Vladimír Kučera

List of Publications by Year
in descending order

121 papers	2,658 citations	218677 26 h-index	206112 48 g-index
124 all docs	124 docs citations	124 times ranked	821 citing authors

#	Article	IF	Citations
1	Assignment of infinite zero orders in linear systems using state feedback. Automatica, 2022, 135, 109954.	5.0	1
2	Decoupling With Stability of Linear Systems by Static-State Feedback. IEEE Transactions on Automatic Control, 2021, 66, 4684-4699.	5.7	3
3	Polynomial/Algebraic Design Methods. , 2021, , 1745-1753.		0
4	Stability-Preserving Morse Normal Form. IEEE Transactions on Automatic Control, 2020, 65, 5099-5113.	5.7	3
5	Robust decentralized controller design based on equivalent subsystems. Automatica, 2019, 107, 29-35.	5.0	11
6	Block Decoupling of Linear Systems by Static-State Feedback. IEEE Transactions on Automatic Control, 2019, 64, 3447-3452.	5.7	3
7	An Alternative Proof of the Kronecker/Morse Normal Form. , 2019, , .		2
8	Assignment of Invariant and Transmission Zeros in Linear Systems. , 2018, , .		0
9	Diagonal Decoupling of Linear Systems by Static-State Feedback. IEEE Transactions on Automatic Control, 2017, 62, 6250-6265.	5.7	13
10	From Differential to Algebraic Riccati Equations: The influence of Kalman [Historical Perspectives]. IEEE Control Systems, 2017, 37, 153-156.	0.8	0
11	Rudolf E. Kalman: Life and Works. IFAC-PapersOnLine, 2017, 50, 631-636.	0.9	0
12	Achievable Structures at Infinity of Linear Systems Decoupled by Non-regular Static State Feedback. IFAC-PapersOnLine, 2017, 50, 10834-10838.	0.9	1
13	Model Matching by Dynamic State Feedback. IFAC-PapersOnLine, 2017, 50, 3045-3050.	0.9	2
14	Stable Model Matching by Non-Regular Static State Feedback. IEEE Transactions on Automatic Control, 2016, 61, 4138-4142.	5.7	3
15	Model matching by non-regular static state feedback. , 2015, , .		2
16	Realization of full column rank precompensators using stabilizing static state feedback. Systems and Control Letters, 2015, 76, 42-46.	2.3	3
17	A review of stable exact model matching by state feedback. , 2014, , .		9
18	IAE optimization of delayed PID control loops using dimensional analysis approach. , 2014, , .		4

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19	Robust Decentralized PI Control Design. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 4699-4703.	0.4	2
20	Model Matching Via Stabilizing Static State Feedback. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 4709-4714.	0.4	0
21	Parameterization of all controllers that stabilize a given plant. , 2013, , .		2
22	Realization of precompensators via stabilizing non-regular static state feedback. , 2013, , .		0
23	Optimal decoupling controllers for singular systems. , 2013, , .		1
24	Optimal and suboptimal decoupling controllers. , 2012, , .		2
25	Cascade Control for Time Delay Plants. Lecture Notes in Control and Information Sciences, 2012, , 343-354.	1.0	1
26	A Method to Teach the Parameterization of All Stabilizing Controllers. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 6355-6360.	0.4	14
27	Robust static output feedback controller LMI based design via elimination. Journal of the Franklin Institute, 2011, 348, 2468-2479.	3.4	12
28	Affine parameterization design of cascade control for time delay plants. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 162-167.	0.4	1
29	Optimal control systems with prescribed eigenvalues. , 2010, , .		4
30	Performance and robustness preservation in MIMO systems when applying SPR Substitutionsâ€. International Journal of Systems Science, 2008, 39, 1153-1163.	5.5	2
31	Deadbeat response is l<inf>2</inf> optimal. , 2008, , .		3
32	Affine Parameterization of Cascade Control with Time Delays. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2008, 41, 3907-3912.	0.4	1
33	The H2control problem: a general transfer-function solution. International Journal of Control, 2007, 80, 800-815.	1.9	11
34	Polynomial Toolbox 3.0: A preview and a case study. , 2007, , .		0
35	Cascade control parameterization for time delay plants. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2007, 40, 123-128.	0.4	0
36	Parameterization of all stabilizing <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si2.gif" display="inline" overflow="scroll"><mml:msub><mml:mrow><mml:mi>H</mml:mi></mml:mrow><mml:mrow><mml:mo>â^ž</mml:mo></mml:mrow></mml:mrow></mml:msub></mml:math> static state-feedback gains: Application to output-feedback design. Automatica, 2007, 43, 1597-1604.	5.0	63

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37	Polynomial control: past, present, and future. International Journal of Robust and Nonlinear Control, 2007, 17, 682-705.	3.7	15
38	The H2 Control Problem: State-space and Transfer-function Solutions. , 2006, , .		0
39	Characterizing families of positive real matrices by matrix substitutions on scalar rational functions. Systems and Control Letters, 2006, 55, 871-878.	2.3	5
40	THE H2 CONTROL PROBLEM FOR DESCRIPTOR SYSTEMS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 201-206.	0.4	1
41	MEROMORPHIC STABILIZATION AND CONTROL OF TIME DELAY SYSTEMS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 412-417.	0.4	4
42	Optimizing simultaneously over the numerator and denominator polynomials in the Youla-Kuc/spl caron/era parametrization. IEEE Transactions on Automatic Control, 2005, 50, 1369-1374.	5.7	16
43	Optimizing simultaneously over the numerator and denominator polynomials in the Youla-Kucera parametrization. , 2004, , .		2
44	MIMO Systems Properties Preservation Under SPR Substitutions. IEEE Transactions on Circuits and Systems Part 2: Express Briefs, 2004, 51, 222-227.	2.2	10
45	Generalized Output Regulation Problem for a Class of Nonlinear Systems With Nonautonomous Exosystem. IEEE Transactions on Automatic Control, 2004, 49, 1737-1742.	5.7	22
46	Parametrization of Stabilizing Controllers with Applications. , 2004, , 173-192.		3
47	Polynomial approach to the control of SISO periodic systems subject to input constraint. Automatica, 2003, 39, 1417-1424.	5.0	23
48	Positive polynomials and robust stabilization with fixed-order controllers. IEEE Transactions on Automatic Control, 2003, 48, 1178-1186.	5.7	176
49	H @ -Robustness properties preservation in SISO systems when applying SPR substitutions. International Journal of Control, 2003, 76, 728-740.	1.9	8
50	Algebraic design of anisochronic controllers for time delay systems. International Journal of Control, 2003, 76, 1654-1665.	1.9	35
51	Robust Pole Placement for Second-Order Systems: An LMI Approach. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2003, 36, 419-424.	0.4	11
52	An Evaluation of Algorithms for Computing the Covariance Function of a Multivariable Arma Process. European Journal of Control, 2002, 8, 315-325.	2.6	2
53	H 2 Optimal Computer Control: Polynomial Toolbox. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2001, 34, 123-127.	0.4	0
54	Polynomial Matrices, LMIs and Static Output Feedback. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2001, 34, 183-188.	0.4	3

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55	Control of linear systems subject to input constraints: a polynomial approach. Automatica, 2001, 37, 597-604.	5.0	57
56	H 2 Optimal Control Via Pole Placement 1. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2000, 33, 711-716.	0.4	5
57	Control of linear systems subject to input constraints: a polynomial approach. MIMO case. , 2000, , .		6
58	State feedback in linear control theory. Linear Algebra and Its Applications, 2000, 317, 177-192.	0.9	5
59	On minimum finite length control problem. International Journal of Control, 2000, 73, 152-158.	1.9	7
60	Robust regional pole placement: An affine approximation. , 1999, , 258-270.		0
61	Partial model matching via static feedback (the multivariable case). IEEE Transactions on Automatic Control, 1999, 44, 386-392.	5.7	1
62	Pole structure assignment via non-regular static state feedback. Automatica, 1999, 35, 1549-1555.	5.0	1
63	Minimum variance control: a homage to Peterka. International Journal of Adaptive Control and Signal Processing, 1999, 13, 433-449.	4.1	4
64	A bridge between state-space and transfer-function methods. Annual Reviews in Control, 1999, 23, 177-184.	7.9	1
65	Model matching for linear systems with delays and 2D systems. Automatica, 1998, 34, 183-191.	5.0	39
66	Dampening controllers via a Riccati equation approach. IEEE Transactions on Automatic Control, 1998, 43, 1280-1284.	5.7	16
67	An efficient and versatile algorithm for computing the covariance function of an ARMA process. IEEE Transactions on Signal Processing, 1998, 46, 1591-1600.	5.3	14
68	Output stabilizability of periodic systems: necessary and sufficient conditions. , 1998, , .		4
69	Model matching for periodic systems. , 1997, , .		2
70	Model Matching with Stability for Periodic Discrete-Time Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1997, 30, 75-80.	0.4	2
71	Feedback realization of nonsingular precompensators for linear systems with delays. IEEE Transactions on Automatic Control, 1997, 42, 848-852.	5.7	6
72	The model matching problem for periodic discrete-time systems. IEEE Transactions on Automatic Control, 1997, 42, 1472-1476.	5.7	31

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73	Partial model matching: Parametrization of solutions. Automatica, 1997, 33, 975-977.	5.0	5
74	Partial Model Matching by Static State Feedback. European Journal of Control, 1996, 2, 286-290.	2.6	1
75	Algebraic methods in control, theory and applications. , 1996, , 54-63.		4
76	A necessary and sufficient condition for output feedback stabilizability. Automatica, 1995, 31, 1357-1359.	5.0	202
77	FIFO stable control systems. Automatica, 1995, 31, 605-609.	5.0	7
78	The partial model matching problem with stability. Systems and Control Letters, 1995, 24, 61-74.	2.3	12
79	External Descriptions and Staircase Forms in Implicit Systems. SIAM Journal on Matrix Analysis and Applications, 1995, 16, 289-306.	1.4	3
80	Automatica prize paper awards 1993. Automatica, 1994, 30, 7.	5.0	15
81	Polynomial solution of the standard multivariable $\mathcal{H}_2$/sub 2/-optimal control problem. IEEE Transactions on Automatic Control, 1994, 39, 1502-1507.	5.7	12
82	Diophantine equations in controlâ€"A survey. Automatica, 1993, 29, 1361-1375.	5.0	222
83	Stabilization via static output feedback. IEEE Transactions on Automatic Control, 1993, 38, 764-765.	5.7	119
84	Fixed Degree Solutions of Polynomial Equations. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1992, 25, 24-26.	0.4	1
85	Model matching of descriptor systems by proportional state feedback. Automatica, 1992, 28, 423-425.	5.0	16
86	Optimal control: Linear quadratic methods. Automatica, 1992, 28, 1068-1069.	5.0	2
87	FIXED DEGREE SOLUTIONS OF POLYNOMIAL EQUATIONS. , 1992, , 24-26.		0
88	Numerical analysis of diophantine equations. , 1991, , 128-136.		4
89	Static realization of dynamic precompensators for descriptor systems. Systems and Control Letters, 1991, 16, 273-276.	2.3	7
90	Constant solutions of polynomial equations. International Journal of Control, 1991, 53, 495-502.	1.9	45

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91	Towards a computer aided design of linear control systems. , 1991, , 95-102.		0
92	Reachability and controllability indices for linear descriptor systems. Systems and Control Letters, 1990, 15, 119-123.	2.3	33
93	Control system design: Conventional, algebraic and optimal methods. Automatica, 1989, 25, 322-323.	5.0	1
94	Fundamental theorem of state feedback for singular systems. Automatica, 1988, 24, 653-658.	5.0	102
95	Cascade compensation and state feedback in singular systems. , 1987, , .		0
96	Stationary LQG control of singular systems. IEEE Transactions on Automatic Control, 1986, 31, 31-39.	5.7	33
97	Efficient algorithm for matrix spectral factorization. Automatica, 1985, 21, 663-669.	5.0	107
98	A note on the stationary LQG control. IEEE Transactions on Automatic Control, 1985, 30, 1242-1245.	5.7	3
99	Matrix fraction construction of linear compensators. IEEE Transactions on Automatic Control, 1985, 30, 1112-1114.	5.7	21
100	The general problem of pole assignment: A polynomial equation approach. IEEE Transactions on Automatic Control, 1985, 30, 286-289.	5.7	8
101	On the assignment of invariant factors by time-varying feedback strategies. Systems and Control Letters, 1984, 5, 75-80.	2.3	36
102	On deadbeat controllers. IEEE Transactions on Automatic Control, 1984, 29, 719-722.	5.7	53
103	Infinite structure and exact model matching problem: A geometric approach. IEEE Transactions on Automatic Control, 1984, 29, 266-268.	5.7	45
104	Decoupling by restricted static-state feedback: The general case. IEEE Transactions on Automatic Control, 1984, 29, 79-81.	5.7	33
105	Disturbance rejection: A polynomial approach. IEEE Transactions on Automatic Control, 1983, 28, 508-511.	5.7	23
106	Polynomial approach to quadratic tracking in discrete linear systems. IEEE Transactions on Automatic Control, 1982, 27, 1248-1250.	5.7	22
107	Model matching of discrete linear systems. Systems and Control Letters, 1982, 1, 321-325.	2.3	5
108	Exact model matching, polynomial equation approach. International Journal of Systems Science, 1981, 12, 1477-1484.	5.5	46

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109	New results in state estimation and regulation. Automatica, 1981, 17, 745-748.	5.0	71
110	Stochastic multivariable control: A polynomial equation approach. IEEE Transactions on Automatic Control, 1980, 25, 913-919.	5.7	57
111	Testing controllability and constructibility in discrete linear systems. IEEE Transactions on Automatic Control, 1980, 25, 297-298.	5.7	2
112	Dynamical indices and order of delay-operator models. IEEE Transactions on Automatic Control, 1980, 25, 269-270.	5.7	1
113	A dead-beat servo problem. International Journal of Control, 1980, 32, 107-113.	1.9	54
114	Design of steady-state minimum variance controllers. Automatica, 1979, 15, 411-418.	5.0	11
115	Shortest correlation control strategy. IEEE Transactions on Automatic Control, 1977, 22, 463-465.	5.7	5
116	Expanding spectral density into correlation sequence. IEEE Transactions on Automatic Control, 1976, 21, 592-593.	5.7	7
117	Algebraic approach to discrete linear control. IEEE Transactions on Automatic Control, 1975, 20, 116-120.	5.7	16
118	The Matrix Equation $AX + XB = C$. SIAM Journal on Applied Mathematics, 1974, 26, 15-25.	1.8	61
119	A contribution to matrix quadratic equations. IEEE Transactions on Automatic Control, 1972, 17, 344-347.	5.7	293
120	On nonnegative definite solutions to matrix quadratic equations. Automatica, 1972, 8, 413-423.	5.0	59
121	The structure and properties of time-optimal discrete linear control. IEEE Transactions on Automatic Control, 1971, 16, 375-377.	5.7	57