

Trevor J Thornton

List of Publications by Year in descending order

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116
papers

4,809
citations

304368

22
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95083

68
g-index

116
all docs

116
docs citations

116
times ranked

2295
citing authors

#	ARTICLE	IF	CITATIONS
1	One-dimensional transport and the quantisation of the ballistic resistance. Journal of Physics C: Solid State Physics, 1988, 21, L209-L214.	1.5	1,885
2	One-Dimensional Conduction in the 2D Electron Gas of a GaAs-AlGaAs Heterojunction. Physical Review Letters, 1986, 56, 1198-1201.	2.9	594
3	Magnetic Depopulation of 1D Subbands in a Narrow 2D Electron Gas in a GaAs:AlGaAs Heterojunction. Physical Review Letters, 1986, 57, 1769-1772.	2.9	342
4	Boundary scattering in quantum wires. Physical Review Letters, 1989, 63, 2128-2131.	2.9	289
5	Four-terminal magnetoresistance of a two-dimensional electron-gas constriction in the ballistic regime. Physical Review B, 1988, 37, 8534-8536.	1.1	130
6	Vanishing hall voltage in a quasi-one-dimensional GaAs \sim Al $_x$ Ga $_1-x$ As heterojunction. Physical Review B, 1988, 38, 8518-8521.	1.1	101
7	Electrostatically defined heterojunction rings and the Aharonov-Bohm effect. Applied Physics Letters, 1989, 54, 21-23.	1.5	96
8	CMOS-Compatible SOI MESFETs With High Breakdown Voltage. IEEE Transactions on Electron Devices, 2006, 53, 3129-3135.	1.6	84
9	Characterization of nickel Germanide thin films for use as contacts to p-channel Germanium MOSFETs. IEEE Electron Device Letters, 2005, 26, 151-153.	2.2	71
10	The Aharonov-Bohm effect in electrostatically defined heterojunction rings. Journal of Physics C: Solid State Physics, 1988, 21, L325-L331.	1.5	67
11	Mesoscopic devices. Reports on Progress in Physics, 1995, 58, 311-364.	8.1	63
12	Electromigration Current Rectification in a Cylindrical Nanopore Due to Asymmetric Concentration Polarization. Analytical Chemistry, 2009, 81, 3128-3133.	3.2	61
13	Universal conductance fluctuations and electron coherence lengths in a narrow two-dimensional electron gas. Physical Review B, 1987, 36, 4514-4517.	1.1	52
14	Electrical Detection of Amine Ligation to a Metalloporphyrin via a Hybrid SOI-MOSFET. Journal of the American Chemical Society, 2008, 130, 2226-2233.	6.6	52
15	Single-electron effects in a point contact using side-gating in δ -doped layers. Applied Physics Letters, 1992, 61, 3145-3147.	1.5	45
16	Teflon-coated silicon apertures for supported lipid bilayer membranes. Applied Physics Letters, 2004, 85, 3307-3309.	1.5	34
17	Large-signal modeling of SOI MESFETs. Solid-State Electronics, 2006, 50, 943-950.	0.8	34
18	Field effect modulation of ionic conductance of cylindrical silicon-on-insulator nanopore array. Journal of Applied Physics, 2010, 107, .	1.1	33

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19	Integrated electrodes on a silicon based ion channel measurement platform. <i>Biosensors and Bioelectronics</i> , 2007, 23, 183-190.	5.3	30
20	High Field Transport Studies of GaN. <i>Physica Status Solidi A</i> , 2002, 190, 263-270.	1.7	27
21	SOI MESFETs Fabricated Using Fully Depleted CMOS Technologies. <i>IEEE Electron Device Letters</i> , 2009, 30, 678-680.	2.2	25
22	SILICON-BASED INTEGRATED MOSFETS AND MESFETS: A NEW PARADIGM FOR LOW POWER, MIXED SIGNAL, MONOLITHIC SYSTEMS USING COMMERCIALY AVAILABLE SOI. <i>International Journal of High Speed Electronics and Systems</i> , 2006, 16, 723-732.	0.3	23
23	Silicon-based ion channel sensor. <i>Superlattices and Microstructures</i> , 2003, 34, 451-457.	1.4	22
24	Side gating in δ -doped quantum wires. <i>Applied Physics Letters</i> , 1992, 60, 94-96.	1.5	21
25	Scaling SOI MESFETs to 150-nm CMOS Technologies. <i>IEEE Transactions on Electron Devices</i> , 2011, 58, 1628-1634.	1.6	21
26	Physics and applications of the Schottky junction transistor. <i>IEEE Transactions on Electron Devices</i> , 2001, 48, 2421-2427.	1.6	20
27	High-Frequency Performance of Subthreshold SOI MESFETs. <i>IEEE Electron Device Letters</i> , 2004, 25, 652-654.	2.2	20
28	Fabrication of Cylindrical Nanopores and Nanopore Arrays in Silicon-On-Insulator Substrates. <i>Journal of Microelectromechanical Systems</i> , 2007, 16, 1419-1428.	1.7	19
29	32 dBm Power Amplifier on 45 nm SOI CMOS. <i>IEEE Microwave and Wireless Components Letters</i> , 2013, 23, 161-163.	2.0	19
30	Si/SiGe quantum wells grown on vicinal Si(001) substrates: Morphology, dislocation dynamics, and transport properties. <i>Applied Physics Letters</i> , 1998, 72, 2262-2264.	1.5	18
31	Total dose radiation response of CMOS compatible SOI MESFETs. <i>IEEE Transactions on Nuclear Science</i> , 2005, 52, 2398-2402.	1.2	18
32	Variable-range hopping transport in modulation-doped n-channel Si/Si _{1-x} Ge _x quantum well structures. <i>Semiconductor Science and Technology</i> , 1999, 14, 762-767.	1.0	16
33	Superconductor-semiconductor interaction effects in mesoscopic hybrid structures. <i>Physical Review B</i> , 1996, 54, 14026-14031.	1.1	15
34	Ballistic transport in GaAs quantum wires—A short history. <i>Superlattices and Microstructures</i> , 1998, 23, 601-610.	1.4	15
35	RF Characterization of Diamond Schottky p-i-n Diodes for Receiver Protector Applications. <i>IEEE Microwave and Wireless Components Letters</i> , 2020, 30, 1141-1144.	2.0	15
36	Calibration of a pH sensitive buried channel silicon-on-insulator MOSFET for sensor applications. <i>Physica Status Solidi (B): Basic Research</i> , 2004, 241, 2291-2296.	0.7	14

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37	Electron scatterers near the boundary in AlGaAs/GaAs quantum wires fabricated by focused ion beam implantation. Superlattices and Microstructures, 1992, 11, 261-264.	1.4	12
38	Si:SiGe quantum wells grown on (118) substrates: Surface morphology and transport properties. Applied Physics Letters, 1997, 70, 1278-1280.	1.5	12
39	Kelvin probe force microscopy as a tool for characterizing chemical sensors. Applied Physics Letters, 2004, 85, 3926-3928.	1.5	12
40	High aspect ratio cylindrical nanopores in silicon-on-insulator substrates. Solid-State Electronics, 2007, 51, 1391-1397.	0.8	12
41	Demonstration and Analysis of Ultrahigh Forward Current Density Diamond Diodes. IEEE Transactions on Electron Devices, 2022, 69, 254-261.	1.6	11
42	Two dimensional electron gases in SiGe/Si heterostructures grown by gas source molecular beam epitaxy. Journal of Materials Science: Materials in Electronics, 1995, 6, 330-335.	1.1	10
43	Leakage currents in virtual substrates: measurements and device implications. Semiconductor Science and Technology, 1998, 13, 1215-1218.	1.0	10
44	Low-Frequency-Noise Spectroscopy of SIMOX and Bonded SOI Wafers. IEEE Transactions on Electron Devices, 2007, 54, 3378-3382.	1.6	10
45	An integrated MESFET voltage follower LDO for high power and PSR RF and analog applications. , 2012, , .		10
46	Mobility degradation in gated Si:SiGe quantum wells with thermally grown oxides. Electronics Letters, 1995, 31, 1876-1878.	0.5	10
47	Transport in GaAs heterojunction ring structures. Superlattices and Microstructures, 1988, 4, 541-544.	1.4	9
48	Electron focusing with a double grid in AlGaAs/GaAs heterostructures. Applied Physics Letters, 1992, 60, 1093-1095.	1.5	9
49	Characterization of n-channel Si/SiGe modulation doped structures grown by gas source molecular beam epitaxy. Semiconductor Science and Technology, 1995, 10, 1247-1252.	1.0	9
50	Single-electron quantum dots in silicon MOS structures. Applied Physics A: Materials Science and Processing, 2000, 71, 415-421.	1.1	9
51	High-Voltage CMOS Compatible SOI MESFET Characterization and Spice Model Extraction. , 2006, , .		9
52	Compact modeling of a PD SOI MESFET for wide temperature designs. Microelectronics Journal, 2009, 40, 1264-1273.	1.1	9
53	Silicon on insulator MESFETs for RF amplifiers. Solid-State Electronics, 2010, 54, 336-342.	0.8	9
54	4-terminal Angelov model for SOI CMOS MESFETs. , 2015, , .		9

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55	Diamond Schottky p-i-n diodes for high power RF receiver protectors. Solid-State Electronics, 2021, 186, 108154.	0.8	9
56	Electron transport across depleted region of a fine-gate GaAs:AlGaAs heterojunction FET. Electronics Letters, 1986, 22, 247.	0.5	8
57	Quantum interference in the n-channel of a Si:SiGe quantum well. Semiconductor Science and Technology, 1995, 10, 1084-1088.	1.0	8
58	Coupling of superconductivity with low-dimensional electron systems in mesoscopic geometries. Superlattices and Microstructures, 1999, 25, 767-774.	1.4	8
59	Coulomb blockade in strained-Si nanowires on leaky virtual substrates. Semiconductor Science and Technology, 2001, 16, 72-76.	1.0	8
60	Subthreshold Electron Mobility in SOI MOSFETs and MESFETs. IEEE Transactions on Electron Devices, 2005, 52, 1622-1626.	1.6	8
61	CMOS Compatible SOI MESFETs for Extreme Environment Applications. , 2005, , .		8
62	A low-power CMOS BFSK transceiver for health monitoring systems. , 2011, , 157-160.		8
63	Analysis of quantum lifetime behaviour in modulation-doped n-channel structures. Semiconductor Science and Technology, 1998, 13, 1106-1110.	1.0	7
64	Schottky junction transistor-micropower circuits at GHz frequencies. IEEE Electron Device Letters, 2001, 22, 38-40.	2.2	7
65	Shallow source/drain extensions for deep submicron mosfets using spin-on-dopants. IEEE Transactions on Electron Devices, 2003, 50, 1277-1283.	1.6	7
66	SOI Low Frequency Noise and Interface Trap Density Measurements with the Pseudo MOSFET. ECS Transactions, 2006, 2, 491-502.	0.3	7
67	SILICON-ON-INSULATOR MESFETs AT THE 45NM NODE. International Journal of High Speed Electronics and Systems, 2012, 21, 1250012.	0.3	7
68	Avalanche breakdown in SOI MESFETs. Solid-State Electronics, 2014, 91, 78-80.	0.8	7
69	Online Undergraduate Laboratories in Electrical Engineering. , 2019, , .		7
70	Electron heating effect on transport properties in modulation doped structures grown by gas source molecular beam epitaxy. Journal of Crystal Growth, 1995, 157, 373-377.	0.7	6
71	MOS gated Si:SiGe quantum wells formed by anodic oxidation. Semiconductor Science and Technology, 1998, 13, 1442-1445.	1.0	6
72	Si:SiGe MODFET current mirror. Electronics Letters, 1998, 34, 2076.	0.5	6

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73	Boundary scattering in wet-etched InAs/GaSb heterostructure wires: with and without magnetic field. Semiconductor Science and Technology, 1999, 14, 478-483.	1.0	6
74	Transform domain features for ion-channel signal classification. Biomedical Signal Processing and Control, 2011, 6, 219-224.	3.5	6
75	Characterization and modeling of enhanced voltage RF MESFETs on 45nm CMOS for RF applications. , 2012, , .		6
76	Quantum interference and dimensionality in semiconductor structures. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 1987, 56, 775-784.	0.6	5
77	Transport in split-gate silicon quantum dots. Superlattices and Microstructures, 2000, 27, 373-376.	1.4	5
78	Molecular control of the threshold voltage of an NMOS inversion layer. Microelectronic Engineering, 2002, 63, 135-139.	1.1	5
79	CMOS-Compatible MESFETs for High Power RF Integrated Circuits. IEEE Transactions on Semiconductor Manufacturing, 2019, 32, 14-22.	1.4	5
80	Ion Channels on Silicon. E-Journal of Surface Science and Nanotechnology, 2005, 3, 184-189.	0.1	5
81	Superconducting quantum wells for the detection of submillimeter wave electromagnetic radiation. Applied Physics Letters, 2000, 77, 432-434.	1.5	4
82	Full-band particle-based simulation of SOI and GOI MOSFETs. Physica Status Solidi (B): Basic Research, 2004, 241, 2297-2302.	0.7	4
83	Complementary SOI MESFETs at the 45-nm CMOS Node. IEEE Electron Device Letters, 2015, 36, 14-16.	2.2	4
84	SOI MESFETs on high-resistivity, trap-rich substrates. Solid-State Electronics, 2018, 142, 47-51.	0.8	4
85	Drain current control in a hybrid molecular/MOSFET device. Physica E: Low-Dimensional Systems and Nanostructures, 2003, 17, 659-663.	1.3	3
86	Si-MESFET technologies for low drop out regulators. , 2008, , .		3
87	40V MESFETs fabricated on 32nm SOI CMOS. , 2013, , .		3
88	SOI MESFET RF power amplifiers at the 45nm node. , 2014, , .		3
89	Optimizing Activity Detection via Sensor Fusion. , 2018, , .		3
90	<inline-formula> <tex-math notation="LaTeX">\$K\$ </tex-math> </inline-formula>-Band CMOS-Based MESFET Cascode Amplifiers. IEEE Microwave and Wireless Components Letters, 2018, 28, 609-611.	2.0	3

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91	Acquiring and Classifying Signals from Nanopores and Ion-Channels. Lecture Notes in Computer Science, 2009, , 265-274.	1.0	3
92	Space charge limited corrections to the power figure of merit for diamond. Applied Physics Letters, 2022, 120, .	1.5	3
93	Ion Channel Sensor on a Silicon Support. Materials Research Society Symposia Proceedings, 2004, 820, 158.	0.1	2
94	Electromigration of Charged Polystyrene Beads Through Silicon Nanopores Filled With Low Ionic Strength Solutions. , 2009, , .		2
95	Transform domain features for ion-channel signal classification using support vector machines. , 2009, , .		2
96	Impact Ionization in SOI MESFETs at the 32-nm Node. IEEE Transactions on Electron Devices, 2016, 63, 4143-4146.	1.6	2
97	Adaptive Power Control Using Current Adjustment for Watt-Level Power Amplifiers in CMOS SOI. IEEE Transactions on Circuits and Systems II: Express Briefs, 2020, 67, 605-609.	2.2	2
98	Self-Heating in 40 nm SOI MOSFETs on High Resistivity, Trap-Rich Substrates. IEEE Nanotechnology Magazine, 2020, 19, 42-46.	1.1	2
99	Measurements and Simulation of Self-Heating in 40 nm SOI MOSFETs. , 2021, , .		2
100	Silicon Based Pore Systems for Emerging Biosensor Applications. , 2009, , .		2
101	Compact Modeling of a PD SOI MESFET for Wide Temperature Designs. , 2007, , .		1
102	Analog image recognition arrays design by using co-fabricated MOSFET and MESFETs on a 0.25 μ m SOS process. Analog Integrated Circuits and Signal Processing, 2012, 72, 485-494.	0.9	1
103	Backgate Modulation Technique for Higher Efficiency Envelope Tracking. IEEE Transactions on Microwave Theory and Techniques, 2013, 61, 1599-1607.	2.9	1
104	Radiation Tolerant MESFET-CMOS Low Dropout Linear Regulator for Integrated Power Management at the 45nm Node. , 2013, , .		1
105	Self-Heating in SOI MOSFETs at the 45nm Node. , 2018, , .		1
106	Nanopore Protein Biosensor Using Diffusive Flow. Japanese Journal of Applied Physics, 2011, 50, 127002.	0.8	1
107	Buried channel silicon-on-insulator MOSFETs for hot-electron spectroscopy. Physica B: Condensed Matter, 2002, 314, 354-357.	1.3	0
108	Ion Conductance of Cylindrical Solid State Nanopores Used in Coulter Counting Experiments. Materials Research Society Symposia Proceedings, 2008, 1092, 20901.	0.1	0

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109	CMOS compatible high voltage compliant MESFET based analog IC building blocks. , 2009, , .		0
110	Nanopore Protein Biosensor Using Diffusive Flow. Japanese Journal of Applied Physics, 2011, 50, 127002.	0.8	0
111	Wideband class AB RF power amplifier using CMOS compatible SOI-MESFET device on 150nm technology. , 2012, , .		0
112	Radiation Effects of High Voltage MESFETs at the 45nm Node. , 2013, , .		0
113	SILICON-ON-INSULATOR MESFETs AT THE 45nm NODE. Selected Topics in Electornics and Systems, 2013, , 167-181.	0.2	0
114	SILICON-BASED INTEGRATED MOSFETS AND MESFETS: A NEW PARADIGM FOR LOW POWER, MIXED SIGNAL, MONOLITHIC SYSTEMS USING COMMERCIALY AVAILABLE SOI. , 2006, , .		0
115	High Breakdown Voltage MESFETs Integred with SOI CMOS Technologies. , 2019, , .		0
116	Linear and Efficient NFET-MESFET 5G Cascode Power Amplifiers Using 45nm SOI CMOS. , 2019, , .		0