Toshiyuki Ohtsuka

List of Publications by Year
in descending order

141 papers	1,532 citations	567281 15 h-index	345221 36 g-index
142 all docs	142 docs citations	142 times ranked	689 citing authors

#	Article	IF	Citations
1	A continuation/GMRES method for fast computation of nonlinear receding horizon control. Automatica, 2004, 40, 563-574.	5.0	598
2	Real-time optimization algorithm for nonlinear receding-horizon control. Automatica, 1997, 33, 1147-1154.	5.0	81
3	Nonlinear receding horizon control of an underactuated hovercraft. International Journal of Robust and Nonlinear Control, 2003, 13, 381-398.	3.7	58
4	Stabilized continuation method for solving optimal control problems. Journal of Guidance, Control, and Dynamics, 1994, 17, 950-957.	2.8	57
5	Mission function control for a slew maneuver experiment. Journal of Guidance, Control, and Dynamics, 1991, 14, 986-992.	2.8	47
6	Wave-absorbing control for flexible structures with noncollocated sensors and actuators. Journal of Guidance, Control, and Dynamics, 1992, 15, 431-439.	2.8	42
7	Model structure simplification of Nonlinear Systems via immersion. IEEE Transactions on Automatic Control, 2005, 50, 607-618.	5.7	33
8	Time-Variant Receding-Horizon Control of Nonlinear Systems. Journal of Guidance, Control, and Dynamics, 1998, 21, 174-176.	2.8	32
9	Experiment of a noncollocated controller for wave cancellation. Journal of Guidance, Control, and Dynamics, 1992, 15, 741-745.	2.8	30
10	A parallel Newton-type method for nonlinear model predictive control. Automatica, 2019, 109, 108560.	5.0	27
11	Automatic Code Generation System for Nonlinear Receding Horizon Control. Transactions of the Society of Instrument and Control Engineers, 2002, 38, 617-623.	0.2	24
12	A real€time algorithm for nonlinear receding horizon control using multiple shooting and continuation/Krylov method. International Journal of Robust and Nonlinear Control, 2009, 19, 919-936.	3.7	23
13	Solutions to the Hamilton-Jacobi Equation With Algebraic Gradients. IEEE Transactions on Automatic Control, 2011, 56, 1874-1885.	5.7	22
14	Nonlinear receding-horizon state estimation by real-time optimization technique. Journal of Guidance, Control, and Dynamics, 1996, 19, 863-870.	2.8	20
15	Observability at an initial state for polynomial systems. Automatica, 2013, 49, 1126-1136.	5.0	20
16	A tutorial on C/GMRES and automatic code generation for nonlinear model predictive control. , 2015, , .		16
17	Receding Horizon Control for Hot Strip Mill Cooling Systems. IEEE/ASME Transactions on Mechatronics, 2013, 18, 998-1005.	5.8	14
18	Nonlinear Eigenvalue Approach to Differential Riccati Equations for Contraction Analysis. IEEE Transactions on Automatic Control, 2017, 62, 6497-6504.	5.7	14

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19	A moving switching sequence approach for nonlinear model predictive control of switched systems with state–dependent switches and state jumps. International Journal of Robust and Nonlinear Control, 2020, 30, 719-740.	3.7	14
20	PBH tests for nonlinear systems. Automatica, 2017, 80, 135-142.	5.0	13
21	Nonlinear Model Predictive Control of Position and Attitude in a Hexacopter with Three Failed Rotors. IFAC-PapersOnLine, 2018, 51, 228-233.	0.9	13
22	A Recursive Elimination Method for Finite-Horizon Optimal Control Problems of Discrete-Time Rational Systems. IEEE Transactions on Automatic Control, 2014, 59, 3081-3086.	5.7	12
23	Nonlinear Receding-Horizon State Estimation with Unknown Disturbances. Transactions of the Society of Instrument and Control Engineers, 1999, 35, 1253-1260.	0.2	10
24	Receding Horizon Control With Numerical Solution for Nonlinear Parabolic Partial Differential Equations. IEEE Transactions on Automatic Control, 2013, 58, 725-730.	5.7	10
25	Commutative algebraic methods for controllability of discrete-time polynomial systems. International Journal of Control, 2016, 89, 343-351.	1.9	9
26	Nonlinear Receding Horizon Control of Thickness and Tension in a Tandem Cold Mill with a Variable Rolling Speed. ISIJ International, 2012, 52, 87-95.	1.4	9
27	Nonlinear receding horizon control of an underactuated hovercraft with a multiple-shooting-based algorithm. , 2006, , .		8
28	A real–time algorithm for nonlinear infinite horizon optimal control by time axis transformation method. International Journal of Robust and Nonlinear Control, 2013, 23, 1955-1971.	3.7	8
29	Observability Analysis of Nonlinear Systems Using Pseudo-Linear Transformation. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 606-611.	0.4	8
30	Quasi-Newton-Type Continuation Method for Nonlinear Receding Horizon Control. Journal of Guidance, Control, and Dynamics, 2002, 25, 685-692.	2.8	7
31	Switching Control for Guaranteeing the Safety of a Tethered Satellite. Journal of Guidance, Control, and Dynamics, 2006, 29, 822-830.	2.8	7
32	Particle Model Predictive Control for Probability Density Functions. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 7993-7998.	0.4	7
33	Stability criteria with nonlinear eigenvalues for diagonalizable nonlinear systems. Systems and Control Letters, 2015, 86, 41-47.	2.3	7
34	Rendering a Prescribed Subset Invariant for Polynomial Systems by Dynamic State-Feedback Compensator**This work was supported by JSPS KAKENHI Grant Numbers JP16K18120, JP15H02257.. IFAC-PapersOnLine, 2016, 49, 1042-1047.	0.9	7
35	A Parallel Code Generation Toolkit for Nonlinear Model Predictive Control. , 2018, , .		7
36	A Highly Parallelizable Newton-type Method for Nonlinear Model Predictive Control. IFAC-PapersOnLine, 2018, 51, 349-355.	0.9	7

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37	Finite-Horizon Optimal State-Feedback Control of Nonlinear Stochastic Systems Based on a Minimum Principle. , 2006, , .		6
38	Online-computation approach to optimal control of noise-affected nonlinear systems with continuous state and control spaces. , 2007, , .		6
39	Algebraic Structures in Nonlinear Systems over Rings Obtained by Immersion. SIAM Journal on Control and Optimization, 2008, 47, 1961-1976.	2.1	6
40	Simple Sufficient Conditions for Reachability of Discrete-Time Polynomial Systems. IEEE Transactions on Automatic Control, 2013, 58, 3203-3206.	5.7	6
41	Energy savings for ship propulsion in waves based on real-time optimal control of propeller pitch and electric propulsion. Journal of Marine Science and Technology, 2017, 22, 546-558.	2.9	6
42	ParNMPC â€" a parallel optimisation toolkit for real-time nonlinear model predictive control. International Journal of Control, 2022, 95, 390-405.	1.9	6
43	Nonlinear Moving Horizon State Estimation with Continuation/Generalized Minimum Residual Method. Journal of Guidance, Control, and Dynamics, 2005, 28, 878-884.	2.8	5
44	Global Observability of Discrete-Time Polynomial Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 203-207.	0.4	5
45	Receding horizon control for spatiotemporal dynamic systems. Mechanical Engineering Journal, 2016, 3, 15-00345-15-00345.	0.4	5
46	Stochastic Model Predictive Control Using Simplified Affine Disturbance Feedback for Chance-Constrained Systems. , 2021, 5, 1633-1638.		5
47	Tuning of Performance Index in Nonlinear Model Predictive Control by the Inverse Linear Quadratic Regulator Design Method. SICE Journal of Control Measurement and System Integration, 2013, 6, 387-395.	0.7	5
48	Stabilization of Suspension Vehicle Near Rollover by Nonlinear Model Predictive Control. SICE Journal of Control Measurement and System Integration, 2014, 7, 364-373.	0.7	5
49	Receding Horizon Control for High-Dimensional Burgers' Equations with Boundary Control Inputs. Transactions of the Japan Society for Aeronautical and Space Sciences, 2013, 56, 137-144.	0.7	5
50	Shaping of system responses with minimax optimization in the time domain. Journal of Guidance, Control, and Dynamics, 1993, 16, 40-46.	2.8	4
51	Real-Time Receding-Horizon Control Algorithm for Nonlinear Systems. Transactions of the Society of Instrument and Control Engineers, 1997, 33, 1131-1139.	0.2	4
52	Commutativity of Immersion and Linearization. IEEE Transactions on Automatic Control, 2009, 54, 826-829.	5.7	4
53	Nonlinear Receding Horizon Control of Thickness and Tension in a Tandem Cold Mill with a Variable Rolling Speed. Tetsu-To-Hagane/Journal of the Iron and Steel Institute of Japan, 2010, 96, 459-467.	0.4	4
54	Tuning of nonlinear model predictive controller for the speed control of spark ignition engines. , 2013, , .		4

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55	A Sufficient Condition for the Stability of Discrete-Time Systems With State-Dependent Coefficient Matrices. IEEE Transactions on Automatic Control, 2014, 59, 243-248.	5.7	4
56	Recovery of Vehicle Near Rollover by Nonlinear Model Predictive Control. SICE Journal of Control Measurement and System Integration, 2015, 8, 380-389.	0.7	4
57	Parameter sensitivity reduction of nonlinear model predictive control for discrete-time systems. , 2017, , .		4
58	Nonlinear Model Predictive Control for Systems with State-Dependent Switches and State Jumps Using a Penalty Function Method. , 2018, , .		4
59	Nonlinear Optimal Feedback Control for Deployment/Retrieval of a Tethered Satellite.. Transactions of the Japan Society for Aeronautical and Space Sciences, 2001, 43, 165-173.	0.7	4
60	Efficient solution method based on inverse dynamics for optimal control problems of rigid body systems. , 2021, , .		4
61	Closed Loop Identification Based on the Virtual Reference Feedback Tuning Applied to a Virtual Two-Degree-of-Freedom Control System. SICE Journal of Control Measurement and System Integration, 2009, 2, 168-176.	0.7	4
62	Nonlinear Receding Horizon Control of Probability Density Functions. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 735-740.	0.4	3
63	Simulation Study on Application of Nonlinear Model Predictive Control to the Superfluid Helium Cryogenic Circuit*. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 3647-3652.	0.4	3
64	Necessary condition for local observability of discrete-time polynomial systems. , 2012, , .		3
65	Receding horizon control with numerical solution for spatiotemporal dynamic systems. , 2012, , .		3
66	Algebraic Solutions to the Hamilton-Jacobi Equation with the Time-Varying Hamiltonian. SICE Journal of Control Measurement and System Integration, 2013, 6, 28-37.	0.7	3
67	NMPC for superfluid helium cryogenics. IFAC-PapersOnLine, 2015, 48, 440-445.	0.9	3
68	MPC-Based Speed Tracking Control Design for Spark-Ignition Engines. SICE Journal of Control Measurement and System Integration, 2015, 8, 201-208.	0.7	3
69	Algebraic Approach to Nonlinear Optimal Control Problems with Terminal Constraints: Sufficient Conditions for Existence of Algebraic Solutions. SICE Journal of Control Measurement and System Integration, 2018, 11, 198-206.	0.7	3
70	Integrated Optimization of Climbing Locomotion for a Humanoid Robot. IFAC-PapersOnLine, 2019, 52, 574-579.	0.9	3
71	Lie Derivative Inclusion for a Class of Polynomial State Feedback Controls. Transactions of the Institute of Systems Control and Information Engineers, 2014, 27, 423-433.	0.1	3
72	Lie Derivative Inclusion with Polynomial Output Feedback. Transactions of the Institute of Systems Control and Information Engineers, 2015, 28, 22-31.	0.1	3

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73	Load frequency control by integrating real-time price presentations for consumers and direct commands issued to generators and batteries. , 2016, , .		3
74	Nonlinear Model Predictive Control for Suppressing Variations of Blade Bending Stress in Floating Offshore Wind Turbines Affected by Strong Winds. Transactions of the Society of Instrument and Control Engineers, 2018, 54, 156-166.	0.2	3
75	Computational method for minimax optimization in the time domain. Journal of Guidance, Control, and Dynamics, 1994, 17, 473-479.	2.8	2
76	Design of stabilizing control laws for mechanical systems based on Lyapunov's method. Journal of Guidance, Control, and Dynamics, 1996, 19, 172-180.	2.8	2
77	Receding horizon control for mass transport phenomena in thermal fluid systems. , 2014, , .		2
78	Non-linear moving horizon state estimation and control for the superfluid helium cryogenic circuit at the large Hadron Collider. , 2014, , .		2
79	Realization of a vector field via state feedback for polynomial dynamical systems. , 2014, , .		2
80	Realization of a nonlinear system in the feedforward form: a polynomial approach. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 9480-9485.	0.4	2
81	On robustness of Lyapunov-based nonlinear adaptive controllers. IFAC-PapersOnLine, 2016, 49, 229-234.	0.9	2
82	Algebraic approach to nonlinear finite-horizon optimal control problems with terminal constraints. , 2017, , .		2
83	Nonlinear model predictive control for systems with autonomous state jumps using a penalty function method. , 2017, , .		2
84	Algebraic approach to nonlinear finite-horizon optimal control problems of discrete-time systems with terminal constraints. , 2017, , .		2
85	Parallel Precomputation with Input Value Prediction for Model Predictive Control Systems. IEICE Transactions on Information and Systems, 2018, E101.D, 2864-2877.	0.7	2
86	Scenario-Based Nonlinear Model Predictive Control for Switched Systems with Externally Forced Switchings. , 2018, , .		2
87	Practical Issues in Nonlinear Model Predictive Control: Real-Time Optimization and Systematic Tuning. Lecture Notes in Control and Information Sciences, 2009, , 447-460.	1.0	2
88	Input-Output Linearization for Transfer Functions of Input-Affine Meromorphic Systems. SICE Journal of Control Measurement and System Integration, 2012, 5, 133-138.	0.7	2
89	Optimal plug-and-control of unknown nonlinear systems. European Journal of Control, 2022, 64, 100606.	2.6	2
90	Receding horizon state estimation by real-time optimization technique. , 1995, , .		1

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91	Time-variant receding-horizon control of nonlinear systems. , 1996, , .		1
92	l1 State Feedback Control of Active Suspension.. JSME International Journal Series C-Mechanical Systems Machine Elements and Manufacturing, 2000, 43, 505-512.	0.3	1
93	Receding-Horizon Differential Game of Nonlinear Four-Wheeled Vehicle Models.. Nippon Kikai Gakkai Ronbunshu, C Hen/Transactions of the Japan Society of Mechanical Engineers, Part C, 2000, 66, 3962-3969.	0.2	1
94	Receding horizon control for nonlinear parabolic partial differential equations with boundary control inputs. , 2010, , .		1
95	Nonlinear Model Predictive Control for the Superfluid Helium Cryogenic Circuit of the Large Hadron Collider. , 2010, , .		1
96	An Algebraic Approach to Local Observability at an Initial State for Discrete-Time Polynomial Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 6449-6453.	0.4	1
97	Offset Compensation of Continuous Time Model Predictive Control by Disturbance Estimation. Transactions of the Institute of Systems Control and Information Engineers, 2012, 25, 172-180.	0.1	1
98	Algebraic Function Solutions to Infinite-horizon Nonlinear Discrete-time Optimal Control Problems. Transactions of the Society of Instrument and Control Engineers, 2014, 50, 556-558.	0.2	1
99	Local realization of vector field by state feedback. , 2015, , .		1
100	Real-time price optimization for load frequency control in electric power systems with wind farms. , 2016, , .		1
101	Nonlinear receding-horizon differential game between a multirotor UAV and a moving object. , 2017, , .		1
102	An Iterative Horizon-Splitting Method for Model Predictive Control. , 2019, , .		1
103	A combined firstâ€•and secondâ€•order approach for model predictive control. International Journal of Robust and Nonlinear Control, 2021, 31, 4553-4569.	3.7	1
104	Stochastic Model Predictive Control Using Simplified Affine Disturbance Feedback for Chance-Constrained Systems. , 2021, , .		1
105	Nonlinear model predictive control for hexacopter with failed rotors based on quaternions â€"simulations and hardware experimentsâ€". Mechanical Engineering Journal, 2021, 8, .	0.4	1
106	Standard Structure of Nonlinear Systems: Conditions for Immersibility into Quadratic-in-the-State Representation. Transactions of the Society of Instrument and Control Engineers, 2000, 36, 569-574.	0.2	1
107	Gate Generation of a Compass Type Walking Model Based on Dynamical Symmetry. Transactions of the Society of Instrument and Control Engineers, 2004, 40, 509-517.	0.2	1
108	Dispersion Control of Steel Plate Temperature by Particle Model Predictive Control. Tetsu-To-Hagane/Journal of the Iron and Steel Institute of Japan, 2013, 99, 275-282.	0.4	1

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109	Model Predictive Control based Real-time Pricing for Load Frequency Control in Electric Power Systems. Transactions of the Institute of Systems Control and Information Engineers, 2014, 27, 405-411.	0.1	1
110	Recursive Elimination Method in Moving Horizon Estimation for a Class of Nonlinear Systems and Non-Gaussian Noise. SICE Journal of Control Measurement and System Integration, 2020, 13, 282-290.	0.7	1
111	Parameter-varying modeling and nonlinear model predictive control with disturbance prediction for spar-type floating offshore wind turbines. Journal of Marine Science and Technology, 2022, 27, 589-603.	2.9	1
112	Application of Nonlinear Model Predictive Control to Quadcopter Equipped with Internal Control System. , 2022, , .		1
113	Wave-absorbing control for flexible space structures with non-colocated sensors and actuators. , 1989, , .		0
114	Computational method for minimax optimization in the time domain. , 1992, , .		0
115	Stabilized continuation method for solving optimal control problems. , 1993, , .		0
116	Design of stabilizing control laws for mechanical systems based on Lyapunov's method. , 1993, , .		0
117	l1 State Feedback Control of Active Suspension.. Nippon Kikai Gakkai Ronbunshu, C Hen/Transactions of the Japan Society of Mechanical Engineers, Part C, 1999, 65, 955-961.	0.2	0
118	l1 State Feedback Control of Semi-Active Suspension.. JSME International Journal Series C-Mechanical Systems Machine Elements and Manufacturing, 2001, 44, 634-642.	0.3	0
119	Switching Control Approach to Construct the Guaranteed Safe Region of A Tethered Satellite. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2004, 37, 337-342.	0.4	0
120	Commutativity of immersion and linearization. , 2007, , .		0
121	Model predictive control for hot strip mill cooling system. , 2010, , .		0
122	An algebraic solution method for the unsteady Hamilton-Jacobi equation. , 2011, , .		0
123	A Recursive Elimination Method for Optimal Control of Discrete-Time Polynomial Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 317-322.	0.4	0
124	Output Feedback receding horizon control for spatiotemporal dynamic systems. , 2013, , .		0
125	Algebraic Properties of Transfer Function Matrices for Meromorphic Nonlinear Time-Varying Systems. Transactions of the Institute of Systems Control and Information Engineers, 2013, 26, 185-192.	0.1	0
126	Inverse optimal controller for nonlinear systems with convex input constraints. IFAC-PapersOnLine, 2016, 49, 742-747.	0.9	0

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127	Algebraic geometric approach to output dead-beat controllability of discrete-time polynomial systems. Nonlinear Theory and Its Applications IEICE, 2016, 7, 460-467.	0.6	0
128	Optimization of limb reaching movement for climbing humanoid robots. , 2017, , .		0
129	Recursive Elimination Method for Moving Horizon Estimation of Discrete-Time Polynomial Systems. , 2019, , .		0
130	Inverse dynamicsâ€based formulation of finite horizon optimal control problems for rigidâ€body systems. Optimal Control Applications and Methods, 2021, 42, 1632.	2.1	0
131	Algebraic Characterization of Model Structure Simplification via Immersion. Transactions of the Society of Instrument and Control Engineers, 2003, 39, 1117-1123.	0.2	0
132	Global Observability of Input-affine Polynomial Systems. Transactions of the Society of Instrument and Control Engineers, 2010, 46, 353-355.	0.2	0
133	Model Predictive Control for Nonlinear Parabolic Partial Differential Equations. Transactions of the Society of Instrument and Control Engineers, 2011, 47, 230-237.	0.2	0
134	Nonlinear Adaptive Model Predictive Control via Immersion and Invariance Stabilizability. Transactions of the Institute of Systems Control and Information Engineers, 2012, 25, 281-288.	0.1	0
135	A Real-Time Algorithm for Constrained Nonlinear Receding Horizon Control Based on Off-Line Singular Value Decomposition. Transactions of the Institute of Systems Control and Information Engineers, 2012, 25, 126-133.	0.1	0
136	Tuning of Nonlinear Model Predictive Controller for Parameter-Dependent Systems and its Application to the Speed Control of Spark Ignition Engines. Transactions of the Institute of Systems Control and Information Engineers, 2014, 27, 333-342.	0.1	0
137	A Recursive Substitution Method for a Class of Nonlinear Optimal Control Problems. SICE Journal of Control Measurement and System Integration, 2015, 8, 189-194.	0.7	0
138	Sufficient Condition for Global Observability Decomposition of Polynomial Systems. SICE Journal of Control Measurement and System Integration, 2015, 8, 228-233.	0.7	0
139	Model Predictive Control for Systems Connected by Time-delay Elements. Transactions of the Society of Instrument and Control Engineers, 2018, 54, 447-457.	0.2	0
140	Real-Time Pricing for Electric Power Systems by Nonlinear Model Predictive Control. , 2020, , 245-277.		0
141	Load Frequency Control and Real-Time Pricing with Stochastic Model Predictive Control. SICE Journal of Control Measurement and System Integration, 2020, 13, 215-224.	0.7	0