

# Walt A De Heer

## List of Publications by Year in descending order

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120  
papers

40,960  
citations

19636

61  
h-index

26591

107  
g-index

120  
all docs

120  
docs citations

120  
times ranked

31959  
citing authors

#	ARTICLE	IF	CITATIONS
1	Carbon Nanotubes--the Route Toward Applications. Science, 2002, 297, 787-792.	6.0	9,458
2	Electronic Confinement and Coherence in Patterned Epitaxial Graphene. Science, 2006, 312, 1191-1196.	6.0	5,140
3	Ultrathin Epitaxial Graphite: 2D Electron Gas Properties and a Route toward Graphene-based Nanoelectronics. Journal of Physical Chemistry B, 2004, 108, 19912-19916.	1.2	3,179
4	The physics of simple metal clusters: experimental aspects and simple models. Reviews of Modern Physics, 1993, 65, 611-676.	16.4	2,739
5	Electronic Shell Structure and Abundances of Sodium Clusters. Physical Review Letters, 1984, 52, 2141-2143.	2.9	2,227
6	Carbon Nanotube Quantum Resistors. Science, 1998, 280, 1744-1746.	6.0	1,904
7	Electrostatic Deflections and Electromechanical Resonances of Carbon Nanotubes. Science, 1999, 283, 1513-1516.	6.0	1,790
8	Epitaxial graphene. Solid State Communications, 2007, 143, 92-100.	0.9	857
9	Chemical Modification of Epitaxial Graphene: Spontaneous Grafting of Aryl Groups. Journal of the American Chemical Society, 2009, 131, 1336-1337.	6.6	782
10	Aligned Carbon Nanotube Films: Production and Optical and Electronic Properties. Science, 1995, 268, 845-847.	6.0	706
11	Field emission from single-wall carbon nanotube films. Applied Physics Letters, 1998, 73, 918-920.	1.5	674
12	Exceptional ballistic transport in epitaxial graphene nanoribbons. Nature, 2014, 506, 349-354.	13.7	508
13	Observing the Quantization of Zero Mass Carriers in Graphene. Science, 2009, 324, 924-927.	6.0	431
14	Ultrafast Relaxation of Excited Dirac Fermions in Epitaxial Graphene Using Optical Differential Transmission Spectroscopy. Physical Review Letters, 2008, 101, 157402.	2.9	427
15	Magnetic moments of iron clusters with 25 to 700 atoms and their dependence on temperature. Physical Review Letters, 1993, 71, 4067-4070.	2.9	424
16	Electronic Shell Structure and Metal Clusters. Solid State Physics, 1987, 40, 93-181.	1.3	407
17	Large area and structured epitaxial graphene produced by confinement controlled sublimation of silicon carbide. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 16900-16905.	3.3	395
18	Highly efficient spin transport in epitaxial graphene on SiC. Nature Physics, 2012, 8, 557-561.	6.5	392

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19	Epitaxial Graphene Transistors on SiC Substrates. IEEE Transactions on Electron Devices, 2008, 55, 2078-2085.	1.6	387
20	Polarizability of alkali clusters. Physical Review B, 1985, 31, 2539-2540.	1.1	367
21	Spin relaxation in small free iron clusters. Physical Review Letters, 1990, 65, 488-491.	2.9	333
22	Collective dipole oscillations in small sodium clusters. Physical Review Letters, 1987, 59, 1805-1808.	2.9	323
23	Weak Antilocalization in Epitaxial Graphene: Evidence for Chiral Electrons. Physical Review Letters, 2007, 98, 136801.	2.9	316
24	Carbon onions produced by heat treatment of carbon soot and their relation to the 217.5 nm interstellar absorption feature. Chemical Physics Letters, 1993, 207, 480-486.	1.2	303
25	Epitaxial-Graphene/Graphene-Oxide Junction: An Essential Step towards Epitaxial Graphene Electronics. Physical Review Letters, 2008, 101, 026801.	2.9	288
26	Purification and size-selection of carbon nanotubes. Advanced Materials, 1997, 9, 827-831.	11.1	277
27	Surface plasma resonances in free metal clusters. Physical Review B, 1989, 40, 5417-5427.	1.1	268
28	Field emission properties of multiwalled carbon nanotubes. Ultramicroscopy, 1998, 73, 7-15.	0.8	244
29	Room Temperature Ballistic Conduction in Carbon Nanotubes. Journal of Physical Chemistry B, 2002, 106, 12104-12118.	1.2	231
30	Magnetism of Fe, Co and Ni clusters in molecular beams. Journal of Magnetism and Magnetic Materials, 1997, 168, 64-84.	1.0	212
31	Photoabsorption spectra of sodium clusters. Physical Review B, 1991, 43, 4565-4572.	1.1	204
32	Photoionization and shell structure of potassium clusters. Physical Review B, 1985, 32, 1366-1368.	1.1	192
33	In situ imaging of field emission from individual carbon nanotubes and their structural damage. Applied Physics Letters, 2002, 80, 856-858.	1.5	183
34	Epitaxial Graphenes on Silicon Carbide. MRS Bulletin, 2010, 35, 296-305.	1.7	180
35	Electron field emitters based on carbon nanotube films. Advanced Materials, 1997, 9, 87-89.	11.1	179
36	Electronic shell structure in potassium clusters. Solid State Communications, 1985, 53, 445-446.	0.9	171

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37	High-resolution tunnelling spectroscopy of a graphene quartet. <i>Nature</i> , 2010, 467, 185-189.	13.7	171
38	Magnetic Moments and Adiabatic Magnetization of Free Cobalt Clusters. <i>Physical Review Letters</i> , 2005, 95, 237209.	2.9	163
39	Nonjellium-to-jellium transition in aluminum cluster polarizabilities. <i>Physical Review Letters</i> , 1989, 63, 2834-2836.	2.9	156
40	Field-Emission-Induced Luminescence from Carbon Nanotubes. <i>Physical Review Letters</i> , 1998, 81, 1441-1444.	2.9	150
41	Nanotubes and the Pursuit of Applications. <i>MRS Bulletin</i> , 2004, 29, 281-285.	1.7	150
42	Physics of metal clusters. <i>The Journal of Physical Chemistry</i> , 1987, 91, 3141-3149.	2.9	148
43	Structural analysis of multilayer graphene via atomic moiré interferometry. <i>Physical Review B</i> , 2010, 81, .	1.1	146
44	Record Maximum Oscillation Frequency in C-Face Epitaxial Graphene Transistors. <i>Nano Letters</i> , 2013, 13, 942-947.	4.5	145
45	Half integer quantum Hall effect in high mobility single layer epitaxial graphene. <i>Applied Physics Letters</i> , 2009, 95, .	1.5	140
46	Ferroelectricity in Free Niobium Clusters. <i>Science</i> , 2003, 300, 1265-1269.	6.0	130
47	Magnetic anisotropies of aligned carbon nanotubes. <i>Physical Review B</i> , 1995, 52, R6963-R6966.	1.1	123
48	Coherent Control of Ballistic Photocurrents in Multilayer Epitaxial Graphene Using Quantum Interference. <i>Nano Letters</i> , 2010, 10, 1293-1296.	4.5	122
49	Epitaxial graphene electronic structure and transport. <i>Journal Physics D: Applied Physics</i> , 2010, 43, 374007.	1.3	119
50	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.	0.6	105
51	Spectroscopic Measurement of Interlayer Screening in Multilayer Epitaxial Graphene. <i>Physical Review Letters</i> , 2010, 104, 136802.	2.9	100
52	Hall effect and magnetoresistance of carbon nanotube films. <i>Physical Review B</i> , 1997, 55, 6704-6707.	1.1	87
53	Liquid Carbon, Carbon-Glass Beads, and the Crystallization of Carbon Nanotubes. <i>Science</i> , 2005, 307, 907-910.	6.0	86
54	Nonperturbative Chemical Modification of Graphene for Protein Micropatterning. <i>Langmuir</i> , 2011, 27, 863-865.	1.6	85

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55	Real-space mapping of magnetically quantized graphene states. <i>Nature Physics</i> , 2010, 6, 811-817.	6.5	79
56	Alkali metal clusters and the jellium model. <i>Chemical Physics Letters</i> , 1987, 134, 1-5.	1.2	73
57	Microscopic origins of the terahertz carrier relaxation and cooling dynamics in graphene. <i>Nature Communications</i> , 2016, 7, 11617.	5.8	73
58	Room-temperature Magnetic Ordering in Functionalized Graphene. <i>Scientific Reports</i> , 2012, 2, 624.	1.6	71
59	Shell structure and response properties of metal clusters. <i>Zeitschrift für Physik D-Atoms Molecules and Clusters</i> , 1986, 3, 109-114.	1.0	69
60	Atomic Structure of Epitaxial Graphene Sidewall Nanoribbons: Flat Graphene, Miniribbons, and the Confinement Gap. <i>Nano Letters</i> , 2015, 15, 182-189.	4.5	67
61	Effect of Nitrophenyl Functionalization on the Magnetic Properties of Epitaxial Graphene. <i>Small</i> , 2011, 7, 1175-1180.	5.2	65
62	Epitaxial graphene on silicon carbide: Introduction to structured graphene. <i>MRS Bulletin</i> , 2012, 37, 1138-1147.	1.7	56
63	Spin Uncoupling in Free Nb Clusters: Support for Nascent Superconductivity. <i>Physical Review Letters</i> , 2004, 93, 086803.	2.9	54
64	Chemically Engineered Graphene-Based 2D Organic Molecular Magnet. <i>ACS Nano</i> , 2013, 7, 10011-10022.	7.3	47
65	Experimental and theoretical electric dipole polarizabilities of Al and Al <sub>2</sub> . <i>Physical Review A</i> , 1990, 42, 5150-5154.	1.0	43
66	Current relaxation due to hot carrier scattering in graphene. <i>New Journal of Physics</i> , 2012, 14, 105012.	1.2	39
67	Measurement of magnetic moments of free Bi <sub>2</sub> NiMn clusters. <i>Physical Review B</i> , 2005, 72, .	1.1	38
68	Structured epitaxial graphene: growth and properties. <i>Journal Physics D: Applied Physics</i> , 2012, 45, 154010.	1.3	36
69	Metastability of Free Cobalt and Iron Clusters: A Possible Precursor to Bulk Ferromagnetism. <i>Physical Review Letters</i> , 2011, 107, 057203.	2.9	35
70	ESR study of potassium-doped aligned carbon nanotubes. <i>Physical Review B</i> , 1996, 53, 13996-13999.	1.1	32
71	Electronic Shell Structure and Abundances of Sodium Clusters. <i>Physical Review Letters</i> , 1984, 53, 510-510.	2.9	31
72	Relative thermometer for neutral clusters produced in laser-vaporization sources. <i>Physical Review B</i> , 1991, 44, 8346-8348.	1.1	30

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73	Top- and side-gated epitaxial graphene field effect transistors. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2010, 207, 286-290.	0.8	30
74	Distribution of magnetization of a cold ferromagnetic cluster beam. <i>Physical Review B</i> , 2008, 78, .	1.1	29
75	Comment on "Photoionization of mass-selected $Kn^+$ ions: A test for the ionization scaling law". <i>Physical Review Letters</i> , 1990, 65, 3356-3356.	2.9	28
76	Electronic cooling via interlayer Coulomb coupling in multilayer epitaxial graphene. <i>Nature Communications</i> , 2015, 6, 8105.	5.8	28
77	Measured atomic ground-state polarizabilities of 35 metallic elements. <i>Physical Review A</i> , 2015, 91, .	1.0	26
78	Dirac Particles in Epitaxial Graphene Films Grown on SiC. <i>Advances in Solid State Physics</i> , 2008, , 145-157.	0.8	25
79	Planar Edge Schottky Barrier-Tunneling Transistors Using Epitaxial Graphene/SiC Junctions. <i>Nano Letters</i> , 2014, 14, 5170-5175.	4.5	25
80	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.	1.0	22
81	Epitaxial graphene: A new electronic material for the 21st century. <i>MRS Bulletin</i> , 2011, 36, 632-639.	1.7	22
82	Enhanced photosensitivity of electro-oxidized epitaxial graphene. <i>Applied Physics Letters</i> , 2011, 98, .	1.5	21
83	Local work function measurements of plasma-fluorinated epitaxial graphene. <i>Applied Physics Letters</i> , 2014, 104, .	1.5	21
84	Pionics: the Emerging Science and Technology of Graphene-based Nanoelectronics. , 2007, , .		20
85	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.	1.5	19
86	Magnetotransport in high mobility epitaxial graphene. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2007, 204, 1746-1750.	0.8	19
87	Evidence for interlayer electronic coupling in multilayer epitaxial graphene from polarization-dependent coherently controlled photocurrent generation. <i>Physical Review B</i> , 2012, 85, .	1.1	19
88	Multiferroic Rhodium Clusters. <i>Physical Review Letters</i> , 2014, 113, 157203.	2.9	19
89	Nonclassical dipoles in cold niobium clusters. <i>Physical Review B</i> , 2007, 75, .	1.1	18
90	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.	0.8	15

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91	Nanoselective area growth of GaN by metalorganic vapor phase epitaxy on 4H-SiC using epitaxial graphene as a mask. Applied Physics Letters, 2016, 108, .	1.5	15
92	Recent developments in carbon nanotubes. Current Opinion in Solid State and Materials Science, 1999, 4, 355-359.	5.6	14
93	Structured epitaxial graphene growth on SiC by selective graphitization using a patterned AlN cap. Applied Physics Letters, 2010, 96, 082112.	1.5	14
94	Controlled epitaxial graphene growth within removable amorphous carbon corrals. Applied Physics Letters, 2014, 105, .	1.5	14
95	Highly Ordered Boron Nitride/Epigraphene Epitaxial Films on Silicon Carbide by Lateral Epitaxial Deposition. ACS Nano, 2020, 14, 12962-12971.	7.3	14
96	X-ray radiation effects in multilayer epitaxial graphene. Applied Physics Letters, 2011, 99, 232102.	1.5	13
97	The invention of graphene electronics and the physics of epitaxial graphene on silicon carbide. Physica Scripta, 2012, T146, 014004.	1.2	13
98	Wafer bonding solution to epitaxial grapheneâ€“silicon integration. Journal Physics D: Applied Physics, 2014, 47, 094001.	1.3	13
99	Electron Pairing in Ferroelectric Niobium and Niobium Alloy Clusters. Journal of Superconductivity and Novel Magnetism, 2008, 21, 265-269.	0.8	12
100	Quenching of the Quantum Hall Effect in Multilayered Epitaxial Graphene: The Role of Undoped Planes. Physical Review Letters, 2008, 101, 116806.	2.9	12
101	Flat and safe under the graphene sheet. Nature Materials, 2020, 19, 583-584.	13.3	12
102	Confinement and Size Effects in Free Metal Clusters. Springer Series in Cluster Physics, 2000, , 1-35.	0.3	8
103	Structure and transport in nanotubes. Nature Materials, 2002, 1, 153-154.	13.3	7
104	Scalable control of graphene growth on 4H-SiC C-face using decomposing silicon nitride masks. Journal Physics D: Applied Physics, 2015, 48, 152001.	1.3	7
105	Unusual Temperature Dependence of Magnetization and Possible Magnetic Noncollinearity in Tm and Pr Clusters. Journal of Physical Chemistry C, 2015, 119, 11153-11159.	1.5	6
106	Non-Invasive Nanoscale Potentiometry and Ballistic Transport in Epigraphene Nanoribbons. Nano Letters, 2020, 20, 3786-3790.	4.5	6
107	Ultrafast dynamics and interlayer thermal coupling of hot carriers in epitaxial graphene. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, 470-473.	0.8	5
108	Optical Response of Carbon Nanotubes. , 1999, , 89-106.		2

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109	Spectroscopy of metal clusters. Lecture Notes in Physics, 1987, , 15-24.	0.3	2
110	Structured epitaxial graphene on SiC. , 2012, , .		1
111	Magnetic Properties of Small Transition Metal Clusters in a Molecular Beam. , 1994, , 9-19.		1
112	Shell Structure and Response Properties of Metal Clusters. , 1986, , 9-14.		1
113	Ferroelectricity in Free Niobium Clusters.. ChemInform, 2003, 34, no.	0.1	0
114	Electronic Cooling in Multilayer Epitaxial Graphene. , 2013, , .		0
115	Electronic Cooling in Epitaxial and CVD Graphene. , 2014, , .		0
116	Microscopic Origins of the Terahertz Carrier Relaxation and Cooling Dynamics in Graphene. , 2015, , .		0
117	Ultrafast Relaxation of Excited Dirac Fermions in Epitaxial Graphene. Springer Series in Chemical Physics, 2009, , 265-267.	0.2	0
118	Surface and crystal field effects on the metallic properties of small systems. Physica Scripta, 1991, T35, 150-153.	1.2	0
119	Conducting forms of Carbon. , 1999, , 390-439.		0
120	Terahertz Generation by Dynamical Photon Drag Effect in Graphene. , 2015, , .		0