

# William P Heath

## List of Publications by Year in descending order

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Version: 2024-02-01

92  
papers

1,194  
citations

393982

19  
h-index

454577

30  
g-index

93  
all docs

93  
docs citations

93  
times ranked

532  
citing authors

#	ARTICLE	IF	CITATIONS
1	Barrier function based model predictive control. Automatica, 2004, 40, 1415-1422.	3.0	117
2	Orthogonal functions for cross-directional control of web forming processes. Automatica, 1996, 32, 183-198.	3.0	71
3	Zames's Falb multipliers for absolute stability: From $Ox^3$ Sheax <sup>3</sup> s contribution to convex searches. European Journal of Control, 2016, 28, 1-19.	1.6	65
4	Zames-Falb Multipliers for Quadratic Programming. IEEE Transactions on Automatic Control, 2007, 52, 1948-1951.	3.6	41
5	A sufficient condition for the stability of optimizing controllers with saturating actuators. International Journal of Robust and Nonlinear Control, 2005, 15, 515-529.	2.1	40
6	Equivalence between classes of multipliers for slope-restricted nonlinearities. Automatica, 2013, 49, 1732-1740.	3.0	40
7	Comments on "On the Existence of Stable, Causal Multipliers for Systems With Slope-Restricted Nonlinearities". IEEE Transactions on Automatic Control, 2012, 57, 2422-2428.	3.6	34
8	LMI-Based Stability Criteria for Discrete-Time Lur'e Systems With Monotonic, Sector- and Slope-Restricted Nonlinearities. IEEE Transactions on Automatic Control, 2013, 58, 459-465.	3.6	34
9	LMI searches for anticausal and noncausal rational Zames's Falb multipliers. Systems and Control Letters, 2014, 70, 17-22.	1.3	31
10	Internal model control design for input-constrained multivariable processes. AIChE Journal, 2011, 57, 3459-3472.	1.8	28
11	High Speed Crop and Weed Identification in Lettuce Fields for Precision Weeding. Sensors, 2020, 20, 455.	2.1	28
12	Bias of indirect non-parametric transfer function estimates for plants in closed loop. Automatica, 2001, 37, 1529-1540.	3.0	27
13	Enhanced Tracking for Nanopositioning Systems Using Feedforward/Feedback Multivariable Control Design. IEEE Transactions on Control Systems Technology, 2015, 23, 1003-1013.	3.2	26
14	Convex Searches for Discrete-Time Zames's Falb Multipliers. IEEE Transactions on Automatic Control, 2020, 65, 4538-4553.	3.6	26
15	Model correction for a class of spatio-temporal systems. Automatica, 2002, 38, 147-155.	3.0	23
16	Anti-windup and the preservation of robustness against structured norm-bounded uncertainty. International Journal of Robust and Nonlinear Control, 2014, 24, 2640-2652.	2.1	23
17	Identification of cross-directional behaviour in web production: Techniques and experience. Control Engineering Practice, 1995, 3, 21-29.	3.2	22
18	Second-order counterexample to the discrete-time Kalman conjecture. , 2015, , .		21

#	ARTICLE	IF	CITATIONS
19	Self-tuning prediction and control for two-dimensional processes Part 1: Fixed parameter algorithms. International Journal of Control, 1995, 62, 65-107.	1.2	20
20	Lyapunov functions for the multivariable Popov criterion with indefinite multipliers. Automatica, 2009, 45, 2977-2981.	3.0	20
21	Multipliers for model predictive control with structured input constraints. Automatica, 2010, 46, 562-568.	3.0	20
22	Phase Limitations of Zames-Falb Multipliers. IEEE Transactions on Automatic Control, 2018, 63, 947-959.	3.6	20
23	Design of Cross-Directional Controllers with Optimal Steady State Performance*. European Journal of Control, 2004, 10, 15-27.	1.6	19
24	The Robustness and Design of Constrained Cross-Directional Control Via Integral Quadratic Constraints. IEEE Transactions on Control Systems Technology, 2011, 19, 1421-1432.	3.2	19
25	Self-tuning prediction and control for two-dimensional processes Part 2: Parameter estimation, set-point tracking and offset handling. International Journal of Control, 1995, 62, 239-269.	1.2	18
26	A complete and convex search for discrete-time noncausal FIR Zames-Falb multipliers. , 2014, , .		18
27	Concise stability conditions for systems with static nonlinear feedback expressed by a quadratic program. IET Control Theory and Applications, 2008, 2, 554-563.	1.2	16
28	Factorization of multipliers in passivity and IQC analysis. Automatica, 2012, 48, 909-916.	3.0	16
29	Directionality compensation for linear multivariable anti-windup synthesis. International Journal of Control, 2015, 88, 2392-2402.	1.2	16
30	Application of barrier function based model predictive control to an edible oil refining process. Journal of Process Control, 2005, 15, 183-200.	1.7	15
31	LMI searches for discrete-time Zames-Falb multipliers. , 2013, , .		13
32	On multipliers for bounded and monotone nonlinearities. Systems and Control Letters, 2014, 66, 65-71.	1.3	13
33	Large-area scanning probe nanolithography facilitated by automated alignment of probe arrays. RSC Advances, 2015, 5, 61402-61409.	1.7	13
34	Identification and control of web processes. Control Engineering Practice, 1998, 6, 321-331.	3.2	12
35	Construction of an online reduced-spectrum NIR calibration model from full-spectrum data. Chemometrics and Intelligent Laboratory Systems, 2005, 76, 37-43.	1.8	11
36	MPC for Plants Subject to Saturation and Deadzone, Backlash or Stiction. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 418-423.	0.4	10

#	ARTICLE	IF	CITATIONS
37	A Robust Kalman Conjecture For First-Order Plants. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 27-32.	0.4	10
38	The variation of non-parametric estimates in closed-loop. Automatica, 2003, 39, 1849-1863.	3.0	9
39	Robust Stability of Barrier-Based Model Predictive Control. IEEE Transactions on Automatic Control, 2021, 66, 1879-1886.	3.6	9
40	On-line sensing of paper machine wet-end properties: dry-line detector. IEEE Transactions on Control Systems Technology, 1997, 5, 571-585.	3.2	8
41	Dynamic modeling of cross-directional actuators: implications for control. IEEE Transactions on Control Systems Technology, 2000, 8, 667-675.	3.2	8
42	Stability analysis of asymmetric saturation via generalised Zames-Falb multipliers. , 2015, , .		8
43	Wavelet Package Energy Transmissibility Function and Its Application to Wind Turbine Blade Fault Detection. IEEE Transactions on Industrial Electronics, 2022, 69, 13597-13606.	5.2	8
44	Analysis of steady-state performance for cross-directional control. IET Control Theory and Applications, 2002, 149, 433-440.	1.7	7
45	Anti-windup synthesis for optimizing internal model control. , 2011, , .		7
46	Global convergence conditions in maximum likelihood estimation. International Journal of Control, 2012, 85, 475-490.	1.2	7
47	Global asymptotic stability for a class of discrete-time systems. , 2015, , .		7
48	Duality Bounds for Discrete-Time Zames-Falb Multipliers. IEEE Transactions on Automatic Control, 2022, 67, 3521-3528.	3.6	7
49	The stability analysis of systems with nonlinear feedback expressed by a quadratic program. , 2006, , .		6
50	An improved stability criterion for a class of Lur'e systems. , 2007, , .		5
51	Choice of Weighting for Averaged Nonparametric Transfer Function Estimates. IEEE Transactions on Automatic Control, 2007, 52, 1914-1920.	3.6	5
52	A regularised estimator for long-range dependent processes. Automatica, 2012, 48, 287-296.	3.0	5
53	Multivariable algebraic loops with complementarity constraints enforcing some KKT conditions. , 2014, , .		5
54	Backlash compensation for plants with saturating actuators. Proceedings of the Institution of Mechanical Engineers Part I: Journal of Systems and Control Engineering, 2017, 231, 471-480.	0.7	5

#	ARTICLE	IF	CITATIONS
55	Absolute Stability of Systems With Integrator and/or Time Delay via Off-Axis Circle Criterion. , 2018, 2, 411-416.		5
56	Multipliers for Nonlinearities With Monotone Bounds. IEEE Transactions on Automatic Control, 2022, 67, 910-917.	3.6	5
57	Constrained stable generalised predictive control. IET Control Theory and Applications, 1994, 141, 274-276.	1.7	4
58	The Variance of Nonparametric Errors- in-Variables Estimates. IEEE Transactions on Instrumentation and Measurement, 2005, 54, 228-236.	2.4	4
59	Regularised estimators for fractional Gaussian noise. , 2010, , .		4
60	Developing a Studentâ€™Focused Undergraduate Laboratory. International Journal of Electrical Engineering and Education, 2013, 50, 268-278.	0.4	4
61	Themed Project Case Study: Quadruple Tanks Control with PLCs. International Journal of Electrical Engineering and Education, 2013, 50, 279-292.	0.4	4
62	Interior-Point Algorithms for Nonlinear Model Predictive Control. , 2007, , 207-216.		4
63	Stability conditions for constrained two-stage internal model control. , 2010, , .		3
64	Modified Internal Model Control Anti-windup : Some New Insights and Interpretations. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 282-287.	0.4	3
65	Controller structure for plants with combined saturation and deadzone/backlash. , 2012, , .		3
66	A secant-based Nesterov method for convex functions. Optimization Letters, 2017, 11, 81-105.	0.9	3
67	Hamiltonian Decomposition for Model Predictive Control. IFAC-PapersOnLine, 2018, 51, 193-198.	0.5	3
68	Kalman Conjecture for Resonant Second-Order Systems with Time Delay. , 2018, , .		3
69	Large-area Scanning Probe Nanolithography Facilitated by Automated Alignment and Its Application to Substrate Fabrication for Cell Culture Studies. Journal of Visualized Experiments, 2018, , .	0.2	3
70	Robust stability analysis for barrier-based equation-free multi-linear model predictive control. Chemical Engineering Research and Design, 2019, 144, 237-246.	2.7	3
71	The variance of non-parametric errors-in-variables estimates. , 0, , .		2
72	Robust Anti-windup Synthesis for Directionality Compensation. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 276-281.	0.4	2

#	ARTICLE	IF	CITATIONS
73	Two-stage multivariable IMC Antiwindup (TMIA) control of a Quadruple Tank process using a PLC. , 2014, , .		2
74	Phase limitations of discrete-time Zames-Falb multipliers. , 2015, , .		2
75	Robust synthesis for directionality compensation. IET Control Theory and Applications, 2016, 10, 312-319.	1.2	2
76	Discrete-time counterparts of the RL and RC multipliers. International Journal of Control, 2020, 93, 1180-1193.	1.2	2
77	Offset-free IMC with generalized disturbance models. Automatica, 2020, 122, 109270.	3.0	2
78	On MLE methods for dynamical systems with fractionally differenced noise spectra. , 2009, , .		1
79	Lyapunov functions for discrete-time multivariable Popov criterion with indefinite multipliers. , 2010, , .		1
80	Regularised Estimators for ARFIMA Processes. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 298-303.	0.4	1
81	Classical Tuning of Force Feedback Control for Nanopositioning Systems with Load Variations. IFAC-PapersOnLine, 2016, 49, 649-655.	0.5	1
82	Phase Properties of the Generalised Zames- Falb Multipliers. , 2018, , .		1
83	A Hamiltonian Decomposition-based Splitting Method for Interior Point Solvers in Model Predictive Control. , 2019, , .		1
84	Wavelet Energy Transmissibility Analysis for Wind Turbine Blades Fault Detection. , 2020, , .		1
85	On Lyapunov-Lurê™e functional based stability criterion for discrete-time Lurê™e systems. IFAC-PapersOnLine, 2020, 53, 6364-6369.	0.5	1
86	System Identification and Control Design for a Tip Tilt Nanopositioning System. IFAC-PapersOnLine, 2020, 53, 8577-8584.	0.5	1
87	The quantification of large SNR for MLE of ARARMAX models. , 2009, , .		0
88	Feedforward/feedback multivariable control design for high speed nanopositioning. , 2014, , .		0
89	Discrete-time counterparts of the RL and RC multipliers. , 2017, , .		0
90	Controller structure for plants with combined saturation and stiction. Proceedings of the Institution of Mechanical Engineers Part I: Journal of Systems and Control Engineering, 2019, 233, 945-960.	0.7	0

#	ARTICLE	IF	CITATIONS
91	Phase limitations of generalised OZF multipliers: further results. , 2022, , .		0
92	A Novel Triad Twisted String Actuator for Controlling a Two Degrees of Freedom Joint: Design and Experimental Validation. , 2022, , .		0