Timothy M Fromhold

List of Publications by Year
in descending order

57 papers	1,466 citations	516215 16 h-index	315357 38 g-index
57 all docs	57 docs citations	57 times ranked	1750 citing authors

#	Article	IF	Citations
1	Twist-controlled resonant tunnelling in graphene/boron nitride/graphene heterostructures. Nature Nanotechnology, 2014, 9, 808-813.	15.6	435
2	Chaotic electron diffusion through stochastic webs enhances current flow in superlattices. Nature, 2004, 428, 726-730.	13.7	117
3	Manifestations of Classical Chaos in the Energy Level Spectrum of a Quantum Well. Physical Review Letters, 1995, 75, 1142-1145.	2.9	105
4	Magnetotunneling spectroscopy of a quantum well in the regime of classical chaos. Physical Review Letters, 1994, 72, 2608-2611.	2.9	102
5	Probing the wave function of quantum confined states by resonant magnetotunneling. Physical Review B, 1993, 48, 5664-5667.	1.1	92
6	Resonant tunnelling between the chiral Landau states of twisted graphene lattices. Nature Physics, 2015, 11, 1057-1062.	6.5	64
7	Graphene-hexagonal boron nitride resonant tunneling diodes as high-frequency oscillators. Applied Physics Letters, 2015, 107, .	1.5	58
8	Subterahertz Chaos Generation by Coupling a Superlattice to a Linear Resonator. Physical Review Letters, 2014, 112, 116603.	2.9	48
9	Quantum reflection of bright matter-wave solitons. Physica D: Nonlinear Phenomena, 2009, 238, 1299-1305.	1.3	47
10	Tailoring the electronic properties of GaAs/AlAs superlattices by InAs layer insertions. Applied Physics Letters, 2002, 81, 661-663.	1.5	36
11	Phonon-drag magnetothermopower oscillations in GaAs/AsxGa1â˜xAs heterojunctions. Physical Review B, 1993, 48, 5326-5332.	1.1	30
12	Electromagnetic Wave Chaos in Gradient Refractive Index Optical Cavities. Physical Review Letters, 2001, 86, 5466-5469.	2.9	24
13	Exploiting Soliton Decay and Phase Fluctuations in Atom Chip Interferometry of Bose-Einstein Condensates. Physical Review Letters, 2008, 100, 100402.	2.9	24
14	Evidence for quantum states corresponding to families of stable and chaotic classical orbits in a wide potential well. Physical Review B, 1995, 51, 18029-18032.	1.1	23
15	The effect of interface roughness scattering and background impurity scattering on the thermopower of a 2DEG in a Si MOSFET. Journal of Physics Condensed Matter, 1990, 2, 10401-10410.	0.7	19
16	Effect of a transverse magnetic field on tunneling in single- and double-barrier structures. Surface Science, 1990, 228, 437-440.	0.8	19
17	Magnetic-field-induced miniband conduction in semiconductor superlattices. Physical Review B, 2007, 76, .	1.1	15
18	Semiconductor charge transport driven by a picosecond strain pulse. Applied Physics Letters, 2008, 92, 232104.	1.5	14

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19	Dependence of fractal conductance fluctuations on soft-wall profile in a double-layer semiconductor billiard. Applied Physics Letters, 2002, 80, 4381-4383.	1.5	13
20	Magnetic field design in a cylindrical high-permeability shield: The combination of simple building blocks and a genetic algorithm. Journal of Applied Physics, 2022, 131, .	1.1	13
21	Stochastic webs and quantum transport in superlattices: an introductory review. Contemporary Physics, 2010, 51, 233-248.	0.8	12
22	High magnetic field studies of resonant tunneling via shallow impurities in Î´-doped quantum wells. Physica B: Condensed Matter, 1993, 184, 241-245.	1.3	11
23	Effect of inter-miniband tunneling on current resonances due to the formation of stochastic conduction networks in superlattices. Physica E: Low-Dimensional Systems and Nanostructures, 2006, 32, 285-288.	1.3	11
24	iSense: A Portable Ultracold-Atom-Based Gravimeter. Procedia Computer Science, 2011, 7, 334-336.	1.2	11
25	Quantum chaos in resonant tunneling diodes. Physica B: Condensed Matter, 1994, 201, 367-373.	1.3	10
26	An investigation of Weierstrass self-similarity in a semiconductor billiard. Europhysics Letters, 2000, 49, 417-423.	0.7	10
27	Use of stochastic web patterns to control electron transport in semiconductor superlattices. Physica D: Nonlinear Phenomena, 2004, 199, 166-172.	1.3	10
28	Fractal resistance in a transistor. Nature, 1997, 386, 123-125.	13.7	9
29	Quantum chaos for cold atoms in an optical lattice with a tilted harmonic trap. Journal of Optics B: Quantum and Semiclassical Optics, 2000, 2, 628-632.	1.4	9
30	Spin Josephson Vortices in Two Tunnel-Coupled Spinor Bose Gases. Physical Review Letters, 2013, 111, 105302.	2.9	8
31	A physical explanation for the origin of self-similar magnetoconductance fluctuations in semiconductor billiards. Physica E: Low-Dimensional Systems and Nanostructures, 2000, 7, 726-730.	1.3	7
32	180Â° phase shift of phonon drag magnetothermopower oscillations in high mobility 2DEGs. Surface Science, 1992, 263, 183-186.	0.8	6
33	Tunneling into classically chaotic orbits in quantum wells. Surface Science, 1994, 305, 511-515.	0.8	6
34	Magnetothermopower in silicon MOSFETs. Journal of Physics Condensed Matter, 1993, 5, 1355-1364.	0.7	5
35	The influence of confining wall profile on quantum interference effects in etched Ga0.25In0.75As/InP billiards. Superlattices and Microstructures, 2003, 34, 179-184.	1.4	5
36	Magnetotunnelling spectroscopy: an experimental tool for studying chaos in quantum transport. Semiconductor Science and Technology, 1994, 9, 488-492.	1.0	4

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37	Using sound to generate ultra-high-frequency electron dynamics in superlattices. Microelectronics Journal, 2009, 40, 725-727.	1.1	4
38	Quantum chaotic transport in double barrier tunnel structures. Solid-State Electronics, 1996, 40, 7-14.	0.8	3
39	Fractal transistors. Semiconductor Science and Technology, 1997, 12, 1459-1464.	1.0	3
40	The transition to chaos in a wide quantum well. Physica E: Low-Dimensional Systems and Nanostructures, 2000, 7, 735-739.	1.3	3
41	Control of atomic Rydberg states using guided electrons. Journal of Physics B: Atomic, Molecular and Optical Physics, 2013, 46, 245502.	0.6	3
42	The transition to chaos for hot electrons in a wide quantum well. Physica B: Condensed Matter, 1999, 272, 163-166.	1.3	2
43	Chaotic ray dynamics and fast optical switching in micro-cavities with a graded refractive index. Physica B: Condensed Matter, 1999, 272, 484-487.	1.3	2
44	2D chaotic quantum states in superlattices. Physica E: Low-Dimensional Systems and Nanostructures, 2000, 6, 306-309.	1.3	2
45	Chaos in quantum wells and analogous optical systems. Physica E: Low-Dimensional Systems and Nanostructures, 2001, 11, 114-117.	1.3	2
46	Quantum conductance fluctuations in semiconductor devices. Current Applied Physics, 2008, 8, 332-335.	1.1	2
47	Studying transitions between different regimes of current oscillations generated in a semiconductor superlattice in the presence of a tilted magnetic field at various temperatures. Technical Physics Letters, 2015, 41, 768-770.	0.2	2
48	Hierarchy of periodic orbits and associated energy level clusters in a quantum well in the regime of classical chaos. Superlattices and Microstructures, 1994, 15, 287.	1.4	1
49	Prospects for the future of resonant tunnelling devices â€" Part 1. III-Vs Review, 1994, 7, 33-36.	0.1	1
50	Chaos-induced orbit delocalization and complex Bloch oscillations in semiconductor superlattices. Physica B: Condensed Matter, 1999, 272, 209-212.	1.3	1
51	Quantum chaotic electron transport in superlattices. Physica E: Low-Dimensional Systems and Nanostructures, 2000, 7, 827-831.	1.3	1
52	The dependence of fractal conductance fluctuations on soft-wall profile in a double-2DEG billiard. Physica E: Low-Dimensional Systems and Nanostructures, 2002, 12, 841-844.	1.3	1
53	Discrete energy level spectrum dependence of fractal conductance fluctuations in semiconductor billiards. Physica E: Low-Dimensional Systems and Nanostructures, 2002, 13, 683-686.	1.3	1
54	Magnetotunnelling transport phenomena and quantum chaos in semiconductor heterostructures. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 1995, 35, 239-244.	1.7	0

#	Article	IF	Citations
55	Dissociation of indirect excitons: discontinuity and bistability in the tunnel current of 2D electron-hole layers. Physica E: Low-Dimensional Systems and Nanostructures, 2000, 6, 832-835.	1.3	0
56	The dependence of fractal conductance fluctuations on semiconductor billiard parameters. Physica B: Condensed Matter, 2002, 314, 477-480.	1.3	0
57	Exploring the limits of superlattice miniband engineering using inverse scattering. Semiconductor Science and Technology, 2004, 19, S91-S93.	1.0	0