Carlos PecharromÃ¡n

List of Publications by Year
in descending order

108 papers	4,604 citations	109264 35 h-index	106281 65 g-index
109 all docs	109 docs citations	109 times ranked	5854 citing authors

#	Article	IF	Citations
1	New Percolative BaTiO3â€“Ni Composites with a High and Frequency-Independent Dielectric Constant (Îµr) Tj ETQq1 1 0.784314 rgB	11.1	346
2	The challenge of ceramic/metal microcomposites and nanocomposites. Progress in Materials Science, 2007, 52, 1017-1090.	16.0	296
3	Experimental Evidence of a Giant Capacitance in Insulator-Conductor Composites at the Percolation Threshold. Advanced Materials, 2000, 12, 294-297.	11.1	286
4	Thermal Evolution of Transitional Aluminas Followed by NMR and IR Spectroscopies. Journal of Physical Chemistry B, 1999, 103, 6160-6170.	1.2	198
5	Antibacterial activity of copper monodispersed nanoparticles into sepiolite. Journal of Materials Science, 2006, 41, 5208-5212.	1.7	188
6	Relationship between Activation Energy and Bottleneck Size for Li+Ion Conduction in NASICON Materials of Composition LiMMâ€˜(PO4)3; M, Mâ€˜ = Ge, Ti, Sn, Hf. Journal of Physical Chemistry B, 1998, 102, 372-375.	1.2	173
7	Scaling the h-index for different scientific ISI fields. Scientometrics, 2007, 73, 303-320.	1.6	171
8	The infrared dielectric properties of maghemite, ?-Fe2O3, from reflectance measurement on pressed powders. Physics and Chemistry of Minerals, 1995, 22, 21.	0.3	156
9	Drastic Surface Plasmon Mode Shifts in Gold Nanorods Due to Electron Charging. Plasmonics, 2006, 1, 61-66.	1.8	150
10	Antibacterial and antifungal activity of a soda-lime glass containing copper nanoparticles. Nanotechnology, 2009, 20, 505701.	1.3	124
11	Structural Characteristics of Uniform Î³-Fe2O3 Particles with Different Axial (Length/Width) Ratios. Journal of Solid State Chemistry, 1994, 108, 158-163.	1.4	98
12	Percolative Mechanism of Aging in Zirconia-Containing Ceramics for Medical Applications. Advanced Materials, 2003, 15, 507-511.	11.1	83
13	Optical constants of tetragonal and cubic zirconias in the infrared. Journal of Applied Physics, 1996, 80, 3479-3483.	1.1	82
14	The antibacterial and antifungal activity of a soda-lime glass containing silver nanoparticles. Nanotechnology, 2009, 20, 085103.	1.3	80
15	Nanostructured Ceramic Oxides with a Slow Crack Growth Resistance Close to Covalent Materials. Nano Letters, 2005, 5, 1297-1301.	4.5	79
16	Synthesis, Thermal Evolution, and Luminescence Properties of Yttrium Disilicate Host Matrix. Chemistry of Materials, 2005, 17, 1774-1782.	3.2	76
17	Effective dielectric properties of packed mixtures of insulator particles. Physical Review B, 1994, 49, 7137-7147.	1.1	68
18	Neutron Scattering Evidence for Localized Soft Modes in Amorphous Polymers. Physical Review Letters, 1996, 77, 659-662.	2.9	65

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19	The role of magnesium on the stability of crystalline sepiolite structure. Journal of the European Ceramic Society, 2008, 28, 1763-1768.	2.8	65
20	Hydrogen Spillover between Single Gold Nanorods and Metal Oxide Supports: A Surface Plasmon Spectroscopy Study. ACS Nano, 2015, 9, 7846-7856.	7.3	65
21	Reliability assessment in advanced nanocomposite materials for orthopaedic applications. Journal of the Mechanical Behavior of Biomedical Materials, 2011, 4, 303-314.	1.5	63
22	On the transparency of nanostructured alumina: Rayleigh-Gans model for anisotropic spheres. Optics Express, 2009, 17, 6899.	1.7	62
23	Monodisperse and Corrosion-Resistant Metallic Nanoparticles Embedded into Sepiolite Particles for Optical and Magnetic Applications. Journal of the American Ceramic Society, 2006, 89, 3043-3049.	1.9	56
24	Influence of ceramicâ€“metal interface adhesion on crack growth resistance of ZrO2â€“Nb ceramic matrix composites. Acta Materialia, 2008, 56, 3358-3366.	3.8	56
25	Transparent alumina by vacuum sintering. Journal of the European Ceramic Society, 2012, 32, 2925-2933.	2.8	54
26	Determination of texture by infrared spectroscopy in titanium oxideâ€“anatase thin films. Journal of Applied Physics, 2003, 93, 4634-4645.	1.1	49
27	Nanopore Characterization and Optical Modeling of Transparent Polycrystalline Alumina. Advanced Functional Materials, 2012, 22, 2303-2309.	7.8	49
28	Redshift of surface plasmon modes of small gold rods due to their atomic roughness and end-cap geometry. Physical Review B, 2008, 77, .	1.1	47
29	Infrared optical properties of zircon. Materials Research Bulletin, 1994, 29, 417-426.	2.7	41
30	Synergistic toughening mechanism in 3Yâ€“TZP/Nb composites. Acta Materialia, 2007, 55, 5924-5933.	3.8	39
31	Unprecedented simultaneous enhancement in damage tolerance and fatigue resistance of zirconia/Ta composites. Scientific Reports, 2017, 7, 44922.	1.6	38
32	Vibrational spectroscopy of single crystals. Journal of Physics Condensed Matter, 1998, 10, 7501-7510.	0.7	37
33	Zirconia/stainless-steel continuous functionally graded material. Journal of the European Ceramic Society, 2002, 22, 2799-2804.	2.8	37
34	A method for the determination of infrared optical constants from reflectance measurements on powdered samples. Journal of Physics Condensed Matter, 1994, 6, 7125-7141.	0.7	35
35	RuO2Â·xH2O/NiO composites as electrodes for electrochemical capacitors. Electrochimica Acta, 2006, 51, 4693-4700.	2.6	35
36	Iron-oxide nanoparticles supported on sepiolite as a novel humidity sensor. Journal of the European Ceramic Society, 2007, 27, 1983-1989.	2.8	35

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37	Glass Powders with a High Content of Calcium Oxide: A Step Towards a â€œGreenâ€•Universal Biocide. Advanced Engineering Materials, 2011, 13, B256.	1.6	35
38	Calculation of adsorption-induced differential external reflectance infrared spectra of particulate metals deposited on a substrate. Journal of Electroanalytical Chemistry, 2004, 563, 91-109.	1.9	34
39	Percolative mechanism of sliding wear in alumina/zirconia composites. Journal of the European Ceramic Society, 2006, 26, 2619-2625.	2.8	34
40	Silver nanoparticles supported on Î±-, Î·- and Î´-alumina. Journal of the European Ceramic Society, 2006, 26, 1-7.	2.8	33
41	Understanding Carbonâ€“Carbon Composites as Electrodes of Supercapacitors. Journal of the Electrochemical Society, 2007, 154, A579.	1.3	31
42	Transparent Alumina/Ceria Nanocomposites By Spark Plasma Sintering. Advanced Engineering Materials, 2010, 12, 1154-1160.	1.6	31
43	Fuerzas de repulsiÃ³n de aditivos superplastificantes en sistemas de escoria granulada de horno alto en medios alcalinos, desde medidas de AFM a propiedades reolÃ³gicas. Materiales De Construccion, 2012, 62, 489-513.	0.2	31
44	Theoretical Model of Hardening in Zirconiaâ˜Nickel Nanoparticle Composites. Nano Letters, 2004, 4, 747-751.	4.5	30
45	Room temperature triclinic modification of NASICON-type LiZr2(PO4)3. Solid State Ionics, 1998, 112, 309-318.	1.3	29
46	Diamondâ€like Hardening of Alumina/Ni Nanocomposites. Advanced Engineering Materials, 2007, 9, 898-901.	1.6	29
47	Comments on the paper by M.-S. Zheng and S.-G. Sun entitled â€˜In situ FTIR spectroscopic studies of CO adsorption on electrodes with nanometer-scale thin films of ruthenium in sulfuric acid solutionsâ€™ [J. Electroanal. Chem. 500 (2001) 223]. Journal of Electroanalytical Chemistry, 2002, 529, 145-154.	1.9	27
48	Evidence of Nearestâ€Neighbor Ordering in Wetâ€Processed Zirconiaâ€“Nickel Composites. Journal of the American Ceramic Society, 2001, 84, 2439-2441.	1.9	27
49	Mechanical properties and interfaces of zirconia/nickel in micro - and nanocomposites. Journal of Materials Science, 2006, 41, 5194-5199.	1.7	26
50	Electrical discharge machining of ceramic/semiconductor/metal nanocomposites. Scripta Materialia, 2010, 63, 219-222.	2.6	26
51	Experimental and Theoretical Investigations on the Structural, Electronic, and Vibrational Properties of Cs₂AgSbCl₆ Double Perovskite. Industrial & Engineering Chemistry Research, 2021, 60, 18918-18928.	1.8	26
52	High wear resistance white ceramic glaze containing needle like zircon single crystals by the addition of sepiolite n-ZrO2. Journal of the European Ceramic Society, 2013, 33, 3379-3385.	2.8	25
53	Modeling Particle Size and Clumping Effects in the IR Absorbance Spectra of Dilute Powders. Applied Spectroscopy, 1996, 50, 1553-1562.	1.2	24
54	Infrared and Raman spectroscopy of mullite-type Bi2Ga4O9. Crystal Research and Technology, 2008, 43, 1230-1239.	0.6	23

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55	High Antibacterial and Antifungal Activity of Silver Monodispersed Nanoparticles Embedded in a Glassy Matrix. Advanced Engineering Materials, 2010, 12, B292.	1.6	23
56	Thermal evolution of infrared vibrational properties ofLi4/3Ti5/3O4measured by specular reflectance. Physical Review B, 2000, 62, 12062-12068.	1.1	21
57	Ceria doped alumina by Spark Plasma Sintering for optical applications. Journal of the European Ceramic Society, 2012, 32, 2917-2924.	2.8	20
58	Zirconia/nickel interfaces in micro- and nanocomposites. International Journal of Materials Research, 2005, 96, 507-514.	0.8	18
59	Dielectric behavior of ceramicâ€“graphene composites around the percolation threshold. Nanoscale Research Letters, 2015, 10, 216.	3.1	18
60	The infrared dielectric properties of Î·â€“Al₂O₃. Journal of Materials Research, 1996, 11, 127-133.	1.2	17
61	On the Nature and Location of Nanoparticulate Iron Phases and Their Precursors Synthetized within a Sepiolite Matrix. Journal of Physical Chemistry C, 2008, 112, 2864-2871.	1.5	17
62	Influence of the close sphere interaction on the surface plasmon resonance absorption peak. Physical Chemistry Chemical Physics, 2009, 11, 5922.	1.3	17
63	Average Dielectric Constant of Coated Spheres: Application to the IR Absorption Spectra of NiO and MgO. Applied Spectroscopy, 1993, 47, 1203-1208.	1.2	15
64	Dielectric properties of carbon nanofibre/alumina composites. Carbon, 2013, 57, 380-387.	5.4	15
65	Determination of the Optical Constants of Gold Nanoparticles from Thin-Film Spectra. Journal of Physical Chemistry C, 2015, 119, 9450-9459.	1.5	14
66	Color Engineering of Silicon Nitride Surfaces to Characterize the Polydopamine Refractive Index. ChemPhysChem, 2018, 19, 3418-3424.	1.0	14
67	Mechanically Stable Monoclinic Zirconiaâ€“Nickel Composite. Journal of the American Ceramic Society, 2002, 85, 2119-2121.	1.9	13
68	Synthesis, characterization and applications of low temperature melting glasses belonging to P2O5CaO Na2O system. Ceramics International, 2019, 45, 12234-12242.	2.3	13
69	Epitaxial growth of tungsten nanoparticles on alumina and spinel surfaces. Nanotechnology, 2008, 19, 215605.	1.3	12
70	Monodisperse Silica Spheres Ensembles with Tailored Optical Resonances in the Visible. Particle and Particle Systems Characterization, 2016, 33, 871-877.	1.2	12
71	Synthesis, Conforming, Linear, and Non-linear Optical Properties of Gold Nanoparticles-sepiolite Compacts. Plasmonics, 2009, 4, 261-266.	1.8	11
72	Multiscale gold and silver plasmonic plastics by melt compounding. RSC Advances, 2012, 2, 915-919.	1.7	11

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73	Obtaining Ni Nanoparticles on 3Y-TZP Powder from Nickel Salts. Journal of the American Ceramic Society, 2006, 89, 144-150.	1.9	10
74	Expansion of the spectral representation function of a composite material in a basis of Legendre polynomials: Experimental determination and analytic approximations. Physical Review B, 2006, 74, .	1.1	10
75	Palladium nanoparticles on silica-rich substrates by spontaneous reduction at room temperature. Journal of Nanoparticle Research, 2011, 13, 5239-5249.	0.8	10
76	Spark Plasma Sintered Si₃N₄/TiN Nanocomposites Obtained by a Colloidal Processing Route. Journal of Nanomaterials, 2016, 2016, 1-9.	1.5	10
77	Micropillar Templates for Dielectric Filled Metal Arrays and Flexible Metamaterials. Advanced Optical Materials, 2017, 5, 1600670.	3.6	10
78	Enhancement of Rabi splitting in a microcavity with an embedded superlattice. Physical Review B, 2001, 64, .	1.1	9
79	Analysis of texture and microstructure of anatase thin films by Fourier transform infrared spectroscopy. Thin Solid Films, 2006, 515, 1585-1591.	0.8	9
80	Stabilization of superparamagnetic nickel nanoparticles in a sepiolite matrix. Journal of Nanoparticle Research, 2010, 12, 1221-1229.	0.8	9
81	Electric Field Enhancement and Conduction Mechanisms in Ni/BaTiO₃Percolative Composites. Ferroelectrics, 2010, 400, 81-88.	0.3	9
82	Signatures of excitonâ€“cavity coupling in semiconductor microcavities. Physica E: Low-Dimensional Systems and Nanostructures, 1998, 2, 685-688.	1.3	8
83	Magneto-optical Faraday activity in transparent FeCo-sepiolite/polystyrene nanocomposites. Journal of Nanoparticle Research, 2013, 15, 1.	0.8	8
84	Magnetic modulation of mid-infrared plasmons using Giant Magnetoresistance. Optics Express, 2017, 25, 18784.	1.7	8
85	Micro/nano composites: a simple and safe way to fabricate nanomaterials. International Journal of Nanotechnology, 2007, 4, 282.	0.1	7
86	The role of the Resistive Plate response function in bringing an RPC to a stationary situation. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2009, 602, 713-718.	0.7	7
87	Fabrication of Nanostructured Metallized Glazes by Conventional Fastâ€Firing Route. Journal of the American Ceramic Society, 2011, 94, 2067-2073.	1.9	7
88	Photoluminescence excitation spectroscopy of semiconductor microcavities. Physical Review B, 2001, 64, .	1.1	6
89	First results of Resistive-Plate Well (RPWELL) detector operation at 163 K. Journal of Instrumentation, 2019, 14, P10014-P10014.	0.5	6
90	Unveiling the infrared complex dielectric function of ilmenite CdTiO3. Journal of Alloys and Compounds, 2020, 813, 152136.	2.8	6

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91	Kinetics of dissolution of a biocide soda-lime glass powder containing silver nanoparticles. Journal of Nanoparticle Research, 2013, 15, 1.	0.8	5
92	High barium content lead and alkaline-free glasses. Materials Letters, 2014, 136, 345-348.	1.3	5
93	Lead-free low-melting-point glass as bonding agent for TiO2 nanoparticles. Ceramics International, 2021, 47, 6114-6120.	2.3	5
94	Slow crack growth resistance and bridging stress determination in alumina-rich magnesium aluminate spinel/tungsten composites. Acta Materialia, 2009, 57, 2121-2127.	3.8	4
95	Faradaic current in different mullite materials: single crystal, ceramic and cermets. International Journal of Materials Research, 2012, 103, 408-411.	0.1	4
96	Conductivity and charge depletion aging of resistive electrodes for high rate RPCs. Journal of Instrumentation, 2013, 8, P01022-P01022.	0.5	4
97	Surface Wettability of a Natural Rubber Composite under Stretching: A Model to Predict Cell Survival. Langmuir, 2021, 37, 4639-4646.	1.6	4
98	Anomalous high activation energy for creep in nanostructured 3YTZP/Ni cermets. Journal of the European Ceramic Society, 2007, 27, 3295-3299.	2.8	3
99	Faraday activity in flexible maghemite/polymer matrix composites. Optical Materials Express, 2015, 5, 1927.	1.6	3
100	Antiresonance in (Ni,Zn) ferrite-carbon nanofibres nanocomposites. Materials Research Express, 2015, 2, 055003.	0.8	2
101	Vacancies in Selfâ€Assembled Crystals: An Archetype for Clusters Statistics at the Nanoscale. Small, 2020, 16, e2002735.	5.2	2
102	Thermal annealing of natural rubber films controls wettability and enhances cytocompatibility. Surfaces and Interfaces, 2022, 31, 102048.	1.5	2
103	Dielectric and Ferroelectric Properties of BaTiO 3 /Ni Cermets Under High Electric Fields. Ferroelectrics, 2002, 268, 387-392.	0.3	1
104	Microstructure and Ionic Conductivity of LiSn[sub 2]P[sub 3]O[sub 12]-Teflon Composites. Journal of the Electrochemical Society, 2001, 148, J31.	1.3	0
105	Electric field enhancement of the Rabi splitting in a superlattice-microcavity system. Physica E: Low-Dimensional Systems and Nanostructures, 2002, 13, 398-402.	1.3	0
106	Colored Surfaces Made of Synthetic Eumelanin. Nanomaterials, 2021, 11, 2320.	1.9	0
107	An effective-medium approach to the optical properties of heterogeneous materials with nonlinear properties. Journal of Modern Optics, 2003, 50, 113-135.	0.6	0
108	Optical properties of binary composite materials with two nonlinear components. Journal of Modern Optics, 2003, 50, 1857-1871.	0.6	0