

Graham Machin

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/6637387/publications.pdf>

Version: 2024-02-01

111
papers

1,838
citations

257450

24
h-index

330143

37
g-index

112
all docs

112
docs citations

112
times ranked

734
citing authors

#	ARTICLE	IF	CITATIONS
1	Metal (carbide)-carbon eutectics for thermometry and radiometry: a review of the first seven years. Metrologia, 2006, 43, R11-R25.	1.2	124
2	A low-uncertainty measurement of the Boltzmann constant. Metrologia, 2013, 50, 354-376.	1.2	92
3	A Concerted International Project to Establish High-Temperature Fixed Points for Primary Thermometry. International Journal of Thermophysics, 2007, 28, 1976-1982.	2.1	74
4	Thermodynamic temperature assignment to the point of inflection of the melting curve of high-temperature fixed points. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2016, 374, 20150044.	3.4	64
5	Practical Implementation of the Mise en Pratique for the Definition of the Kelvin Above the Silver Point. International Journal of Thermophysics, 2010, 31, 1779-1788.	2.1	60
6	Preparative Steps Towards the New Definition of the Kelvin in Terms of the Boltzmann Constant. International Journal of Thermophysics, 2007, 28, 1753-1765.	2.1	58
7	The kelvin redefinition and its <i>mise en pratique</i> . Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2016, 374, 20150037.	3.4	54
8	The Boltzmann project. Metrologia, 2018, 55, R1-R20.	1.2	49
9	Thermodynamic temperature determinations of Co-C, Pd-C, Pt-C and Ru-C eutectic fixed-point cells. Metrologia, 2006, 43, S78-S83.	1.2	47
10	Thermal symmetry of healthy feet: a precursor to a thermal study of diabetic feet prior to skin breakdown. Physiological Measurement, 2017, 38, 33-44.	2.1	41
11	Twelve years of high temperature fixed point research: A review. AIP Conference Proceedings, 2013, , .	0.4	39
12	The kelvin redefined. Measurement Science and Technology, 2018, 29, 022001.	2.6	36
13	Reliability of a novel thermal imaging system for temperature assessment of healthy feet. Journal of Foot and Ankle Research, 2018, 11, 22.	1.9	35
14	The Roles of the Mise en Pratique for the Definition of the Kelvin. International Journal of Thermophysics, 2010, 31, 1795-1808.	2.1	34
15	Evaluation of methods for characterizing the melting curves of a high temperature cobalt-carbon fixed point to define and determine its melting temperature. Metrologia, 2012, 49, 189-199.	1.2	33
16	High-quality blackbody sources for infrared thermometry and thermography between 40 and 1000°C. Imaging Science Journal, 2000, 48, 15-22.	0.5	32
17	Comparison of non-contact infrared skin thermometers. Journal of Medical Engineering and Technology, 2018, 42, 65-71.	1.4	31
18	Evaluation of the Pd-C eutectic fixed point and the Pt/Pd thermocouple. Metrologia, 2009, 46, 473-479.	1.2	29

#	ARTICLE	IF	CITATIONS
19	An International Study of the Long-Term Stability of Metalâ€“Carbon Eutectic Cells. International Journal of Thermophysics, 2011, 32, 1786-1799.	2.1	29
20	The Euramet Metrology Research Programme Project Implementing the New Kelvin (InK). International Journal of Thermophysics, 2014, 35, 405-416.	2.1	28
21	Progress towards the determination of thermodynamic temperature with ultra-low uncertainty. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2016, 374, 20150046.	3.4	27
22	In-Field-of-View Thermal Image Calibration System for Medical Thermography Applications. International Journal of Thermophysics, 2008, 29, 1123-1130.	2.1	26
23	Report of a Consensus Meeting on Human Brain Temperature After Severe Traumatic Brain Injury: Its Measurement and Management During Pyrexia. Frontiers in Neurology, 2010, 1, 146.	2.4	26
24	Estimates of the difference between thermodynamic temperature and the International Temperature Scale of 1990 in the range 118 K to 303 K. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2016, 374, 20150048.	3.4	26
25	The equilibrium liquidus temperatures of rheniumâ€“carbon, platinumâ€“carbon and cobaltâ€“carbon eutectic alloys. Metrologia, 2017, 54, 390-398.	1.2	25
26	Uncertainty Budgets for Realization of ITS-90 by Radiation Thermometry. AIP Conference Proceedings, 2003, , .	0.4	24
27	Correction of NPL-2013 estimate of the Boltzmann constant for argon isotopic composition and thermal conductivity. Metrologia, 2015, 52, S353-S363.	1.2	24
28	Traceability and calibration in temperature measurement: a clinical necessity. Journal of Medical Engineering and Technology, 2006, 30, 212-217.	1.4	23
29	Primary Radiometry for the Mise-en-Pratique for the Definition of the Kelvin: The Hybrid Method. International Journal of Thermophysics, 2011, 32, 1-11.	2.1	23
30	Evaluation and Selection of High-Temperature Fixed-Point Cells for Thermodynamic Temperature Assignment. International Journal of Thermophysics, 2015, 36, 1834-1847.	2.1	23
31	Thermodynamic temperature by primary radiometry. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2016, 374, 20150041.	3.4	23
32	Calibration and validation of thermal imagers. Quantitative InfraRed Thermography Journal, 2009, 6, 133-147.	4.2	22
33	Re-estimation of argon isotope ratios leading to a revised estimate of the Boltzmann constant. Metrologia, 2017, 54, 683-692.	1.2	22
34	Further Estimates of $(T - T_{90})$ Close to the Triple Point of Water. International Journal of Thermophysics, 2017, 38, 1.	2.1	21
35	A Comparison of the ITS-90 Among NPL, NIM, and CEM, Above the Silver Point Using High-Temperature Fixed Points. International Journal of Thermophysics, 2010, 31, 1466-1476.	2.1	19
36	Infrared thermography and ulcer prevention in the highâ€“risk diabetic foot: data from a singleâ€“blind multicentre controlled clinical trial. Diabetic Medicine, 2020, 37, 95-104.	2.3	19

#	ARTICLE	IF	CITATIONS
37	A medical thermal imaging device for the prevention of diabetic foot ulceration. <i>Physiological Measurement</i> , 2017, 38, 420-430.	2.1	17
38	Imaging phosphor thermometry from $20\text{ }^{\circ}\text{C}$ to $450\text{ }^{\circ}\text{C}$ using the time-domain intensity ratio technique. <i>Measurement Science and Technology</i> , 2019, 30, 044002.	2.6	17
39	Calculation of the Temperature Drop for High-Temperature Fixed Points for Different Furnace Conditions. <i>International Journal of Thermophysics</i> , 2011, 32, 1773-1785.	2.1	15
40	High-precision calibration of MRS thermometry using validated temperature standards: effects of ionic strength and protein content on the calibration. <i>NMR in Biomedicine</i> , 2013, 26, 213-223.	2.8	15
41	Emerging technologies in the field of thermometry. <i>Measurement Science and Technology</i> , 2022, 33, 092001.	2.6	15
42	A Roadmap for Thermal Metrology. <i>International Journal of Thermophysics</i> , 2009, 30, 1-8.	2.1	14
43	International comparison of radiation temperature scales among five national metrological laboratories using a transfer radiation thermometer. <i>Metrologia</i> , 1996, 33, 241-248.	1.2	13
44	Progress report for the CCT-WG5 high temperature fixed point research plan. <i>AIP Conference Proceedings</i> , 2013, , .	0.4	13
45	Dissemination of thermodynamic temperature above the freezing point of silver. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2016, 374, 20150043.	3.4	13
46	Summary of achievements of the European Metrology Research Programme Project "Implementing the new Kelvin (lnK 1)". <i>Measurement: Journal of the International Measurement Confederation</i> , 2016, 94, 149-156.	5.0	13
47	Estimation of the degree of equivalence of the ITS-90 above the silver point between NPL, NIM and CEM using high temperature fixed points. <i>Metrologia</i> , 2011, 48, 196-200.	1.2	12
48	Self-validating type C thermocouples to $2300\text{ }^{\circ}\text{C}$ using high temperature fixed points. , 2013, , .		12
49	HiTeMS: A project to solve high temperature measurement problems in industry. , 2013, , .		12
50	Comparison of the ITS-90 using a transfer standard infrared radiation thermometer between seven EU national metrological institutes. <i>Metrologia</i> , 1996, 33, 197-206.	1.2	11
51	Phosphor thermometry for nuclear decommissioning and waste storage. <i>Nuclear Engineering and Design</i> , 2021, 375, 111091.	1.7	11
52	Optimizing the Implementation of High-Temperature Fixed Points through the Use of Thermal Modeling. <i>International Journal of Thermophysics</i> , 2008, 29, 261-270.	2.1	10
53	Reliability issues in human brain temperature measurement. <i>Critical Care</i> , 2009, 13, R106.	5.8	10
54	MRS thermometry calibration at $3\text{ }^{\circ}\text{T}$: effects of protein, ionic concentration and magnetic field strength. <i>NMR in Biomedicine</i> , 2015, 28, 792-800.	2.8	10

#	ARTICLE	IF	CITATIONS
55	Investigation of the furnace effect in cobalt-carbon high-temperature fixed-point cells. Measurement: Journal of the International Measurement Confederation, 2017, 106, 88-94.	5.0	10
56	Comparative Study of Pt/Pd and Pt/Rh/Pt Thermocouples. International Journal of Thermophysics, 2010, 31, 1506-1516.	2.1	9
57	Temperature effects of imperfectly formed metal-ingots in high temperature fixed point crucibles. Measurement: Journal of the International Measurement Confederation, 2011, 44, 738-742.	5.0	9
58	Thermodynamic Temperatures of High-Temperature Fixed Points: Uncertainties Due to Temperature Drop and Emissivity. International Journal of Thermophysics, 2014, 35, 1341-1352.	2.1	9
59	A European Roadmap for Thermometry. International Journal of Thermophysics, 2014, 35, 385.	2.1	9
60	Furnace uniformity effects on Re/C fixed-point melting plateaux. Metrologia, 2009, 46, 33-42.	1.2	8
61	Compatibility of Materials for Use at High Temperatures with W/Re Thermocouples. International Journal of Thermophysics, 2014, 35, 1202-1214.	2.1	8
62	On the Influence of the Furnace and Cell Conditions on the Phase Transition of the Eutectic Co/C. International Journal of Thermophysics, 2015, 36, 1859-1887.	2.1	8
63	Integrated self-validating thermocouples with a reference temperature up to 1329 Å°C. Measurement Science and Technology, 2018, 29, 105002.	2.6	8
64	Is current body temperature measurement practice fit-for-purpose?. Journal of Medical Engineering and Technology, 2021, 45, 136-144.	1.4	8
65	Construction of high-temperature fixed-point cells for thermodynamic temperature assignment. , 2013, , ,		7
66	Miniature Fixed-Point Cell Approaches for In-Situ Monitoring of Thermocouple Stability. International Journal of Thermophysics, 2014, 35, 1223-1238.	2.1	7
67	On the Correction of the Melting Curve of the Eutectic Co/C for the Effect of the Thermal Inertia of the Furnace. International Journal of Thermophysics, 2016, 37, 1.	2.1	7
68	Towards implementing the new kelvin. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2016, 374, 20150053.	3.4	6
69	The European Metrology Programme for Innovation and Research project: Implementing the new kelvin 2 (InK2). Journal of Physics: Conference Series, 2018, 1065, 122002.	0.4	6
70	Thermometry of intermediate level waste containers using phosphor thermometry and thermal imaging. Measurement: Journal of the International Measurement Confederation, 2019, 132, 207-212.	5.0	6
71	On the uncertainties in the realization of the kelvin based on thermodynamic temperatures of high-temperature fixed-point cells. Metrologia, 2021, 58, 035007.	1.2	6
72	Methodologies and uncertainty estimates for T = T 90 measurements over the temperature range from 430 K to 1358 K under the auspices of the EMPIR InK2 project. Measurement Science and Technology, 0, , .	2.6	6

#	ARTICLE	IF	CITATIONS
73	Optimizing Contact Thermometry High-Temperature Fixed-Point Cells ($\hat{A}>\hat{A}1,100\hat{A}\hat{A}^{\circ}\text{C}$) Using Finite-Element Analysis. International Journal of Thermophysics, 2008, 29, 250-260.	2.1	5
74	The IMERAPlus joint research project for determinations of the Boltzmann constant. , 2013, , .		5
75	Towards the development of high temperature comparison artifacts for radiation thermometry. , 2013, , .		5
76	Proposed Process for Estimating Definitive Temperatures of High-Temperature Fixed Points. International Journal of Thermophysics, 2015, 36, 347-366.	2.1	5
77	Between visit variability of thermal imaging of feet in people attending podiatric clinics with diabetic neuropathy at high risk of developing foot ulcers. Physiological Measurement, 2019, 40, 084004.	2.1	5
78	New kelvin dissemination workshop held at NPL on 27 th –28 October 2010. Metrologia, 2011, 48, 68-69.	1.2	4
79	Bilateral ITS-90 comparison at WC-C peritectic fixed point between NIM and NPL. , 2013, , .		4
80	Size-of-Source Effect Sensitivities in Radiometers. International Journal of Thermophysics, 2014, 35, 1391-1400.	2.1	4
81	Development of High-Temperature Fixed Points of Unknown Temperature Suitable for Key Comparisons. International Journal of Thermophysics, 2014, 35, 467-474.	2.1	4
82	Bilateral Comparison Between NPL and INMETRO Using a High-Temperature Fixed Point of Unknown Temperature. International Journal of Thermophysics, 2015, 36, 327-335.	2.1	4
83	Stability of cobalt ⁶⁰ carbon high temperature fixed points doped with iron and platinum. Metrologia, 2015, 52, 353-359.	1.2	4
84	Potential for improved radiation thermometry measurement uncertainty through implementing a primary scale in an industrial laboratory. Measurement Science and Technology, 2016, 27, 094002.	2.6	4
85	Novel thermometry approaches to facilitate safe and effective monitoring of nuclear material containers. Nuclear Engineering and Design, 2021, 371, 110939.	1.7	4
86	Design, construction and traceable calibration of a phosphor-based fibre-optic thermometer from 0 $\hat{A}^{\circ}\text{C}$ to 650 $\hat{A}^{\circ}\text{C}$. Measurement Science and Technology, 2021, 32, 094004.	2.6	4
87	Toward Gamma Ray Immune Fibre-Optic Phosphor Thermometry for Nuclear Decommissioning. International Journal of Thermophysics, 2022, 43, 1.	2.1	4
88	Infrared ear thermometers versus rectal thermometers. Lancet, The, 2002, 360, 1882-1883.	18.7	3
89	Manufacturing of MC Eutectics and Reproducibility of Pt-C Eutectic Fixed Points using a Thermogauge Furnace. International Journal of Thermophysics, 2009, 30, 59-68.	2.1	3
90	The Use of Thermowell Bushes at the Triple Point of Water for Improving Repeatability. International Journal of Thermophysics, 2010, 31, 1438-1443.	2.1	3

#	ARTICLE	IF	CITATIONS
91	A systematic performance evaluation of brain and body temperature sensors using ultra-stable temperature references. <i>Journal of Medical Engineering and Technology</i> , 2010, 34, 192-199.	1.4	3
92	Improvements in the measurement of the immersion profile of water triple points using bushes. <i>Measurement Techniques</i> , 2012, 55, 442-447.	0.6	3
93	Assigning thermodynamic temperatures to high-temperature fixed-points. , 2013, , .		3
94	Comparison of extrapolated and interpolated temperature scales from 1000Â°C to 2500Â°C between a national measurement institute and an ISO17025 accredited calibration laboratory. <i>Measurement: Journal of the International Measurement Confederation</i> , 2015, 76, 129-135.	5.0	3
95	Long-Term Stability Evaluation of a Sn-Doped Niâ€C Eutectic Cell Suitable for Radiation Thermometry. <i>International Journal of Thermophysics</i> , 2017, 38, 1.	2.1	3
96	New blackbody standard for the evaluation and calibration of tympanic ear thermometers at the NPL, United Kingdom. , 2004, , .		2
97	Investigations at INRIM on a Pdâ€C cell manufactured by NPL. <i>Metrologia</i> , 2011, 48, 241-245.	1.2	2
98	Development of a new radiometer for the thermodynamic measurement of high temperature fixed points. <i>AIP Conference Proceedings</i> , 2013, , .	0.4	2
99	Response to Macnaughtonâ€™s â€Comment on â€œA low-uncertainty measurement of the Boltzmann constantâ€™. <i>Metrologia</i> , 2016, 53, 116-122.	1.2	2
100	Thermodynamic measurements of Zn and Al freezing temperatures using an InGaAs-based, near-infrared radiation thermometer 3 (NIRT3). <i>Journal of Physics: Conference Series</i> , 2018, 1065, 122023.	0.4	2
101	Focus collection on Thermal Imaging in Medicine. <i>Physiological Measurement</i> , 2019, 40, 100301.	2.1	2
102	Essential Measurement. <i>Measurement and Control</i> , 2013, 46, 90-96.	1.8	1
103	Towards implementing the new kelvin. <i>Measurement: Journal of the International Measurement Confederation</i> , 2015, 74, 113-115.	5.0	1
104	NPL contributions to the standardisation and validation of contemporary medical thermometry methods. <i>Physiological Measurement</i> , 2019, 40, 05TR01.	2.1	1
105	Improved radiation thermometry measurement uncertainty through implementing a primary scale in an industrial laboratory. , 2015, , .		1
106	Traceable radiation thermometer calibration to ITS-90 above the silver point at the National Physical Laboratory. , 2015, , .		1
107	Chapter 2 Temperature Fundamentals. <i>Experimental Methods in the Physical Sciences</i> , 2009, 42, 29-71.	0.1	0
108	Step change improvements in high-temperature thermocouple thermometry. , 2012, , .		0

#	ARTICLE	IF	CITATIONS
109	Investigation of ternary and quaternary high-temperature fixed-point cells, based on platinum-carbon-X, as blind comparison artefacts. Measurement Science and Technology, 2016, 27, 115010.	2.6	0
110	Experimental assessment of methods of dissemination of the thermodynamic temperature at the highest temperatures. , 2015, , .		0
111	New Paradigms in Traceable Process Control Thermometry. , 2022, , .		0