Giovanni Mana

List of Publications by Year in descending order

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174 papers 2,958 citations

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28
h-index

223800 46 g-index

177 all docs

177 docs citations

177 times ranked

881 citing authors

#	Article	IF	Citations
1	Neutron interference from a split-crystal interferometer. Journal of Applied Crystallography, 2022, 55, 870-875.	4.5	5
2	The least informative distribution and correlation coefficient of measurement results. Metrologia, 2021, 58, 015012.	1.2	3
3	Measurement of miscut angles in the determination of Si lattice parameters. Metrologia, 2021, 58, 034004.	1.2	3
4	Interlaboratory consensus building. Metrologia, 2021, 58, 055002.	1.2	4
5	Defocused travelling fringes in a scanning triple-Laue X-ray interferometry setup. Journal of Applied Crystallography, 2021, 54, 1403-1408.	4.5	1
6	The fundamental constants of physics and the International System of Units. Rendiconti Lincei, 2021, 32, 655-663.	2.2	3
7	The Measurement of the Silicon Lattice Parameter and the Count of Atoms to Realise the Kilogram. Mapan - Journal of Metrology Society of India, 2020, 35, 511-519.	1.5	12
8	Gravity and anisotropy effects in the volume determination of Si spheres for the kilogram realisation. Metrologia, 2020, 57, 045004.	1.2	0
9	X-ray phase-contrast topography to measure the surface stress and bulk strain in a silicon crystal. Journal of Applied Crystallography, 2020, 53, 1195-1202.	4.5	3
10	Corrections of the travelling-fringe period for the interference of aberrated beams. Metrologia, 2019, 56, 055004.	1.2	3
11	The LISA interferometer: impact of stray light on the phase of the heterodyne signal. Classical and Quantum Gravity, 2019, 36, 075015.	4.0	6
12	Bayesian model selection applied to linear regressions with weighted data. Metrologia, 2019, 56, 025003.	1.2	2
13	Telescope jitters and phase noise in the LISA interferometer. Optics Express, 2019, 27, 16855.	3.4	18
14	Fake tilts in differential wavefront sensing. Optics Express, 2019, 27, 34505.	3.4	1
15	Self-weight effect in the measurement of the volume of silicon spheres. Metrologia, 2018, 55, 294-301.	1.2	2
16	Coupling of wavefront errors and jitter in the LISA interferometer: far-field propagation. Classical and Quantum Gravity, 2018, 35, 185013.	4.0	27
17	Thermal Gradients in the Si Lattice Parameter Measurement. , 2018, , .		0
18	Diffraction Error in Laser Interferometry for the Measurement of the $<$ sup $>$ 28 $<$ /sup $>$ Si Lattice Parameter. , 2018, , .		0

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19	Coupling of wavefront errors and pointing jitter in the LISA interferometer: misalignment of the interfering wavefronts. Classical and Quantum Gravity, 2018, 35, 245002.	4.0	16
20	Forward scattering in two-beam laser interferometry. Metrologia, 2018, 55, 222-228.	1.2	3
21	Wavefront errors in a two-beam interferometer. Metrologia, 2018, 55, 535-540.	1.2	5
22	Avogadro constant measurements using enriched ²⁸ Si monocrystals. Metrologia, 2018, 55, L1-L4.	1.2	24
23	Impurities in a ²⁸ Si-Enriched Single Crystal Produced for the Realization of the Redefined Kilogram. Analytical Chemistry, 2017, 89, 6314-6317.	6.5	5
24	A new analysis for diffraction correction in optical interferometry. Metrologia, 2017, 54, 559-565.	1.2	11
25	Measurement of the $<$ sup $>$ 30 $<$ /sup $>$ Si Mole Fraction in the New Avogadro Silicon Material by Neutron Activation and High-Resolution \hat{I}^3 -Spectrometry. Analytical Chemistry, 2017, 89, 6726-6730.	6.5	9
26	A new low-uncertainty measurement of the < sup > 31 < /sup > Si half-life. Metrologia, 2017, 54, 410-416.	1.2	5
27	Quantification of the Void Volume in Single-Crystal Silicon. Analytical Chemistry, 2016, 88, 11678-11683.	6.5	5
28	Optimization of statistical methods for HpGe gamma-ray spectrometer used in wide count rate ranges. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2016, 824, 99-100.	1.6	2
29	Counting atoms. Nature Physics, 2016, 12, 522-522.	16.7	7
30	A two thickness interferometer for lattice strain investigations. , 2016, , .		1
31	Model uncertainty and reference value of the Planck constant. Measurement: Journal of the International Measurement Confederation, 2016, 94, 26-30.	5.0	2
32	Diffraction effects in length measurements by laser interferometry. Optics Express, 2016, 24, 6522.	3.4	7
33	Density functional theory calculations of the stress of oxidised (1 10) silicon surfaces. Metrologia, 2016, 53, 1339-1345.	1.2	11
34	Purity of ²⁸ Si-Enriched Silicon Material Used for the Determination of the Avogadro Constant. Analytical Chemistry, 2016, 88, 6881-6888.	6.5	10
35	The ellipsoidal nested sampling and the expression of the model uncertainty in measurements. International Journal of Modern Physics B, 2016, 30, 1541002.	2.0	2
36	A More Accurate Measurement of the 28Si Lattice Parameter. Journal of Physical and Chemical Reference Data, 2015, 44, .	4.2	40

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37	The Correlation of the $\langle i \rangle N \langle i \rangle A$ Measurements by Counting 28Si Atoms. Journal of Physical and Chemical Reference Data, 2015, 44, .	4.2	21
38	³⁰ Si Mole Fraction of a Silicon Material Highly Enriched in ²⁸ Si Determined by Instrumental Neutron Activation Analysis. Analytical Chemistry, 2015, 87, 5716-5722.	6.5	12
39	Improved measurement results for the Avogadro constant using a ²⁸ Si-enriched crystal. Metrologia, 2015, 52, 360-375.	1.2	143
40	Ellipsoidal nested sampling, expression of the model uncertainty and measurement. Journal of Physics: Conference Series, 2015, 626, 012070.	0.4	0
41	Design of an interferometric displacement sensor with picometer resolution for the Galileo-Galilei mission. , 2015, , .		4
42	Lattice strain at c-Si surfaces: a density functional theory calculation. Metrologia, 2015, 52, 214-221.	1.2	13
43	Vectorial ray-based diffraction integral. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2015, 32, 1403.	1.5	24
44	Stray capacitances in the watt balance operation: electrostatic forces. Metrologia, 2014, 51, S72-S79.	1.2	2
45	The watt-balance operation: a continuous model of the coil interaction with the magnetic field. Metrologia, 2014, 51, S65-S71.	1.2	5
46	European metrology research programme: Advance on the realization of the kilogram redefinition. , 2014, , .		0
47	Assessment of the accuracy of the ²⁸ Si (220) plane spacing. , 2014, , .		0
48	Bayesian estimate of the degree of a polynomial given a noisy data sample. Measurement: Journal of the International Measurement Confederation, 2014, 55, 564-570.	5.0	7
49	Interval estimations in metrology. Metrologia, 2014, 51, 191-196.	1.2	5
50	The expression of the model uncertainty in measurements. , 2014, , .		0
51	Instrumental neutron activation analysis of an enriched 28Si single-crystal. Journal of Radioanalytical and Nuclear Chemistry, 2014, 299, 277-282.	1.5	7
52	Measuring the divergence of laser beams to correct interferometric displacement measurements. , 2014, , .		0
53	Neutron activation analysis of the sup 30 / sup Si content of highly enriched sup 28 / sup Si: proof of concept and estimation of the achievable uncertainty. Metrologia, 2014, 51, 354-360.	1.2	5
54	Accurate measurements of the Avogadro and Planck constants by counting silicon atoms. Annalen Der Physik, 2013, 525, 680-687.	2.4	21

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55	Modelling laser interferometers for the measurement of the Avogadro constant. , 2013, , .		1
56	Polarization delivery in heterodyne interferometry. Optics Express, 2013, 21, 27119.	3.4	10
57	A finite element analysis of surface-stress effects on measurement of the Si lattice parameter. Metrologia, 2013, 50, 243-248.	1.2	13
58	The watt-balance operation: magnetic force and induced electric potential on a conductor in a magnetic field. Metrologia, 2013, 50, 164-169.	1.2	6
59	An automated resistor network to inspect the linearity of resistance-thermometry measurements. Measurement Science and Technology, 2013, 24, 107001.	2.6	6
60	The detection of signals hidden in noise. Metrologia, 2013, 50, 269-276.	1.2	4
61	Elemental characterization of the Avogadro silicon crystal WASO 04 by neutron activation analysis. Metrologia, 2012, 49, 696-701.	1.2	14
62	The uncertainty of the phase-correction in sphere-diameter measurements. Metrologia, 2012, 49, 479-486.	1.2	18
63	Model selection in the average of inconsistent data: an analysis of the measured Planck-constant values. Metrologia, 2012, 49, 492-500.	1.2	35
64	Realization of the anticipated definition of the kilogram. , 2012, , .		1
65	Laser interferometry in the Si lattice-parameter measurement. , 2012, , .		0
66	Counting the atoms in a ²⁸ Si crystal for a new kilogram definition. Metrologia, 2011, 48, S1-S13.	1.2	160
67	The self-weight deformation of an x-ray interferometer. Metrologia, 2011, 48, S50-S54.	1.2	4
68	Determination of the Avogadro Constant by Counting the Atoms in a <mml:math display="inline" xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi>Si</mml:mi><mml:mprescripts></mml:mprescripts><mml:none></mml:none><mml:mn>28</mml:mn></mml:mmultiscripts></mml:math> Crystal. Physical Review Letters, 2011, 106,	7.8	183
69	030801. Si primary standards for the calibration of ion-current ratios in the molar-mass measurement of natural Si single crystals. Metrologia, 2011, 48, S26-S31.	1.2	18
70	Phase corrections in the optical interferometer for Si sphere volume measurements at NMIJ. Metrologia, 2011, 48, S104-S111.	1.2	31
71	The isotopic composition of enriched Si: a data analysis. Metrologia, 2011, 48, S32-S36.	1.2	21
72	The lattice parameter of the sup > 28 / sup > Si spheres in the determination of the Avogadro constant. Metrologia, 2011, 48, S44-S49.	1.2	27

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73	Measurement of the {2 2 0} lattice-plane spacing of a ²⁸ Si x-ray interferometer. Metrologia, 2011, 48, S37-S43.	1.2	49
74	Uncertainty assessment of Si molar mass measurements. International Journal of Mass Spectrometry, 2010, 289, 6-10.	1.5	11
7 5	The calibration of Si isotope ratio measurements. International Journal of Mass Spectrometry, 2010, 291, 55-60.	1.5	51
76	Estimation of the centre of a diffraction peak by triggering the goniometer-angle readingsviaphoton detection. Journal of Applied Crystallography, 2010, 43, 83-88.	4.5	0
77	Calibration of a silicon crystal for absolute nuclear spectroscopy. Journal of Applied Crystallography, 2010, 43, 293-296.	4.5	7
78	Measurement equations for the determination of the Si molar mass by isotope dilution mass spectrometry. Metrologia, 2010, 47, 460-463.	1.2	31
79	Use of Bayesian statistics to reduce the density shift uncertainty in Cesium fountain. , 2010, , .		1
80	Advances in the measurement of the ²⁸ Si lattice parameter., 2010,,.		0
81	Status of the n <inf>a</inf> determination by counting atoms in silicon crystals., 2010,,.		2
82	Bayesian inference of a negative quantity from positive measurement results., 2009,,.		1
83	Measurement of the lattice parameter of a silicon crystal. New Journal of Physics, 2009, 11, 053013.	2.9	49
84	Bayesian estimate of the zero-density frequency of a Cs fountain. Metrologia, 2009, 46, 629-636.	1.2	3
85	Bayesian inference of a negative quantity from positive measurement results. Metrologia, 2009, 46, 267-271.	1.2	13
86	The Avogadro constant determination via enriched silicon-28. Measurement Science and Technology, 2009, 20, 092002.	2.6	64
87	Observation of a bent crystal-lattice by x-ray interferometry. Optics Express, 2009, 17, 11172.	3.4	7
88	Comparison of the INRIM and PTB lattice-spacing standards. Metrologia, 2009, 46, 249-253.	1.2	21
89	X-ray and \hat{I}^3 -ray propagation in bent crystals with flat and cylindrical surfaces. Acta Crystallographica Section A: Foundations and Advances, 2008, 64, 549-559.	0.3	6
90	Influence of surface stress in the determination of the (2 2 0) lattice spacing of silicon. Metrologia, 2008, 45, 110-118.	1.2	4

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91	Si lattice parameter measurement by centimeter X-ray interferometry. Optics Express, 2008, 16, 16877.	3.4	42
92	Silicon lattice-parameter measurements with centimeter x-ray interferometry. , 2008, , .		0
93	Status of the international effort on the x-ray crystal density work and its progress towards a measurement of the Avogadro constant. , 2008, , .		0
94	Progress on the GAMS-6 double crystal γ-spectrometer., 2008,,.		0
95	Measurement of neutron binding energy of ³⁶ Cl for a determination of N <inf>A</inf> h. , 2008, , .		0
96	On the effect of broadband emission in external-cavity diode-laser interferometry. Measurement Science and Technology, 2007, 18, 1338-1342.	2.6	8
97	Considerations on future redefinitions of the kilogram, the mole and of other units. Metrologia, 2007, 44, 1-14.	1.2	114
98	Confirmation of the INRiM and PTB Determinations of the Si Lattice Parameter. IEEE Transactions on Instrumentation and Measurement, 2007, 56, 230-234.	4.7	25
99	A Possible Solution for the Discrepancy Between the INRIM and NMIJ Values of the Si Lattice-Parameter. IEEE Transactions on Instrumentation and Measurement, 2007, 56, 351-355.	4.7	8
100	Uncertainty propagation in non-linear measurement equations. Metrologia, 2007, 44, 246-251.	1.2	18
101	The generalized weighted mean of correlated quantities. Metrologia, 2006, 43, S268-S275.	1.2	40
102	Aberration effects in two-beam laser interferometers. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2006, 23, 1951.	1.5	18
103	The expression of uncertainty in non-linear parameter estimation. Metrologia, 2006, 43, 396-402.	1.2	22
104	On the best fit of a line to uncertain observation pairs. Metrologia, 2005, 42, 376-382.	1.2	14
105	Present State of the Avogadro Constant Determination From Silicon Crystals With Natural Isotopic Compositions. IEEE Transactions on Instrumentation and Measurement, 2005, 54, 854-859.	4.7	73
106	Effect of recycled light in two-beam interferometry. Review of Scientific Instruments, 2005, 76, 053106.	1.3	10
107	Present Status of the a Vogadro Constant Determination from Silicon Crystals with Natural Isotopic Composition. , 2004, , .		14
108	Measurement of the Avogadro Constant and Mise EN Pratique of an Atomic Definition of the Kilogram by A 28Si Single-Crystal. , 2004, , .		0

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109	Effects of analyser deformation in scanning x-ray interferometry. Metrologia, 2004, 41, 238-245.	1.2	31
110	Measurement repetitions of the Si (220) lattice spacing. Metrologia, 2004, 41, 445-446.	1.2	21
111	Measurement repetitions of the Si(220) lattice spacing. Metrologia, 2004, 41, 56-64.	1.2	31
112	Effect of lattice strains in the measurement of the (220) lattice spacing of silicon., 2004,,.		0
113	Comparison of IMGC and PTB Absolute Determinations of the Si(220) Lattice Spacing., 2004,,.		0
114	A Fourier optics approach to the dynamical theory of X-ray diffraction – perfect crystals. Acta Crystallographica Section A: Foundations and Advances, 2004, 60, 40-50.	0.3	9
115	A Fourier optics approach to the dynamical theory of X-ray diffraction – continuously deformed crystals. Acta Crystallographica Section A: Foundations and Advances, 2004, 60, 283-293.	0.3	6
116	Lattice strain effects in the measurement of the Si lattice parameter by Laue-case double-crystal diffractometry. Journal of Applied Crystallography, 2004, 37, 773-777.	4.5	32
117	Joint IMGC-NMIJ Measurement of the Si (220) Lattice Spacing. , 2004, , .		0
118	A two-axis tipÂtilt platform for x-ray interferometry. Measurement Science and Technology, 2003, 14, 717-723.	2.6	11
119	Accuracy assessment of data analysis in absolute gravimetry. IEEE Transactions on Instrumentation and Measurement, 2003, 52, 500-503.	4.7	3
120	Retrieval of the phase profile of digitized interferograms. Journal of Optics, 2003, 5, 418-424.	1.5	8
121	Propagation of error analysis in a total least-squares estimator in absolute gravimetry. Metrologia, 2002, 39, 489-494.	1.2	8
122	Propagation of error analysis in least-squares procedures with second-order autoregressive measurement errors. Measurement Science and Technology, 2002, 13, 1505-1511.	2.6	8
123	Convective forces in high precision mass measurements. Measurement Science and Technology, 2002, 13, 13-20.	2.6	14
124	<title>Applications of x-ray interferometry in metrology and phase-contrast imaging</title> ., 2002, , .		3
125	Accuracy of laser beam center and width calculations. Applied Optics, 2001, 40, 1378.	2.1	10
126	Location accuracy limitations for CCD cameras. Astronomy and Astrophysics, 2001, 367, 362-370.	5.1	22

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127	Combined optical and X–ray interferometry for high–precision dimensional metrology. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2000, 456, 701-729.	2.1	70
128	Measuring small lattice distortions in Si-crystals by phase-contrast x-ray topography. Journal Physics D: Applied Physics, 2000, 33, 2678-2682.	2.8	10
129	Light Bounces in Two-Beam Scanning Laser Interferometers. Japanese Journal of Applied Physics, 2000, 39, 2870-2875.	1.5	10
130	Simulation of the thermoelastic behavior of an LLL x-ray interferometer. Review of Scientific Instruments, 2000, 71, 1716-1722.	1.3	6
131	A Fizeau interferometer for astrometry in space: the metrology point of view. Measurement Science and Technology, 1999, 10, 1254-1260.	2.6	6
132	Optically polished surfaces parallel to the (220) lattice planes of silicon monocrystals. Measurement Science and Technology, 1999, 10, 549-553.	2.6	4
133	Scanning X-ray interferometry and the silicon lattice parameter: towards relative uncertainty?. European Physical Journal B, 1999, 9, 225-232.	1.5	33
134	A Fourier optics model of two-beam scanning laser interferometers. European Physical Journal D, 1999, 5, 433-440.	1.3	28
135	<code><title>Enabling</code> interferometry technologies for the GAIA astrometric mission <code></title>., 1999,,.</code>		0
136	Sphericity analysis of solid density standards. Review of Scientific Instruments, 1998, 69, 1383-1390.	1.3	7
137	Multigrid Monte Carlo simulation viaXYembedding. II. Two-dimensional SU(3) principal chiral model. Physical Review D, 1997, 55, 3674-3741.	4.7	15
138	Quantized positioning of x-ray interferometers. Review of Scientific Instruments, 1997, 68, 17-22.	1.3	21
139	Lattice parameter and thermal expansion of monocrystalline silicon. Journal of Applied Physics, 1997, 82, 5396-5400.	2.5	33
140	Beam-astigmatism in laser interferometry. IEEE Transactions on Instrumentation and Measurement, 1997, 46, 196-200.	4.7	10
141	Scanning X-ray interferometry over a millimeter baseline. IEEE Transactions on Instrumentation and Measurement, 1997, 46, 576-579.	4.7	13
142	Simulation of Monolithic Silicon LLL Scanning X-Ray Interferometer. Japanese Journal of Applied Physics, 1997, 36, 5356-5360.	1.5	2
143	Scanning LLL x-ray interferometry. Zeitschrift Für Physik B-Condensed Matter, 1997, 102, 189-196.	1.1	11
144	Scanning LLL x-ray interferometry. Zeitschrift Fýr Physik B-Condensed Matter, 1997, 102, 197-206.	1.1	18

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145	The (220) lattice spacing of silicon. IEEE Transactions on Instrumentation and Measurement, 1995, 44, 526-529.	4.7	39
146	A new determination of N/sub A/. IEEE Transactions on Instrumentation and Measurement, 1995, 44, 538-541.	4.7	68
147	The Avogadro constant. Rivista Del Nuovo Cimento, 1995, 18, 1-23.	5.7	29
148	Volume of Quasi-spherical Solid Density Standards. Metrologia, 1994, 31, 289-300.	1.2	21
149	Observation of Fresnel diffraction in a two-beam laser interferometer. Physical Review A, 1994, 49, 2167-2173.	2.5	19
150	Measurement of the silicon (220) lattice spacing. Physical Review Letters, 1994, 72, 3133-3136.	7.8	105
151	The Lattice Parameter of Silicon: A Survey. Metrologia, 1994, 31, 203-209.	1.2	27
152	International Workshop on the Avogadro Constant and the Representation of the Silicon Mole. Metrologia, 1994, 31, 155-155.	1.2	3
153	A displacement and angle interferometer with subatomic resolution. Review of Scientific Instruments, 1993, 64, 3076-3081.	1.3	48
154	Servopositioning with picometer resolution. Review of Scientific Instruments, 1993, 64, 168-173.	1.3	23
155	Phase Holonomy in Optical Interferometry. Journal of Modern Optics, 1992, 39, 2053-2074.	1.3	18
156	Silicon lattice constant: limits in IMGC X-ray/optical interferometry. IEEE Transactions on Instrumentation and Measurement, 1991, 40, 98-102.	4.7	22
157	Accuracy assessment of a least-squares estimator for scanning X-ray interferometry. Measurement Science and Technology, 1991, 2, 725-734.	2.6	30
158	Phase Modulation in High-resolution Optical Interferometry. Metrologia, 1991, 28, 455-461.	1.2	36
159	Non-Linear Analysis of the Elastic Behaviour of a Translation Device for X-Ray Interferometry. Metrologia, 1989, 26, 219-227.	1.2	13
160	Diffraction Effects in Optical Interferometers Illuminated by Laser Sources. Metrologia, 1989, 26, 87-93.	1.2	33
161	Lattice bending in x-ray interferometers. European Physical Journal B, 1989, 76, 25-31.	1.5	9
162	Progress at IMGC in the absolute determination of the silicon d. IEEE Transactions on Instrumentation and Measurement, 1989, 38, 210-216.	4.7	59

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163	Electromagnetic quantities and units derived from classical relativistic electrodynamics. American Journal of Physics, 1988, 56, 1081-1085.	0.7	0
164	On the Construction of a Zerodur Translation Device for X-Ray Interferometric Scanning. Metrologia, 1986, 22, 55-63.	1.2	17
165	Beam-astigmatism in laser interferometry. , 0, , .		0
166	Scanning X-ray interferometry over a millimeter baseline. , 0, , .		0
167	Critical aspects of scanning X-ray/optical interferometry. , 0, , .		0
168	Sub-nanometric metrology for high resolution astrometric interferometry. , 0 , , .		0
169	Active distance stabilization of large bodies with picometer repeatability. , 0, , .		2
170	A new scanning X-ray interferometer [for basic physical constants determination]., 0,,.		0
171	Analysis of lattice-strain effects in LLL X-ray interferometers by Takagi equations. , 0, , .		0
172	The Si-route to the Avogadro constant: new measurements of the molar volume and lattice parameter in an integrated international approach. , 0 , , .		0
173	Remeasurement of the (220) lattice spacing of silicon. , 0, , .		0
174	The kilogram: inertial or gravitational mass?. Metrologia, 0, , .	1.2	3