connected photovoltaic inverters:ÂDevelopment and assessment. Renewable Energy, 2014, 68, 686-696. | 8.9 | 20 |
| 35 | Field validation of a standard Type 3 wind turbine model implemented in DIgSILENT-PowerFactory following IEC 61400-27-1 guidelines. International Journal of Electrical Power and Energy Systems, 2020, 116, 105553. | 5.5 | 20 |
| 36 | Validation of a double fed induction generator wind turbine model and wind farm verification following the Spanish grid code. Wind Energy, 2012, 15, 645-659. | 4.2 | 19 |

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| 37 | Generic Type 3 Wind Turbine Model Based on IEC 61400-27-1: Parameter Analysis and Transient Response under Voltage Dips. Energies, 2017, 10, 1441. | 3.1 | 19 |
| 38 | Methodologies to determine operating reserves due to increased wind power. , 2013, , . | | 17 |
| 39 | Impact of wind power curtailments on the Spanish Power System operation. , 2014, , . | | 17 |
| 40 | Load influence on the response of AC-Contactors under power quality disturbances. International Journal of Electrical Power and Energy Systems, 2014, 63, 846-854. | 5.5 | 17 |
| 41 | Modeling Aluminum Smelter Plants Using Sliced Inverse Regression With a View Towards Load Flexibility. IEEE Transactions on Power Systems, 2011, 26, 282-293. | 6.5 | 16 |
| 42 | Validation of a Mechanical Model for Fault Ride-Through: Application to a Gamesa G52 Commercial Wind Turbine. IEEE Transactions on Energy Conversion, 2013, 28, 707-715. | 5.2 | 16 |
| 43 | The relationship between learning styles and motivation to transfer of learning in a vocational training programme. Suma Psicologica, 2016, 23, 25-32. | 0.4 | 16 |
| 44 | Field Validation of Generic Type 4 Wind Turbine Models Based on IEC and WECC Guidelines. IEEE Transactions on Energy Conversion, 2019, 34, 933-941. | 5.2 | 16 |
| 45 | Transmission planning for wind energy in the United States and Europe: status and prospects. Wiley Interdisciplinary Reviews: Energy and Environment, 2013, 2, 1-13. | 4.1 | 15 |
| 46 | Analysis of positive ramp limitation control strategies for reducing wind power fluctuations. IET Renewable Power Generation, 2013, 7, 593-602. | 3.1 | 15 |
| 47 | Validation of Generic Models for Variable Speed Operation Wind Turbines Following the Recent Guidelines Issued by IEC 61400-27. Energies, 2016, 9, 1048. | 3.1 | 15 |
| 48 | Impact of Combined Demand-Response and Wind Power Plant Participation in Frequency Control for Multi-Area Power Systems. Energies, 2019, 12, 1687. | 3.1 | 15 |
| 49 | Development and Assessment of a Wireless Sensor and Actuator Network for Heating and Cooling Loads. IEEE Transactions on Smart Grid, 2012, 3, 1192-1202. | 9.0 | 14 |
| 50 | Fast Power Reserve Emulation Strategy for VSWT Supporting Frequency Control in Multi-Area Power Systems. Energies, 2018, 11, 2775. | 3.1 | 14 |
| 51 | Generic Type 3 WT models: comparison between IEC and WECC approaches. IET Renewable Power Generation, 2019, 13, 1168-1178. | 3.1 | 14 |
| 52 | Participation of wind power plants in the Spanish power system during events. , 2012, , . | | 13 |
| 53 | Compliance of a Generic Type 3 WT Model with the Spanish Grid Code. Energies, 2019, 12, 1631. | 3.1 | 13 |
| 54 | A New Three-Phase DPLL Frequency Estimator Based on Nonlinear Weighted Mean for Power System Disturbances. IEEE Transactions on Power Delivery, 2013, 28, 179-187. | 4.3 | 12 |

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|---|---|---|---|
| 55 | Vertical Wind Profile Characterization and Identification of Patterns Based on a Shape Clustering Algorithm. IEEE Access, 2019, 7, 30890-30904. | 4.2 | 12 |
| 56 | Submission of a WECC DFIG Wind Turbine Model to Spanish Operation Procedure 12.3. Energies, 2019, 12, 3749. | 3.1 | 12 |
| 57 | Wind Resource and Wind Power Generation Assessment for Education in Engineering. Sustainability, 2021, 13, 2444. | 3.2 | 11 |
| 58 | Extensive frequency response and inertia analysis under high renewable energy source integration scenarios: application to the European interconnected power system. IET Renewable Power Generation, 2020, 14, 2885-2896. | 3.1 | 11 |
| 59 | Results using Different Reactive Power Definitions for Wind Turbines Submitted to Voltage Dips: Application to the Spanish Grid Code. , 2006, , . | | 10 |
| 60 | Application of Wireless Sensor Network to Direct Load Control in Residential Areas. , 2007, , . | | 10 |
| 61 | Assessment of DFIG simplified model parameters using field test data. , 2012, , . | | 10 |
| 62 | Statistical and Clustering Analysis for Disturbances: A Case Study of Voltage Dips in Wind Farms. IEEE Transactions on Power Delivery, 2016, 31, 2530-2537. | 4.3 | 10 |
| 63 | Approach to fitting parameters and clustering for characterising measured voltage dips based on twoâ€dimensional polarisation ellipses. IET Renewable Power Generation, 2017, 11, 1335-1343. | 3.1 | 10 |
| 64 | DSTRP: A new algorithm for high impedance fault detection in compensated neutral grounded M.V. power systems. European Transactions on Electrical Power, 2003, 13, 23-28. | 1.0 | 9 |
| 65 | Wind power within European grid codes: Evolution, status and outlook. Wiley Interdisciplinary Reviews: Energy and Environment, 2018, 7, e285. | 4.1 | 9 |
| 66 | Long-Term Operational Data Analysis of an In-Service Wind Turbine DFIG. IEEE Access, 2019, 7, 17896-17906. | 4.2 | 9 |
| 67 | Application of smoothing techniques to solve the cooling and heating residential load aggregation problem. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2004, 23, 48-64. | 0.9 | 8 |
| 68 | Evaluation of frequency response of variable speed wind farms for reducing stability problems in weak grids. , 2012, , . | | 8 |
| 69 | Implementation and Assessment of a Decentralized Load Frequency Control: Application to Power Systems with High Wind Energy Penetration. Energies, 2017, 10, 151. | 3.1 | 8 |
| 70 | Identification of linearised RMSâ€voltage dip patterns based on clustering in renewable plants. IET Generation, Transmission and Distribution, 2018, 12, 1256-1262. | 2.5 | 8 |
| 71 | Contribution of wind energy to balancing markets: The case of Spain. Wiley Interdisciplinary Reviews: Energy and Environment, 2018, 7, e300. | 4.1 | 8 |
| 72 | Implementation of IEC 61400-27-1 Type 3 Model: Performance Analysis under Different Modeling Approaches. Energies, 2019, 12, 2690. | 3.1 | 8 |

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| 73 | Short-Circuit Current Contribution of Doubly-Fed Wind Turbines According to IEC and IEEE Standards. IEEE Transactions on Power Delivery, 2021, 36, 2904-2912. | 4.3 | 8 |
| 74 | Requirements for Validation of Dynamic Wind Turbine Models: An International Grid Code Review. Electronics (Switzerland), 2020, 9, 1707. | 3.1 | 7 |
| 75 | Failure rate and downtime survey of wind turbines located in Spain. IET Renewable Power Generation, 2021, 15, 225-236. | 3.1 | 7 |
| 76 | Advanced teaching method for learning power system operation based on load flow simulations. Computer Applications in Engineering Education, 0, , . | 3.4 | 7 |
| 77 | Comparison of instantaneous frequency estimation algorithms under power system disturbances. , 2012, , . | | 6 |
| 78 | An Analysis of Decentralized Demand Response as Frequency Control Support under CriticalWind Power Oscillations. Energies, 2015, 8, 12881-12897. | 3.1 | 6 |
| 79 | Simulation of DFIG wind turbines for transient studies: An alternative approach based on symbolicâ€"numeric computations. Journal of the Franklin Institute, 2015, 352, 1417-1439. | 3.4 | 6 |
| 80 | Fault-Ride Trough Validation of IEC 61400-27-1 Type 3 and Type 4 Models of Different Wind Turbine Manufacturers. Energies, 2019, 12, 3039. | 3.1 | 6 |
| 81 | Development and assessment of a load decomposition method applied at the distribution level. IET Generation, Transmission and Distribution, 2003, 150, 245. | 1.1 | 5 |
| 82 | Analysis of the AC-contactor electrical behavior under voltage dips. , 2010, , . | | 5 |
| 83 | Wind Power Variability and Singular Events. , 0, , . | | 5 |
| 84 | Evaluation of the latest Spanish grid code requirements from a PV power plant perspective. Energy Reports, 2022, 8, 8589-8604. | 5.1 | 5 |
| 85 | Characterization of Measured Voltage Dips in Wind Farms in the Light of the New Grid Codes. , 2007, , . | | 4 |
| 86 | Power quality survey of a photovoltaic power plant. , 2013, , . | | 4 |
| 87 | Modelling Types 1 and 2 Wind Turbines Based on IEC 61400-27-1: Transient Response under Voltage Dips. Energies, 2020, 13, 4078. | 3.1 | 4 |
| 88 | Modelling of magnetic anisotropy in the finite element method. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2006, 25, 609-615. | 0.9 | 3 |
| 89 | Energy storage for wind integration: Hydropower and other contributions. , 2012, , . | | 3 |
| 90 | Fault Evolution Monitoring of an In-Service Wind Turbine DFIG Using Windowed Scalogram Difference. IEEE Access, 2021, 9, 90118-90125. | 4.2 | 3 |

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|---|---|---|---|
| 91 | A measurement approach for obtaining static load model parameters in real time at the distribution level. European Transactions on Electrical Power, 2007, 17, 173-190. | 1.0 | 2 |
| 92 | <i>Ad</i> â€•<i>hoc</i> analytical solution based on local linearisations for doublyâ€fed induction generator wind turbine electromechanical simulations. IET Renewable Power Generation, 2014, 8, 537-550. | 3.1 | 2 |
| 93 | Condition monitoring of a wind turbine doubly-fed induction generator through current signature analysis. Journal of Physics: Conference Series, 2017, 926, 012008. | 0.4 | 2 |
| 94 | A Review of Virtual Inertia Techniques for Renewable Energy-Based Generators. , 0, , . | | 2 |
| 95 | Wind turbine modelling for transient analysis: Application to the Spanish Grid Code. , 2009, , . | | 1 |
| 96 | Analysing Current Signature Data to Diagnose an In-Service Wind Turbine Generator. Journal of Physics: Conference Series, 2019, 1222, 012042. | 0.4 | 1 |
| 97 | Wind farm simulations based on a DFIG machine using parallel programming. Journal of Supercomputing, 2019, 75, 1641-1653. | 3.6 | 1 |
| 98 | The Use of Electrical Measurements of Wind Turbine Generators for Drive Train Condition Monitoring. , 0, , . | | 1 |
| 99 | Learning Load Flow Analysis in Electric Power Systems: A Case Study in PowerFactory. , 2022, , . | | 1 |
| 100 | Application of Wireless Sensor Network to Fluorescent Lighting Installations: A Novel Energy Efficient System. , 2011, , . | | 0 |
| 101 | SISTEMAS DE EVALUACIÃ“N DEL RECURSO EÃ“LICO: INTEGRACIÃ“N DE NUEVAS SOLUCIONES BASADAS EN TECNOLOGÃA LÃSER. Dyna (Spain), 2012, 87, 540-548. | 0.2 | 0 |
| 102 | INTEGRACIÃ“N DE RECURSOS RENOVABLES Y REQUERIMIENTOS DE CONEXIÃ“N EN EL SISTEMA ELÃ‰CTRICO ESPAÃ‘OL: ANÃLISIS DE DATOS EN INSTALACIONES FOTOVOLTAICAS. Dyna (Spain), 2014, 89, 649-655. | 0.2 | 0 |