

# Lionel Flandin

## List of Publications by Citations

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101  
papers

2,846  
citations

28  
h-index

51  
g-index

112  
ext. papers

3,175  
ext. citations

4.3  
avg, IF

4.95  
L-index

| #   | Paper  | IF  | Citations |
|-----|--|-----|-----------|
| 101 | A review of PEM fuel cell durability: materials degradation, local heterogeneities of aging and possible mitigation strategies. <i>Wiley Interdisciplinary Reviews: Energy and Environment</i> , <b>2014</b> , 3, 540-560                                      | 4.7 | 211       |
| 100 | Interrelationships between electrical and mechanical properties of a carbon black-filled ethyleneoctene elastomer. <i>Polymer</i> , <b>2001</b> , 42, 827-838  | 3.9 | 149       |
| 99  | Reduction of Dielectric Hysteresis in Multilayered Films via Nanoconfinement. <i>Macromolecules</i> , <b>2012</b> , 45, 1954-1962  | 5.5 | 144       |
| 98  | Effect of strain on the properties of an ethyleneoctene elastomer with conductive carbon fillers. <i>Journal of Applied Polymer Science</i> , <b>2000</b> , 76, 894-905  | 2.9 | 134       |
| 97  | Anomalous percolation transition in carbon-black/epoxy composite materials. <i>Physical Review B</i> , <b>1999</b> , 59, 14349-14355   | 3.3 | 108       |
| 96  | A deformation-based model for recrystallization of anisotropic materials. <i>Acta Materialia</i> , <b>1997</b> , 45, 3283-3296   | 3.2 | 94        |
| 95  | Electrically conductive polymer nanocomposites as deformation sensors. <i>Composites Science and Technology</i> , <b>2001</b> , 61, 895-901  | 8.6 | 93        |
| 94  | Interfacial polarization and layer thickness effect on electrical insulation in multilayered polysulfone/poly(vinylidene fluoride) films. <i>Polymer</i> , <b>2014</b> , 55, 8-14  | 3.9 | 91        |
| 93  | Enhanced breakdown strength of multilayered films fabricated by forced assembly microlayer coextrusion. <i>Journal Physics D: Applied Physics</i> , <b>2009</b> , 42, 175304   | 3   | 91        |
| 92  | In situ observation of electric field induced agglomeration of carbon black in epoxy resin. <i>Applied Physics Letters</i> , <b>1998</b> , 72, 2903-2905   | 3.4 | 85        |
| 91  | New nanocomposite materials made of an insulating matrix and conducting fillers: Processing and properties. <i>Polymer Composites</i> , <b>2000</b> , 21, 165-174  | 3   | 80        |
| 90  | Dielectric response of structured multilayered polymer films fabricated by forced assembly. <i>Applied Physics Letters</i> , <b>2008</b> , 92, 113301  | 3.4 | 70        |
| 89  | Effect of biaxial orientation on dielectric and breakdown properties of poly(ethylene terephthalate)/poly(vinylidene fluoride-co-tetrafluoroethylene) multilayer films. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , <b>2013</b> , 51, 882-896 | 2.6 | 67        |
| 88  | Investigation of ionomer structure through its dependence on ion exchange capacity (IEC). <i>Journal of Membrane Science</i> , <b>2012</b> , 389, 294-304  | 9.6 | 62        |
| 87  | Carbon corrosion induced by membrane failure: The weak link of PEMFC long-term performance. <i>International Journal of Hydrogen Energy</i> , <b>2014</b> , 39, 21902-21914  | 6.7 | 59        |
| 86  | Polymer Composites Bipolar Plates for PEMFCs. <i>Energy Procedia</i> , <b>2012</b> , 20, 311-323   | 2.3 | 58        |
| 85  | Confined crystallization of PVDF and a PVDF-TFE copolymer in nanolayered films. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , <b>2011</b> , 49, 1750-1761   | 2.6 | 56        |

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|----|--|------|----|
| 84 | Electrical Mapping of Silver Nanowire Networks: A Versatile Tool for Imaging Network Homogeneity and Degradation Dynamics during Failure. <i>ACS Nano</i> , <b>2018</b> , 12, 4648-4659  | 16.7 | 55 |
| 83 | Dislocation densities and stored energy after cold rolling of Al-Mg alloys: Investigations by resistivity and differential scanning calorimetry. <i>Scripta Materialia</i> , <b>1997</b> , 37, 449-454                             | 5.6  | 43 |
| 82 | A 3-D numerical simulation of AC electrical properties of short fiber composites. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , <b>1999</b> , 37, 805-814   | 2.6  | 40 |
| 81 | Dynamic Mechanical Properties of Precipitated Silica Filled Rubber: Influence of Morphology and Coupling Agent. <i>Rubber Chemistry and Technology</i> , <b>2003</b> , 76, 145-159   | 1.7  | 38 |
| 80 | Understanding the formation of pinholes in PFSA membranes with the essential work of fracture (EWF). <i>International Journal of Hydrogen Energy</i> , <b>2014</b> , 39, 2717-2723   | 6.7  | 36 |
| 79 | Multilayered polycarbonate/poly(vinylidene fluoride-co-hexafluoropropylene) for high energy density capacitors with enhanced lifetime. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , <b>2012</b> , 50, 993-1003     | 2.6  | 36 |
| 78 | Influences of degree of curing and presence of inorganic fillers on the ultimate electrical properties of epoxy-based composites: experiment and simulation. <i>Journal Physics D: Applied Physics</i> , <b>2005</b> , 38, 144-155 | 3.55 | 36 |
| 77 | Understanding Membrane Failure in PEMFC: Comparison of Diagnostic Tools at Different Observation Scales. <i>Fuel Cells</i> , <b>2012</b> , 12, 356-364   | 2.9  | 33 |
| 76 | Structure and transport properties of polyethylene terephthalate and poly(vinylidene fluoride-co-tetrafluoroethylene) multilayer films. <i>Polymer</i> , <b>2013</b> , 54, 1679-1690   | 3.9  | 29 |
| 75 | Perfluorosulfonic acid membrane degradation in the hydrogen inlet region: A macroscopic approach. <i>International Journal of Hydrogen Energy</i> , <b>2016</b> , 41, 483-496  | 6.7  | 28 |
| 74 | Key counter ion parameters governing polluted nafion membrane properties. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , <b>2009</b> , 47, 1381-1392   | 2.6  | 27 |
| 73 | Interest and durability of multilayers: from model films to complex films. <i>Polymers for Advanced Technologies</i> , <b>2011</b> , 22, 847-856   | 3.2  | 26 |
| 72 | Effect of filler auto-assembly on percolation transition in carbon nanotube/polymer composites. <i>Applied Physics Letters</i> , <b>2013</b> , 102, 011907   | 3.4  | 25 |
| 71 | Characterization of the damage in nanocomposite materials by a.c. electrical properties: experiment and simulation. <i>Journal of Materials Science</i> , <b>1999</b> , 34, 1753-1759  | 4.3  | 24 |
| 70 | Dielectric breakdown of epoxy-based composites: relative influence of physical and chemical aging. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , <b>2006</b> , 13, 282-292                                   | 2.3  | 22 |
| 69 | CNT aggregation mechanisms probed by electrical and dielectric measurements. <i>Journal of Materials Chemistry C</i> , <b>2015</b> , 3, 5769-5774  | 7.1  | 21 |
| 68 | Prediction method of the long-term thermal performance of Vacuum Insulation Panels installed in building thermal insulation applications. <i>Energy and Buildings</i> , <b>2018</b> , 178, 1-10                                    | 7    | 21 |
| 67 | Changes in the chemical structure and properties of a perfluorosulfonated acid membrane induced by fuel-cell operation. <i>Journal of Applied Polymer Science</i> , <b>2010</b> , 117, 2121-2132                                   | 2.9  | 21 |

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|----|--|-----|----|
| 66 | Alternative Electron Transport Layer Based on Al-Doped ZnO and SnO <sub>2</sub> for Perovskite Solar Cells: Impact on Microstructure and Stability. <i>ACS Applied Energy Materials</i> , <b>2019</b> , 2, 7183-7195                               | 6.1 | 20 |
| 65 | Chemical degradation of the encapsulation system in flexible PV panel as revealed by infrared and Raman microscopies. <i>Solar Energy Materials and Solar Cells</i> , <b>2014</b> , 122, 15-23   | 6.4 | 20 |
| 64 | Predictive durability of polyethylene terephthalate toward hydrolysis over large temperature and relative humidity ranges. <i>Polymer</i> , <b>2018</b> , 142, 285-292   | 3.9 | 18 |
| 63 | Fluorinated benzothiadiazole-based low band gap copolymers to enhance open-circuit voltage and efficiency of polymer solar cells. <i>European Polymer Journal</i> , <b>2014</b> , 59, 25-35  | 5.2 | 18 |
| 62 | Synthesis and characterization of fullerene based systems for photovoltaic applications: Evidence for percolation threshold. <i>Polymer</i> , <b>2011</b> , 52, 6066-6073  | 3.9 | 17 |
| 61 | Water Vapor Sorption Properties of Polyethylene Terephthalate over a Wide Range of Humidity and Temperature. <i>Journal of Physical Chemistry B</i> , <b>2017</b> , 121, 1953-1962   | 3.4 | 16 |
| 60 | The hydrothermal degradation of PET in laminated multilayer. <i>European Polymer Journal</i> , <b>2017</b> , 87, 1-13  | 5.2 | 16 |
| 59 | Optimizing the heat sealing parameters of multilayers polymeric films. <i>Journal of Materials Science</i> , <b>2011</b> , 46, 5948-5958   | 4.3 | 16 |
| 58 | Effects of contaminant on thermal properties in perfluorinated sulfonic acid membranes. <i>Journal of Membrane Science</i> , <b>2010</b> , 363, 67-71  | 9.6 | 16 |
| 57 | Fullerene-based processable polymers as plausible acceptors in photovoltaic applications. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , <b>2013</b> , 51, 291-302   | 2.6 | 15 |
| 56 | Influence of ageing in fuel cell on membrane/electrodes interfaces. <i>Journal of Power Sources</i> , <b>2011</b> , 196, 3479-3484   | 8.9 | 15 |
| 55 | Optical density as a probe of carbon nanotubes dispersion in polymers. <i>Journal of Applied Polymer Science</i> , <b>2013</b> , 130, 1778-1786  | 2.9 | 14 |
| 54 | Electric field as a tuning key to process carbon nanotube suspensions with controlled conductivity. <i>Polymer</i> , <b>2016</b> , 82, 198-205   | 3.9 | 13 |
| 53 | Modelling of long-term hygro-thermal behaviour of vacuum insulation panels. <i>Energy and Buildings</i> , <b>2018</b> , 173, 252-267   | 7   | 13 |
| 52 | In Situ Quantification of Electronic Short Circuits in PEM Fuel Cell Stacks. <i>IEEE Transactions on Industrial Electronics</i> , <b>2015</b> , 62, 5275-5282  | 8.9 | 12 |
| 51 | AC electrical properties as a sensor of the microstructural evolution in nanocomposite materials: experiment and simulation. <i>Modelling and Simulation in Materials Science and Engineering</i> , <b>1999</b> , 7, 865-874                       | 2.7 | 12 |
| 50 | Effect of the Hole Transporting/Active Layer Interface on the Perovskite Solar Cell Stability. <i>ACS Applied Energy Materials</i> , <b>2020</b> , 3, 3282-3292  | 6.1 | 10 |
| 49 | Fracture phenomena in micro- and nano-layered polycarbonate/poly(vinylidene fluoride-co-hexafluoropropylene) films under electric field for high energy density capacitors. <i>Journal of Applied Polymer Science</i> , <b>2014</b> , 131, n/a-n/a | 2.9 | 10 |

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| 48 | Mechanical Reliability of Flexible Encapsulated Organic Solar Cells: Characterization and Improvement. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2018</b> , 10, 29805-29813                              | 9.5  | 9 |
| 47 | Understanding dynamic percolation mechanisms in carbonaceous polymer nanocomposites through impedance spectroscopy: Experiments and modeling. <i>Journal of Applied Physics</i> , <b>2014</b> , 116, 034103       | 2.5  | 9 |
| 46 | Understanding the degradation of MEA in PEMFC: Definition of structural markers and comparison between laboratory and on-site ageing. <i>Journal of Applied Polymer Science</i> , <b>2011</b> , 120, 3501-3510    | 2.9  | 9 |
| 45 | Development of an experimental technique to assess the permeability of metal coated polymer films. <i>Journal of Materials Science</i> , <b>2009</b> , 44, 4692-4699  | 4.3  | 9 |
| 44 | On the essential work of fracture in polymer-metal multilayers. <i>Journal of Materials Science</i> , <b>2009</b> , 44, 5537-5543   | 4.3  | 9 |
| 43 | Influence of structural feature of aluminum coatings on mechanical and water barrier properties of metallized PET films. <i>Journal of Applied Polymer Science</i> , <b>2010</b> , 115, 3110-3119                 | 2.9  | 9 |
| 42 | Absolute Quantification of Photo-/Electroluminescence Imaging for Solar Cells: Definition and Application to Organic and Perovskite Devices. <i>ACS Applied Electronic Materials</i> , <b>2019</b> , 1, 2489-2501 | 4    | 9 |
| 41 | Influence of Chloride/Iodide Ratio in MAPbI <sub>3</sub> -xCl <sub>x</sub> Perovskite Solar Devices: Case of Low Temperature Processable AZO Sub-Layer. <i>Energies</i> , <b>2020</b> , 13, 1927                  | 3.1  | 8 |
| 40 | Chemical degradation of PFSA ionomer binder in PEMFC's catalyst layer. <i>International Journal of Hydrogen Energy</i> , <b>2018</b> , 43, 15386-15397  | 6.7  | 8 |
| 39 | Infrared and thermal behaviour of proton exchange membrane (PEM) after cationic contamination. <i>Journal of Membrane Science</i> , <b>2013</b> , 431, 105-112  | 9.6  | 8 |
| 38 | Modeling the dynamic percolation of carbon nanotubes and revisiting critical exponents. <i>Materials Chemistry and Physics</i> , <b>2017</b> , 191, 89-95   | 4.4  | 7 |
| 37 | Fine tuning of optoelectronic properties of single-walled carbon nanotubes from conductors to semiconductors. <i>Carbon</i> , <b>2019</b> , 153, 337-346  | 10.4 | 7 |
| 36 | Characterization of the Degradation in Membrane Electrode Assemblies Through Passive Electrical Measurements. <i>Journal of the Electrochemical Society</i> , <b>2009</b> , 156, B1117                            | 3.9  | 7 |
| 35 | Dynamic degradation of metallic nanowire networks under electrical stress: a comparison between experiments and simulations. <i>Nanoscale Advances</i> , <b>2021</b> , 3, 675-681                                 | 5.1  | 7 |
| 34 | Encapsulation Effect on Performance and Stability of Organic Solar Cells. <i>Advanced Materials Interfaces</i> , <b>2020</b> , 7, 2000293   | 4.6  | 6 |
| 33 | Sliding Angle Characterization of Physicochemical and Roughness Changes of GDL Surfaces after Fuel Cell Operation. <i>Fuel Cells</i> , <b>2018</b> , 18, 148-159  | 2.9  | 6 |
| 32 | Optimizing formulations of polymer composite with high filler content: Application to bipolar plate. <i>Composites Science and Technology</i> , <b>2015</b> , 110, 17-25  | 8.6  | 6 |
| 31 | Spatial distribution of the electrical conductivity in highly filled polymers: Experiment, modeling, and application to bipolar plates. <i>Journal of Applied Physics</i> , <b>2013</b> , 114, 223710             | 2.5  | 6 |

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| 30 | Degradation Mechanisms in a Mixed Cations and Anions Perovskite Solar Cell: Mitigation Effect of the Gold Electrode. <i>ACS Applied Energy Materials</i> , <b>2021</b> , 4, 1365-1376  | 6.1 | 6 |
| 29 | Effect of viscosity and surface tension on dynamic percolation in liquid media. <i>Journal of Applied Polymer Science</i> , <b>2018</b> , 135, 46313   | 2.9 | 5 |
| 28 | A key progress in introducing single walled carbon nanotubes to photovoltaic devices. <i>Applied Nanoscience (Switzerland)</i> , <b>2020</b> , 1   | 3.3 | 5 |
| 27 | A Comparison of the Structure and Properties of Opaque and Semi-Transparent NIP/PIN-Type Scalable Perovskite Solar Cells. <i>Energies</i> , <b>2020</b> , 13, 3794   | 3.1 | 5 |
| 26 | Effects of non-homogeneity and oxide coating on silver nanowire networks under electrical stress: comparison between experiment and modeling. <i>Nanotechnology</i> , <b>2021</b> , 32,  | 3.4 | 5 |
| 25 | Investigation and modelling of the water transport properties in unfilled EPDM elastomers. <i>Polymer Degradation and Stability</i> , <b>2019</b> , 168, 108949  | 4.7 | 4 |
| 24 | Water vapour permeation through high barrier materials: numerical simulation and comparison with experiments. <i>Journal of Materials Science</i> , <b>2018</b> , 53, 9076-9090  | 4.3 | 4 |
| 23 | Various Scales of Aging Heterogeneities upon PEMFC Operation - A Link between Local MEA Materials Degradation and the Cell Performance. <i>ECS Transactions</i> , <b>2015</b> , 69, 133-146  | 1   | 4 |
| 22 | Evolutions of microstructure and dielectric behavior of epoxy based insulator-insulator composites over long periods of time. <i>Journal of Applied Polymer Science</i> , <b>2006</b> , 100, 3454-3464                                   | 2.9 | 4 |
| 21 | Influence of fibre clustering on the transverse mechanical behaviour of polypropylene/glass fibre composites: experimental approach and modelling. <i>Journal Physics D: Applied Physics</i> , <b>2007</b> , 40, 6768-6777               | 3.7 | 4 |
| 20 | Prediction of the Crystalline Structure of a Novel Polythiophene Using Molecular Dynamics Simulations. <i>Soft Materials</i> , <b>2002</b> , 1, 93-113   | 1.7 | 4 |
| 19 | Extrusion of a nano-ordered active layer for organic photovoltaic cells. <i>Sustainable Energy and Fuels</i> , <b>2017</b> , 1, 2016-2027  | 5.8 | 3 |
| 18 | Investigation of perfluorosulfonic acid ionomer solutions by <sup>19</sup> F NMR and DLS: Establishment of an accurate quantification protocol. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , <b>2016</b> , 54, 2210-2222 | 2.6 | 3 |
| 17 | Development of Dithienosilole-Pyridalthiadiazole-Based Copolymer as an Electron Donor in Organic Photovoltaic Cells. <i>IEEE Nanotechnology Magazine</i> , <b>2017</b> , 16, 574-581   | 2.6 | 2 |
| 16 | New Antimony-Based Organic-Inorganic Hybrid Material as Electron Extraction Layer for Efficient and Stable Polymer Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2019</b> , 11, 44820-44828                            | 9.5 | 2 |
| 15 | Carbon/polymer composites with extreme electrical conductivity. <i>Journal of Applied Polymer Science</i> , <b>2015</b> , 132, n/a-n/a   | 2.9 | 2 |
| 14 | Influence of the processing on the completion of curing in epoxy-based composites. <i>Journal of Applied Polymer Science</i> , <b>2005</b> , 96, 1368-1376   | 2.9 | 2 |
| 13 | Stability of mixed cation perovskite solar cells: understanding of involved mechanisms   |     | 2 |

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|----|---|-----|---|
| 12 | Custom Synthesis of ZnO Nanowires for Efficient Ambient Air-Processed Solar Cells.. <i>ACS Omega</i> , <b>2021</b> , 6, 32365-32378   | 3.9 | 2 |
| 11 | Determination of the fracture energy in polymeric films by in situ photoelasticity on double edge notch specimen. <i>Journal of Applied Polymer Science</i> , <b>2016</b> , 133, n/a-n/a              | 2.9 | 2 |
| 10 | Compatibility of C60 grafted polystyrene/P3OT: Towards the extrusion of photoactive materials. <i>European Polymer Journal</i> , <b>2017</b> , 96, 1-9  | 5.2 | 1 |
| 9  | Dimensional instabilities of polyester and polyolefin films as origin of delamination in laminated multilayer. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , <b>2017</b> , 55, 309-319 | 2.6 | 1 |
| 8  | Optimization and control of dynamic percolation in nanostructured silicon oils. <i>EPJ Applied Physics</i> , <b>2017</b> , 79, 10401  | 1.1 | 1 |
| 7  | Extrusion as plausible processing method for production of organic photovoltaic solar cells <b>2014</b> ,   |     | 1 |
| 6  | Dynamic percolation as a tool for tailoring the electrical properties of carbon nanotube / polymer composites <b>2012</b> ,   |     | 1 |
| 5  | Innovative PIN-type perovskite solar cells with 17% efficiency: processing and characterization. <i>Materials Advances</i> ,  | 3.3 | 1 |
| 4  | Perovskite Inverted Solar Cells: Impact of Hole Transport Layer and Anti-Solvent Ejection Time <b>2021</b> ,  |     | 1 |
| 3  | Humidity-Induced Mechanical Behavior and Proton Transport Mechanism in Aromatic Multiblock Ionomer Membranes. <i>ACS Applied Energy Materials</i> , <b>2021</b> , 4, 5809-5820                        | 6.1 | 1 |
| 2  | Durability of Polymer Metal Multilayer: Focus on the Adhesive Chemical Degradation. <i>Frontiers in Chemistry</i> , <b>2018</b> , 6, 459  | 5   | 0 |
| 1  | Coupled mechanical and conductivity measurements: Damage detection. <i>International Journal of Applied Electromagnetics and Mechanics</i> , <b>2005</b> , 21, 183-192                                | 0.4 |   |