

CÃ©cile HÃ©bert

List of Publications by Year in descending order

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98
papers

3,528
citations

147801

31
h-index

138484

58
g-index

101
all docs

101
docs citations

101
times ranked

5227
citing authors

#	ARTICLE	IF	CITATIONS
1	Identifying champion nanostructures for solar water-splitting. Nature Materials, 2013, 12, 842-849.	27.5	527
2	Detection of magnetic circular dichroism using a transmission electron microscope. Nature, 2006, 441, 486-488.	27.8	331
3	Nanocarbon as Robust Catalyst: Mechanistic Insight into Carbon-Mediated Catalysis. Angewandte Chemie - International Edition, 2007, 46, 7319-7323.	13.8	226
4	Practical aspects of running the WIEN2k code for electron spectroscopy. Micron, 2007, 38, 12-28.	2.2	130
5	Reduction of nickel oxide particles by hydrogen studied in an environmental TEM. Journal of Materials Science, 2013, 48, 2893-2907.	3.7	122
6	Silicon Filaments in Silicon Oxide for Next-Generation Photovoltaics. Advanced Materials, 2012, 24, 1182-1186.	21.0	118
7	Direct visualization of dispersed lipid bicontinuous cubic phases by cryo-electron tomography. Nature Communications, 2015, 6, 8915.	12.8	116
8	Encapsulation of Conjugated Oligomers in Single-Walled Carbon Nanotubes: Towards Nanohybrids for Photonic Devices. Advanced Materials, 2010, 22, 1635-1639.	21.0	112
9	Multivariate statistical analysis as a tool for the segmentation of 3D spectral data. Micron, 2013, 52-53, 49-56.	2.2	86
10	A proposal for dichroic experiments in the electron microscope. Ultramicroscopy, 2003, 96, 463-468.	1.9	85
11	Oxygen K-edge in vanadium oxides: simulations and experiments. European Physical Journal B, 2002, 28, 407-414.	1.5	84
12	Direct Evidence of Surface Reduction in Monoclinic BiVO ₄ . Chemistry of Materials, 2015, 27, 3593-3600.	6.7	78
13	The orientation-dependent simulation of ELNES. Ultramicroscopy, 2000, 83, 9-16.	1.9	70
14	Improvement of energy loss near edge structure calculation using Wien2k. Micron, 2003, 34, 219-225.	2.2	64
15	Anisotropic relativistic cross sections for inelastic electron scattering, and the magic angle. Physical Review B, 2005, 72, .	3.2	63
16	Magnetic circular dichroism in EELS: Towards 10nm resolution. Ultramicroscopy, 2008, 108, 433-438.	1.9	59
17	The magic angle: a solved mystery. Ultramicroscopy, 2004, 102, 61-66.	1.9	56
18	Strain-driven oxygen deficiency in multiferroic SrMnO_3 films. Physical Review B, 2016, 94, .	3.2	56

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19	A large planetary body inferred from diamond inclusions in a ureilite meteorite. <i>Nature Communications</i> , 2018, 9, 1327.	12.8	56
20	Partial core hole screening in the Cu L 3 edge. <i>European Physical Journal B</i> , 2001, 21, 363-367.	1.5	51
21	A perspective on novel sources of ultrashort electron and X-ray pulses. <i>Chemical Physics</i> , 2012, 392, 1-9.	1.9	51
22	Oxidation mechanism of nickel particles studied in an environmental transmission electron microscope. <i>Acta Materialia</i> , 2014, 67, 362-372.	7.9	47
23	Spin and valence dependence of iron partitioning in Earth's deep mantle. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, 11127-11130.	7.1	45
24	High resolution EELS using monochromator and high performance spectrometer: comparison of V2O5 ELNES with NEXAFS and band structure calculations. <i>Micron</i> , 2003, 34, 235-238.	2.2	41
25	Corona protein composition and cytotoxicity evaluation of ultra-small zeolites synthesized from template free precursor suspensions. <i>Toxicology Research</i> , 2013, 2, 270.	2.1	41
26	ELNES at magic angle conditions. <i>Ultramicroscopy</i> , 2006, 106, 1139-1143.	1.9	38
27	Electronic Interactions between α -Pea and α -Pod: The Case of Oligothiophenes Encapsulated in Carbon Nanotubes. <i>Small</i> , 2011, 7, 1807-1815.	10.0	37
28	Investigation of hexagonal and cubic GaN by high-resolution electron energy-loss spectroscopy and density functional theory. <i>Ultramicroscopy</i> , 2004, 98, 249-257.	1.9	35
29	Energy loss magnetic chiral dichroism: A new technique for the study of magnetic properties in the electron microscope (invited). <i>Journal of Applied Physics</i> , 2008, 103, .	2.5	34
30	Electron energy loss-near edge structure as a fingerprint for identifying chromium nitrides. <i>Solid State Communications</i> , 2004, 130, 209-213.	1.9	33
31	Energy-loss magnetic chiral dichroism (EMCD): Magnetic chiral dichroism in the electron microscope. <i>Journal of Materials Research</i> , 2008, 23, 2582-2590.	2.6	32
32	Optimal aperture sizes and positions for EMCD experiments. <i>Ultramicroscopy</i> , 2008, 108, 865-872.	1.9	31
33	Dynamic structure factors of Cu, Ag, and Au: Comparative study from first principles. <i>Physical Review B</i> , 2013, 88, .	3.2	31
34	Magnetic circular dichroism in electron energy loss spectrometry. <i>Ultramicroscopy</i> , 2008, 108, 277-284.	1.9	30
35	Three-dimensional scanning transmission electron microscopy of dislocation loops in tungsten. <i>Micron</i> , 2018, 113, 24-33.	2.2	29
36	Orientation dependence of ionization edges in EELS. <i>Ultramicroscopy</i> , 2001, 86, 343-353.	1.9	25

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37	Time-Resolved X-Ray Microtomography Observation of Intermetallic Formation Between Solid Fe and Liquid Al. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2013, 44, 4119-4123.	2.2	23
38	Microstructural stability of ODS steels in cyclic loading. Fatigue and Fracture of Engineering Materials and Structures, 2015, 38, 936-947.	3.4	22
39	Anisotropy and collection angle dependence of the oxygen K ELNES in V2O5: a band-structure calculation study. Micron, 2003, 34, 227-233.	2.2	20
40	Theoretical analysis of the momentum-dependent loss function of bulk Ag. Ultramicroscopy, 2010, 110, 1081-1086.	1.9	20
41	Increasing Polycrystalline Zinc Oxide Grain Size by Control of Film Preferential Orientation. Crystal Growth and Design, 2015, 15, 5886-5891.	3.0	19
42	Tilt-less 3-D electron imaging and reconstruction of complex curvilinear structures. Scientific Reports, 2017, 7, 10630.	3.3	19
43	Tuning the photophysical properties of soluble single-wall carbon nanotube derivatives by co-functionalization with organic molecules. Carbon, 2009, 47, 1264-1269.	10.3	18
44	Insights into image contrast from dislocations in ADF-STEM. Ultramicroscopy, 2019, 200, 139-148.	1.9	18
45	Gentle quantitative measurement of helium density in nanobubbles in silicon by spectrum imaging. Micron, 2015, 77, 57-65.	2.2	16
46	Properties of helium bubbles in covalent systems at the nanoscale: A combined numerical and experimental study. Physical Review B, 2017, 96, .	3.2	16
47	Stereo-vision three-dimensional reconstruction of curvilinear structures imaged with a TEM. Ultramicroscopy, 2018, 184, 116-124.	1.9	15
48	Slip in directionally solidified Mo-alloy micropillars – Part I: Nominally dislocation-free pillars. Acta Materialia, 2012, 60, 4604-4613.	7.9	13
49	Statistical analysis of oxides particles in ODS ferritic steel using advanced electron microscopy. Journal of Nuclear Materials, 2012, 422, 131-136.	2.7	13
50	Height-resolved quantification of microstructure and texture in polycrystalline thin films using TEM orientation mapping. Ultramicroscopy, 2015, 159, 112-123.	1.9	13
51	Evolution of the properties of helium nanobubbles during <i>in situ</i> annealing probed by spectrum imaging in the transmission electron microscope. Physical Review B, 2018, 97, .	3.2	13
52	A TEM study of Ni interfaces formed during activation of SOFC anodes in H2: Influence of grain boundary symmetry and segregation of impurities. Acta Materialia, 2016, 103, 442-447.	7.9	12
53	Zinc blende – wurtzite polytypism in nanocrystalline ZnO films. Acta Materialia, 2017, 130, 240-248.	7.9	12
54	Investigating Magma Ocean Solidification on Earth Through Laser-Heated Diamond Anvil Cell Experiments. Geophysical Research Letters, 2021, 48, e2021GL092446.	4.0	12

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55	Imaging of high- Q cavity optical modes by electron energy-loss microscopy. <i>Physical Review B</i> , 2013, 87, .	3.2	11
56	Advanced materials characterization and modeling using synchrotron, neutron, TEM, and novel micro-mechanical techniques—A European effort to accelerate fusion materials development. <i>Journal of Nuclear Materials</i> , 2013, 442, S834-S845.	2.7	10
57	Quantitative imaging of flux vortices in the type-II superconductor MgB ₂ using cryo-Lorentz transmission electron microscopy. <i>Physical Review B</i> , 2013, 88, .	3.2	10
58	3D Ordering at the Liquid–Solid Polar Interface of Nanowires. <i>Advanced Materials</i> , 2020, 32, e2001030.	21.0	10
59	Electron energy-loss spectroscopy fine structure of the Cu L _{2,3} ionization edge in substitutional Cu-Ni alloys. <i>Journal of Physics Condensed Matter</i> , 2001, 13, 3791-3803.	1.8	9
60	Comment on “Experimental and theoretical evidence for the magic angle in transmission electron energy loss spectroscopy” by H. Daniels, A. Brown, A. Scott, T. Nichells, B. Rand and R. Brydson. <i>Ultramicroscopy</i> , 2004, 101, 271-273.	1.9	9
61	Measurements of local chemistry and structure in Ni(O)–YSZ composites during reduction using energy-filtered environmental TEM. <i>Chemical Communications</i> , 2014, 50, 1808.	4.1	9
62	Toward Knowledge-Based Grain Boundary Engineering of Transparent Alumina Combining Advanced TEM and Atomistic Modeling. <i>Journal of the American Ceramic Society</i> , 2015, 98, 1959-1964.	3.8	9
63	Magnetic Circular Dichroism in Electron Microscopy. <i>Acta Physica Polonica A</i> , 2008, 113, 599-644.	0.5	9
64	Short note on parallel illumination in the TEM. <i>Ultramicroscopy</i> , 2006, 106, 1144-1149.	1.9	7
65	Direct Imaging of Dopant Distribution in Polycrystalline ZnO Films. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 7241-7248.	8.0	7
66	Enhanced Quantification for 3D Energy Dispersive Spectrometry: Going Beyond the Limitation of Large Volume of X-Ray Emission. <i>Microscopy and Microanalysis</i> , 2014, 20, 1544-1555.	0.4	6
67	Experimental and theoretical determination of low electron energy loss spectra of Ag and Ru. <i>Ultramicroscopy</i> , 2006, 106, 1115-1119.	1.9	5
68	Energy-filtered environmental transmission electron microscopy for the assessment of solid–gas reactions at elevated temperature: NiO/YSZ–H ₂ as a case study. <i>Ultramicroscopy</i> , 2016, 169, 11-21.	1.9	5
69	In-Situ Observation of Co-Ce Coated Metallic Interconnect Oxidation Combined with High-Resolution Post Exposure Analysis. <i>ECS Transactions</i> , 2017, 78, 1615-1632.	0.5	5
70	Quantifying competitive grain overgrowth in polycrystalline ZnO thin films. <i>Acta Materialia</i> , 2019, 173, 74-86.	7.9	5
71	3D reconstruction of curvilinear structures with stereo matching deep convolutional neural networks. <i>Ultramicroscopy</i> , 2022, 234, 113460.	1.9	5
72	Thickness Dependent Loss Function of Si with 0.14 eV Energy Resolution. <i>Advanced Engineering Materials</i> , 2004, 6, 826-828.	3.5	4

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73	Segregation of anion (Cl ²⁻) impurities at transparent polycrystalline $\hat{\pm}$ -alumina interfaces. Journal of the European Ceramic Society, 2014, 34, 3037-3045.	5.7	4
74	Ionization edges: Some underlying physics and their use in electron microscopy. Advances in Imaging and Electron Physics, 2002, , 413-450.	0.2	3
75	The separation of surface and bulk contributions in ELNES spectra. Ultramicroscopy, 2002, 93, 91-97.	1.9	3
76	Capturing EELS in the reciprocal space. EPJ Applied Physics, 2011, 54, 33510.	0.7	3
77	Nanoprecipitates in single-crystal molybdenum-alloy nanopillars detected by TEM and atom probe tomography. Scripta Materialia, 2013, 69, 41-44.	5.2	2
78	Density Functional Theory as a Tool for the Electron Microscopist. Microscopy and Microanalysis, 2002, 8, 1594-1595.	0.4	1
79	Localization of Low Energy Losses and the Mixed Dynamic Form Factor. Microscopy and Microanalysis, 2002, 8, 636-637.	0.4	1
80	Energy-loss Near-edge Structure (ELNES) of Hexagonal and Cubic GaN. Microscopy and Microanalysis, 2004, 10, 884-885.	0.4	1
81	Electron energy-loss spectroscopy investigations of the electron density in ErMn ₂ and ErMn ₂ D ₂ compounds. Journal of Physics Condensed Matter, 2005, 17, 3657-3664.	1.8	1
82	Lifetime of Hot Electrons in Metals Retrieved From Low Loss EELS. Microscopy and Microanalysis, 2006, 12, 1168-1169.	0.4	1
83	Observation of Magnetic Circular Dichroism in the Electron Microscope. Microscopy and Microanalysis, 2006, 12, 960-961.	0.4	1
84	Electron energy-loss spectrometry for metals: some thoughts beyond microanalysis. International Journal of Materials Research, 2006, 97, 920-927.	0.3	1
85	Imaging of GaAs Nanowire Using Combined Aberration-corrected TEM/STEM and Exit Wave Restoration. Microscopy and Microanalysis, 2009, 15, 138-139.	0.4	1
86	EFTEM Pre- and Post-Irradiation sp 2 to sp 3 R-Ratio Measurements Of SiC/SiC Pyrolytic Carbon Interphases. Microscopy and Microanalysis, 2016, 22, 1466-1467.	0.4	1
87	Combining in-Situ SEM with High Sensitivity Analytical TEM for Understanding the Degradation of Metallic Interconnects in SOFC. Microscopy and Microanalysis, 2017, 23, 2060-2061.	0.4	1
88	Electron Energy Loss Near Edge Structures as a Tool to Elucidate Natural and Artificial Minerals Structures. Microscopy and Microanalysis, 2017, 23, 2154-2155.	0.4	1
89	Machine Learning on STEM-EDS Data for Quantifying Overlapping Deep-Mantle Rock Assemblages. Microscopy and Microanalysis, 2020, 26, 1878-1880.	0.4	1
90	Comparison of ELNES and NEXAFS of vanadium oxide V ₂ O ₅ with different spectral resolution. Microscopy and Microanalysis, 2002, 8, 602-603.	0.4	0

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91	Observation of Circular Dichroism in the TEM. <i>Microscopy and Microanalysis</i> , 2004, 10, 836-837.	0.4	0
92	Numerical Aspects of Valence Electron Energy Loss Spectrometry. <i>Microscopy and Microanalysis</i> , 2006, 12, 1180-1181.	0.4	0
93	EMCD: Magnetic Chiral Dichroism in the Electron Microscope. <i>Materials Research Society Symposia Proceedings</i> , 2007, 1026, 1.	0.1	0
94	TEM and SEM Investigation on Oxidised Ge-based Clathrates. <i>Microscopy and Microanalysis</i> , 2008, 14, 1142-1143.	0.4	0
95	Investigation of 6T@SWCNT by Cs-Corrected Transmission Electron Microscopy. <i>Microscopy and Microanalysis</i> , 2009, 15, 1334-1335.	0.4	0
96	Computer Vision Techniques Applied to the Reconstruction of the 3-D Structure Dislocations. <i>Microscopy and Microanalysis</i> , 2017, 23, 102-103.	0.4	0
97	MOOCS: A New Way of Teaching Transmission Electron Microscopy. <i>Microscopy and Microanalysis</i> , 2019, 25, 2270-2271.	0.4	0
98	Triplet grain growth in a-texture polycrystalline ZnO thin films. <i>Acta Materialia</i> , 2020, 199, 523-529.	7.9	0