

Vito Antonio Cimmelli

List of Publications by Year in descending order

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88
papers

1,534
citations

279701

23
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345118

36
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all docs

90
docs citations

90
times ranked

363
citing authors

#	ARTICLE	IF	CITATIONS
1	Different Thermodynamic Theories and Different Heat Conduction Laws. Journal of Non-Equilibrium Thermodynamics, 2009, 34, .	2.4	114
2	Entropy Principle and Recent Results in Non-Equilibrium Theories. Entropy, 2014, 16, 1756-1807.	1.1	93
3	Nonlocal effects and second sound in a nonequilibrium steady state. Physical Review B, 2009, 79, .	1.1	91
4	Nonequilibrium temperatures, heat waves, and nonlinear heat transport equations. Physical Review B, 2010, 81, .	1.1	80
5	Mesoscopic Theories of Heat Transport in Nanosystems. SEMA SIMAI Springer Series, 2016, , .	0.4	69
6	Nonlinear evolution and stability of the heat flow in nanosystems: Beyond linear phonon hydrodynamics. Physical Review B, 2010, 82, .	1.1	63
7	An extension of Liu procedure in weakly nonlocal thermodynamics. Journal of Mathematical Physics, 2007, 48, 113510.	0.5	46
8	Nonlocal heat transport with phonons and electrons: Application to metallic nanowires. International Journal of Heat and Mass Transfer, 2012, 55, 2338-2344.	2.5	46
9	Nonequilibrium temperatures and second-sound propagation along nanowires and thin layers. Physics Letters, Section A: General, Atomic and Solid State Physics, 2009, 373, 4386-4392.	0.9	37
10	A Continuum Approach to Thermomass Theory. Journal of Heat Transfer, 2012, 134, .	1.2	36
11	Gradient generalization to the extended thermodynamic approach and diffusive-hyperbolic heat conduction. Physica B: Condensed Matter, 2007, 400, 257-265.	1.3	35
12	A generalized Coleman-Noll procedure for the exploitation of the entropy principle. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2010, 466, 911-925.	1.0	33
13	Entropy flux and anomalous axial heat transport at the nanoscale. Physical Review B, 2013, 87, .	1.1	32
14	Thermoelectric effects and size dependency of the figure-of-merit in cylindrical nanowires. International Journal of Heat and Mass Transfer, 2013, 57, 109-116.	2.5	32
15	Analysis of three nonlinear effects in a continuum approach to heat transport in nanosystems. Physica D: Nonlinear Phenomena, 2012, 241, 1344-1350.	1.3	31
16	A new thermodynamic framework for second-grade Korteweg-type viscous fluids. Journal of Mathematical Physics, 2009, 50, .	0.5	30
17	Nonlinear effects in thermal wave propagation near zero absolute temperature. Physica B: Condensed Matter, 2005, 355, 147-157.	1.3	28
18	Constitutive equations for heat conduction in nanosystems and nonequilibrium processes: an overview. Communications in Applied and Industrial Mathematics, 2016, 7, 196-222.	0.6	28

#	ARTICLE	IF	CITATIONS
19	A new perspective on the form of the first and second laws in rational thermodynamics: Korteweg fluids as an example. <i>Journal of Non-Equilibrium Thermodynamics</i> , 2010, 35, .	2.4	26
20	Flux Limiters in Radial Heat Transport in Silicon Nanolayers. <i>Journal of Heat Transfer</i> , 2014, 136, .	1.2	25
21	The effects of nonlocality on the evolution of higher order fluxes in nonequilibrium thermodynamics. <i>Journal of Mathematical Physics</i> , 2005, 46, 112901.	0.5	24
22	Numerical reconstruction of heat pulse experiments. <i>International Journal of Engineering Science</i> , 1995, 33, 209-215.	2.7	23
23	Multi-temperature mixture of phonons and electrons and nonlocal thermoelectric transport in thin layers. <i>International Journal of Heat and Mass Transfer</i> , 2014, 71, 459-468.	2.5	23
24	A thermodynamic model for heat transport and thermal wave propagation in graded systems. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2015, 73, 242-249.	1.3	23
25	Influence of electron and phonon temperature on the efficiency of thermoelectric conversion. <i>International Journal of Heat and Mass Transfer</i> , 2015, 80, 344-352.	2.5	21
26	Exploitation of the entropy principle: Proof of Liu theorem if the gradients of the governing equations are considered as constraints. <i>Journal of Mathematical Physics</i> , 2011, 52, 023511.	0.5	20
27	Generalized heat-transport equations: parabolic and hyperbolic models. <i>Continuum Mechanics and Thermodynamics</i> , 2018, 30, 1245-1258.	1.4	20
28	Rectification of low-frequency thermal waves in graded SiGe $_{1-x}$. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2016, 380, 1824-1829.	0.9	19
29	Computational analysis of heat rectification in composition-graded systems: From macro-to-nanoscale. <i>Physica B: Condensed Matter</i> , 2016, 481, 244-251.	1.3	15
30	Heat flux rectification in graded SiGe $_{1-x}$: Longitudinal and radial heat flows. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2017, 90, 149-157.	1.3	14
31	Enhanced thermal rectification in graded Si Ge $_{1-x}$ alloys. <i>Mechanics Research Communications</i> , 2020, 103, 103472.	1.0	14
32	On the causality requirement for diffusive-hyperbolic systems in non-equilibrium thermodynamics. <i>Journal of Non-Equilibrium Thermodynamics</i> , 2004, 29, .	2.4	13
33	Weakly nonlocal thermodynamics of anisotropic rigid heat conductors revisited. <i>Journal of Non-Equilibrium Thermodynamics</i> , 2011, 36, .	2.4	13
34	Influence of nonlinear effects on the efficiency of a thermoelectric generator. <i>Zeitschrift Fur Angewandte Mathematik Und Physik</i> , 2015, 66, 2829-2842.	0.7	13
35	Thermoelectric efficiency of graded SiGe $_{1-x}$ alloys. <i>Journal of Applied Physics</i> , 2018, 124, 094301.	1.1	13
36	On the evolution of higher order fluxes in non-equilibrium thermodynamics. <i>Mathematical and Computer Modelling</i> , 2007, 45, 126-136.	2.0	12

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37	On the Thermodynamics of Korteweg Fluids with Heat Conduction and Viscosity. Journal of Elasticity, 2011, 104, 115-131.	0.9	12
38	A Phenomenological Study of Pore-Size Dependent Thermal Conductivity of Porous Silicon. Acta Applicandae Mathematicae, 2012, 122, 435.	0.5	12
39	A nonlinear thermodynamic model for a breakdown of the Onsager symmetry and the efficiency of thermoelectric conversion in nanowires. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2014, 470, 20140265.	1.0	12
40	Differential consequences of balance laws in extended irreversible thermodynamics of rigid heat conductors. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2019, 475, 20180482.	1.0	12
41	Thermoelectric Efficiency of Silicon-Germanium Alloys in Finite-Time Thermodynamics. Entropy, 2020, 22, 1116.	1.1	12
42	Non-Fourier Heat Transfer with Phonons and Electrons in a Circular Thin Layer Surrounding a Hot Nanodevice. Entropy, 2015, 17, 5157-5170.	1.1	10
43	Fitting thermal conductivity and optimizing thermoelectric efficiency in nanowires. Mathematics and Computers in Simulation, 2020, 176, 279-291.	2.4	10
44	Boundary Conditions in the Presence of Internal Variables. Journal of Non-Equilibrium Thermodynamics, 2002, 27, .	2.4	9
45	Dynamical temperature and renormalized flux variable in extended thermodynamics of rigid heat conductors. Journal of Non-Equilibrium Thermodynamics, 2011, 36, .	2.4	9
46	Heat-pulse propagation in thermoelastic systems: application to graphene. Acta Mechanica, 2019, 230, 121-136.	1.1	9
47	Tunable heat rectification by applied mechanical stress. Physics Letters, Section A: General, Atomic and Solid State Physics, 2020, 384, 126905.	0.9	9
48	Thermodynamics of anisotropic solids near absolute zero. Mathematical and Computer Modelling, 1998, 28, 79-89.	2.0	8
49	Influence of the electron and phonon temperature and of the electric-charge density on the optimal efficiency of thermoelectric nanowires. Mechanics Research Communications, 2015, 68, 77-82.	1.0	8
50	Dynamical temperature and generalized heat-conduction equation. International Journal of Non-Linear Mechanics, 2016, 79, 76-82.	1.4	8
51	On the Mathematical Structure of Thermodynamics with Internal Variables. Journal of Non-Equilibrium Thermodynamics, 2001, 26, .	2.4	7
52	Mesoscopic description of boundary effects in nanoscale heat transport. The Nanoscale Systems: Mathematical Modeling and Applications, 2012, 1, 112-142.	0.3	7
53	Interpretation of Second Law of Thermodynamics in the presence of interfaces. Continuum Mechanics and Thermodynamics, 2012, 24, 165-174.	1.4	7
54	Thermodynamical setting for gradient continuum theories with vectorial internal variables: Application to granular materials. International Journal of Non-Linear Mechanics, 2013, 49, 72-76.	1.4	7

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55	A nonlocal phase-field model of Ginzburg-Landau-Korteweg fluids. <i>Continuum Mechanics and Thermodynamics</i> , 2015, 27, 367-378.	1.4	7
56	Weakly nonlocal thermodynamics of binary mixtures of Korteweg fluids with two velocities and two temperatures. <i>European Journal of Mechanics, B/Fluids</i> , 2020, 83, 58-65.	1.2	7
57	Propagation of temperature waves along core-shell nanowires. <i>Journal of Non-Equilibrium Thermodynamics</i> , 2010, 35, .	2.4	6
58	Entropy principle, non-regular processes, and generalized exploitation procedures. <i>Journal of Mathematical Physics</i> , 2012, 53, 063509.	0.5	6
59	Minimal Entropy Production and Efficiency of Energy Conversion in Nonlinear Thermoelectric Systems with Two Temperatures. <i>Journal of Non-Equilibrium Thermodynamics</i> , 2017, 42, .	2.4	6
60	Phonon-electron coupling and nonlocal heat transport in Bi ₂ Te ₃ nanowires. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2019, 108, 421-427.	1.3	6
61	Thermal conductivity and enhanced thermoelectric efficiency of composition-graded Si _{1-c} Ge _c alloys. <i>Zeitschrift Fur Angewandte Mathematik Und Physik</i> , 2020, 71, 1.	0.7	6
62	Gradient-dependent heat rectification in thermoelastic solids. <i>Journal of Thermal Stresses</i> , 2021, 44, 919-934.	1.1	6
63	The Gibbs principle for the equilibrium of crystals. <i>International Journal of Engineering Science</i> , 1990, 28, 677-688.	2.7	5
64	Phase-field evolution in Cahn-Hilliard-Korteweg fluids. <i>Acta Mechanica</i> , 2016, 227, 2111-2124.	1.1	5
65	Phonon and electron temperature and non-Fourier heat transport in thin layers. <i>Physica B: Condensed Matter</i> , 2017, 511, 61-67.	1.3	5
66	Nonlinear Propagation of Coupled First- and Second-Sound Waves in Thermoelastic Solids. <i>Journal of Elasticity</i> , 2020, 138, 93-109.	0.9	5
67	New and Recent Results for Thermoelectric Energy Conversion in Graded Alloys at Nanoscale. <i>Nanomaterials</i> , 2022, 12, 2378.	1.9	5
68	A diffusive-hyperbolic model for heat conduction. <i>Mathematical and Computer Modelling</i> , 2004, 39, 1413-1422.	2.0	4
69	The Role of the Second Law of Thermodynamics in Continuum Physics: A Muschik and Ehrentraut Theorem Revisited. <i>Symmetry</i> , 2022, 14, 763.	1.1	4
70	A Thermodynamic Theory of Thermoelastic and Viscoanelastic Solids with Non-Euclidean Structure. <i>Journal of Non-Equilibrium Thermodynamics</i> , 2001, 26, .	2.4	3
71	Nonlinear thermoelastic waves in functionally graded materials: Application to Si _{1-c} Ge _c nanowires. <i>Journal of Thermal Stresses</i> , 2020, 43, 612-628.	1.1	3
72	A nonlinear model of thermoelectricity with two temperatures: Application to quasicrystalline nanowires. <i>Journal of Mathematical Physics</i> , 2016, 57, .	0.5	2

#	ARTICLE	IF	CITATIONS
73	Exploitation of Second Law for Second Grade Fluids: Generalized Coleman-Noll and Liu Procedures in Comparison. , 2009, , .		2
74	Local versus nonlocal constitutive theories of nonequilibrium thermodynamics: the Guyer-Krumhansl equation as an example. Zeitschrift Fur Angewandte Mathematik Und Physik, 2021, 72, 1.	0.7	2
75	Nonlocal variational theories for systems with an interface. International Journal of Engineering Science, 1990, 28, 663-675.	2.7	1
76	On the stability of the equilibrium states for Hamiltonian dynamical systems arising in nonequilibrium thermodynamics. Zeitschrift Fur Angewandte Mathematik Und Physik, 2007, 58, 736-748.	0.7	1
77	Heat Transport Equations with Phonons and Electrons. Acta Applicandae Mathematicae, 2012, 122, 117.	0.5	1
78	Mesoscopic approach to inviscid gas dynamics with thermal lag. Annalen Der Physik, 2013, 525, 921-933.	0.9	1
79	Linear and Nonlinear Heat-Transport Equations. SEMA SIMAI Springer Series, 2016, , 31-51.	0.4	1
80	Heat transport with phonon-electron energy exchange in Bi2Te3 circular thin layers. Journal of Applied Physics, 2020, 127, .	1.1	1
81	Mesoscopic Description of Boundary Effects and Effective Thermal Conductivity in Nanosystems: Phonon Hydrodynamics. SEMA SIMAI Springer Series, 2016, , 53-89.	0.4	1
82	Causal Non-Stationary Thermodynamics of Non-Viscous Heat Conducting Fluids with Internal Variables. General Relativity and Gravitation, 2001, 33, 1427-1447.	0.7	0
83	Nonequilibrium Thermodynamics and Heat Transport at Nanoscale. SEMA SIMAI Springer Series, 2016, , 1-30.	0.4	0
84	Internal parameters and superconductive phase in metals. , 2002, , .		0
85	FIRST ORDER WEAK NONLOCALITY IN EXTENDED THERMODYNAMICS OF RIGID HEAT CONDUCTORS. , 2006, , .		0
86	Modelling of Capillary Forces in Viscous Fluids of Grade Two. , 2009, , .		0
87	Heat Transport with Phonons and Electrons and Efficiency of Thermoelectric Generators. SEMA SIMAI Springer Series, 2016, , 133-166.	0.4	0
88	Weakly Nonlocal and Nonlinear Heat Transport. SEMA SIMAI Springer Series, 2016, , 109-132.	0.4	0