

# Bernd JÄhne

## List of Publications by Year in descending order

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Version: 2024-02-01

120  
papers

4,260  
citations

279487

23  
h-index

155451

55  
g-index

134  
all docs

134  
docs citations

134  
times ranked

3690  
citing authors

#	ARTICLE	IF	CITATIONS
1	Measurement of the diffusion coefficients of sparingly soluble gases in water. Journal of Geophysical Research, 1987, 92, 10767-10776.	3.3	680
2	On the parameters influencing air-water gas exchange. Journal of Geophysical Research, 1987, 92, 1937-1949.	3.3	566
3	AIR-WATER GAS EXCHANGE. Annual Review of Fluid Mechanics, 1998, 30, 443-468.	10.8	273
4	Two-dimensional wave number spectra of small-scale water surface waves. Journal of Geophysical Research, 1990, 95, 11531-11546.	3.3	191
5	Digital Image Processing. , 2002, , .		183
6	Isotopic versus micrometeorologic ocean CO <sub>2</sub> fluxes: A serious conflict. Journal of Geophysical Research, 1986, 91, 10517-10527.	3.3	148
7	Quantitative analysis of the local rates of growth of dicot leaves at a high temporal and spatial resolution, using image sequence analysis. Plant Journal, 1998, 16, 505-514.	2.8	113
8	Intercontinental transport of nitrogen oxide pollution plumes. Atmospheric Chemistry and Physics, 2003, 3, 387-393.	1.9	96
9	In situ microscopy for on-line characterization of cell-populations in bioreactors, including cell-concentration measurements by depth from focus. Biotechnology and Bioengineering, 1995, 47, 106-116.	1.7	87
10	The HCI Benchmark Suite: Stereo and Flow Ground Truth with Uncertainties for Urban Autonomous Driving. , 2016, , .		84
11	Measurement of 3D pore-scale flow in index-matched porous media. Experiments in Fluids, 2003, 35, 159-166.	1.1	77
12	Imaging of short ocean wind waves: a critical theoretical review. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1994, 11, 2197.	0.8	75
13	Theoretical and experimental error analysis of continuous-wave time-of-flight range cameras. Optical Engineering, 2009, 48, 013602.	0.5	66
14	Digital Image Processing. , 1995, , .		62
15	Digitale Bildverarbeitung. , 1997, , .		59
16	Outdoor stereo camera system for the generation of real-world benchmark data sets. Optical Engineering, 2012, 51, 021107.	0.5	57
17	Range Flow Estimation. Computer Vision and Image Understanding, 2002, 85, 209-231.	3.0	56
18	Digital Image Processing. , 1991, , .		55

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19	Investigating the transfer processes across the free aqueous viscous boundary layer by the controlled flux method. <i>Tellus, Series B: Chemical and Physical Meteorology</i> , 2022, 41, 177.	0.8	45
20	Digitale Bildverarbeitung. , 2012, , .		45
21	LIF measurements of concentration profiles in the aqueous mass boundary layer. <i>Experiments in Fluids</i> , 1998, 25, 190-196.	1.1	44
22	Trust your Model: Light Field Depth Estimation with Inline Occlusion Handling. , 2018, , .		41
23	Digitale Bildverarbeitung. , 1989, , .		39
24	Comparison between an amplitude-measuring wire and a slope-measuring laser water wave gauge. <i>Review of Scientific Instruments</i> , 1982, 53, 651-655.	0.6	38
25	Comparison of Gaussian particle center estimators and the achievable measurement density for particle tracking velocimetry. <i>Experiments in Fluids</i> , 2000, 29, 145-153.	1.1	38
26	Estimation of Surface Flow and Net Heat Flux from Infrared Image Sequences. <i>Journal of Mathematical Imaging and Vision</i> , 2003, 19, 159-174.	0.8	36
27	Generating EPI Representations of 4D Light Fields with a Single Lens Focused Plenoptic Camera. <i>Lecture Notes in Computer Science</i> , 2011, , 90-101.	1.0	34
28	An optical flow MTV based technique for measuring microfluidic flow in the presence of diffusion and Taylor dispersion. <i>Experiments in Fluids</i> , 2008, 44, 439-450.	1.1	30
29	A theoretical and experimental investigation of the systematic errors and statistical uncertainties of Time-Of-Flight-cameras. <i>International Journal of Intelligent Systems Technologies and Applications</i> , 2008, 5, 402.	0.2	30
30	Combined optical slope/height measurements of short wind waves: principle and calibration. <i>Measurement Science and Technology</i> , 2005, 16, 1937-1944.	1.4	29
31	An Adaptive Confidence Measure for Optical Flows Based on Linear Subspace Projections. , 2007, , 132-141.		28
32	Operator representation as a new differential optical absorption spectroscopy formalism. <i>Applied Optics</i> , 2005, 44, 3246.	2.1	26
33	First laboratory study of air-sea gas exchange at hurricane wind speeds. <i>Ocean Science</i> , 2014, 10, 257-265.	1.3	26
34	Localization accuracy of region detectors. , 2008, , .		25
35	Motion Determination in Actin Filament Fluorescence Images with a Spatio-Temporal Orientation Analysis Method. <i>Biophysical Journal</i> , 2000, 78, 2709-2715.	0.2	24
36	Spatiotemporal anisotropic diffusion filtering to improve signal-to-noise ratios and object restoration in fluorescence microscopic image sequences. <i>Journal of Biomedical Optics</i> , 2003, 8, 40.	1.4	23

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37	Digitale Bildverarbeitung. , 1991, , .		22
38	EMVA 1288 Standard for Machine Vision. Optik & Photonik, 2010, 5, 53-54.	0.3	21
39	Learning of Optimal Illumination for Material Classification. Lecture Notes in Computer Science, 2010, , 563-572.	1.0	20
40	Numerische Isotropieoptimierung von FIR-Filtern mittels Querglättung. Informatik Aktuell, 1997, , 367-374.	0.4	19
41	Particle tracking velocimetry beneath water waves. Part I: visualization and tracking algorithms. Experiments in Fluids, 1997, 23, 472-482.	1.1	18
42	Technische Bildverarbeitung " Maschinelles Sehen. , 1996, , .		16
43	Energy Balance in Small-Scale Waves " An Experimental Approach Using Optical Slope Measuring Technique and Image Processing. , 1989, , 105-120.		14
44	Measuring air-sea gas-exchange velocities in a large-scale annular wind-wave tank. Ocean Science, 2015, 11, 121-138.	1.3	13
45	Air-sea gas exchange at wind speeds up to 85% <sup>1</sup> . Ocean Science, 2019, 15, 1783-1799.	1.3	13
46	Comparative heat and gas exchange measurements in the Heidelberg Aeolotron, a large annular wind-wave tank. Ocean Science, 2015, 11, 111-120.	1.3	12
47	A Tensor Approach for Precise Computation of Dense Displacement Vector Fields. Informatik Aktuell, 1997, , 199-208.	0.4	12
48	Particle tracking velocimetry beneath water waves. Part II: Water waves. Experiments in Fluids, 1998, 24, 10-16.	1.1	11
49	Multichannel shape from shading techniques for moving specular surfaces. Lecture Notes in Computer Science, 1998, , 170-184.	1.0	11
50	Mixed OLS-TLS for the Estimation of Dynamic Processes with a Linear Source Term. Lecture Notes in Computer Science, 2002, , 463-471.	1.0	11
51	A Physical Model of Time-of-Flight 3D Imaging Systems, Including Suppression of Ambient Light. Lecture Notes in Computer Science, 2009, , 1-15.	1.0	11
52	A novel method for three-dimensional three-component analysis of flows close to free water surfaces. Experiments in Fluids, 2008, 44, 469-480.	1.1	10
53	Calibration of time-of-flight cameras for accurate intraoperative surface reconstruction. Medical Physics, 2013, 40, 082701.	1.6	10
54	Reliable Estimates of the Sea Surface Heat Flux from Image Sequences. Lecture Notes in Computer Science, 2001, , 194-201.	1.0	10

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55	Optical Measuring Technique For Small Scale Water Surface Waves. , 1989, , .		9
56	On Performance Analysis of Optical Flow Algorithms. Lecture Notes in Computer Science, 2012, , 329-355.	1.0	9
57	Physics from IR Image Sequences: Quantitative Analysis of Transport Models and Parameters of Air-Sea Gas Transfer. Geophysical Monograph Series, 0, , 103-108.	0.1	9
58	Stereo Ground Truth with Error Bars. Lecture Notes in Computer Science, 2015, , 595-610.	1.0	9
59	Estimating the Viscous Shear Stress at the Water Surface from Active Thermography. Environmental Science and Engineering, 2007, , 223-239.	0.1	9
60	Efficient and robust reduction of motion artifacts for 3D Time-of-Flight cameras. , 2011, , .		8
61	Measuring the Sea Surface Heat Flux and Probability Distribution of Surface Renewal Events. Geophysical Monograph Series, 0, , 109-114.	0.1	8
62	Optical sensing of oxygen using a modified Sternâ€“Volmer equation for high laser irradiance. Sensors and Actuators B: Chemical, 2015, 206, 336-342.	4.0	8
63	Radiometric and Spectrometric Calibrations, and Distance Noise Measurement of ToF Cameras. Lecture Notes in Computer Science, 2009, , 28-41.	1.0	8
64	Correlated speckle noise in white-light interferometry: theoretical analysis of measurement uncertainty. Applied Optics, 2009, 48, 525.	2.1	7
65	Towards surround stereo vision: Analysis of a new surround view camera configuration for driving assistance applications. , 2014, , .		6
66	Noise equalisation and quasi loss-less image data compression â€“ or how many bits needs an image sensor?. TM Technisches Messen, 2016, 83, 16-24.	0.3	6
67	Direct Estimation of the Wall Shear Rate Using Parametric Motion Models in 3D. Lecture Notes in Computer Science, 2006, , 434-443.	1.0	6
68	Water wave measurement from stereo images of specular reflections. Measurement Science and Technology, 2015, 26, 115401.	1.4	5
69	Heterogeneous Light Fields. , 2016, , .		5
70	Robust Hough Transform Based 3D Reconstruction from Circular Light Fields. , 2018, , .		5
71	Ground Truth for Evaluating Time of Flight Imaging. Lecture Notes in Computer Science, 2013, , 52-74.	1.0	5
72	Evaluation of Modern Image Sensors Using the EMVA 1288 Standard. , 2016, , .		4

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73	Investigating Small-Scale Air-Sea Exchange Processes via Thermography. <i>Frontiers in Mechanical Engineering</i> , 2018, 4, .	0.8	4
74	Decomposing Infrared Images of Wind Waves for Quantitative Separation Into Characteristic Flow Processes. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2019, 57, 8304-8316.	2.7	4
75	Measurements of air-sea gas transfer velocities in the Baltic Sea. <i>Ocean Science</i> , 2019, 15, 235-247.	1.3	4
76	Estimation of Air-Sea Gas and Heat Fluxes from Infrared Imagery Based on Near Surface Turbulence Models. <i>Environmental Science and Engineering</i> , 2007, , 241-254.	0.1	4
77	Visualisation of Oxygen Concentration Fields in the Mass Boundary Layer by Fluorescence Quenching. <i>Environmental Science and Engineering</i> , 2007, , 59-72.	0.1	4
78	Relative Pose Estimation from Straight Lines using Parallel Line Clustering and its Application to Monocular Visual Odometry. , 2016, , .		4
79	Wide Base Stereo with Fisheye Optics: A Robust Approach for 3D Reconstruction in Driving Assistance. <i>Lecture Notes in Computer Science</i> , 2014, , 342-353.	1.0	4
80	Range Flow Estimation based on Photonic Mixing Device Data. <i>International Journal of Intelligent Systems Technologies and Applications</i> , 2008, 5, 380.	0.2	3
81	3D reconstruction by a combined structure tensor and Hough transform light field approach. <i>TM Technisches Messen</i> , 2017, 84, 460-478.	0.3	3
82	Air-Sea Gas Exchange. , 2019, , 1-13.		3
83	Surface Expansion from Range Data Sequences. <i>Lecture Notes in Computer Science</i> , 2001, , 163-169.	1.0	3
84	Spatiotemporal Image Analysis for Fluid Flow Measurements. <i>Notes on Numerical Fluid Mechanics and Multidisciplinary Design</i> , 2009, , 289-304.	0.2	3
85	ÄBERSICHTSAUFSATZ: SIMD-Bildverarbeitungsalgorithmen mit dem Multimedia Extension-Instruktionssatz (MMX) von Intel. <i>Automatisierungstechnik</i> , 1997, 45, 453-460.	0.4	2
86	Improved training algorithm for tree-like classifiers and its application to vehicle detection. , 2007, , .		2
87	High frame rate for 3D Time-of-Flight cameras by dynamic sensor calibration. , 2011, , .		2
88	Bilder berechnen - nicht nur aufnehmen. <i>Optik &amp; Photonik</i> , 2012, 7, 50-53.	0.3	2
89	On the Investigations of Statistical Properties of the Micro Turbulence at the Ocean Surface. <i>Geophysical Monograph Series</i> , 0, , 51-57.	0.1	2
90	On the design of a fractal calibration pattern for improved camera calibration. <i>TM Technisches Messen</i> , 2017, 84, 440-451.	0.3	2

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91	2D-Measurement Technique for Simultaneous Quantitative Determination of Mixing Ratio and Velocity Field in Microfluidic Applications. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2009, , 155-164.	0.2	2
92	The Wall-PIV Measurement Technique for Near Wall Flow Fields in Biofluid Mechanics. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2009, , 11-20.	0.2	2
93	First Results of the Viers-1 Experiment. , 1989, , 49-57.		2
94	A Comparison of Region Detectors for Tracking. Lecture Notes in Computer Science, 2008, , 112-121.	1.0	1
95	Overview of the CoOP Experiments: Physical and Chemical Measurements Parameterizing Air-Sea Heat Exchange. Geophysical Monograph Series, 2013, , 39-44.	0.1	1
96	PRNU and DSNU Maximum Likelihood Estimation Using Sensor Statistics / PRNU- und DSNU-Maximum-Likelihood-Schätzung mit Hilfe der Sensorstatistik. TM Technisches Messen, 2013, 80, 321-328.	0.3	1
97	Relative Pose Estimation from Straight Lines Using Optical Flow-Based Line Matching and Parallel Line Clustering. Communications in Computer and Information Science, 2017, , 329-352.	0.4	1
98	KARL OTTO MÄNNICH (1925â€“2003): IN MEMORIAM. Radiocarbon, 0, , 1-5.	0.8	1
99	Characteristics of Streaky Thermal Footprints on Wind Waves. Journal of Geophysical Research: Oceans, 2021, 126, e2021JC017385.	1.0	1
100	Infrared imaging: a novel tool to investigate the influence of surface slicks on air-sea gas transfer. , 2006, , 239-252.		1
101	Atmosphere-Water Exchange. , 2012, , 175-193.		1
102	What Controls Air-Sea Gas Exchange at Extreme Wind Speeds? Evidence from Laboratory Experiments. , 2020, , 133-150.		1
103	Zukunftsperspektiven der industriellen Bildverarbeitung. Optik & Photonik, 2008, 3, 28-33.	0.3	0
104	Multi-frequency multi-sampling fluorescence lifetime imaging using a high speed line-scan camera. Proceedings of SPIE, 2010, , .	0.8	0
105	Optimale Kameraauswahl für maschinelles Sehen durch standardisierte Charakterisierung. TM Technisches Messen, 2011, 78, 377-383.	0.3	0
106	Investigation of small-scale air-sea interaction processes by active thermography. , 2012, , .		0
107	CNN based dark signal non-uniformity estimation. , 2012, , .		0
108	Optimal Depth Estimation from a Single Image by Computational Imaging Using Chromatic Aberrations / Optimale Tiefenschätzung in einer Einzelaufnahme mittels Computational Imaging anhand chromatischer Aberrationen. TM Technisches Messen, 2013, 80, 343-348.	0.3	0

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109	Extended noise equalisation for image compression in microscopical applications. TM Technisches Messen, 2019, 86, 422-432.	0.3	0
110	Investigating $\text{SO}_2$ transfer across the air-water interface via LIF. Experiments in Fluids, 2019, 60, 1.	1.1	0
111	Data Acquisition by Imaging Detectors. , 2007, , 1419-1436.		0
112	Boosting Shift-Invariant Features. Lecture Notes in Computer Science, 2009, , 121-130.	1.0	0
113	Atmosphere-Water Exchange atmosphere-water exchange. , 2012, , 594-606.		0
114	Optimal Depth Estimation from a Single Image by Computational Imaging Using Chromatic Aberrations / Optimale Tiefenschätzung in einer Einzelaufnahme mittels Computational Imaging anhand chromatischer Aberrationen. TM Technisches Messen, 2013, 80, .	0.3	0
115	PRNU and DSNU Maximum Likelihood Estimation Using Sensor Statistics / PRNU- und DSNU-Maximum-Likelihood-Schätzung mit Hilfe der Sensorstatistik. TM Technisches Messen, 2013, 80, .	0.3	0
116	Tracking-Based Visibility Estimation. Lecture Notes in Computer Science, 2014, , 365-376.	1.0	0
117	Segmentierung von Partikelbildern in der Strömungsvisualisierung. Informatik Aktuell, 1996, , 118-129.	0.4	0
118	The Influence of Intermittency on Air-Water Gas Transfer Measurements. Environmental Science and Engineering, 2007, , 255-274.	0.1	0
119	Complex Motion in Environmental Physics and Live Sciences. , 2004, , 91-103.		0
120	Nonlinear Analysis of Multi-Dimensional Signals: Local Adaptive Estimation of Complex Motion and Orientation Patterns. , 2008, , 231-288.		0