Mats Danielsson

List of Publications by Year
in descending order

112	2,281	218677	233421
papers	citations	26 h-index	45 g-index

116	116	116	1350
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Two-View and Single-View Tomosynthesis versus Full-Field Digital Mammography: High-Resolution X-Ray Imaging Observer Study. Radiology, 2012, 262, 788-796.	7.3	173
2	Photon-counting spectral computed tomography using silicon strip detectors: a feasibility study. Physics in Medicine and Biology, 2010, 55, 1999-2022.	3.0	153
3	Detective quantum efficiency dependence on x-ray energy weighting in mammography. Medical Physics, 1999, 26, 2680-2683.	3.0	121
4	Photon-counting x-ray detectors for CT. Physics in Medicine and Biology, 2021, 66, 03TR01.	3.0	104
5	Energy resolution of a photon-counting silicon strip detector. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2010, 613, 156-162.	1.6	90
6	Energy-resolved CT imaging with a photon-counting silicon-strip detector. Physics in Medicine and Biology, 2014, 59, 6709-6727.	3.0	89
7	Physical characterization of a scanning photon counting digital mammography system based on Siâ€strip detectors. Medical Physics, 2007, 34, 1918-1925.	3.0	86
8	Contrastâ€enhanced spectral mammography with a photonâ€counting detector. Medical Physics, 2010, 37, 2017-2029.	3.0	84
9	Scatter rejection in multislit digital mammography. Medical Physics, 2006, 33, 933-940.	3.0	81
10	Evaluation of Energy Loss and Charge Sharing in Cadmium Telluride Detectors for Photon-Counting Computed Tomography. IEEE Transactions on Nuclear Science, 2011, 58, 614-625.	2.0	76
11	Evaluation of a photon-counting X-ray imaging system. IEEE Transactions on Nuclear Science, 2001, 48, 1530-1536.	2.0	69
12	Focusing hard X-rays with old LPs. Nature, 2000, 404, 951-951.	27.8	58
13	Micromechanics, macromechanics and constitutive modeling of the elasto-viscoplastic deformation of rubber-toughened glassy polymers. Journal of the Mechanics and Physics of Solids, 2007, 55, 533-561.	4.8	54
14	Study of hole-type gas multiplication structures for portal imaging and other high count rate applications. IEEE Transactions on Nuclear Science, 2003, 50, 809-819.	2.0	50
15	High resolution X-ray imaging using a silicon strip detector. IEEE Transactions on Nuclear Science, 1998, 45, 3059-3063.	2.0	46
16	Evaluation of a Second-Generation Ultra-Fast Energy-Resolved ASIC for Photon-Counting Spectral CT. IEEE Transactions on Nuclear Science, 2013, 60, 437-445.	2.0	45
17	Preliminary evaluation of a silicon strip detector for photon-counting spectral CT. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2012, 677, 45-51.	1.6	43
18	Physics at CPLEAR. Physics Reports, 2003, 374, 165-270.	25.6	40

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19	Detectors for the future of X-ray imaging. Radiation Protection Dosimetry, 2010, 139, 327-333.	0.8	39
20	Single-shot dual-energy subtraction mammography with electronic spectrum splitting: Feasibility. European Journal of Radiology, 2006, 60, 275-278.	2.6	38
21	Development of Low-Dose Photon-counting Contrast-enhanced Tomosynthesis with Spectral Imaging. Radiology, 2011, 259, 558-564.	7.3	37
22	Mass detection in reconstructed digital breast tomosynthesis volumes with a computerâ€aided detection system trained on 2D mammograms. Medical Physics, 2013, 40, 041902.	3.0	37
23	Upper limits of the photon fluence rate on CT detectors: Case study on a commercial scanner. Medical Physics, 2016, 43, 4398-4411.	3.0	32
24	Energy resolution of a segmented silicon strip detector for photon-counting spectral CT. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2013, 715, 11-17.	1.6	30
25	Resolution characterization of a silicon-based, photon-counting computed tomography prototype capable of patient scanning. Journal of Medical Imaging, 2019, 6, 1.	1.5	30
26	Theoretical Bounds and System Design for Multipinhole SPECT. IEEE Transactions on Medical Imaging, 2010, 29, 1390-1400.	8.9	29
27	A Silicon-Strip Detector for Photon-Counting Spectral CT: Energy Resolution From 40ÂkeV to 120ÂkeV. IEEE Transactions on Nuclear Science, 2014, 61, 1099-1105.	2.0	25
28	Design considerations to overcome cross talk in a photon counting silicon strip detector for computed tomography. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2010, 621, 371-378.	1.6	24
29	Predissociation effects in the Aâ€‰2Î” and Bâ€‰2Î£â^' states of CD. Journal of Chemical Physics, 1993, 98, 9405-9409.	3.0	22
30	Performance evaluation of a sub-millimetre spectrally resolved CT system on high- and low-frequency imaging tasks: a simulation. Physics in Medicine and Biology, 2012, 57, 2373-2391.	3.0	21
31	Computer simulations and performance measurements on a silicon strip detector for edge-on imaging. IEEE Transactions on Nuclear Science, 2000, 47, 1487-1492.	2.0	20
32	Measurements on a full-field digital mammography system with a photon counting crystalline silicon detector. , 2003, 5030, 547.		20
33	Light output measurements and computational models of microcolumnar CsI scintillators for xâ€ray imaging. Medical Physics, 2015, 42, 600-605.	3.0	19
34	Theoretical Comparison of a Dual Energy System and Photon Counting Silicon Detector Used for Material Quantification in Spectral CT. IEEE Transactions on Medical Imaging, 2015, 34, 796-806.	8.9	19
35	Sporadic electron jets from cathodes the main breakdown-triggering mechanism in gaseous detectors. IEEE Transactions on Nuclear Science, 2002, 49, 1622-1628.	2.0	17
36	A photon-counting detector for dual-energy breast tomosynthesis. Proceedings of SPIE, 2009, , .	0.8	16

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37	Optimization of beam quality for photon-counting spectral computed tomography in head imaging: simulation study. Journal of Medical Imaging, 2015, 2, 043504.	1.5	16
38	Measurement of breast-tissue x-ray attenuation by spectral mammography: solid lesions. Physics in Medicine and Biology, 2016, 61, 2595-2612.	3.0	16
39	Spectral response model for a multibin photon-counting spectral computed tomography detector and its applications. Journal of Medical Imaging, 2015, 2, 033502.	1.5	15
40	Feasibility of unconstrained three-material decomposition: imaging an excised human heart using a prototype silicon photon-counting CT detector. European Radiology, 2020, 30, 5904-5912.	4.5	14
41	AEC for scanning digital mammography based on variation of scan velocity. Medical Physics, 2005, 32, 3367-3374.	3.0	13
42	Improved signal-to-noise ratio for non-perpendicular detection angles in x-ray fluorescence computed tomography (XFCT). Physics in Medicine and Biology, 2014, 59, 6507-6520.	3.0	13
43	Observer model optimization of a spectral mammography system. Proceedings of SPIE, 2010, , .	0.8	11
44	Performance characterization of a silicon strip detector for spectral computed tomography utilizing a laser testing system. , 2011, , .		11
45	Energy Calibration of a Silicon-Strip Detector for Photon-Counting Spectral CT by Direct Usage of the X-ray Tube Spectrum. IEEE Transactions on Nuclear Science, 2015, 62, 68-75.	2.0	11
46	Photon-counting CT with silicon detectors: feasibility for pediatric imaging. Proceedings of SPIE, 2009, , .	0.8	10
47	Size-dependent scanning parameters (kVp and mAs) for photon-counting spectral CT system in pediatric imaging: simulation study. Physics in Medicine and Biology, 2016, 61, 4105-4126.	3.0	10
48	Scatter rejection in scanned multislit digital mammography. , 2004, 5368, 478.		9
49	Large-aperture focusing of high-energy x rays with a rolled polyimide film. Optics Letters, 2011, 36, 555.	3.3	9
50	Effect of Temperature Variation on the Energy Response of a Photon Counting Silicon CT Detector. IEEE Transactions on Nuclear Science, 2013, 60, 1442-1449.	2.0	9
51	Allowable Forward Model Misspecification for Accurate Basis Decomposition in a Silicon Detector Based Spectral CT. IEEE Transactions on Medical Imaging, 2015, 34, 788-795.	8.9	9
52	Validity of spherical approximations of initial charge cloud shape in silicon detectors. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 648, S190-S193.	1.6	8
53	Idealâ€observer detectability in photonâ€counting differential phaseâ€contrast imaging using a linearâ€systems approach. Medical Physics, 2012, 39, 5317-5335.	3.0	8
54	Robustness of optimal energy thresholds in photon-counting spectral CT. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2020, 953, 163132.	1.6	8

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55	Silicon photon-counting detector for full-field CT using an ASIC with adjustable shaping time. Journal of Medical Imaging, 2020, 7, 053503.	1.5	8
56	A stacked prism lens concept for next-generation hard X-ray telescopes. Nature Astronomy, 2019, 3, 867-872.	10.1	7
57	‹title›Refractive beryllium x-ray lens with variable focal length‹/title›. , 2001, , .		6
58	A photon-counting silicon-strip detector for digital mammography with an ultrafast 0.18-Î¼m CMOS ASIC. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2014, 749, 1-6.	1.6	6
59	On image quality metrics and the usefulness of grids in digital mammography. Journal of Medical Imaging, 2015, 2, 013501.	1.5	6
60	Applying three different methods of measuring CTDI free air to the extended CTDI formalism for wide-beam scanners (IEC 60601-2-44): A comparative study. Journal of Applied Clinical Medical Physics, 2018, 19, 281-289.	1.9	6
61	High-resolution scanned-slit x-ray imaging using a refractive lens for x-ray focusing. , 1998, , .		5
62	Study of capillary-based gaseous detectors. IEEE Transactions on Nuclear Science, 2004, 51, 952-959.	2.0	5
63	Optimization of operating conditions in photon-counting multi-slit mammography based on Si-strip detectors. , 2006, 6142, 79.		5
64	A Tunable Energy Filter for Medical X-Ray Imaging. X-Ray Optics and Instrumentation, 2008, 2008, 1-8.	0.7	5
65	Count statistics of nonparalyzable photonâ€counting detectors with nonzero pulse length. Medical Physics, 2018, 45, 3800-3811.	3.0	5
66	1-Î¼m spatial resolution in silicon photon-counting CT detectors. Journal of Medical Imaging, 2021, 8, 063501.	1.5	5
67	A low-absorption x-ray energy filter for small-scale applications. Optics Express, 2009, 17, 11388.	3.4	4
68	Simulation study of an energy sensitive photon counting silicon strip detector for computed tomography: identifying strengths and weaknesses and developing work-arounds. Proceedings of SPIE, 2010, , .	0.8	4
69	Evaluation of photon-counting spectral breast tomosynthesis. , 2011, , .		4
70	Modeling charge transport in photon-counting detectors. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2018, 899, 115-121.	1.6	4
71	Optimized AEC for scanning digital mammography based on local variation of scan velocity. , 2005, , .		3
72	Spectral shaping for photon counting digital mammography. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2007, 580, 1046-1049.	1.6	3

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73	Simulation of HyperSPECT: a high-resolution small-animal system with in-line x-ray optics. Physics in Medicine and Biology, 2012, 57, 1617-1629.	3.0	3
74	Fabrication of circular sawtooth gratings using focused UV lithography. Journal of Micromechanics and Microengineering, 2016, 26, 035001.	2.6	3
75	Subpixel x-ray imaging with an energy-resolving detector. Journal of Medical Imaging, 2018, 5, 1.	1.5	3
76	Increased count-rate performance and dose efficiency for silicon photon-counting detectors for full-field CT using an ASIC with adjustable shaping time. , 2019, , .		3
77	Compton coincidence in silicon photon-counting CT detectors. Journal of Medical Imaging, 2022, 9, 013501.	1.5	3
78	High-resolution X-ray imaging using the signal time dependence on a double-sided silicon detector. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1999, 423, 135-145.	1.6	2
79	Contrast-enhanced dual-energy subtraction imaging using electronic spectrum-splitting and multi-prism x-ray lenses. Proceedings of SPIE, 2008, , .	0.8	2
80	Theoretical bounds and optimal configurations for multi-pinhole SPECT. , 2008, , .		2
81	An efficient preâ€•object collimator based on an xâ€•ray lens. Medical Physics, 2009, 36, 626-633.	3.0	2
82	Quantification of ring artifact visibility in CT. Proceedings of SPIE, 2012, , .	0.8	2
83	Task based weights for spectral computed tomography. , 2012, , .		2
84	A Stress Update Algorithm for Constitutive Models of Glassy Polymers. International Journal for Computational Methods in Engineering Science and Mechanics, 2013, 14, 336-342.	2.1	2
85	Eliminated risk of iodine contrast cancellation with multibin spectral CT. Physics in Medicine and Biology, 2013, 58, N201-N209.	3.0	2
86	Utilization of in-depth photon counting detectors towards x-ray spectral imaging: The benefits from the depth information. , 2014, , .		2
87	Necessary forward model specification accuracy for basis material decomposition in spectral CT. , 2014, , .		2
88	A method for geometric calibration of edgeâ€•on detectors in a CTâ€•gantry. Medical Physics, 2016, 43, 6165-6174.	3.0	2
89	Compression of CT sinogram data by decimation in the view direction. Medical Physics, 2017, 44, e138-e146.	3.0	2
90	Science and practice of imaging physics through 50 years of SPIE Medical Imaging conferences. Journal of Medical Imaging, 2022, 9, 012205.	1.5	2

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91	A straightforward exercise demonstrating Heisenberg's uncertainty principle. European Journal of Physics, 1995, 16, 97-100.	0.6	1
92	Direct determination of two-pion correlations for ppâ† 2Ï€+2Ï€âˆ annihilation at rest. European Physical Journal C, 1998, 1, 139-148.	3.9	1
93	HyperSPECT: a new system for pre-clinical imaging in vivo. Proceedings of SPIE, 2009, , .	0.8	1
94	Imaging of small children with a prototype for photon counting tomosynthesis. , 2009, , .		1
95	Evaluation of an ultra-fast photon-counting energy-resolved ASIC for spectral CT. Proceedings of SPIE, 2012, , .	0.8	1
96	On imaging with or without grid in digital mammography. Proceedings of SPIE, 2014, , .	0.8	1
97	Resolution improvement in x-ray imaging with an energy-resolving detector. , 2017, , .		1
98	High Resolution Mammography Using a Scanned Slit Silicon Strip Detector. Computational Imaging and Vision, 1998, , 27-30.	0.6	1
99	Count statistics and pileup correction for nonparalyzable photon counting detectors with finite pulse length. , 2018, , .		1
100	Increasing the dose efficiency in silicon photon-counting detectors utilizing dual shapers. , 2018, , .		1
101	Prism-array lenses for energy filtering in medical x-ray imaging. , 2007, , .		0
102	Feasibility study for photon counting detector for high resolution pre clinical SPECT. , 2008, , .		0
103	Imaging with multi-prism x-ray lenses. Proceedings of SPIE, 2008, , .	0.8	0
104	Energy filtering with X-ray lenses: optimization for photon-counting mammography. Radiation Protection Dosimetry, 2010, 139, 339-342.	0.8	0
105	Energy-resolved CT imaging with a photon-counting silicon-strip detector. Proceedings of SPIE, 2014, , .	0.8	0
106	Introduction to Volume 8: Radiation Sources and Detectors. , 2014, , xiii-xiv.		0
107	Characterization of a silicon strip detector for photon-counting spectral CT using monoenergetic photons from 40 keV to 120 keV. Proceedings of SPIE, 2014, , .	0.8	0
108	Use of depth information from in-depth photon counting detectors for x-ray spectral imaging: a preliminary simulation study. Proceedings of SPIE, 2014, , .	0.8	0

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109	Modelling the channel-wise count response of a photon-counting spectral CT detector to a broad x-ray spectrum. , 2015, , .		0
110	Angular oversampling with temporally offset layers on multilayer detectors in computed tomography. Medical Physics, 2016, 43, 2877-2883.	3.0	0
111	Rayleigh imaging in spectral mammography. , 2016, , .		0
112	Lesion characterization in spectral photon-counting tomosynthesis. , 2017, , .		0