Vito Antonio Cimmelli

List of Publications by Citations

84 papers	1,188 citations	20 h-index	30 g-index
90 ext. papers	1,296 ext. citations	2.6 avg, IF	5.04 L-index

#	Paper	IF	Citations
84	Different Thermodynamic Theories and Different Heat Conduction Laws. *Journal of Non-Equilibrium Thermodynamics*, **2009**, 34,	3.8	89
83	Entropy Principle and Recent Results in Non-Equilibrium Theories. *Entropy*, **2014**, 16, 1756-1807	2.8	74
82	Nonlocal effects and second sound in a nonequilibrium steady state. *Physical Review B*, **2009**, 79,	3.3	73
81	Nonequilibrium temperatures, heat waves, and nonlinear heat transport equations. *Physical Review B*, **2010**, 81,	3.3	60
80	Nonlinear evolution and stability of the heat flow in nanosystems: Beyond linear phonon hydrodynamics. *Physical Review B*, **2010**, 82,	3.3	52
79	Mesoscopic Theories of Heat Transport in Nanosystems. *SEMA SIMAI Springer Series*, **2016**,	0.2	45
78	Nonlocal heat transport with phonons and electrons: Application to metallic nanowires. *International Journal of Heat and Mass Transfer*, **2012**, 55, 2338-2344	4.9	42
77	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	2.3	36
76	An extension of Liu procedure in weakly nonlocal thermodynamics. *Journal of Mathematical Physics*, **2007**, 48, 113510	1.2	34
75	Gradient generalization to the extended thermodynamic approach and diffusive-hyperbolic heat conduction. *Physica B: Condensed Matter*, **2007**, 400, 257-265	2.8	32
74	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	2.4	30
73	Thermoelectric effects and size dependency of the figure-of-merit in cylindrical nanowires. *International Journal of Heat and Mass Transfer*, **2013**, 57, 109-116	4.9	28
72	A new thermodynamic framework for second-grade Korteweg-type viscous fluids. *Journal of Mathematical Physics*, **2009**, 50, 053101	1.2	28
71	Analysis of three nonlinear effects in a continuum approach to heat transport in nanosystems. *Physica D: Nonlinear Phenomena*, **2012**, 241, 1344-1350	3.3	27
70	Nonlinear effects in thermal wave propagation near zero absolute temperature. *Physica B: Condensed Matter*, **2005**, 355, 147-157	2.8	26
69	A Continuum Approach to Thermomass Theory. *Journal of Heat Transfer*, **2012**, 134,	1.8	25
68	Entropy flux and anomalous axial heat transport at the nanoscale. *Physical Review B*, **2013**, 87,	3.3	23

67	Numerical reconstruction of heat pulse experiments. *International Journal of Engineering Science*, **1995**, 33, 209-215	5.7	21
66	The effects of nonlocality on the evolution of higher order fluxes in nonequilibrium thermodynamics. *Journal of Mathematical Physics*, **2005**, 46, 112901	1.2	20
65	Constitutive equations for heat conduction in nanosystems and nonequilibrium processes: an overview. *Communications in Applied and Industrial Mathematics*, **2016**, 7, 196-222	0.5	20
64	Influence of electron and phonon temperature on the efficiency of thermoelectric conversion. *International Journal of Heat and Mass Transfer*, **2015**, 80, 344-352	4.9	19
63	Multi-temperature mixture of phonons and electrons and nonlocal thermoelectric transport in thin layers. *International Journal of Heat and Mass Transfer*, **2014**, 71, 459-468	4.9	18
62	Exploitation of the entropy principle: Proof of Liu theorem if the gradients of the governing equations are considered as constraints. *Journal of Mathematical Physics*, **2011**, 52, 023511	1.2	18
61	Generalized heat-transport equations: parabolic and hyperbolic models. *Continuum Mechanics and Thermodynamics*, **2018**, 30, 1245-1258	3.5	17
60	A thermodynamic model for heat transport and thermal wave propagation in graded systems. *Physica E: Low-Dimensional Systems and Nanostructures*, **2015**, 73, 242-249	3	17
59	A new perspective on the form of the first and second laws in rational thermodynamics: Korteweg fluids as an example. *Journal of Non-Equilibrium Thermodynamics*, **2010**, 35,	3.8	17
58	Flux Limiters in Radial Heat Transport in Silicon Nanolayers. *Journal of Heat Transfer*, **2014**, 136,	1.8	16
57	Rectification of low-frequency thermal waves in graded Si c Ge 1□. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2016**, 380, 1824-1829	2.3	13
56	Computational analysis of heat rectification in composition-graded systems: From macro-to-nanoscale. *Physica B: Condensed Matter*, **2016**, 481, 244-251	2.8	12
55	On the evolution of higher order fluxes in non-equilibrium thermodynamics. *Mathematical and Computer Modelling*, **2007**, 45, 126-136		12
54	On the causality requirement for diffusive-hyperbolic systems in non-equilibrium thermodynamics. *Journal of Non-Equilibrium Thermodynamics*, **2004**, 29,	3.8	12
53	Influence of nonlinear effects on the efficiency of a thermoelectric generator. *Zeitschrift Fur Angewandte Mathematik Und Physik*, **2015**, 66, 2829-2842	1.6	10
52	Heat flux rectification in graded SicGe1□: Longitudinal and radial heat flows. *Physica E: Low-Dimensional Systems and Nanostructures*, **2017**, 90, 149-157	3	10
51	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	2.4	10
50	A Phenomenological Study of Pore-Size Dependent Thermal Conductivity of Porous Silicon. *Acta Applicandae Mathematicae*, **2012**, 122, 435	1.1	10

49	On the Thermodynamics of Korteweg Fluids with Heat Conduction and Viscosity. *Journal of Elasticity*, **2011**, 104, 115-131	1.5	10
48	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	2.4	9
47	Weakly nonlocal thermodynamics of anisotropic rigid heat conductors revisited. *Journal of Non-Equilibrium Thermodynamics*, **2011**, 36,	3.8	9
46	Boundary Conditions in the Presence of Internal Variables. *Journal of Non-Equilibrium Thermodynamics*, **2002**, 27,	3.8	9
45	Thermoelectric efficiency of graded SicGe1□ alloys. *Journal of Applied Physics*, **2018**, 124, 094301	2.5	9
44	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	2.2	8
43	Non-Fourier Heat Transfer with Phonons and Electrons in a Circular Thin Layer Surrounding a Hot Nanodevice. *Entropy*, **2015**, 17, 5157-5170	2.8	8
42	Thermoelectric Efficiency of Silicon-Germanium Alloys in Finite-Time Thermodynamics. *Entropy*, **2020**, 22,	2.8	7
41	Thermodynamics of anisotropie solids near absolute zero. *Mathematical and Computer Modelling*, **1998**, 28, 79-89		7
40	Heat-pulse propagation in thermoelastic systems: application to graphene. *Acta Mechanica*, **2019**, 230, 121-136	2.1	7
39	A nonlocal phase-field model of Ginzburg□andau□Korteweg fluids. *Continuum Mechanics and Thermodynamics*, **2015**, 27, 367-378	3.5	6
38	Interpretation of Second Law of Thermodynamics in the presence of interfaces. *Continuum Mechanics and Thermodynamics*, **2012**, 24, 165-174	3.5	6
37	Thermodynamical setting for gradient continuum theories with vectorial internal variables: Application to granular materials. *International Journal of Non-Linear Mechanics*, **2013**, 49, 72-76	2.8	6
36	On the Mathematical Structure of Thermodynamics with Internal Variables. *Journal of Non-Equilibrium Thermodynamics*, **2001**, 26,	3.8	6
35	Phonon and electron temperature and non-Fourier heat transport in thin layers. *Physica B: Condensed Matter*, **2017**, 511, 61-67	2.8	5
34	Minimal Entropy Production and Efficiency of Energy Conversion in Nonlinear Thermoelectric Systems with Two Temperatures. *Journal of Non-Equilibrium Thermodynamics*, **2017**, 42,	3.8	5
33	Weakly nonlocal thermodynamics of binary mixtures of Korteweg fluids with two velocities and two temperatures. *European Journal of Mechanics, B/Fluids*, **2020**, 83, 58-65	2.4	5
32	Enhanced thermal rectification in graded Si Ge1- alloys. *Mechanics Research Communications*, **2020**, 103, 103472	2.2	5

31	Entropy principle, non-regular processes, and generalized exploitation procedures. *Journal of Mathematical Physics*, **2012**, 53, 063509	1.2	5
30	Dynamical temperature and renormalized flux variable in extended thermodynamics of rigid heat conductors. *Journal of Non-Equilibrium Thermodynamics*, **2011**, 36,	3.8	5
29	The Gibbs principle for the equilibrium of crystals. *International Journal of Engineering Science*, **1990** , 28, 677-688	5.7	5
28	Fitting thermal conductivity and optimizing thermoelectric efficiency in SicGe1□ nanowires. *Mathematics and Computers in Simulation*, **2020**, 176, 279-291	3.3	5
27	Mesoscopic description of boundary effects in nanoscale heat transport. *The Nanoscale Systems: Mathematical Modelingory and Applications*, **2012**, 1, 112-142		4
26	A diffusive-hyperbolic model for heat conduction. *Mathematical and Computer Modelling*, **2004**, 39, 1413-1422		4
25	Dynamical temperature and generalized heat-conduction equation. *International Journal of Non-Linear Mechanics*, **2016**, 79, 76-82	2.8	4
24	Phonon-electron coupling and nonlocal heat transport in Bi2Te3 nanowires. *Physica E: Low-Dimensional Systems and Nanostructures*, **2019**, 108, 421-427	3	4
23	Phase-field evolution in Cahn□illiard□Korteweg fluids. *Acta Mechanica*, **2016**, 227, 2111-2124	2.1	3
22	A Thermodynamic Theory of Thermoelastic and Viscoanelastic Solids with Non-Euclidean Structure. *Journal of Non-Equilibrium Thermodynamics*, **2001**, 26,	3.8	3
21	Tunable heat rectification by applied mechanical stress. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2020**, 384, 126905	2.3	3
20	Nonlinear Propagation of Coupled First- and Second-Sound Waves in Thermoelastic Solids. *Journal of Elasticity*, **2020**, 138, 93-109	1.5	3
19	Nonlinear thermoelastic waves in functionally graded materials: Application to Si1□Gec nanowires. *Journal of Thermal Stresses*, **2020**, 43, 612-628	2.2	2
18	Propagation of temperature waves along core-shell nanowires. *Journal of Non-Equilibrium Thermodynamics*, **2010**, 35,	3.8	2
17	On the Thermodynamics of Korteweg Fluids with Heat Conduction and Viscosity **2011**, 115-131		2
16	Thermal conductivity and enhanced thermoelectric efficiency of composition-graded ({hbox {Si}}_c{hbox {Ge}}_{1-c}) alloys. *Zeitschrift Fur Angewandte Mathematik Und Physik*, **2020**, 71, 1	1.6	1
15	Linear and Nonlinear Heat-Transport Equations. *SEMA SIMAI Springer Series*, **2016**, 31-51	0.2	1
14	Mesoscopic approach to inviscid gas dynamics with thermal lag. *Annalen Der Physik*, **2013**, 525, 921-933	2.6	1

13	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	1.6	1
12	Nonlocal variational theories for systems with an interface. *International Journal of Engineering Science*, **1990**, 28, 663-675	5.7	1
11	A nonlinear model of thermoelectricity with two temperatures: Application to quasicrystalline nanowires. *Journal of Mathematical Physics*, **2016**, 57, 043507	1.2	1
10	Gradient-dependent heat rectification in thermoelastic solids. *Journal of Thermal Stresses*, **2021**, 44, 919-934	2.2	1
9	The Role of the Second Law of Thermodynamics in Continuum Physics: A Muschik and Ehrentraut Theorem Revisited. *Symmetry*, **2022**, 14, 763	2.7	1
8	Heat Transport Equations with Phonons and Electrons. *Acta Applicandae Mathematicae*, **2012**, 122, 117	1.1	0
7	Mesoscopic Description of Boundary Effects and Effective Thermal Conductivity in Nanosystems: Phonon Hydrodynamics. *SEMA SIMAI Springer Series*, **2016**, 53-89	0.2	0
6	Heat transport with phononElectron energy exchange in Bi2Te3 circular thin layers. *Journal of Applied Physics*, **2020**, 127, 064301	2.5	
5	Nonequilibrium Thermodynamics and Heat Transport at Nanoscale. *SEMA SIMAI Springer Series*, **2016**, 1-30	0.2	
4	Causal Non-Stationary Thermodynamics of Non-Viscous Heat Conducting Fluids with Internal Variables. *General Relativity and Gravitation*, **2001**, 33, 1427-1447	2.3	
3	Local versus nonlocal constitutive theories of nonequilibrium thermodynamics: the GuyerKrumhansl equation as an example. *Zeitschrift Fur Angewandte Mathematik Und Physik*, **2021**, 72, 1	1.6	
2	Heat Transport with Phonons and Electrons and Efficiency of Thermoelectric Generators. *SEMA SIMAI Springer Series*, **2016**, 133-166	0.2	
1	Weakly Nonlocal and Nonlinear Heat Transport. *SEMA SIMAI Springer Series*, **2016**, 109-132	0.2	