

# Christian Brosseau

## List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

91  
papers

3,270  
citations

28  
h-index

55  
g-index

97  
ext. papers

3,542  
ext. citations

3  
avg, IF

5.77  
L-index

#	Paper	IF	Citations
91	A review and analysis of microwave absorption in polymer composites filled with carbonaceous particles. <i>Journal of Applied Physics</i> , <b>2012</b> , 111, 061301	2.5	824
90	Depolarization of multiply scattered waves by spherical diffusers: Influence of the size parameter. <i>Physical Review E</i> , <b>1994</b> , 49, 1767-1770	2.4	195
89	Modelling and simulation of dielectric heterostructures: a physical survey from an historical perspective. <i>Journal Physics D: Applied Physics</i> , <b>2006</b> , 39, 1277-1294	3	149
88	Computational electromagnetics and the rational design of new dielectric heterostructures. <i>Progress in Materials Science</i> , <b>2003</b> , 48, 373-456	42.2	134
87	How do shape anisotropy and spatial orientation of the constituents affect the permittivity of dielectric heterostructures?. <i>Journal of Applied Physics</i> , <b>2000</b> , 88, 7278-7288	2.5	107
86	Finite-element method for calculation of the effective permittivity of random inhomogeneous media. <i>Physical Review E</i> , <b>2005</b> , 71, 016701	2.4	104
85	Finite-element modeling method for the prediction of the complex effective permittivity of two-phase random statistically isotropic heterostructures. <i>Journal of Applied Physics</i> , <b>2005</b> , 97, 044101	2.5	90
84	Direct current electrical and microwave properties of polymer-multiwalled carbon nanotubes composites. <i>Journal of Applied Physics</i> , <b>2008</b> , 103, 054303	2.5	85
83	Electromagnetic and magnetic properties of multicomponent metal oxides heterostructures: Nanometer versus micrometer-sized particles. <i>Journal of Applied Physics</i> , <b>2003</b> , 93, 9243-9256	2.5	85
82	Magnetic field dependence of the effective permittivity in BaTiO <sub>3</sub> /Ni nanocomposites observed via microwave spectroscopy. <i>Applied Physics Letters</i> , <b>2008</b> , 92, 233110	3.4	70
81	Effective permittivity of nanocomposite powder compacts. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , <b>2004</b> , 11, 819-832	2.3	64
80	A comparison between physical properties of carbon black-polymer and carbon nanotubes-polymer composites. <i>Journal of Applied Physics</i> , <b>2010</b> , 108, 074108	2.5	61
79	Microwave dielectric properties of carbon black filled polymers under uniaxial tension. <i>Journal of Applied Physics</i> , <b>2007</b> , 101, 084111	2.5	56
78	Magnetoelectric effect in BaTiO <sub>3</sub> /Ni particulate nanocomposites at microwave frequencies. <i>Journal of Applied Physics</i> , <b>2009</b> , 106, 064312	2.5	50
77	Influence of uniaxial tension on the microwave absorption properties of filled polymers. <i>Journal of Applied Physics</i> , <b>2008</b> , 104, 074907	2.5	48
76	Effective complex permittivity of two-phase random composite media: A test of the two exponent phenomenological percolation equation. <i>Journal of Applied Physics</i> , <b>2008</b> , 103, 084112	2.5	39
75	Finite-element simulation of the depolarization factor of arbitrarily shaped inclusions. <i>Physical Review E</i> , <b>2006</b> , 74, 031405	2.4	39

74	Measurement of the microwave effective permittivity in tensile-strained polyvinylidene difluoride trifluoroethylene filled with graphene. <i>Applied Physics Letters</i> , <b>2014</b> , 104, 082902	3-4	37
73	Instrumentation for microwave frequency-domain spectroscopy of filled polymers under uniaxial tension. <i>Measurement Science and Technology</i> , <b>2005</b> , 16, 1823-1832	2	37
72	A numerical analysis of multicellular environment for modeling tissue electroporation. <i>Applied Physics Letters</i> , <b>2012</b> , 100, 143701	3-4	36
71	Mechanical fatigue and dielectric relaxation of carbon black/polymer composites. <i>Journal of Applied Physics</i> , <b>2008</b> , 104, 074105	2.5	36
70	Intrinsic resonant behavior of metamaterials by finite element calculations. <i>Physical Review B</i> , <b>2006</b> , 74,	3-3	36
69	Modeling of Transmembrane Potential in Realistic Multicellular Structures before Electroporation. <i>Biophysical Journal</i> , <b>2016</b> , 111, 2286-2295	2.9	33
68	Microwave and mechanical properties of quartz/graphene-based polymer nanocomposites. <i>Applied Physics Letters</i> , <b>2013</b> , 102, 072903	3-4	32
67	Numerical calculations of the intrinsic electrostatic resonances of artificial dielectric heterostructures. <i>Journal of Applied Physics</i> , <b>2007</b> , 101, 084109	2.5	32
66	Duality and similarity properties of the effective permittivity of two-dimensional heterogeneous medium with inclusion of fractal geometry. <i>Physical Review E</i> , <b>2006</b> , 73, 031405	2.4	30
65	Jones and Mueller polarization matrices for random media. <i>Optics Communications</i> , <b>1991</b> , 84, 127-132	2	30
64	Possible manifestation of nonuniversality in some continuum percolation systems. <i>Journal Physics D: Applied Physics</i> , <b>2008</b> , 41, 095401	3	29
63	Emerging technologies of plastic carbon nanoelectronics: A review. <i>Surface and Coatings Technology</i> , <b>2011</b> , 206, 753-758	4.4	27
62	Dielectric response of perforated two-dimensional lossy heterostructures: A finite-element approach. <i>Journal of Applied Physics</i> , <b>2006</b> , 100, 094103	2.5	27
61	Variable-temperature measurements of the dielectric relaxation in carbon black loaded epoxy composites. <i>Journal of Applied Physics</i> , <b>2009</b> , 105, 124102	2.5	26
60	Finite-difference time-domain simulation of heterostructures with inclusion of arbitrarily complex geometry. <i>Journal of Applied Physics</i> , <b>2006</b> , 99, 063502	2.5	26
59	Engineering nanostructures with enhanced thermoplasmonic properties for biosensing and selective targeting applications. <i>Physical Review E</i> , <b>2013</b> , 87, 012722	2.4	24
58	Electronic conduction and microstructure in polymer composites filled with carbonaceous particles. <i>Journal of Applied Physics</i> , <b>2012</b> , 112, 034118	2.5	24
57	Entropy production in multiple scattering of light by a spatially random medium. <i>Physical Review E</i> , <b>1994</b> , 50, 4997-5005	2.4	24

56	Statistics of the Stokes parameters for gaussian distributed fields. <i>Optics Communications</i> , <b>1991</b> , 82, 204-208	2.4	24
55	Assessing how electroporation affects the effective conductivity tensor of biological tissues. <i>Applied Physics Letters</i> , <b>2012</b> , 101, 213702	3.4	21
54	Electrostatic resonances of heterostructures with negative permittivity: homogenization formalisms versus finite-element modeling. <i>Physical Review E</i> , <b>2008</b> , 77, 016603	2.4	21
53	Electromagnetomechanical coupling characteristics of plastroferrites. <i>Journal of Applied Physics</i> , <b>2007</b> , 102, 024907	2.5	21
52	Assessing the role of graphene content in the electromagnetic response of graphene polymer nanocomposites. <i>European Physical Journal B</i> , <b>2015</b> , 88, 1	1.2	19
51	Assessing the electro-deformation and electro-poration of biological cells using a three-dimensional finite element model. <i>Applied Physics Letters</i> , <b>2019</b> , 114, 063701	3.4	18
50	A study of random resistor-capacitor-diode networks to assess the electromagnetic properties of carbon nanotube filled polymers. <i>Applied Physics Letters</i> , <b>2013</b> , 103, 243104	3.4	18
49	In situ microwave characterization of microwire composites under mechanical stress. <i>Applied Physics Letters</i> , <b>2011</b> , 99, 252902	3.4	17
48	Uncovering the intrinsic permittivity of the carbonaceous phase in carbon black filled polymers from broadband dielectric relaxation. <i>Journal of Applied Physics</i> , <b>2011</b> , 109, 074107	2.5	17
47	Finite-element modeling method for the study of dielectric relaxation at high frequencies of heterostructures made of multilayered particle. <i>Journal of Applied Physics</i> , <b>2007</b> , 102, 124107	2.5	17
46	Von Neumann entropy of N interacting pencils of radiation. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , <b>1993</b> , 10, 529	1.8	17
45	Electrostatics of two charged conducting ellipsoids. <i>Applied Physics Letters</i> , <b>2013</b> , 102, 084105	3.4	15
44	Dimensionality of the coherency matrix in polarization optics. <i>Optics Communications</i> , <b>1992</b> , 91, 408-415	2	15
43	Optical scattering and electric field enhancement from core-shell plasmonic nanostructures. <i>Journal of Applied Physics</i> , <b>2011</b> , 110, 103105	2.5	14
42	Effective complex permittivity and continuum percolation analysis of two-phase composite media. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , <b>2009</b> , 16, 1209-1222	2.3	13
41	Physical aging of plastroferrites under tensile stress and its effect on microwave properties. <i>Journal of Applied Physics</i> , <b>2008</b> , 104, 064108	2.5	13
40	Electron magnetic resonance study of transition-metal magnetic nanoclusters embedded in metal oxides. <i>Physical Review B</i> , <b>2008</b> , 77,	3.3	13
39	Electromagnetic properties of resonant magnetoplasmonic core-shell nanostructures. <i>Journal of Applied Physics</i> , <b>2011</b> , 109, 014302	2.5	12

38	Time-varying electric field induced transmembrane potential of a core-shell model of biological cells. <i>Journal of Applied Physics</i> , <b>2010</b> , 108, 014701	2.5	12
37	Long-wavelength electromagnetic propagation in magnetoplasmonic core-shell nanostructures. <i>Physical Review E</i> , <b>2010</b> , 81, 057602	2.4	12
36	Simulation of a toy model of cylindrical cells submitted to nonionizing electromagnetic field: Effect of membrane cell disruption. <i>Journal of Applied Physics</i> , <b>2010</b> , 107, 014701	2.5	12
35	Modeling of the dielectric relaxation in eukaryotic cells. <i>Journal of Applied Physics</i> , <b>2009</b> , 105, 114702	2.5	11
34	Stress induced cracks in carbon black filled elastomers probed by atomic force microscopy. <i>Journal of Applied Physics</i> , <b>2008</b> , 104, 123518	2.5	10
33	Influence of direct bias current on the electromagnetic properties of melt-extracted microwires and their composites. <i>Applied Physics Letters</i> , <b>2014</b> , 104, 012901	3.4	9
32	Does like attract like?. <i>Applied Physics Letters</i> , <b>2014</b> , 105, 054101	3.4	9
31	Terahertz Shielding Properties of Carbon Black Based Polymer Nanocomposites. <i>Materials</i> , <b>2021</b> , 14,	3.5	9
30	Perspective: Towards understanding the multiscale description of cells and tissues by electromechanobiology. <i>Journal of Applied Physics</i> , <b>2018</b> , 123, 240902	2.5	9
29	Graphene and temperature controlled butterfly shape in permittivity-field loops of ferroelectric polymer nanocomposites. <i>Applied Physics Letters</i> , <b>2017</b> , 110, 022902	3.4	8
28	Subwavelength control of electromagnetic field confinement in self-similar chains of magnetoplasmonic core-shell nanostructures. <i>Physical Review E</i> , <b>2011</b> , 84, 026612	2.4	8
27	Polarization and Coherence Optics: Historical Perspective, Status, and Future Directions. <i>Progress in Optics</i> , <b>2010</b> , 54, 149-208	3.4	8
26	Comment on "The electromagnetic property of chemically reduced graphene oxide and its application as microwave absorbing material" [Appl. Phys. Lett. 98, 072906 (2011)]. <i>Applied Physics Letters</i> , <b>2012</b> , 100, 046101	3.4	8
25	Dielectric resonances at optical frequencies using metal nanoshells. <i>Journal Physics D: Applied Physics</i> , <b>2009</b> , 42, 135420	3	8
24	Electrostatic resonance of clusters of dielectric cylinders: A finite element simulation. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , <b>2008</b> , 372, 741-748	2.3	8
23	Hyperelastic behavior and dynamic mechanical relaxation in carbon black-polymer composites. <i>Polymer Composites</i> , <b>2019</b> , 40, 3005-3011	3	7
22	A multiphysics analysis of the strain energy in multicellular environments. <i>Applied Physics Letters</i> , <b>2019</b> , 115, 043701	3.4	6
21	Randomized scalable checkerboard geometries: The electrostatic problem. <i>Journal of Applied Physics</i> , <b>2013</b> , 114, 074104	2.5	6

20	Anisotropy of the crossover between electrostatic attraction and repulsion of biological cells. <i>Applied Physics Letters</i> , <b>2013</b> , 103, 193702	3.4	6
19	Analysis of the effective permittivity in percolative composites using finite element calculations. <i>Physica B: Condensed Matter</i> , <b>2010</b> , 405, 3046-3049	2.8	6
18	Electromechanical modeling of the transmembrane potential-dependent cell membrane capacitance. <i>Applied Physics Letters</i> , <b>2020</b> , 117, 043701	3.4	6
17	Resistor-capacitor modeling of the cell membrane: A multiphysics analysis. <i>Journal of Applied Physics</i> , <b>2021</b> , 129, 011101	2.5	6
16	Numerical simulation of the sign switching of the electrostatic force between charged conducting particles from repulsive to attractive. <i>Journal of Applied Physics</i> , <b>2014</b> , 116, 214902	2.5	5
15	Controlling intrinsic electrostatic resonances of negative permittivity artificial multilayers. <i>Journal of Applied Physics</i> , <b>2008</b> , 103, 084115	2.5	5
14	Effects of swelling on the effective mechanical and electrical properties of a carbon black-filled polymer. <i>Polymer Bulletin</i> , <b>2019</b> , 76, 2765-2776	2.4	5
13	Spectral fingerprint of electrostatic forces between biological cells. <i>Physical Review E</i> , <b>2015</b> , 92, 042717	2.4	4
12	Proximity-induced electrodeformation and membrane capacitance coupling between cells. <i>European Biophysics Journal</i> , <b>2021</b> , 50, 713-720	1.9	3
11	Low-order statistics of effective permittivity and electric field fluctuations in two-phase heterostructures. <i>Journal of Applied Physics</i> , <b>2017</b> , 122, 044106	2.5	2
10	Extrinsic Magnetoelectricity in Barium Titanate/Nickel Nanocomposites: Effect of Compaction Pressure on Interfacial Anisotropy. <i>Spectroscopy Letters</i> , <b>2012</b> , 45, 471-476	1.1	2
9	Analyzing the microstructure and mechanical properties of polytetrafluoroethylene fabricated by field-assisted sintering. <i>Polymer</i> , <b>2020</b> , 203, 122810	3.9	2
8	Comparing the sorption kinetics of poly-tetrafluoroethylene processed either by extrusion or spark plasma sintering. <i>Polymer</i> , <b>2020</b> , 190, 122192	3.9	1
7	Microwave Frequency-Domain Spectroscopy of Complex Heterogeneous Nanocomposites: The Electromagnetic Functionality. <i>Spectroscopy Letters</i> , <b>2008</b> , 41, 273-284	1.1	1
6	Barakat's contributions to polarization optics. <i>Journal of Optics</i> , <b>2000</b> , 2, R9-R14		1
5	Investigating carbon-black-filled polymer composites' brittleness. <i>Polymer Bulletin</i> , <b>2020</b> , 77, 4959-4969	2.4	1
4	Analyzing the nanoindentation response of carbon black filled elastomers. <i>Journal of Applied Polymer Science</i> , <b>2021</b> , 138, 50697	2.9	1
3	Modeling cell membrane electrodeformation by alternating electric fields. <i>Physical Review E</i> , <b>2021</b> , 104, 034413	2.4	1

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|---|---|-----|
| 2 | Swelling Behavior And Mechanical Properties In Filled Elastomeric Nano-Composites In Contact With Organic Solvents. <i>IOP Conference Series: Materials Science and Engineering</i> , <b>2020</b> , 783, 012004 | 0.4 |
| 1 | Thin-layer approximation for the multi-physics and multiscale simulation of cell membrane electrodeformation.. <i>Bioelectrochemistry</i> , <b>2022</b> , 145, 108055   | 5.6 |