

# Takahiko Yanagitani

## List of Publications by Year in descending order

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146  
papers

1,161  
citations

430874

18  
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477307

29  
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147  
all docs

147  
docs citations

147  
times ranked

486  
citing authors

#	ARTICLE	IF	CITATIONS
1	Electromechanical coupling and gigahertz elastic properties of ScAlN films near phase boundary. Applied Physics Letters, 2014, 105, .	3.3	105
2	Control of in-plane and out-of-plane texture in shear mode piezoelectric ZnO films by ion-beam irradiation. Journal of Applied Physics, 2007, 102, .	2.5	63
3	Shear mode electromechanical coupling coefficient $k_{15}$ and crystallites alignment of (112 $\bar{0}$ ) textured ZnO films. Journal of Applied Physics, 2007, 102, .	2.5	63
4	c-Axis Zig-Zag ZnO film ultrasonic transducers for designing longitudinal and shear wave resonant frequencies and modes. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2011, 58, 1062-1068.	3.0	55
5	Correlation between Hydroxyapatite Crystallite Orientation and Ultrasonic Wave Velocities in Bovine Cortical Bone. Calcified Tissue International, 2008, 82, 162-169.	3.1	42
6	Polarity-inverted ScAlN film growth by ion beam irradiation and application to overtone acoustic wave (000-1)/(0001) film resonators. Applied Physics Letters, 2014, 104, .	3.3	39
7	Characteristics of Pure-shear Mode BAW Resonators Consisting of (1120) Textured ZnO Films. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2007, 54, 1680-1686.	3.0	38
8	Giant shear mode electromechanical coupling coefficient $k_{15}$ in c-axis tilted ScAlN films. , 2010, , .		35
9	Unusual growth of polycrystalline oxide film induced by negative ion bombardment in the capacitively coupled plasma deposition. Applied Physics Letters, 2012, 101, 232902.	3.3	34
10	Electromechanical coupling coefficient $k_{15}$ of polycrystalline ZnO films with the c-axes lie in the substrate plane. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2007, 54, 701-704.	3.0	33
11	Formation of uniaxially (112 $\bar{0}$ ) textured ZnO films on glass substrates. Journal of Crystal Growth, 2005, 276, 424-430.	1.5	30
12	Characterization of (11 $\bar{2}$ 0) Textured ZnO Films Fabricated by RF Magnetron Sputtering. Japanese Journal of Applied Physics, 2004, 43, 3004-3007.	1.5	28
13	Enhanced piezoelectricity in YbGaN films near phase boundary. Applied Physics Letters, 2014, 104, .	3.3	28
14	Characteristics of (101 $\bar{0}$ ) and (112 $\bar{0}$ ) textured ZnO piezofilms for a shear mode resonator in the VHF-UHF frequency ranges. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2005, 52, 2140-2145.	3.0	25
15	Propagation characteristics of shear horizontal surface acoustic waves in (11 $\bar{2}$ 0) ZnO film/silica glass substrate structures. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2008, 55, 2709-2713.	3.0	23
16	Electrical potentials in bone induced by ultrasound irradiation in the megahertz range. Applied Physics Letters, 2013, 103, .	3.3	23
17	ScAlN Thick-Film Ultrasonic Transducer in 40 $\sim$ 80 MHz. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2018, 65, 2097-2102.	3.0	21
18	Effects of Sputtering Gas Conditions on Formation of (112 $\bar{0}$ ) Textured ZnO Films. Japanese Journal of Applied Physics, 2007, 46, 4660.	1.5	20

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19	Polarization control of ScAlN, ZnO and PbTiO <sub>3</sub> piezoelectric films: application to polarization-inverted multilayer bulk acoustic wave and surface acoustic wave devices. Japanese Journal of Applied Physics, 2021, 60, SD0803.	1.5	19
20	Effects of microstructure and water on the electrical potentials in bone induced by ultrasound irradiation. Applied Physics Letters, 2015, 106, .	3.3	16
21	P0-12 Highly Oriented C-Axis Tilted ZnO Films with High Quasi-Shear Mode Electromechanical Coupling Coefficients. , 2007, , .		13
22	Deposition techniques of c-axis-tilted ScAlN films by conventional RF magnetron sputtering. , 2010, , .		13
23	Theoretical and experimental study of shear mode bulk acoustic wave transformer based on c-axis zigzag ScAlN multilayer for rectenna application. Applied Physics Letters, 2021, 118, .	3.3	13
24	Distribution of hydroxyapatite crystallite orientation and ultrasonic wave velocity in ring-shaped cortical bone of bovine femur. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2008, 55, 1298-1303.	3.0	12
25	Frequency-switchable polarity-inverted BAW resonators based on PZT/PTO epitaxial films using difference in coercive field. Applied Physics Letters, 2019, 114, 212902.	3.3	12
26	Three-Dimensional Anisotropy of Ultrasonic Wave Velocity in Bovine Cortical Bone: Effects of Hydroxyapatite Crystallites Orientation and Microstructure. Japanese Journal of Applied Physics, 2011, 50, 07HF18.	1.5	11
27	High-c/high-coupling relaxed PZT-based single crystal thin films. Journal of Applied Physics, 2015, 117, .	2.5	11
28	Large-Area Growth of In-Plane Oriented (11̄20) ZnO Films by Linear Cathode Magnetron Sputtering. Japanese Journal of Applied Physics, 2010, 49, 07HD16.	1.5	10
29	Wideband Multimode Transducer Consisting of c-Axis Tilted ZnO/c-Axis Normal ZnO Multilayer. Japanese Journal of Applied Physics, 2012, 51, 07GC08.	1.5	10
30	Relationships between the anisotropy of longitudinal wave velocity and hydroxyapatite crystallite orientation in bovine cortical bone. Ultrasonics, 2012, 52, 377-386.	3.9	10
31	High electromechanical coupling in PZT epitaxial thick film resonators at 550 Å°C. , 2014, , .		10
32	Effect of anisotropy on stress-induced electrical potentials in bovine bone using ultrasound irradiation. Applied Physics Letters, 2017, 110, .	3.3	10
33	Origin of Enhanced Electromechanical Coupling in (Yb,Al)N Nitride Alloys. Physical Review Applied, 2021, 16, .	3.8	10
34	Highly Oriented ZnO Thin Films Deposited by Grazing Ion-Beam Sputtering: Application to Acoustic Shear Wave Excitation in the GHz Range. Japanese Journal of Applied Physics, 2007, 46, L1167-L1169.	1.5	9
35	Texture modification of wurtzite piezoelectric films by ion beam irradiation. Surface and Coatings Technology, 2011, 206, 816-819.	4.8	9
36	Effect of Sc concentration on shear wave velocities in ScAlN films measured by micro-Brillouin scattering technique. , 2014, , .		9

#	ARTICLE	IF	CITATIONS
37	Observation of Induced Shear Acoustic Phonons by Brillouin Scattering. Japanese Journal of Applied Physics, 2007, 46, 4626.	1.5	8
38	Significant shear mode softening in a c-axis tilt nanostructured hexagonal thin film induced by a self-shadowing effect. Scripta Materialia, 2013, 69, 724-727.	5.2	8
39	Acoustic-Wave Velocities and Refractive Indices in an m-Plane GaN Single-Crystal Plate and c-Axis-Oriented ScAlN Films Measured by Brillouin Scattering Techniques. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2016, 63, 717-725.	3.0	8
40	ScAlN polarization inverted resonators and enhancement of $k_{\text{t}}^2$ in new YbAlN materials for BAW devices. , 2019, , .		8
41	Conversion Characteristics of the Shear Wave Transducer Made of Unidirectionally Aligned ZnO Film in Plane. Japanese Journal of Applied Physics, 2006, 45, 4201-4203.	1.5	7
42	Electromechanical coupling coefficient of semiconducting hexagonal crystal measured by Brillouin scattering. , 2008, , .		7
43	Effect of metal mode and oxide mode on unusual c-axis parallel oriented ZnO film growth on Al/glass substrate in a reactive magnetron sputtering of Zn target. Journal of Crystal Growth, 2013, 363, 22-24.	1.5	7
44	Ultrasonically-induced electrical potentials in demineralized bovine cortical bone. AIP Advances, 2018, 8, .	1.3	7
45	Effects of energetic negative ions generated from sputtering targets on ScAlN film growth. , 2016, , .		6
46	Wideband Multimode Transducer Consisting of c-Axis Tilted ZnO/c-Axis Normal ZnO Multilayer. Japanese Journal of Applied Physics, 2012, 51, 07GC08.	1.5	6
47	c-Axis-tilted ScAlN films grown on silicon substrates for surface acoustic wave devices. Japanese Journal of Applied Physics, 2022, 61, SG1054.	1.5	6
48	Non-destructive evaluation of thin ZnO shear wave transducer by Brillouin scattering. , 0, , .		5
49	Distribution of longitudinal wave velocity and hydroxyapatite crystallite orientation in bovine cortical bone. Acoustical Science and Technology, 2009, 30, 306-309.	0.5	5
50	Anisotropy of Longitudinal Wave Velocity and Hydroxyapatite Orientation in Bovine Cortical Bone. Japanese Journal of Applied Physics, 2009, 48, 07GK06.	1.5	5
51	A method for measuring in-plane unidirectional electrical properties in a wide band-gap semiconductor using a Brillouin scattering method. Journal of Applied Physics, 2010, 108, 024910.	2.5	5
52	Influence of shadowing effect on shear mode acoustic properties in the c-axis tilted AlN films. , 2010, , .		5
53	Observation of induced longitudinal and shear acoustic phonons by Brillouin scattering. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2011, 58, 1255-1260.	3.0	5
54	Shear Mode Piezoelectric Thin Film Resonators. , 2011, , .		5

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55	Frequency-switchable polarity-inverted BAW resonators based on electric-field-induced piezoelectric PMN-PT/PZT epitaxial film stacks. Journal of Applied Physics, 2019, 126, .	2.5	5
56	Bulk acoustic wave transformer based on the combination of the high- $\mu$ epitaxial PbTiO <sub>3</sub> and low- $\mu$ ScAlN thin films. Applied Physics Letters, 2021, 118, .	3.3	5
57	Effect of sputtering geometry on (1120) textured ZnO piezofilm. Acoustical Science and Technology, 2006, 27, 53-55.	0.5	5
58	Negative-ion bombardment increases during low-pressure sputtering deposition and their effects on the crystallinities and piezoelectric properties of scandium aluminum nitride films. Journal Physics D: Applied Physics, 2022, 55, 105306.	2.8	5
59	P3H-3 Thin Film Stack Transducer for Simultaneous Generation of Longitudinal and Shear Waves at Same Frequency. Proceedings IEEE Ultrasonics Symposium, 2007, , .	0.0	4
60	A simple technique for obtaining (1120) or (1010) textured ZnO films by RF bias sputtering. , 2010, , .		4
61	High-performance Brillouin spectroscopy of phonons induced by a piezoelectric thin film with a coaxial microwave resonator. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2013, 60, 873-876.	3.0	4
62	A method for predicting thickness of the unoriented layer in ZnO film using piezoelectricity distribution in depth direction. Journal Physics D: Applied Physics, 2013, 46, 315305.	2.8	4
63	High electromechanical coefficient $k^2$ $\geq 19\%$ thick ScAlN piezoelectric films for ultrasonic transducer in low frequency of 80 MHz. , 2017, , .		4
64	Shear Mode Polarity Inverted ScAlN Multilayer for Application to Transformer in Rectifying Antenna. , 2018, , .		4
65	Shear wave transducer using (1120) textured ZnO film. , 0, , .		3
66	Polarization-inverted multilayered pure shear mode AlN film resonator. , 2011, , .		3
67	Polarization inverted (0001) / (000-1) ScAlN film resonators operating in second overtone mode. , 2012, , .		3
68	Gigahertz acoustic wave velocity measurement in GaN single crystals considering acousto-electric effect. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2014, 61, 1307-1313.	3.0	3
69	Second harmonic mode polarization inverted resonator consisting of PbTiO <sub>3</sub> thin film. , 2014, , .		3
70	Film growth of c-axis tilted ScAlN on the sapphire substrate for SAW devices. , 2017, , .		3
71	c-Axis zig-zag polarization inverted ScAlN multilayer for FBAR transformer rectifying antenna. , 2017, , .		3
72	Temperature Characteristics of ScAlN/SiO <sub>2</sub> BAW Resonators. , 2018, , .		3

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73	A Method for Extracting Mechanical Q Factor of the Piezoelectric Film without Etching Substrate. , 2019, , .		3
74	Three-Dimensional Anisotropy of Ultrasonic Wave Velocity in Bovine Cortical Bone: Effects of Hydroxyapatite Crystallites Orientation and Microstructure. Japanese Journal of Applied Physics, 2011, 50, 07HF18.	1.5	3
75	Enhancement of GHz electromechanical coupling coefficient $k_{\text{t}}^2$ of MgZnO and CaZnO thin film BAW resonators. , 2020, , .		3
76	Ion-beam-induced in-plane a-axis oriented (0001) AlN and ScAlN thin film BAW resonators. AIP Advances, 2021, 11, .	1.3	3
77	Enhanced Electromechanical Coupling in Yb-Substituted III-V Nitride Alloys. ACS Applied Electronic Materials, 2022, 4, 3448-3456.	4.3	3
78	P1J-2 Electromechanical Coupling Coefficient $k_{15}$ and Crystallites Alignment of (1120) Textured ZnO Films. , 2006, , .		2
79	P1M-4 Study on Formation Mechanism of (1120) Textured ZnO Films. , 2006, , .		2
80	Quantitative analysis of the effect of energetic particle bombardment during deposition on (1120) texture formation in ZnO films. , 2011, , .		2
81	Brillouin scattering from induced phonons excited by the ZnO piezoelectric thin film with a coaxial resonator. , 2011, , .		2
82	Multiple shear wave roundtrips liquid sensor by c-axis parallel oriented ZnO film/silica glass pipe structure. , 2014, , .		2
83	Broadband frequency viscosity measurement using low TCF shear mode resonators consisting of C-axis tilted scaln thin film on thick at-cut quartz plate. , 2017, , .		2
84	c-Axis zig-zag polarization inverted ScAlN multilayer for FBAR transformer rectifying antenna. , 2017, , .		2
85	High electromechanical coefficient $k_{\text{t}}^2=19\%$ thick ScAlN piezoelectric films for ultrasonic transducer in low frequency of 80 MHz. , 2017, , .		2
86	Investigation of Morphotropic Phase Boundary in Sputter-Grown $\text{Pb}(\text{Zr}_{x/2}\text{Ti}_{1-x/2})_2\text{O}_7/\text{BaTiO}_3/\text{Pb}(\text{Zr}_{x/2}\text{Ti}_{1-x/2})_2\text{O}_7$ Structure. , 2017, , .		2
87	c-Axis Tilted ScAlN Film Shear Mode Resonators for Biosensing. , 2018, , .		2
88	Shear Mode Polarity Inverted ScAlN Multilayer for Application to BAW Transformer in Rectifying Antenna. , 2019, , .		2
89	GHz BAW Piezoelectric Transformers with High Voltage Gain using the Combination of High and Low Dielectric Constant Thin Films. , 2020, , .		2
90	Extraction of $k_{\text{t}}^2$ of piezoelectric film/substrate structure by conversion loss derived by electromagnetic signal including no acoustic losses. , 2020, , .		2

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91	Self-Standing FBAR Transformer based on Shear Mode Zig-zag ScAlN Multilayer for Rectenna Application. , 2020, , .		2
92	4E-4 Propagation Characteristics of SH-SAW in (1120) ZnO Layer/Silica Glass Substrate Structures. , 2007, , .		1
93	Pure-shear mode BAW resonator consisting of (1120) textured AlN films. , 2008, , .		1
94	Multilayered shear wave resonator consisting of c-axis tilted ZnO films. , 2009, , .		1
95	C-axis parallel oriented AlN film resonator fabricated by ion-beam assisted RF magnetron sputtering. , 2011, , .		1
96	PZT-based high coupling with low permittivity thin films. , 2013, , .		1
97	High $T_c$ /high coupling perovskite thin films. , 2014, , .		1
98	Shear mode properties of c-axis parallel oriented ScAlN films grown by RF bias sputtering. , 2015, , .		1
99	Method for measuring polarity-inverted layered structure in dielectric thin films using scanning nonlinear dielectric microscopy. <i>Ferroelectrics</i> , 2016, 498, 47-51.	0.6	1
100	Evaluation of the acoustoelectric effect in the thickness direction of <i>c</i> -plane ZnO single crystals by Brillouin scattering. <i>Journal of Applied Physics</i> , 2017, 121, .	2.5	1
101	Film growth of c-axis tilted ScAlN on the sapphire substrate for SAW devices. , 2017, , .		1
102	Extraction of Electromechanical Coupling Coefficient of Film/Substrate Structure by Using the Ratio of a Third Mode Resonant Frequency to a Fundamental Mode Resonant Frequency. , 2018, , .		1
103	The Influence of Negative Ions Generation on the Arc-Melted and Hot Press Sintered Scal Alloy Targets to the Crystalline Orientation and $k^2$ of the Scaln Films. , 2018, , .		1
104	Rapid Wave Velocity Measurement by Brillouin Scattering Using Coherent Phonons Induced by ScAlN Piezoelectric Thin-Film Transducer. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2018, 65, 1882-1887.	3.0	1
105	Ion beam induced a-axis in-plane oriented c-axis oriented AlN thin film growth for high-Q BAW resonator application. , 2019, , .		1
106	Improvement of c-Axis Parallel Orientation of ZnO film on Silica Glass Pipes with Various Diameters for SH-SAW Pipe Sensor. , 2019, , .		1
107	Effect of negative ions generation from sputtering target on crystalline orientation and $k^2$ of ScAlN thin films. , 2019, , .		1
108	A method to estimate $k^2$ of piezoelectric films from the change of lattice strain by XRD without removing substrate. , 2019, , .		1

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109	Accurate extraction of $k_{t}^2$ of piezoelectric film/substrate structure by conversion loss method for subtracting experimental acoustic losses in the substrate. , 2020, , .		1
110	Giga-hertz piezoelectric epitaxial PZT transducer for the application of fingerprint imaging. , 2020, , .		1
111	Comparison of the $k_{t}^2$ Extraction Methods of Piezoelectric Films in Film/Substrate Structure and Self-Standing Film Structure. , 2021, , .		1
112	A method for evaluating acoustic Bragg reflector by ultrasonic microscope. , 2021, , .		1
113	Detection of protein binding by shear mode ultrasonic reflection coefficients using c-axis tilted ScAlN film above 100MHz. , 2021, , .		1
114	c-Axis oriented ScAlN/SiO <sub>2</sub> multilayer BAW transformer for rectifying antenna applications. , 2020, , .		1
115	Extracting mechanical Q factor of the pure AlN, ScAlN, and ZnO films without etching substrate. , 2020, , .		1
116	Higher-order shear mode FBAR using polarization-inverted layers of (1120) textured zno films. , 0, , .		0
117	Electromechanical coupling coefficient $k_{15}$ of (1120) textured ZnO films. , 0, , .		0
118	P3F-8 Elastic Anisotropy and Crystallites Orientation in Bovine Cortical Bone. , 2006, , .		0
119	P1J-1 Temperature Characteristics of Pure Shear Mode FBARs Consisting of (1120) Textured ZnO Films. , 2006, , .		0
120	P1G-5 Ion Beam Sputter-Deposited ZnO Thin Film for Broadband Shear Wave Excitation in the GHz Range. Proceedings IEEE Ultrasonics Symposium, 2007, , .	0.0	0
121	Measurement of electric properties in a ZnO single crystal via electromechanical coupling using Brillouin scattering method. , 2009, , .		0
122	C-axis parallel oriented ZnO film SH-SAW sensor for electrical conductivity measurement in liquid. , 2011, , .		0
123	Fast hypersonic velocity measurement by Brillouin scattering from induced phonons. , 2012, , .		0
124	Fast wave velocity measurement by Brillouin scattering using coherent induced phonon from ScAlN piezoelectric thin film. , 2015, , .		0
125	Rapid and simultaneous measurement of longitudinal and shear wave velocities by Brillouin scattering from artificially induced phonons. , 2016, , .		0
126	Thick ScAlN film for high efficient ultrasonic transducer in low frequency of 81 MHz. , 2017, , .		0



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127	The frequency switchable multi-layered BST/BaTiO <sub>3</sub> epitaxial film resonator. , 2017, , .		0
128	The frequency switchable multi-layered BST/BaTiO <sub>3</sub> epitaxial film resonator. , 2017, , .		0
129	Notice of Removal: Effects of negative oxygen ions generated during Sc ingot sputtering on electromechanical coupling of ScAlN film. , 2017, , .		0
130	Quantitative thickness measurement of polarity-inverted piezoelectric thin-film layer by scanning nonlinear dielectric microscopy. Japanese Journal of Applied Physics, 2017, 56, 10PF18.	1.5	0
131	A new type wide-frequency-range shear viscosity sensor using c-axis tilted ScAlN thin film on temperature stable AT-cut quartz thick plate. , 2017, , .		0
132	A new type wide-frequency-range shear viscosity sensor using c-axis tilted ScAlN thin film on temperature stable AT-cut quartz thick plate. , 2017, , .		0
133	Notice of Removal: Film growth of c-axis parallel oriented ZnO on entire surface of silica glass pipe for SH-SAW pipe sensor. , 2017, , .		0
134	PZT Epitaxial Thick Film for Ultrasonic Transducer at Frequencies Below 100 MHz. , 2018, , .		0
135	High Efficiency Ultrasonic Transducer Using Polarity Inverted ZnO Film. , 2018, , .		0
136	DC-Induced Piezoelectric Cubic PMN - PT / Piezoelectric Tetragonal PZT Epitaxial Stack Polarity Inverted Resonators for Frequency Switchable Filters. , 2018, , .		0
137	ScAlN Free-Standing 0.1 mm Plates with 30~50 MHz Resonance Frequency. , 2018, , .		0
138	Shear Mode Polarity Inverted ScAlN Multilayer for Application to BAW Transformer in Rectifying Antenna. , 2019, , .		0
139	Anisotropy of Longitudinal Wave Velocity in Spherically Shaped Bovine Cortical Bone. IFMBE Proceedings, 2010, , 102-105.	0.3	0
140	Experimental and theoretical investigation of $k_t^2$ and velocity in YbGaN films by DFT. , 2021, , .		0
141	GHz BAW piezoelectric transformers for passive voltage amplification using the epitaxial ZnO thin films. , 2021, , .		0
142	ScAlN nano-rods structure thin film grown by a self-shadowing oblique sputtering for high electromechanical coupling transducer applications. , 2020, , .		0
143	Measurement of antiresonant frequency during DC bias voltage application for analysis of second harmonic response of ScAlN on SMR. , 2020, , .		0
144	Deterioration in the piezoelectric property of ScAlN thin films by negative ion bombardment increased in low-pressure sputtering deposition. , 2020, , .		0

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145	Experimental and theoretical investigation of $k_t^2$ and mechanical quality factor $Q_m$ in YbAlN films using DFT. , 2020, , .		0
146	Zig-zag ScAlN multilayer SMR for high power BAW filter application such as RF base station. , 2020, , .		0