

# Shoji Kawahito

## List of Publications by Year in descending order

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112  
papers

2,203  
citations

279798

23  
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45  
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113  
all docs

113  
docs citations

113  
times ranked

1540  
citing authors

#	ARTICLE	IF	CITATIONS
1	A Low-Noise High Intra-scene Dynamic Range CMOS Image Sensor With a 13 to 19b Variable-Resolution Column-Parallel Folding-Integration/Cyclic ADC. IEEE Journal of Solid-State Circuits, 2012, 47, 272-283.	5.4	270
2	Optical Vehicle-to-Vehicle Communication System Using LED Transmitter and Camera Receiver. IEEE Photonics Journal, 2014, 6, 1-14.	2.0	206
3	A CMOS Time-of-Flight Range Image Sensor With Gates-on-Field-Oxide Structure. IEEE Sensors Journal, 2007, 7, 1578-1586.	4.7	144
4	A Time-of-Flight Range Image Sensor With Background Canceling Lock-in Pixels Based on Lateral Electric Field Charge Modulation. IEEE Journal of the Electron Devices Society, 2015, 3, 267-275.	2.1	123
5	A High-Speed, High-Sensitivity Digital CMOS Image Sensor With a Global Shutter and 12-bit Column-Parallel Cyclic A/D Converters. IEEE Journal of Solid-State Circuits, 2007, 42, 766-774.	5.4	109
6	A Time-Resolved CMOS Image Sensor With Draining-Only Modulation Pixels for Fluorescence Lifetime Imaging. IEEE Transactions on Electron Devices, 2012, 59, 2715-2722.	3.0	104
7	A High-Speed Low-Noise CMOS Image Sensor With 13-b Column-Parallel Single-Ended Cyclic ADCs. IEEE Transactions on Electron Devices, 2009, 56, 2414-2422.	3.0	102
8	A Low-Noise High-Dynamic-Range 17-b 1.3-Megapixel 30-fps CMOS Image Sensor With Column-Parallel Two-Stage Folding-Integration/Cyclic ADC. IEEE Transactions on Electron Devices, 2012, 59, 3396-3400.	3.0	94
9	A 33-Megapixel 120-Frames-Per-Second 2.5-Watt CMOS Image Sensor With Column-Parallel Two-Stage Cyclic Analog-to-Digital Converters. IEEE Transactions on Electron Devices, 2012, 59, 3426-3433.	3.0	84
10	A 0.27e-rms Read Noise 220- $\hat{1}$ / <sub>4</sub> V/e-Conversion Gain Reset-Gate-Less CMOS Image Sensor With 0.11- $\hat{1}$ / <sub>4</sub> m CIS Process. IEEE Electron Device Letters, 2015, 36, 1344-1347.	3.9	74
11	A CMOS Image Sensor With In-Pixel Two-Stage Charge Transfer for Fluorescence Lifetime Imaging. IEEE Transactions on Electron Devices, 2009, 56, 214-221.	3.0	50
12	An ultrasensitive SiO <sub>2</sub> -encapsulated alloyed CdZnSeS quantum dot-molecular beacon nanobiosensor for norovirus. Biosensors and Bioelectronics, 2016, 86, 135-142.	10.1	46
13	A Low-Power Low-Voltage 10-bit 100-MSample/s Pipeline A/D Converter Using Capacitance Coupling Techniques. IEEE Journal of Solid-State Circuits, 2007, 42, 757-765.	5.4	45
14	A Wide-Dynamic-Range CMOS Image Sensor Based on Multiple Short Exposure-Time Readout With Multiple-Resolution Column-Parallel ADC. IEEE Sensors Journal, 2007, 7, 151-158.	4.7	44
15	A 10 ps Time-Resolution CMOS Image Sensor With Two-Tap True-CDS Lock-In Pixels for Fluorescence Lifetime Imaging. IEEE Journal of Solid-State Circuits, 2016, 51, 141-154.	5.4	41
16	A review on high-resolution CMOS delay lines: towards sub-picosecond jitter performance. SpringerPlus, 2016, 5, 434.	1.2	40
17	A Time-Resolved Four-Tap Lock-In Pixel CMOS Image Sensor for Real-Time Fluorescence Lifetime Imaging Microscopy. IEEE Journal of Solid-State Circuits, 2018, 53, 2319-2330.	5.4	36
18	Effectiveness of a correlated multiple sampling differential averager for reducing 1/f noise. IEICE Electronics Express, 2005, 2, 379-383.	0.8	31

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19	An 8-Tap CMOS Lock-In Pixel Image Sensor for Short-Pulse Time-of-Flight Measurements. Sensors, 2020, 20, 1040.	3.8	30
20	A Two-Stage Charge Transfer Active Pixel CMOS Image Sensor With Low-Noise Global Shuttering and a Dual-Shuttering Mode. IEEE Transactions on Electron Devices, 2011, 58, 740-747.	3.0	29
21	A Low-Noise X-ray Astronomical Silicon-On-Insulator Pixel Detector Using a Pinned Depleted Diode Structure. Sensors, 2018, 18, 27.	3.8	26
22	Effects of Negative-Bias Operation and Optical Stress on Dark Current in CMOS Image Sensors. IEEE Transactions on Electron Devices, 2010, 57, 1512-1518.	3.0	25
23	A Sub-100 $\mu\text{m}$ -Range-Resolution Time-of-Flight Range Image Sensor With Three-Tap Lock-In Pixels, Non-Overlapping Gate Clock, and Reference Plane Sampling. IEEE Journal of Solid-State Circuits, 2019, 54, 2291-2303.	5.4	24
24	Shielded-Loop-Type Onchip Magnetic-Field Probe to Evaluate Radiated Emission From Thin-Film Noise Suppressor. IEEE Transactions on Magnetics, 2007, 43, 2370-2372.	2.1	22
25	A Low Noise Wide Dynamic Range CMOS Image Sensor With Low-Noise Transistors and 17b Column-Parallel ADCs. IEEE Sensors Journal, 2013, 13, 2922-2929.	4.7	22
26	Column-Parallel ADCs for CMOS Image Sensors and Their FoM-Based Evaluations. IEICE Transactions on Electronics, 2018, E101.C, 444-456.	0.6	22
27	A 142dB Dynamic Range CMOS Image Sensor with Multiple Exposure Time Signals. , 2005, , .		21
28	Noise Reduction Effect of Multiple-Sampling-Based Signal-Readout Circuits for Ultra-Low Noise CMOS Image Sensors. Sensors, 2016, 16, 1867.	3.8	20
29	A Time-of-Flight Range Sensor Using Four-Tap Lock-In Pixels with High near Infrared Sensitivity for LiDAR Applications. Sensors, 2020, 20, 116.	3.8	20
30	A High-Speed CMOS Image Sensor with On-chip Parallel Image Compression Circuits. , 2007, , .		18
31	A Stimulated Raman Scattering CMOS Pixel Using a High-Speed Charge Modulator and Lock-in Amplifier. Sensors, 2016, 16, 532.	3.8	17
32	Fluoroimmunoassay of influenza virus using sulfur-doped graphitic carbon nitride quantum dots coupled with Ag <sub>2</sub> S nanocrystals. Mikrochimica Acta, 2020, 187, 466.	5.0	17
33	A Low Dark Leakage Current High-Sensitivity CMOS Image Sensor With STI-Less Shared Pixel Design. IEEE Transactions on Electron Devices, 2014, 61, 2093-2097.	3.0	15
34	A Time-of-Flight CMOS Range Image Sensor Using 4-Tap Output Pixels with Lateral-Electric-Field Control. IS&T International Symposium on Electronic Imaging, 2016, 28, 1-6.	0.4	14
35	A Dynamic Range Expansion Technique for CMOS Image Sensors with Dual Charge Storage in a Pixel and Multiple Sampling. Sensors, 2008, 8, 1915-1926.	3.8	13
36	RTS Noise and Dark Current White Defects Reduction Using Selective Averaging Based on a Multi-Aperture System. Sensors, 2014, 14, 1528-1543.	3.8	12

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37	A Dual-Mode 303-Megaframes-per-Second Charge-Domain Time-Compressive Computational CMOS Image Sensor. <i>Sensors</i> , 2022, 22, 1953.	3.8	11
38	A CMOS imager and 2-D light pulse receiver array for spatial optical communication. , 2009, , .		9
39	The Dynamic Photometric Stereo Method Using a Multi-Tap CMOS Image Sensor. <i>Sensors</i> , 2018, 18, 786.	3.8	9
40	Label-Free Biomedical Imaging Using High-Speed Lock-In Pixel Sensor for Stimulated Raman Scattering. <i>Sensors</i> , 2017, 17, 2581.	3.8	8
41	A low-noise high-sensitivity CMOS image sensor for scientific and industrial applications. , 2014, , .		7
42	A Time-Resolved NIR Lock-In Pixel CMOS Image Sensor With Background Cancelling Capability for Remote Heart Rate Detection. <i>IEEE Journal of Solid-State Circuits</i> , 2019, 54, 978-991.	5.4	7
43	A CMOS One-chip Wireless Camera with Digital Image Transmission Function for Capsule Endoscopes. <i>IEEJ Transactions on Sensors and Micromachines</i> , 2006, 126, 318-324.	0.1	6
44	A Digital-Calibration Technique for Redundant Radix-4 Pipelined Analog-to-Digital Converters. <i>IEEE Transactions on Instrumentation and Measurement</i> , 2007, 56, 2301-2311.	4.7	6
45	TOF range image sensor using a range-shift technique. , 2008, , .		6
46	Widefield multifrequency fluorescence lifetime imaging using a two-tap complementary metal-oxide semiconductor camera with lateral electric field charge modulators. <i>Journal of Biophotonics</i> , 2019, 12, e201800223.	2.3	6
47	Resolving Multi-Path Interference in Compressive Time-of-Flight Depth Imaging with a Multi-Tap Macro-Pixel Computational CMOS Image Sensor. <i>Sensors</i> , 2022, 22, 2442.	3.8	6
48	Circuit and Device Technologies for CMOS functional Image Sensors. , 2006, , .		5
49	A 14b Low-power Pipeline A/D Converter Using a Pre-charging Technique. , 2007, , .		5
50	A column-parallel clock skew self-calibration circuit for time-resolved CMOS image sensors. <i>IEICE Electronics Express</i> , 2015, 12, 20150911-20150911.	0.8	5
51	A Silicon-on-Insulator-Based Dual-Gain Charge-Sensitive Pixel Detector for Low-Noise X-ray Imaging for Future Astronomical Satellite Missions. <i>Sensors</i> , 2018, 18, 1789.	3.8	5
52	Single-Shot Real-Time Multiple-Path Time-of-Flight Depth Imaging for Multi-Aperture and Macro-Pixel Sensors. , 2020, , .		5
53	Low-energy X-ray performance of SOI pixel sensors for astronomy, "XRPIX". <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2021, 986, 164745.	1.6	5
54	A Dual NIR-Band Lock-In Pixel CMOS Image Sensor With Device Optimizations for Remote Physiological Monitoring. <i>IEEE Transactions on Electron Devices</i> , 2021, 68, 1688-1693.	3.0	5

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55	Hybrid Time-of-Flight Image Sensors for Middle-Range Outdoor Applications. IEEE Open Journal of the Solid-State Circuits Society, 2022, 2, 38-49.	2.7	5
56	A Range-Shift Technique for TOF Range Image Sensors. IEJ Transactions on Sensors and Micromachines, 2009, 129, 421-425.	0.1	4
57	Noncontact pulse wave detection by two-band infrared video-based measurement on face without visible lighting. Artificial Life and Robotics, 2018, 23, 345-352.	1.2	4
58	Evaluation of Kyoto's event-driven X-ray astronomical SOI pixel sensor with a large imaging area. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2019, 924, 400-403.	1.6	4
59	Timing Error Calibration in Time-Interleaved ADC by Sampling Clock Phase Adjustment. Conference Record - IEEE Instrumentation and Measurement Technology Conference, 2007, , .	0.0	3
60	A low noise wide dynamic range CMOS image sensor with low-noise transistors and 17b column-parallel ADC. , 2012, , .		3
61	[Paper] A Low Noise CMOS Image Sensor with Pixel Optimization and Noise Robust Column-parallel Readout Circuits for Low-light Levels. ITE Transactions on Media Technology and Applications, 2015, 3, 258-262.	0.5	3
62	Mechanical scanner-less multi-beam confocal microscope with wavefront modulation. Optical Review, 2016, 23, 364-368.	2.0	3
63	Improved Correlated Multiple Sampling by Using Interleaved Pixel Source Follower for High-Resolution and High-Framerate CMOS Image Sensor. IEEE Transactions on Electron Devices, 2021, 68, 2326-2334.	3.0	3
64	Proton radiation hardness of x-ray SOI pixel sensors with pinned depleted diode structure. Journal of Astronomical Telescopes, Instruments, and Systems, 2021, 7, .	1.8	3
65	Development of a Current Injection-Type Impedance Measurement System for Monitoring Soil Water Content and Ion Concentration. Sensors, 2022, 22, 3509.	3.8	3
66	A JFET-CMOS Technology for Low-Noise Sensor Interface Circuits. IEJ Transactions on Sensors and Micromachines, 2003, 123, 422-428.	0.1	2
67	Sensor array characteristics of MOS Hall-plates and the comparison with split-drain MAGFETs. IEICE Electronics Express, 2006, 3, 328-332.	0.8	2
68	A low-power transmitter design for inductive data link with class-F switching operation. IEICE Electronics Express, 2007, 4, 42-47.	0.8	2
69	Low-noise readout circuits with a response time acceleration technique for high output impedance sensors. , 2010, , .		2
70	Parallel template matching operations on a dynamically reconfigurable vision-chip architecture. , 2011, , .		2
71	A distributed ramp signal generator of column-parallel single-slope ADCs for CMOS image sensors. IEICE Electronics Express, 2012, 9, 1893-1899.	0.8	2
72	RTS noise reduction of CMOS image sensors using amplifier-selection pixels. IEICE Electronics Express, 2013, 10, 20130299-20130299.	0.8	2

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73	Extremely small differential non-linearity in a DMOS capacitor based cyclic ADC for CMOS image sensors. IEICE Electronics Express, 2014, 11, 20140893-20140893.	0.8	2
74	A digital calibration technique for folding-integration/cyclic cascaded ADCs. , 2015, , .		2
75	Design of a Sub-Picosecond Jitter with Adjustable-Range CMOS Delay-Locked Loop for High-Speed and Low-Power Applications. Sensors, 2016, 16, 1593.	3.8	2
76	A variable-threshold voltage technique to enhance the linearity of folding-integration/cyclic cascaded ADCs. , 2016, , .		2
77	A 19-bit column-parallel folding-integration/cyclic cascaded ADC with a pre-charging technique for CMOS image sensors. IEICE Electronics Express, 2017, 14, 20161199-20161199.	0.8	2
78	Noncontact heart rate measurement using a high-sensitivity camera in a low-light environment. Artificial Life and Robotics, 2019, 24, 6-11.	1.2	2
79	A Bidirectional Multiple Charge Transfer Active Pixel Image Sensor for Low-Power Focal Plane Motion Vector Estimation. IEJ Transactions on Sensors and Micromachines, 2001, 121, 1-7.	0.1	2
80	A new active pixel structure with a pinned photodiode for wide dynamic range image sensors. IEICE Electronics Express, 2005, 2, 482-487.	0.8	1
81	A CMOS Image Sensor for Fluorescence Lifetime Imaging. , 2006, , .		1
82	A New Calibration Method for Sampling Clock Skew in Time-interleaved ADC. , 2008, , .		1
83	Selection of amplifier for optimized charge transfer in active pixel CMOS time of flight (TOF) image sensors. IEICE Electronics Express, 2011, 8, 1913-1919.	0.8	1
84	A single-ended CMOS chopper amplifier for 1/f noise reduction of n-channel MOS transistors. IEICE Electronics Express, 2012, 9, 98-103.	0.8	1
85	Evaluation of dual-wavelength excitation autofluorescence imaging of colorectal tumours with a high-sensitivity CMOS imager: a cross-sectional study. BMC Gastroenterology, 2015, 15, 110.	2.0	1
86	Dynamic photometric stereo method using multi-tap CMOS image sensor. , 2016, , .		1
87	A high time-resolution two-tap CMOS lock-in pixel image sensor for time-resolved measurements and its applications. , 2016, , .		1
88	Multi-Aperture-Based Probabilistic Noise Reduction of Random Telegraph Signal Noise and Photon Shot Noise in Semi-Photon-Counting Complementary-Metal-Oxide-Semiconductor Image Sensor. Sensors, 2018, 18, 977.	3.8	1
89	Image Sensing Technology and Their Applications: Empirical Verification of Range Resolution for a TOF Range Image Sensor with Periodical Charge Draining Operation Under Influence of Ambient Light. Kyokai Joho Imeji Zasshi/Journal of the Institute of Image Information and Television Engineers, 2010, 64, 373-380.	0.1	1
90	Signal-to-Noise Ratio Enhancement in Cardiac Pulse Measurements Using Multitap CMOS Image Sensors With In-Pixel Temporal Redundant Samplings. IEEE Transactions on Electron Devices, 2022, 69, 2851-2857.	3.0	1

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91	Recent Developments of CMOS Image Sensors. IEEJ Transactions on Sensors and Micromachines, 2003, 123, 387-391.	0.1	0
92	Gray-level image recognition on a dynamically reconfigurable vision architecture. , 2012, , .		0
93	Thermal analysis of a cooling module for an image sensor with thermally isolated pixel area. , 2013, , .		0
94	Multi-aperture high-speed CMOS imager. , 2013, , .		0
95	Image recognition system using an optical Fourier transform on a dynamically reconfigurable vision architecture. , 2014, , .		0
96	Lock-in pixels readout circuit using a high speed lateral electric field modulator with differential charge accumulation for stimulated Raman scattering imager. , 2014, , .		0
97	Development of a two-tap time-resolved CMOS lock-in pixel image sensor with high charge storability and low temporal noise. , 2017, , .		0
98	CMOS Image Sensor with Lock-In Pixels for Biomedical Applications. , 2019, , .		0
99	A Method for Integrating Gamma Correction and Gain Control Functions Using a Logarithmic Compression CMOS Image Sensor. IEEJ Transactions on Electronics, Information and Systems, 2001, 121, 1312-1317.	0.2	0
100	1-1 Information Sensing. Kyokai Joho Imeji Zasshi/Journal of the Institute of Image Information and Television Engineers, 2006, 60, 1160-1168.	0.1	0
101	Design of Parallel Image Compression Circuits for High-speed CMOS Image Sensors. Kyokai Joho Imeji Zasshi/Journal of the Institute of Image Information and Television Engineers, 2007, 61, 369-377.	0.1	0
102	Image Electronics; Information Sesting. Kyokai Joho Imeji Zasshi/Journal of the Institute of Image Information and Television Engineers, 2008, 62, 1189-1197.	0.1	0
103	A High-Speed CMOS Image Sensor with Global Electronic Shutter Pixels Using Pinned Diodes. IEEJ Transactions on Sensors and Micromachines, 2009, 129, 321-327.	0.1	0
104	Response-Time Acceleration of a Frontend Amplifier for High Output Impedance Sensors. IEICE Transactions on Electronics, 2012, E95.C, 1543-1548.	0.6	0
105	Design of a Digitally Error-Corrected Pipeline ADC Using Incomplete Settling of Pre-Charged Residue Amplifiers. IEICE Transactions on Electronics, 2013, E96.C, 828-837.	0.6	0
106	[Paper] Dark Current Characterization of Low-noise CMOS Global Shutter Pixels Using Pinned Storage Diodes. ITE Transactions on Media Technology and Applications, 2014, 2, 108-113.	0.5	0
107	CMOS Image Sensors. IEEJ Transactions on Sensors and Micromachines, 2014, 134, 199-205.	0.1	0
108	Precise and High-Speed Technique of Digital Calibration for Column-Parallel Two-Stage Cyclic ADC Suitable for 33-Mpixel 120-fps CMOS Image Sensor. IEEJ Transactions on Sensors and Micromachines, 2017, 137, 65-71.	0.1	0

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109	3. Ultra-Low-Noise CMOS Image Sensor with Reset-Gate-Less Pixel. Kyokai Joho Imeji Zasshi/Journal of the Institute of Image Information and Television Engineers, 2018, 72, 204-207.	0.1	0
110	Multi-Tap Time-Resolved CMOS Image Sensors and Their Applications. , 2021, , .		0
111	2. Topic (1) Multi-spectral Imaging by Plasmonic Color Filter. Kyokai Joho Imeji Zasshi/Journal of the Institute of Image Information and Television Engineers, 2019, 73, 243-246.	0.1	0
112	3. Topic (2) Lock-in Pixel Based CMOS Image Sensors. Kyokai Joho Imeji Zasshi/Journal of the Institute of Image Information and Television Engineers, 2019, 73, 247-251.	0.1	0