Juan A LÃ³pez-Villanueva

List of Publications by Year
in descending order

93 papers	1,875 citations	279701 23 h-index	289141 40 g-index
94 all docs	94 docs citations	94 times ranked	1458 citing authors

#	Article	IF	Citations
1	Design and characterization of a low thermal drift capacitive humidity sensor by inkjet-printing. Sensors and Actuators B: Chemical, 2014, 195, 123-131.	4.0	118
2	Quantum two-dimensional calculation of time constants of random telegraph signals in metal-oxideâ€"semiconductor structures. Physical Review B, 1997, 56, 9565-9574.	1.1	116
3	Evaluation of a low-cost commercial mosfet as radiation dosimeter. Sensors and Actuators A: Physical, 2006, 125, 288-295.	2.0	80
4	Direct and trap-assisted elastic tunneling through ultrathin gate oxides. Journal of Applied Physics, 2002, 91, 5116-5124.	1.1	77
5	Monte Carlo simulation of electron transport properties in extremely thin SOI MOSFET's. IEEE Transactions on Electron Devices, 1998, 45, 1122-1126.	1.6	74
6	Effects of the inversion-layer centroid on the performance of double-gate MOSFETs. IEEE Transactions on Electron Devices, 2000, 47, 141-146.	1.6	72
7	A novel electrode structure compared with interdigitated electrodes as capacitive sensor. Sensors and Actuators B: Chemical, 2014, 204, 552-560.	4.0	68
8	Printed electrodes structures as capacitive humidity sensors: A comparison. Sensors and Actuators A: Physical, 2016, 244, 56-65.	2.0	68
9	Effects of the inversion layer centroid on MOSFET behavior. IEEE Transactions on Electron Devices, 1997, 44, 1915-1922.	1.6	67
10	Universality of electron mobility curves in MOSFETs: a Monte Carlo study. IEEE Transactions on Electron Devices, 1995, 42, 258-265.	1.6	62
11	Effects of Gate Oxide and Junction Nonuniformity on the DC and Low-Frequency Noise Performance of Four-Gate Transistors. IEEE Transactions on Electron Devices, 2012, 59, 459-467.	1.6	60
12	A simple subthreshold swing model for short channel MOSFETs. Solid-State Electronics, 2001, 45, 391-397.	0.8	56
13	Modeling effects of electron-velocity overshoot in a MOSFET. IEEE Transactions on Electron Devices, 1997, 44, 841-846.	1.6	53
14	Modified Schrödinger equation including nonparabolicity for the study of a two-dimensional electron gas. Physical Review B, 1993, 48, 1626-1631.	1.1	50
15	Analysis of the effects of constantâ€'current Fowlerâ€"Nordheimâ€'tunneling injection with charge trapping inside the potential barrier. Journal of Applied Physics, 1991, 70, 3712-3720.	1.1	40
16	Hole confinement and energy subbands in a silicon inversion layer using the effective mass theory. Journal of Applied Physics, 1999, 86, 438-444.	1.1	40
17	A model for the quantized accumulation layer in metal-insulator-semiconductor structures. Solid-State Electronics, 1995, 38, 203-210.	0.8	37
18	Contact effects in compact models of organic thin film transistors: Application to zinc phthalocyanine-based transistors. Organic Electronics, 2011, 12, 832-842.	1.4	35

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19	A printed capacitive–resistive double sensor for toluene and moisture sensing. Sensors and Actuators B: Chemical, 2015, 210, 542-549.	4.0	35
20	Recent Advances in Printed Capacitive Sensors. Micromachines, 2020, 11, 367.	1.4	35
21	The dependence of the electron mobility on the longitudinal electric field in MOSFETs. Semiconductor Science and Technology, 1997, 12, 321-330.	1.0	34
22	Modeling the transition from ohmic to space charge limited current in organic semiconductors. Organic Electronics, 2012, 13, 1700-1709.	1.4	32
23	Compact Modeling and Contact Effects in Thin Film Transistors. IEEE Transactions on Electron Devices, 2014, 61, 266-277.	1.6	29
24	Study of the effects of a stepped doping profile in short-channel MOSFETs. IEEE Transactions on Electron Devices, 1997, 44, 1425-1431.	1.6	22
25	A model for the drain current of deep submicrometer MOSFETs including electron-velocity overshoot. IEEE Transactions on Electron Devices, 1998, 45, 2249-2251.	1.6	22
26	Tunable MEMS piezoelectric energy harvesting device. Microsystem Technologies, 2016, 22, 823-830.	1.2	22
27	Thermal drift reduction with multiple bias current for MOSFET dosimeters. Physics in Medicine and Biology, 2011, 56, 3535-3550.	1.6	20
28	Space-charge and injection limited current in organic diodes: A unified model. Organic Electronics, 2014, 15, 2526-2535.	1.4	20
29	Effects of oxide-charge space correlation on electron mobility in inversion layers. Semiconductor Science and Technology, 1994, 9, 1102-1107.	1.0	19
30	A solution of the effective-mass Schrödinger equation in general isotropic and nonparabolic bands for the study of two-dimensional carrier gases. Journal of Applied Physics, 2005, 98, 033717.	1.1	18
31	Electric Field Dependence of the Electron Capture Cross Section of Neutral Traps in SiO2. Journal of the Electrochemical Society, 1996, 143, 2687-2690.	1.3	17
32	Effects of oxygen related defects on the electrical and thermal behavior of a n+−p junction. Journal of Applied Physics, 2004, 95, 561-570.	1.1	16
33	Improved manufacturing process for printed cantilevers by using water removable sacrificial substrate. Sensors and Actuators A: Physical, 2015, 235, 171-181.	2.0	16
34	Influence of the oxide-charge distribution profile on electron mobility in MOSFET's. IEEE Transactions on Electron Devices, 1995, 42, 999-1004.	1.6	15
35	Influence of mobility fluctuations on random telegraph signal amplitude in n-channel metal–oxide–semiconductor field-effect transistors. Journal of Applied Physics, 1997, 82, 4621-4628.	1.1	15
36	Oxide charge space correlation in inversion layers. II. Three-dimensional oxide charge distribution. Semiconductor Science and Technology, 1995, 10, 592-600.	1.0	14

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37	Deep submicrometer SOI MOSFET drain current model including series resistance, self-heating and velocity overshoot effects. IEEE Electron Device Letters, 2000, 21, 239-241.	2.2	14
38	Characterization of organic thin film transistors with hysteresis and contact effects. Organic Electronics, 2013, 14, 3286-3296.	1.4	14
39	Asymmetric enhanced surface interdigitated electrode capacitor with two out-of-plane electrodes. Sensors and Actuators B: Chemical, 2018, 254, 588-596.	4.0	13
40	Strained-Si on Si/sub 1-x/Ge/sub x/ MOSFET inversion layer centroid modeling. IEEE Transactions on Electron Devices, 2001, 48, 2447-2449.	1.6	12
41	A Low-Frequency Noise Model for Four-Gate Field-Effect Transistors. IEEE Transactions on Electron Devices, 2008, 55, 896-903.	1.6	12
42	Constant Phase Element in the Time Domain: The Problem of Initialization. Energies, 2022, 15, 792.	1.6	12
43	A procedure for the determination of the effective mobility in an N-MOSFET in the moderate inversion region. Solid-State Electronics, 1996, 39, 875-883.	0.8	11
44	Determination of the concentration of recombination centers in thin asymmetrical p-n junctions from capacitance transient spectroscopy. Applied Physics Letters, 2006, 89, 112107.	1.5	11
45	Analysis of a reverse-biased linearly graded junction with high concentration of deep impurities. Solid-State Electronics, 1990, 33, 805-811.	0.8	10
46	Influence of the interface-state density on the electron mobility in silicon inversion layers. Journal of Electronic Materials, 1993, 22, 1159-1163.	1.0	10
47	Miniband structure and photon absorption in regimented quantum dot systems. Journal of Applied Physics, 2011, 109, .	1.1	10
48	Influence of the Number of Anchoring Groups on the Electronic and Mechanical Properties of Benzeneâ€, Anthraceneâ€•and Pentaceneâ€Based Molecular Devices. ChemPhysChem, 2012, 13, 860-868.	1.0	10
49	Evolution of electrical magnitudes in gradualpâ€njunctions with deep levels during the emission of majority carriers. Journal of Applied Physics, 1992, 72, 4946-4953.	1.1	9
50	Electron transport properties of quantized silicon carbide inversion layers. Journal of Electronic Materials, 1997, 26, 203-207.	1.0	9
51	Monte Carlo simulation of electron mobility in silicon-on-insulator structures. Solid-State Electronics, 2002, 46, 1715-1721.	0.8	9
52	Monte Carlo study of the statistics of electron capture by shallow donors in silicon at low temperatures. Physical Review B, 1995, 51, 14147-14151.	1.1	8
53	Electron transport in ultrathin double-gate SOI devices. Microelectronic Engineering, 2001, 59, 423-427.	1.1	8
54	Intraband photon absorption in edge-defined nanowire superlattices for optoelectronic applications. Journal of Applied Physics, 2010, 108, 124307.	1.1	8

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55	A compact model of the ZARC for circuit simulators in the frequency and time domains. AEU - International Journal of Electronics and Communications, 2022, 153, 154293.	1.7	8
56	Electron transport in silicon-on-insulator devices. Solid-State Electronics, 2001, 45, 613-620.	0.8	7
57	Generation-recombination noise in highly asymmetrical pâ€"n junctions. Journal of Applied Physics, 2002, 92, 320-329.	1.1	7
58	Effects of bulk-impurity and interface-charge on the electron mobility in MOSFETs. Solid-State Electronics, 1995, 38, 611-614.	0.8	6
59	Frequency response of variants of a cantilever beam. , 2012, , .		6
60	Electrical characterization of controlled and unintentional modified metalâ€"organic contacts. Organic Electronics, 2014, 15, 2536-2545.	1.4	6
61	A fractional-order model for calendar aging with dynamic storage conditions. Journal of Energy Storage, 2022, 50, 104537.	3.9	6
62	Electron trapping and detrapping in near-interfacial traps during Fowler-Nordheim tunneling injection at 77 K. Microelectronic Engineering, 1995, 28, 317-320.	1.1	5
63	Understanding the improved performance of strained channel MOSFETs. Semiconductor Science and Technology, 1997, 12, 1603-1608.	1.0	5
64	A closed-loop evaluation and validation of a method for determining the dependence of the electron mobility on the longitudinal-electric field in MOSFETs. IEEE Transactions on Electron Devices, 1997, 44, 1447-1453.	1.6	5
65	Energy dependence of the effective mass in the envelope-function approximation. Physica B: Condensed Matter, 1998, 253, 242-249.	1.3	5
66	An analytical model for the electron velocity overshoot effects in strained-Si on Si/sub x/Ge/sub 1-x/ MOSFETs. IEEE Transactions on Electron Devices, 1998, 45, 993-995.	1.6	4
67	A Multijunction Solar Cell Simulation Program for the Development of Concentration Systems. , 2007, , .		4
68	Localization and quantification of noise sources in fourâ€gate fieldâ€effectâ€transistors. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2010, 23, 285-300.	1.2	4
69	Dracon: An Open-Hardware Based Platform for Single-Chip Low-Cost Reconfigurable IoT Devices. Electronics (Switzerland), 2022, 11, 2080.	1.8	4
70	A simple model for analysing the effects of band non-parabolicity in nanostructures. Semiconductor Science and Technology, 2005, 20, 532-539.	1.0	3
71	Cantilever Fabrication by a Printing and Bonding Process. Journal of Microelectromechanical Systems, 2015, 24, 880-886.	1.7	3
72	Hybrid printed device for simultaneous vapours sensing. IEEE Sensors Journal, 2016, , 1-1.	2.4	3

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73	A non-destructive method to determine impurity-profiles in non-abrupt p-n junctions with deep levels. Solid-State Electronics, 1992, 35, 1729-1736.	0.8	2
74	A high-frequency bidirectional capacitance method to study the evolution of the interface state density generated at low temperatures. Solid-State Electronics, 1992, 35, 73-81.	0.8	2
75	Importance of the choice of the profile model for a p-n junction in the location of deep levels. Journal of Electronic Materials, 1992, 21, 883-886.	1.0	2
76	Comprehensive Monte Carlo simulation of the nonradiative carrier capture process by impurities in semiconductors. Journal of Applied Physics, 1995, 77, 1998-2005.	1.1	2
77	Influence of the doping profile on electron mobility in a MOSFET. IEEE Transactions on Electron Devices, 1996, 43, 2023-2025.	1.6	2
78	Influence of size and shape of InAs/GaAs quantum dots in the photophysics of regimented arrays. Journal of Applied Physics, 2012, 111, 114310.	1.1	2
79	Comparative study of printed capacitive sensors. , 2015, , .		2
80	A detailed simulation study of the performance of -silicon carbide MOSFETs and a comparison with their silicon counterparts. Semiconductor Science and Technology, 1997, 12, 655-661.	1.0	1
81	A computational study of the strained-Si MOSFET: a possible alternative for the next century electronics industry. Computer Physics Communications, 1999, 121-122, 547-549.	3.0	1
82	Strained Si/SiGe Heterostructures at Low Temperatures. A Monte Carlo Study. European Physical Journal Special Topics, 1996, 06, C3-87-C3-92.	0.2	1
83	Monte Carlo Simulation of a Submicron MOSFET Including Inversion Layer Quantization. VLSI Design, 1998, 6, 287-290.	0.5	1
84	Low temperature mobility improvement in high-mobility strained-Si/Si$_{1-x}$Ge$_x$ multilayer MOSFETs. European Physical Journal Special Topics, 1998, 08, Pr3-57-Pr3-60.	0.2	1
85	Simple Single Particle Model for Interpreting Fast Charge Results in Intercalation Batteries. , 2020, , .		1
86	Semi-empirical model of electron mobility in MOSFETs in strong inversion regime. IET Circuits, Devices and Systems, 1996, 143, 202.	0.6	0
87	Experimental determination of the effective mobility in NMOSFETs: a comparative study. Solid-State Electronics, 1999, 43, 701-707.	0.8	0
88	The Escape Time of Electrons from Localised States. Physica Status Solidi (B): Basic Research, 2000, 218, 299-302.	0.7	0
89	Semiempirical closed-form models for the inversion-layer centroid of a p-MOS including quantum effects. Semiconductor Science and Technology, 2000, 15, 85-90.	1.0	0
90	Characterization of impurities in GaInNAs pn junctions from capacitance transient spectroscopy. , 2007, , .		0

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91	Absorption Coefficient in Periodic InAs/GaAs Nanostructures. Journal of Physics: Conference Series, 2010, 245, 012090.	0.3	0
92	Editorial for the Special Issue on Advances in Capacitive Sensors. Micromachines, 2020, 11, 993.	1.4	0
93	Low-Temperature Modelling of Electron-Velocity-Overshoot Effects on 70-250 nm Gate-Length MOSFETs. European Physical Journal Special Topics, 1996, 06, C3-13-C3-18.	0.2	0