Cesare Fantuzzi

List of Publications by Year
in descending order

184 papers	3,087 citations	236925 25 h-index	276875 41 g-index
186 all docs	186 docs citations	186 times ranked	2092 citing authors

#	Article	IF	Citations
1	A User Study for the Evaluation of Adaptive Interaction Systems for Inclusive Industrial Workplaces. IEEE Transactions on Automation Science and Engineering, 2022, 19, 3300-3310.	5.2	4
2	The INCLUSIVE System: A General Framework for Adaptive Industrial Automation. IEEE Transactions on Automation Science and Engineering, 2021, 18, 1969-1982.	5.2	13
3	A General Methodology for Adapting Industrial HMIs to Human Operators. IEEE Transactions on Automation Science and Engineering, 2021, 18, 164-175.	5.2	14
4	Knowledge-Based Automation for Smart Manufacturing Systems. IEEE Transactions on Automation Science and Engineering, 2021, 18, 2-4.	5.2	0
5	Smart Node Networks Orchestration: A New E2E Approach for Analysis and Design for Agile 4.0 Implementation. Sensors, 2021, 21, 1624.	3.8	4
6	Worker satisfaction with adaptive automation and working conditions: a theoretical model and questionnaire as an assessment tool. International Journal of Occupational Safety and Ergonomics, 2021, 27, 1235-1250.	1.9	5
7	Toward Future Automatic Warehouses: An Autonomous Depalletizing System Based on Mobile Manipulation and 3D Perception. Applied Sciences (Switzerland), 2021, 11, 5959.	2.5	9
8	Hierarchical and Flexible Traffic Management of Multi-AGV Systems Applied to Industrial Environments. , 2021, , .		3
9	Humans interacting with multi-robot systems: a natural affect-based approach. Autonomous Robots, 2020, 44, 601-616.	4.8	10
10	Safety barrier functions and multi-camera tracking for human–robot shared environment. Robotics and Autonomous Systems, 2020, 124, 103388.	5.1	51
11	Guest Editorial Special Section on the 2018 Conference on Automation Science and Engineering (CASE). IEEE Transactions on Automation Science and Engineering, 2020, 17, 1182-1183.	5.2	0
12	A Control Barrier Function Approach for Maximizing Performance While Fulfilling to ISO/TS 15066 Regulations. IEEE Robotics and Automation Letters, 2020, 5, 5921-5928.	5.1	40
13	Optimized power modulation in wave based bilateral teleoperation. IEEE/ASME Transactions on Mechatronics, 2020, , 1-1.	5.8	13
14	Smart and Adaptive Interfaces for Inclusive Factory Environments. Springer Reference Technik, 2020, , 1-14.	0.0	0
15	A General Approach to Natural Human-Robot Interaction. Springer Proceedings in Advanced Robotics, 2019, , 61-71.	1.3	1
16	A Methodology for Comparative Analysis of Collaborative Robots for Industry 4.0. , 2019, , .		20
17	An Adaptive Virtual Training System Based on Universal Design. IFAC-PapersOnLine, 2019, 51, 335-340.	0.9	15
18	Measurement and classification of human characteristics and capabilities during interaction tasks. Paladyn, 2019, 10, 182-192.	2.7	7

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19	A Passivity-Based Strategy for Manual Corrections in Human-Robot Coaching. Electronics (Switzerland), 2019, 8, 320.	3.1	3
20	Augmented reality based approach for on-line quality assessment of polished surfaces. Robotics and Computer-Integrated Manufacturing, 2019, 59, 158-167.	9.9	43
21	A variable admittance control strategy for stable physical human–robot interaction. International Journal of Robotics Research, 2019, 38, 747-765.	8.5	100
22	Survey on usability assessment for industrial user interfaces. IFAC-PapersOnLine, 2019, 52, 25-30.	0.9	7
23	Herausforderungen in der interdisziplinären Entwicklung von Cyber-Physischen Produktionssystemen. Automatisierungstechnik, 2019, 67, 445-454.	0.8	3
24	TIREBOT: A collaborative robot for the tire workshop. Robotics and Computer-Integrated Manufacturing, 2019, 57, 129-137.	9.9	17
25	Systematic Approach to Develop a Flexible Adaptive Human-Machine Interface in Socio-Technological Systems. Advances in Intelligent Systems and Computing, 2019, , 276-288.	0.6	4
26	Teleoperation of a Multi-robot System with Adjustable Dynamic Parameters. Springer Proceedings in Advanced Robotics, 2019, , 153-165.	1.3	0
27	Passivity Preserving Force Scaling for Enhanced Teleoperation of Multirobot Systems. IEEE Robotics and Automation Letters, 2018, 3, 1925-1932.	5.1	18
28	Simulation and optimization of industrial production lines. Automatisierungstechnik, 2018, 66, 320-330.	0.8	8
29	The PAN-Robots Project: Advanced Automated Guided Vehicle Systems for Industrial Logistics. IEEE Robotics and Automation Magazine, 2018, 25, 55-64.	2.0	51
30	MATE Robots Simplifying My Work: The Benefits and Socioethical Implications. IEEE Robotics and Automation Magazine, 2018, 25, 37-45.	2.0	21
31	Big Data for advanced monitoring system: an approach to manage system complexity. , 2018, , .		0
32	On the Use of Energy Tanks for Multi-Robot Interconnection. , 2018, , .		7
33	Shaping the Force Feedback by Dynamic Scaling in the Teleoperation of Multi-Robot Systems. IFAC-PapersOnLine, 2018, 51, 143-148.	0.9	2
34	An Industrial Social Network for Sharing Knowledge Among Operators. IFAC-PapersOnLine, 2018, 51, 48-53.	0.9	1
35	Survey on Human-Robot Interaction for Robot Programming in Industrial Applications. IFAC-PapersOnLine, 2018, 51, 66-71.	0.9	48
36	Methodological Approach for the Evaluation of an Adaptive and Assistive Human-Machine System. , 2018, , .		1

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37	A Framework for Affect-Based Natural Human-Robot Interaction. , 2018, , .		21
38	Controlling the Interaction of a Multi-Robot System with External Entities. , 2018, , .		1
39	A Passivity-Based Strategy for Coaching in Human-Robot Interaction. , 2018, , .		11
40	Relieving operatorsâ€™ workload: Towards affective robotics in industrial scenarios. Mechatronics, 2018, 54, 144-154.	3.3	36
41	A Low-Cost Navigation Strategy for Yield Estimation in Vineyards. , 2018, , .		23
42	An Adaptive Speech Interface for Assistance in Maintenance and Changeover Procedures. Lecture Notes in Computer Science, 2018, , 152-163.	1.3	4
43	A Natural Infrastructure-Less Humanâ€"Robot Interaction System. IEEE Robotics and Automation Letters, 2017, 2, 1640-1647.	5.1	27
44	Cooperative cloud robotics architecture for the coordination of multi-AGV systems in industrial warehouses. Mechatronics, 2017, 45, 1-13.	3.3	82
45	Discrete time model of a two-station one-buffer serial system with inventory level-dependent operation. Computers and Industrial Engineering, 2017, 113, 46-63.	6.3	6
46	Multi-robot systems implementing complex behaviors under time-varying topologies. European Journal of Control, 2017, 38, 73-87.	2.6	3
47	Safe navigation and experimental evaluation of a novel tire workshop assistant robot. , 2017, , .		1
48	Walk-through Programming for Industrial Applications. Procedia Manufacturing, 2017, 11, 31-38.	1.9	26
49	Collision avoidance for multiple Lagrangian dynamical systems with gyroscopic forces. International Journal of Advanced Robotic Systems, 2017, 14, 172988141668710.	2.1	7
50	Coordinated Dynamic Behaviors for Multirobot Systems With Collision Avoidance. IEEE Transactions on Cybernetics, 2017, 47, 4062-4073.	9.5	10
51	Optimized simultaneous conflict-free task assignment and path planning for multi-AGV systems. , 2017, , .		12
52	Methodological approach for the design of a complex inclusive human-machine system. , 2017, , .		7
53	Simulation and optimisation of production lines in the framework of the IMPROVE project. , 2017, , .		2
54	Configuring the deployment into software-based controllers through hierarchical simulations. IFAC-PapersOnLine, 2017, 50, 4330-4335.	0.9	2

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55	Interacting With a Mobile Robot with a Natural Infrastructure-Less Interface. IFAC-PapersOnLine, 2017, 50, 12753-12758.	0.9	14
56	Natural interaction based on affective robotics for multi-robot systems. , 2017, , .		7
57	Variable admittance control preventing undesired oscillating behaviors in physical human-robot interaction. , 2017, , .		26
58	Admittance control parameter adaptation for physical human-robot interaction. , 2017, , .		63
59	Achieving the desired dynamic behavior in multi-robot systems interacting with the environment. , 2017, , .		9
60	Towards modern inclusive factories: A methodology for the development of smart adaptive human-machine interfaces. , 2017, , .		39
61	Optimizing the use of power in wave based bilateral teleoperation. , 2016, , .		7
62	Hierarchical coordination strategy for multi-AGV systems based on dynamic geodesic environment partitioning. , 2016, , .		5
63	MyAID: a Troubleshooting Application for Supporting Human Operators in Industrial Environment. IFAC-PapersOnLine, 2016, 49, 391-396.	0.9	7
64	Tool compensation in walk-through programming for admittance-controlled robots. , 2016, , .		8
65	TIREBOT: A novel tire workshop assistant robot. , 2016, , .		11
66	Design of a packaging machine and virtual commissioning via modular hardware-in-the-loop simulations. , 2016, , .		1
67	Smartwatch-Enhanced Interaction with an Advanced Troubleshooting System for Industrial Machines. IFAC-PapersOnLine, 2016, 49, 277-282.	0.9	19
68	Design of cyber-physical systems: Definition and metamodel for reusable resources. , 2016, , .		5
69	Coordinated motion for multi-robot systems under time varying communication topologies. , 2016, , .		2
70	Catching the wave: A transparency oriented wave based teleoperation architecture. , 2016, , .		8
71	Design of mechatronic systems through aspect and object-oriented modeling. Automatisierungstechnik, 2016, 64, 244-252.	0.8	4
72	Multi-AGV Systems in Shared Industrial Environments: Advanced Sensing and Control Techniques for Enhanced Safety and Improved Efficiency. , 2016, , 57-81.		1

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73	Advanced sensing and control techniques for multi AGV systems in shared industrial environments. , 2015, , .		9
74	Decentralized Control of Cooperative Robotic Systems for Arbitrary Setpoint Tracking while Avoiding Collisions. IFAC-PapersOnLine, 2015, 48, 57-62.	0.9	6
75	Overcoming real time bond in high level simulation environments. , 2015, , .		1
76	Verification and validation based on the generation of testing sequences from timing diagram specifications in industrial automation. , 2015, , .		4
77	Structured Product Development Process Implementation for a Packaging Company. IFAC-PapersOnLine, 2015, 48, 190-196.	0.9	1
78	Mission Assignment for Multi-Vehicle Systems in Industrial Environments**This paper is written within PAN-Robots project. The research leading to these results has received funding from the European Union Seventh Framework Programme (FP7/2007-2013) under grant agreement n. 314193.. IFAC-PapersOnLine, 2015, 48, 268-273.	0.9	13
79	Towards an abstraction layer for PLC programming using object-oriented features of IEC61131-3 applied to motion control. , 2015, , .		3
80	Coordinated dynamic behaviors in multi-robot systems with time-varying topologies. , 2015, , .		3
81	Improving AGV systems: Integration of advanced sensing and control technologies. , 2015, , .		6
82	Interacting with a multi AGV system. , 2015, , .		7
83	Conducting multi-robot systems: Gestures for the passive teleoperation of multiple slaves. , 2015, , .		6
84	Eigenvalue placement for asymptotic stability in piecewise linear switched systems. , 2015, , .		4
85	Generating automatically the documentation from PLC code by D4T3 to improve the usability and life cycle management of software in automation. , 2015, , .		2
86	Modelling and Simulation for the Integrated Design of Mechatronic Systems. IFAC-PapersOnLine, 2015, 48, 75-80.	0.9	7
87	A PackML-based Design Pattern for Modular PLC Code. IFAC-PapersOnLine, 2015, 48, 178-183.	0.9	14
88	Cloud robotics paradigm for enhanced navigation of autonomous vehicles in real world industrial applications. , 2015, , .		7
89	Edge-weighted consensus-based formation control strategy with collision avoidance. Robotica, 2015, 33, 332-347.	1.9	46
90	Implementation of Coordinated Complex Dynamic Behaviors in Multirobot Systems. IEEE Transactions on Robotics, 2015, 31, 1018-1032.	10.3	36

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91	A dynamic routing strategy for the traffic control of AGVs in automatic warehouses. , 2015, , .		9
92	Ensemble Coordination Approach in Multi-AGV Systems Applied to Industrial Warehouses. IEEE Transactions on Automation Science and Engineering, 2015, 12, 922-934.	5.2	97
93	The two-machine one-buffer continuous time model with restart policy. Annals of Operations Research, 2015, 231, 33-64.	4.1	5
94	The PLC UML State-chart design pattern. , 2014, , .		1
95	Obstacle avoidance for industrial AGVs. , 2014, , .		22
96	Hierarchical traffic control for partially decentralized coordination of multi AGV systems in industrial environments. , 2014, , .		45
97	An automatic approach for the generation of the roadmap for multi-AGV systems in an industrial environment. , 2014, , .		23
98	Implementation of arbitrary periodic dynamic behaviors in networked systems. , 2014, , .		3
99	A model-based design methodology for the development of mechatronic systems. Mechatronics, 2014, 24, 833-843.	3.3	78
100	Multisensor data fusion for obstacle detection in automated factory logistics. , 2014, , .		16
101	Cooperative dynamic behaviors in networked systems with decentralized state estimation. , 2014, , .		9
102	Controllability and Observability Preservation for Networked Systems with Time Varying Topologies. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 1837-1842.	0.4	17
103	TRAFCON â€" Traffic Control of AGVs in Automatic Warehouses. Springer Tracts in Advanced Robotics, 2014, , 85-105.	0.4	2
104	TRAFCON â€" Traffic Control of AGVs in Automatic Warehouses. Springer Tracts in Advanced Robotics, 2014, , 85-105.	0.4	1
105	Closed-Curve Path Tracking for Decentralized Systems of Multiple Mobile Robots. Journal of Intelligent and Robotic Systems: Theory and Applications, 2013, 71, 109-123.	3.4	18
106	Design patterns for model-based automation software design and implementation. Control Engineering Practice, 2013, 21, 1608-1619.	5.5	55
107	Towards decentralized coordination of multi robot systems in industrial environments: A hierarchical traffic control strategy. , 2013, , .		25
108	Tools for the development of a design methodology for mechatronic systems. , 2013, , .		5

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109	Collision avoidance using gyroscopic forces for cooperative Lagrangian dynamical systems. , 2013, , .		10
110	Hardware in the loop simulation and Machine Modular Development: Concepts and application. , 2013, , .		4
111	Decentralized global connectivity maintenance for interconnected Lagrangian systems in the presence of data corruption. European Journal of Control, 2013, 19, 461-468.	2.6	7
112	Discrete time model for two-machine one-buffer transfer lines with restart policy. Annals of Operations Research, 2013, 209, 41-65.	4.1	12
113	A low cost localization algorithm for an autonomous lawnmower. , 2013, , .		5
114	Decentralized control strategy for the implementation of cooperative dynamic behaviors in networked systems. , 2013, , .		14
115	Time critical wireless data transmission in autonomous control applications. , 2013, , .		0
116	A tank-based approach to impedance control with variable stiffness. , 2013, , .		132
117	Decentralized Global Connectivity Maintenance for Interconnected Lagrangian Systems with Communication Delays. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 78-83.	0.4	5
118	An Inertial/RFID Based Localization Method for Autonomous Lawnmowers. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 145-150.	0.4	5
119	Experimental comparison of 3D vision sensors for mobile robot localization for industrial application: Stereo-camera and RGB-D sensor. , 2012, , .		11
120	Model-driven approach to design ICT infrastructure for precision farming. , 2012, , .		2
121	Hardware in the loop simulation for distributed automation systems. , 2012, , .		3
122	An algorithm to diagnose ball bearing faults in servomotors running arbitrary motion profiles. Mechanical Systems and Signal Processing, 2012, 27, 667-682.	8.0	29
123	AGV global localization using indistinguishable artificial landmarks. , 2011, , .		61
124	An efficient control strategy for the traffic coordination of AGVs. , 2011, , .		13
125	A Design Pattern for translating UML software models into IEC 61131-3 Programming Languages. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 9158-9163.	0.4	13
126	A Graphâ€"Based Collisionâ€"Free Distributed Formation Control Strategy. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 6011-6016.	0.4	19

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127	Coordination of industrial AGVs. International Journal of Vehicle Autonomous Systems, 2011, 9, 5.	0.2	32
128	A SysML-Based Methodology for Manufacturing Machinery Modeling and Design. IEEE/ASME Transactions on Mechatronics, 2011, 16, 1049-1062.	5.8	97
129	Arbitrarily shaped formations of mobile robots: artificial potential fields and coordinate transformation. Autonomous Robots, 2011, 30, 385-397.	4.8	81
130	Time-complemented event-driven control framework for distributed motion control systems based on IEC 61499 and IEEE 1588. , 2011, , .		4
131	An efficient control strategy for the traffic coordination of AGVs. , 2011, , .		2
132	Coordination of Multiple Robots with Assigned Paths. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 312-317.	0.4	5
133	Tracking of closed-curve trajectories for multi-robot systems. , 2010, , .		6
134	A nonlinear proportional controller for motion control application. , 2010, , .		0
135	An engineering process for the mechatronic development of industrial automation systems. , 2010, , .		1
136	Automatic Experiments Design for Discrete Event System. , 2010, , .		0
137	Potential based control strategy for arbitrary shape formations of mobile robots. , 2009, , .		12
138	A Design Pattern for Model Based Software Development for Automatic Machinery. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 1429-1434.	0.4	3
139	A Coordination Technique for Automatic Guided Vehicles in an Industrial Environment. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 359-364.	0.4	4
140	Formation Control over Delayed Communication Network. Understanding Complex Systems, 2009, , 59-74.	0.6	3
141	Variable delay in scaled port-Hamiltonian telemanipulation. Mechatronics, 2008, 18, 357-363.	3.3	8
142	Transparency in Port-Hamiltonian-Based Telemanipulation. IEEE Transactions on Robotics, 2008, 24, 903-910.	10.3	15
143	Authors' Reply to â€œComments on Object-Oriented Modeling of Complex Mechatronic Components for the Manufacturing Industryâ€. IEEE/ASME Transactions on Mechatronics, 2008, 13, 487-489.	5.8	0
144	Formation control over delayed communication networks. , 2008, , .		8

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145	An analytical model for automated packaging lines design. , 2008, , .		0
146	Coordination of multiple AGVs in an industrial application. , 2008, , .		30
147	A simulation based approach for supporting Automated Guided Vehicles (AGVs) systems design. , 2008, , .		3
148	Comparison Between Time-Frequency Techniques to Predict Ball Bearing Faults in Drives Executing Arbitrary Motion Profiles. , 2008, , .		3
149	A Study of Fault Diagnosis and Recovery Techniques for Manufacturing Systems. , 2007, , 1372-1377.		0
150	Energy shaping over networks for mechanical systems. , 2007, , .		5
151	Complex Packaging Line Modelling and Simulation. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	1
152	Object-Oriented Modeling of Complex Mechatronic Components for the Manufacturing Industry. IEEE/ASME Transactions on Mechatronics, 2007, 12, 696-702.	5.8	25
153	On the Use of UML for Modeling Mechatronic Systems. IEEE Transactions on Automation Science and Engineering, 2007, 4, 105-113.	5.2	61
154	PWA Dynamic Identification for Nonlinear Model Fault Detection. , 2007, , 1121-1126.		0
155	Kinematic Compensation in Port-Hamiltonian Telemanipulation. , 2007, , 99-110.		0
156	Flexray and ISOBUS Integration for Off-Road Vehicles: New Standards Together for Safety and Effective Applications. , 2006, , .		1
157	Behavioural inheritance in object-oriented models for mechatronic systems. International Journal of Manufacturing Research, 2006, 1, 421.	0.2	9
158	Dynamic system identification and model-based fault diagnosis of an industrial gas turbine prototype. Mechatronics, 2006, 16, 341-363.	3.3	57
159	An object-oriented approach to manufacturing systems modeling. , 2006, , .		4
160	Intrinsically Passive Force Scaling in Haptic Interfaces. , 2006, , .		4
161	Position Drift Compensation in Port-Hamiltonian Based Telemanipulation. , 2006, , .		51
162	A Distributed Embedded Control System for Agricultural Machines. , 2006, , .		8

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163	Design by Extension and Inheritance of Behavior in Dynamical Systems. , 2006, , .		0
164	Towards Object-Oriented Modeling of Complex Mechatronic Systems for the Manufacturing Industry. , 2006, , .		1
165	Transparency in port-Hamiltonian based telemanipulation. , 2005, , .		5
166	Power scaling in port-Hamiltonian based telemanipulation. , 2005, , .		3
167	Sampled data systems passivity and discrete port-Hamiltonian systems. , 2005, 21, 574-587.		155
168	A practical approach to object-oriented modeling of logic control systems for industrial applications. , 2004, , .		3
169	Identification of piecewise affine models in noisy environment. International Journal of Control, 2002, 75, 1472-1485.	1.9	42
170	Tuning of myoelectric prostheses using fuzzy logic. Artificial Intelligence in Medicine, 2001, 21, 221-225.	6.5	5
171	Fault diagnosis in power plant using neural networks. Information Sciences, 2000, 127, 125-136.	6.9	74
172	High-speed DSP-based implementation of piecewise-affine and piecewise-quadratic fuzzy systems. Signal Processing, 2000, 80, 951-963.	3.7	45
173	Diagnosis techniques for sensor faults of industrial processes. IEEE Transactions on Control Systems Technology, 2000, 8, 848-855.	5.2	88
174	Parameter identification for piecewise-affine fuzzy models in noisy environment. International Journal of Approximate Reasoning, 1999, 22, 149-167.	3.3	46
175	Quantized norms and generalized relational composition on dense universes. International Journal of Approximate Reasoning, 1998, 19, 299-314.	3.3	1
176	Multiple-Layer Variable Structure Controller with Parameter Adaptation. European Journal of Control, 1998, 4, 249-259.	2.6	0
177	Rule Reduction Algorithm for SISO Takagi-Sugeno Models. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1997, 30, 385-389.	0.4	0
178	Efficient Least Squares Identification with SISO Takagi-Sugeno Models. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1997, 30, 539-543.	0.4	1
179	s-norm aggregation of infinite collections. Fuzzy Sets and Systems, 1996, 84, 255-269.	2.7	10
180	Design and verification of mechatronic object-oriented models for industrial control systems. , 0, , .		29

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181	On the Use of UML for Modeling Physical Systems. , 0, , .		5
182	Unified Modeling and Verification of Logic Controllers for Physical Systems. , 0, , .		8
183	Verification of Behavioral Substitutability in Object-Oriented Models for Industrial Controllers. , 0, , .		2
184	Object-oriented modeling of multi-domain systems. , 0, , .		7