

Zhong He

List of Publications by Year in descending order

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157
papers

2,311
citations

331259

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h-index

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158
all docs

158
docs citations

158
times ranked

1307
citing authors

#	ARTICLE	IF	CITATIONS
1	Review of the Shockley-Ramo theorem and its application in semiconductor gamma-ray detectors. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2001, 463, 250-267.	0.7	420
2	CsPbBr ₃ perovskite detectors with 1.4% energy resolution for high-energy $\hat{\beta}$ -rays. Nature Photonics, 2021, 15, 36-42.	15.6	210
3	1-D position sensitive single carrier semiconductor detectors. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1996, 380, 228-231.	0.7	128
4	The Polaris-H imaging spectrometer. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2015, 784, 377-381.	0.7	119
5	4- π Compton imaging using a 3-D position-sensitive CdZnTe detector via weighted list-mode maximum likelihood. IEEE Transactions on Nuclear Science, 2004, 51, 1618-1624.	1.2	105
6	Charge sharing in common-grid pixelated CdZnTe detectors. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 654, 233-243.	0.7	79
7	A Prototype Three-Dimensional Position Sensitive CdZnTe Detector Array. IEEE Transactions on Nuclear Science, 2007, 54, 843-848.	1.2	73
8	3-D position sensitive CdZnTe spectrometer performance using third generation VAS/TAT readout electronics. IEEE Transactions on Nuclear Science, 2005, 52, 2009-2016.	1.2	71
9	Characterization of the H3D ASIC Readout System and 6.0 cm ³ 3-D Position Sensitive CdZnTe Detectors. IEEE Transactions on Nuclear Science, 2012, 59, 236-242.	1.2	66
10	4- π Compton imaging with single 3D position-sensitive CdZnTe detector. , 2004, , .		64
11	Improved resolution for 3-D position sensitive CdZnTe spectrometers. IEEE Transactions on Nuclear Science, 2004, 51, 2427-2431.	1.2	53
12	Sub-Pixel Position Sensing for Pixelated, 3-D Position Sensitive, Wide Band-Gap, Semiconductor, Gamma-Ray Detectors. IEEE Transactions on Nuclear Science, 2011, 58, 1400-1409.	1.2	46
13	Detection of gamma ray polarization using a 3-D position-sensitive CdZnTe detector. IEEE Transactions on Nuclear Science, 2005, 52, 1160-1164.	1.2	38
14	Readout ASIC for 3D Position-Sensitive Detectors. IEEE Transactions on Nuclear Science, 2008, 55, 1593-1603.	1.2	37
15	Comparison of 5 and 10mm thick HgI ₂ pixelated $\hat{\beta}$ -ray spectrometers. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2003, 505, 191-194.	0.7	32
16	Investigation of pixellated -ray spectrometers. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2002, 492, 387-401.	0.7	27
17	Intelligent gamma-ray spectroscopy using 3-D position-sensitive detectors. IEEE Transactions on Nuclear Science, 2003, 50, 1090-1097.	1.2	27
18	TlBr Gamma-Ray Spectrometers Using the Depth Sensitive Single Polarity Charge Sensing Technique. IEEE Transactions on Nuclear Science, 2008, 55, 1781-1784.	1.2	27

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19	Investigation of the asymmetric characteristics and temperature effects of CdZnTe detectors. IEEE Transactions on Nuclear Science, 2005, 52, 2068-2075.	1.2	26
20	The stability of TlBr detectors at low temperature. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2010, 623, 1024-1029.	0.7	25
21	ASIC for High Rate 3D Position Sensitive Detectors. IEEE Transactions on Nuclear Science, 2010, 57, 1536-1542.	1.2	25
22	Spectroscopy on thick HgI/sub 2/ detectors: a comparison between planar and pixelated electrodes. IEEE Transactions on Nuclear Science, 2003, 50, 1220-1224.	1.2	21
23	Analysis of detector response using 3-D position-sensitive CZT gamma-ray spectrometers. IEEE Transactions on Nuclear Science, 2004, 51, 3098-3104.	1.2	21
24	Special Nuclear Material Characterization Using Digital 3-D Position Sensitive CdZnTe Detectors and High Purity Germanium Spectrometers. IEEE Transactions on Nuclear Science, 2016, 63, 2649-2656.	1.2	20
25	Pixellated TlBr detectors with the depth sensing technique. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2007, 578, 235-238.	0.7	19
26	3D position-sensitive CdZnTe gamma-ray spectrometers: improved performance with new ASICs. , 2004, , .		18
27	A new coplanar-grid high-pressure xenon gamma-ray spectrometer. IEEE Transactions on Nuclear Science, 2005, 52, 2932-2939.	1.2	16
28	Thallium Bromide Gamma-Ray Spectrometers and Pixel Arrays. Frontiers in Physics, 2020, 8, .	1.0	15
29	Readout ASIC for 3D position-sensitive detectors. , 2007, , .		14
30	Gamma-Ray Point-Source Detection in Unknown Background Using 3D-Position-Sensitive Semiconductor Detectors. IEEE Transactions on Nuclear Science, 2011, 58, 605-613.	1.2	14
31	Maximum-Likelihood Deconvolution in the Spatial and Spatial-Energy Domain for Events With Any Number of Interactions. IEEE Transactions on Nuclear Science, 2012, 59, 469-478.	1.2	14
32	Intrinsic photopeak efficiency measurement and simulation for pixelated CdZnTe detector. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2020, 980, 164501.	0.7	14
33	Computational model for detector timing effects in Compton-camera based prompt-gamma imaging for proton radiotherapy. Physics in Medicine and Biology, 2020, 65, 125004.	1.6	14
34	Stability and characteristics of large CZT coplanar electrode detectors. IEEE Transactions on Nuclear Science, 2001, 48, 272-277.	1.2	13
35	Transient Behavior in TlBr Gamma-Ray Detectors and Its Analysis Using 3-D Position Sensing. IEEE Transactions on Nuclear Science, 2013, 60, 1162-1167.	1.2	13
36	Development of large-volume high-performance monolithic CZT radiation detector. , 2018, , .		12

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37	Performance of a 2-keV digitizer ASIC for 3-D position-sensitive pixellated semiconductor detectors. , 2012, , .		11
38	Impact of drift time variation on the Compton image from large-volume CdZnTe crystals. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2012, 683, 53-62.	0.7	11
39	New measurement technique for the product of the electron mobility and mean free drift time for pixelated semiconductor detectors. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2012, 671, 1-5.	0.7	11
40	3D position sensitive CdZnTe spectrometer performance using third generation VAS/TAT readout electronics. , 0, , .		10
41	Sub-pixel position resolution in pixelated semiconductor detectors. , 2007, , .		10
42	Benefits of Position-Sensitive Detectors for Radioactive Source Detection. IEEE Transactions on Signal Processing, 2010, 58, 4473-4483.	3.2	10
43	Signal modeling of charge sharing effect in simple pixelated CdZnTe detector. Journal of the Korean Physical Society, 2014, 64, 1336-1345.	0.3	10
44	Performance of Larger-Volume 40 Å– 40 Å– 10- and 40 Å– 40 Å– 15-mmÅ ³ CdZnTe Detectors. IEEE Transactions on Nuclear Science, 2021, 68, 250-255.	1.2	10
45	Performance of 3-D position sensitive CdZnTe detectors for gamma-ray energies above 1 MeV. , 2009, , .		9
46	A Method to Estimate the Atomic Number and Mass Thickness of Intervening Materials in Uranium and Plutonium Gamma-Ray Spectroscopy Measurements. IEEE Transactions on Nuclear Science, 2016, 63, 2639-2648.	1.2	9
47	Gamma-ray tracking for high energy gamma-ray imaging in pixelated CdZnTe. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2020, 954, 161443.	0.7	9
48	Quantitative Investigation of Room-Temperature Breakdown Effects in Pixelated TlBr Detectors. IEEE Transactions on Nuclear Science, 2014, 61, 2573-2578.	1.2	8
49	Long-term stability of 1-cm thick pixelated HgI/sub 2/ gamma-ray spectrometers operating at room temperature. IEEE Transactions on Nuclear Science, 2004, 51, 1886-1894.	1.2	7
50	Results From Testing of 145 3D Position-Sensitive, Pixelated CdZnTe Detectors. IEEE Transactions on Nuclear Science, 2012, 59, 3332-3338.	1.2	7
51	A Correction Factor to the Two-Bias Method for Determining Mobility-Lifetime Products in Pixelated Detectors. IEEE Transactions on Nuclear Science, 2016, 63, 1832-1838.	1.2	7
52	Fast Neutron Detection Using Pixelated CdZnTe Spectrometers. IEEE Transactions on Nuclear Science, 2017, 64, 1920-1926.	1.2	7
53	Artifacts in High-Energy Compton Imaging With 3-D Position-Sensitive CdZnTe. IEEE Transactions on Nuclear Science, 2020, 67, 1920-1928.	1.2	7
54	Gamma-ray Energy-imaging Integrated Deconvolution. , 0, , .		6

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55	Performance of five-or-more-pixel event sequence reconstruction for 3-D semiconductor gamma-ray-imaging spectrometers. , 2008, , .		6
56	Detecting shielded sources using 3-D CdZnTe detectors. , 2008, , .		6
57	Sensitivity of gamma-ray source detection using 3D-position-sensitive semiconductor detectors. , 2008, , .		6
58	Investigation of polarization effect with TlBr detectors at different operating temperatures. , 2010, , .		6
59	High-flux experiments and simulations of pulse-mode 3D-position-sensitive CdZnTe pixelated detectors. , 2011, , .		6
60	Improvement of Sub-Pixel Position Sensing in Nonuniform Large-Volume Pixelated CdZnTe Crystals. IEEE Transactions on Nuclear Science, 2013, 60, 1201-1207.	1.2	6
61	Quantification of the Conditioning Phase in Cooled Pixelated TlBr Detectors. IEEE Transactions on Nuclear Science, 2015, 62, 1785-1790.	1.2	6
62	Unbiased Filtered Back-Projection in 4π Compton Imaging With 3D Position Sensitive Detectors. IEEE Transactions on Nuclear Science, 2016, 63, 2750-2756.	1.2	6
63	Radial position sensing in a coplanar-grid high-pressure xenon gamma-ray spectrometer. IEEE Transactions on Nuclear Science, 2006, 53, 1380-1384.	1.2	5
64	Maximum likelihood estimation maximization deconvolution in spatial and combined spatial- energy domains for a detector array system. , 2007, , .		5
65	Experimental demonstration of coded aperture imaging using thick 3D-position-sensitive CdZnTe detectors. , 2009, , .		5
66	Calibration and operation of the polaris 18-detector CdZnTe array. , 2010, , .		5
67	Asymptotic Source Detection Performance of Gamma-Ray Imaging Systems Under Model Mismatch. IEEE Transactions on Signal Processing, 2011, 59, 5141-5151.	3.2	5
68	1-D Fast Neutron Source Localization Using Digital Pixelated 3-D Position-Sensitive CdZnTe Detectors. IEEE Transactions on Nuclear Science, 2017, 64, 2531-2535.	1.2	5
69	Measurement of Electron Mobility-Lifetime Product in 3-D Position-Sensitive CdZnTe Detectors Using the VAD_UMv2.2 Digital Readout System. IEEE Transactions on Nuclear Science, 2018, 65, 2834-2837.	1.2	5
70	Efficient temperature corrections for gamma-ray energy reconstruction in 3-D position-sensitive CdZnTe detectors. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2020, 954, 161340.	0.7	5
71	Hand-Held Gamma-Ray Imaging Sensors Using Room-Temperature 3-Dimensional Position-Sensitive Semiconductor Spectrometers. AIP Conference Proceedings, 2002, , .	0.3	4
72	Analysis of detector response using 3-D position sensitive CZT gamma-ray spectrometers. , 0, , .		4

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73	Gamma-ray source location by attenuation measurements. , 2007, , .		4
74	Model-based reconstruction of spectral and spatial source distribution from objects with known motion. , 2010, , .		4
75	Improvement of Compton imaging efficiency by using side-neighbor events. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2012, 687, 62-68.	0.7	4
76	Study of Long-Term CdZnTe Stability Using the Polaris System. IEEE Transactions on Nuclear Science, 2013, 60, 1086-1093.	1.2	4
77	Accurate Determination of the Ionization Energy in Pixelated TlBr Correcting for Charge Collection Efficiency. IEEE Transactions on Nuclear Science, 2018, 65, 950-954.	1.2	4
78	Time-Encoded Gamma-Ray Imaging Using a 3-D Position-Sensitive CdZnTe Detector Array. IEEE Transactions on Nuclear Science, 2020, 67, 464-472.	1.2	4
79	Development of a model for gamma-ray spectra generation using pixelated mercuric iodide detectors. , 2003, 4784, 119.		3
80	Improved resolution for 3D position sensitive CdZnTe spectrometers. , 0, , .		3
81	Study of Detection Deficiency of 3D Position-Sensitive Pixellated CdZnTe Detectors. , 2006, , .		3
82	Investigation of pixellated TlBr detectors using digital signal processing techniques. , 2008, , .		3
83	4 \times coded aperture imaging using 3d position-sensitive CdZnTe detectors. , 2008, , .		3
84	ASIC for high rate 3D position sensitive detectors. , 2009, , .		3
85	Study on effect of charge sharing events in common-grid pixelated CdZnTe detectors. , 2009, , .		3
86	Point-source detection using energy and imaging information from 3D-position-sensitive semiconductor detectors. , 2009, , .		3
87	3D Monte Carlo simulations of pixelated CdZnTe detectors under high photon fluxes. , 2010, , .		3
88	Event classification in 3D position sensitive pixelated CdZnTe detectors. , 2011, , .		3
89	UMImaging: A Software Package for Image Reconstruction From 3D-Position-Sensitive Gamma-Ray Detectors. IEEE Transactions on Nuclear Science, 2012, 59, 1672-1680.	1.2	3
90	Analysis of High-Energy Tailing in TlBr Detectors. IEEE Transactions on Nuclear Science, 2018, 65, 955-960.	1.2	3

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91	Coded-Aperture Imaging with High-Resolution Large-Volume CZT. , 2018, , .		3
92	FRAM v5.2 estimation of plutonium and uranium isotopics using digitized 3-D position-sensitive CdZnTe detectors. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2020, 954, 161339.	0.7	3
93	Image artifacts resulting from gamma-ray tracking algorithms used with compton imagers. , 0, , .		2
94	3D position sensing on UltraPeRL CdZnTe detectors. , 2007, , .		2
95	Calibration strategy for 3-D position sensitive CdZnTe spectrometer arrays. , 2007, , .		2
96	Applications of the energy-imaging integrated deconvolution algorithm for source characterization. , 2009, , .		2
97	Efficiency measurement on 6.0 cm ³ 3-D CdZnTe detectors. , 2010, , .		2
98	Experimental limitations of coded aperture imaging using thick 3D-position-sensitive CdZnTe detectors. , 2010, , .		2
99	Including pair-production events in the system response function for energy-imaging integrated deconvolution algorithm. , 2011, , .		2
100	Characterization of the polarization process in thallium-bromide detectors. , 2012, , .		2
101	Spectroscopic performance of recent TlBr detectors. , 2012, , .		2
102	Identification and Reconstruction of Single-Pixel Incomplete Charge Collection Events. IEEE Transactions on Nuclear Science, 2013, 60, 1243-1247.	1.2	2
103	Low electronic noise digital ASIC array system and its non-linearity. , 2013, , .		2
104	New nonlinearity calibration method for 3-D position-sensitive CdZnTe detectors. , 2014, , .		2
105	Improvements in room temperature lifetime of pixelated TlBr detectors from surface etching. , 2015, , .		2
106	CdZnTe gamma-ray spectroscopy in high flux environments using digital pulse processing techniques. , 2015, , .		2
107	Comparison of a large area CZT detector to a spectroscopic CdTe detector for X-ray fluorescence computed tomography. , 2016, , .		2
108	Angular Detection and Shielding Characterization of Simulated 235U Using Time Encoded Imaging and 3D Position Sensitive CdZnTe Detectors. , 2017, , .		2

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109	Identification of Intervening Materials in Gamma-Ray Spectroscopy Measurements Using Angularly Deconvolved Spectra With Multiple Sources in the Field of View. IEEE Transactions on Nuclear Science, 2018, 65, 924-931.	1.2	2
110	Qualitative measurement of spatial shielding isotopics via Compton imaging neutron-induced gamma rays using 3-D CdZnTe detectors. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2019, 935, 214-221.	0.7	2
111	Filtered Backprojection in Compton Imaging Using a Spherical Harmonic Wiener Filter With Pixelated CdZnTe. IEEE Transactions on Nuclear Science, 2021, 68, 211-219.	1.2	2
112	Large Volume HgI ₂ Gamma-Ray Spectrometers. AIP Conference Proceedings, 2002, , .	0.3	1
113	Evaluation of pixellated HgI ₂ detectors. , 0, , .		1
114	VAS_UM/TAT4 ASIC Systems for 3D CdZnTe/HgI ₂ Detector Arrays. , 0, , .		1
115	Three-Dimensional Position Sensitive CdZnTe Detector Array for PNNL. , 2006, , .		1
116	Digital waveform analysis techniques for pixelated semiconductor detectors. , 2007, , .		1
117	Stability and characteristics of 3D HgI ₂ detectors at different cathode bias. , 2007, , .		1
118	Event classification in 3D position sensitive semiconductor detectors. , 2008, , .		1
119	Point-source detection using 3D-position-sensitive semiconductor detectors with estimated background. , 2010, , .		1
120	Predicting ROC curves for source detection under model mismatch. , 2010, , .		1
121	Impact of electric field non-uniformity on large CdZnTe crystals. , 2011, , .		1
122	Measurements of gamma rays above 3 MeV using 3D position-sensitive 20×20×15 mm³ CdZnTe detectors. , 2011, , .		1
123	Adjacent 2-pixel event discrimination in 3-D position sensitive imaging CdZnTe detectors using the UM VAD ASIC. , 2012, , .		1
124	Source Detection Performance Prediction for a CdZnTe Array. IEEE Transactions on Nuclear Science, 2013, 60, 204-212.	1.2	1
125	Characterization of a digital ASIC readout system for 11Å–11 pixelated TlBr detectors. , 2014, , .		1
126	Evaluation of Compton Imaging Efficiency Degradation Factors in Large Volume, Pixelated CdZnTe Sensors. , 2017, , .		1

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127	Point Spread Function Model of 3-Interaction Events for Super-MeV Compton Imaging Using Pixelated CdZnTe. , 2020, , .		1
128	Spectroscopy on thick HgI/sub 2/ detectors: a comparison between planar and pixelated electrodes. , 0, , .		0
129	1 cm thick HgI/sub 2/ gamma-ray spectrometers. , 0, , .		0
130	Long-term stability of pixelated HgI/sub 2/ gamma-ray spectrometers operating at room temperature. , 0, , .		0
131	Detection of gamma ray polarization using a 3D position sensitive CdZnTe detector. , 0, , .		0
132	Improving Spectroscopic Performance of a Coplanar-Anode High-Pressure Xenon Gamma-Ray Spectrometer. , 2006, , .		0
133	TlBr gamma-ray spectrometers using the depth sensitive single polarity charge sensing technique. , 2007, , .		0
134	Characterization of pixellated thallium bromide radiation detectors for gamma-ray spectroscopy. , 2008, , .		0
135	Resolution degradation of multiple-pixel event in pixellated CZT detectors. , 2008, , .		0
136	Directional isotope identification using 3-D semiconductor gamma-ray-imaging spectrometers. , 2009, , .		0
137	Theoretical energy calibration of multiple-pixel events in a wide band-gap semiconductor detector with pixellated electrodes. , 2009, , .		0
138	Depth reconstruction validation in pixelated semiconductor detectors. , 2009, , .		0
139	Process and yield enhancements for epitaxially grown mercuric iodide crystals. , 2010, , .		0
140	Performance improvement of 3-D position-sensitive pixellated HgI<inf>2</inf></inf> detectors when cooled from room temperature to 10 °C. , 2010, , .		0
141	Source motion compensated coded aperture imaging using thick 3D-position-sensitive CdZnTe detectors. , 2011, , .		0
142	Detection performance prediction for CdZnTe array. , 2011, , .		0
143	Multiple-source detection and identification using 3D-position-sensitive semiconductor detectors. , 2011, , .		0
144	Event classification and reconstruction of single pixel multiple interaction events. , 2011, , .		0

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145	Model-Based Reconstruction of Spectral and Spatial Source Distribution for Objects With Known Motion. IEEE Transactions on Nuclear Science, 2013, 60, 3981-3989.	1.2	0
146	Low background measurements using 3-D position-sensitive CdZnTe detectors. , 2013, , .		0
147	Performance comparison of steering-grid and simple-pixel CdZnTe detectors. , 2013, , .		0
148	Performance of 20#x00D7;20#x00D7;5 mm³ pixelated Cadmium Zinc Telluride semiconductor detectors from various anode fabrication techniques. , 2013, , .		0
149	Digital signal processing in TlBr detectors: Accounting for the motion of holes. , 2015, , .		0
150	Application of Chambolle-Pock algorithm on penalized gamma-ray energy-imaging integrated deconvolution. , 2015, , .		0
151	Recent results from pixelated TlBr detectors with TI electrodes operated at room-temperature. , 2016, , .		0
152	3D Compton Imaging by Use of Stereophotogrammetry and Pixelated CdZnTe. , 2017, , .		0
153	High Resolution Time-Encoded Imaging of Plutonium and MOX using 3-D Position-Sensitive CdZnTe Detectors. , 2018, , .		0
154	192Ir Source Localization via Gamma Ray Skyshine using Large Volume Pixelated CdZnTe. , 2019, , .		0
155	CramÃ©r-Rao Bound Evaluations of Compton Imager Designs for Proton Beam Range Verification. IEEE Transactions on Radiation and Plasma Medical Sciences, 2021, , 1-1.	2.7	0
156	Region of Interest Image Reconstruction for Compton Imaging Using 3-D Position Sensing CdZnTe. IEEE Transactions on Nuclear Science, 2022, 69, 965-975.	1.2	0
157	Subpixel Sensing for Charge-Sharing Events in Pixelated CdZnTe Detectors. IEEE Transactions on Nuclear Science, 2022, 69, 1385-1388.	1.2	0