

Maurizio valle

List of Publications by Year in descending order

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181
papers

4,316
citations

279701

23
h-index

143943

57
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186
all docs

186
docs citations

186
times ranked

3469
citing authors

#	ARTICLE	IF	CITATIONS
1	A Novel Tactile Sensing System for Robotic Tactile Perception of Object Properties. Lecture Notes in Electrical Engineering, 2023, , 182-187.	0.3	2
2	A Novel Learning Strategy for the Trade-Off Between Accuracy and Computational Cost: A Touch Modalities Classification Case Study. IEEE Sensors Journal, 2022, 22, 659-670.	2.4	14
3	A Convolutional Neural Network-Based Method for Discriminating Shadowed Targets in Frequency-Modulated Continuous-Wave Radar Systems. Sensors, 2022, 22, 1048.	2.1	3
4	Approximate Computing Circuits for Embedded Tactile Data Processing. Electronics (Switzerland), 2022, 11, 190.	1.8	0
5	Convolutional Neural Networks Based Tactile Object Recognition for Tactile Sensing System. Lecture Notes in Electrical Engineering, 2022, , 280-285.	0.3	3
6	Full-hand electrotactile feedback using electronic skin and matrix electrodes for high-bandwidth human-machine interfacing. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2022, 380, .	1.6	4
7	Tactile Classification of Object Materials for Virtual Reality based Robot Teleoperation. , 2022, , .		3
8	An Efficient Selection-Based kNN Architecture for Smart Embedded Hardware Accelerators. IEEE Open Journal of Circuits and Systems, 2021, 2, 534-545.	1.4	10
9	Embedded Electrotactile Feedback System for Hand Prostheses Using Matrix Electrode and Electronic Skin. IEEE Transactions on Biomedical Circuits and Systems, 2021, 15, 912-925.	2.7	15
10	Algorithmic-Level Approximate Tensorial SVM Using High-Level Synthesis on FPGA. Electronics (Switzerland), 2021, 10, 205.	1.8	14
11	Touch Modality Classification Using Recurrent Neural Networks. IEEE Sensors Journal, 2021, 21, 9983-9993.	2.4	15
12	Efficient Machine Learning Algorithm for Embedded Tactile Data Processing. , 2021, , .		2
13	Efficient FPGA Implementation of Approximate Singular Value Decomposition based on Shallow Neural Networks. , 2021, , .		2
14	A Shallow Neural Network for Real-Time Embedded Machine Learning for Tensorial Tactile Data Processing. IEEE Transactions on Circuits and Systems I: Regular Papers, 2021, 68, 4232-4244.	3.5	2
15	Novel Wearable Tactile Feedback System for post-stroke Rehabilitation. , 2021, , .		2
16	Hybrid Fixed-point/Binary Convolutional Neural Network Accelerator for Real-time Tactile Processing. , 2021, , .		2
17	Touch Modality Classification using Spiking Neural Networks and Supervised-STDP Learning. , 2021, , .		5
18	1-D Convolutional Neural Networks for Touch Modalities Classification. , 2021, , .		9

#	ARTICLE	IF	CITATIONS
19	Dual-Parameter Modulation Improves Stimulus Localization in Multichannel Electrotactile Stimulation. IEEE Transactions on Haptics, 2020, 13, 393-403.	1.8	13
20	Virtual Reality based Telerobotics Framework with Depth Cameras. , 2020, , .		15
21	Introduction to the Special Issue on the 2nd IEEE International Conference on Artificial Intelligence Circuits and Systems (AICAS 2020). IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2020, 10, 403-405.	2.7	1
22	Editorial of Special Issue "Tactile Sensing Technology and Systems". Micromachines, 2020, 11, 506.	1.4	0
23	Temporal Asynchrony but Not Total Energy Nor Duration Improves the Judgment of Numerosity in Electrotactile Stimulation. Frontiers in Bioengineering and Biotechnology, 2020, 8, 555.	2.0	8
24	Smart Tactile Sensing Systems Based on Embedded CNN Implementations. Micromachines, 2020, 11, 103.	1.4	20
25	Validation of Screen-Printed Electronic Skin Based on Piezoelectric Polymer Sensors. Sensors, 2020, 20, 1160.	2.1	16
26	Near Sensors Computation based on Embedded Machine Learning for Electronic Skin. Procedia Manufacturing, 2020, 52, 295-300.	1.9	4
27	Experimental Assessment of the Interface Electronic System for PVDF-Based Piezoelectric Tactile Sensors. Sensors, 2019, 19, 4437.	2.1	13
28	DCNN for Tactile Sensory Data Classification based on Transfer Learning. , 2019, , .		19
29	Data Oriented Approximate K-Nearest Neighbor Classifier for Touch Modality Recognition. , 2019, , .		9
30	Low Power Electronic System for Tactile Sensory Feedback for Prosthetics. Journal of Low Power Electronics, 2019, 15, 95-103.	0.6	3
31	Selected Articles from the NGCAS 2018 Conference. Journal of Low Power Electronics, 2019, 15, 27-29.	0.6	0
32	FPGA Implementation of Approximate CORDIC Circuits for Energy Efficient Applications. , 2019, , .		1
33	Guest Editorial: Special Issue on Selected Papers From IEEE ISCAS 2019. IEEE Transactions on Biomedical Circuits and Systems, 2019, 13, 1125-1127.	2.7	0
34	Introduction to the Special Issue on the 1st IEEE International Conference on Artificial Intelligence Circuits and Systems (AICAS 2019). IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2019, 9, 595-597.	2.7	1
35	Algorithmic Level Approximate Computing for Machine Learning Classifiers. , 2019, , .		7
36	Energy Efficient Implementation of Machine Learning Algorithms on Hardware Platforms. , 2019, , .		3

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37	Inexact Arithmetic Circuits for Energy Efficient IoT Sensors Data Processing. , 2018, , .		10
38	Approximate Computing Methods for Embedded Machine Learning. , 2018, , .		19
39	Tunable Floating-Point for Artificial Neural Networks. , 2018, , .		7
40	Wearable System for Sensory Substitution for Prosthetics. , 2018, , .		7
41	CMOS event-driven tactile sensor circuit. The Integration VLSI Journal, 2018, 63, 315-322.	1.3	1
42	Time-based calibration-less read-out circuit for interfacing wide range MOX gas sensors. The Integration VLSI Journal, 2018, 63, 232-239.	1.3	8
43	Experimental characterization of dedicated front-end electronics for piezoelectric tactile sensing arrays. The Integration VLSI Journal, 2018, 63, 266-272.	1.3	3
44	Tunable Floating-Point for Embedded Machine Learning Algorithms Implementation. , 2018, , .		5
45	Real-Time Embedded Machine Learning for Tensorial Tactile Data Processing. IEEE Transactions on Circuits and Systems I: Regular Papers, 2018, 65, 3897-3906.	3.5	21
46	Multi-Channel Electrotactile Stimulation System for Touch Substitution: A Case Study. , 2018, , .		5
47	An Energy Efficient E-Skin Embedded System for Real-Time Tactile Data Decoding. Journal of Low Power Electronics, 2018, 14, 101-109.	0.6	2
48	Selected Articles from the NGCAS 2017 Conference. Journal of Low Power Electronics, 2018, 14, 99-100.	0.6	0
49	Low Power Approximate Multipliers for Energy Efficient Data Processing. Journal of Low Power Electronics, 2018, 14, 110-117.	0.6	8
50	Spike-Based Readout of POSFET Tactile Sensors. IEEE Transactions on Circuits and Systems I: Regular Papers, 2017, 64, 1421-1431.	3.5	24
51	CMOS Dynamic Tactile Sensor. , 2017, , .		4
52	Improved event-driven touch CMOS sensor. , 2017, , .		0
53	Interface Electronics for Tactile Sensors Based on Piezoelectric Polymers. IEEE Sensors Journal, 2017, 17, 5937-5947.	2.4	24
54	153dB Dynamic Range Calibration-Less Gas Sensor Interface Circuit with Quasi-Digital Output. , 2017, , .		6

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55	Approximate Multipliers Based on Inexact Adders for Energy Efficient Data Processing. , 2017, , .		15
56	A System for Electrotactile Feedback Using Electronic Skin and Flexible Matrix Electrodes: Experimental Evaluation. IEEE Transactions on Haptics, 2017, 10, 162-172.	1.8	57
57	Distributed Sensing and Stimulation Systems for Sense of Touch Restoration in Prosthetics. , 2017, , .		11
58	Approximate FPGA Implementation of CORDIC for Tactile Data Processing Using Speculative Adders. , 2017, , .		10
59	Energy Efficient System for Tactile Data Decoding Using an Ultra-Low Power Parallel Platform. , 2017, , .		6
60	Interface Circuits Based on FPGA for Tactile Sensor Systems. , 2017, , .		4
61	Real-Time Digital Signal Processing Based on FPGAs for Electronic Skin Implementation â€. Sensors, 2017, 17, 558.	2.1	14
62	Approximate Computing Techniques for Low Power Implementation of Reconfigurable Coordinate Rotation Digital Computer Circuits. Journal of Low Power Electronics, 2017, 13, 196-204.	0.6	4
63	Design of Operational Transconductance Amplifiers for voltage to current conversion in gas sensing applications. , 2016, , .		1
64	Resiliency in nanometer CMOS systems: An overview. , 2016, , .		0
65	An event-driven POSFET taxel for sustained and transient sensing. , 2016, , .		9
66	Wide range resistance to current conversion circuit for resistive gas sensors applications. , 2016, , .		4
67	Embedded Electronic System Based on Dedicated Hardware DSPs for Electronic Skin Implementation. Procedia Technology, 2016, 26, 43-50.	1.1	0
68	Model-Based Simulation Framework for FlexRay Communication Systems. Journal of Circuits, Systems and Computers, 2016, 25, 1650137.	1.0	2
69	Differential R-to-I conversion circuit for gas sensing in biomedical applications. , 2016, , .		1
70	Towards the integration of e-skin into prosthetic devices. , 2016, , .		7
71	Flexible hardware architecture for the generation of ultrasound pulses in medical imaging. , 2016, , .		1
72	A high-sensitivity tactile sensor based on piezoelectric polymer PVDF coupled to an ultra-low voltage organic transistor. Organic Electronics, 2016, 36, 57-60.	1.4	80

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73	Towards integrating intelligence in electronic skin. <i>Mechatronics</i> , 2016, 34, 84-94.	2.0	24
74	High accuracy resistance to current circuit design for resistive gas sensor biomedical applications. , 2015, , .		1
75	On the Performance Degradation of Poly(3-Hexylthiophene) Field-Effect Transistors. <i>IEEE Transactions on Device and Materials Reliability</i> , 2015, 15, 342-351.	1.5	6
76	FPGA implementation of fixed point CORDIC-SVD for E-skin systems. , 2015, , .		4
77	Preliminary evaluation of the tactile feedback system based on artificial skin and electrotactile stimulation. , 2015, 2015, 4554-7.		10
78	Tactile data processing method for the reconstruction of contact force distributions. <i>Mechatronics</i> , 2015, 27, 28-37.	2.0	16
79	Indoor ranging and localisation algorithm based on received signal strength indicator using statistic parameters for wireless sensor networks. <i>IET Wireless Sensor Systems</i> , 2015, 5, 243-249.	1.3	34
80	Singular value decomposition FPGA implementation for tactile data processing. , 2015, , .		5
81	Assessment of FPGA Implementations of One Sided Jacobi Algorithm for Singular Value Decomposition. , 2015, , .		5
82	A tensor-based approach to touch modality classification by using machine learning. <i>Robotics and Autonomous Systems</i> , 2015, 63, 268-278.	3.0	37
83	Computational Intelligence Techniques for Tactile Sensing Systems. <i>Sensors</i> , 2014, 14, 10952-10976.	2.1	25
84	Tactile Sensing Chips With POSFET Array and Integrated Interface Electronics. <i>IEEE Sensors Journal</i> , 2014, 14, 3448-3457.	2.4	52
85	Towards prosthetic systems providing comprehensive tactile feedback for utility and embodiment. , 2014, , .		16
86	Tactile sensors with integrated piezoelectric polymer and low voltage organic thin-film transistors. , 2014, , .		7
87	Asynchronous, event-driven readout of POSFET devices for tactile sensing. , 2014, , .		18
88	Electronic Skin: Achievements, Issues and Trends. <i>Procedia Technology</i> , 2014, 15, 549-558.	1.1	24
89	A Tensor-Based Pattern-Recognition Framework for the Interpretation of Touch Modality in Artificial Skin Systems. <i>IEEE Sensors Journal</i> , 2014, 14, 2216-2225.	2.4	32
90	POSFET touch sensing transducers: Interface electronics design methodology based on the transconductance-to-drain-current efficiency gm/ID. <i>Sensors and Actuators A: Physical</i> , 2013, 201, 377-386.	2.0	1

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91	Integrated Tactile Sensing on Silicon. , 2013, , 139-152.		0
92	Touch Sensingâ€™Why and Where?. , 2013, , 3-12.		2
93	Robotic Tactile Sensing. , 2013, , .		180
94	Piezoelectric Polymer Transducer Arrays for Flexible Tactile Sensors. IEEE Sensors Journal, 2013, 13, 4022-4029.	2.4	106
95	POSFET tactile sensing chips using CMOS technology. , 2013, , .		11
96	Directions Toward Effective Utilization of Tactile Skin: A Review. IEEE Sensors Journal, 2013, 13, 4121-4138.	2.4	356
97	CHARGE AMPLIFIER DESIGN METHODOLOGY FOR PVDF-BASED TACTILE SENSORS. Journal of Circuits, Systems and Computers, 2013, 22, 1350066.	1.0	39
98	Human Tactile Sensing. , 2013, , 19-41.		3
99	Tactile Sensing Technologies. , 2013, , 79-136.		23
100	Real-time reconstruction of contact shapes for large area robot skin. , 2013, , .		14
101	Tactile Sensing: Definitions and Classification. , 2013, , 13-17.		8
102	POSFET lâ€™The Touch Sensing Device. , 2013, , 153-175.		0
103	POSFET IIâ€™The Tactile Sensing Chip. , 2013, , 177-194.		0
104	System Issues, Requirements and Expectations. , 2013, , 43-78.		0
105	Piezoelectric polymer transducer arrays for flexible tactile sensors. , 2012, , .		11
106	Bending response of PVDF piezoelectric sensors. , 2012, , .		1
107	Bias circuit design for POSFET based tactile sensing devices. , 2011, , .		2
108	A scheme for measuring and extracting level-1 parameter of FET device applied toward POSFET sensors array. , 2011, , .		2

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109	Interface electronics for tactile sensing arrays. , 2011, , .		4
110	Smart readout design for tactile sensing devices. , 2011, , .		4
111	Towards Tactile Sensing System on Chip for Robotic Applications. IEEE Sensors Journal, 2011, 11, 3216-3226.	2.4	126
112	An approach to realize high value resistance using PMOS device at weak inversion for POSFET sensor. , 2011, , .		1
113	Tactile-Data Classification of Contact Materials Using Computational Intelligence. IEEE Transactions on Robotics, 2011, 27, 635-639.	7.3	91
114	Guest Editorial Special Issue on Robotic Sense of Touch. , 2011, 27, 385-388.		20
115	Design and simulation of automotive communication networks: the challenges. Elektrotechnik Und Informationstechnik, 2011, 128, 228-233.	0.7	0
116	Electromechanical characterization of piezoelectric PVDF polymer films for tactile sensors in robotics applications. Sensors and Actuators A: Physical, 2011, 169, 49-58.	2.0	118
117	A generic framework for failure modes and effects analysis of automotive networks. , 2011, , .		2
118	A Systematic Development Methodology for Mixed-Mode Behavioral Models of In-Vehicle Embedded Electronic Systems. Eurasip Journal on Embedded Systems, 2010, 2010, 1-11.	1.2	2
119	POSFET devices based tactile sensing arrays. , 2010, , .		21
120	Analysis of self-powered vibration-based energy scavenging system. , 2010, , .		9
121	System verification of flexray communication networks through behavioral simulations. , 2010, , .		2
122	Tactile Sensingâ€”From Humans to Humanoids. IEEE Transactions on Robotics, 2010, 26, 1-20.	7.3	1,379
123	CMOS Implementation of POSFET Tactile Sensing Arrays with on Chip Readout. , 2010, , .		9
124	Interface electronics design for POSFET devices based tactile sensing systems. , 2010, , .		8
125	Identification and validation of a fractional order dynamic model for a piezoelectric tactile sensor. , 2010, , .		4
126	Identification and validation of a lumped parameters model for the dielectric relaxation of a piezoelectric tactile sensor. , 2010, , .		1

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127	Piezo-Polymer-FET Devices Based Tactile Sensors for Humanoid Robots. Lecture Notes in Electrical Engineering, 2010, , 369-372.	0.3	2
128	Development and characterization of touch sensing devices for robotic applications. , 2009, , .		8
129	Errata for "SPICE model for lossy piezoelectric polymers" [Feb 09 387-395]. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2009, 56, 1288-1288.	1.7	0
130	Piezoelectric polymer oxide semiconductor field effect transistor (POSFET) devices for touch sensing. , 2009, , .		9
131	Design and fabrication of posfet devices for tactile sensing. , 2009, , .		34
132	Mixed-mode behavioral model of flexray physical layer transceiver. , 2009, , .		7
133	Bio-inspired tactile sensing arrays. , 2009, , .		11
134	High abstraction level CAD tool implementation of MOS drain current models. Microelectronics Journal, 2009, 40, 1225-1234.	1.1	0
135	Low-noise low-power CMOS preamplifier for multisite extracellular neuronal recordings. Microelectronics Journal, 2009, 40, 1779-1787.	1.1	8
136	Piezoelectric oxide semiconductor field effect transistor touch sensing devices. Applied Physics Letters, 2009, 95, .	1.5	145
137	SPICE model for lossy piezoelectric polymers. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2009, 56, 387-395.	1.7	60
138	Signal-to-noise ratio evaluation for embedded wireless sensor nodes: A novel methodology. , 2009, , .		0
139	SPICE model for Piezoelectric Bender Generators. , 2009, , .		9
140	A Controller Area Network Bus Transceiver Behavioral Model for Network Design and Simulation. IEEE Transactions on Industrial Electronics, 2009, 56, 3762-3771.	5.2	35
141	Reliable Event Detectors for Constrained Resources Wireless Sensor Node Hardware. Eurasip Journal on Embedded Systems, 2009, 2009, 474903.	1.2	0
142	Experimental Analysis of Wireless Sensor Nodes Current Consumption. , 2008, , .		22
143	Wireless Sensor Networks Power-Aware Deployment. , 2008, , .		2
144	System approach: A paradigm for robotic tactile sensing. , 2008, , .		15

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145	Deposition, processing and characterization of P(VDF-TrFE) thin films for sensing applications. , 2008, , .		28
146	A Comparative Study of Various Probability Density Estimation Methods for Data Analysis. International Journal of Computational Intelligence Systems, 2008, 1, 188-201.	1.6	8
147	SPICE model of lossy piezoelectric polymers. , 2008, , .		3
148	â€œSoftâ€œ Acoustic Event Detectors for Limited Resources Platforms. , 2008, , .		0
149	EXPERIMENTAL RESULTS OF PIEZOELECTRIC BENDER GENERATORS FOR THE ENERGY SUPPLY OF SMART WIRELESS SENSORS. , 2008, , .		3
150	Modeling of lossy piezoelectric polymers in SPICE. Proceedings of SPIE, 2008, , .	0.8	1
151	A Comparative Study of Various Probability Density Estimation Methods for Data Analysis. International Journal of Computational Intelligence Systems, 2008, 1, 188.	1.6	0
152	TACTILE SENSING ARRAYS FOR HUMANOID ROBOTS USING PIEZO-POLYMER-FET DEVICES. , 2008, , .		4
153	SIGNAL PROCESSING AND ACOUSTIC EVENT DETECTION FOR WIRELESS SMART SENSORS. , 2008, , .		0
154	BATTERY CURRENT CONSUMPTION MEASUREMENT SYSTEM FOR LIFETIME ESTIMATION OF WIRELESS SENSOR NODES. , 2008, , .		0
155	A mixed-mode behavioral model of a Controller-Area-Network bus transceiver: a case study. , 2007, , .		4
156	Behavioral models of basic mixed-mode circuits: practical issues and application. , 2007, , .		7
157	POSFET Based Tactile Sensor Arrays. , 2007, , .		27
158	Evaluating Energy Consumption in Wireless Sensor Networks Applications. , 2007, , .		33
159	Tactile sensing arrays for humanoid robots. , 2007, , .		11
160	Assessment of the MAC Layer Behavior of Wireless Sensor Networks Simulators Using Experimental Testbeds. , 2007, , .		3
161	Modelling charge injection in MOS analogue switches using a compact model in a deep submicron technology. IET Circuits, Devices and Systems, 2006, 153, 269.	0.6	6
162	Integrated low noise low power interface for neural bio-potentials recording and conditioning. , 2005, , .		3

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163	A dedicated very low power analog VLSI architecture for smart adaptive systems. Applied Soft Computing Journal, 2004, 4, 206-226.	4.1	64
164	Bioelectrochemical signal monitoring of in-vitro cultured cells by means of an automated microsystem based on solid state sensor-array. Biosensors and Bioelectronics, 2003, 18, 621-626.	5.3	56
165	Analog VLSI Implementation of Artificial Neural Networks with Supervised On-Chip Learning. Analog Integrated Circuits and Signal Processing, 2002, 33, 263-287.	0.9	44
166	Stochastic Supervised Learning Algorithms with Local and Adaptive Learning Rate for Recognising Hand-Written Characters. Lecture Notes in Computer Science, 2002, , 619-624.	1.0	3
167	A current-mode two-quadrant multiplier for analogue array-based neural systems. International Journal of Electronics, 2000, 87, 407-411.	0.9	1
168	Title is missing!. Analog Integrated Circuits and Signal Processing, 1999, 18, 163-173.	0.9	7
169	Gradient descent learning algorithm for hierarchical neural networks: A case study in industrial quality. Lecture Notes in Computer Science, 1999, , 578-587.	1.0	1
170	Analysis of the behavior of a dynamic latch comparator. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 1998, 45, 294-298.	0.1	19
171	An analog VLSI implementation of a feature extractor for real time optical character recognition. IEEE Journal of Solid-State Circuits, 1998, 33, 556-564.	3.5	11
172	A hardware implementation of hierarchical Neural Networks for real-time quality control systems in industrial applications. Lecture Notes in Computer Science, 1997, , 1229-1234.	1.0	2
173	A VLSI Image Processing Architecture Dedicated to Real-Time Quality Control Analysis in an Industrial Plant. Real Time Imaging, 1996, 2, 361-371.	1.6	0
174	An experimental analog VLSI neural network with on-chip back-propagation learning. Analog Integrated Circuits and Signal Processing, 1996, 9, 231.	0.9	31
175	Feature extraction circuit for optical character recognition. Electronics Letters, 1994, 30, 769-771.	0.5	7
176	Back-Propagation Learning Algorithms for Analog VLSI Implementation. , 1994, , 35-44.		1
177	Integrated low noise preamplifier for biologic-electronics interfaces. , 0, , .		3
178	Modelling mismatch effects in CMOS translinear loops and current mode multipliers. , 0, , .		3
179	A novel current-mode very low power analog cmos four quadrant multiplier. , 0, , .		44
180	A behavioral model for the non-linear on-resistance in sample-and-hold analog switches. , 0, , .		3

#	ARTICLE	IF	CITATIONS
181	A Tactile Sensing System Based on Arrays of Piezoelectric Polymer Transducers. , 0, , .		10