Pavel Neuzil

List of Publications by Year
in descending order

111 papers	5,130 citations	136950 32 h-index	91884 69 g-index
114 all docs	114 docs citations	114 times ranked	6110 citing authors

#	Article	IF	Citations
1	Attogram detection using nanoelectromechanical oscillators. Journal of Applied Physics, 2004, 95, 3694-3703.	2.5	547
2	Revisiting lab-on-a-chip technology for drug discovery. Nature Reviews Drug Discovery, 2012, 11, 620-632.	46.4	422
3	Mechanical resonant immunospecific biological detector. Applied Physics Letters, 2000, 77, 450-452.	3.3	398
4	The Nature of the Gecko Lizard Adhesive Force. Biophysical Journal, 2005, 89, L14-L17.	0.5	201
5	Catching bird flu in a droplet. Nature Medicine, 2007, 13, 1259-1263.	30.7	195
6	Ultra fast miniaturized real-time PCR: 40 cycles in less than six minutes. Nucleic Acids Research, 2006, 34, e77-e77.	14.5	166
7	LAMP-on-a-chip: Revising microfluidic platforms for loop-mediated DNA amplification. TrAC - Trends in Analytical Chemistry, 2019, 113, 44-53.	11.4	163
8	Recent advances in lab-on-a-chip technologies for viral diagnosis. Biosensors and Bioelectronics, 2020, 153, 112041.	10.1	163
9	An integrated fluorescence detection system for lab-on-a-chip applications. Lab on A Chip, 2007, 7, 27-29.	6.0	156
10	PCR past, present and future. BioTechniques, 2020, 69, 317-325.	1.8	156
11	Present state of microchip electrophoresis: State of the art and routine applications. Journal of Chromatography A, 2015, 1382, 66-85.	3.7	144
12	Electrically Controlled Giant Piezoresistance in Silicon Nanowires. Nano Letters, 2010, 10, 1248-1252.	9.1	115
13	Clockwork PCR Including Sample Preparation. Angewandte Chemie - International Edition, 2008, 47, 3900-3904.	13.8	106
14	DEP-on-a-Chip: Dielectrophoresis Applied to Microfluidic Platforms. Micromachines, 2019, 10, 423.	2.9	105
15	Disposable real-time microPCR device: lab-on-a-chip at a low cost. Molecular BioSystems, 2006, 2, 292.	2.9	97
16	Handheld real-time PCR device. Lab on A Chip, 2016, 16, 586-592.	6.0	96
17	Selfâ€Assembled Nanoparticles Based Fabrication of Gecko Footâ€Hairâ€Inspired Polymer Nanofibers. Advanced Functional Materials, 2007, 17, 2211-2218.	14.9	86
18	On-chip three-dimensional cell culture in phaseguides improves hepatocyte functions <i>in vitro</i>. Biomicrofluidics, 2015, 9, 034113.	2.4	78

#	Article	IF	Citations
19	The vision of point-of-care PCR tests for the COVID-19 pandemic and beyond. TrAC - Trends in Analytical Chemistry, 2020, 130, 115984.	11.4	73
20	Micromachined submicrometer photodiode for scanning probe microscopy. Applied Physics Letters, 1995, 66, 2309-2311.	3.3	69
21	Microfluidic Technology for Clinical Applications of Exosomes. Micromachines, 2019, 10, 392.	2.9	68
22	Monoelemental 2D materials-based field effect transistors for sensing and biosensing: Phosphorene, antimonene, arsenene, silicene, and germanene go beyond graphene. TrAC - Trends in Analytical Chemistry, 2018, 105, 251-262.	11.4	67
23	Magnetization of negative magnetic arrays:â€ƒElliptical holes on a square lattice. Physical Review B, 2000, 62, 11719-11724.	3.2	66
24	Palm-Sized Device for Point-of-Care Ebola Detection. Analytical Chemistry, 2016, 88, 4803-4807.	6.5	57
25	An ISFET-based immunosensor for the detection of Î²-Bungarotoxin. Biosensors and Bioelectronics, 2002, 17, 821-826.	10.1	56
26	Highly sensitive infrared temperature sensor using self-heating compensated microbolometers. Sensors and Actuators A: Physical, 2000, 79, 122-127.	4.1	54
27	The Nanolithography Toolbox. Journal of Research of the National Institute of Standards and Technology, 2016, 121, 464.	1.2	54
28	IoT PCR for pandemic disease detection and its spread monitoring. Sensors and Actuators B: Chemical, 2020, 303, 127098.	7.8	54
29	From chip-in-a-lab to lab-on-a-chip: towards a single handheld electronic system for multiple application-specific lab-on-a-chip (ASLOC). Lab on A Chip, 2014, 14, 2168-2176.	6.0	50
30	Palm-Sized Biodetection System Based on Localized Surface Plasmon Resonance. Analytical Chemistry, 2008, 80, 6100-6103.	6.5	42
31	Nanostructured Gold Microelectrode Array for Ultrasensitive Detection of Heavy Metal Contamination. Analytical Chemistry, 2018, 90, 1161-1167.	6.5	38
32	Ac impedance analysis of tetraethylammonium ion transfer at liquid/liquid microinterfaces. Journal of the Chemical Society, Faraday Transactions, 1996, 92, 3851-3857.	1.7	35
33	Performance of microbolometer focal plane arrays under varying pressure. IEEE Electron Device Letters, 2000, 21, 233-235.	3.9	31
34	Rapid detection of viral RNA by a pocket-size real-time PCR system. Lab on A Chip, 2010, 10, 2632.	6.0	31
35	A facile in situ microfluidic method for creating multivalent surfaces: toward functional glycomics. Lab on A Chip, 2012, 12, 1500.	6.0	30
36	Versatile digital polymerase chain reaction chip design, fabrication, and image processing. Sensors and Actuators B: Chemical, 2019, 283, 677-684.	7.8	29

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37	Magneto-optic Kerr effect investigation of cobalt and permalloy nanoscale dot arrays: Shape effects on magnetization reversal. Applied Physics Letters, 2000, 77, 4410-4412.	3.3	28
38	Magneto-optical studies of superlattice dot arrays. Physical Review B, 2000, 61, 5895-5898.	3.2	28
39	A Method of Suppressing Self-Heating Signal of Bolometers. IEEE Sensors Journal, 2004, 4, 207-210.	4.7	28
40	Multiplexed digital polymerase chain reaction as a powerful diagnostic tool. Biosensors and Bioelectronics, 2021, 181, 113155.	10.1	28
41	Design and fabrication of Poly(dimethylsiloxane) arrayed waveguide grating. Optics Express, 2010, 18, 21732.	3.4	26
42	Digital PCR Applications in the SARS-CoV-2/COVID-19 Era: a Roadmap for Future Outbreaks. Clinical Microbiology Reviews, 2022, 35, e0016821.	13.6	26
43	Evaluation of thermal parameters of bolometer devices. Applied Physics Letters, 2002, 80, 1838-1840.	3.3	25
44	Ultrasensitive nanowire pressure sensor makes its debut. Procedia Engineering, 2010, 5, 1127-1130.	1.2	25
45	Magnetic switching in submicron-scale periodic magnetic arrays. Journal of Applied Physics, 2000, 88, 999-1003.	2.5	24
46	Design and fabrication of Poly(dimethylsiloxane) single-mode rib waveguide. Optics Express, 2009, 17, 11739.	3.4	24
47	Single Fluorescence Channel-based Multiplex Detection of Avian Influenza Virus by Quantitative PCR with Intercalating Dye. Scientific Reports, 2015, 5, 11479.	3.3	24
48	Monolithic integration of poly(dimethylsiloxane) waveguides and microfluidics for on-chip absorbance measurements. Sensors and Actuators B: Chemical, 2008, 134, 532-538.	7.8	22
49	Brillouin scattering and diffracted magneto-optical Kerr effect from arrays of dots and antidots (invited). Journal of Applied Physics, 2001, 89, 7096-7100.	2.5	21
50	Direct coupling of a free-flow isotachophoresis (FFITP) device with electrospray ionization mass spectrometry (ESI-MS). Lab on A Chip, 2015, 15, 3495-3502.	6.0	21
51	ISFET integrated sensor technology. Sensors and Actuators B: Chemical, 1995, 24, 232-235.	7.8	20
52	A microfabricated tip for simultaneous acquisition of sample topography and high-frequency magnetic field. Applied Physics Letters, 1997, 71, 2343-2345.	3.3	17
53	Simple and Efficient AlN-Based Piezoelectric Energy Harvesters. Micromachines, 2020, 11, 143.	2.9	17
54	Out-of-plane electrostatic actuation of microcantilevers. Nanotechnology, 2005, 16, 602-608.	2.6	16

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55	The formation of sharp AFM tips by single step etching. Journal of Micromechanics and Microengineering, 2006, 16, 1298-1300.	2.6	15
56	Detection of electrochemiluminescence from floating metal platelets in suspension. Lab on A Chip, 2013, 13, 781.	6.0	15
57	Revealing the secrets of PCR. Sensors and Actuators B: Chemical, 2019, 298, 126924.	7.8	15
58	PCR Multiplexing Based on a Single Fluorescent Channel Using Dynamic Melting Curve Analysis. ACS Omega, 2020, 5, 30267-30273.	3.5	15
59	Doubling Throughput of a Real-Time PCR. Scientific Reports, 2015, 5, 12595.	3.3	14
60	High-performance microcalorimeters: Design, applications and future development. TrAC - Trends in Analytical Chemistry, 2018, 109, 43-49.	11.4	14
61	Micromachined bolometer with single-crystal silicon diode as temperature sensor. IEEE Electron Device Letters, 2005, 26, 320-322.	3.9	13
62	Precise determination of thermal parameters of a microbolometer. Infrared Physics and Technology, 2018, 93, 286-290.	2.9	13
63	An image-to-answer algorithm for fully automated digital PCR image processing. Lab on A Chip, 2022, 22, 1333-1343.	6.0	13
64	Membrane-free electroextraction using an aqueous two-phase system. RSC Advances, 2014, 4, 49485-49490.	3.6	12
65	Microfluidic device based on deep reactive ion etching process and its lag effect for single cell capture and extraction. Sensors and Actuators B: Chemical, 2018, 269, 288-292.	7.8	12
66	Determination of Advantages and Limitations of qPCR Duplexing in a Single Fluorescent Channel. ACS Omega, 2021, 6, 22292-22300.	3.5	12
67	Non-contact fluorescent bleaching-independent method for temperature measurement in microfluidic systems based on DNA melting curves. Lab on A Chip, 2010, 10, 2818.	6.0	11
68	Preparation of high-quality stress-free (001) aluminum nitride thin film using a dual Kaufman ion-beam source setup. Thin Solid Films, 2019, 670, 105-112.	1.8	11
69	Pyrosequencing on a glass surface. Lab on A Chip, 2016, 16, 1063-1071.	6.0	10
70	Temperature non-uniformity detection on dPCR chips and temperature sensor calibration. RSC Advances, 2022, 12, 2375-2382.	3.6	10
71	Magnetic stability of nano-particles: The role of dipolar instability pockets. Europhysics Letters, 2001, 54, 813-819.	2.0	9
72	Determination of dynamic contact angles within microfluidic devices. Microfluidics and Nanofluidics, 2018, 22, 1.	2.2	9

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73	Nanowatt simple microcalorimetry for dynamically monitoring the defense mechanism of Paramecium caudatum. Sensors and Actuators A: Physical, 2021, 323, 112643.	4.1	9
74	Recent advances of microcalorimetry for studying cellular metabolic heat. TrAC - Trends in Analytical Chemistry, 2021, 143, 116353.	11.4	9
75	Air flow actuation of micromechanical oscillators. Applied Physics Letters, 2001, 79, 138-140.	3.3	8
76	Deposition of Bacteriorhodopsin Protein in a Purple Membrane Form on Nitrocellulose Membranes for Enhanced Photoelectric Response. Sensors, 2013, 13, 455-462.	3.8	8
77	Portable Lock-in Amplifier-Based Electrochemical Method to Measure an Array of 64 Sensors for Point-of-Care Applications. Analytical Chemistry, 2017, 89, 8731-8737.	6.5	8
78	Switchable wettability applicable to nonplanar surfaces. Applied Materials Today, 2018, 13, 271-275.	4.3	8
79	A SiN Microcalorimeter and a Non-Contact Precision Method of Temperature Calibration. Journal of Microelectromechanical Systems, 2020, 29, 1103-1105.	2.5	8
80	Optical intensity mapping on the nanometer scale by near-field photodetection optical microscopy. Optics Letters, 1996, 21, 447.	3.3	7
81	Observation of dendritic growth with colloidal Au particles. Journal of Materials Science Letters, 2000, 19, 193-195.	0.5	7
82	<i>In situ</i> observation of carbon nanotube layer growth on microbolometers with substrates at ambient temperature. Journal of Applied Physics, 2018, 123, .	2.5	7
83	Single nanostructured gold amalgam microelectrode electrochemiluminescence: From arrays to a single point. Sensors and Actuators B: Chemical, 2019, 286, 282-288.	7.8	7
84	Heat transfer time determination based on DNA melting curve analysis. Microfluidics and Nanofluidics, 2020, 24, 1.	2.2	7
85	A Sub-nL Chip Calorimeter and Its Application to the Measurement of the Photothermal Transduction Efficiency of Plasmonic Nanoparticles. Journal of Microelectromechanical Systems, 2021, 30, 759-769.	2.5	7
86	nanolithography toolboxâ€"Simplifying the design complexity of microfluidic chips. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2020, 38, 063002.	1.2	7
87	Approach to measure thermal efficiency of bolometer sensors. Applied Physics Letters, 2002, 80, 2183-2185.	3.3	6
88	Fast spore breaking by superheating. Lab on A Chip, 2013, 13, 1695.	6.0	6
89	Droplet-based differential microcalorimeter for real-time energy balance monitoring. Sensors and Actuators B: Chemical, 2020, 312, 127967.	7.8	6
90	Digital PCR system development acceleratorâ€"A methodology to emulate dPCR results. Sensors and Actuators B: Chemical, 2022, 358, 131527.	7.8	6

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91	Stress-free deposition of [001] preferentially oriented titanium thin film by Kaufman ion-beam source. Thin Solid Films, 2017, 638, 57-62.	1.8	5
92	Single Measurement Determination of Mechanical, Electrical, and Surface Properties of a Single Carbon Nanotube via Force Microscopy. Sensors and Actuators A: Physical, 2018, 271, 217-222.	4.1	5
93	Microfabricated stem cell targeted differentiation systems. TrAC - Trends in Analytical Chemistry, 2020, 126, 115858.	11.4	5
94	Microfluidic Superheating for Peptide Sequence Elucidation. Analytical Chemistry, 2015, 87, 5997-6003.	6.5	4
95	Self-compensating method for bolometerâ€“based IR focal plane arrays. Sensors and Actuators A: Physical, 2017, 265, 40-46.	4.1	4
96	A Self-compensating System for Fixed Pattern Noise Reduction of Focal Plane Arrays of Infrared Bolometer Detectors. Procedia Engineering, 2016, 168, 1007-1011.	1.2	3
97	Fabrication of buried microfluidic channels with observation windows using femtosecond laser photoablation and parylene-C coating. Microfluidics and Nanofluidics, 2018, 22, 1.	2.2	3
98	Rapid Characterization of Biomoleculesâ€™ Thermal Stability in a Segmented Flow-Through Optofluidic Microsystem. Scientific Reports, 2020, 10, 6925.	3.3	3
99	Infinite Selectivity of Wet SiO2 Etching in Respect to Al. Micromachines, 2020, 11, 365.	2.9	3
100	Parylene micropillars coated with thermally grown SiO2. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2020, 38, .	1.2	2
101	Design considerations for point-of-need devices based on nucleic acid amplification for COVID-19 diagnostics and beyond. BioTechniques, 2021, 71, 505-509.	1.8	2
102	<title>Near-field optical mapping using cantilevered nanoscopic Schottky diode tips</title>. , 2001, , .		1
103	Pocket-size multiplexed electrical detection of biosubstances by ultra sensitive nanowire nanosensors. , 2009, , .		1
104	Tailorable nanostructured mercury/gold amalgam electrode arrays with varied surface areas and compositions. Sensors and Actuators B: Chemical, 2020, 302, 127175.	7.8	1
105	A Compact MEMS Chip for a Rapid and Highly Accurate Picoliter Calorimetry. , 2020, , .		1
106	Ultrasensitive MEMS-based inertial system. , 2009, , .		0
107	The Design and Fabrication of Poly(dimethylsiloxane) Single Mode Rib Waveguides for Lab-on-a-Chip Applications. Advanced Materials Research, 0, 74, 51-54.	0.3	0
108	The electromechanical response of silicon nanowires to buckling mode transitions. Nanotechnology, 2010, 21, 405505.	2.6	0

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109	A New Method for 2D Materials Properties Modulation by Controlled Induced Mechanical Strain. Proceedings (mdpi), 2018, 2, .	0.2	0
110	10.1063/1.5016465.1. , 2018, , .		0
111	A Sub-nL Differential Scanning Calorimetry Chip for Liquid Crystal Phase Transition Characterization. , 2022, , .		0