

# James Kakalios

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

103 papers	3,264 citations	26 h-index	56 g-index
107 ext. papers	3,406 ext. citations	4.6 avg, IF	4.74 L-index

#	Paper	IF	Citations
103	Conductance fluctuations in hydrogenated amorphous germanium. <i>Journal of Applied Physics</i> , <b>2021</b> , 130, 105107	2.5	
102	Photo-induced enhancement of the dark conductivity in nanocrystalline germanium/amorphous silicon composite thin films. <i>Journal of Applied Physics</i> , <b>2018</b> , 124, 165102	2.5	0
101	Potential resolution to the doping puzzle in iron pyrite: Carrier type determination by Hall effect and thermopower. <i>Physical Review Materials</i> , <b>2017</b> , 1,	3.2	19
100	Composite Nanocrystalline/Amorphous Thin Films for Particle Detector Applications. <i>Materials Research Society Symposia Proceedings</i> , <b>2015</b> , 1770, 49-54		1
99	Non-Arrhenius anomalous hopping electronic transport in hydrogenated amorphous silicon and composite amorphous/nanocrystalline thin films. <i>Journal of Applied Physics</i> , <b>2015</b> , 118, 215103	2.5	4
98	Quantum confinement in mixed phase silicon thin films grown by co-deposition plasma processing. <i>Solar Energy Materials and Solar Cells</i> , <b>2014</b> , 129, 7-12	6.4	7
97	The Materials Science of Marvel® The Avengers® Some Assembly Required. <i>ACS Symposium Series</i> , <b>2013</b> , 215-227	0.4	1
96	Conduction mechanisms in doped mixed-phase hydrogenated amorphous/nanocrystalline silicon thin films. <i>Journal of Applied Physics</i> , <b>2013</b> , 113, 233707	2.5	10
95	Charge transport in nanocrystalline germanium/hydrogenated amorphous silicon mixed-phase thin films. <i>Materials Research Society Symposia Proceedings</i> , <b>2013</b> , 1536, 195-200		1
94	Thermopower of nanocrystalline germanium/hydrogenated amorphous silicon composite thin films. <i>Journal of Applied Physics</i> , <b>2013</b> , 114, 193705	2.5	2
93	Electronic transport in doped mixed-phase hydrogenated amorphous/nanocrystalline silicon thin films. <i>Applied Physics Letters</i> , <b>2012</b> , 100, 072105	3.4	14
92	Dynamical changes in neurons during seizures determine tonic to clonic shift. <i>Journal of Computational Neuroscience</i> , <b>2012</b> , 33, 41-51	1.4	17
91	Hopping transport in doped co-deposited mixed-phase hydrogenated amorphous/nanocrystalline silicon thin films. <i>Materials Research Society Symposia Proceedings</i> , <b>2011</b> , 1321, 285		
90	Opto-electronic properties of co-deposited mixed-phase hydrogenated amorphous/nanocrystalline silicon thin films. <i>Materials Research Society Symposia Proceedings</i> , <b>2011</b> , 1321, 337		
89	Thermoelectric properties of doped and undoped mixed phase hydrogenated amorphous/nanocrystalline silicon thin films. <i>Materials Research Society Symposia Proceedings</i> , <b>2010</b> , 1245, 1		
88	Optical Absorption in Co-Deposited Mixed-Phase Hydrogenated Amorphous/Nanocrystalline Silicon Thin Films. <i>Materials Research Society Symposia Proceedings</i> , <b>2010</b> , 1245, 1		2
87	Structural and electronic properties of dual plasma codeposited mixed-phase amorphous/nanocrystalline thin films. <i>Journal of Applied Physics</i> , <b>2010</b> , 107, 043704	2.5	26

86	Doping Effects in Co-deposited Mixed Phase Films of Hydrogenated Amorphous Silicon Containing Nanocrystalline Inclusions. <i>Materials Research Society Symposia Proceedings</i> , <b>2008</b> , 1066, 1		1
85	Electronic Transport in Co-deposited Hydrogenated Amorphous/Nanocrystalline Thin Films. <i>Materials Research Society Symposia Proceedings</i> , <b>2008</b> , 1066, 1		
84	Dual-Chamber Plasma Co-Deposition of Nanoparticles in Amorphous Silicon Thin Films. <i>Materials Research Society Symposia Proceedings</i> , <b>2006</b> , 910, 2		
83	The Influence of Thermophoresis Effects During Deposition of Hydrogenated Amorphous Silicon Thin Films with Nanocrystalline Silicon Inclusions. <i>Materials Research Society Symposia Proceedings</i> , <b>2006</b> , 910, 7		3
82	Resource Letter GP-1: Granular physics or nonlinear dynamics in a sandbox. <i>American Journal of Physics</i> , <b>2005</b> , 73, 8-22	0.7	25
81	Experimental investigations into the formation of nanoparticles in aBc-Si:H thin films. <i>Journal of Applied Physics</i> , <b>2005</b> , 97, 034310	2.5	18
80	Transient striatal gamma local field potentials signal movement initiation in rats. <i>NeuroReport</i> , <b>2005</b> , 16, 2021-4	1.7	56
79	Conductance Fluctuations in Amorphous Silicon Nanoparticles. <i>Materials Research Society Symposia Proceedings</i> , <b>2005</b> , 862, 411		
78	Experimental Study of Silane Plasma Nanoparticle Formation in Amorphous Silicon Thin Films. <i>Materials Research Society Symposia Proceedings</i> , <b>2005</b> , 862, 811		
77	Measuring fundamental frequencies in local field potentials. <i>Journal of Neuroscience Methods</i> , <b>2004</b> , 138, 97-105	3	56
76	Non-Gaussian 1/f noise as a probe of long-range structural and electronic disorder in amorphous silicon <b>2003</b> , 5112, 67		3
75	Hydrogenated Amorphous Silicon Thin Films with Nanocrystalline Silicon Inclusions. <i>Materials Research Society Symposia Proceedings</i> , <b>2003</b> , 762, 1441		2
74	Medium Range Order and 1/f Noise in Hydrogenated Silicon Thin Films. <i>Materials Research Society Symposia Proceedings</i> , <b>2002</b> , 715, 251		1
73	Long-range disorder and the Staebler-Wronski effect in N-type amorphous silicon. <i>Physical Review B</i> , <b>2002</b> , 66,	3.3	2
72	The Staebler-Wronski Effect and 1/f Noise in Amorphous Silicon. <i>Materials Research Society Symposia Proceedings</i> , <b>2001</b> , 664, 1451		1
71	Long-range disorder and metastability in amorphous silicon. <i>Journal of Non-Crystalline Solids</i> , <b>2000</b> , 266-269, 397-400	3.9	2
70	Avalanche Stratification [Experimental Tests of the Metastable Wedge] and [Continuous Flow] Models. <i>Materials Research Society Symposia Proceedings</i> , <b>2000</b> , 627, 1		
69	Influence of deposition conditions on long-range electronic disorder in n-type doped hydrogenated amorphous silicon. <i>Physical Review B</i> , <b>1999</b> , 60, 2449-2455	3.3	23

68	Current Noise Measurements of Surface Defect States in Amorphous Silicon. <i>Materials Research Society Symposia Proceedings</i> , <b>1999</b> , 557, 415		
67	Phase diagram for avalanche stratification of granular media. <i>Physical Review E</i> , <b>1998</b> , 58, R4104-R4107	2.4	42
66	Axial segregation of granular media rotated in a drum mixer: Pattern evolution. <i>Physical Review E</i> , <b>1997</b> , 56, 4386-4393	2.4	74
65	Temperature and doping dependence of non-Gaussian 1/f noise and noise statistics in hydrogenated amorphous silicon. <i>Physical Review B</i> , <b>1997</b> , 56, 1918-1927	3.3	26
64	Influence of Deposition Conditions on the 1/f Noise in Hydrogenated Amorphous Silicon. <i>Materials Research Society Symposia Proceedings</i> , <b>1997</b> , 467, 215		2
63	Persistent Photoconductivity, the Staebler-Wronski Effect, and Long-Range Disorder in a-Si:H. <i>Materials Research Society Symposia Proceedings</i> , <b>1997</b> , 467, 73		1
62	Bulk Segregation in Rotated Granular Material Measured by Magnetic Resonance Imaging. <i>Physical Review Letters</i> , <b>1997</b> , 78, 50-53	7.4	173
61	Pattern Evolution of Granular Media Rotated in a Drum Mixer. <i>Materials Research Society Symposia Proceedings</i> , <b>1996</b> , 463, 227		1
60	Fractals: More than just a pretty picture. <i>Complexity</i> , <b>1996</b> , 1, 38-39	1.6	
59	Avalanche Segregation of Binary Mixtures of Granular Media. <i>Materials Research Society Symposia Proceedings</i> , <b>1996</b> , 463, 319		
58	Relaxation Measurements of the Persistent Photoconductivity in Sulfur-Doped a-Si:H. <i>Materials Research Society Symposia Proceedings</i> , <b>1996</b> , 420, 611		1
57	1/f Noise and Thermal Equilibration Effects in Hot Wire Deposited Amorphous Silicon. <i>Materials Research Society Symposia Proceedings</i> , <b>1996</b> , 420, 641		5
56	Thermopower and Conductivity Activation Energies in Hydrogenated Amorphous Silicon. <i>Materials Research Society Symposia Proceedings</i> , <b>1996</b> , 420, 735		
55	Thermopower and conductivity activation energies in hydrogenated amorphous silicon. <i>Physical Review B</i> , <b>1996</b> , 54, 7630-7633	3.3	20
54	Dynamical percolation model of conductance fluctuations in hydrogenated amorphous silicon. <i>Physical Review Letters</i> , <b>1995</b> , 75, 2192-2195	7.4	42
53	Reversible axial segregation of rotating granular media. <i>Physical Review E</i> , <b>1995</b> , 52, 4393-4400	2.4	121
52	Telegraph Noise as A Probe of Microscopic Hydrogen Motion in Amorphous Silicon. <i>Materials Research Society Symposia Proceedings</i> , <b>1995</b> , 377, 401		2
51	Thermopower and 1/f Noise Measurements in Amorphous Silicon-Carbon Alloys. <i>Materials Research Society Symposia Proceedings</i> , <b>1995</b> , 377, 577		3

- 50 Reversible axial segregation of binary mixtures of granular materials. *Physical Review E*, **1994**, 49, R3610-R3613. 2.4 8
- 49 Computer simulations of conductance noise in a dynamical percolation resistor network. *Physical Review E*, **1994**, 50, 3431-3435 2.4 8
- 48 Non-Gaussian Noise Statistics in Undoped Hydrogenated Amorphous Silicon. *Materials Research Society Symposia Proceedings*, **1994**, 336, 395 2
- 47 1/f Noise Measurements of Hydrogenated Amorphous Silicon-Carbon Alloys. *Materials Research Society Symposia Proceedings*, **1994**, 336, 631 1
- 46 Reversible Axial Segregation in Rotating Granular Media. *Materials Research Society Symposia Proceedings*, **1994**, 367, 507
- 45 Light-induced changes of the non-Gaussian 1/f noise statistics in doped hydrogenated amorphous silicon. *The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties*, **1994**, 69, 595-608 3.6
- 44 Conductance fluctuations in doped hydrogenated amorphous silicon. *Journal of Non-Crystalline Solids*, **1993**, 164-166, 469-472 3.9 6
- 43 Origin of the spectral dependence of the nonradiative efficiency in hydrogenated amorphous silicon. *Physical Review B*, **1993**, 47, 9989-9992 3.3 1
- 42 Conductance fluctuations in doped hydrogenated amorphous silicon. *Physical Review B*, **1993**, 47, 12578-12589. 3.5 7
- 41 Optical absorption spectrum of hydrogenated amorphous silicon using photo-pyroelectric spectroscopy. *Journal of Applied Physics*, **1993**, 74, 1799-1804 2.5 4
- 40 Light-induced changes of the 1/f noise in hydrogenated amorphous silicon. *Physical Review B*, **1993**, 47, 10903-10906 3.3 15
- 39 Light Induced Changes in the Non-Gaussian Noise Statistics in Doped Hydrogenated Amorphous Silicon. *Materials Research Society Symposia Proceedings*, **1993**, 297, 661
- 38 1 / f Noise Measurements of Interacting Current Filaments in Hydrogenated Amorphous Silicon. *Materials Research Society Symposia Proceedings*, **1993**, 297, 309
- 37 Conductance-noise power fluctuations in hydrogenated amorphous silicon. *Physical Review Letters*, **1992**, 69, 1097-1100 7.4 43
- 36 Non-Gaussian 1 / f Noise and Conductance Fluctuations in Hydrogenated Amorphous Silicon. *Materials Research Society Symposia Proceedings*, **1992**, 258, 741
- 35 The Spectral Dependence of the Non-Radiative Efficiency in Hydrogenated Amorphous Silicon. *Materials Research Society Symposia Proceedings*, **1992**, 258, 789
- 34 Tunneling Spectroscopy of Amorphous Semiconductors. *Materials Research Society Symposia Proceedings*, **1992**, 258, 819
- 33 Chapter 12 Hydrogen Diffusion in Amorphous Silicon. *Semiconductors and Semimetals*, **1991**, 34, 381-445. 0.6 14

32	Improved Light Soaking Stability of R.F. Sputter Deposited Amorphous Silicon. <i>Materials Research Society Symposia Proceedings</i> , <b>1991</b> , 219, 105		
31	1 / f Noise in Hydrogenated Amorphous Silicon. <i>Materials Research Society Symposia Proceedings</i> , <b>1991</b> , 219, 235		
30	Sub-Bandgap Optical Absorption in Amorphous Silicon using Photo-Pyroelectric Spectroscopy. <i>Materials Research Society Symposia Proceedings</i> , <b>1991</b> , 219, 545		4
29	Random telegraph-switching noise in coplanar current measurements of amorphous silicon. <i>Physical Review B</i> , <b>1991</b> , 44, 8391-8394	3.3	58
28	Nonlinear 1/f noise in amorphous silicon. <i>Physical Review Letters</i> , <b>1991</b> , 67, 2529-2532	7.4	39
27	Test of the thermal equilibration model for persistent photoconductivity in doping-modulated amorphous silicon. <i>Physical Review B</i> , <b>1991</b> , 43, 6820-6823	3.3	4
26	The non-radiative efficiency in hydrogenated amorphous silicon. <i>Philosophical Magazine Letters</i> , <b>1991</b> , 64, 235-240	1	8
25	HYDROGEN GLASS BEHAVIOR IN AMORPHOUS SEMICONDUCTORS <b>1990</b> , 441-456		
24	A physical interpretation of the Hall effect in amorphous semiconductors. <i>Journal of Non-Crystalline Solids</i> , <b>1989</b> , 114, 372-374	3.9	10
23	The origin of persistent photoconductivity in amorphous silicon. <i>Journal of Non-Crystalline Solids</i> , <b>1989</b> , 114, 714-716	3.9	7
22	Metastable Electronic Effects in Amorphous Semiconductor Superlattices. <i>Materials Research Society Symposia Proceedings</i> , <b>1989</b> , 160, 559		
21	THERMAL EQUILIBRIUM EFFECTS IN DOPED HYDROGENATED AMORPHOUS SILICON <b>1989</b> , 165-205		11
20	Electron drift mobility in doped amorphous silicon. <i>Physical Review B</i> , <b>1988</b> , 38, 5603-5609	3.3	69
19	Evidence for hydrogen motion in annealing of light-induced metastable defects in hydrogenated amorphous silicon. <i>Physical Review B</i> , <b>1988</b> , 37, 1020-1023	3.3	121
18	Microscopic mobility in hydrogenated amorphous silicon. <i>Philosophical Magazine Letters</i> , <b>1987</b> , 55, 129-134		4
17	The role of dangling bonds in the transport and recombination of a-Si:Ge: H alloys. <i>The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties</i> , <b>1987</b> , 56, 289-303		40
16	Thermal-equilibrium processes in amorphous silicon. <i>Physical Review B</i> , <b>1987</b> , 35, 1316-1333	3.3	309
15	Comment on "Structure and electronic states in disordered systems". <i>Physical Review Letters</i> , <b>1987</b> , 58, 2504	7.4	7

14	Hydrogen diffusion in amorphous silicon. <i>The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties</i> , <b>1987</b> , 56, 305-320		265
13	Stretched-exponential relaxation arising from dispersive diffusion of hydrogen in amorphous silicon. <i>Physical Review Letters</i> , <b>1987</b> , 59, 1037-1040	7.4	53 <sup>o</sup>
12	Thermal equilibrium processes in doped amorphous silicon. <i>Journal of Non-Crystalline Solids</i> , <b>1987</b> , 97-98, 767-774	3.9	11
11	The Thermal Equilibration Model for Persistent Photoconductivity in Doping Modulated Amorphous Silicon <b>1987</b> , 529-539		7
10	Bias annealing of doped amorphous silicon. <i>The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties</i> , <b>1986</b> , 54, L21-L26		34
9	Carrier Separation Effects in Doping Modulated Amorphous Silicon. <i>Materials Research Society Symposia Proceedings</i> , <b>1986</b> , 70, 435		1
8	Thermal equilibration in doped amorphous silicon. <i>Physical Review B</i> , <b>1986</b> , 34, 3030-3033	3.3	171
7	Electronic transport in doped amorphous silicon. <i>Physical Review B</i> , <b>1986</b> , 34, 6014-6017	3.3	98
6	Excitation and temperature dependence of the photo-induced excess conductivity in doping-modulated amorphous silicon. <i>The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties</i> , <b>1986</b> , 54, 199-218		34
5	Photo-Induced Excess Conductivity in Doping Modulated Amorphous Semiconductors. <i>Materials Research Society Symposia Proceedings</i> , <b>1985</b> , 49, 127		2
4	Temperature and excitation dependence of the photo-induced excess conductivity in doping modulated amorphous silicon. <i>Journal of Non-Crystalline Solids</i> , <b>1985</b> , 77-78, 1101-1104	3.9	18
3	Search for reversible light-induced changes in the Si-H absorption bands of a-Si:H. <i>AIP Conference Proceedings</i> , <b>1984</b> ,	0	2
2	Persistent Photoconductivity in Doping-Modulated Amorphous Semiconductors. <i>Physical Review Letters</i> , <b>1984</b> , 53, 1602-1605	7.4	168
1	Properties of amorphous semiconducting multilayer films. <i>Journal of Non-Crystalline Solids</i> , <b>1984</b> , 66, 339-344	3.9	111