

Walt A De Heer

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113
papers

37,008
citations

58
h-index

120
g-index

120
ext. papers

39,165
ext. citations

9.6
avg, IF

7.08
L-index

#	Paper	IF	Citations
113	Carbon nanotubes--the route toward applications. <i>Science</i> , 2002 , 297, 787-92	33.3	8570
112	Electronic confinement and coherence in patterned epitaxial graphene. <i>Science</i> , 2006 , 312, 1191-6	33.3	4701
111	Ultrathin Epitaxial Graphite: 2D Electron Gas Properties and a Route toward Graphene-based Nanoelectronics. <i>Journal of Physical Chemistry B</i> , 2004 , 108, 19912-19916	3.4	2820
110	The physics of simple metal clusters: experimental aspects and simple models. <i>Reviews of Modern Physics</i> , 1993 , 65, 611-676	40.5	2534
109	Electronic Shell Structure and Abundances of Sodium Clusters. <i>Physical Review Letters</i> , 1984 , 52, 2141-2143	14.3	2030
108	Carbon nanotube quantum resistors. <i>Science</i> , 1998 , 280, 1744-6	33.3	1701
107	Electrostatic deflections and electromechanical resonances of carbon nanotubes. <i>Science</i> , 1999 , 283, 1513-6	33.3	1617
106	Epitaxial graphene. <i>Solid State Communications</i> , 2007 , 143, 92-100	1.6	733
105	Chemical modification of epitaxial graphene: spontaneous grafting of aryl groups. <i>Journal of the American Chemical Society</i> , 2009 , 131, 1336-7	16.4	722
104	Aligned carbon nanotube films: production and optical and electronic properties. <i>Science</i> , 1995 , 268, 845-7	33.3	637
103	Field emission from single-wall carbon nanotube films. <i>Applied Physics Letters</i> , 1998 , 73, 918-920	3.4	610
102	Exceptional ballistic transport in epitaxial graphene nanoribbons. <i>Nature</i> , 2014 , 506, 349-54	50.4	439
101	Magnetic moments of iron clusters with 25 to 700 atoms and their dependence on temperature. <i>Physical Review Letters</i> , 1993 , 71, 4067-4070	7.4	394
100	Observing the quantization of zero mass carriers in graphene. <i>Science</i> , 2009 , 324, 924-7	33.3	375
99	Ultrafast relaxation of excited Dirac fermions in epitaxial graphene using optical differential transmission spectroscopy. <i>Physical Review Letters</i> , 2008 , 101, 157402	7.4	364
98	Electronic Shell Structure and Metal Clusters. <i>Solid State Physics</i> , 1987 , 40, 93-181	2	354
97	Polarizability of alkali clusters. <i>Physical Review B</i> , 1985 , 31, 2539-2540	3.3	352

96	. <i>IEEE Transactions on Electron Devices</i> , 2008 , 55, 2078-2085	2.9	350
95	Large area and structured epitaxial graphene produced by confinement controlled sublimation of silicon carbide. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011 , 108, 16900-5	11.5	341
94	Highly efficient spin transport in epitaxial graphene on SiC. <i>Nature Physics</i> , 2012 , 8, 557-561	16.2	338
93	Collective dipole oscillations in small sodium clusters. <i>Physical Review Letters</i> , 1987 , 59, 1805-1808	7.4	309
92	Spin relaxation in small free iron clusters. <i>Physical Review Letters</i> , 1990 , 65, 488-491	7.4	302
91	Weak antilocalization in epitaxial graphene: evidence for chiral electrons. <i>Physical Review Letters</i> , 2007 , 98, 136801	7.4	296
90	Carbon anions produced by heat treatment of carbon soot and their relation to the 217.5 nm interstellar absorption feature. <i>Chemical Physics Letters</i> , 1993 , 207, 480-486	2.5	272
89	Epitaxial-graphene/graphene-oxide junction: an essential step towards epitaxial graphene electronics. <i>Physical Review Letters</i> , 2008 , 101, 026801	7.4	265
88	Surface plasma resonances in free metal clusters. <i>Physical Review B</i> , 1989 , 40, 5417-5427	3.3	260
87	Purification and size-selection of carbon nanotubes. <i>Advanced Materials</i> , 1997 , 9, 827-831	24	255
86	Field emission properties of multiwalled carbon nanotubes. <i>Ultramicroscopy</i> , 1998 , 73, 7-15	3.1	222
85	Magnetism of Fe, Co and Ni clusters in molecular beams. <i>Journal of Magnetism and Magnetic Materials</i> , 1997 , 168, 64-84	2.8	198
84	Photoabsorption spectra of sodium clusters. <i>Physical Review B</i> , 1991 , 43, 4565-4572	3.3	198
83	Room Temperature Ballistic Conduction in Carbon Nanotubes. <i>Journal of Physical Chemistry B</i> , 2002 , 106, 12104-12118	3.4	191
82	Photoionization and shell structure of potassium clusters. <i>Physical Review B</i> , 1985 , 32, 1366-1368	3.3	181
81	Epitaxial Graphenes on Silicon Carbide. <i>MRS Bulletin</i> , 2010 , 35, 296-305	3.2	164
80	In situ imaging of field emission from individual carbon nanotubes and their structural damage. <i>Applied Physics Letters</i> , 2002 , 80, 856-858	3.4	164
79	Electronic shell structure in potassium clusters. <i>Solid State Communications</i> , 1985 , 53, 445-446	1.6	163

78	Magnetic moments and adiabatic magnetization of free cobalt clusters. <i>Physical Review Letters</i> , 2005 , 95, 237209	7.4	152
77	Nonjellium-to-jellium transition in aluminum cluster polarizabilities. <i>Physical Review Letters</i> , 1989 , 63, 2834-2836	7.4	151
76	High-resolution tunnelling spectroscopy of a graphene quartet. <i>Nature</i> , 2010 , 467, 185-9	50.4	149
75	Field-Emission-Induced Luminescence from Carbon Nanotubes. <i>Physical Review Letters</i> , 1998 , 81, 1441-1444	14.4	135
74	Nanotubes and the Pursuit of Applications. <i>MRS Bulletin</i> , 2004 , 29, 281-285	3.2	133
73	Physics of metal clusters. <i>The Journal of Physical Chemistry</i> , 1987 , 91, 3141-3149		130
72	Record maximum oscillation frequency in C-face epitaxial graphene transistors. <i>Nano Letters</i> , 2013 , 13, 942-7	11.5	128
71	Structural analysis of multilayer graphene via atomic moiré interferometry. <i>Physical Review B</i> , 2010 , 81,	3.3	128
70	Half integer quantum Hall effect in high mobility single layer epitaxial graphene. <i>Applied Physics Letters</i> , 2009 , 95, 223108	3.4	128
69	Ferroelectricity in free niobium clusters. <i>Science</i> , 2003 , 300, 1265-9	33.3	121
68	Magnetic anisotropies of aligned carbon nanotubes. <i>Physical Review B</i> , 1995 , 52, R6963-R6966	3.3	115
67	Epitaxial graphene electronic structure and transport. <i>Journal Physics D: Applied Physics</i> , 2010 , 43, 374003	3	104
66	Coherent control of ballistic photocurrents in multilayer epitaxial graphene using quantum interference. <i>Nano Letters</i> , 2010 , 10, 1293-6	11.5	102
65	Large ion volume time-of-flight mass spectrometer with position- and velocity-sensitive detection capabilities for cluster beams. <i>Review of Scientific Instruments</i> , 1991 , 62, 670-677	1.7	98
64	Spectroscopic measurement of interlayer screening in multilayer epitaxial graphene. <i>Physical Review Letters</i> , 2010 , 104, 136802	7.4	93
63	Liquid carbon, carbon-glass beads, and the crystallization of carbon nanotubes. <i>Science</i> , 2005 , 307, 907-10	33.3	80
62	Hall effect and magnetoresistance of carbon nanotube films. <i>Physical Review B</i> , 1997 , 55, 6704-6707	3.3	76
61	Real-space mapping of magnetically quantized graphene states. <i>Nature Physics</i> , 2010 , 6, 811-817	16.2	73

60	Nonperturbative chemical modification of graphene for protein micropatterning. <i>Langmuir</i> , 2011 , 27, 863-5	4	72
59	Alkali metal clusters and the jellium model. <i>Chemical Physics Letters</i> , 1987 , 134, 1-5	2.5	69
58	Room-temperature magnetic ordering in functionalized graphene. <i>Scientific Reports</i> , 2012 , 2, 624	4.9	67
57	Shell structure and response properties of metal clusters. <i>Zeitschrift Für Physik D-Atoms Molecules and Clusters</i> , 1986 , 3, 109-114		67
56	Effect of nitrophenyl functionalization on the magnetic properties of epitaxial graphene. <i>Small</i> , 2011 , 7, 1175-80	11	57
55	Microscopic origins of the terahertz carrier relaxation and cooling dynamics in graphene. <i>Nature Communications</i> , 2016 , 7, 11617	17.4	54
54	Atomic structure of epitaxial graphene sidewall nanoribbons: flat graphene, miniribbons, and the confinement gap. <i>Nano Letters</i> , 2015 , 15, 182-9	11.5	51
53	Spin uncoupling in free Nb clusters: support for nascent superconductivity. <i>Physical Review Letters</i> , 2004 , 93, 086803	7.4	49
52	Epitaxial graphene on silicon carbide: Introduction to structured graphene. <i>MRS Bulletin</i> , 2012 , 37, 1138-1147	3.147	47
51	Chemically engineered graphene-based 2D organic molecular magnet. <i>ACS Nano</i> , 2013 , 7, 10011-22	16.7	43
50	Experimental and theoretical electric dipole polarizabilities of Al and Al ₂ . <i>Physical Review A</i> , 1990 , 42, 5150-5154	2.6	39
49	Current relaxation due to hot carrier scattering in graphene. <i>New Journal of Physics</i> , 2012 , 14, 105012	2.9	37
48	Measurement of magnetic moments of free BiNMnM clusters. <i>Physical Review B</i> , 2005 , 72,	3.3	37
47	Metastability of free cobalt and iron clusters: a possible precursor to bulk ferromagnetism. <i>Physical Review Letters</i> , 2011 , 107, 057203	7.4	32
46	ESR study of potassium-doped aligned carbon nanotubes. <i>Physical Review B</i> , 1996 , 53, 13996-13999	3.3	30
45	Relative thermometer for neutral clusters produced in laser-vaporization sources. <i>Physical Review B</i> , 1991 , 44, 8346-8348	3.3	30
44	Electronic Shell Structure and Abundances of Sodium Clusters. <i>Physical Review Letters</i> , 1984 , 53, 510-510	7.4	29
43	Top- and side-gated epitaxial graphene field effect transistors. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2010 , 207, 286-290	1.6	28

42	Structured epitaxial graphene: growth and properties. <i>Journal Physics D: Applied Physics</i> , 2012 , 45, 154010	10	27
41	Comment on "Photoionization of mass-selected Kn+ ions: A test for the ionization scaling law". <i>Physical Review Letters</i> , 1990 , 65, 3356	7.4	26
40	Distribution of magnetization of a cold ferromagnetic cluster beam. <i>Physical Review B</i> , 2008 , 78,	3.3	25
39	Dirac Particles in Epitaxial Graphene Films Grown on SiC. <i>Advances in Solid State Physics</i> , 2008 , 145-157		24
38	Planar edge Schottky barrier-tunneling transistors using epitaxial graphene/SiC junctions. <i>Nano Letters</i> , 2014 , 14, 5170-5	11.5	23
37	Electronic cooling via interlayer Coulomb coupling in multilayer epitaxial graphene. <i>Nature Communications</i> , 2015 , 6, 8105	17.4	21
36	Local work function measurements of plasma-fluorinated epitaxial graphene. <i>Applied Physics Letters</i> , 2014 , 104, 081607	3.4	21
35	Magnetic properties of iron clusters in a molecular beam: resolution of a controversy. <i>Zeitschrift für Physik D-Atoms Molecules and Clusters</i> , 1993 , 26, 325-327		20
34	Evidence for interlayer electronic coupling in multilayer epitaxial graphene from polarization-dependent coherently controlled photocurrent generation. <i>Physical Review B</i> , 2012 , 85,	3.3	19
33	Epitaxial graphene: A new electronic material for the 21st century. <i>MRS Bulletin</i> , 2011 , 36, 632-639	3.2	19
32	Measured atomic ground-state polarizabilities of 35 metallic elements. <i>Physical Review A</i> , 2015 , 91,	2.6	18
31	Multiferroic rhodium clusters. <i>Physical Review Letters</i> , 2014 , 113, 157203	7.4	17
30	Magnetotransport in high mobility epitaxial graphene. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2007 , 204, 1746-1750	1.6	17
29	Magnetic properties of small iron systems: from ferromagnetic resonance of precipitated particles in silica to Stern-Gerlach deflections in molecular beam. <i>Journal of Non-Crystalline Solids</i> , 1994 , 179, 316-323	3.9	17
28	Enhanced photosensitivity of electro-oxidized epitaxial graphene. <i>Applied Physics Letters</i> , 2011 , 98, 093114	1.5	16
27	Nonclassical dipoles in cold niobium clusters. <i>Physical Review B</i> , 2007 , 75,	3.3	15
26	Hot carrier cooling by acoustic phonons in epitaxial graphene by ultrafast pump-probe spectroscopy. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2011 , 8, 1194-1197		14
25	Pionics: the Emerging Science and Technology of Graphene-based Nanoelectronics 2007 ,		14

24	Structured epitaxial graphene growth on SiC by selective graphitization using a patterned AlN cap. <i>Applied Physics Letters</i> , 2010 , 96, 082112	3.4	13
23	Electron Pairing in Ferroelectric Niobium and Niobium Alloy Clusters. <i>Journal of Superconductivity and Novel Magnetism</i> , 2008 , 21, 265-269	1.5	12
22	Wafer bonding solution to epitaxial graphene-silicon integration. <i>Journal Physics D: Applied Physics</i> , 2014 , 47, 094001	3	11
21	Quenching of the quantum Hall effect in multilayered epitaxial graphene: the role of undoped planes. <i>Physical Review Letters</i> , 2008 , 101, 116806	7.4	11
20	Recent developments in carbon nanotubes. <i>Current Opinion in Solid State and Materials Science</i> , 1999 , 4, 355-359	12	11
19	Controlled epitaxial graphene growth within removable amorphous carbon corrals. <i>Applied Physics Letters</i> , 2014 , 105, 023106	3.4	10
18	The invention of graphene electronics and the physics of epitaxial graphene on silicon carbide. <i>Physica Scripta</i> , 2012 , T146, 014004	2.6	10
17	X-ray radiation effects in multilayer epitaxial graphene. <i>Applied Physics Letters</i> , 2011 , 99, 232102	3.4	10
16	Nanoselective area growth of GaN by metalorganic vapor phase epitaxy on 4H-SiC using epitaxial graphene as a mask. <i>Applied Physics Letters</i> , 2016 , 108, 103105	3.4	9
15	Confinement and Size Effects in Free Metal Clusters. <i>Springer Series in Cluster Physics</i> , 2000 , 1-35		7
14	Scalable control of graphene growth on 4H-SiC C-face using decomposing silicon nitride masks. <i>Journal Physics D: Applied Physics</i> , 2015 , 48, 152001	3	5
13	Unusual Temperature Dependence of Magnetization and Possible Magnetic Noncollinearity in Tm and Pr Clusters. <i>Journal of Physical Chemistry C</i> , 2015 , 119, 11153-11159	3.8	5
12	Highly Ordered Boron Nitride/Epigraphene Epitaxial Films on Silicon Carbide by Lateral Epitaxial Deposition. <i>ACS Nano</i> , 2020 , 14, 12962-12971	16.7	5
11	Flat and safe under the graphene sheet. <i>Nature Materials</i> , 2020 , 19, 583-584	27	4
10	Ultrafast dynamics and interlayer thermal coupling of hot carriers in epitaxial graphene. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2009 , 6, 470-473		4
9	Non-Invasive Nanoscale Potentiometry and Ballistic Transport in Epigraphene Nanoribbons. <i>Nano Letters</i> , 2020 , 20, 3786-3790	11.5	4
8	Structured epitaxial graphene on SiC 2012 ,		1
7	Optical Response of Carbon Nanotubes 1999 , 89-106		1

6	Magnetic Properties of Small Transition Metal Clusters in a Molecular Beam 1994 , 9-19		1
5	Shell Structure and Response Properties of Metal Clusters 1986 , 9-14		1
4	Spectroscopy of metal clusters. <i>Lecture Notes in Physics</i> , 1987 , 15-24	0.8	1
3	Surface and crystal field effects on the metallic properties of small systems. <i>Physica Scripta</i> , 1991 , T35, 150-153	2.6	
2	Conducting forms of Carbon 1999 , 390-439		
1	Ultrafast Relaxation of Excited Dirac Fermions in Epitaxial Graphene. <i>Springer Series in Chemical Physics</i> , 2009 , 265-267	0.3	