Karl Joulain

List of Publications by Year
in descending order

118 papers	7,837 citations	66343 42 h-index	48315 88 g-index
119 all docs	119 docs citations	119 times ranked	3825 citing authors

#	ARTICLE	IF	CITATIONS
1	Spherical and cylindrical conductive thermal diodes based on two phase-change materials. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 2022, 77, 181-190.	1.5	1
2	Characterization of the temperature behavior of optimized SiC gratings emissivity. International Journal of Heat and Mass Transfer, 2021, 172, 121140.	4.8	1
3	Thermal Transistor Effect in Quantum Systems. Physical Review Applied, 2021, 16, .	3.8	12
4	Daytime radiative cooling with silica fiber network. Solar Energy Materials and Solar Cells, 2020, 206, 110320.	6.2	28
5	VO ₂ Substrate Effect on the Thermal Rectification of a Far-Field Radiative Diode. Physical Review Applied, 2020, 14, .	3.8	15
6	Heat transport in semiconductor crystals: Beyond the local-linear approximation. Journal of Applied Physics, 2020, 128, 105104.	2.5	3
7	Optimization of the rectification factor of radiative thermal diodes based on two phase-change materials. International Journal of Heat and Mass Transfer, 2020, 154, 119739.	4.8	12
8	Conductive thermal diode based on two phase-change materials. International Journal of Thermal Sciences, 2020, 153, 106393.	4.9	16
9	Colored Radiative Cooling Coatings with Nanoparticles. ACS Photonics, 2020, 7, 1312-1322.	6.6	91
10	Microstructured surfaces for colored and non-colored sky radiative cooling. Optics Express, 2020, 28, 29703.	3.4	24
11	Thermal emission from a single glass fiber. Journal of Quantitative Spectroscopy and Radiative Transfer, 2019, 236, 106598.	2.3	4
12	Spherical and cylindrical conductive thermal diodes based on VO2. European Physical Journal Plus, 2019, 134, 1.	2.6	3
13	Radiative Thermal Memristor. Physical Review Letters, 2019, 123, 025901.	7.8	54
14	Thermophysical characterisation of VO2 thin films hysteresis and its application in thermal rectification. Scientific Reports, 2019, 9, 8728.	3.3	34
15	Measurement of the hysteretic thermal properties of W-doped and undoped nanocrystalline powders of VO2. Scientific Reports, 2019, 9, 14687.	3.3	34
16	Periodic amplification of radiative heat transfer. Journal of Applied Physics, 2019, 125, 064302.	2.5	2
17	Near-Field and Far-Field Thermal Emission of individual subwavelength-sized resonators. , 2019, , .		0
18	Conductive thermal diode based on the thermal hysteresis of VO2 and nitinol. Journal of Applied Physics, 2018, 123, .	2.5	34

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19	VO2-based radiative thermal transistor with a semi-transparent base. Journal of Quantitative Spectroscopy and Radiative Transfer, 2018, 210, 52-61.	2.3	22
20	Evolution of the Thermal Conductivity of Sintered Silver Joints with their Porosity Predicted by the Finite Element Analysis of Real 3D Microstructures. Journal of Electronic Materials, 2018, 47, 4170-4176.	2.2	10
21	Analytical description of the radiative-conductive heat transfer in a gray medium contained between two diffuse parallel plates. Applied Mathematical Modelling, 2018, 56, 51-64.	4.2	6
22	Thermal hysteresis measurement of the VO2 dielectric function for its metal-insulator transition by visible-IR ellipsometry. Journal of Applied Physics, 2018, 124, .	2.5	40
23	Radiative cooling by tailoring surfaces with microstructures: Association of a grating and a multi-layer structure. Journal of Quantitative Spectroscopy and Radiative Transfer, 2018, 221, 155-163.	2.3	66
24	Thermal hysteresis measurement of the VO2 emissivity and its application in thermal rectification. Scientific Reports, 2018, 8, 8479.	3.3	36
25	Modeling of the electrical conductivity, thermal conductivity, and specific heat capacity of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>VO</mml:mi><mml:mn>2</mml:mn></mml:msub></mml Physical Review B, 2018, 98, .	3.2	49
26	Heat transport in semiconductor crystals under large temperature gradients. International Journal of Heat and Mass Transfer, 2017, 108, 1357-1363.	4.8	3
27	Quantum thermal diode based on two interacting spinlike systems under different excitations. Physical Review E, 2017, 95, 022128.	2.1	59
28	Temperature of a nanoparticle above a substrate under radiative heating and cooling. Physical Review B, 2017, 95, .	3.2	9
29	Thermal Conductance of a Surface Phonon-Polariton Crystal Made up of Polar Nanorods. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 2017, 72, 135-139.	1.5	2
30	Quantum Thermal Rectification to Design Thermal Diodes and Transistors. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 2017, 72, 163-170.	1.5	6
31	Photonic thermal diode based on superconductors. Journal of Applied Physics, 2017, 122, .	2.5	25
32	Polaritonic figure of merit of plane structures. Optics Express, 2017, 25, 25938.	3.4	5
33	Dynamical heat transport amplification in a far-field thermal transistor of VO2 excited with a laser of modulated intensity. Journal of Applied Physics, 2016, 119, .	2.5	21
34	Temperature dependence of a microstructured SiC coherent thermal source. Journal of Quantitative Spectroscopy and Radiative Transfer, 2016, 180, 29-38.	2.3	14
35	Thermal energy transport in a surface phonon-polariton crystal. Physical Review B, 2016, 93, .	3.2	27
36	Quantum Thermal Transistor. Physical Review Letters, 2016, 116, 200601.	7.8	183

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37	Transistorlike Device for Heating and Cooling Based on the Thermal Hysteresis of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>VO</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></m Physical Review Applied, 2016, 6, .	3.8	46
38	Optimized thermal amplification in a radiative transistor. Journal of Applied Physics, 2016, 119, .	2.5	29
39	Thermal emission by a subwavelength aperture. Journal of Quantitative Spectroscopy and Radiative Transfer, 2016, 173, 1-6.	2.3	3
40	Radiative thermal rectification between SiC and SiO_2. Optics Express, 2015, 23, A1388.	3.4	65
41	Dynamical behaviour of a far-field radiative thermal transistor. , 2015, , .		0
42	Control of radiative processes for energy conversion and harvesting. Optics Express, 2015, 23, A1533.	3.4	28
43	Near field radiative heat transfer between two nonlocal dielectrics. Journal of Quantitative Spectroscopy and Radiative Transfer, 2015, 154, 55-62.	2.3	21
44	Nonlocal study of the near field radiative heat transfer between two n-doped semiconductors. International Journal of Heat and Mass Transfer, 2015, 90, 34-39.	4.8	5
45	Modulation and amplification of radiative far field heat transfer: Towards a simple radiative thermal transistor. Applied Physics Letters, 2015, 106, .	3.3	66
46	Simple far-field radiative thermal rectifier using Fabryâ€“Perot cavities based infrared selective emitters. Applied Optics, 2014, 53, 3479.	1.8	50
47	Dynamical thermoelectric coefficients of bulk semiconductor crystals: Towards high thermoelectric efficiency at high frequencies. Journal of Applied Physics, 2014, 115, .	2.5	5
48	Radiative thermal rectification using superconducting materials. Applied Physics Letters, 2014, 104, .	3.3	52
49	Vacuum-induced phonon transfer between two solid dielectric materials: Illustrating the case of Casimir force coupling. Physical Review B, 2014, 90, .	3.2	38
50	Strong tipâ€“sample coupling in thermal radiation scanning tunneling microscopy. Journal of Quantitative Spectroscopy and Radiative Transfer, 2014, 136, 1-15.	2.3	46
51	Heat Superdiffusion in Plasmonic Nanostructure Networks. Physical Review Letters, 2013, 111, 174301.	7.8	73
52	Blackbody Spectrum Revisited in the Near Field. Physical Review Letters, 2013, 110, 146103.	7.8	117
53	Effect of embedding nanoparticles on the lattice thermal conductivity of bulk semiconductor crystals. Journal of Applied Physics, 2013, 113, 043510.	2.5	8
54	Maximal near-field radiative heat transfer between two plates. EPJ Applied Physics, 2013, 63, 30902.	0.7	11

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55	Silicon Nanowire Conductance in the Ballistic Regime: Models and Simulations. Journal of Heat Transfer, 2012, 134, .	2.1	0
56	Selective emitters design and optimization for thermophotovoltaic applications. Journal of Applied Physics, 2012, 111, .	2.5	36
57	Dynamical thermal conductivity of bulk semiconductor crystals. Journal of Applied Physics, 2012, 112, 083515.	2.5	19
58	Many-Body Radiative Heat Transfer Theory. Physical Review Letters, 2011, 107, 114301.	7.8	194
59	Fast nanoscale heat-flux modulation with phase-change materials. Physical Review B, 2011, 83, .	3.2	81
60	Phonon polaritons enhance near-field thermal transfer across the phase transition of VO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>. Physical Review B, 2011, 84, .	3.2	123
61	Nanoscale heat flux between nanoporous materials. Optics Express, 2011, 19, A1088.	3.4	169
62	Far field coherent thermal emission from a bilayer structure. Journal of Applied Physics, 2011, 109, 034315.	2.5	22
63	Coherent thermal emission in midinfrared from a bilayer structure. Journal of Quantitative Spectroscopy and Radiative Transfer, 2011, 112, 1156-1161.	2.3	2
64	Role of confined Bloch waves in the near field heat transfer between two photonic crystals. Journal of Quantitative Spectroscopy and Radiative Transfer, 2011, 112, 1314-1322.	2.3	11
65	Transient Energy and Heat Transport in Metals: Effect of the Discrete Character of the Lattice. Journal of Heat Transfer, 2011, 133, .	2.1	5
66	Fundamental limits for noncontact transfers between two bodies. Physical Review B, 2010, 82, .	3.2	101
67	Surface Bloch waves mediated heat transfer between two photonic crystals. Applied Physics Letters, 2010, 96, .	3.3	47
68	Noncontact heat transfer between two metamaterials. Physical Review B, 2010, 81, .	3.2	72
69	Near Field Heat Transfer Between Metamaterials. , 2010, , .		0
70	Modeling semiconductor nanostructures thermal properties: The dispersion role. Journal of Applied Physics, 2009, 105, 073516.	2.5	28
71	Tailoring the local density of states of nonradiative field at the surface of nanolayered materials. Applied Physics Letters, 2009, 94, 153117.	3.3	27
72	Near-field heat transfer mediated by surface wave hybridization between two films. Journal of Applied Physics, 2009, 106, .	2.5	85

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73	Control of Near-Field Emitted by Micro and Nanostructured Materials. , 2009, , .		0
74	Prediction of the thermal conductivity anisotropy of Si nanofilms. Results of several numerical methods. International Journal of Thermal Sciences, 2009, 48, 1467-1476.	4.9	30
75	Nanostructures. Topics in Applied Physics, 2009, , 17-62.	0.8	3
76	The near field correlation spectrum of a metallic film. Applied Physics B: Lasers and Optics, 2008, 93, 151-158.	2.2	14
77	Near-field heat transfer: A radiative interpretation of thermal conduction. Journal of Quantitative Spectroscopy and Radiative Transfer, 2008, 109, 294-304.	2.3	25
78	Heat Pulse Propagation in Silicon Nanostructures by Solving Phonon Transport Equation. , 2008, , .		1
79	Effects of spatial dispersion in near-field radiative heat transfer between two parallel metallic surfaces. Physical Review B, 2008, 77, .	3.2	159
80	Heat transport through plasmonic interactions in closely spaced metallic nanoparticle chains. Physical Review B, 2008, 77, .	3.2	62
81	Monte Carlo Simulation of Heat Pulse Propagation in Silicon Nanostructure. , 2008, , .		0
82	Near Field Heat Transfer: Where Radiation Becomes Conduction. Journal of Computational and Theoretical Nanoscience, 2008, 5, 194-200.	0.4	0
83	Monte Carlo modeling of phonon transport in nanodevices. Journal of Physics: Conference Series, 2007, 92, 012078.	0.4	5
84	Numerical simulation of transient phonon heat transfer in silicon nanowires and nanofilms. Journal of Physics: Conference Series, 2007, 92, 012077.	0.4	8
85	Heat transport through plasmonic interactions in closely spaced metallic nanoparticle chains. Journal of Physics: Conference Series, 2007, 92, 012087.	0.4	0
86	Prediction of the thermal conductivity of nanofilms. Journal of Physics: Conference Series, 2007, 92, 012080.	0.4	2
87	Coherent thermal emission by microstructured waveguides. Journal of Quantitative Spectroscopy and Radiative Transfer, 2007, 104, 208-216.	2.3	23
88	Monte Carlo simulation of phonon confinement in silicon nanostructures: Application to the determination of the thermal conductivity of silicon nanowires. Applied Physics Letters, 2006, 89, 103104.	3.3	100
89	Influence de la dÃ©pendance en tempÃ©rature des propriÃ©tÃ©s optiques des matÃ©riaux sur la force de Casimir. European Physical Journal Special Topics, 2006, 135, 113-114.	0.2	0
90	Thermal radiation scanning tunnelling microscopy. Nature, 2006, 444, 740-743.	27.8	449

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91	Electromagnetic field correlations near a surface with a nonlocal optical response. Applied Physics B: Lasers and Optics, 2006, 84, 61-68.	2.2	55
92	Heat transfer between a nano-tip and a surface. Nanotechnology, 2006, 17, 2978-2981.	2.6	48
93	Surface electromagnetic waves thermally excited: Radiative heat transfer, coherence properties and Casimir forces revisited in the near field. Surface Science Reports, 2005, 57, 59-112.	7.2	787
94	Casimir force between designed materials: What is possible and what not. Europhysics Letters, 2005, 72, 929-935.	2.0	98
95	Heat Transfer between Two Nanoparticles Through Near Field Interaction. Physical Review Letters, 2005, 94, 085901.	7.8	204
96	Monte Carlo transient phonon transport in silicon and germanium at nanoscales. Physical Review B, 2005, 72, .	3.2	203
97	Resonant transmission of light in the infrared by SiC gratings supporting phonon polaritons. European Physical Journal Special Topics, 2004, 119, 229-230.	0.2	0
98	Engineering infrared emission properties of silicon in the near field and the far field. Optics Communications, 2004, 237, 379-388.	2.1	76
99	Resonant infrared transmission through SiC films. Optics Letters, 2004, 29, 2178.	3.3	19
100	Coupled surface polaritons and the Casimir force. Physical Review A, 2004, 69, .	2.5	89
101	Coherent spontaneous emission of light by thermal sources. Physical Review B, 2004, 69, .	3.2	144
102	THERMAL RESPONSE OF SILICON CRYSTAL TO PICO-FEMTOSECOND HEAT PULSE BY MOLECULAR DYNAMICS. Microscale Thermophysical Engineering, 2004, 8, 155-167.	1.2	3
103	Ã‰mission spontanÃ©e cohÃ©rente de lumiÃ¨re. European Physical Journal Special Topics, 2004, 119, 35-41.	0.2	0
104	Coherent Spontaneous Emission of Light Due to Surface Waves. , 2003, , 163-182.		7
105	Definition and measurement of the local density of electromagnetic states close to an interface. Physical Review B, 2003, 68, .	3.2	318
106	Radiation forces on small particles in thermal near fields. Journal of Optics, 2002, 4, S109-S114.	1.5	130
107	ENHANCED RADIATIVE HEAT TRANSFER AT NANOMETRIC DISTANCES. Microscale Thermophysical Engineering, 2002, 6, 209-222.	1.2	307
108	Nanoscale radiative heating of a sample with a probe. Journal of Magnetism and Magnetic Materials, 2002, 249, 462-465.	2.3	2

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109	Coherent emission of light by thermal sources. Nature, 2002, 416, 61-64.	27.8	1,179
110	Transfert radiatif entre une petite particule et un diÃ©lectrique: application au chauffage local. European Physical Journal Special Topics, 2002, 12, 291-292.	0.2	0
111	Comment on â€œRadiative transfer over small distances from a heated metalâ€. Optics Letters, 2001, 26, 480.	3.3	7
112	Nanoscale radiative heat transfer between a small particle and a plane surface. Applied Physics Letters, 2001, 78, 2931-2933.	3.3	211
113	Nonlinear Dynamics of Wrinkled Premixed Flames and Related Statistical Problems. Lecture Notes in Physics, 2001, , 127-158.	0.7	3
114	Spatial coherence of thermal near fields. Optics Communications, 2000, 186, 57-67.	2.1	103
115	Near-Field Spectral Effects due to Electromagnetic Surface Excitations. Physical Review Letters, 2000, 85, 1548-1551.	7.8	291
116	Coalescence Problems in the Theory of Expanding Wrinkled Premixed Flames. Combustion Science and Technology, 1996, 112, 271-299.	2.3	11
117	Mean Evolution of Wrinkle Wavelengths in a Model of Weakly-Turbulent Premixed Flame. Combustion Science and Technology, 1994, 103, 265-282.	2.3	19
118	Radiative Transfer on Short Length Scales. , 0, , 107-131.		6