

Mehran Mehregany

List of Publications by Year in descending order

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148
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87888

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153
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3831
citing authors

#	ARTICLE	IF	CITATIONS
1	Embedded two-phase cooling of high heat flux electronics on silicon carbide (SiC) using thin-film evaporation and an enhanced delivery system (FEEDS) manifold-microchannel cooler. , 2017, , .		17
2	Thick PECVD silicon dioxide films for MEMS devices. Sensors and Actuators A: Physical, 2016, 240, 1-9.	4.1	6
3	Doped polycrystalline 3C-SiC films with low stress for MEMS: part II. Characterization using micromachined structures. Journal of Micromechanics and Microengineering, 2014, 24, 065001.	2.6	1
4	Doped polycrystalline 3C-SiC films with low stress for MEMS: part I. Deposition conditions and film properties. Journal of Micromechanics and Microengineering, 2014, 24, 035013.	2.6	1
5	Toward ultralow-power computing at extreme with silicon carbide (SiC) nanoelectromechanical logic. , 2014, , .		0
6	Analysis of practical scaling limits in nanoelectromechanical switches. , 2014, , .		3
7	Toward ultralow-power computing at extreme with silicon carbide (SiC) nanoelectromechanical logic. , 2014, , .		1
8	Characterization of Thermoelectric Properties of Heavily Doped n-Type Polycrystalline Silicon Carbide Thin Films. IEEE Transactions on Electron Devices, 2013, 60, 513-517.	3.0	9
9	Robust silicon carbide (SiC) nanoelectromechanical switches with long cycles in ambient and high temperature conditions. , 2013, , .		14
10	Dual-gate silicon carbide (SiC) lateral nanoelectromechanical switches. , 2013, , .		9
11	Media compatible stainless steel capacitive pressure sensors. Sensors and Actuators A: Physical, 2013, 189, 134-142.	4.1	14
12	Advances in silicon carbide micro- and nano-electro-mechanical systems fabrication technology and applications. , 2013, , .		3
13	Time-domain AC characterization of silicon carbide (SiC) nanoelectromechanical switches toward high-speed operations. , 2013, , .		9
14	Nanomechanical non-volatile memory for computing at extreme. , 2013, , .		5
15	A Fully Monolithic 6H-SiC JFET-Based Transimpedance Amplifier for High-Temperature Capacitive Sensing. IEEE Transactions on Electron Devices, 2013, 60, 4146-4151.	3.0	3
16	Silicon carbide (SiC) nanoelectromechanical switches and logic gates with long cycles and robust performance in ambient air and at high temperature. , 2013, , .		18
17	Seebeck Coefficient of Heavily Doped Polycrystalline 3C-SiC Deposited by LPCVD. Materials Science Forum, 2012, 717-720, 541-544.	0.3	1
18	A Reduction of Defects in the SiO ₂ -SiC System Using the SiC Vacuum Field-Effect Transistor (VacFET). Materials Science Forum, 2012, 717-720, 777-780.	0.3	0

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19	SiC JFET integrated circuits for sensing and control at temperatures up to 600°C. , 2012, , .		13
20	Passive Substrate Temperature Compensation of Doubly Anchored Double-Ended Tuning Forks. Journal of Microelectromechanical Systems, 2012, 21, 1321-1328.	2.5	22
21	550 $^{\circ}$ C Integrated Logic Circuits using 6H-SiC JFETs. IEEE Electron Device Letters, 2012, 33, 1369-1371.	3.9	27
22	Stainless steel capacitive pressure sensor for hostile environments: Sample-to-sample variability and reliability characterization. , 2011, , .		2
23	Silicon carbide pressure sensor for high temperature and high pressure applications: Influence of substrate material on performance. , 2011, , .		9
24	Thermal oxidation of silicon carbide: A comparison of n-type and p-type doped epitaxial layers. Applied Physics Letters, 2011, 98, 042109.	3.3	3
25	A mobile wearable wireless fetal heart monitoring system. , 2011, , .		14
26	Use of Vacuum as a Gate Dielectric: The SiC VacFET. Materials Science Forum, 2011, 679-680, 657-661.	0.3	1
27	High-temperature (>500°C) reconfigurable computing using silicon carbide NEMS switches. , 2011, , .		2
28	Low Stress Polycrystalline SiC Thin Films Suitable for MEMS Applications. Journal of the Electrochemical Society, 2011, 158, H675-H680.	2.9	16
29	Real-Time, Model Based Algorithm Implementation for Human Posture Classification. , 2011, , .		1
30	Personal Navigation via High-Resolution Gait-Corrected Inertial Measurement Units. IEEE Transactions on Instrumentation and Measurement, 2010, 59, 3018-3027.	4.7	142
31	Material Aspects of Micro- and Nanoelectromechanical Systems. , 2010, , 333-356.		2
32	Electromechanical Computing at 500ÀC with Silicon Carbide. Science, 2010, 329, 1316-1318.	12.6	185
33	Silicon carbide NEMS logic for high-temperature applications. , 2010, , .		3
34	Fabrication of SiC JFET-Based Monolithic Integrated Circuits. Materials Science Forum, 2010, 645-648, 1115-1118.	0.3	4
35	Stainless steel capacitive pressure sensor for high pressure and corrosive media applications. , 2010, , .		9
36	A high-voltage, high-current CMOS pulse generator ASIC for deep brain stimulation. , 2010, 2010, 1519-22.		6

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37	Low Voltage Nanoelectromechanical Switches Based on Silicon Carbide Nanowires. Nano Letters, 2010, 10, 2891-2896.	9.1	163
38	Personal navigation via shoe mounted inertial measurement units. , 2010, , .		19
39	A headband for classifying human postures. , 2010, 2010, 382-5.		3
40	MEMS/NEMS Devices and Applications. , 2010, , 359-387.		9
41	6H-SiC JFETs for 450 μm Differential Sensing Applications. Journal of Microelectromechanical Systems, 2009, 18, 950-961.	2.5	20
42	Observation of stacking faults formed during homoepitaxial growth of p-type 4H-SiC. Applied Physics Letters, 2009, 94, .	3.3	4
43	3-D microfabricated electrodes for targeted deep brain stimulation. , 2009, 2009, 6493-6.		6
44	Thickness-Dependant Electrical Characteristics of Nitrogen-Doped Polycrystalline 3C-SiC Thin Films Deposited by LPCVD. Materials Research Society Symposia Proceedings, 2009, 1222, 1.	0.1	1
45	Extreme temperature 6H-SiC JFET integrated circuit technology. Physica Status Solidi (A) Applications and Materials Science, 2009, 206, 2329-2345.	1.8	101
46	Fully-monolithic, 600mV differential amplifiers in 6H-SiC JFET IC technology. , 2009, , .		26
47	Development of Nickel Wire Bonding for High-Temperature Packaging of SiC Devices. IEEE Transactions on Advanced Packaging, 2009, 32, 564-574.	1.6	21
48	A silicon carbide capacitive pressure sensor for in-cylinder pressure measurement. Sensors and Actuators A: Physical, 2008, 145-146, 2-8.	4.1	82
49	Very Thin Poly-SiC Films for Micro/Nano Devices. Journal of Nanoscience and Nanotechnology, 2008, 8, 3063-3067.	0.9	3
50	6H-SiC Lateral JFETs for Analog Integrated Circuits. Materials Science Forum, 2008, 600-603, 1099-1102.	0.3	1
51	Energy Dissipation in Folded-Beam MEMS Resonators Made from Single Crystal and Polycrystalline 3C-SiC Films. , 2007, , .		2
52	A Piezoelectrically-Actuated Valve for Modulation of Liquid at High Flow Rate Under High Pressure. , 2007, , .		3
53	Characterization of Silicon Carbide Differential Amplifiers at High Temperature. , 2007, , .		9
54	MEMS/NEMS Devices and Applications. , 2007, , 415-442.		2

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55	A Silicon Carbide Capacitive Pressure Sensor for High Temperature and Harsh Environment Applications. , 2007, , .		17
56	A SiC MEMS Resonant Strain Sensor for Harsh Environment Applications. IEEE Sensors Journal, 2007, 7, 568-576.	4.7	151
57	Exploring Silicon Carbide For Thermal Infrared Radiators. , 2007, , .		2
58	Characterization of frequency tuning using focused ion beam platinum deposition. Journal of Micromechanics and Microengineering, 2007, 17, 213-219.	2.6	40
59	Mechanical properties of a 3C-SiC film between room temperature and 600°C. Journal Physics D: Applied Physics, 2007, 40, 3335-3342.	2.8	35
60	A study of electrical properties and microstructure of nitrogen-doped poly-SiC films deposited by LPCVD. Sensors and Actuators A: Physical, 2007, 136, 613-617.	4.1	19
61	Material Aspects of Micro- and Nanoelectromechanical Systems. , 2007, , 299-322.		0
62	The mechanical properties of polycrystalline 3C-SiC films grown on polysilicon substrates by atmospheric pressure chemical-vapor deposition. Journal of Applied Physics, 2006, 99, 044108.	2.5	36
63	Electrothermal tuning of Al-SiC nanomechanical resonators. Nanotechnology, 2006, 17, 1506-1511.	2.6	96
64	Fabrication and testing of bulk micromachined silicon carbide piezoresistive pressure sensors for high temperature applications. IEEE Sensors Journal, 2006, 6, 316-324.	4.7	101
65	Electrical properties of nickel oxide thin films for flow sensor application. Sensors and Actuators A: Physical, 2006, 125, 363-366.	4.1	19
66	SiC cantilever resonators with electrothermal actuation. Sensors and Actuators A: Physical, 2006, 128, 376-386.	4.1	62
67	Fabrication of hall device structures in 3C-SiC using microelectromechanical processing technology. Microelectronic Engineering, 2006, 83, 1396-1399.	2.4	3
68	Novel Polycrystalline SiC Films Containing Nanoscale Through-Pores by Selective APCVD. Materials Science Forum, 2006, 527-529, 755-758.	0.3	0
69	Nitrogen-Doping of Polycrystalline 3C-SiC Films Deposited by Low Pressure Chemical Vapor Deposition. Materials Science Forum, 2006, 527-529, 311-314.	0.3	4
70	Characterization of Low Stress, Undoped LPCVD Polycrystalline SiC Films for MEMS Applications. Materials Science Forum, 2006, 527-529, 1103-1106.	0.3	0
71	DEPOSITION TECHNIQUES FOR SiC MEMS. , 2006, , 18-45.		3
72	Polycrystalline 3C-SiC thin films deposited by dual precursor LPCVD for MEMS applications. Sensors and Actuators A: Physical, 2005, 119, 169-176.	4.1	48

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73	Measurement of residual stress and elastic modulus of polycrystalline 3C-SiC films deposited by low-pressure chemical vapor deposition. <i>Thin Solid Films</i> , 2005, 492, 195-202.	1.8	41
74	Polycrystalline silicon-carbide surface-micromachined vertical resonators-part II: electrical testing and material property extraction. <i>Journal of Microelectromechanical Systems</i> , 2005, 14, 579-589.	2.5	22
75	Mechanical properties of epitaxial 3C silicon carbide thin films. <i>Journal of Microelectromechanical Systems</i> , 2005, 14, 664-672.	2.5	45
76	VHF, UHF and microwave frequency nanomechanical resonators. <i>New Journal of Physics</i> , 2005, 7, 247-247.	2.9	106
77	Polycrystalline silicon-carbide surface-micromachined vertical resonators-part I: growth study and device fabrication. <i>Journal of Microelectromechanical Systems</i> , 2005, 14, 567-578.	2.5	18
78	Use of deposition pressure to control residual stress in polycrystalline SiC films. <i>Applied Physics Letters</i> , 2004, 84, 341-343.	3.3	51
79	Young's Modulus and Residual Stress of Polycrystalline 3C-SiC Films Grown by LPCVD and Measured by the Load-Deflection Technique. <i>Materials Science Forum</i> , 2004, 457-460, 1519-1522.	0.3	4
80	Characterization of Polycrystalline SiC Thin Films for MEMS Applications using Surface Micromachined Devices. <i>Materials Science Forum</i> , 2004, 457-460, 1523-1526.	0.3	5
81	Advanced Processing Techniques for Silicon Carbide MEMS and NEMS. <i>Materials Science Forum</i> , 2004, 457-460, 1451-1456.	0.3	4
82	MEMS/NEMS Devices and Applications. , 2004, , 225-252.		2
83	Surface Roughness Control of 3C-SiC Films during the Epitaxial Growth Process. <i>Journal of the Electrochemical Society</i> , 2004, 151, G910.	2.9	13
84	Silicon carbide micro- and nanoelectromechanical systems. , 2004, , .		3
85	Materials Aspects of Micro- and Nanoelectromechanical Systems. , 2004, , 203-224.		1
86	Materials Aspects of Micro- and Nanoelectromechanical Systems. , 2004, , 203-224.		0
87	MEMS/NEMS Devices and Applications. , 2004, , 225-252.		0
88	Nanodevice motion at microwave frequencies. <i>Nature</i> , 2003, 421, 496-496.	27.8	505
89	Examination of Bulge Test for Determining Residual Stress, Young's Modulus, and Poisson's Ratio of 3C-SiC Thin Films. <i>Journal of Aerospace Engineering</i> , 2003, 16, 46-54.	1.4	77
90	Mechanical Properties and Morphology of Polycrystalline 3C-SiC Films Deposited on Si and SiO ₂ by LPCVD. <i>Materials Research Society Symposia Proceedings</i> , 2003, 795, 140.	0.1	1

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91	Origin of the split Si-H stretch mode on hydrogen terminated 6H-SiC(0001): Titration of crystal truncation. Applied Physics Letters, 2002, 80, 4726-4728.	3.3	23
92	Quantitative evaluation of biaxial strain in epitaxial 3C-SiC layers on Si(100) substrates by Raman spectroscopy. Journal of Applied Physics, 2002, 91, 1113-1117.	2.5	77
93	High-energy femtosecond pulsed laser micromachining of thin film deposited silicon in self-focused air medium. Journal of Laser Applications, 2002, 14, 221-229.	1.7	4
94	Deposition of Polycrystalline 3C-SiC Films on 100 mm Diameter Si(100) Wafers in a Large-Volume LPCVD Furnace. Electrochemical and Solid-State Letters, 2002, 5, G99.	2.2	63
95	Chemical Mechanical Polishing of Cubic Silicon Carbide Films Grown on Si(100) Wafers. Journal of the Electrochemical Society, 2002, 149, G643.	2.9	15
96	Development of a Multilayer SiC Surface Micromachining Process with Capabilities and Design Rules Comparable to Conventional Polysilicon Surface Micromachining. Materials Science Forum, 2002, 389-393, 755-758.	0.3	19
97	Fabrication and characterization of polycrystalline SiC resonators. IEEE Transactions on Electron Devices, 2002, 49, 2323-2332.	3.0	60
98	A Novel Method of Fabricating SiC-On-Insulator Substrates for Use in MEMS. Materials Research Society Symposia Proceedings, 2001, 681, 1.	0.1	0
99	Pendeo-epitaxial growth of thin films of gallium nitride and related materials and their characterization. Journal of Crystal Growth, 2001, 225, 134-140.	1.5	57
100	Conventional and pendeo-epitaxial growth of GaN(0001) thin films on Si(111) substrates. Journal of Crystal Growth, 2001, 231, 335-341.	1.5	35
101	Surface Micromachining: A Brief Introduction. MRS Bulletin, 2001, 26, 289-290.	3.5	9
102	On the stability of β -SiC with respect to chemical disorder induced by irradiation with energetic particles. Philosophical Magazine Letters, 2001, 81, 55-61.	1.2	5
103	Monocrystalline silicon carbide nanoelectromechanical systems. Applied Physics Letters, 2001, 78, 162-164.	3.3	263
104	Pendeo-epitaxial growth of gallium nitride on silicon substrates. Journal of Electronic Materials, 2000, 29, 306-310.	2.2	21
105	Silicon carbide for microelectromechanical systems. International Materials Reviews, 2000, 45, 85-108.	19.3	132
106	Modelling of HREM and nanodiffraction for dislocation kinks and core reconstruction. Journal of Physics Condensed Matter, 2000, 12, 10175-10183.	1.8	12
107	Fabrication and testing of surface micromachined polycrystalline SiC micromotors. IEEE Electron Device Letters, 2000, 21, 164-166.	3.9	54
108	Micromachining techniques for silicon carbide MEMS. , 1999, , .		0

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109	Roughness Reduction of 3C-SiC Surfaces Using SiC-Based Mechanical Polishing Slurries. Journal of the Electrochemical Society, 1999, 146, 327-330.	2.9	17
110	High-aspect-ratio rotary polygon micromotor scanners. Sensors and Actuators A: Physical, 1999, 77, 73-79.	4.1	8
111	Growth of polycrystalline SiC films on SiO ₂ and Si ₃ N ₄ by APCVD. Thin Solid Films, 1999, 355-356, 179-183.	1.8	9
112	SiC MEMS: opportunities and challenges for applications in harsh environments. Thin Solid Films, 1999, 355-356, 518-524.	1.8	267
113	Fabrication and testing of micromachined silicon carbide and nickel fuel atomizers for gas turbine engines. Journal of Microelectromechanical Systems, 1999, 8, 251-257.	2.5	68
114	Surface micromachining of polycrystalline SiC films using microfabricated molds of SiO ₂ and polysilicon. Journal of Microelectromechanical Systems, 1999, 8, 237-242.	2.5	39
115	Microfabricated Shear Stress Sensors, Part 1: Design and Fabrication. AIAA Journal, 1999, 37, 66-72.	2.6	46
116	Microfabricated Shear Stress Sensors, Part 2: Testing and Calibration. AIAA Journal, 1999, 37, 73-78.	2.6	29
117	Fabrication of low defect density 3C-SiC on SiO ₂ structures using wafer bonding techniques. Journal of Electronic Materials, 1998, 27, L17-L20.	2.2	21
118	Performance of 3C-SiC thin films as protective coatings for silicon-micromachined atomizers. Thin Solid Films, 1998, 315, 170-178.	1.8	20
119	Outer-rotor polysilicon wobble micromotors. Sensors and Actuators A: Physical, 1998, 64, 265-271.	4.1	4
120	Smart ice detection systems based on resonant piezoelectric transducers. Sensors and Actuators A: Physical, 1998, 69, 243-250.	4.1	34
121	Silicon carbide MEMS for harsh environments. Proceedings of the IEEE, 1998, 86, 1594-1609.	21.3	393
122	Spatial Uniformity of the Mechanical Properties of 3C-SiC Films Grown on 4-Inch Si Wafers as a Function of Film Growth Conditions. Materials Science Forum, 1998, 264-268, 635-640.	0.3	2
123	Behaviour of Polycrystalline SiC and Si Surface-Micromachined Lateral Resonant Structures at Elevated Temperatures. Materials Science Forum, 1998, 264-268, 889-894.	0.3	6
124	Characterization of polycrystalline silicon carbide films grown by atmospheric pressure chemical vapor deposition on polycrystalline silicon. Journal of Materials Research, 1998, 13, 406-412.	2.6	45
125	Surface Micromachining of Polycrystalline SiC Deposited on SiO ₂ by APCVD. Materials Science Forum, 1998, 264-268, 885-888.	0.3	29
126	Etching of 3C-SiC using CHF ₃ /O ₂ and CHF ₃ /O ₂ /He plasmas at 1.75 Torr. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1998, 16, 536.	1.6	25

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127	<title>Detection and measurement of ice thickness using microprocessor-controlled resonant transducers</title>. , 1998, , .		0
128	Finite-Element Modeling of Residual Stress in SiC Diaphragms. Materials Research Society Symposia Proceedings, 1998, 518, 221.	0.1	1
129	Micro/Nanotribological Studies of Single-Crystal Silicon and Polysilicon and SiC Films for Use in MEMS Devices. , 1998, , 407-430.		21
130	MICROMACHINED SILICON FUEL ATOMIZERS FOR GAS TURBINE ENGINES. Atomization and Sprays, 1998, 8, 405-418.	0.8	11
131	Surface Roughness of LPCVD Polysilicon and Its Influence on Overlying Electroless Plated Nickel. Journal of the Electrochemical Society, 1997, 144, 3589-3592.	2.9	1
132	New developments in MEMS using SiC and TiNi shape memory alloy materials. Current Opinion in Solid State and Materials Science, 1997, 2, 566-570.	11.5	4
133	Electroless plating of nickel on silicon for fabrication of high-aspect-ratio microstructures. Sensors and Actuators A: Physical, 1996, 56, 261-266.	4.1	41
134	Design, fabrication, and characterization of electrostatic microrelays. , 1995, 2642, 64.		8
135	<title>Fabrication issues in micromachined tunable optical filters</title>. , 1995, , .		0
136	Performance Impact of Monolayer Coating of Polysilicon Micromotors. Journal of the Electrochemical Society, 1995, 142, 1278-1285.	2.9	71
137	Epitaxial growth of 3C SiC films on 4 in. diam (100) silicon wafers by atmospheric pressure chemical vapor deposition. Journal of Applied Physics, 1995, 78, 5136-5138.	2.5	234
138	Effect of rotor slip on the gear ratio of harmonic side-drive micromotors. Sensors and Actuators A: Physical, 1993, 36, 249-254.	4.1	2
139	Mechanical properties of 3C silicon carbide. Applied Physics Letters, 1992, 60, 2992-2994.	3.3	117
140	Mechanical integrity of polysilicon films exposed to hydrofluoric acid solutions. Journal of Electronic Materials, 1991, 20, 665-670.	2.2	33
141	Microfabricated electrohydrodynamic pumps. Sensors and Actuators A: Physical, 1990, 21, 193-197.	4.1	161
142	Principles in design and microfabrication of variable capacitance side-drive motors. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1990, 8, 3614-3624.	2.1	78
143	Anisotropic etching of silicon in hydrazine. Sensors and Actuators, 1988, 13, 375-390.	1.7	59
144	Microfabricated structures for the in situ measurement of residual stress, Young's modulus, and ultimate strain of thin films. Applied Physics Letters, 1987, 51, 241-243.	3.3	261

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145	Novel microstructures for theinsitumeasurement of mechanical properties of thin films. Journal of Applied Physics, 1987, 62, 3579-3584.	2.5	94
146	Silicon Carbide Differential Amplifiers for High-Temperature Sensing. Materials Science Forum, 0, 600-603, 1083-1086.	0.3	5
147	Fully-Integrated 6H-SiC JFET Amplifiers for High-Temperature Sensing. Materials Science Forum, 0, 645-648, 1107-1110.	0.3	1
148	Characterization of Poly-SiC Pressure Sensors for High Temperature and High Pressure Applications. Materials Science Forum, 0, 717-720, 1211-1214.	0.3	2