Qingchuan Zhang

List of Publications by Year in descending order

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ΟΙΝΟΟΗΙΙΑΝ ΖΗΛΝΟ

#	Article	IF	CITATIONS
1	Nanomechanical vibration profiling of oocytes. Nano Research, 2023, 16, 2672-2681.	10.4	3
2	Nanomechanical assay for ultrasensitive and rapid detection of SARS-CoV-2 based on peptide nucleic acid. Nano Research, 2023, 16, 1183-1195.	10.4	6
3	Nanomechanical sensor for rapid and ultrasensitive detection of tumor markers in serum using nanobody. Nano Research, 2022, 15, 1003-1012.	10.4	20
4	High strength and ductility achieved in friction stir processed Ni-Co based superalloy with fine grains and nanotwins. Journal of Materials Science and Technology, 2022, 106, 162-172.	10.7	8
5	Glare: A free and open-source software for generation and assessment of digital speckle pattern. Optics and Lasers in Engineering, 2022, 148, 106766.	3.8	33
6	Magnetic nanocomposite hydrogel with tunable stiffness for probing cellular responses to matrix stiffening. Acta Biomaterialia, 2022, 138, 112-123.	8.3	18
7	Effect analysis on integration efficiency and safety performance of a battery thermal management system based on direct contact liquid cooling. Applied Thermal Engineering, 2022, 201, 117788.	6.0	52
8	Aptamer-based microcantilever-array biosensor for ultra-sensitive and rapid detection of okadaic acid. Microchemical Journal, 2021, 160, 105644.	4.5	16
9	Optimized fast charging protocol for cylindrical <scp>lithiumâ€ion</scp> battery based on constant incremental capacity algorithm. International Journal of Energy Research, 2021, 45, 2222-2230.	4.5	2
10	Optimal Aperture and Digital Speckle Optimization in Digital Image Correlation. Experimental Mechanics, 2021, 61, 677-684.	2.0	13
11	Quantifying 3D cell-matrix interactions during mitosis and the effect of anticancer drugs on the interactions. Nano Research, 2021, 14, 4163-4172.	10.4	8
12	Optical spatial filtering readout techniques for IR/THz imaging and their performance analysis. Measurement Science and Technology, 2021, 32, 065202.	2.6	2
13	Error analysis of surface-distribution and non-deformation of fluorescent beads for the IC-GN2 DVC algorithm. Optics and Lasers in Engineering, 2021, 140, 106541.	3.8	6
14	LDV-induced stroboscopic digital image correlation for high spatial resolution vibration measurement. Optics Express, 2021, 29, 28134.	3.4	9
15	Stereo camera calibration for large field of view digital image correlation using zoom lens. Measurement: Journal of the International Measurement Confederation, 2021, 185, 109999.	5.0	15
16	Single-camera 3D-DIC system based on a fiber bundle. Optics and Lasers in Engineering, 2021, 147, 106743.	3.8	6
17	Tunnel contour detection during construction based on digital image correlation. Optics and Lasers in Engineering, 2020, 126, 105879.	3.8	19
18	Strain field measurements over 3000 °C using 3D-Digital image correlation. Optics and Lasers in Engineering, 2020, 127, 105942.	3.8	49

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19	Reconstructing Stokes parameters from non-uniform division-of-focal-plane modulation. Optics and Lasers in Engineering, 2020, 134, 106199.	3.8	9
20	Optically trapped particle dynamic responses under varying frequency sinusoidal stimulus. Optics and Lasers in Engineering, 2020, 134, 106143.	3.8	1
21	Experimental investigation of a Portevin-Le Chatelier band in Ni‒Co-based superalloys in relation to γʹ precipitates at 500 ℃. Journal of Materials Science and Technology, 2020, 49, 35-41.	10.7	13
22	Uniformity and isotropy of speckle pattern cause the doubled random error phenomenon in digital image correlation. Optics and Lasers in Engineering, 2020, 131, 106097.	3.8	6
23	Thermal Runaway Induced Casing Rupture: Formation Mechanism and Effect on Propagation in Cylindrical Lithium Ion Battery Module. Journal of the Electrochemical Society, 2020, 167, 090519.	2.9	12
24	Efficient and automated initial value estimation in digital image correlation for large displacement, rotation, and scaling. Applied Optics, 2020, 59, 10523.	1.8	13
25	Regulating trapping energy for multi-object manipulation by random phase encoding. Optics Letters, 2020, 45, 2002.	3.3	6
26	Video microscopy-based accurate optical force measurement by exploring a frequency-changing sinusoidal stimulus. Applied Optics, 2020, 59, 2452.	1.8	3
27	Label-free biosensing using a microring resonator integrated with poly-(dimethylsiloxane) microfluidic channels. Review of Scientific Instruments, 2019, 90, 035004.	1.3	17
28	The mechanism of strain influence on interpolation induced systematic errors in digital image correlation method. Optics and Lasers in Engineering, 2019, 121, 323-333.	3.8	6
29	Elimination of systematic error in digital image correlation caused by intensity interpolation by introducing position randomness to subset points. Optics and Lasers in Engineering, 2019, 114, 60-75.	3.8	26
30	Pixelated-polarization-camera-based polarimetry system for wide real-time optical rotation measurement. Sensors and Actuators B: Chemical, 2019, 283, 857-864.	7.8	31
31	Theoretical analysis on performance of digital speckle pattern: uniqueness, accuracy, precision, and spatial resolution. Optics Express, 2019, 27, 22439.	3.4	34
32	Magnetic-Field-Induced Deformation Analysis of Magnetoactive Elastomer Film by Means of DIC, LDV, and FEM. Industrial & Engineering Chemistry Research, 2018, 57, 3246-3254.	3.7	14
33	Precise 3D shape measurement of three-dimensional digital image correlation for complex surfaces. Science China Technological Sciences, 2018, 61, 68-73.	4.0	17
34	Label-free aptamer-based detection of microcystin-LR using a microcantilever array biosensor. Sensors and Actuators B: Chemical, 2018, 260, 42-47.	7.8	46
35	Aptamer-based microcantilever-array biosensor for profenofos detection. Analytica Chimica Acta, 2018, 1020, 116-122.	5.4	51
36	Interpolation bias for the inverse compositional Gauss–Newton algorithm in digital image correlation. Optics and Lasers in Engineering, 2018, 100, 267-278.	3.8	36

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37	High-accuracy optical extensometer based on coordinate transform in two-dimensional digital image correlation. Optics and Lasers in Engineering, 2018, 100, 61-70.	3.8	12
38	Spatial uncertainty of measurement errors in digital image correlation. Optics and Lasers in Engineering, 2018, 110, 113-121.	3.8	17
39	Full-field wrist pulse signal acquisition and analysis by 3D Digital Image Correlation. Optics and Lasers in Engineering, 2017, 98, 76-82.	3.8	36
40	Nanomechanical sensors for direct and rapid characterization of sperm motility based on nanoscale vibrations. Nanoscale, 2017, 9, 18258-18267.	5.6	16
41	Accuracy evaluation of optical distortion calibration by digital image correlation. Optics and Lasers in Engineering, 2017, 98, 143-152.	3.8	27
42	High-Accuracy, High-Efficiency Compensation Method in Two-Dimensional Digital Image Correlation. Experimental Mechanics, 2017, 57, 831-846.	2.0	11
43	High-accuracy and real-time 3D positioning, tracking system for medical imaging applications based on 3D digital image correlation. Optics and Lasers in Engineering, 2017, 88, 82-90.	3.8	59
44	Influence of γ′ precipitates on the critical strain and localized deformation of serrated flow in Ni-based superalloys. Journal of Alloys and Compounds, 2017, 690, 707-715.	5.5	49
45	Investigation of Portevin–Le Chatelier Band Strain and Elastic Shrinkage in Al-Based Alloys Associated with Mg Contents. Journal of Materials Science and Technology, 2017, 33, 580-586.	10.7	51
46	Theoretical estimation of systematic errors in local deformation measurements using digital image correlation. Optics and Lasers in Engineering, 2017, 88, 265-279.	3.8	61
47	Microcantilever array instrument based on optical fiber and performance analysis. Review of Scientific Instruments, 2017, 88, 075007.	1.3	7
48	Statistical model for speckle pattern optimization. Optics Express, 2017, 25, 30259.	3.4	30
49	High-Accuracy and High-Efficiency Compensation Method in Two-Dimensional Digital Image Correlation. Conference Proceedings of the Society for Experimental Mechanics, 2017, , 63-65.	0.5	0
50	Quality Assessment of Speckle Patterns by Estimating RMSE. Conference Proceedings of the Society for Experimental Mechanics, 2017, , 71-74.	0.5	0
51	Performance analysis of microcantilever array sensing. Science China Technological Sciences, 2017, 60, 1674-1680.	4.0	0
52	The Influence of Specimen Thickness on the Lüders Effect of a 5456 Al-Based Alloy: Experimental Observations. Metals, 2016, 6, 120.	2.3	22
53	Random errors in DIC caused by non-uniform image noise. , 2016, , .		3
54	Experimental Study on Three-Dimensional Deformation Field of Portevin–Le Chatelier Effect Using Digital Image Correlation. Experimental Mechanics, 2016, 56, 1243-1255.	2.0	23

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55	Study on evolving phases of accelerating generalized polygon beams. Optics Express, 2016, 24, 5300.	3.4	9
56	An Accurate Method for Shape Retrieval and Displacement Measurement Using Bi-Prism-Based Single Lens 3D Digital Image Correlation. Experimental Mechanics, 2016, 56, 1611-1624.	2.0	20
57	Quality assessment of speckle patterns for DIC by consideration of both systematic errors and random errors. Optics and Lasers in Engineering, 2016, 86, 132-142.	3.8	81
58	Characterization of the deformation behaviors associated with the serrated flow of a 5456 Al-based alloy using two orthogonal digital image correlation systems. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 664, 155-164.	5.6	43
59	Noise-induced bias for convolution-based interpolation in digital image correlation. Optics Express, 2016, 24, 1175.	3.4	36
60	Experimental analysis of image noise and interpolation bias in digital image correlation. Optics and Lasers in Engineering, 2016, 81, 46-53.	3.8	57
61	Optical sensitivity non-uniformity analysis and optimization of a tilt optical readout focal plane array. Journal of Micromechanics and Microengineering, 2016, 26, 025001.	2.6	3
62	Nanomechanical label-free detection of aflatoxin B1 using a microcantilever. Sensors and Actuators B: Chemical, 2016, 226, 24-29.	7.8	30
63	Quantification of cell viability and rapid screening anti-cancer drug utilizing nanomechanical fluctuation. Biosensors and Bioelectronics, 2016, 77, 164-173.	10.1	42
64	Measurement of Airy-vortex beam topological charges based on a pixelated micropolarizer array. Applied Optics, 2016, 55, 9299.	2.1	11
65	Microscopic Simulation for Dynamic Strain Aging by Monte Carlo Dynamic Model. International Journal for Multiscale Computational Engineering, 2016, , .	1.2	0
66	High accuracy thermal conductivity measurement of aqueous cryoprotective agents and semi-rigid biological tissues using a microfabricated thermal sensor. Scientific Reports, 2015, 5, 10377.	3.3	10
67	Design optimization and performance analysis of deformed optical readout focal plane array. Journal of Micromechanics and Microengineering, 2015, 25, 065012.	2.6	4
68	Study on the out-of-plane deformation of the Portevin–Le Chatelier band by using digital shearography. Measurement: Journal of the International Measurement Confederation, 2015, 72, 61-67.	5.0	10
69	Influence of γʹ precipitates on Portevin–Le Chatelier effect of NI-based superalloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 638, 314-321.	5.6	48
70	Effects of Various Shape Functions and Subset Size in Local Deformation Measurements Using DIC. Experimental Mechanics, 2015, 55, 1575-1590.	2.0	66
71	Fourier-based interpolation bias prediction in digital image correlation. Optics Express, 2015, 23, 19242.	3.4	81
72	Bionic research of pit vipers on infrared imaging. Optics Express, 2015, 23, 19299.	3.4	4

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73	Real-time phase measurement of optical vortices based on pixelated micropolarizer array. Optics Express, 2015, 23, 20521.	3.4	36
74	Investigation of Portevin-Le Chatelier effect in 5456 Al-based alloy using digital image correlation. Optics and Lasers in Engineering, 2015, 65, 89-92.	3.8	28
75	High-efficiency and high-accuracy digital image correlation for three-dimensional measurement. Optics and Lasers in Engineering, 2015, 65, 73-80.	3.8	201
76	Research of infrared image optimization algorithm in optical read-out IR imaging. Proceedings of SPIE, 2014, , .	0.8	0
77	Photophoretic trapping of multiple particles in tapered-ring optical field. Optics Express, 2014, 22, 23716.	3.4	45
78	Nano-fabricated pixelated micropolarizer array for visible imaging polarimetry. Review of Scientific Instruments, 2014, 85, 105002.	1.3	55
79	Manipulation of aerosols revolving in taper-ring optical traps. Optics Letters, 2014, 39, 100.	3.3	30
80	Highly Sensitive Nanomechanical Immunosensor Using Half Antibody Fragments. Analytical Chemistry, 2014, 86, 4271-4277.	6.5	27
81	Mechanism and enhancement of the surface stress caused by a small-molecule antigen and antibody binding. Biosensors and Bioelectronics, 2013, 48, 67-74.	10.1	25
82	Highly sensitive nanomechanical assay for the stress transmission of carbon chain. Sensors and Actuators B: Chemical, 2013, 186, 353-359.	7.8	10
83	Design, Fabrication, and Characterization of a 240 \$ imes\$ 240 MEMS Uncooled Infrared Focal Plane Array With 42-\$mu hbox{m}\$ Pitch Pixels. Journal of Microelectromechanical Systems, 2013, 22, 452-461.	2.5	23
84	Wave-plate phase shifting method. Optical Engineering, 2013, 52, 103109.	1.0	8
85	A substrate-free optical readout focal plane array with a heat sink structure. Journal of Semiconductors, 2013, 34, 024005.	3.7	2
86	Sample manuscript for an optical readout infrared imaging system based on polarization to eliminate stray light. Journal of Applied Physics, 2013, 114, .	2.5	2
87	A holistic approach performance analysis of substrate-free focal plane array. Journal of Applied Physics, 2012, 112, 074502.	2.5	3
88	A bi-material microcantilever temperature sensor based on optical readout. Measurement: Journal of the International Measurement Confederation, 2012, 45, 1801-1806.	5.0	23
89	Preparation of a Novel Microcantilever Array Biochemical Sensor. Chinese Journal of Analytical Chemistry, 2012, 40, 493-497.	1.7	1
90	Two mechanisms for the normal and inverse behaviors of the critical strain for the Portevin–Le Chatelier effect. Acta Materialia, 2012, 60, 6650-6656.	7.9	110

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91	Development of a Secondary Antibody Thio-Functionalized Microcantilever Immunosensor and an ELISA for Measuring Ginsenoside Re Content in the Herb Ginseng. Analytical Chemistry, 2012, 84, 4327-4333.	6.5	16
92	Thermal analyses and simulations of the type A and type B Portevin–Le Chatelier effects in an Al–Mg alloy. Acta Materialia, 2012, 60, 1647-1657.	7.9	40
93	STUDY ON TWO CRITICAL MECHANISMS OF PLC EFFECT OF 5456 Al-BASED ALLOY. Jinshu Xuebao/Acta Metallurgica Sinica, 2012, 48, 1453.	0.3	2
94	Phase locking of a compact Nd-doped phosphate multicore fiber laser. Laser Physics, 2011, 21, 410-413.	1.2	8
95	The influence of temperature on the PLC effect in Al-Mg alloy. Science China Technological Sciences, 2011, 54, 1389-1393.	4.0	20
96	Development of sulfhydrylated antibody functionalized microcantilever immunosensor for taxol. Sensors and Actuators B: Chemical, 2011, 156, 863-866.	7.8	20
97	Influence of precipitation on the Portevin-Le Chatelier effect in Al-Mg alloys. Theoretical and Applied Mechanics Letters, 2011, 1, 011007.	2.8	18
98	Nd-doped phosphate glass microstructured optical fiber laser. Laser Physics, 2010, 20, 1425-1427.	1.2	8
99	Abnormal upconversion luminescence from Yb3+ doped andÂTb3+/Yb3+ codoped high silica glasses induced by intrinsic optical bistability. Applied Physics B: Lasers and Optics, 2010, 98, 261-265.	2.2	14
100	A simple optical sequential illumination for microcantilever array. Procedia Engineering, 2010, 7, 235-238.	1.2	0
101	Detection of copper ions using microcantilever immunosensors and enzyme-linked immunosorbent assay. Analytica Chimica Acta, 2010, 676, 81-86.	5.4	58
102	Development of Protein A Functionalized Microcantilever Immunosensors for the Analyses of Small Molecules at Parts per Trillion Levels. Analytical Chemistry, 2010, 82, 615-620.	6.5	35
103	Performance of an optimized substrate-free focal plane array for optical readout uncooled infrared detector. Journal of Applied Physics, 2009, 105, 034505.	2.5	6
104	Optical sensitivity analysis of a bent micro reflector array in uncooled infrared imaging. Journal of Micromechanics and Microengineering, 2009, 19, 095018.	2.6	6
105	Synthesis of Highâ€Quality, Doubleâ€Walled Carbon Nanotubes in a Fluidized Bed Reactor. Chemical Engineering and Technology, 2009, 32, 73-79.	1.5	41
106	Optical readout sensitivity of deformed microreflector for uncooled infrared detector: theoretical model and experimental validation. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2009, 26, 2353.	1.5	9
107	Optical sensitivity analysis of deformed mirrors for microcantilever array IR imaging. Optics Express, 2009, 17, 4367.	3.4	20
108	Uncooled infrared imaging device based on optimized optomechanical micro-cantilever array. Ultramicroscopy, 2008, 108, 579-588.	1.9	17

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109	An Optical Readout Method Based Uncooled Infrared Imaging System. Journal of Infrared, Millimeter and Terahertz Waves, 2008, 29, 261-271.	0.6	5
110	The influence of refractive index change on a micro-cantilever bio/chemical sensor system based on optical lever read-out method. Sensors and Actuators A: Physical, 2008, 148, 329-334.	4.1	15
111	Uncooled Infrared Imaging Using a Substrate-Free Focal-Plane Array. IEEE Electron Device Letters, 2008, 29, 1218-1221.	3.9	11
112	Circuit models applied to the design of a novel uncooled infrared focal plane array structure. Measurement Science and Technology, 2007, 18, 1321-1326.	2.6	2
113	The pressure-dependent performance of a substrate-free focal plane array in an uncooled infrared imaging system. Journal of Applied Physics, 2007, 102, .	2.5	15
114	Optical readout method for microcantilever array sensing and its sensitivity analysis. Optics Letters, 2007, 32, 594.	3.3	24
115	Experimental investigations on kinetics of Portevin–Le Chatelier effect in Al–4wt.%Cu alloys. Journal of Alloys and Compounds, 2007, 428, 151-156.	5.5	24
116	Design of a Novel Substrate-Free Double-Layer-Cantilever FPA Applied for Uncooled Optical-Readable Infrared Imaging System. IEEE Sensors Journal, 2007, 7, 1703-1710.	4.7	4
117	Giant Dielectric Permittivities in Functionalized Carbon-Nanotube/ Electroactive-Polymer Nanocomposites. Advanced Materials, 2007, 19, 852-857.	21.0	764
118	Encapsulation, Compensation, and Substitution of Catalyst Particles during Continuous Growth of Carbon Nanotubes. Advanced Materials, 2007, 19, 2360-2363.	21.0	72
119	A novel opto-mechanical uncooled infrared detector. Infrared Physics and Technology, 2007, 51, 66-72.	2.9	13
120	Three types of Portevin–Le Chatelier effects: Experiment and modelling. Acta Materialia, 2007, 55, 2219-2228.	7.9	218
121	Design, simulation and validation of a novel uncooled infrared focal plane array. Sensors and Actuators A: Physical, 2007, 133, 64-71.	4.1	12
122	An uncooled optically readable infrared imaging detector. Sensors and Actuators A: Physical, 2007, 133, 236-242.	4.1	38
123	Time-resolved deformation measurements of the Portevin–Le Chatelier bands. Scripta Materialia, 2007, 56, 721-724.	5.2	59
124	Optical readout uncooled infrared imaging detector using knife-edge filter operation. Optoelectronics Letters, 2007, 3, 119-122.	0.8	8
125	Effect of solute concentration on Portevin-Le Chatelier effect in Al-Cu alloys. Frontiers of Materials Science in China, 2007, 1, 173-176.	0.5	9
126	A novel MEMS-based focal plane array for infrared imaging. Frontiers of Electrical and Electronic Engineering in China: Selected Publications From Chinese Universities, 2007, 2, 83-87.	0.6	2

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127	Performance analysis of microcantilever arrays for optical readout uncooled infrared imaging. Sensors and Actuators A: Physical, 2007, 137, 13-19.	4.1	18
128	Uncooled IR imaging using optomechanical detectors. Ultramicroscopy, 2007, 107, 610-616.	1.9	18
129	Design of a Novel Uncooled Infrared Focal Plane Array. , 2006, , .		3
130	IR Imaging at Room-temperature Using Substrate-free Micro-cantilever Array. , 2006, , .		0
131	A novel uncooled substrate-free optical-readable infrared detector: design, fabrication and performance. Measurement Science and Technology, 2006, 17, 1981-1986.	2.6	29
132	Synthesis of carbon nanotubes with totally hollow channels and/or with totally copper filled nanowires. Applied Physics A: Materials Science and Processing, 2006, 86, 265-269.	2.3	18
133	Spatiotemporal aspects of the Portevin–Le Chatelier effect in annealed and solution-treated aluminum alloys. Scripta Materialia, 2006, 54, 2041-2045.	5.2	46
134	Effect of solute concentration on the serrated flow in solution-treated Al–4%Cu alloys. Chinese Physics B, 2006, 15, 1051-1054.	1.3	3
135	Failure analysis of uncooled infrared focal plane array under a high-ginertial load. Measurement Science and Technology, 2006, 17, 2969-2972.	2.6	1
136	Deformation measurements of three types of Portevin–Le Chatelier bands. Chinese Physics B, 2006, 15, 2378-2384.	1.3	8
137	Cantilever-based Transducer for Molecules Configuration Research. , 2006, , .		0
138	On the propagation and pulsation of Portevin-Le Chatelier deformation bands: An experimental study with digital speckle pattern metrology. International Journal of Plasticity, 2005, 21, 2150-2173.	8.8	112
139	Spatial characteristics of the Portevin-Le Chatelier deformation bands in Al-4at%Cu polycrystals. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2005, 403, 154-164.	5.6	66
140	Dynamic interaction between dislocation and diffusing solutes. Europhysics Letters, 2005, 71, 235-241.	2.0	5
141	Fabrication and application of a novel freestanding stencil bi-material cantilever structure. , 2004, , .		0
142	Investigation of Portevin-Le Chatelier band with temporal phase analysis of speckle interferometry. , 2003, , .		0
143	Investigation of propagation and pulsation of slip band using dynamic DSPI. , 2003, , .		1
144	Interface-mediated structural evolution of immiscible Co-Cu multilayers upon solid-state reaction. Physical Review B, 2001, 64, .	3.2	12

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145	Dynamic speckle correlation method using liquid crystal TV panel for vibration analysis of light weight structure. Optics Communications, 1992, 89, 126-130.	2.1	2