Naoki Kawachi

List of Publications by Year
in descending order

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100	1,931	236833	289141
papers	citations	25 h-index	40 g-index

103	103	103	1474
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Tracing Cadmium from Culture to Spikelet: Noninvasive Imaging and Quantitative Characterization of Absorption, Transport, and Accumulation of Cadmium in an Intact Rice Plant Â Â. Plant Physiology, 2010, 152, 1796-1806.	2.3	217
2	Rapid Quantitative Measurement of CMRO2 and CBF by Dual Administration of 15O-Labeled Oxygen and Water During a Single PET Scanâ€"a Validation Study and Error Analysis in Anesthetized Monkeys. Journal of Cerebral Blood Flow and Metabolism, 2005, 25, 1209-1224.	2.4	76
3	Real-time imaging and analysis of differences in cadmium dynamics in rice cultivars (Oryza sativa) using positron-emitting107Cd tracer. BMC Plant Biology, 2011, 11, 172.	1.6	76
4	Application of glutathione to roots selectively inhibits cadmium transport from roots to shoots in oilseed rape. Journal of Experimental Botany, 2013, 64, 1073-1081.	2.4	76
5	From Laboratory to Field: OsNRAMP5-Knockdown Rice Is a Promising Candidate for Cd Phytoremediation in Paddy Fields. PLoS ONE, 2014, 9, e98816.	1.1	70
6	Kinetic Analysis of Zinc/Cadmium Reciprocal Competitions Suggests a Possible Zn-Insensitive Pathway for Root-to-Shoot Cadmium Translocation in Rice. Rice, 2016, 9, 16.	1.7	70
7	First demonstration of multi-color 3-D in vivo imaging using ultra-compact Compton camera. Scientific Reports, 2017, 7, 2110.	1.6	66
8	Experimental Results of the Gamma-Ray Imaging Capability With a Si/CdTe Semiconductor Compton Camera. IEEE Transactions on Nuclear Science, 2009, 56, 783-790.	1.2	57
9	Nitrate facilitates cadmium uptake, transport and accumulation in the hyperaccumulator Sedum plumbizincicola. Environmental Science and Pollution Research, 2013, 20, 6306-6316.	2.7	54
10	Beam range estimation by measuring bremsstrahlung. Physics in Medicine and Biology, 2012, 57, 2843-2856.	1.6	48
11	Parametric imaging of myocardial blood flow with 15O-water and PET using the basis function method. Journal of Nuclear Medicine, 2005, 46, 1219-24.	2.8	45
12	Kinetic Analysis of Carbon-11-Labeled Carbon Dioxide for Studying Photosynthesis in a Leaf Using Positron Emitting Tracer Imaging System. IEEE Transactions on Nuclear Science, 2006, 53, 2991-2997.	1.2	44
13	Imaging of ^{99m}Tc-DMSA and ¹⁸F-FDG in humans using a Si/CdTe Compton camera. Physics in Medicine and Biology, 2020, 65, 05LT01.	1.6	41
14	In vivosimultaneous imaging with^{99m}Tc and¹⁸F using a Compton camera. Physics in Medicine and Biology, 2018, 63, 205006.	1.6	40
15	Secondary-electron-bremsstrahlung imaging for proton therapy. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2016, 833, 199-207.	0.7	37
16	Development of a low-energy x-ray camera for the imaging of secondary electron bremsstrahlung x-ray emitted during proton irradiation for range estimation. Physics in Medicine and Biology, 2017, 62, 5006-5020.	1.6	37
17	Imaging of monochromatic beams by measuring secondary electron bremsstrahlung for carbon-ion therapy using a pinhole x-ray camera. Physics in Medicine and Biology, 2018, 63, 045016.	1.6	37
18	Use of positron-emitting tracer imaging system for measuring the effect of salinity on temporal and spatial distribution of 11C tracer and coupling between source and sink organs. Plant Science, 2008, 175, 210-216.	1.7	31

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19	Quantitative Modeling of Photoassimilate Flow in an Intact Plant Using the Positron Emitting Tracer Imaging System (PETIS). Soil Science and Plant Nutrition, 2005, 51, 417-423.	0.8	30
20	Production of no-carrier-added 64Cu and applications to molecular imaging by PET and PETIS as a biomedical tracer. Journal of Radioanalytical and Nuclear Chemistry, 2009, 280, 199-205.	0.7	30
21	Source of luminescence of water lower energy than the Cerenkov-light threshold during irradiation of carbon-ion. Journal of Physics Communications, 2018, 2, 065010.	0.5	30
22	Dynamic Analysis of Photosynthate Translocation Into Strawberry Fruits Using Non-invasive 11C-Labeling Supported With Conventional Destructive Measurements Using 13C-Labeling. Frontiers in Plant Science, 2018, 9, 1946.	1.7	30
23	Base to Tip and Long-Distance Transport of Sodium in the Root of Common Reed [Phragmites australis (Cav.) Trin. ex Steud.] at Steady State Under Constant High-Salt Conditions. Plant and Cell Physiology, 2015, 56, 943-950.	1.5	29
24	Estimation and correction of produced light from prompt gamma photons on luminescence imaging of water for proton therapy dosimetry. Physics in Medicine and Biology, 2018, 63, 04NT02.	1.6	29
25	Development of a YAP(Ce) camera for the imaging of secondary electron bremsstrahlung x-ray emitted during carbon-ion irradiation toward the use of clinical conditions. Physics in Medicine and Biology, 2019, 64, 135019.	1.6	28
26	A kinetic analysis of cadmium accumulation in a <scp><scp>Cd</scp></scp> hyperâ€accumulator fern, <scp>A</scp>thyrium yokoscense and tobacco plants. Plant, Cell and Environment, 2014, 37, 1086-1096.	2.8	26
27	Real-time Analysis of Photoassimilate Translocation in Intact Eggplant Fruit using 11CO2 and a Positron-emitting Tracer Imaging System. Japanese Society for Horticultural Science, 2008, 77, 199-205.	0.8	24
28	Imaging of Carbon Translocation to Fruit Using Carbon-11-Labeled Carbon Dioxide and Positron Emission Tomography. IEEE Transactions on Nuclear Science, 2011, 58, 395-399.	1.2	23
29	Three-dimensional and Multienergy Gamma-ray Simultaneous Imaging by Using a Si/CdTe Compton Camera. Radiology, 2013, 267, 941-947.	3.6	23
30	Visualization of zinc dynamics in intact plants using positron imaging of commercially available 65Zn. Plant Methods, 2017, 13, 40.	1.9	22
31	Real-time imaging of nitrogen fixation in an intact soybean plant with nodules using¹³N-labeled nitrogen gas. Soil Science and Plant Nutrition, 2009, 55, 660-666.	0.8	21
32	Real-time whole-plant imaging of 11C translocation using positron-emitting tracer imaging system. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 648, S317-S320.	0.7	20
33	Monitoring of positron using high-energy gamma camera for proton therapy. Annals of Nuclear Medicine, 2015, 29, 268-275.	1.2	20
34	Optimization and verification of image reconstruction for a Compton camera towards application as an on-line monitor for particle therapy. Journal of Instrumentation, 2017, 12, P07015-P07015.	0.5	19
35	Astatine-211 imaging by a Compton camera for targeted radiotherapy. Applied Radiation and Isotopes, 2018, 139, 238-243.	0.7	19
36	Live-imaging evaluation of the efficacy of elevated CO₂ concentration in a closed cultivation system for the improvement of bioproduction in tomato fruits. Plant Biotechnology, 2015, 32, 31-37.	0.5	18

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37	Effects of enhancing endogenous and exogenous glutathione in roots on cadmium movement in Arabidopsis thaliana. Plant Science, 2020, 290, 110304.	1.7	18
38	Imaging of radiocesium uptake dynamics in a plant body by using a newly developed high-resolution gamma camera. Journal of Environmental Radioactivity, 2016, 151, 461-467.	0.9	17
39	Sensitivity improvement of YAP(Ce) cameras for imaging of secondary electron bremsstrahlung x-rays emitted during carbon-ion irradiation: problem and solution. Physics in Medicine and Biology, 2020, 65, 105008.	1.6	16
40	Towards a deeper integrated multi-omics approach in the root system to develop climate-resilient rice. Molecular Breeding, 2019, 39, 1.	1.0	15
41	Dose image prediction for range and width verifications from carbon ionâ€induced secondary electron bremsstrahlung xâ€rays using deep learning workflow. Medical Physics, 2020, 47, 3520-3532.	1.6	15
42	New evidence of arsenic translocation and accumulation in Pteris vittata from real-time imaging using positron-emitting 74As tracer. Scientific Reports, 2021, 11, 12149.	1.6	15
43	Non-invasive 11C-Imaging Revealed the Spatiotemporal Variability in the Translocation of Photosynthates Into Strawberry Fruits in Response to Increasing Daylight Integrals at Leaf Surface. Frontiers in Plant Science, 2021, 12, 688887.	1.7	15
44	Effect of number of views on cross-sectional Compton imaging: A fundamental study with backprojection. Physica Medica, 2018, 56, 1-9.	0.4	14
45	Visualising spatio-temporal distributions of assimilated carbon translocation and release in root systems of leguminous plants. Scientific Reports, 2020, 10, 8446.	1.6	14
46	Analysis of NO3interception of the parasitic angiospermOrobanchespp. using a positron-emitting tracer imaging system and13NOâ^'3: A new method for the visualization and quantitative analysis of the NO3interception ratio. Soil Science and Plant Nutrition, 2008, 54, 408-416.	0.8	13
47	Ultracompact Compton camera for innovative gamma-ray imaging. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2018, 912, 1-5.	0.7	13
48	Elevated glutathione synthesis in leaves contributes to zinc transport from roots to shoots in Arabidopsis. Plant Science, 2019, 283, 416-423.	1.7	13
49	Estimation of shifts of therapeutic carbon-ion beams owing to cavities in a polyethylene target by measuring prompt X-ray images. Japanese Journal of Applied Physics, 2020, 59, 087001.	0.8	12
50	Fruit PET: 3-D imaging of carbon distribution in fruit using OpenPET. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2020, 954, 161843.	0.7	11
51	Three-layer GSO depth-of-interaction detector for high-energy gamma camera. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2014, 743, 124-129.	0.7	10
52	Noninvasive imaging of hollow structures and gas movement revealed the gas partialâ€pressureâ€gradientâ€driven longâ€distance gas movement in the aerenchyma along the leaf blade to submerged organs in rice. New Phytologist, 2021, 232, 1974-1984.	3.5	10
53	Development of a Cherenkov light imaging system for studying the dynamics of radiocesium in plants. Journal of Nuclear Science and Technology, 2017, 54, 662-667.	0.7	8
54	Monte Carlo simulation of photon emission below a few hundred kiloelectronvolts for beam monitoring in carbon ion therapy. Review of Scientific Instruments, 2017, 88, 014301.	0.6	8

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55	Development of a cost-effective Compton camera using a positron emission tomography data acquisition system. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2018, 912, 20-23.	0.7	8
56	Crosstalk Reduction Using a Dual Energy Window Scatter Correction in Compton Imaging. Sensors, 2020, 20, 2453.	2.1	8
57	Application of glutathione and dithiothreitol to oil seed rape (Brassica napusL.) roots affects cadmium distribution in roots and inhibits Cd translocation to shoots. Soil Science and Plant Nutrition, 2016, 62, 379-385.	0.8	7
58	Detection of a gas region in a human body across a therapeutic carbon beam by measuring low-energy photons. International Journal of PIXE, 2016, 26, 61-72.	0.4	7
59	Recent Advances in Radioisotope Imaging Technology for Plant Science Research in Japan. Quantum Beam Science, 2019, 3, 18.	0.6	7
60	On-line rapid purification of [13N]N2 gas for visualization of nitrogen fixation and translocation in nodulated soybean. Applied Radiation and Isotopes, 2019, 151, 7-12.	0.7	7
61	Arabidopsis thaliana FLO2 is Involved in Efficiency of Photoassimilate Translocation, Which is Associated with Leaf Growth and Aging, Yield of Seeds and Seed Quality. Plant and Cell Physiology, 2017, 58, 440-450.	1.5	6
62	A simulation study on reduction of the background component using veto counters for imaging of therapeutic proton beams by measuring secondary electron bremsstrahlung using a parallel-hole collimator. Japanese Journal of Applied Physics, 2019, 58, 021005.	0.8	6
63	Assessment of gamma radiation from a limited area of forest floor using a cumulative personal dosimeter. Journal of Environmental Radioactivity, 2019, 204, 95-103.	0.9	6
64	Shoot base responds to root-applied glutathione and functions as a critical region to inhibit cadmium translocation from the roots to shoots in oilseed rape (Brassica napus). Plant Science, 2021, 305, 110822.	1.7	5
65	Basic characteristics of a newly developed Si/CdTe Compton camera for medical imaging. , 2008, , .		4
66	A novel estimation method of water-equivalent thicknesses of secondary particle tracks using secondary electron bremsstrahlung emitted from therapeutic ion beams for attenuation correction. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2020, 954, 161607.	0.7	4
67	A Simulation Study on Estimation of Bragg-Peak Shifts via Machine Learning Using Proton-Beam Images Obtained by Measurement of Secondary Electron Bremsstrahlung. IEEE Transactions on Radiation and Plasma Medical Sciences, 2020, 4, 253-261.	2.7	4
68	Macroscopic migration of implanted deuterium along a gas-bubble network in silicon. Journal of Applied Physics, 1999, 86, 3030-3035.	1.1	3
69	A New Method for Parametric Imaging of Photosynthesis with C-11 Carbon Dioxide and Positron Emitting Tracer Imaging System (PETIS). , 2006, , .		3
70	Ultra-high resolution of radiocesium distribution detection based on Cherenkov light imaging. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2015, 777, 102-109.	0.7	3
71	Concrete realization of the whole gamma imaging concept. , 2017, , .		3
72	Development of an Easy and Simple Method to Measure the Environmental Radioactivity in Trees with Efficient Personal Dosimeters. Radioisotopes, 2018, 67, 427-434.	0.1	3

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73	Visualization of Particle Ion Beams Using Imaging Plates. Radioisotopes, 2022, 71, 109-114.	0.1	3
74	A monitoring system of radioactive tracers in hydroponic solution for research on plant physiology. , 2009, , .		2
75	Real-time Analysis of Translocation of Photosynthates to Nodules in Soybean Plants Using 11CO2 with a Positron-emitting Tracer Imaging System(PETIS). Radioisotopes, 2010, 59, 145-154.	0.1	2
76	Estimation of energy range measurements with newly developed Si/CdTe Compton camera for nuclear medicine imaging. , 2010, , .		2
77	Development of head module for multi-head Si/CdTe Compton camera for medical applications. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 648, S2-S7.	0.7	2
78	An evaluation of three-dimensional imaging by use of Si/CdTe Compton cameras. , 2013, , .		2
79	Non-invasive imaging of radiocesium dynamics in a living animal using a positron-emitting 127Cs tracer. Scientific Reports, 2020, 10, 16155.	1.6	2
80	Radiation Imaging in Plant Science. Radioisotopes, 2019, 68, 643-657.	0.1	2
81	â€œLive-Autoradiographyâ€•Technique Reveals Genetic Variation in the Rate of Fe Uptake by Barley Cultivars. Plants, 2022, 11, 817.	1.6	2
82	Spatial resolution of multi-head Si/CdTe Compton camera for medical application. , 2009, , .		1
83	Simulation study of 3-D gamma-ray imager with Si/CdTe semiconductor Compton camera. , 2010, , .		1
84	Development of a low-energy high resolution X-ray camera for high-energy gamma photon background environments. Journal of Nuclear Science and Technology, 2017, 54, 933-939.	0.7	1
85	Sensitivity improvement in 44Sc whole gamma imaging: simulation study. , 2018, , .		1
86	AtFLL2, a member of the FLO2 gene family, affects the enlargement of leaves at the vegetative stage and facilitates the regulation of carbon metabolism and flow. Bioscience, Biotechnology and Biochemistry, 2020, 84, 2466-2475.	0.6	1
87	Effects of Glutathione Concentration in the Root Zone and Glutathione Treatment Period on Cadmium Partitioning in Oilseed Rape Plants. Proceedings of the International Plant Sulfur Workshop, 2015, , 253-259.	0.1	1
88	Autoradiography system with phosphor powder (ZnS:Ag) for imaging radioisotope dynamics in a living plant. Japanese Journal of Applied Physics, 2021, 60, 116501.	0.8	1
89	Adenosine-induced myocardial flow reactivity in pig as assessed with O-15 water PET. International Congress Series, 2004, 1264, 117-125.	0.2	0
90	Dynamic spectroscopy of hyperpolarized Xe-129 in rat lung. International Congress Series, 2004, 1265, 131-138.	0.2	0

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91	Effects of motion correction on quantification of myocardial blood flow with 15O-H2O PET. International Congress Series, 2004, 1265, 106-110.	0.2	0
92	Monte Carlo simulation of multi-head Si/CdTe Compton camera for medical imaging. , 2008, , .		0
93	Application of double-sided silicon strip detectors to Compton cameras. , 2008, , .		0
94	Molecular imaging for plant physiology: Imaging of carbon translocation to sink organs. , 2009, , .		0
95	Imaging for carbon translocation to a fruit of tomato with carbon-11-labeled carbon dioxide and positron emission tomography. , 2009, , .		0
96	Counting rate performance measurement of newly developed Si/CdTe Compton camera for biological and medical applications. , 2010, , .		0
97	A new method for monitoring beam range by measuring low energy photons. , 2013, , .		0
98	Development of a Hyperpolarized 129Xe System on 3T for the Rat Lungs. Magnetic Resonance in Medical Sciences, 2004, 3, 1-9.	1.1	0
99	Recent Developments in Plant Science Involving Use of Gamma-ray Imaging Technology. Journal of the Vacuum Society of Japan, 2014, 57, 37-44.	0.3	0
100	Simulation evaluation on a compact monitor for gamma-emitting tracers in plant stems. Japanese Journal of Applied Physics, 2022, 61, 027001.	0.8	0