V Ramgopal Rao

List of Publications by Citations

265 papers	3,746 citations	34 h-index	47 g-index
316 ext. papers	4,491 ext. citations	3.3 avg, IF	5.44 L-index

#	Paper	IF	Citations
265	. *IEEE Transactions on Electron Devices*, **2011**, 58, 1855-1863	2.9	110
264	Polymer nanocomposite nanomechanical cantilever sensors: material characterization, device development and application in explosive vapour detection. *Nanotechnology*, **2011**, 22, 295501	3.4	90
263	Gate Fringe-Induced Barrier Lowering in Underlap FinFET Structures and Its Optimization. *IEEE Electron Device Letters*, **2008**, 29, 128-130	4.4	90
262	$1/f$ Noise in Drain and Gate Current of MOSFETs With High-k Gate Stacks. *IEEE Transactions on Device and Materials Reliability*, **2009**, 9, 180-189	1.6	86
261	Insights Into the Design and Optimization of Tunnel-FET Devices and Circuits. *IEEE Transactions on Electron Devices*, **2011**, 58, 1045-1053	2.9	74
260	Impact of Halo Doping on the Subthreshold Performance of Deep-Submicrometer CMOS Devices and Circuits for Ultralow Power Analog/Mixed-Signal Applications. *IEEE Transactions on Electron Devices*, **2007**, 54, 241-248	2.9	74
259	. *IEEE Transactions on Electron Devices*, **2012**, 59, 1353-1363	2.9	72
258	Silanization and antibody immobilization on SU-8. *Applied Surface Science*, **2007**, 253, 3127-3132	6.7	68
257	DC Compact Model for SOI Tunnel Field-Effect Transistors. *IEEE Transactions on Electron Devices*, **2012**, 59, 2635-2642	2.9	66
256	NBTI degradation and its impact for analog circuit reliability. *IEEE Transactions on Electron Devices*, **2005**, 52, 2609-2615	2.9	66
255	The effect of high-K gate dielectrics on deep submicrometer CMOS device and circuit performance. *IEEE Transactions on Electron Devices*, **2002**, 49, 826-831	2.9	65
254	A novel dry method for surface modification of SU-8 for immobilization of biomolecules in Bio-MEMS. *Biosensors and Bioelectronics*, **2007**, 22, 2429-35	11.8	61
253	Impact of High-k Gate Dielectrics on the Device and Circuit Performance of Nanoscale FinFETs. *IEEE Electron Device Letters*, **2007**, 28, 295-297	4.4	60
252	An ultra-sensitive piezoresistive polymer nano-composite microcantilever sensor electronic nose platform for explosive vapor detection. *Sensors and Actuators B: Chemical*, **2014**, 192, 444-451	8.5	58
251	Fluorescence and piezoresistive cantilever sensing of trinitrotoluene by an upper-rim tetrabenzimidazole conjugate of calix[4]arene and delineation of the features of the complex by molecular dynamics. *ACS Applied Materials & Interfaces*, **2013**, 5, 13448-56	9.5	54
250	Polymer microcantilever biochemical sensors with integrated polymer composites for electrical detection. *Solid State Sciences*, **2009**, 11, 1606-1611	3.4	50
249	Photopatternable nano-composite (SU-8/ZnO) thin films for piezo-electric applications. *Applied Physics Letters*, **2012**, 101, 104102	3.4	49

248	OFET based explosive sensors using diketopyrrolopyrrole and metal organic framework composite active channel material. *Sensors and Actuators B: Chemical*, **2016**, 223, 114-122	8.5	47
247	Modeling of parasitic capacitances in deep submicrometer conventional and high-K dielectric MOS transistors. *IEEE Transactions on Electron Devices*, **2003**, 50, 959-966	2.9	46
246	Device Design and Optimization Considerations for Bulk FinFETs. *IEEE Transactions on Electron Devices*, **2008**, 55, 609-615	2.9	45
245	Polymer composite-based OFET sensor with improved sensitivity towards nitro based explosive vapors. *Sensors and Actuators B: Chemical*, **2010**, 148, 158-165	8.5	43
244	Giant UV Photoresponse of GaN-Based Photodetectors by Surface Modification Using Phenol-Functionalized Porphyrin Organic Molecules. *ACS Applied Materials & Interfaces*, **2019**, 11, 12017-12026	9.5	41
243	. *IEEE Electron Device Letters*, **1998**, 19, 475-477	4.4	41
242	Optimization and realization of sub-100-nm channel length single halo p-MOSFETs. *IEEE Transactions on Electron Devices*, **2002**, 49, 1077-1079	2.9	41
241	Device scaling effects on hot-carrier induced interface and oxide-trapped charge distributions in MOSFETs. *IEEE Transactions on Electron Devices*, **2000**, 47, 789-796	2.9	41
240	A Novel Photoplastic Piezoelectric Nanocomposite for MEMS Applications. *Journal of Microelectromechanical Systems*, **2012**, 21, 259-261	2.5	39
239	. *Journal of Microelectromechanical Systems*, **2009**, 18, 79-87	2.5	38
238	Vocal Melody Extraction in the Presence of Pitched Accompaniment in Polyphonic Music. *IEEE Transactions on Audio Speech and Language Processing*, **2010**, 18, 2145-2154		38
237	Strain induced anisotropic effect on electron mobility in C60 based organic field effect transistors. *Applied Physics Letters*, **2012**, 101, 083305	3.4	37
236	Sub-20 nm gate length FinFET design: Can high-κ spacers make a difference? **2008**,		37
235	Microscopic Origin of Piezoelectricity in Lead-Free Halide Perovskite: Application in Nanogenerator Design. *ACS Energy Letters*, **2019**, 4, 1004-1011	20.1	36
234	Solution-Processed n-Type Organic Field-Effect Transistors With High on /off Current Ratios Based on Fullerene Derivatives. *IEEE Electron Device Letters*, **2007**, 28, 880-883	4.4	36
233	Impact of lateral asymmetric channel doping on deep submicrometer mixed-signal device and circuit performance. *IEEE Transactions on Electron Devices*, **2003**, 50, 2481-2489	2.9	35
232	Explosive vapor sensor using poly (3-hexylthiophene) and CuII tetraphenylporphyrin composite based organic field effect transistors. *Applied Physics Letters*, **2008**, 93, 263306	3.4	34
231	. *IEEE Transactions on Electron Devices*, **2011**, 58, 1597-1607	2.9	33

230	Solution-Processed Bootstrapped Organic Inverters Based on P3HT With a High- k Gate Dielectric Material. *IEEE Electron Device Letters*, **2009**, 30, 484-486	4.4	32
229	Determining ionizing radiation using sensors based on organic semiconducting material. *Applied Physics Letters*, **2009**, 94, 123304	3.4	32
228	Part I: Mixed-Signal Performance of Various High-Voltage Drain-Extended MOS Devices. *IEEE Transactions on Electron Devices*, **2010**, 57, 448-457	2.9	32
227	Al-doped ZnO thin-film transistor embedded micro-cantilever as a piezoresistive sensor. *Applied Physics Letters*, **2013**, 102, 064101	3.4	31
226	The effect of LAC doping on deep submicrometer transistor capacitances and its influence on device RF performance. *IEEE Transactions on Electron Devices*, **2004**, 51, 1416-1423	2.9	31
225	An ultra-sensitive piezoresistive polymer nano-composite microcantilever platform for humidity and soil moisture detection. *Sensors and Actuators B: Chemical*, **2014**, 203, 165-173	8.5	29
224	. *IEEE Transactions on Electron Devices*, **2008**, 55, 3274-3282	2.9	28
223	Exploration of velocity overshoot in a high-performance deep sub-0.1-μm SOI MOSFET with asymmetric channel profile. *IEEE Electron Device Letters*, **1999**, 20, 538-540	4.4	28
222	Zinc oxide nanorods functionalized paper for protein preconcentration in biodiagnostics. *Scientific Reports*, **2017**, 7, 43905	4.9	26
221	A Novel Bottom Spacer FinFET Structure for Improved Short-Channel, Power-Delay, and Thermal Performance. *IEEE Transactions on Electron Devices*, **2010**, 57, 1287-1294	2.9	26
220	Organic FETs with HWCVD silicon nitride as a passivation layer and gate dielectric. *Thin Solid Films*, **2008**, 516, 770-772	2.2	26
219	. *IEEE Nanotechnology Magazine*, **2012**, 11, 701-706	2.6	25
218	Vibtrational energy harvesting using photo-patternable piezoelectric nanocomposite cantilevers. *Nano Energy*, **2013**, 2, 923-932	17.1	24
217	A Binary Tunnel Field Effect Transistor with a Steep Sub-threshold Swing and Increased ON Current. *Japanese Journal of Applied Physics*, **2010**, 49, 120203	1.4	24
216	A Novel Drain-Extended FinFET Device for High-Voltage High-Speed Applications. *IEEE Electron Device Letters*, **2012**, 33, 1432-1434	4.4	23
215	. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, **2009**, 28, 1061-1070	2.5	23
214	A comprehensive study of hot-carrier induced interface and oxide trap distributions in MOSFETs using a novel charge pumping technique. *IEEE Transactions on Electron Devices*, **2000**, 47, 171-177	2.9	23
213	A Novel TCAD-Based Thermal Extraction Approach for Nanoscale FinFETs. *IEEE Transactions on Electron Devices*, **2017**, 64, 1404-1407	2.9	21

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211	. *Journal of Microelectromechanical Systems*, **2015**, 24, 1111-1116	2.5	21
210	Impact of Fringe Capacitance on the Performance of Nanoscale FinFETs. *IEEE Electron Device Letters*, **2010**, 31, 83-85	4.4	21
209	Power-area evaluation of various double-gate RF mixer topologies. *IEEE Electron Device Letters*, **2005**, 26, 664-666	4.4	21
208	Part II: Investigation of Subthreshold Swing in Line Tunnel FETs Using Bias Stress Measurements. *IEEE Transactions on Electron Devices*, **2013**, 60, 4065-4072	2.9	20
207	Significant improvement in the electrical characteristics of Schottky barrier diodes on molecularly modified Gallium Nitride surfaces. *Applied Physics Letters*, **2018**, 112, 163502	3.4	19
206	Facile fabrication of graphene devices through metalloporphyrin induced photocatalytic reduction. *RSC Advances*, **2012**, 2, 4120	3.7	19
205	. *IEEE Transactions on Electron Devices*, **2010**, 57, 2243-2250	2.9	19
204	Rare Earth Oxides in Microelectronics345-365		19
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202	□rganic CantiFET□A Nanomechanical Polymer Cantilever Sensor With Integrated OFET. *Journal of Microelectromechanical Systems*, **2012**, 21, 294-301	2.5	18
201	Sub 0.5 V Operation of Performance Driven Mobile Systems Based on Area Scaled Tunnel FET Devices. *IEEE Transactions on Electron Devices*, **2013**, 60, 2626-2633	2.9	18
200	Electret mechanism, hysteresis, and ambient performance of sol-gel silica gate dielectrics in pentacene field-effect transistors. *Applied Physics Letters*, **2007**, 91, 242107	3.4	18
199	Development of graphene nanoplatelet embedded polymer microcantilever for vapour phase explosive detection applications. *Journal of Applied Physics*, **2014**, 116, 124902	2.5	17
198	A direct charge pumping technique for spatial profiling of hot-carrier induced interface and oxide traps in MOSFETs. *Solid-State Electronics*, **1999**, 43, 915-922	1.7	17
197	H2S detection using low-cost SnO2 nano-particle Bi-layer OFETs. *Sensors and Actuators B: Chemical*, **2016**, 235, 378-385	8.5	17
196	Electrical actuation and readout in a nanoelectromechanical resonator based on a laterally suspended zinc oxide nanowire. *Nanotechnology*, **2012**, 23, 025501	3.4	16
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194	Investigation of effects of ionizing radiation exposure on material properties of organic semiconducting oligomer Pentacene. *Organic Electronics*, **2013**, 14, 1467-1476	3.5	15
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192	. *IEEE Transactions on Electron Devices*, **2009**, 56, 1063-1069	2.9	15
191	. *IEEE Transactions on Electron Devices*, **2008**, 55, 2173-2180	2.9	15
190	A new oxide trap-assisted NBTI degradation model. *IEEE Electron Device Letters*, **2005**, 26, 687-689	4.4	15
189	Monitoring soil pH variation using Polyaniline/SU-8 composite film based conductometric microsensor. *Sensors and Actuators B: Chemical*, **2019**, 286, 583-590	8.5	14
188	Current Excitation Method for $Delta{R}$ Measurement in Piezo-Resistive Sensors With a 0.3-ppm Resolution. *IEEE Transactions on Instrumentation and Measurement*, **2012**, 61, 767-774	5.2	14
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183	Part I: High-Voltage MOS Device Design for Improved Static and RF Performance. *IEEE Transactions on Electron Devices*, **2015**, 62, 3168-3175	2.9	13
182	ZnO Nanowire Embedded Strain Sensing Cantilever: A New Ultra-Sensitive Technology Platform. *Journal of Microelectromechanical Systems*, **2013**, 22, 995-997	2.5	13
181	Investigations of enhanced device characteristics in pentacene-based field effect transistors with sol-gel interfacial layer. *Applied Physics Letters*, **2007**, 90, 122112	3.4	13
180	Superior hot carrier reliability of single halo (SH) silicon-on-insulator (SOI) nMOSFET in analog applications. *IEEE Transactions on Device and Materials Reliability*, **2005**, 5, 127-132	1.6	13
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174	Asymmetric immobilization of antibodies on a piezo-resistive micro-cantilever surface. *RSC Advances*, **2016**, 6, 17606-17616	3.7	12
173	Morphology and Curie temperature engineering in crystalline La0.7Sr0.3MnO3 films on Si by pulsed laser deposition. *Journal of Applied Physics*, **2014**, 115, 033518	2.5	12
172	Copper(II) phthalocyanine based organic electronic devices for ionizing radiation dosimetry applications. *Organic Electronics*, **2013**, 14, 1281-1290	3.5	12
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170	Porphyrin Self-Assembled Monolayer as a Copper Diffusion Barrier for Advanced CMOS Technologies. *IEEE Transactions on Electron Devices*, **2012**, 59, 1963-1969	2.9	12
169	Mobility enhancement of solution-processed Poly(3-Hexylthiophene) based organic transistor using zinc oxide nanostructures. *Composites Part B: Engineering*, **2012**, 43, 1645-1648	10	12
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167	Implications of fin width scaling on variability and reliability of high-k metal gate FinFETs. *Microelectronic Engineering*, **2010**, 87, 1963-1967	2.5	12
166	On the dc and noise properties of the gate current in epitaxial Ge p-channel metal oxide semiconductor field effect transistors with TiNTaNHfO2SiO2 gate stack. *Applied Physics Letters*, **2008**, 92, 163508	3.4	12
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160	Fabrication of unipolar graphene field-effect transistors by modifying source and drain electrode interfaces with zinc porphyrin. *ACS Applied Materials & Interfaces*, **2012**, 4, 1434-9	9.5	10
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157	A study of hot-carrier induced interface-trap profiles in lateral asymmetric channel MOSFETs using a novel charge pumping technique. *Solid-State Electronics*, **2001**, 45, 1717-1723	1.7	10
156	Performance and hot-carrier reliability of 100 nm channel length jet vapor deposited Si/sub 3/N/sub 4/ MNSFETs. *IEEE Transactions on Electron Devices*, **2001**, 48, 679-684	2.9	10
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151	Fabrication and characterization of novel polymer composite microcantilever sensors for explosive detection **2010**,		9
150	On the failure mechanism and current instabilities in RESURF type DeNMOS device under ESD conditions **2010**,		9
149	A new physical insight and 3D device modeling of STI type denmos device failure under ESD conditions **2009**,		9
148	Border-Trap Characterization in High-$kappa$ Strained-Si MOSFETs. *IEEE Electron Device Letters*, **2007**, 28, 731-733	4.4	9
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138	NANOMECHANICAL CHARACTERIZATION OF MULTIFERROIC THIN FILMS FOR MICRO-ELECTROMECHANICAL SYSTEMS. *International Journal of Nanoscience*, **2011**, 10, 1039-1043	0.6	8
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133	100 nm channel length MNSFETs using a jet vapor deposited ultra-thin silicon nitride gate dielectric		7
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109	Microcantilever Based Dual Mode Optical Biosensor for Agricultural Pathogen Detection **2018**,		5
108	Anomalous Width Dependence of Gate Current in High- K Metal Gate nMOS Transistors. *IEEE Electron Device Letters*, **2015**, 36, 739-741	4.4	4
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106	A highly sensitive piezoresistive cantilever based sensor platform for detection of macronutrients in soil **2015**,		4
105	Piezoresistive 6-MNA coated microcantilevers with signal conditioning circuits for electronic nose **2011**,		4

104	A CAD-compatible closed form approximation for the inversion charge areal density in double-gate MOSFETs. *Solid-State Electronics*, **2009**, 53, 218-224	1.7	4
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