

Enrique Iborra

List of Publications by Year in descending order

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157
papers

3,272
citations

186265

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all docs

157
docs citations

157
times ranked

3577
citing authors

#	ARTICLE	IF	CITATIONS
1	Colossal Ionic Conductivity at Interfaces of Epitaxial ZrO_2 :Y O_3 / $SrTiO_3$ Heterostructures. <i>Science</i> , 2008, 321, 676-680.	12.6	675
2	Advances in piezoelectric thin films for acoustic biosensors, acoustofluidics and lab-on-chip applications. <i>Progress in Materials Science</i> , 2017, 89, 31-91.	32.8	467
3	Piezoelectric properties and residual stress of sputtered AlN thin films for MEMS applications. <i>Sensors and Actuators A: Physical</i> , 2004, 115, 501-507.	4.1	100
4	Influence of sputtering mechanisms on the preferred orientation of aluminum nitride thin films. <i>Journal of Applied Physics</i> , 2003, 94, 1495-1500.	2.5	92
5	SAW characteristics of AlN films sputtered on silicon substrates. <i>Ultrasonics</i> , 2004, 42, 403-407.	3.9	92
6	Degradation of the piezoelectric response of sputtered c-axis AlN thin films with traces of non-(0002) x-ray diffraction peaks. <i>Applied Physics Letters</i> , 2006, 88, 161915.	3.3	79
7	Reversible electric-field control of magnetization at oxide interfaces. <i>Nature Communications</i> , 2014, 5, 4215.	12.8	59
8	Piezoelectric actuation of microbridges using AlN. <i>Sensors and Actuators A: Physical</i> , 2005, 123-124, 590-595.	4.1	55
9	Influence of crystal properties on the absorption IR spectra of polycrystalline AlN thin films. <i>Diamond and Related Materials</i> , 2003, 12, 1186-1189.	3.9	54
10	IR uncooled bolometers based on amorphous $Ge_xSi_{1-x}O_y$ on silicon micromachined structures. <i>Journal of Microelectromechanical Systems</i> , 2002, 11, 322-329.	2.5	53
11	Tailoring Disorder and Dimensionality: Strategies for Improved Solid Oxide Fuel Cell Electrolytes. <i>ChemPhysChem</i> , 2009, 10, 1003-1011.	2.1	50
12	Influence of oxygen and argon on the crystal quality and piezoelectric response of AlN sputtered thin films. <i>Diamond and Related Materials</i> , 2004, 13, 839-842.	3.9	49
13	Response to Comment on "Colossal Ionic Conductivity at Interfaces of Epitaxial ZrO_2 :Y O_3 / $SrTiO_3$ Heterostructures". <i>Science</i> , 2009, 324, 465-465.	12.6	47
14	Discrete microfluidics based on aluminum nitride surface acoustic wave devices. <i>Microfluidics and Nanofluidics</i> , 2015, 18, 537-548.	2.2	46
15	Effect of rapid thermal annealing on the crystal quality and the piezoelectric response of polycrystalline AlN films. <i>Thin Solid Films</i> , 2006, 515, 1814-1818.	1.8	45
16	Combined assessment of piezoelectric AlN films using X-ray diffraction, infrared absorption and atomic force microscopy. <i>Diamond and Related Materials</i> , 2007, 16, 1421-1424.	3.9	43
17	Characterisation of aluminium nitride films and surface acoustic wave devices for microfluidic applications. <i>Sensors and Actuators B: Chemical</i> , 2014, 202, 984-992.	7.8	43
18	Gravimetric biosensor based on a 1.3 GHz AlN shear-mode solidly mounted resonator. <i>Sensors and Actuators B: Chemical</i> , 2017, 239, 1282-1288.	7.8	43

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19	Simulation and laser vibrometry characterization of piezoelectric AlN thin films. Journal of Applied Physics, 2008, 104, .	2.5	42
20	AlN-based BAW resonators with CNT electrodes for gravimetric biosensing. Sensors and Actuators B: Chemical, 2011, 160, 1386-1393.	7.8	42
21	Surface electron gases generated by Ar^{3+} ions on $SiTiO_x$ surface. Journal of Applied Physics, 2008, 104, 114301.	3.2	40
22	ZnO based SAW and FBAR devices for bio-sensing applications. Journal of Non-Newtonian Fluid Mechanics, 2015, 222, 209-216.	2.4	39
23	Sputtered SiO_2 as low acoustic impedance material for Bragg mirror fabrication in BAW resonators. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2010, 57, 23-29.	3.0	38
24	Effect of particle bombardment on the orientation and the residual stress of sputtered AlN films for SAW devices. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2004, 51, 352-358.	3.0	37
25	CuInSe ₂ thin films produced by rf sputtering in Ar/H ₂ atmospheres. Journal of Applied Physics, 1987, 62, 4163-4169.	2.5	35
26	AlMn Tunnel Junctions with Interface-Induced Barrier Magnetism. Advanced Materials, 2010, 22, 5029-5034.	21.0	34
27	Aluminum nitride for heatspreading in RF ICs. Solid-State Electronics, 2008, 52, 1359-1363.	1.4	32
28	Scandium Aluminium Nitride-Based Film Bulk Acoustic Resonators. Proceedings (mdpi), 2017, 1, .	0.2	30
29	Comparative study of c-axis AlN films sputtered on metallic surfaces. Diamond and Related Materials, 2005, 14, 1198-1202.	3.9	29
30	AlN films sputtered on iridium electrodes for bulk acoustic wave resonators. Thin Solid Films, 2009, 517, 4673-4678.	1.8	27
31	Optimized tilted c-axis AlN films for improved operation of shear mode resonators. Thin Solid Films, 2015, 590, 219-223.	1.8	26
32	Low-thickness high-quality aluminum nitride films for super high frequency solidly mounted resonators. Thin Solid Films, 2012, 520, 3060-3063.	1.8	24
33	Ca _{0.7} MnO ₃ thin films. Journal of Applied Physics, 2008, 104, 114301.	3.2	19
34	Dependence of the IR reflectance LO absorption bands on the crystalline texture of AlN films. Applied Physics Letters, 2006, 88, 231901.	3.3	18
35	Circuit Model for the Analysis of the Piezoelectric Response of AlN Films Using SAW Filters. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2007, 54, 2367-2375.	3.0	18
36	Electrical detection of the mechanical resonances in AlN-actuated microbridges for mass sensing applications. Applied Physics Letters, 2008, 92, .	3.3	18

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37	High-acoustic-impedance tantalum oxide layers for insulating acoustic reflectors. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2012, 59, 366-372.	3.0	18
38	Direct comparison of the gravimetric responsivities of ZnO-based FBARs and SMRs. Sensors and Actuators B: Chemical, 2013, 183, 136-143.	7.8	17
39	On the effectiveness of lateral excitation of shear modes in AlN layered resonators. Ultrasonics, 2014, 54, 1504-1508.	3.9	17
40	Influence of liquid properties on the performance of S O \hat{c} mode Lamb wave sensors II: Experimental validation. Sensors and Actuators B: Chemical, 2016, 229, 331-337.	7.8	17
41	DCS Tx filters using AlN resonators with iridium electrodes. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2010, 57, 518-523.	3.0	16
42	Unified model for Bulk Acoustic Wave resonators' nonlinear effects. , 2009, , .		15
43	Gravimetric sensors operating at 1.1 \hat{c} GHz based on inclined c-axis ZnO grown on textured Al electrodes. Scientific Reports, 2017, 7, 1367.	3.3	15
44	Room temperature sputtering of inclined c-axis ZnO for shear mode solidly mounted resonators. Applied Physics Letters, 2016, 108, 034103.	3.3	15
45	Capacitance characterisation of Cu2S/CdS heterojunctions. Semiconductor Science and Technology, 1988, 3, 781-785.	2.0	14
46	Sputtering of SiO2 in O2 \hat{c} Ar atmospheres. Thin Solid Films, 1986, 139, 201-208.	1.8	13
47	Role of deep levels and interface states in the capacitance characteristics of all \hat{c} sputtered CuInSe2/CdS solar cell heterojunctions. Journal of Applied Physics, 1989, 65, 3236-3241.	2.5	13
48	Amorphous Ge[sub x]Si[sub 1 \hat{c} x]O[sub y] sputtered thin films for integrated sensor applications. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2001, 19, 294.	1.6	13
49	First-Order Elastic Nonlinearities of Bulk Acoustic Wave Resonators. IEEE Transactions on Microwave Theory and Techniques, 2011, 59, 1206-1213.	4.6	13
50	Influence of crystal quality on the excitation and propagation of surface and bulk acoustic waves in polycrystalline AlN films. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2012, 59, 128-134.	3.0	13
51	Growth of carbon nanotube forests on metallic thin films. Carbon, 2015, 90, 9-15.	10.3	13
52	Piezoelectric and electroacoustic properties of Ti-doped AlN thin films as a function of Ti content. , 2012, , .		12
53	Piezoelectric and electroacoustic properties of V-doped and Ta-doped AlN thin films. , 2013, , .		12
54	AlN solidly mounted resonators for high temperature applications. , 2014, , .		12

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55	Impact of FBAR design on its sensitivity as in-liquid gravimetric sensor. <i>Sensors and Actuators A: Physical</i> , 2019, 289, 87-93.	4.1	12
56	Influence of the deposition parameters on the bonding and optical properties of SiNx ECR films. <i>Journal of Non-Crystalline Solids</i> , 1995, 187, 329-333.	3.1	11
57	P1H-6 Picosecond Ultrasonics as a Helpful Technique for Introducing a New Electrode Material in BAW Technology: The Iridium Case. <i>Proceedings IEEE Ultrasonics Symposium</i> , 2007, , .	0.0	11
58	Porous silicon oxide sacrificial layers deposited by pulsed-direct current magnetron sputtering for microelectromechanical systems. <i>Thin Solid Films</i> , 2010, 518, 5128-5133.	1.8	10
59	Assessment of the shear acoustic velocities in the different materials composing a high frequency solidly mounted resonator. <i>Ultrasonics</i> , 2015, 62, 195-199.	3.9	10
60	Carbon nanotube isolation layer enhancing in-liquid quality-factors of thin film bulk acoustic wave resonators for gravimetric sensing. <i>Sensors and Actuators B: Chemical</i> , 2018, 261, 398-407.	7.8	10
61	Thin CuxS sputtered films in Ar/H2 atmospheres. <i>Vacuum</i> , 1987, 37, 437-439.	3.5	9
62	Effects of residual gases and rf power on ITO rf sputtered thin films. <i>Vacuum</i> , 1987, 37, 447-449.	3.5	9
63	Texture improvement of sputtered YBa2Cu3O7-x films on MgO (100) with a SrTiO3 buffer layer. <i>Physica C: Superconductivity and Its Applications</i> , 1993, 218, 59-62.	1.2	9
64	A model for the accurate determination of the electromechanical coupling factor of thin film SAW devices on non-insulating substrates. , 0, , .		9
65	Influence of the electrical extensions in AlN-BAW resonators for in-liquid biosensors. , 2014, , .		9
66	AlN-solidly mounted resonators sustaining up to 1000°C with TCF compensation. , 2017, , .		9
67	The effect of substrate on high-temperature annealing of GaN epilayers: Si versus sapphire. <i>Journal of Applied Physics</i> , 2006, 100, 043508.	2.5	8
68	Tunable mechanical resonator with aluminium nitride piezoelectric actuation. , 2006, 6186, 185.		8
69	BAW resonators based on AlN with Ir electrodes for digital wireless transmissions. , 2008, , .		8
70	Optimization of thin AlN sputtered films for X-band BAW resonators. , 2010, , .		8
71	Induced surface roughness to promote the growth of tilted-AlN films for shear mode resonators. , 2013, , .		8
72	High sensitivity bolometers development. <i>Review of Scientific Instruments</i> , 1992, 63, 4708-4710.	1.3	7

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73	Ge:Si:O evaporated alloys as a thermosensitive layer for large area bolometers. Thin Solid Films, 1999, 337, 253-256.	1.8	7
74	High energy ion characterization of sputtered AlN thin films. Diamond and Related Materials, 2003, 12, 1157-1161.	3.9	7
75	Carbon nanotube forests as top electrode in electroacoustic resonators. Applied Physics Letters, 2015, 107, .	3.3	7
76	Effects of compensating the temperature coefficient of frequency with the acoustic reflector layers on the overall performance of solidly mounted resonators. Ultrasonics, 2017, 74, 153-160.	3.9	7
77	Electrical properties of R.F.-sputtered SiO ₂ films. Thin Solid Films, 1985, 125, 299-303.	1.8	6
78	Electrical characterization of all-sputtered CdS/CuInSe ₂ solar cell heterojunctions. Solar Cells, 1990, 28, 31-39.	0.6	6
79	A new design of a semiconductor bolometer on rigid substrate for fusion plasma diagnostics. Review of Scientific Instruments, 1993, 64, 1714-1717.	1.3	6
80	Ta ₂ O ₅ /SiO ₂ insulating acoustic mirrors for AlN-based X-band BAW resonators. , 2011, , .		6
81	Resistive switching in manganite/graphene hybrid planar nanostructures. Applied Physics Letters, 2014, 104, 102408.	3.3	6
82	Synthesis, characterization and ionic conductivity of Tl(NbTe)O ₆ . Solid State Ionics, 1989, 37, 87-93.	2.7	5
83	Ge and GeO _x films as sacrificial layer for MEMS technology based on piezoelectric AlN: etching and planarization processes (Invited) Tj ETQq1 1 0.784314 rgBT /Overløck 10 Tj 5		
84	Characterization of PVD aluminum nitride for heat spreading in RF IC's. , 2007, , .		5
85	The influence of acoustic reflectors on the temperature coefficient of frequency of solidly mounted resonators. , 2014, , .		5
86	Tungsten Oxide Layers of High Acoustic Impedance for Fully Insulating Acoustic Reflectors. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2016, 63, 938-944.	3.0	5
87	Sputtering process of Cu ₂ S in an Ar atmosphere. Vacuum, 1987, 37, 433-436.	3.5	4
88	Influence of interface states on the electrical characteristics of all-sputtered solar cells. Solar Energy Materials and Solar Cells, 1988, 17, 279-287.	0.4	4
89	Effect of deposition temperature on the electrical properties of p-type Hg _{0.8} Cd _{0.2} Te-ZnS interface. Journal of Crystal Growth, 1990, 101, 584-588.	1.5	4
90	Piezoelectric properties and residual stress of sputtered AlN thin films for MEMS applications. Sensors and Actuators A: Physical, 2004, 115, 501-501.	4.1	4

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91	Advanced determination of piezoelectric properties of AlN thin films on silicon substrates. , 2008, , .		4
92	Design of Computer Experiments: A powerful tool for the numerical design of BAW filters. , 2008, , .		4
93	Sputtered SiO ₂ as low acoustic impedance material for Bragg mirror fabrication in BAW resonators. , 2009, , .		4
94	Assessment of solidly mounted resonators with wide-band asymmetric acoustic reflectors. , 2010, , .		4
95	Characterization of amorphous tantalum oxide for insulating acoustic mirrors. , 2011, , .		4
96	Growth of AlN oriented films on insulating substrates. , 2011, , .		4
97	Carbon nanotube growth on piezoelectric AlN films: influence of catalyst underlayers. RSC Advances, 2015, 5, 80682-80687.	3.6	4
98	Selection of aptamers to Neisseria meningitidis and Streptococcus pneumoniae surface specific proteins and affinity assay using thin film AlN resonators. Sensors and Actuators B: Chemical, 2017, 246, 591-596.	7.8	4
99	Substrate temperature effect on the optical properties of radio-frequency sputtered CuInSe ₂ thin films. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1989, 7, 1424-1427.	2.1	3
100	Granularity effects in transport properties of 123 superconducting thin films. Journal of Alloys and Compounds, 1993, 195, 635-638.	5.5	3
101	SAW and BAW response of c-axis AlN thin films sputtered on platinum. , 0, , .		3
102	7E-6 Aluminum Nitride Bulk Acoustic Wave Devices with Iridium Bottom Electrodes. Proceedings IEEE Ultrasonics Symposium, 2007, , .	0.0	3
103	Wide bandwidth Bragg mirrors for multi-band filter chips. , 2009, , .		3
104	Sputtered Al _{(1-x)Sc_xN} thin films with high areal uniformity for mass production. , 2015, , .		3
105	SO Lamb wave resonators for in-liquid sensing: Promising alternative to shear bulk acoustic wave devices. , 2016, , .		3
106	Effects of biologically compatible buffers on the electrical response of gravimetric sensors operating at GHz frequencies. Sensors and Actuators B: Chemical, 2016, 222, 688-692.	7.8	3
107	Direct integration of CNT forests on solidly mounted resonators and their influence on device performance. , 2017, , .		3
108	Effects of Post-Deposition Vacuum Annealing on the Piezoelectric Properties of AlScN Thin Films Sputtered on 200 Mm Production Wafers. , 2018, , .		3

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109	Reactive sputtering of AlScN thin films with variable Sc content on 200 mm wafers. , 2018, , .		3
110	Photo-induced electrical defects in low-temperature photochemical vapor-deposited silicon nitride films. Journal of Applied Physics, 1990, 67, 1617-1620.	2.5	2
111	<title>Simulation, fabrication, and testing of aluminium nitride piezoelectric microbridges</title>. , 2005, , .		2
112	AlN-on-Si SAW filters: influence of film thickness, IDT geometry and substrate conductivity. , 0, , .		2
113	P1G-2 Assessment of Aluminum Nitride Films Sputtered on Iridium Electrodes. Proceedings IEEE Ultrasonics Symposium, 2007, , .	0.0	2
114	On the lateral excitation of shear modes in AlN layered resonators. , 2012, , .		2
115	Acoustic properties of carbon nanotube electrodes in BAW resonators. , 2013, , .		2
116	Seed layer controlled deposition of ZnO films with a tilted c-axis for shear mode resonators. , 2014, , .		2
117	Transparent thin film bulk acoustic wave resonators. , 2016, , .		2
118	Frequency response of AlN-based solidly mounted resonators under mechanical stress. Sensors and Actuators A: Physical, 2017, 258, 39-43.	4.1	2
119	The Influence of the Acoustic Reflector Design on the Temperature Coefficient of Frequency for Shear and Longitudinal Mode AlN Resonators. Journal of Microelectromechanical Systems, 2017, 26, 1306-1315.	2.5	2
120	Integration of multilayered graphene on AlN based resonators as a functionalization platform for biosensors. , 2017, , .		2
121	AlN-Based Solidly Mounted Resonators on Glass Substrates for High Temperature Applications. , 2018, , .		2
122	Direct growth of few-layer graphene on AlN-based resonators for high-sensitivity gravimetric biosensors. Beilstein Journal of Nanotechnology, 2019, 10, 975-984.	2.8	2
123	Effect of particle bombardment on the orientation and the residual stress of sputtered AlN films for SAW devices. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2004, 51, 352-8.	3.0	2
124	Effects of argon partial pressure and hydrogen admixtures on the properties of sputtered CuInSe ₂ thin films. Applied Surface Science, 1988, 33-34, 844-853.	6.1	1
125	Synthesis and ionic conductivity of mixed oxides (H ₂ ONH ₄)MTeO _{6.5} (M = Cr, W). Materials Research Bulletin, 1988, 23, 1107-1117.	5.2	1
126	Effects of weak intergrain coupling in the transport properties of textured YBCO thin films. Physica C: Superconductivity and Its Applications, 1994, 225, 253-261.	1.2	1

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127	Role of argon ion bombardment in sputtered AlN films for SAW devices. , 0, , .		1
128	Assessment of the piezoelectric response of sputtered AlN films by x-ray diffraction. , 0, , .		1
129	P3O-2 Fast Evaluation of Piezoelectric Aluminum Nitride Films by Infrared Optical Techniques. , 2006, , .		1
130	Frequency Characterization of AlN Piezoelectric Resonators. Frequency Control Symposium and Exhibition, Proceedings of the IEEE International, 2007, , .	0.0	1
131	MEMS Actuated Piezoelectrically with AlN Films. , 2007, , .		1
132	Multiple frequency Solidly Mounted BAW filters. , 2011, , .		1
133	Resonant piezoelectric AlN-actuated microcantilevers for detection of antigen/antibody interactions. Proceedings of SPIE, 2011, , .	0.8	1
134	IR-reflectance assessment of the tilt angle of AlN-wurtzite films for shear mode resonators. , 2013, , .		1
135	AlN shear mode solidly mounted resonator with temperature compensation for in-liquid sensing. , 2014, , .		1
136	Carbon nanotube forests as top electrodes for AlN-based electroacoustic resonators. , 2014, , .		1
137	Assessment of the acoustic shear velocity in SiO ₂ and Mo layers for acoustic reflectors. , 2014, , .		1
138	Bacteria Detection with High-frequency Gravimetric Biosensors Based on AlN Thin Film Resonators. Procedia Engineering, 2016, 168, 638-641.	1.2	1
139	Integration of Graphene on AlN Based High Frequency Resonators and Their Functionalization for Biosensing. Proceedings (mdpi), 2017, 1, 539.	0.2	1
140	Effect of Particle Bombardment on the Orientation and the Residual Stress of Sputtered AlN Films for SAW Devices. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2004, 51, 352-358.	3.0	1
141	Reactive co-evaporation of Si and Ge in oxygen atmospheres. Thin Solid Films, 1999, 343-344, 13-16.	1.8	0
142	Influence of Growth Parameters on the Electrical and Optical Properties of Gex Siy Oz Sputtered Thin Films. , 2005, , 80-84.		0
143	Substrate influence on the high-temperature annealing behavior of GaN: Si vs sapphire. Materials Research Society Symposia Proceedings, 2005, 892, 323.	0.1	0
144	Piezoelectric microresonators based on aluminum Nitride for mass sensing applications. , 2008, , .		0

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145	Influence of AlN quality on the transverse and longitudinal coupling coefficients of acoustic devices. , 2009, , .		0
146	DCS Tx filters using AlN resonators with iridium electrodes. , 2009, , .		0
147	Silicon oxide sacrificial layers deposited by pulsed-DC magnetron sputtering for MEMS applications. Proceedings of SPIE, 2009, , .	0.8	0
148	Solidly mounted resonators with carbon nanotube electrodes for biosensing applications. , 2011, , .		0
149	Experimental comparison of FBARs and SMRs responsivities to mass loadings. , 2012, , .		0
150	ZnO/AlN stacked BAW resonators with double resonance. , 2014, , .		0
151	Microacoustic in-liquid sensors based on thin AlN films: A comparative study. , 2014, , .		0
152	Direct Comparison of the Sensitivity of QCMs and AlN-based TFRs Biosensors. Procedia Engineering, 2016, 168, 481-484.	1.2	0
153	High coupling phononic SH-SAW resonators for in-liquid operation. , 2016, , .		0
154	Influence of induced stress on AlN-solidly mounted resonators. , 2016, , .		0
155	Substrate texturing for homogeneous deposition of tilted c-axis AlN films for shear mode operation. , 2017, , .		0
156	Integration and Bio-Functionalization of Vertically Aligned Carbon Nanotube Forests on High Frequency AlN Gravimetric Sensors. Proceedings (mdpi), 2017, 1, 537.	0.2	0
157	Resonant and Antiresonant Frequencies Behavior with Temperature Changes in Gravimetric Sensors. , 2018, , .		0