

Kazuyoshi Tsuchiya

List of Publications by Year in descending order

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117
papers

954
citations

516710

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477307

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117
all docs

117
docs citations

117
times ranked

1214
citing authors

#	ARTICLE	IF	CITATIONS
1	Influence of Al doping on the structural, morphological, optical, and gas sensing properties of ZnO nanorods. <i>Journal of Alloys and Compounds</i> , 2017, 698, 555-564.	5.5	162
2	Development of Blood Extraction System for Health Monitoring System. <i>Biomedical Microdevices</i> , 2005, 7, 347-353.	2.8	82
3	Template-free synthesis of vanadium sesquioxide (V_2O_3) nanosheets and their room-temperature sensing performance. <i>Journal of Materials Chemistry A</i> , 2018, 6, 6402-6413.	10.3	61
4	Microneedle pH Sensor: Direct, Label-Free, Real-Time Detection of Cerebrospinal Fluid and Bladder pH. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 21651-21659.	8.0	55
5	ZnO-Based Microfluidic pH Sensor: A Versatile Approach for Quick Recognition of Circulating Tumor Cells in Blood. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 5193-5203.	8.0	53
6	Investigation on CH ₄ sensing characteristics of hierarchical V ₂ O ₅ nanoflowers operated at relatively low temperature using chemiresistive approach. <i>Analytica Chimica Acta</i> , 2020, 1106, 148-160.	5.4	41
7	Design and development of a biocompatible painless microneedle by the ion sputtering deposition method. <i>Precision Engineering</i> , 2010, 34, 461-466.	3.4	38
8	Optimization of crystal microstructure in piezoelectric ceramics by multiscale finite element analysis. <i>Acta Materialia</i> , 2008, 56, 1991-2002.	7.9	33
9	ZnO hierarchical 3D-flower like architectures and their gas sensing properties at room temperature. <i>Applied Surface Science</i> , 2018, 449, 314-321.	6.1	32
10	V ₂ O ₅ nanofibers: Potential contestant for high performance xylene sensor. <i>Journal of Alloys and Compounds</i> , 2018, 731, 805-812.	5.5	29
11	Development and fluidic simulation of microneedles for painless pathological interfacing with living systems. <i>Journal of Applied Physics</i> , 2008, 103, 114701.	2.5	27
12	Network mixed metal oxide (V^{4+} and Ti^{4+}) nanostructures as potential material for the detection of trimethylamine. <i>New Journal of Chemistry</i> , 2019, 43, 11069-11081.	2.8	23
13	Surfactant free controllable synthesis of 2D → 1D ZnO hierarchical nanostructure and its gas sensing properties. <i>Applied Surface Science</i> , 2018, 449, 838-845.	6.1	22
14	Development of RF magnetron sputtering method to fabricate PZT thin film actuator. <i>Precision Engineering</i> , 2003, 27, 258-264.	3.4	21
15	Fabrication of TiNi shape memory alloy microactuators by ion beam sputter deposition. <i>Nanotechnology</i> , 1998, 9, 67-71.	2.6	18
16	Sub-ppm level detection of trimethylamine using V ₂ O ₃ -Cu ₂ O mixed oxide thin films. <i>Ceramics International</i> , 2019, 45, 19528-19533.	4.8	17
17	Nanoimprint assisted free standing porous vanadium oxide nanosheet based ammonia sensor. <i>Applied Surface Science</i> , 2021, 541, 148271.	6.1	15
18	Multiscale finite element simulations of piezoelectric materials based on two- and three-dimensional electron backscatter diffraction-measured microstructures. <i>Journal of Intelligent Material Systems and Structures</i> , 2012, 23, 563-573.	2.5	14

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19	Cadmium metavanadate mixed oxide nanorods for the chemiresistive detection of methane molecules. <i>New Journal of Chemistry</i> , 2020, 44, 12473-12485.	2.8	13
20	Multiscale numerical study on origin of magnetoelectric effect in view of localization of microstructural strain field for multiferroic composite materials. <i>Computational Materials Science</i> , 2019, 158, 159-169.	3.0	12
21	Advanced Artificial Electronic Skin Based pH Sensing System for Heatstroke Detection. <i>ACS Sensors</i> , 2020, 5, 911-916.	7.8	11
22	Homogenization modeling of domain switching in ferroelectric materials. <i>Acta Mechanica</i> , 2014, 225, 2969-2986.	2.1	9
23	A Study on Bio-Compatible Piezoelectric Materials by First Principles Calculation. <i>Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A</i> , 2005, 71, 944-951.	0.2	8
24	Fabrication of Smart Material PZT Thin Films by RF Magnetron Sputtering Method in Micro Actuators. <i>JSME International Journal Series A-Solid Mechanics and Material Engineering</i> , 2006, 49, 201-208.	0.4	8
25	Multiscale simulation of domain switching behavior in polycrystalline ferroelectric materials. <i>Computational Materials Science</i> , 2015, 106, 100-110.	3.0	8
26	Computational and experimental investigation of the crystal orientation control effect on the electric permittivity and magnetic permeability of multiferroic composite materials. <i>Acta Mechanica</i> , 2017, 228, 2879-2893.	2.1	8
27	Development of Blood Extraction System for Bio-MEM. <i>Nippon Kikai Gakkai Ronbunshu, C Hen/Transactions of the Japan Society of Mechanical Engineers, Part C</i> , 2005, 71, 603-609.	0.2	7
28	Process Crystallographic Simulation for Biocompatible Piezoelectric Material Design and Generation. <i>Archives of Computational Methods in Engineering</i> , 2013, 20, 155-183.	10.2	7
29	First-Principles Study on Crystal Structure and Piezoelectricity of Perovskite-Type Silicon Oxides. <i>Journal of Solid Mechanics and Materials Engineering</i> , 2008, 2, 1427-1435.	0.5	6
30	Structure Evaluation of Bio-Compatible Lead-Free Piezoelectric Materials by Crystal System Distinction and First Principles Calculations. <i>Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A</i> , 2006, 72, 1472-1478.	0.2	5
31	Development of Fabrication Technique of Bio-Compatible Piezoelectric Material MgSiO ₃ by Using Helicon Wave Plasma Sputter. <i>Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A</i> , 2006, 72, 353-358.	0.2	5
32	A Study on Bio-Compatible Piezoelectric Materials by First Principles Calculation. <i>Journal of Solid Mechanics and Materials Engineering</i> , 2007, 1, 191-201.	0.5	5
33	Crystal Morphology Analysis of Piezoelectric Ceramics Using Electron BackScatter Diffraction Method and Its Application to Multiscale Finite Element Analysis. <i>Journal of Computational Science and Technology</i> , 2008, 2, 568-577.	0.4	5
34	Vanadium Oxide Nanoparticles For Dimethylamine Vapour Detection. , 2018, , .		5
35	Development of blood extraction system designed by female mosquito's blood sampling mechanism for bio-MEMS. , 2005, 5651, 379.		4
36	Evaluation of Ferroelectric Properties of Piezoelectric Ceramics Based on Crystallographic Homogenization Method and Crystal Orientation Analysis by SEM-EBSD Technique. <i>JSME International Journal Series A-Solid Mechanics and Material Engineering</i> , 2006, 49, 209-215.	0.4	4

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37	Sputter Generating and Characterization of a Titanium Alloy Microneedle for Applying to Bio-MEM. Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A, 2006, 72, 471-477.	0.2	4
38	Development of valve-less tube-type micropump with PZT actuator. Proceedings of SPIE, 2008, , .	0.8	4
39	Development of the micro region pH sensor using Ag/AgIO_3 electrode method. , 2013, , .		4
40	Qualitative measurement of pain by analysing the salivary alpha amylase. Precision Engineering, 2014, 38, 257-260.	3.4	4
41	Optical characteristics of poly(tetrafluoroethylene) thin film prepared by a vacuum evaporation. Japanese Journal of Applied Physics, 2016, 55, 02BB04.	1.5	4
42	Preparation of free-standing V2O5 nanosheets for ammonia sensing application: A potential candidate for flexible sensors. Journal of Science: Advanced Materials and Devices, 2022, 7, 100415.	3.1	4
43	Development of blood extraction pump by shape memory alloy actuator for bio-MEMS. , 2006, 6416, 78.		3
44	Design of painless microneedle for blood extraction system. Proceedings of SPIE, 2007, , .	0.8	3
45	Crystal Growth Prediction by First-Principles Calculations for Epitaxial Piezoelectric Thin Films. Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A, 2008, 74, 763-769.	0.2	3
46	Crystal Growth Prediction by First-Principles Calculations for Epitaxial Piezoelectric Thin Films. Journal of Computational Science and Technology, 2009, 3, 264-274.	0.4	3
47	Statistical investigation of homogenized physical properties of polycrystalline multiferroic composites. Acta Mechanica, 2019, 230, 1387-1401.	2.1	3
48	Proposal of A New Bimorph Piezoelectric Actuator for Blood Extraction Pump in Health Monitoring System. Zairyo/Journal of the Society of Materials Science, Japan, 2007, 56, 477-482.	0.2	3
49	<title>Ion sputter deposition of shape memory alloy films for microactuators</title>. , 1997, 3223, 160.		2
50	Development of blood extraction system for health monitoring system. , 2004, , .		2
51	Development of wearable medical device for Bio-MEMS. , 2005, 6036, 168.		2
52	Identification of Material Properties of PZT Single Crystals through Crystallographic Homogenization Method. Journal of Solid Mechanics and Materials Engineering, 2007, 1, 140-151.	0.5	2
53	Development of a blood extraction device for a miniature SMBG system. Proceedings of SPIE, 2007, , .	0.8	2
54	Proposition of a First-Principles Aided Triple-Scale Analysis for Biocompatible Piezoelectric Thin Films. Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A, 2008, 74, 1405-1410.	0.2	2

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55	Crystal Morphology Analysis of Piezoelectric Ceramics by Electron BackScatter Diffraction Method and Application to Multiscale Finite Element Analysis. Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A, 2008, 74, 342-347.	0.2	2
56	Biocompatibility Evaluation of Piezoelectric Materials through Cytotoxicity Test. Zairyo/Journal of the Society of Materials Science, Japan, 2008, 57, 899-904.	0.2	2
57	Development of sputtering conditions for PZT micro actuator with high piezoelectric property by Au-Pt buffer layer. , 2011, , .		2
58	Design of biocompatible high-piezoelectric BaTiO3 with additives. , 2011, , .		2
59	Multiscale numerical investigation on effective physical properties of multiferroic BaTiO3/CoFe2O4 composites. International Journal of Applied Electromagnetics and Mechanics, 2016, 52, 1245-1250.	0.6	2
60	<title>Growth and characterization of shape memory alloy thin films for micropositioning and microactuation</title>. , 1998, , .		2
61	A multiscale finite element simulation of piezoelectric materials using realistic crystal morphology. , 2011, , .		2
62	The Painless Injection Tube: From Bio-mimetic Technology to Medical Engineering. , 2014, , 71-94.		2
63	<title>Ion beam sputter deposition of TiNi shape memory alloy thin films</title>. , 1999, , .		1
64	Development of Deposition Technique for PZT Thin Film Actuator in MEMS. Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A, 2003, 69, 1601-1605.	0.2	1
65	Identification of Ferroelectric Properties of PZT Single Crystal Based on a Crystallographic Homogenization Method. Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A, 2005, 71, 724-731.	0.2	1
66	Fabrication of Smart Material PZT thin Films by RF Magnetron Sputtering, Method in Micro Actuators. Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A, 2005, 71, 66-72.	0.2	1
67	Development of MgSiO 3 biocompatible piezoelectric film for bio-MEMS actuator. , 2006, , .		1
68	Development of automatic blood extraction device with a micro-needle for blood-sugar level measurement. , 2008, , .		1
69	Biocompatible Lead-Free Piezoelectric Crystal Structure Analysis and Functional Characterization Based on First-Principles Calculation. Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A, 2009, 75, 7-12.	0.2	1
70	Research on the surface in Au-Pt buffer layer for the high piezoelectric PZT. , 2012, , .		1
71	Two-step homogenization simulation for multidomain and multigrain structures in piezoelectric materials. Acta Materialia, 2013, 61, 7304-7312.	7.9	1
72	Selection of the best shape for a micro painless needle. , 2014, , .		1

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73	Numerical Investigation on Identification of Piezoelectric Strain Constants on Basis of Displacement Response in Piezoelectric Thin Films. <i>Zairyo/Journal of the Society of Materials Science, Japan</i> , 2008, 57, 297-303.	0.2	1
74	Improvement of surface roughness by oxygen ion beam machining. <i>Nanotechnology</i> , 1995, 6, 158-161.	2.6	0
75	Fabrication of microstructures by ion beam micromachining. <i>Proceedings of SPIE</i> , 1996, 2880, 248.	0.8	0
76	Study for piezoelectric characterization of PZT actuators deposited by RF magnetron sputtering for MEMS. , 2002, 4936, 225.		0
77	Development of the MOSFET hybrid biosensor for self-monitoring of blood glucose. , 2005, 6036, 226.		0
78	Development of a blood vessel searching device for HMS. , 2006, , .		0
79	A Proposal for Optimization of Crystal Orientations in Piezoelectric Ceramics by Multiscale Finite Element Analysis Based on a Crystallographic Homogenization Method. <i>Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A</i> , 2006, 72, 1296-1301.	0.2	0
80	Optimum Design of Micro Crystal Morphology in Piezoelectric Ceramics by Multiscale Finite Element Analysis. <i>Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A</i> , 2007, 73, 50-56.	0.2	0
81	A Proposal for Optimization of Crystal Orientations in Piezoelectric Ceramics by Multiscale Finite Element Analysis through Crystallographic Homogenization Method. <i>Journal of Solid Mechanics and Materials Engineering</i> , 2007, 1, 1147-1156.	0.5	0
82	Proposition of a First-Principles Aided Triple-Scale Analysis for Biocompatible Piezoelectric Thin Films. <i>Journal of Computational Science and Technology</i> , 2009, 3, 499-508.	0.4	0
83	Development of SMA thin film deposited on buffer layer. , 2010, , .		0
84	An Investigation on Multiscale Finite Element Modelling for EBSD Crystal Morphology of Piezoelectric Materials(&Special Issue&M & M 2009 Conference). <i>Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A</i> , 2010, 76, 401-403.	0.2	0
85	Configuration design of piezo actuator for Hollow tube type micropump. , 2010, , .		0
86	Establishment of pain evaluation test on the expression of Substance P during injection. , 2011, , .		0
87	Design of high functional ring type PZT for micropump by using FEM analysis. , 2011, , .		0
88	First-principles study on novel lead-free piezoelectric materials. , 2011, , .		0
89	Influence of carbon nanotubes (CNTs) to human cell. , 2012, , .		0
90	Fluctuation of salivary α-amylase affected by the time change of injection. , 2012, , .		0

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91	Investigation for effective XRD profile factors for high piezo-electric property. , 2012, , .		0
92	Design of ring type trench PZT for tube type micropump by using FEM analysis. , 2012, , .		0
93	Development of a New Piezoelectric Actuator with Slits. ISRN Materials Science, 2013, 2013, 1-9.	1.0	0
94	Influence of chirality of carbon nanotubes to human cell. , 2013, , .		0
95	Creation of the high functional painless micro needle using the sputtering method. , 2013, , .		0
96	Growth prediction method for new biocompatible piezoelectric thin films. , 2014, , .		0
97	Evaluation of enzyme immobilization methods on microglucose sensors integrated to a microfluidic device. , 2014, , .		0
98	Observation of the permeation on the subcutaneous during the administration of drug and development of a needle. , 2014, , .		0
99	Interaction between carbon nanotubes and human cell. Precision Engineering, 2014, 38, 116-120.	3.4	0
100	Observation of the permeation on the subcutaneous during the administration of drug and design of a needle. , 2015, , .		0
101	Stiff consideration of a micro painless needle with polygon section. , 2015, , .		0
102	Search of the best slot rate of the slot addition type PZT actuator in a hollow tube micro pump. , 2015, , .		0
103	Evaluation of additive element to improve PZT piezoelectricity by using first-principles calculation. , 2015, , .		0
104	Fabrication of Metal Microneedle Produced by Ion Sputter Deposition. Journal of the Japan Society for Precision Engineering, 2016, 82, 1010-1013.	0.1	0
105	Effect of Off-axis Polarization Treatment on Magnetoelectric Property of Multiferroic Composite Materials. Journal of Smart Processing, 2016, 5, 9-15.	0.1	0
106	Development of one electrode type pH sensor measuring in microscopic region. International Journal of Applied Electromagnetics and Mechanics, 2016, 52, 1417-1424.	0.6	0
107	A novel electrolyte free solid state pH sensor for Bio-MEMS applications. , 2016, , .		0
108	Microneedles based biosensor for living cells: A novel approach. , 2017, , .		0

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109	Ultrafast Fabrication of Microneedle Array for Transdermal Ion Detection. , 2018, , .		0
110	A Proposition on Material Properties Estimation of Piezoelectric Thin Films Utilizing Dual-Points Concurrent Displacement Measurement. Zairyo/Journal of the Society of Materials Science, Japan, 2009, 58, 815-820.	0.2	0
111	First-Principles Study on Crystal Structure and Material Properties of Perovskite Nonoxides ABX ₃ (X =) Tj ETQq1 1 0,784314 rgBT /Over	0.2	0
112	Design and evaluation of The MOSFET type glucose biosensing system. Advanced Materials Letters, 2013, 4, 108-114.	0.6	0
113	Piezoelectric-fluid interaction finite element analysis of a valve-less piezoelectric pump. WIT Transactions on Modelling and Simulation, 2013, , .	0.0	0
114	ä°ä·¥ä-‰éä«ãšãã, PZT äceSé»æCE-ä·ä½"è"è"ãšã, ä°éÿ³éÿç%o¹æ€šè©·ä³/4j. Journal of Smart Processing, 2016, 5, 53-580	0.1	0
115	Development of Au-Pt Buffer Layer Substrate to Improve PZT Piezoelectric Property. Journal of Smart Processing, 2016, 5, 16-22.	0.1	0
116	Multiscale numerical study on ferroelectric nonlinear response of PZT thin films (Conference) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 462		0
117	Study on Improvement of Piezoelectricity in Perovskite Thin Films Using the First-Principles Calculations. Journal of Nanoelectronics and Optoelectronics, 2019, 14, 280-285.	0.5	0