

Seonghwan Kim

List of Publications by Year in descending order

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74
papers

1,198
citations

394421

19
h-index

454955

30
g-index

75
all docs

75
docs citations

75
times ranked

1460
citing authors

#	ARTICLE	IF	CITATIONS
1	Cantilever Sensors: Nanomechanical Tools for Diagnostics. <i>MRS Bulletin</i> , 2009, 34, 449-454.	3.5	170
2	Sonochemical fabrication of Cu(II) and Zn(II) metal-organic framework films on metal substrates. <i>Ultrasonics Sonochemistry</i> , 2018, 45, 180-188.	8.2	69
3	Highly selective and sensitive fluorescent zeolitic imidazole frameworks sensor for nitroaromatic explosive detection. <i>Nanoscale</i> , 2020, 12, 13523-13530.	5.6	58
4	Molecular recognition using receptor-free nanomechanical infrared spectroscopy based on a quantum cascade laser. <i>Scientific Reports</i> , 2013, 3, 1111.	3.3	45
5	Piezotransistive transduction of femtoscale displacement for photoacoustic spectroscopy. <i>Nature Communications</i> , 2015, 6, 7885.	12.8	43
6	Vibration assisted nano mechanical machining using AFM probe. <i>CIRP Annals - Manufacturing Technology</i> , 2014, 63, 537-540.	3.6	35
7	Standoff reflection-absorption spectra of surface adsorbed explosives measured with pulsed quantum cascade lasers. <i>Sensors and Actuators B: Chemical</i> , 2014, 191, 450-456.	7.8	31
8	Fluidic applications for atomic force microscopy (AFM) with microcantilever sensors. <i>Experiments in Fluids</i> , 2010, 48, 721-736.	2.4	29
9	Direct Detection and Speciation of Trace Explosives Using a Nanoporous Multifunctional Microcantilever. <i>Analytical Chemistry</i> , 2014, 86, 5077-5082.	6.5	29
10	Microfabricated fluorescence-activated cell sorter through hydrodynamic flow manipulation. <i>Microsystem Technologies</i> , 2006, 12, 746-753.	2.0	26
11	Nanomechanical identification of liquid reagents in a microfluidic channel. <i>Lab on A Chip</i> , 2014, 14, 1302-1307.	6.0	26
12	Effects of gold patterning on the bending profile and frequency response of a microcantilever. <i>Journal of Applied Physics</i> , 2009, 106, 024310.	2.5	25
13	Surface elasticity and charge concentration-dependent endothelial cell attachment to copolymer polyelectrolyte hydrogel. <i>Acta Biomaterialia</i> , 2009, 5, 144-151.	8.3	25
14	Contrast mechanisms on nanoscale subsurface imaging in ultrasonic AFM: scattering of ultrasonic waves and contact stiffness of the tip-sample. <i>Nanoscale</i> , 2017, 9, 2330-2339.	5.6	23
15	Tribological effects of a rough surface bearing using an average flow analysis with a contact model of asperities. <i>International Journal of Precision Engineering and Manufacturing</i> , 2017, 18, 99-107.	2.2	23
16	Observation of an anomalous mass effect in microcantilever-based biosensing caused by adsorbed DNA. <i>Applied Physics Letters</i> , 2010, 96, 153703.	3.3	21
17	Selective detection of physisorbed hydrocarbons using photothermal cantilever deflection spectroscopy. <i>Sensors and Actuators B: Chemical</i> , 2014, 191, 765-769.	7.8	21
18	High-Performance, Room Temperature Hydrogen Sensing With a Cu-BTC/Polyaniline Nanocomposite Film on a Quartz Crystal Microbalance. <i>IEEE Sensors Journal</i> , 2019, 19, 4789-4795.	4.7	21

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19	Piezoelectric layer embedded-microdiaphragm sensors for the determination of blood viscosity and density. <i>Applied Physics Letters</i> , 2014, 105, .	3.3	19
20	Investigation of pH-Induced Protein Conformation Changes by Nanomechanical Deflection. <i>Langmuir</i> , 2014, 30, 2109-2116.	3.5	19
21	Micromachined Chip Scale Thermal Sensor for Thermal Imaging. <i>ACS Nano</i> , 2018, 12, 1760-1767.	14.6	19
22	Photothermal Cantilever Deflection Spectroscopy. <i>Electrochemical Society Interface</i> , 2019, 28, 55-57.	0.4	19
23	Photothermal cantilever deflection spectroscopy. <i>EPJ Techniques and Instrumentation</i> , 2014, 1, .	1.3	17
24	Intense pulsed light-based synthesis of hybrid TiO ₂ /SnO ₂ /MWCNT doped Cu-BTC for room temperature ammonia sensing. <i>Journal of Materials Chemistry C</i> , 2020, 8, 7567-7574.	5.5	17
25	Facile and rapid synthesis of functionalized Zr-BTC for the optical detection of the blistering agent simulant 2-chloroethyl ethyl sulfide (CEES). <i>Dalton Transactions</i> , 2021, 50, 3261-3268.	3.3	17
26	Acoustic subsurface-atomic force microscopy: Three-dimensional imaging at the nanoscale. <i>Journal of Applied Physics</i> , 2021, 129, .	2.5	16
27	Manipulating Active Sites of 2D Metal-Organic Framework Nanosheets with Fluorescent Materials for Enhanced Colorimetric and Fluorescent Ammonia Sensing. <i>Advanced Materials Interfaces</i> , 2022, 9, .	3.7	15
28	Nanomechanical Thermal Analysis of Photosensitive Polymers. <i>Macromolecules</i> , 2011, 44, 9661-9665.	4.8	14
29	Photothermal cantilever deflection spectroscopy of a photosensitive polymer. <i>Applied Physics Letters</i> , 2012, 100, .	3.3	14
30	Electronic Nose for Recognition of Volatile Vapor Mixtures Using a Nanopore-Enhanced Opto-Calorimetric Spectroscopy. <i>Analytical Chemistry</i> , 2015, 87, 7125-7132.	6.5	14
31	Effect of adsorption-induced surface stress change on the stiffness of a microcantilever used as a salinity detection sensor. <i>Applied Physics Letters</i> , 2008, 93, .	3.3	13
32	Multi-modal characterization of nanogram amounts of a photosensitive polymer. <i>Applied Physics Letters</i> , 2013, 102, 024103.	3.3	13
33	Rapid Fabrication of Metal-Organic Framework Films from Metal Substrates Using Intense Pulsed Light. <i>Crystal Growth and Design</i> , 2018, 18, 6946-6955.	3.0	13
34	Experimental verification of the temperature effects on Sader's model for multilayered cantilevers immersed in an aqueous medium. <i>Applied Physics Letters</i> , 2006, 89, 061918.	3.3	12
35	Near-Field Thermometry Sensor Based on the Thermal Resonance of a Microcantilever in Aqueous Medium. <i>Sensors</i> , 2007, 7, 3156-3165.	3.8	12
36	Piezoresistive cantilever array sensor for consolidated bioprocess monitoring. <i>Scanning</i> , 2009, 31, 204-210.	1.5	12

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37	Photoacoustic spectroscopy of surface adsorbed molecules using a nanostructured coupled resonator array. <i>Nanotechnology</i> , 2014, 25, 035501.	2.6	12
38	Sensitive and selective detection of hydrocarbon/water vapor mixtures with a nanoporous silicon microcantilever. <i>Sensors and Actuators B: Chemical</i> , 2015, 206, 84-89.	7.8	12
39	Geomaterial-Functionalized Microfluidic Devices Using a Universal Surface Modification Approach. <i>Advanced Materials Interfaces</i> , 2019, 6, 1900995.	3.7	12
40	Sensitive and reliable thermal micro-flow sensor for a drug infusion system. <i>Sensors and Actuators A: Physical</i> , 2020, 309, 112033.	4.1	12
41	Nanowell-patterned TiO ₂ microcantilevers for calorimetric chemical sensing. <i>Applied Physics Letters</i> , 2014, 104, 141903.	3.3	11
42	Sensitive and selective detection of adsorbed explosive molecules using opto-calorimetric infrared spectroscopy and micro-differential thermal analysis. <i>Sensors and Actuators B: Chemical</i> , 2016, 231, 393-398.	7.8	11
43	Enhancing the Responsivity of Uncooled Infrared Detectors Using Plasmonics for High-Performance Infrared Spectroscopy. <i>Sensors</i> , 2017, 17, 908.	3.8	11
44	Intense Pulsed Light-Treated Near-Field Electrospun Nanofiber on a Quartz Tuning Fork for Multimodal Gas Sensors. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 24308-24318.	8.0	11
45	Intense Pulsed Light Conversion of Anatase to Rutile TiO ₂ for Hybrid TiO ₂ -SnO ₂ /MWCNTs/PVB Room Temperature VOCs Sensor. <i>IEEE Sensors Journal</i> , 2019, 19, 9113-9121.	4.7	8
46	Photothermal Cantilever Deflection Spectroscopy. <i>ECS Transactions</i> , 2013, 50, 459-464.	0.5	7
47	Rapid discrimination of DNA strands using an opto-calorimetric microcantilever sensor. <i>Lab on A Chip</i> , 2014, 14, 4659-4664.	6.0	7
48	In situ encapsulation of ZrQ in UiO-66 (Zr-BDC) for pore size control to enhance detection of a nerve agent simulant dimethyl methyl phosphonate. <i>Applied Organometallic Chemistry</i> , 2022, 36, .	3.5	7
49	Broadband Mid-Infrared Stand-Off Reflection-Absorption Spectroscopy Using a Pulsed External Cavity Quantum Cascade Laser. <i>Applied Spectroscopy</i> , 2017, 71, 1494-1505.	2.2	6
50	UV-triggered polymerization of polycatecholamines enables the production of organ-on-chips inside a biosafety cabinet. <i>Applied Materials Today</i> , 2020, 20, 100721.	4.3	6
51	Nanomechanical Thermal Analysis of Indium Films Using Silicon Microcantilevers. <i>Japanese Journal of Applied Physics</i> , 2012, 51, 08KB07.	1.5	6
52	Dynamic drill-string modeling for acoustic telemetry. <i>International Journal of Mechanical Sciences</i> , 2022, 218, 107043.	6.7	6
53	Temperature dependence of the near-wall oscillation of microcantilevers submerged in liquid environment. <i>Applied Physics Letters</i> , 2007, 90, 081908.	3.3	5
54	Plasmonic absorbers with optical cavity for the enhancement of photothermal/opto-calorimetric infrared spectroscopy. <i>Applied Physics Letters</i> , 2017, 110, .	3.3	5

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55	Deconvolution of dissipative pathways for the interpretation of tapping-mode atomic force microscopy from phase-contrast. <i>Communications Physics</i> , 2021, 4, .	5.3	5
56	Experimental study on repeater-free acoustic telemetry for downhole operations. <i>Journal of Petroleum Science and Engineering</i> , 2021, 202, 108551.	4.2	5
57	Micro/nanotechnology-inspired rapid diagnosis of respiratory infectious diseases. <i>Biomedical Engineering Letters</i> , 2021, 11, 335-365.	4.1	5
58	Nanomechanical Thermal Analysis of Indium Films Using Silicon Microcantilevers. <i>Japanese Journal of Applied Physics</i> , 2012, 51, 08KB07.	1.5	4
59	Standoff detection of explosive residues on unknown surfaces. , 2012, , .		4
60	In-situ fabrication of Cu-BDC on a quartz crystal microbalance for methane sensing at room temperature. <i>Journal of Inclusion Phenomena and Macrocyclic Chemistry</i> , 2021, 101, 321-327.	1.6	4
61	Enhanced nanoplasmonic heating in standoff sensing of explosive residues with infrared reflection-absorption spectroscopy. <i>Optics Letters</i> , 2020, 45, 2144.	3.3	4
62	Identification of odor emission sources in urban areas using machine learning-based classification models. <i>Atmospheric Environment: X</i> , 2022, 13, 100156.	1.4	4
63	Rapid detection of ionic contents in water through sensor fusion and convolutional neural network. <i>Chemosphere</i> , 2022, 294, 133746.	8.2	4
64	Detection of biological analytes using nanomechanical infrared spectroscopy with a nanoporous microcantilever. <i>Proceedings of SPIE</i> , 2013, , .	0.8	3
65	Mechanisms of friction reduction of nanoscale sliding contacts achieved through ultrasonic excitation. <i>Nanotechnology</i> , 2019, 30, 075502.	2.6	3
66	Standoff and Point Detection of Thin Polymer Layers Using Microcantilever Photothermal Spectroscopy. <i>Journal of the Electrochemical Society</i> , 2022, 169, 037501.	2.9	2
67	Multi-modal, ultrasensitive detection of trace explosives using MEMS devices with quantum cascade lasers. <i>Proceedings of SPIE</i> , 2016, , .	0.8	1
68	Point and standoff detection of trace explosives using quantum cascade lasers. , 2014, , .		0
69	Miniaturization of Photothermal Cantilever Deflection Spectroscopy with an Electrical Readout. <i>ECS Transactions</i> , 2014, 64, 19-24.	0.5	0
70	Towards non-invasive high-resolution 3D nano-tomography by ultrasonic scanning probe microscopy. , 2017, , .		0
71	Investigation of Ph-Assisted Human Serum Albumin (HSA)-Cobalt (Co)Binding Using Nanomechanical Deflection and Circular Dichroism. <i>Journal of Nanomedicine & Nanotechnology</i> , 2011, s5, .	1.1	0
72	Chapter 10. Near-field Thermometry. <i>RSC Nanoscience and Nanotechnology</i> , 2015, , 315-338.	0.2	0

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73	Real-time monitoring and sensing of atmospheric explosive vapors. SPIE Newsroom, 0, , .	0.1	0
74	(Invited) Heterogeneous Surface Energy Maps of Differentiated-Cath-a Cancer Cells Revealed Via Transitional Tapping Atomic Force Microscopy (TT-AFM). ECS Meeting Abstracts, 2021, MA2021-02, 1630-1630.	0.0	0