

Matti MÄäntysalo

List of Publications by Year in descending order

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107
papers

2,893
citations

218381

26
h-index

189595

50
g-index

107
all docs

107
docs citations

107
times ranked

3373
citing authors

#	ARTICLE	IF	CITATIONS
1	A Health-IoT Platform Based on the Integration of Intelligent Packaging, Unobtrusive Bio-Sensor, and Intelligent Medicine Box. IEEE Transactions on Industrial Informatics, 2014, 10, 2180-2191.	7.2	548
2	Inkjet-Printed Graphene/PEDOT:PSS Temperature Sensors on a Skin-Conformable Polyurethane Substrate. Scientific Reports, 2016, 6, 35289.	1.6	253
3	Alternative sintering methods compared to conventional thermal sintering for inkjet printed silver nanoparticle ink. Thin Solid Films, 2014, 556, 452-459.	0.8	154
4	Screen-Printing Fabrication and Characterization of Stretchable Electronics. Scientific Reports, 2016, 6, 25784.	1.6	151
5	Comparison of laser and intense pulsed light sintering (IPL) for inkjet-printed copper nanoparticle layers. Scientific Reports, 2015, 5, 8832.	1.6	142
6	Low temperature nanoparticle sintering with continuous wave and pulse lasers. Optics and Laser Technology, 2011, 43, 570-576.	2.2	97
7	Screen-Printed Curvature Sensors for Soft Robots. IEEE Sensors Journal, 2018, 18, 223-230.	2.4	70
8	An inkjet-deposited antenna for 2.4 GHz applications. AEU - International Journal of Electronics and Communications, 2009, 63, 31-35.	1.7	67
9	Inkjet printed System-in-Package design and manufacturing. Microelectronics Journal, 2008, 39, 1740-1750.	1.1	59
10	Bio-Patch Design and Implementation Based on a Low-Power System-on-Chip and Paper-Based Inkjet Printing Technology. IEEE Transactions on Information Technology in Biomedicine, 2012, 16, 1043-1050.	3.6	58
11	Oven Sintering Process Optimization for Inkjet-Printed Ag Nanoparticle Ink. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2013, 3, 350-356.	1.4	56
12	Inkjet Printable Polydimethylsiloxane for All-Inkjet-Printed Multilayered Soft Electrical Applications. ACS Applied Materials & Interfaces, 2020, 12, 11990-11997.	4.0	53
13	Non-Invasive Flexible and Stretchable Wearable Sensors With Nano-Based Enhancement for Chronic Disease Care. IEEE Reviews in Biomedical Engineering, 2019, 12, 34-71.	13.1	52
14	Drying-Mediated Self-Assembly of Graphene for Inkjet Printing of High-Rate Micro-supercapacitors. Nano-Micro Letters, 2020, 12, 40.	14.4	45
15	Evaluation of Inkjet Technology for Electronic Packaging and System Integration. , 2007, , .		43
16	Body-Worn Antennas Making a Splash: Lifejacket-Integrated Antennas for Global Search and Rescue Satellite System. IEEE Antennas and Propagation Magazine, 2013, 55, 324-341.	1.2	43
17	Electrical performance and reliability evaluation of inkjet-printed Ag interconnections on paper substrates. Materials Letters, 2012, 88, 68-72.	1.3	40
18	Utilizing inkjet printing to fabricate electrical interconnections in a system-in-package. Microelectronic Engineering, 2010, 87, 2382-2390.	1.1	38

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19	Heterogeneous Integration of Bio-Sensing System-on-Chip and Printed Electronics. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2012, 2, 672-682.	2.7	35
20	Electrical Performance Characterization of an Inkjet-Printed Flexible Circuit in a Mobile Application. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2013, 3, 1604-1610.	1.4	35
21	Integration of f-MWCNT Sensor and Printed Circuits on Paper Substrate. IEEE Sensors Journal, 2013, 13, 3948-3956.	2.4	33
22	Capability of inkjet technology in electronics manufacturing. , 2009, , .		31
23	RF Design for Inkjet Technology: Antenna Geometries and Layer Thickness Optimization. IEEE Antennas and Wireless Propagation Letters, 2012, 11, 188-191.	2.4	30
24	The Effect of Laser Sintering Process Parameters on Cu Nanoparticle Ink in Room Conditions. Optics and Photonics Journal, 2013, 03, 40-44.	0.3	30
25	Reliability of ICA attachment of SMDs on inkjet-printed substrates. Microelectronics Reliability, 2012, 52, 2709-2715.	0.9	29
26	Environmental protection of inkjet-printed Ag conductors. Microelectronic Engineering, 2011, 88, 2970-2976.	1.1	28
27	Evaluation of Aerosol, Superfine Inkjet, and Photolithography Printing Techniques for Metallization of Application Specific Printed Electronic Circuits. IEEE Transactions on Electron Devices, 2016, 63, 1246-1253.	1.6	28
28	Inkjet printing technology for increasing the I/O density of 3D TSV interposers. Microsystems and Nanoengineering, 2017, 3, 17002.	3.4	28
29	Dynamic bending test analysis of inkjet-printed conductors on flexible substrates. , 2012, , .		24
30	Combination of E-Jet and Inkjet Printing for Additive Fabrication of Multilayer High-Density RDL of Silicon Interposer. IEEE Transactions on Electron Devices, 2017, 64, 1217-1224.	1.6	23
31	A Fully Printed Ultra-Thin Charge Amplifier for On-Skin Biosignal Measurements. IEEE Journal of the Electron Devices Society, 2019, 7, 566-574.	1.2	23
32	System integration of smart packages using printed electronics. , 2012, , .		21
33	Inkjet printing in manufacturing of stretchable interconnects. , 2014, , .		19
34	Validation of Printed, Skin-Mounted Multilead Electrode for ECG Measurements. Advanced Materials Technologies, 2019, 4, 1900246.	3.0	19
35	Inkjetting dielectric layer for electronic applications. Microelectronic Engineering, 2010, 87, 1984-1991.	1.1	18
36	Evaluation of Printed P(VDF-TrFE) Pressure Sensor Signal Quality in Arterial Pulse Wave Measurement. IEEE Sensors Journal, 2019, 19, 11072-11080.	2.4	18

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37	Self-Powered, Ultrathin, and Transparent Printed Pressure Sensor for Biosignal Monitoring. ACS Applied Electronic Materials, 2021, 3, 4362-4375.	2.0	18
38	Comparison of simple algorithms for estimating respiration rate from electrical impedance pneumography signals in wearable devices. Health and Technology, 2017, 7, 21-31.	2.1	16
39	Electrical Contacts in SOI MEMS Using Aerosol Jet Printing. IEEE Journal of the Electron Devices Society, 2018, 6, 34-40.	1.2	16
40	An improved exponential model for charge and discharge behavior of printed supercapacitor modules under varying load conditions. Journal of Power Sources, 2022, 535, 231475.	4.0	16
41	Reliability of SMD interconnections on flexible low-temperature substrates with inkjet-printed conductors. Microelectronics Reliability, 2014, 54, 272-280.	0.9	15
42	Formulation, printing, and poling method for piezoelectric films based on PVDF/TrFE. Journal of Applied Physics, 2020, 128, .	1.1	15
43	The Effect of Encapsulation Geometry on the Performance of Stretchable Interconnects. Micromachines, 2018, 9, 645.	1.4	14
44	Sintering of printed nanoparticle structures using laser treatment. , 2009, , .		13
45	Geometry Analysis in Screen-Printed Stretchable Interconnects. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2018, 8, 1344-1352.	1.4	13
46	Bending reliability of screen-printed vias for a flexible energy module. Npj Flexible Electronics, 2020, 4, .	5.1	13
47	Failure Mechanisms in Flip-Chip Bonding on Stretchable Printed Electronics. Advanced Engineering Materials, 2021, 23, 2100264.	1.6	12
48	Inkjet-Printed RF Structures on BST-Polymer Composites: An Application of a Monopole Antenna for 2.4-GHz Wireless Local Area Network Operation. International Journal of Applied Ceramic Technology, 2011, 8, 940-946.	1.1	11
49	Inkjet filling of TSVs with silver nanoparticle ink. , 2014, , .		11
50	Fully Integrated Wireless Elastic Wearable Systems for Health Monitoring Applications. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2021, 11, 1022-1027.	1.4	11
51	Controlling warpage of molded package for inkjet manufacturing. Microelectron Engineering, 2008, 85, 518-526.	1.1	10
52	Characterization of Laser Sintering of Copper Nanoparticle Ink by FEM and Experimental Testing. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2014, 4, 2018-2025.	1.4	10
53	Metallization of high density TSVs using super inkjet technology. , 2015, , .		10
54	Printed, skin-mounted hybrid system for ECG measurements. , 2016, , .		10

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55	Inkjet printed metallic micropillars for bare die flip-chip bonding. Flexible and Printed Electronics, 2017, 2, 045005.	1.5	10
56	Inkjet-Printed, Nanofiber-Based Soft Capacitive Pressure Sensors for Tactile Sensing. IEEE Sensors Journal, 2021, 21, 26286-26293.	2.4	10
57	Capability Assessment of Inkjet Printing for Reliable RFID Applications. IEEE Transactions on Device and Materials Reliability, 2017, 17, 281-290.	1.5	10
58	Surface energy patterning for inkjet printing in device fabrication. , 2009, , .		9
59	Inkjet printed wireless biosensors on stretchable substrate. , 2014, , .		9
60	Effect of Different ECG Leads on Estimated Râ€“R Intervals and Heart Rate Variability Parameters. , 2019, 2019, 3786-3790.		9
61	Screen Printed Vias for a Flexible Energy Harvesting and Storage Module. , 2018, , .		8
62	High Resolution E-Jet Printed Temperature Sensor on Artificial Skin. IFMBE Proceedings, 2018, , 839-842.	0.2	8
63	Functional fluid jetting performance optimization. Microelectronics Reliability, 2010, 50, 864-871.	0.9	7
64	Inkjet printed flexible user interface module. , 2012, , .		7
65	Integration of inkjet and RF SoC technologies to fabricate wireless physiological monitoring system. , 2014, , .		7
66	Evaluation of screen printed silver trace performance and long-term reliability against environmental stress on a low surface energy substrate. Microelectronics Reliability, 2018, 86, 54-65.	0.9	7
67	Impedance plethysmography-based method in the assessment of subclinical atherosclerosis. Atherosclerosis, 2021, 319, 101-107.	0.4	7
68	A system-on-chip and paper-based inkjet printed electrodes for a hybrid wearable bio-sensing system. , 2012, 2012, 5026-9.		6
69	Inkjet printed nano-particle Cu process for fabrication of re-distribution layers on silicon wafer. , 2014, , .		6
70	Inkjet printed single layer high-density circuitry for a MEMS device. , 2015, , .		6
71	Soft actuators with screen-printed curvature sensors. , 2017, , .		6
72	Printed Flexible Microelectrode for Application of Nanosecond Pulsed Electric Fields on Cells. Materials, 2019, 12, 2713.	1.3	6

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73	Inkjet printing, laser-based micromachining, and micro 3D printing technologies for MEMS. , 2020, , 531-545.		6
74	Optimal Short Distance Electrode Locations for Impedance Pneumography Measurement from the Frontal Thoracic Area. IFMBE Proceedings, 2016, , 1144-1149.	0.2	5
75	Characterization of ICA attachment of SMD on inkjet-printed substrates. , 2010, , .		4
76	FAILURE MODE CHARACTERIZATION IN INKJET-PRINTED CPW LINES UTILIZING A HIGH-FREQUENCY NETWORK ANALYZER AND POST-PROCESSED TDR ANALYSIS. Progress in Electromagnetics Research C, 2013, 43, 1-14.	0.6	4
77	Lifetime and reliability of flexible aqueous supercapacitors: constant voltage floating and bending experiments. , 2018, , .		4
78	Mechanically driven strategies to improve electromechanical behaviour of printed stretchable electronic systems. Scientific Reports, 2020, 10, 12037.	1.6	4
79	All Printed Flexible Piezoelectric Pressure Sensor with Interdigitated Electrodes. , 2020, , .		4
80	Effect of Electrode Structure on the Performance of Fully Printed Piezoelectric Energy Harvesters. , 2022, 1, 24-31.		4
81	High-frequency characterization and simulation of conductor loss in printable electronics technology. , 2007, , .		3
82	Electrical and humidity-sensing characterization of inkjet-printed multi-walled carbon nanotubes for smart packaging. , 2013, , .		3
83	Inkjet Printing, Laser-Based Micromachining and Micro 3D Printing Technologies for MEMS. , 2015, , 550-564.		3
84	RF measurements to pinpoint defects in inkjet-printed, thermally and mechanically stressed coplanar waveguides. Microelectronics Reliability, 2016, 65, 142-150.	0.9	3
85	Fabrication and characterization of screen printed stretchable carbon interconnects. , 2017, , .		3
86	Screen Printed Temporary Tattoos for Skin-Mounted Electronics. , 2019, , .		3
87	Improvements in the electromechanical properties of stretchable interconnects by locally tuning the stiffness. Flexible and Printed Electronics, 2020, 5, 015004.	1.5	3
88	Fully Printed Unobtrusive and Skin-conformable Piezoelectric Energy Harvester. , 2021, , .		3
89	Deformability Analysis and Improvement in Stretchable Electronics Systems Through Finite Element Analysis. Lecture Notes in Mechanical Engineering, 2020, , 755-763.	0.3	3
90	Assessment of a Cyclic Bending Test Method for Printed Flexible Supercapacitor. , 2022, , .		3

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91	High density R2R screen printed silver interconnections for hybrid system integration. , 2016, , .		2
92	Screen-Printed Stretchable Interconnects. , 2016, , .		2
93	Chip-by-chip configurable interconnection using digital printing techniques. Journal of Micromechanics and Microengineering, 2017, 27, 045009.	1.5	2
94	Unobtrusive, Lowâ€œCost Outâ€œofâ€œHospital, and Inâ€œHospital Measurement and Monitoring System. Advanced Intelligent Systems, 2021, 3, 2000030.	3.3	2
95	Rolling reliability of polyurethane and polyurethane-acrylic ICAs interconnections on printed stretchable electronics. Microelectronics Reliability, 2021, 119, 114067.	0.9	2
96	Inkjettable, polydimethylsiloxane based soft electronics. , 2020, , .		2
97	The effect of sintering profile and printed layer variations with inkjet-printed large-area applications. , 2012, , .		1
98	Electrode Comparison for Textile-Integrated Electrocardiogram and Impedance Pneumography Measurement. IFMBE Proceedings, 2018, , 302-305.	0.2	1
99	Printed soft-electronics for remote body monitoring. , 2017, , .		1
100	Inkjet-printed wireless epidermal electronics. , 2015, , .		0
101	Testing and modeling the performance of stretchable screen printed UHF RFID tag under strain. , 2016, , .		0
102	Benchmark study of screen printable silver inks on a PPE based substrate. , 2017, , .		0
103	Processing of printed silver patterns on an ETFE substrate. , 2018, , .		0
104	Analysis of Embedded Baluns in 3D Packages. Journal of Microelectronics and Electronic Packaging, 2006, 3, 201-208.	0.8	0
105	High-Resolution E-Jet Enhanced MEMS Packaging. ECS Meeting Abstracts, 2018, , .	0.0	0
106	Design of Thin, High Permittivity, Multiband, Monopole-Like Antennas. , 2020, , .		0
107	Flexible Polymer Rectifying Diode on Plastic Foils with MoO₃ Hole Injection. , 2022, , .		0