

Pavel Neuzil

List of Publications by Year in descending order

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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	Temperature non-uniformity detection on dPCR chips and temperature sensor calibration. RSC Advances, 2022, 12, 2375-2382.	3.6	10
2	A Sub-nL Differential Scanning Calorimetry Chip for Liquid Crystal Phase Transition Characterization. , 2022, , .		0
3	Digital PCR system development acceleratorâ€”A methodology to emulate dPCR results. Sensors and Actuators B: Chemical, 2022, 358, 131527.	7.8	6
4	An image-to-answer algorithm for fully automated digital PCR image processing. Lab on A Chip, 2022, 22, 1333-1343.	6.0	13
5	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
6	Multiplexed digital polymerase chain reaction as a powerful diagnostic tool. Biosensors and Bioelectronics, 2021, 181, 113155.	10.1	28
7	Nanowatt simple microcalorimetry for dynamically monitoring the defense mechanism of Paramecium caudatum. Sensors and Actuators A: Physical, 2021, 323, 112643.	4.1	9
8	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
9	Determination of Advantages and Limitations of qPCR Duplexing in a Single Fluorescent Channel. ACS Omega, 2021, 6, 22292-22300.	3.5	12
10	Recent advances of microcalorimetry for studying cellular metabolic heat. TrAC - Trends in Analytical Chemistry, 2021, 143, 116353.	11.4	9
11	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
12	IoT PCR for pandemic disease detection and its spread monitoring. Sensors and Actuators B: Chemical, 2020, 303, 127098.	7.8	54
13	Tailorable nanostructured mercury/gold amalgam electrode arrays with varied surface areas and compositions. Sensors and Actuators B: Chemical, 2020, 302, 127175.	7.8	1
14	Heat transfer time determination based on DNA melting curve analysis. Microfluidics and Nanofluidics, 2020, 24, 1.	2.2	7
15	Parylene micropillars coated with thermally grown SiO ₂ . Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2020, 38, .	1.2	2
16	PCR Multiplexing Based on a Single Fluorescent Channel Using Dynamic Melting Curve Analysis. ACS Omega, 2020, 5, 30267-30273.	3.5	15
17	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
18	A SiN Microcalorimeter and a Non-Contact Precision Method of Temperature Calibration. Journal of Microelectromechanical Systems, 2020, 29, 1103-1105.	2.5	8

#	ARTICLE	IF	CITATIONS
19	PCR past, present and future. <i>BioTechniques</i> , 2020, 69, 317-325.	1.8	156
20	A Compact MEMS Chip for a Rapid and Highly Accurate Picoliter Calorimetry. , 2020, , .		1
21	Microfabricated stem cell targeted differentiation systems. <i>TrAC - Trends in Analytical Chemistry</i> , 2020, 126, 115858.	11.4	5
22	Droplet-based differential microcalorimeter for real-time energy balance monitoring. <i>Sensors and Actuators B: Chemical</i> , 2020, 312, 127967.	7.8	6
23	Recent advances in lab-on-a-chip technologies for viral diagnosis. <i>Biosensors and Bioelectronics</i> , 2020, 153, 112041.	10.1	163
24	Simple and Efficient AlN-Based Piezoelectric Energy Harvesters. <i>Micromachines</i> , 2020, 11, 143.	2.9	17
25	Rapid Characterization of Biomolecules'™ Thermal Stability in a Segmented Flow-Through Optofluidic Microsystem. <i>Scientific Reports</i> , 2020, 10, 6925.	3.3	3
26	Infinite Selectivity of Wet SiO ₂ Etching in Respect to Al. <i>Micromachines</i> , 2020, 11, 365.	2.9	3
27	nanolithography toolbox" Simplifying the design complexity of microfluidic chips. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2020, 38, 063002.	1.2	7
28	Revealing the secrets of PCR. <i>Sensors and Actuators B: Chemical</i> , 2019, 298, 126924.	7.8	15
29	LAMP-on-a-chip: Revising microfluidic platforms for loop-mediated DNA amplification. <i>TrAC - Trends in Analytical Chemistry</i> , 2019, 113, 44-53.	11.4	163
30	Microfluidic Technology for Clinical Applications of Exosomes. <i>Micromachines</i> , 2019, 10, 392.	2.9	68
31	DEP-on-a-Chip: Dielectrophoresis Applied to Microfluidic Platforms. <i>Micromachines</i> , 2019, 10, 423.	2.9	105
32	Preparation of high-quality stress-free (001) aluminum nitride thin film using a dual Kaufman ion-beam source setup. <i>Thin Solid Films</i> , 2019, 670, 105-112.	1.8	11
33	Versatile digital polymerase chain reaction chip design, fabrication, and image processing. <i>Sensors and Actuators B: Chemical</i> , 2019, 283, 677-684.	7.8	29
34	Single nanostructured gold amalgam microelectrode electrochemiluminescence: From arrays to a single point. <i>Sensors and Actuators B: Chemical</i> , 2019, 286, 282-288.	7.8	7
35	Determination of dynamic contact angles within microfluidic devices. <i>Microfluidics and Nanofluidics</i> , 2018, 22, 1.	2.2	9
36	<i>In situ</i> observation of carbon nanotube layer growth on microbolometers with substrates at ambient temperature. <i>Journal of Applied Physics</i> , 2018, 123, .	2.5	7

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37	Single Measurement Determination of Mechanical, Electrical, and Surface Properties of a Single Carbon Nanotube via Force Microscopy. <i>Sensors and Actuators A: Physical</i> , 2018, 271, 217-222.	4.1	5
38	Nanostructured Gold Microelectrode Array for Ultrasensitive Detection of Heavy Metal Contamination. <i>Analytical Chemistry</i> , 2018, 90, 1161-1167.	6.5	38
39	A New Method for 2D Materials Properties Modulation by Controlled Induced Mechanical Strain. <i>Proceedings (mdpi)</i> , 2018, 2, .	0.2	0
40	High-performance microcalorimeters: Design, applications and future development. <i>TrAC - Trends in Analytical Chemistry</i> , 2018, 109, 43-49.	11.4	14
41	Switchable wettability applicable to nonplanar surfaces. <i>Applied Materials Today</i> , 2018, 13, 271-275.	4.3	8
42	Fabrication of buried microfluidic channels with observation windows using femtosecond laser photoablation and parylene-C coating. <i>Microfluidics and Nanofluidics</i> , 2018, 22, 1.	2.2	3
43	Monoelemental 2D materials-based field effect transistors for sensing and biosensing: Phosphorene, antimonene, arsenene, silicene, and germanene go beyond graphene. <i>TrAC - Trends in Analytical Chemistry</i> , 2018, 105, 251-262.	11.4	67
44	Microfluidic device based on deep reactive ion etching process and its lag effect for single cell capture and extraction. <i>Sensors and Actuators B: Chemical</i> , 2018, 269, 288-292.	7.8	12
45	Precise determination of thermal parameters of a microbolometer. <i>Infrared Physics and Technology</i> , 2018, 93, 286-290.	2.9	13
46	10.1063/1.5016465.1., 2018, , .		0
47	Stress-free deposition of [001] preferentially oriented titanium thin film by Kaufman ion-beam source. <i>Thin Solid Films</i> , 2017, 638, 57-62.	1.8	5
48	Portable Lock-in Amplifier-Based Electrochemical Method to Measure an Array of 64 Sensors for Point-of-Care Applications. <i>Analytical Chemistry</i> , 2017, 89, 8731-8737.	6.5	8
49	Self-compensating method for bolometer-based IR focal plane arrays. <i>Sensors and Actuators A: Physical</i> , 2017, 265, 40-46.	4.1	4
50	The Nanolithography Toolbox. <i>Journal of Research of the National Institute of Standards and Technology</i> , 2016, 121, 464.	1.2	54
51	A Self-compensating System for Fixed Pattern Noise Reduction of Focal Plane Arrays of Infrared Bolometer Detectors. <i>Procedia Engineering</i> , 2016, 168, 1007-1011.	1.2	3
52	Palm-Sized Device for Point-of-Care Ebola Detection. <i>Analytical Chemistry</i> , 2016, 88, 4803-4807.	6.5	57
53	Handheld real-time PCR device. <i>Lab on A Chip</i> , 2016, 16, 586-592.	6.0	96
54	Pyrosequencing on a glass surface. <i>Lab on A Chip</i> , 2016, 16, 1063-1071.	6.0	10

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55	Doubling Throughput of a Real-Time PCR. <i>Scientific Reports</i> , 2015, 5, 12595.	3.3	14
56	Microfluidic Superheating for Peptide Sequence Elucidation. <i>Analytical Chemistry</i> , 2015, 87, 5997-6003.	6.5	4
57	Single Fluorescence Channel-based Multiplex Detection of Avian Influenza Virus by Quantitative PCR with Intercalating Dye. <i>Scientific Reports</i> , 2015, 5, 11479.	3.3	24
58	On-chip three-dimensional cell culture in phaseguides improves hepatocyte functions <i>in vitro</i> . <i>Biomicrofluidics</i> , 2015, 9, 034113.	2.4	78
59	Direct coupling of a free-flow isotachopheresis (FFITP) device with electrospray ionization mass spectrometry (ESI-MS). <i>Lab on A Chip</i> , 2015, 15, 3495-3502.	6.0	21
60	Present state of microchip electrophoresis: State of the art and routine applications. <i>Journal of Chromatography A</i> , 2015, 1382, 66-85.	3.7	144
61	Membrane-free electroextraction using an aqueous two-phase system. <i>RSC Advances</i> , 2014, 4, 49485-49490.	3.6	12
62	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). <i>Lab on A Chip</i> , 2014, 14, 2168-2176.	6.0	50
63	Deposition of Bacteriorhodopsin Protein in a Purple Membrane Form on Nitrocellulose Membranes for Enhanced Photoelectric Response. <i>Sensors</i> , 2013, 13, 455-462.	3.8	8
64	Fast spore breaking by superheating. <i>Lab on A Chip</i> , 2013, 13, 1695.	6.0	6
65	Detection of electrochemiluminescence from floating metal platelets in suspension. <i>Lab on A Chip</i> , 2013, 13, 781.	6.0	15
66	A facile in situ microfluidic method for creating multivalent surfaces: toward functional glycomics. <i>Lab on A Chip</i> , 2012, 12, 1500.	6.0	30
67	Revisiting lab-on-a-chip technology for drug discovery. <i>Nature Reviews Drug Discovery</i> , 2012, 11, 620-632.	46.4	422
68	Electrically Controlled Giant Piezoresistance in Silicon Nanowires. <i>Nano Letters</i> , 2010, 10, 1248-1252.	9.1	115
69	Ultrasensitive nanowire pressure sensor makes its debut. <i>Procedia Engineering</i> , 2010, 5, 1127-1130.	1.2	25
70	The electromechanical response of silicon nanowires to buckling mode transitions. <i>Nanotechnology</i> , 2010, 21, 405505.	2.6	0
71	Design and fabrication of Poly(dimethylsiloxane) arrayed waveguide grating. <i>Optics Express</i> , 2010, 18, 21732.	3.4	26
72	Non-contact fluorescent bleaching-independent method for temperature measurement in microfluidic systems based on DNA melting curves. <i>Lab on A Chip</i> , 2010, 10, 2818.	6.0	11

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73	Rapid detection of viral RNA by a pocket-size real-time PCR system. <i>Lab on A Chip</i> , 2010, 10, 2632.	6.0	31
74	Ultrasensitive MEMS-based inertial system. , 2009, , .		0
75	Pocket-size multiplexed electrical detection of biosubstances by ultra sensitive nanowire nanosensors. , 2009, , .		1
76	Design and fabrication of Poly(dimethylsiloxane) single-mode rib waveguide. <i>Optics Express</i> , 2009, 17, 11739.	3.4	24
77	Clockwork PCR Including Sample Preparation. <i>Angewandte Chemie - International Edition</i> , 2008, 47, 3900-3904.	13.8	106
78	Monolithic integration of poly(dimethylsiloxane) waveguides and microfluidics for on-chip absorbance measurements. <i>Sensors and Actuators B: Chemical</i> , 2008, 134, 532-538.	7.8	22
79	Palm-Sized Biodetection System Based on Localized Surface Plasmon Resonance. <i>Analytical Chemistry</i> , 2008, 80, 6100-6103.	6.5	42
80	An integrated fluorescence detection system for lab-on-a-chip applications. <i>Lab on A Chip</i> , 2007, 7, 27-29.	6.0	156
81	Self-Assembled Nanoparticles Based Fabrication of Gecko Foot-Hair-Inspired Polymer Nanofibers. <i>Advanced Functional Materials</i> , 2007, 17, 2211-2218.	14.9	86
82	Catching bird flu in a droplet. <i>Nature Medicine</i> , 2007, 13, 1259-1263.	30.7	195
83	Disposable real-time microPCR device: lab-on-a-chip at a low cost. <i>Molecular BioSystems</i> , 2006, 2, 292.	2.9	97
84	Ultra fast miniaturized real-time PCR: 40 cycles in less than six minutes. <i>Nucleic Acids Research</i> , 2006, 34, e77-e77.	14.5	166
85	The formation of sharp AFM tips by single step etching. <i>Journal of Micromechanics and Microengineering</i> , 2006, 16, 1298-1300.	2.6	15
86	Out-of-plane electrostatic actuation of microcantilevers. <i>Nanotechnology</i> , 2005, 16, 602-608.	2.6	16
87	Micromachined bolometer with single-crystal silicon diode as temperature sensor. <i>IEEE Electron Device Letters</i> , 2005, 26, 320-322.	3.9	13
88	The Nature of the Gecko Lizard Adhesive Force. <i>Biophysical Journal</i> , 2005, 89, L14-L17.	0.5	201
89	A Method of Suppressing Self-Heating Signal of Bolometers. <i>IEEE Sensors Journal</i> , 2004, 4, 207-210.	4.7	28
90	Attogram detection using nanoelectromechanical oscillators. <i>Journal of Applied Physics</i> , 2004, 95, 3694-3703.	2.5	547

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91	Approach to measure thermal efficiency of bolometer sensors. Applied Physics Letters, 2002, 80, 2183-2185.	3.3	6
92	Evaluation of thermal parameters of bolometer devices. Applied Physics Letters, 2002, 80, 1838-1840.	3.3	25
93	An ISFET-based immunosensor for the detection of \hat{I}^2 -Bungarotoxin. Biosensors and Bioelectronics, 2002, 17, 821-826.	10.1	56
94	<title>Near-field optical mapping using cantilevered nanoscopic Schottky diode tips</title>. , 2001, , .		1
95	Magnetic stability of nano-particles: The role of dipolar instability pockets. Europhysics Letters, 2001, 54, 813-819.	2.0	9
96	Air flow actuation of micromechanical oscillators. Applied Physics Letters, 2001, 79, 138-140.	3.3	8
97	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
98	Highly sensitive infrared temperature sensor using self-heating compensated microbolometers. Sensors and Actuators A: Physical, 2000, 79, 122-127.	4.1	54
99	Observation of dendritic growth with colloidal Au particles. Journal of Materials Science Letters, 2000, 19, 193-195.	0.5	7
100	Magnetic switching in submicron-scale periodic magnetic arrays. Journal of Applied Physics, 2000, 88, 999-1003.	2.5	24
101	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
102	Magneto-optical studies of superlattice dot arrays. Physical Review B, 2000, 61, 5895-5898.	3.2	28
103	Performance of microbolometer focal plane arrays under varying pressure. IEEE Electron Device Letters, 2000, 21, 233-235.	3.9	31
104	Magnetization of negative magnetic arrays: \hat{e} Elliptical holes on a square lattice. Physical Review B, 2000, 62, 11719-11724.	3.2	66
105	Mechanical resonant immunospecific biological detector. Applied Physics Letters, 2000, 77, 450-452.	3.3	398
106	A microfabricated tip for simultaneous acquisition of sample topography and high-frequency magnetic field. Applied Physics Letters, 1997, 71, 2343-2345.	3.3	17
107	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
108	Optical intensity mapping on the nanometer scale by near-field photodetection optical microscopy. Optics Letters, 1996, 21, 447.	3.3	7

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109	ISFET integrated sensor technology. <i>Sensors and Actuators B: Chemical</i> , 1995, 24, 232-235.	7.8	20
110	Micromachined submicrometer photodiode for scanning probe microscopy. <i>Applied Physics Letters</i> , 1995, 66, 2309-2311.	3.3	69
111	The Design and Fabrication of Poly(dimethylsiloxane) Single Mode Rib Waveguides for Lab-on-a-Chip Applications. <i>Advanced Materials Research</i> , 0, 74, 51-54.	0.3	0