Yann Le Gorrec

List of Publications by Year
in descending order

143 papers	1,887 citations	331670 21 h-index	302126 39 g-index
147 all docs	147 docs citations	147 times ranked	939 citing authors

#	Article	IF	Citations
1	Boundary controlled irreversible port-Hamiltonian systems. Chemical Engineering Science, 2022, 248, 117107.	3.8	15
2	Energy-Based Modeling and Hamiltonian LQG Control of a Flexible Beam Actuated by IPMC Actuators. IEEE Access, 2022, 10, 12153-12163.	4.2	2
3	Stabilization of a class of mixed ODEâ€"PDE port-Hamiltonian systems with strong dissipation feedback. Automatica, 2022, 142, 110284.	5.0	1
4	Stabilization of Unstable Distributed Port-Hamiltonian Systems in Scattering Form. , 2022, 6, 3116-3121.		0
5	Modeling and Position Control of the HASEL Actuator via Port-Hamiltonian Approach. IEEE Robotics and Automation Letters, 2022, 7, 7100-7107.	5.1	2
6	Structure-preserving discretization and control of a two-dimensional vibro-acoustic tube. IMA Journal of Mathematical Control and Information, 2021, 38, 417-439.	1.7	2
7	Reduced Order LQG Control Design for Infinite Dimensional Port Hamiltonian Systems. IEEE Transactions on Automatic Control, 2021, 66, 865-871.	5.7	14
8	Energy-Based In-Domain Control and Observer Design for Infinite-Dimensional Port-Hamiltonian Systems. IFAC-PapersOnLine, 2021, 54, 468-475.	0.9	2
9	A Lyapunov Approach to Robust Regulation of Distributed Portâ€"Hamiltonian Systems. IEEE Transactions on Automatic Control, 2021, 66, 6041-6048.	5.7	6
10	Energy-Based Modeling of Ionic Polymerâ€"Metal Composite Actuators Dedicated to the Control of Flexible Structures. IEEE/ASME Transactions on Mechatronics, 2021, 26, 3139-3150.	5.8	8
11	Modelling, Control and Stability Analysis of Flexible Rotating Beam's Impacts During Contact Scenario. , 2021, , .		1
12	Dissipative port-Hamiltonian Formulation of Maxwell Viscoelastic Fluids. IFAC-PapersOnLine, 2021, 54, 430-435.	0.9	1
13	On port-Hamiltonian formulations of 3-dimensional compressible Newtonian fluids. Physics of Fluids, 2021, 33, .	4.0	4
14	A thermodynamic approach to the stabilization of tubular reactors. Journal of Process Control, 2021, 108, 98-111.	3.3	5
15	Irreversible port-Hamiltonian modelling of 1D compressible fluids. IFAC-PapersOnLine, 2021, 54, 64-69.	0.9	1
16	An irreversible port-Hamiltonian model for a class of piezoelectric actuators. IFAC-PapersOnLine, 2021, 54, 436-441.	0.9	4
17	Exponential stabilization of a clamped Timoshenko beam with actuation on a tip mass. , 2021, , .		1
18	Modelling and control of an IPMC actuated flexible structure: A lumped port Hamiltonian approach. Control Engineering Practice, 2020, 101, 104498.	5.5	17

#	ARTICLE	IF	CITATIONS
19	Observer-based boundary control of distributed port-Hamiltonian systems. Automatica, 2020, 120, 109130.	5.0	12
20	Exponential Stabilization of Port-Hamiltonian Boundary Control Systems via Energy Shaping. IEEE Transactions on Automatic Control, 2020, 65, 4440-4447.	5.7	10
21	Infinite dimensional model of a double flexible-link manipulator: The Port-Hamiltonian approach. Applied Mathematical Modelling, 2020, 83, 59-75.	4.2	19
22	Passive observers for distributed port-Hamiltonian systems. IFAC-PapersOnLine, 2020, 53, 7587-7592.	0.9	4
23	Energy shaping plus Damping injection of Irreversible Port Hamiltonian Systems. IFAC-PapersOnLine, 2020, 53, 11539-11544.	0.9	2
24	Stabilisation of a Rotating Beam Clamped on a Moving Inertia with Strong Dissipation Feedback. , 2020, , .		2
25	Energy-based Control of a Wave Equation with Boundary Anti-damping. IFAC-PapersOnLine, 2020, 53, 7740-7745.	0.9	1
26	Observer Based Nonlinear Control of a Rotating Flexible Beam. IFAC-PapersOnLine, 2020, 53, 7479-7484.	0.9	3
27	About Dissipative and Pseudo Port-Hamiltonian Formulations of Irreversible Newtonian Compressible Flows. IFAC-PapersOnLine, 2020, 53, 11521-11526.	0.9	9
28	On Linear Quadratic Regulation of Linear Port-Hamiltonian Systems. IFAC-PapersOnLine, 2020, 53, 6857-6862.	0.9	1
29	Modeling and control of an IPMC actuated flexible beam under the port-Hamiltonian framework. IFAC-PapersOnLine, 2019, 52, 108-113.	0.9	2
30	Observer-Based State Feedback Controller for a class of Distributed Parameter Systems. IFAC-PapersOnLine, 2019, 52, 114-119.	0.9	3
31	Irreversible Port-Hamiltonian Formulation of some Non-isothermal Electrochemical Processes. IFAC-PapersOnLine, 2019, 52, 19-24.	0.9	2
32	A Scalable port-Hamiltonian Model for Incompressible Fluids in Irregular Geometries. IFAC-PapersOnLine, 2019, 52, 102-107.	0.9	1
33	Finite-dimensional observers for port-Hamiltonian systems of conservation laws. , 2019, , .		1
34	Constrained port Hamiltonian formulation of multiscale distributed parameter IPMC systems. IFAC-PapersOnLine, 2019, 52, 495-500.	0.9	0
35	Reduced order optimal control of infinite dimensional port Hamiltonian systems. , 2019, , .		0
36	LQG control for flexible micro-grippers with additional integral action. , 2019, , .		0

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37	Multivariable Compensation of Hysteresis, Creep, Badly Damped Vibration, and Cross Couplings in Multiaxes Piezoelectric Actuators. IEEE Transactions on Automation Science and Engineering, 2018, 15, 1639-1653.	5.2	29
38	Technical Committee on Distributed Parameter Systems [Technical Activities]. IEEE Control Systems, 2018, 38, 12-13.	0.8	1
39	Structure Preserving Finite Differences in Polar Coordinates for Heat and Wave Equations.. IFAC-PapersOnLine, 2018, 51, 571-576.	0.9	5
40	Irreversible port-Hamiltonian formulation of non-isothermal electromechanical systems with hysteresis. IFAC-PapersOnLine, 2018, 51, 19-24.	0.9	2
41	A Simple Robust Controller for Portâ€"Hamiltonian Systems. IFAC-PapersOnLine, 2018, 51, 92-96.	0.9	1
42	Optimal actuator location for electro-active polymer actuated endoscope âŽ âŽThe authors gratefully acknowledge the support of the ANR-DFG (French-German) project INFIDHEM with Reference Code ANR-16-CE92-0028 and the support of the ENSMM BQR project with Reference Code BQR ENSMM NÂ°06.2017. IFAC-PapersOnLine, 2018, 51, 199-204.	0.9	2
43	Modelling and control of a class of lumped beam with distributed control. IFAC-PapersOnLine, 2018, 51, 217-222.	0.9	3
44	A port-Hamiltonian Fluid-Structure Interaction Model for the Vocal folds âŽ âŽThis work was supported by CONICYT-PFCHA/2017-21170472, and AC3E CONICYT-Basal Project FB-0008.. IFAC-PapersOnLine, 2018, 51, 62-67.	0.9	6
45	Reduced order LQG control design for port Hamiltonian systems. Automatica, 2018, 95, 86-92.	5.0	17
46	Finite differences on staggered grids preserving the port-Hamiltonian structure with application to an acoustic duct. Journal of Computational Physics, 2018, 373, 673-697.	3.8	35
47	Stabilization of infinite dimensional port-Hamiltonian systems by nonlinear dynamic boundary control. Automatica, 2017, 85, 61-69.	5.0	34
48	Structure preserving spatial discretization of 2D hyperbolic systems using staggered grids finite difference. , 2017, , .		7
49	Boundary energy-shaping control of an isothermal tubular reactor. Mathematical and Computer Modelling of Dynamical Systems, 2017, 23, 77-88.	2.2	0
50	Distributed port-Hamiltonian modelling for irreversible processes. Mathematical and Computer Modelling of Dynamical Systems, 2017, 23, 3-22.	2.2	13
51	Dissipative pseudo-Hamiltonian realization of chemical systems using irreversible thermodynamics. Mathematical and Computer Modelling of Dynamical Systems, 2017, 23, 135-155.	2.2	11
52	On the Synthesis of Boundary Control Laws for Distributed Port-Hamiltonian Systems. IEEE Transactions on Automatic Control, 2017, 62, 1700-1713.	5.7	57
53	On backstepping boundary control for a class of linear port-Hamiltonian systems. , 2017, , .		2
54	Control of non-isothermal chemical reaction networks using irreversible port-Hamiltonian systems. IFAC-PapersOnLine, 2017, 50, 576-581.	0.9	3

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55	Parabolic matching of hyperbolic system using Control by Interconnection. IFAC-PapersOnLine, 2017, 50, 5574-5579.	0.9	1
56	Asymptotic stability of an Euler-Bernoulli beam coupled to non-linear spring-damper systems * *This work was supported by French sponsored projects HAMEC-MOPSYS and Labex ACTION under reference codes ANR-11-BS03-0002 and ANR-11-LABX-0001-01 respectively.. IFAC-PapersOnLine, 2017, 50, 5580-5585.	0.9	6
57	Boundary Energy-Shaping Control of an Ideal Compressible Isentropic Fluid in 1-D. IFAC-PapersOnLine, 2017, 50, 5598-5603.	0.9	6
58	Reduced order controller design for Timoshenko beam: A port Hamiltonian approach * *The authors gratefully acknowledge the support of the ANR-DFG (French-German) project INFIDHEM with Reference Code ANR-16-CE92-0028. The first author acknowledges the support of the ENSMM BQR project with Reference Code BQR ENSMM NÂ°06.2017. IFAC-PapersOnLine, 2017, 50, 7121-7126.	0.9	4
59	On the use of structural invariants for the distributed control of infinite dimensional port-Hamitonian systems. , 2017, , .		3
60	Boundary control of distributed port-hamiltonian systems via generalised canonical transformations. , 2017, , .		1
61	Characterization, Modeling and $H_{\hat{z}}$ control of n-DOF Piezoelectric Actuators: application to A 3-DOF Precise Positioner. Asian Journal of Control, 2016, 18, 1239-1258.	3.0	7
62	Characterization and modeling of the temperature effect on the piezoelectric tube actuator. IFAC-PapersOnLine, 2016, 49, 354-360.	0.9	10
63	An energy based approach for the control of a micro-robotic contact scenario**This work was supported by French sponsored projects HAMEC-MOPSYS and Labex ACTION under reference codes ANR-11-BS03-0002 and ANR-11-LABX-0001-01 respectively.. IFAC-PapersOnLine, 2016, 49, 945-950.	0.9	0
64	An irreversible port-Hamiltonian formulation of distributed diffusion processes. IFAC-PapersOnLine, 2016, 49, 46-51.	0.9	5
65	A temperature-dependent control technique for a highly sensitive piezoelectric actuator. , 2016, , .		0
66	Technical Committee on Distributed Parameter Systems [Technical Activities]. IEEE Control Systems, 2016, 36, 15-17.	0.8	0
67	Asymptotic stability for a class of boundary control systems with non-linear damping**This work was supported by French sponsored projects HAMEC-MOPSYS and Labex ACTION under reference codes ANR-11-BS03-0002 and ANR-11-LABX-0001-01 respectively.. IFAC-PapersOnLine, 2016, 49, 304-308.	0.9	0
68	Building systems from simple hyperbolic ones. Systems and Control Letters, 2016, 91, 1-6.	2.3	7
69	On the passivity based control of irreversible processes: A port-Hamiltonian approach. Automatica, 2016, 64, 105-111.	5.0	52
70	A port-Hamiltonian formulation of a 2D boundary controlled acoustic system. IFAC-PapersOnLine, 2015, 48, 235-240.	0.9	13
71	Lyapunov based nonlinear control of tubular chemical reactorsâˆ—âˆ—This contribution has been done within the context of the French National Research Agency sponsored projet HAMECMOP-SYS (ANR-11-) Tj ETQq1 0.0.784314 rgBT /O		
72	Boundary L_2-gain stabilisation of a distributed Port-Hamiltonian system with rectangular domain. , 2015, , .		1

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73	Matrix-valued Impedances with Fractional Derivatives and Integrals in Boundary Feedback Control: a port-Hamiltonian approach. IFAC-PapersOnLine, 2015, 48, 182-187.	0.9	0
74	Power preserving model reduction of 2D vibro-acoustic system: A port Hamiltonian approach. IFAC-PapersOnLine, 2015, 48, 206-211.	0.9	7
75	Asymptotic Stabilisation of Distributed Port-Hamiltonian Systems by Boundary Energy-Shaping Control. IFAC-PapersOnLine, 2015, 48, 488-493.	0.9	5
76	Influence of mechanical noise inside a scanning electron microscope. Review of Scientific Instruments, 2015, 86, 045105.	1.3	4
77	Robust microscale grasping through a multimodel design: synthesis and real time implementation. Control Engineering Practice, 2015, 39, 12-22.	5.5	2
78	Relating systems properties of the wave and the Schrödinger equation. Evolution Equations and Control Theory, 2015, 4, 233-240.	1.3	1
79	Gain Scheduling Control of a Nonlinear Electrostatic Microgripper: Design by an Eigenstructure Assignment With an Observer-Based Structure. IEEE Transactions on Control Systems Technology, 2015, 23, 1255-1267.	5.2	18
80	Improvement of Silicon Nanotweezers Sensitivity for Mechanical Characterization of Biomolecules Using Closed-Loop Control. IEEE/ASME Transactions on Mechatronics, 2015, 20, 1418-1427.	5.8	8
81	Bouc–Wen Modeling and Feedforward Control of Multivariable Hysteresis in Piezoelectric Systems: Application to a 3-DoF Piezotube Scanner. IEEE Transactions on Control Systems Technology, 2015, 23, 1797-1806.	5.2	133
82	Simultaneous suppression of badly damped vibrations and cross-couplings in a 2-DoF piezoelectric actuator by using feedforward standard H^∞ approach. , 2015, , .		7
83	Extended high-gain observer for robust position control of a micro-gripper in air and vacuum. , 2015, , .		0
84	Modeling, identification and feedforward control of multivariable hysteresis by combining Bouc-Wen equations and the inverse multiplicative structure. , 2014, , .		7
85	Structure preserving reduction of port hamiltonian system using a modified LQG method. , 2014, , .		1
86	Generalized availability function for the control of chemical reactors. , 2014, , .		0
87	Exponential Stabilization of Boundary Controlled Port-Hamiltonian Systems With Dynamic Feedback. IEEE Transactions on Automatic Control, 2014, 59, 2849-2855.	5.7	72
88	An output feedback LPV control strategy of a nonlinear electrostatic microgripper through a singular implicit modeling. Control Engineering Practice, 2014, 28, 97-111.	5.5	17
89	Energy shaping of boundary controlled linear port Hamiltonian systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 1580-1585.	0.4	6
90	Robust Microscale Grasping Using a Self Scheduled Dynamic Controller. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 7492-7498.	0.4	3

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91	Multivariable Generalized Bouc-Wen modeling, identification and feedforward control and its application to multi-DoF piezoelectric actuators. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 10952-10958.	0.4	17
92	Port Hamiltonian System in Descriptor Form for Balanced Reduction: Application to a Nanotweezer. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 11404-11409.	0.4	7
93	Interconnection and Damping Assignment - Passivity Based Control of Irreversible Port Hamiltonian Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 9111-9116.	0.4	3
94	Coupling between hyperbolic and diffusive systems: A port-Hamiltonian formulation. European Journal of Control, 2013, 19, 505-512.	2.6	5
95	Passivity-based nonlinear control of CSTR via asymptotic observers. Annual Reviews in Control, 2013, 37, 278-288.	7.9	20
96	Modeling and Optimal Force Control of a Nonlinear Electrostatic Microgripper. IEEE/ASME Transactions on Mechatronics, 2013, 18, 1130-1139.	5.8	81
97	Thermodynamics based stability analysis and its use for nonlinear stabilization of the CSTR. Computers and Chemical Engineering, 2013, 58, 156-177.	3.8	24
98	Closed-loop control of silicon nanotweezers for improvement of sensitivity to mechanical stiffness measurement and bio-sensing on DNA molecules. , 2013, , .		1
99	Exponential stabilization of a class of flexible microgrippers using dynamic boundary port Hamiltonian control. , 2013, , .		2
100	Exponential stability of a class of PDE's with dynamic boundary control. , 2013, , .		5
101	Exponential stability of boundary controlled port Hamiltonian systems with dynamic feedback. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 115-120.	0.4	4
102	Passivity Based Control of Irreversible Port Hamiltonian Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 84-89.	0.4	6
103	A fractional Burgers equation arising in nonlinear acoustics: theory and numerics. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 406-411.	0.4	10
104	Boundary port Hamiltonian control of a class of nanotweezers. , 2013, , .		5
105	Study of thermal and acoustic noise interferences in low stiffness atomic force microscope cantilevers and characterization of their dynamic properties. Review of Scientific Instruments, 2012, 83, 013704.	1.3	11
106	Thermodynamics based stabilitization of CSTR networks. , 2012, , .		7
107	Gain scheduled control strategies for a nonlinear electrostatic microgripper: Design and real time implementation. , 2012, , .		8
108	Dynamic Modeling of the Reactive Twin-Screw Corotating Extrusion Process: Experimental Validation by Using Inlet Glass Fibers Injection Response and Application to Polymers Degassing. Industrial & Engineering Chemistry Research, 2012, 51, 11381-11388.	3.7	8

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109	Lyapunov-based control of non isothermal continuous stirred tank reactors using irreversible thermodynamics. Journal of Process Control, 2012, 22, 412-422.	3.3	60
110	Magnetic Shape Memory Alloys as smart materials for micro-positioning devices. Advanced Electromagnetics, 2012, 1, 75.	1.0	29
111	From Canonical Hamiltonian to Port-Hamiltonian Modeling: Application to Magnetic Shape Memory Alloys Actuators. , 2011, , .		3
112	Noise characterization in millimeter sized micromanipulation systems. Mechatronics, 2011, 21, 1087-1097.	3.3	21
113	The port Hamiltonian approach to modeling and control of Continuous Stirred Tank Reactors. Journal of Process Control, 2011, 21, 1449-1458.	3.3	79
114	Effects of environmental noise on the accuracy of millimeter sized grippers in cantilever configuration and active stabilisation. , 2011, , .		1
115	Linking hyperbolic and parabolic p.d.e.'s. , 2011, , .		7
116	Systèmes hamiltoniens à ports de dimension infinie. Réduction et propriétés spectrales. Journal Europeen Des Systemes Automatises, 2011, 45, 645-664.	0.4	4
117	Kalman Filtering Applied to Weak Force Measurement and Control in the Microworld. , 2011, , 71-91.		0
118	Force control in piezoelectric microactuators using self scheduled H technique. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 417-422.	0.4	9
119	Well-posedness and regularity of hyperbolic boundary control systems on a one-dimensional spatial domain. ESAIM - Control, Optimisation and Calculus of Variations, 2010, 16, 1077-1093.	1.3	53
120	Modelling of a MEMS-based microgripper: application to dexterous micromanipulation. , 2010, , .		21
121	Une étude sur les spécificités de la commande dans le micromonde. Journal Europeen Des Systemes Automatises, 2010, 44, 577-601.	0.4	0
122	Modeling and simulation of polymeric nanocapsule formation by emulsion diffusion method. AICHE Journal, 2009, 55, 2094-2105.	3.6	19
123	Structure-preserving infinite dimensional model reduction: Application to adsorption processes. Journal of Process Control, 2009, 19, 394-404.	3.3	29
124	Port-Based Modeling in Different Domains. , 2009, , 131-209.		0
125	Exponential Stability of a Class of Boundary Control Systems. IEEE Transactions on Automatic Control, 2009, 54, 142-147.	5.7	86
126	A Hamiltonian perspective to the stabilization of systems of two conservation laws. Networks and Heterogeneous Media, 2009, 4, 249-266.	1.1	3

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127	Port based modelling of a multiscale adsorption column. Mathematical and Computer Modelling of Dynamical Systems, 2008, 14, 195-211.	2.2	5
128	Energy-preserving method for spatial discretization: application to an adsorption column. Computer Aided Chemical Engineering, 2008, , 727-732.	0.5	0
129	Basis for bond-graph modeling in chemical engineering. Computer Aided Chemical Engineering, 2007, 24, 69-74.	0.5	3
130	A double linear driving force approximation for non-isothermal mass transfer modeling through bi-disperse adsorbents. Chemical Engineering Science, 2007, 62, 4040-4053.	3.8	25
131	Dynamic modeling of a batch crystallization process: A stochastic approach for agglomeration and attrition process. Chemical Engineering Science, 2007, 62, 6604-6614.	3.8	8
132	Induction machine control using robust eigenstructure assignment. Control Engineering Practice, 2006, 14, 29-43.	5.5	12
133	Dissipative boundary control systems with application to distributed parameters reactors. , 2006, , .		6
134	Dirac structures and Boundary Control Systems associated with Skew-Symmetric Differential Operators. SIAM Journal on Control and Optimization, 2005, 44, 1864-1892.	2.1	219
135	Controller parametric robustification using observer-based formulation and multimodel design technique. IEEE Transactions on Automatic Control, 2005, 50, 526-531.	5.7	6
136	Generic Dynamic Model for Simulation and Control of Reactive Extrusion. Industrial & Engineering Chemistry Research, 2004, 43, 7373-7382.	3.7	54
137	An Eigenstructure Based Methodology for Controller Reduction. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2003, 36, 235-240.	0.4	0
138	A robust self-scheduled missile autopilot: design by multi-model eigenstructure assignment. Control Engineering Practice, 2001, 9, 1067-1078.	5.5	28
139	Controller reduction with closed loop H infinity performance constraints: A QFT perspective. International Journal of Control, 1999, 72, 1249-1259.	1.9	2
140	An observer based multimodel control design approach. International Journal of Systems Science, 1999, 30, 61-68.	5.5	8
141	Modal Multimodel Control Design Approach Applied to Aircraft Autopilot Design. Journal of Guidance, Control, and Dynamics, 1998, 21, 77-83.	2.8	30
142	Flexible Transmission System Controlled by Modal Dynamic Feedback. European Journal of Control, 1997, 3, 227-234.	2.6	6
143	Stability and Stabilization of a Class of Boundary Control Systems. , 0, , .		24