Placid M Ferreira

List of Publications by Year in descending order

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PLACID M FEDDELDA

#	Article	IF	CITATIONS
1	High-resolution electrohydrodynamic jetÂprinting. Nature Materials, 2007, 6, 782-789.	13.3	1,231
2	Printed Assemblies of Inorganic Light-Emitting Diodes for Deformable and Semitransparent Displays. Science, 2009, 325, 977-981.	6.0	748
3	Ultrathin silicon solar microcells for semitransparent, mechanically flexible andÂmicroconcentrator module designs. Nature Materials, 2008, 7, 907-915.	13.3	615
4	Mechanisms, Capabilities, and Applications of Highâ€Resolution Electrohydrodynamic Jet Printing. Small, 2015, 11, 4237-4266.	5.2	437
5	Microstructured elastomeric surfaces with reversible adhesion and examples of their use in deterministic assembly by transfer printing. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 17095-17100.	3.3	356
6	Design, analysis, fabrication and testing of a parallel-kinematic micropositioning XY stage. International Journal of Machine Tools and Manufacture, 2007, 47, 946-961.	6.2	204
7	Nonlithographic Patterning and Metal-Assisted Chemical Etching for Manufacturing of Tunable Light-Emitting Silicon Nanowire Arrays. Nano Letters, 2010, 10, 1582-1588.	4.5	201
8	Computation of stiffness and stiffness bounds for parallel link manipulators. International Journal of Machine Tools and Manufacture, 1999, 39, 321-342.	6.2	190
9	Towards an in vivo biologically inspired nanofactory. Nature Nanotechnology, 2007, 2, 3-7.	15.6	172
10	Polynomial-complexity deadlock avoidance policies for sequential resource allocation systems. IEEE Transactions on Automatic Control, 1997, 42, 1344-1357.	3.6	160
11	Hierarchical patterns of three-dimensional block-copolymer films formed by electrohydrodynamic jet printing and self-assembly. Nature Nanotechnology, 2013, 8, 667-675.	15.6	157
12	A correct and scalable deadlock avoidance policy for flexible manufacturing systems. IEEE Transactions on Automation Science and Engineering, 1998, 14, 796-809.	2.4	139
13	Feed-rate optimization with jerk constraints for generating minimum-time trajectories. International Journal of Machine Tools and Manufacture, 2007, 47, 1941-1955.	6.2	137
14	Active, Programmable Elastomeric Surfaces with Tunable Adhesion for Deterministic Assembly by Transfer Printing. Advanced Functional Materials, 2012, 22, 4476-4484.	7.8	135
15	Scaling laws for jet pulsations associated with high-resolution electrohydrodynamic printing. Applied Physics Letters, 2008, 92, .	1.5	133
16	Shear-enhanced adhesiveless transfer printing for use in deterministic materials assembly. Applied Physics Letters, 2011, 98, .	1.5	127
17	Verification of form tolerances part II: Cylindricity and straightness of a median line. Precision Engineering, 1995, 17, 144-156.	1.8	122
18	Rotary ultrasonic machining for face milling of ceramics. International Journal of Machine Tools and Manufacture, 1995, 35, 1033-1046.	6.2	121

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19	Nanoscale, Electrified Liquid Jets for High-Resolution Printing of Charge. Nano Letters, 2010, 10, 584-591.	4.5	120
20	Thermal conductivity of silicon nanowire arrays with controlled roughness. Journal of Applied Physics, 2012, 112, .	1.1	120
21	Modeling of ductile-mode material removal in rotary ultrasonic machining. International Journal of Machine Tools and Manufacture, 1998, 38, 1399-1418.	6.2	119
22	Porosity control in metal-assisted chemical etching of degenerately doped silicon nanowires. Nanotechnology, 2012, 23, 305304.	1.3	118
23	Elastomer Surfaces with Directionally Dependent Adhesion Strength and Their Use in Transfer Printing with Continuous Rollâ€ŧoâ€Roll Applications. Advanced Materials, 2012, 24, 2117-2122.	11.1	115
24	Printable Singleâ€Crystal Silicon Micro/Nanoscale Ribbons, Platelets and Bars Generated from Bulk Wafers. Advanced Functional Materials, 2007, 17, 3051-3062.	7.8	114
25	Mapping the effects of positioning errors on the volumetric accuracy of five-axis CNC machine tools. International Journal of Machine Tools and Manufacture, 1993, 33, 417-437.	6.2	102
26	Laser-Driven Micro Transfer Placement of Prefabricated Microstructures. Journal of Microelectromechanical Systems, 2012, 21, 1049-1058.	1.7	95
27	Verification of form tolerances part I: Basic issues, flatness, and straightness. Precision Engineering, 1995, 17, 131-143.	1.8	93
28	An analytical quadratic model for the geometric error of a machine tool. Journal of Manufacturing Systems, 1986, 5, 51-63.	7.6	92
29	Plastic flow in rotary ultrasonic machining of ceramics. Journal of Materials Processing Technology, 1995, 48, 771-777.	3.1	92
30	An experimental investigation of rotary ultrasonic face milling. International Journal of Machine Tools and Manufacture, 1999, 39, 1327-1344.	6.2	91
31	On-Chip Inductors with Self-Rolled-Up SiN _{<i>x</i>} Nanomembrane Tubes: A Novel Design Platform for Extreme Miniaturization. Nano Letters, 2012, 12, 6283-6288.	4.5	91
32	Kinematic modeling of quasistatic errors of three-axis machining centers. International Journal of Machine Tools and Manufacture, 1994, 34, 85-100.	6.2	79
33	A SOI-MEMS-based 3-DOF planar parallel-kinematics nanopositioning stage. Sensors and Actuators A: Physical, 2008, 147, 340-351.	2.0	79
34	Title is missing!. Flexible Services and Manufacturing Journal, 1998, 10, 73-100.	0.4	73
35	A desktop electrohydrodynamic jet printing system. Mechatronics, 2010, 20, 611-616.	2.0	73
36	Design Guidelines for Deadlock-Handling Strategies in Flexible Manufacturing Systems. Flexible Services and Manufacturing Journal, 1997, 9, 5-30.	0.4	72

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37	Combined \$H _{infty}\$-Feedback Control and Iterative Learning Control Design With Application to Nanopositioning Systems. IEEE Transactions on Control Systems Technology, 2010, 18, 336-351.	3.2	72
38	Electrochemical Nanoimprinting with Solid-State Superionic Stamps. Nano Letters, 2007, 7, 446-451.	4.5	71
39	Control of high-resolution electrohydrodynamic jet printing. Control Engineering Practice, 2011, 19, 1266-1273.	3.2	71
40	A prototype printer for laser driven micro-transfer printing. Journal of Manufacturing Processes, 2012, 14, 416-424.	2.8	66
41	Thermo-mechanical modeling of laser-driven non-contact transfer printing: two-dimensional analysis. Soft Matter, 2012, 8, 7122.	1.2	64
42	Functional Protein Microarrays by Electrohydrodynamic Jet Printing. Analytical Chemistry, 2012, 84, 10012-10018.	3.2	64
43	Silicon nanowires with controlled sidewall profile and roughness fabricated by thin-film dewetting and metal-assisted chemical etching. Nanotechnology, 2013, 24, 225305.	1.3	60
44	Direct Imprinting of Porous Silicon via Metalâ€Assisted Chemical Etching. Advanced Functional Materials, 2016, 26, 2929-2939.	7.8	59
45	Sensitive detection of protein and miRNA cancer biomarkers using silicon-based photonic crystals and a resonance coupling laser scanning platform. Lab on A Chip, 2013, 13, 4053.	3.1	58
46	A novel parallel-kinematics mechanisms for integrated, multi-axis nanopositioning. Precision Engineering, 2008, 32, 7-19.	1.8	57
47	A novel monolithic piezoelectric actuated flexure-mechanism based wire clamp for microelectronic device packaging. Review of Scientific Instruments, 2015, 86, 045106.	0.6	55
48	Extreme Antiscaling Performance of Slippery Omniphobic Covalently Attached Liquids. ACS Applied Materials & Interfaces, 2020, 12, 12054-12067.	4.0	52
49	Design, fabrication and testing of a silicon-on-insulator (SOI) MEMS parallel kinematicsXYstage. Journal of Micromechanics and Microengineering, 2007, 17, 1154-1161.	1.5	48
50	Electrostatically Actuated Cantilever With SOI-MEMS Parallel Kinematic \$XY\$ Stage. Journal of Microelectromechanical Systems, 2009, 18, 641-651.	1.7	48
51	Fouling modeling and prediction approach for heat exchangers using deep learning. International Journal of Heat and Mass Transfer, 2020, 159, 120112.	2.5	47
52	Robust Control of a Parallel- Kinematic Nanopositioner. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2008, 130, .	0.9	45
53	Simultaneous actuation and displacement sensing for electrostatic drives. Journal of Micromechanics and Microengineering, 2008, 18, 035011.	1.5	43
54	Analysis of the Influence of Fixture Locator Errors on the Compliance of Work Part Features to Geometric Tolerance Specifications. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2003, 125, 609-616.	1.3	42

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55	The Use of Shape Memory Polymers for MEMS Assembly. Journal of Microelectromechanical Systems, 2016, 25, 69-77.	1.7	42
56	The Use of Shape Memory Polymers for Microassembly by Transfer Printing. Journal of Microelectromechanical Systems, 2014, 23, 1012-1014.	1.7	41
57	Device Architectures for Enhanced Photon Recycling in Thinâ€Film Multijunction Solar Cells. Advanced Energy Materials, 2015, 5, 1400919.	10.2	41
58	Generation of workpiece orientations for machining using a rule-based system. Robotics and Computer-Integrated Manufacturing, 1988, 4, 545-555.	6.1	40
59	Axisymmetric thermo-mechanical analysis of laser-driven non-contact transfer printing. International Journal of Fracture, 2012, 176, 189-194.	1.1	37
60	Heterogeneously Assembled Metamaterials and Metadevices via 3D Modular Transfer Printing. Scientific Reports, 2016, 6, 27621.	1.6	35
61	Stress focusing for controlled fracture in microelectromechanical systems. Applied Physics Letters, 2007, 90, 083110.	1.5	34
62	A novel parallel-kinematics mechanism for integrated, multi-axis nanopositioning. Precision Engineering, 2008, 32, 20-33.	1.8	33
63	High Precision Electrohydrodynamic Printing of Polymer Onto Microcantilever Sensors. IEEE Sensors Journal, 2011, 11, 2246-2253.	2.4	33
64	Optimal Budgeting of Quasistatic Machine Tool Errors. Journal of Engineering for Industry, 1994, 116, 42-53.	0.8	32
65	Flexible manufacturing system structural control and the Neighborhood Policy, part 1. Correctness and scalability. IIE Transactions, 1997, 29, 877-887.	2.1	30
66	Parameter estimation and model verification of first order quasistatic error model for three-axis machining centers. International Journal of Machine Tools and Manufacture, 1994, 34, 101-125.	6.2	28
67	An AGV routing policy reflecting the current and future state of semiconductor and LCD production lines. International Journal of Production Research, 2001, 39, 3901-3921.	4.9	27
68	Development of a high-speed 3-axis machine tool using a novel parallel-kinematics X-Y table. International Journal of Machine Tools and Manufacture, 2004, 44, 1355-1371.	6.2	26
69	Composite Structured Surfaces for Durable Dropwise Condensation. International Journal of Heat and Mass Transfer, 2020, 156, 119890.	2.5	25
70	Kinematic Analysis and Synthesis of Deterministic 3-2-1 Locator Schemes for Machining Fixtures. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2001, 123, 708-719.	1.3	24
71	Laminated micro-machine: Design and fabrication of a flexure-based Delta robot. Journal of Manufacturing Processes, 2016, 24, 370-375.	2.8	24
72	Celeritas: a coloured Petri net approach to simulation and control of flexible manufacturing systems. International Journal of Production Research, 1992, 30, 1925-1956.	4.9	22

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73	Computational approaches to compensating quasistatic errors of three-axis machining centers. International Journal of Machine Tools and Manufacture, 1994, 34, 127-145.	6.2	22
74	Electrochemical nanoimprinting of silicon. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 10264-10269.	3.3	22
75	Multi-objective optimization of peel and shear strengths in ultrasonic metal welding using machine learning-based response surface methodology. Mathematical Biosciences and Engineering, 2020, 17, 7411-7427.	1.0	22
76	A 2 Degree-of-Freedom SOI-MEMS Translation Stage With Closed-Loop Positioning. Journal of Microelectromechanical Systems, 2012, 21, 13-22.	1.7	21
77	Robust MIMO control of a parallel kinematics nano-positioner for high resolution high bandwidth tracking and repetitive tasks. , 2007, , .		20
78	Solid-state electrochemical nanoimprinting of copper. Journal of Vacuum Science & Technology B, 2007, 25, 2419-2424.	1.3	20
79	Direct metal nano-imprinting using an embossed solid electrolyte stamp. Nanotechnology, 2011, 22, 155302.	1.3	20
80	Painting and Direct Writing of Silver Nanostructures on Phosphate Glass with Electron Beam Irradiation. Advanced Functional Materials, 2015, 25, 5261-5268.	7.8	20
81	Materials-to-device design of hybrid metal-polymer heat exchanger tubes for low temperature waste heat recovery. International Journal of Heat and Mass Transfer, 2019, 143, 118497.	2.5	19
82	Auto-triangulation and auto-trilateration. Part 1. Fundamentals. Precision Engineering, 2002, 26, 237-249.	1.8	17
83	A modular-architecture controller for CNC systems based on open-source electronics. Journal of Manufacturing Systems, 2017, 44, 317-323.	7.6	17
84	High bandwidth control of precision motion instrumentation. Review of Scientific Instruments, 2008, 79, 103704.	0.6	16
85	Active Polymeric Composite Membranes for Localized Actuation and Sensing in Microtransfer Printing. Journal of Microelectromechanical Systems, 2015, 24, 1016-1028.	1.7	16
86	Optimal Placement of Fixture Clamps: Minimizing the Maximum Clamping Forces. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2002, 124, 686-694.	1.3	15
87	Optimal Placement of Fixture Clamps: Maintaining Form Closure and Independent Regions of Form Closure. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2002, 124, 676-685.	1.3	15
88	Automated micro-transfer printing with cantilevered stamps. Journal of Manufacturing Processes, 2012, 14, 90-97.	2.8	15
89	Robust Control of a MEMS Probing Device. IEEE/ASME Transactions on Mechatronics, 2014, 19, 100-108.	3.7	14
90	Exploiting differential etch rates to fabricate large-scale nozzle arrays with protudent geometry. Journal of Micromechanics and Microengineering, 2007, 17, 923-930.	1.5	13

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91	Controllable doping and wrap-around contacts to electrolessly etched silicon nanowire arrays. Nanotechnology, 2014, 25, 375701.	1.3	13
92	Multi-physics modeling for laser micro-transfer printing delamination. Journal of Manufacturing Processes, 2015, 20, 414-424.	2.8	13
93	Finite volume simulation framework for die casting with uncertainty quantification. Applied Mathematical Modelling, 2019, 74, 132-150.	2.2	13
94	Auto-triangulation and auto-trilateration. Precision Engineering, 2002, 26, 250-262.	1.8	12
95	Title is missing!. IIE Transactions, 1997, 29, 877-887.	2.1	11
96	SERS EM field enhancement study through fast Raman mapping of Sierpinski carpet arrays. Journal of Raman Spectroscopy, 2010, 41, 1124-1130.	1.2	11
97	Solid-state superionic stamping with silver iodide–silver metaphosphate glass. Nanotechnology, 2011, 22, 425301.	1.3	11
98	Flexible manufacturing system structural control and the Neighborhood Policy, part 2. Generalization, optimization, and efficiency. IIE Transactions, 1997, 29, 889-899.	2.1	10
99	Lâ^ž Parameter estimates for volumetric error in models of machine tools. Precision Engineering, 1997, 20, 179-187.	1.8	10
100	A new paradigm for organizing networks of computer numerical control manufacturing resources in cloud manufacturing. Procedia Manufacturing, 2018, 26, 1318-1329.	1.9	10
101	EMBench: A Rapid Prototyping Environment for Numerical Control Systems. , 2002, , 7.		9
102	Characterization of Delamination in Laser Microtransfer Printing. Journal of Micro and Nano-Manufacturing, 2014, 2, .	0.8	9
103	An active MEMS probe for fine position and force measurements. Precision Engineering, 2014, 38, 738-748.	1.8	9
104	Applications of GMDH-type modeling in manufacturing. Journal of Manufacturing Systems, 1988, 7, 241-253.	7.6	7
105	A new novel local search integer-programming-based heuristic for PCB assembly on collect-and-place machines. Mathematical Programming Computation, 2016, 8, 1-45.	3.2	7
106	Quasistatic error modeling and model testing for a 5-axis machine with a redundant axis. Journal of Manufacturing Processes, 2018, 31, 875-883.	2.8	7
107	Broadband, Tunable, Miniaturized Vibration Energy Harvester Using Nonlinear Elastomer Beams and Stretchable Interconnects. Advanced Materials Technologies, 2019, 4, 1900783.	3.0	7
108	Printing: Mechanisms, Capabilities, and Applications of Highâ€Resolution Electrohydrodynamic Jet Printing (Small 34/2015). Small, 2015, 11, 4412-4412.	5.2	6

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109	Parallel-kinematics XYZ MEMS part 1: Kinematics and design for fabrication. Precision Engineering, 2016, 46, 135-146.	1.8	6
110	A Cloud-Monitoring Service for Manufacturing Environments. Procedia Manufacturing, 2018, 26, 1330-1339.	1.9	6
111	Algebraic geometry and group theory in geometric constraint satisfaction for computer-aided design and assembly planning. IIE Transactions, 1996, 28, 281-294.	2.1	5
112	Exploiting transport of guest metal ions in a host ionic crystal lattice for nanofabrication: Cu nanopatterning with Ag2S. Applied Physics A: Materials Science and Processing, 2009, 97, 863-868.	1.1	5
113	Microfabricated Instrumented Composite Stamps for Transfer Printing. Journal of Micro and Nano-Manufacturing, 2015, 3, .	0.8	5
114	An experimental and computational study of size-dependent contact-angle of dewetted metal nanodroplets below its melting temperature. Applied Physics Letters, 2016, 109, 213101.	1.5	5
115	Electrochemical direct writing and erasing of silver nanostructures on phosphate glass using atomic force microscopy. Nanotechnology, 2017, 28, 065301.	1.3	5
116	Crowd-Sourced Data and Analysis Tools for Advancing the Chemical Vapor Deposition of Graphene: Implications for Manufacturing. ACS Applied Nano Materials, 2020, 3, 10144-10155.	2.4	5
117	Carbon Nanotube Electronic Displacement Encoder with Sub-Nanometer Resolution. Journal of Computational and Theoretical Nanoscience, 2007, 4, 574-577.	0.4	5
118	Determination of minimum number of sensors and their locations for an automated facility: An algorithmic approach. European Journal of Operational Research, 1992, 63, 231-239.	3.5	4
119	An Integrated Rapid Prototyping Environment for Reconfigurable Manufacturing Systems. , 2003, , 737.		4
120	Controlled directional growth of silver microwires on a solid electrolyte surface. Applied Physics Letters, 2010, 96, .	1.5	4
121	Analysis and Design for Rapid Prototyping Mechanism Using Hybrid Flexural Pivots. Procedia Manufacturing, 2015, 1, 779-791.	1.9	4
122	Parallel-kinematics XYZ MEMS part 2: Fabrication and experimental characterization. Precision Engineering, 2016, 46, 147-157.	1.8	4
123	Feasibility Analysis of Nanostructured Planar Focusing Collectors for Concentrating Solar Power Applications. ACS Applied Energy Materials, 2018, 1, 6927-6935.	2.5	4
124	Title is missing!. IIE Transactions, 1997, 29, 889-899.	2.1	3
125	Active Elastomeric Composite Dense Array Stamp For Micro-transfer Printing. Procedia Manufacturing, 2020, 48, 64-70.	1.9	3
126	An Integrated Environment for the Design and Control of Deadlock-Free Flexible Manufacturing		3

Cells. , 2004, , .

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127	<title>Development of a novel piezo-driven parallel-kinematics single crystal silicon micropositioning XY stage</title> . , 2005, , .		2
128	Direct Metal Nano-patterning Using Embossed Solid Electrolyte. Materials Research Society Symposia Proceedings, 2009, 1156, 1.	0.1	2
129	Ultrathin silicon solar microcells for semitransparent, mechanically flexible and microconcentrator module designs. , 2010, , 38-46.		2
130	High precision polymer deposition onto microcantilever sensors using electrohydrodynamic printing. , 2010, , .		2
131	An Experimental Investigation into Plate-to-Roll Patterning with Solid-State Superionic Stamping. Procedia Manufacturing, 2019, 34, 424-431.	1.9	2
132	Stamping colors with solid-state superionic stamping (S4). Journal of Manufacturing Processes, 2022, 79, 305-313.	2.8	2
133	Analyses of advanced iterated tour partitioning heuristics for generalized vehicle routing problems. Networks, 2013, 61, 290-308.	1.6	1
134	Modeling of charge-mass transport in solid electrolyte-based electrochemical nanomanufacturing process. Journal of Manufacturing Processes, 2015, 18, 60-66.	2.8	1
135	Solid State Electrochemical Direct Writing of Copper Nanostructures on an Ion Conductive Phosphate Glass Using Atomic Force Microscopy. Procedia Manufacturing, 2017, 10, 641-651.	1.9	1
136	Dynamics modeling and verification of a large-displacement precision preloaded-flexure stage. Journal of Manufacturing Processes, 2019, 43, 36-45.	2.8	1
137	Solid-state Electrochemical Stamping of Functional Metallic Nanostructures. , 2007, , .		Ο
138	Nano-Manipulation Device With Parallel Kinematic Micro-Positioning Stage and Integrated Active Cantilever. , 2009, , .		0
139	Beam forming of light from structured metal nano-aperture vertical cavity lasers. , 2009, , .		Ο
140	An Easy-to-Manufacture 2 Degree-of-Freedom Remote Center of Compliance for Micro-Transfer Printing. Key Engineering Materials, 2010, 447-448, 471-477.	0.4	0
141	Characterizing the Role of Deformation during Electrochemical Etching of Metallic Films. Materials Research Society Symposia Proceedings, 2011, 1297, 175.	0.1	Ο
142	Structured Nanoaperture Vertical Cavity Surface-Emitting Lasers. IEEE Journal of Selected Topics in Quantum Electronics, 2013, 19, 4601504-4601504.	1.9	0
143	Characterization of Delamination in Laser Micro Transfer Printing. , 2013, , .		0
144	Process Performance of Silicon Thin-Film Transfer Using Laser Micro-Transfer Printing. , 2014, , .		0

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145	Direct Writing: Painting and Direct Writing of Silver Nanostructures on Phosphate Glass with Electron Beam Irradiation (Adv. Funct. Mater. 33/2015). Advanced Functional Materials, 2015, 25, 5242-5242.	7.8	0
146	Heterogeneous three-dimensional assembly of metamaterials and metadevices by modular transfer printing. , 2015, , .		0
147	Solar Cells: Device Architectures for Enhanced Photon Recycling in Thin-Film Multijunction Solar Cells (Adv. Energy Mater. 1/2015). Advanced Energy Materials, 2015, 5, n/a-n/a.	10.2	0
148	Quasistatic Error Modeling and Model Testing for a 5-Axis Machine. Procedia Manufacturing, 2017, 10, 443-455.	1.9	0
149	Accommodating Casting and Fixturing Errors by Adjusting the Machining Coordinate Frame. Journal of Computing and Information Science in Engineering, 2021, 21, .	1.7	0
150	Direct Nanopatterning With Solid Ionic Stamping. , 2006, , .		0
151	EMBench: An IEC61499 Based Integrated Environment for Manufacturing Systems. , 2006, , .		Ο