

James M Hill

List of Publications by Citations

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107
papers

1,437
citations

19
h-index

33
g-index

115
ext. papers

1,554
ext. citations

2.3
avg, IF

5.12
L-index

#	Paper	IF	Citations
107	Mechanics of atoms and fullerenes in single-walled carbon nanotubes. I. Acceptance and suction energies. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2007 , 463, 461-477	2.4	149
106	Mechanics of atoms and fullerenes in single-walled carbon nanotubes. II. Oscillatory behaviour. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2007 , 463, 477-494	2.4	115
105	Modelling the encapsulation of the anticancer drug cisplatin into carbon nanotubes. <i>Nanotechnology</i> , 2007 , 18, 275704	3.4	89
104	Determination of nanolayer thickness for a nanofluid. <i>International Communications in Heat and Mass Transfer</i> , 2007 , 34, 399-407	5.8	69
103	Force distribution for double-walled carbon nanotubes and gigahertz oscillators. <i>Zeitschrift Fur Angewandte Mathematik Und Physik</i> , 2007 , 58, 857-875	1.6	58
102	Orbiting atoms and C60 fullerenes inside carbon nanotori. <i>Journal of Applied Physics</i> , 2007 , 101, 064319	2.5	50
101	Exact and approximate geometric parameters for carbon nanotubes incorporating curvature. <i>Carbon</i> , 2007 , 45, 1453-1462	10.4	49
100	Oscillating carbon nanotori along carbon nanotubes. <i>Physical Review B</i> , 2007 , 75,	3.3	42
99	Continuous versus discrete for interacting carbon nanostructures. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2007 , 40, 3851-3868	2	36
98	Flow around nanospheres and nanocylinders. <i>Quarterly Journal of Mechanics and Applied Mathematics</i> , 2006 , 59, 191-210	1	33
97	Instability of C ₆₀ fullerene interacting with lipid bilayer. <i>Journal of Molecular Modeling</i> , 2012 , 18, 549-57	2	31
96	Einstein's special relativity beyond the speed of light. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2012 , 468, 4174-4192	2.4	29
95	Encapsulation of methane molecules into carbon nanotubes. <i>Physica B: Condensed Matter</i> , 2011 , 406, 88-93	2.8	24
94	Encapsulation of C60 fullerenes into single-walled carbon nanotubes: Fundamental mechanical principles and conventional applied mathematical modeling. <i>Physical Review B</i> , 2007 , 76,	3.3	24
93	Some similarity temperature profiles for the microwave heating of a half-space 1992 , 33, 290-320		22
92	Nanotube bundle oscillators: Carbon and boron nitride nanostructures. <i>Physica B: Condensed Matter</i> , 2009 , 404, 3906-3910	2.8	21
91	Geometric structure of ultra-small carbon nanotubes. <i>Carbon</i> , 2008 , 46, 711-713	10.4	21

90	Analysis of flux flow and the formation of oscillation marks in the continuous caster. <i>Journal of Engineering Mathematics</i> , 1999 , 36, 311-326	1.2	21
89	Oscillation of nested fullerenes (carbon onions) in carbon nanotubes. <i>Journal of Nanoparticle Research</i> , 2008 , 10, 665-677	2.3	20
88	New Carbon Molecules in the Form of Elbow-Connected Nanotube. <i>Journal of Physical Chemistry C</i> , 2007 , 111, 10855-10860	3.8	18
87	Mechanics of spheroidal fullerenes and carbon nanotubes for drug and gene delivery. <i>Quarterly Journal of Mechanics and Applied Mathematics</i> , 2007 , 60, 231-253	1	18
86	Adsorption of polycyclic aromatic hydrocarbons on graphite surfaces. <i>Computational Materials Science</i> , 2010 , 49, S307-S312	3.2	17
85	Electric field-induced force between two identical uncharged spheres. <i>Applied Physics Letters</i> , 2006 , 88, 152903	3.4	16
84	Mechanics of fullerenes oscillating in carbon nanotube bundles. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2007 , 40, 13197-13208	2	16
83	Micro/nano thermal boundary layer equations with slip boundary conditions. <i>IMA Journal of Applied Mathematics</i> , 2007 , 72, 894-911	1	16
82	Carbon nanotube as traps for atoms and ions. <i>Physica B: Condensed Matter</i> , 2012 , 407, 3479-3483	2.8	15
81	Equilibrium locations for nested carbon nanocones. <i>Journal of Mathematical Chemistry</i> , 2008 , 43, 1489-1504	1.5	15
80	Cylindrical cavities and classical rat-hole theory occurring in bulk materials. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , 2000 , 24, 971-990	4	15
79	Some exact velocity profiles for granular flow in converging hoppers. <i>Zeitschrift Fur Angewandte Mathematik Und Physik</i> , 2005 , 56, 92-106	1.6	13
78	Non-dilatant double-shearing theory applied to granular funnel-flow in hoppers. <i>Journal of Engineering Mathematics</i> , 2001 , 41, 55-73	1.2	13
77	On the derivation of first integrals for similarity solutions. <i>Journal of Engineering Mathematics</i> , 1991 , 25, 287-299	1.2	13
76	Orientation of a benzene molecule inside a carbon nanotube. <i>Journal of Mathematical Chemistry</i> , 2011 , 49, 1115-1127	2.1	11
75	Zigzag and spiral configurations for fullerenes in carbon nanotubes. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2007 , 40, 7543-7556	2	11
74	A novel finite element method for heat transfer in the continuous caster 1994 , 35, 263-288		11
73	Lubrication analysis of the viscous micro/nano pump with slip. <i>Microfluidics and Nanofluidics</i> , 2008 , 4, 439-449	2.8	10

72	Micro/nano sliding plate problem with Navier boundary condition. <i>Zeitschrift Fur Angewandte Mathematik Und Physik</i> , 2006 , 57, 875-903	1.6	10
71	The Stefan problem in nonlinear heat conduction. <i>Zeitschrift Fur Angewandte Mathematik Und Physik</i> , 1986 , 37, 206-229	1.6	10
70	A discrete random walk model for diffusion in media with double diffusivity 1980 , 22, 58-74		10
69	Carbon nanotori and nanotubes encapsulating carbon atomic-chains. <i>Journal of Mathematical Chemistry</i> , 2014 , 52, 1817-1830	2.1	9
68	DNA adsorption on graphene. <i>European Physical Journal D</i> , 2013 , 67, 1	1.3	9
67	Modelling the interaction in a benzene dimer. <i>Philosophical Magazine</i> , 2010 , 90, 1771-1785	1.6	9
66	On three simple experiments to determine slip lengths. <i>Microfluidics and Nanofluidics</i> , 2009 , 6, 611-619	2.8	9
65	Toroidal molecules formed from three distinct carbon nanotubes. <i>Journal of Mathematical Chemistry</i> , 2008 , 44, 515-527	2.1	9
64	Some further comments on special relativity and dark energy. <i>Zeitschrift Fur Angewandte Mathematik Und Physik</i> , 2019 , 70, 1	1.6	9
63	On the formal origins of dark energy. <i>Zeitschrift Fur Angewandte Mathematik Und Physik</i> , 2018 , 69, 1	1.6	9
62	Special relativity, de Broglie waves, dark energy and quantum mechanics. <i>Zeitschrift Fur Angewandte Mathematik Und Physik</i> , 2019 , 70, 1	1.6	8
61	Discrete and Continuous Approximations for Nanobuds. <i>Fullerenes Nanotubes and Carbon Nanostructures</i> , 2010 , 18, 160-177	1.8	8
60	Silicon nanotubes with distinct bond lengths. <i>Journal of Mathematical Chemistry</i> , 2010 , 47, 569-589	2.1	8
59	Encapsulation of the anticancer drug cisplatin into nanotubes 2008 ,		8
58	Stress profiles for tapered cylindrical cavities in granular media. <i>International Journal of Solids and Structures</i> , 2001 , 38, 3795-3811	3.1	8
57	A Review of Geometry, Construction and Modelling for Carbon Nanotori. <i>Applied Sciences (Switzerland)</i> , 2019 , 9, 2301	2.6	7
56	General Model for Molecular Interactions in a Benzene Dimer. <i>Mathematics and Mechanics of Solids</i> , 2010 , 15, 782-799	2.3	7
55	Modelling Gas Separation in Porous Membranes 2010 , 85-109		7

54	Encapsulation of L-Histidine Amino Acid Inside Single-Walled Carbon Nanotubes. <i>Journal of Biomaterials and Tissue Engineering</i> , 2016 , 6, 362-369	0.3	7
53	A review of de Broglie particle-wave mechanical systems. <i>Mathematics and Mechanics of Solids</i> , 2020 , 25, 1763-1777	2.3	6
52	Perturbation solutions for highly frictional granular media. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2005 , 461, 21-42	2.4	6
51	Stress distributions in highly frictional granular heaps. <i>Zeitschrift Fur Angewandte Mathematik Und Physik</i> , 2004 , 55, 330-356	1.6	6
50	Interaction energy for a fullerene encapsulated in a carbon nanotorus. <i>Zeitschrift Fur Angewandte Mathematik Und Physik</i> , 2018 , 69, 1	1.6	5
49	Electrostatic force between coated conducting spheres with applications to electrorheological nanofluids. <i>Journal of Electrostatics</i> , 2007 , 65, 680-688	1.7	5
48	Effect of slip on the linear stability of flow through a tube. <i>Zeitschrift Fur Angewandte Mathematik Und Physik</i> , 2008 , 59, 360-379	1.6	5
47	Maximising the electrorheological effect for bidisperse nanofluids from the electrostatic force between two particles. <i>Rheologica Acta</i> , 2006 , 45, 909-917	2.3	5
46	New stress and velocity fields for highly frictional granular materials. <i>IMA Journal of Applied Mathematics</i> , 2004 , 70, 92-118	1	5
45	Generalized shear deformations for isotropic incompressible hyperelastic materials 1977 , 20, 129-141		5
44	A mechanical model for dark matter and dark energy. <i>Zeitschrift Fur Angewandte Mathematik Und Physik</i> , 2021 , 72, 1	1.6	5
43	Continuum Modelling for Interacting Coronene Molecules with a Carbon Nanotube. <i>Nanomaterials</i> , 2020 , 10,	5.4	4
42	Asymptotic analysis of the viscous micro/nano pump at low Reynolds number. <i>Journal of Engineering Mathematics</i> , 2009 , 63, 279-292	1.2	4
41	Mechanics of nanoscale orbiting systems. <i>Journal of Mathematical Chemistry</i> , 2009 , 46, 1271-1291	2.1	4
40	The symmetrical adhesive contact problem for circular elastic cylinders. <i>Journal of Elasticity</i> , 1992 , 27, 1-36	1.5	4
39	THE PRESSURE DISTRIBUTION FOR SYMMETRICAL CONTACT OF CIRCULAR ELASTIC CYLINDERS. <i>Quarterly Journal of Mechanics and Applied Mathematics</i> , 1989 , 42, 581-604	1	4
38	On pseudo-plane deformations for the neo-Hookean material. <i>Zeitschrift Fur Angewandte Mathematik Und Physik</i> , 1986 , 37, 104-113	1.6	4
37	Four states of matter and centrally symmetric de Broglie particle-wave mechanical systems. <i>Mathematics and Mechanics of Solids</i> , 2021 , 26, 263-284	2.3	4

- 36 Equilibrium location for spherical DNA and toroidal cyclodextrin. *Applied Nanoscience (Switzerland)*, **2018**, 8, 537-544 3.3 4
- 35 Electronic properties of carbon nanotubes with distinct bond lengths. *Journal of Applied Physics*, **2010**, 107, 023511 2.5 3
- 34 A carbon atom orbiting around the outside of a carbon nanotube **2008**, 3
- 33 On an infinite integral arising in the numerical integration of stochastic differential equations. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, **2005**, 461, 397-413 2.4 3
- 32 Nonlinear Plane Waves in Finite Deformable Infinite Mooney Elastic Materials. *Journal of Elasticity*, **2002**, 67, 71-80 1.5 3
- 31 Finite elastic non-symmetrical inflation and eversion of circular cylindrical rubber tubes. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, **1999**, 455, 1067-1082 2.4 3
- 30 On the problem of uncoupling systems of linear differential equations **1989**, 30, 483-501 3
- 29 Reduced equilibrium equations for perfectly elastic materials. *Journal of Elasticity*, **1982**, 12, 153-158 1.5 3
- 28 Load-deflection relations of long cylindrical rubber bush mountings constructed from rectangular blocks. *Journal of Applied Polymer Science*, **1977**, 21, 1459-1467 2.9 3
- 27 Joining a carbon nanotube and a graphene sheet **2008**, 2
- 26 Carbon molecules oscillating in carbon nanotube bundles **2008**, 2
- 25 Asymptotic Axially Symmetric Deformations for Perfectly Elastic Neo-Hookean and Mooney Materials. *Journal of Elasticity*, **2007**, 86, 113-137 1.5 2
- 24 Force Distribution for Double-Walled Carbon Nanotubes **2006**, 2
- 23 Symmetry analysis for uniaxial compression of a hypoplastic granular material. *Zeitschrift Fur Angewandte Mathematik Und Physik*, **2005**, 56, 1061-1083 1.6 2
- 22 On the General Structure of Small on Large Problems for Elastic Deformations of Varga Materials I: Plane Strain Deformations. *Journal of Elasticity*, **1999**, 54, 193-212 1.5 2
- 21 The combined compression and shear of a rectangular rubber block. *Zeitschrift Fur Angewandte Mathematik Und Physik*, **1992**, 43, 911-923 1.6 2
- 20 On Dankwerts' transformation for two variable coupled systems. *Bulletin of the Australian Mathematical Society*, **1990**, 41, 355-369 0.4 2
- 19 On the general random walk formulation for diffusion in media with Diffusivities **1985**, 27, 73-87 2

18	Bagnold velocity profile for steady-state dense granular chute flow with base slip. <i>Rheologica Acta</i> , 2022 , 61, 207-214	2.3	2
17	Modeling Interactions between Graphene and Heterogeneous Molecules. <i>Computation</i> , 2020 , 8, 107	2.2	2
16	Optimal configurations for interacting carbon nanotori. <i>Applied Nanoscience (Switzerland)</i> , 2019 , 9, 225-233	2.3	2
15	Generalized transformations and coordinates for static spherically symmetric general relativity. <i>Royal Society Open Science</i> , 2018 , 5, 171109	3.3	2
14	Carbon Nanocones with Curvature Effects Close to the Vertex. <i>Nanomaterials</i> , 2018 , 8,	5.4	2
13	The effect of non-covalent functionalization on the interaction energy of carbon nanotubes. <i>Journal of Physics Communications</i> , 2019 , 3, 035018	1.2	1
12	Generalised Einstein mass-variation formulae: I Subluminal relative frame velocities. <i>Results in Physics</i> , 2016 , 6, 112-121	3.7	1
11	Composite Multiwalled Carbon Nanotubes as Memory Devices and Logic Gates. <i>Journal of Nanotechnology in Engineering and Medicine</i> , 2012 , 3,		1
10	Polyhedral model for boron nitride nanotubes 2009 ,		1
9	Curve Fitting, Differential Equations And The Riemann Hypothesis. <i>Ramanujan Journal</i> , 2005 , 9, 357-372	0.7	1
8	On an analogy between plane finite elastic deformations and certain magnetohydrodynamic flows. <i>Zeitschrift Fur Angewandte Mathematik Und Physik</i> , 1984 , 35, 24-33	1.6	1
7	Elastic and Particulate Media. <i>Journal of the Engineering Mechanics Division</i> , 1982 , 108, 596-604		1
6	Interacting Ru(bpy) ₃ ²⁺ Dye Molecules and TiO ₂ Semiconductor in Dye-Sensitized Solar Cells. <i>Mathematics</i> , 2020 , 8, 841	2.3	1
5	Laplace transforms and the Riemann zeta function. <i>Integral Transforms and Special Functions</i> , 2007 , 18, 193-205	1	0
4	Steady-state similarity velocity profiles for dense granular flow down inclined chutes. <i>Granular Matter</i> , 2021 , 23, 1	2.6	0
3	Einstein's energy and space isotropy. <i>Zeitschrift Fur Angewandte Mathematik Und Physik</i> , 2022 , 73, 1	1.6	0
2	DESIGN OF A NANOTORI-METALLOFULLERENE LOGIC GATE. <i>ANZIAM Journal</i> , 2015 , 57, 29-42	0.5	
1	A two-stage heat transfer model for the peripheral layers of a grain store. <i>Journal of Applied Mathematics and Decision Sciences</i> , 2003 , 7, 147-164		

