

Vladimr Kucera

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112
papers

1,942
citations

24
h-index

42
g-index

124
ext. papers

2,305
ext. citations

3.9
avg, IF

4.71
L-index

#	Paper	IF	Citations
112	A contribution to matrix quadratic equations. <i>IEEE Transactions on Automatic Control</i> , 1972 , 17, 344-347	5.9	211
111	Diophantine equations in control: A survey. <i>Automatica</i> , 1993 , 29, 1361-1375	5.7	155
110	Positive polynomials and robust stabilization with fixed-order controllers. <i>IEEE Transactions on Automatic Control</i> , 2003 , 48, 1178-1186	5.9	138
109	A necessary and sufficient condition for output feedback stabilizability. <i>Automatica</i> , 1995 , 31, 1357-1359	5.7	133
108	. <i>IEEE Transactions on Automatic Control</i> , 1993 , 38, 764-765	5.9	87
107	Fundamental theorem of state feedback for singular systems. <i>Automatica</i> , 1988 , 24, 653-658	5.7	85
106	Efficient algorithm for matrix spectral factorization. <i>Automatica</i> , 1985 , 21, 663-669	5.7	76
105	New results in state estimation and regulation. <i>Automatica</i> , 1981 , 17, 745-748	5.7	55
104	On nonnegative definite solutions to matrix quadratic equations. <i>Automatica</i> , 1972 , 8, 413-423	5.7	52
103	Parameterization of all stabilizing H _∞ static state-feedback gains: Application to output-feedback design. <i>Automatica</i> , 2007 , 43, 1597-1604	5.7	51
102	The structure and properties of time-optimal discrete linear control. <i>IEEE Transactions on Automatic Control</i> , 1971 , 16, 375-377	5.9	50
101	The Matrix Equation $SAX + XB = C$. <i>SIAM Journal on Applied Mathematics</i> , 1974 , 26, 15-25	1.8	46
100	Stochastic multivariable control: A polynomial equation approach. <i>IEEE Transactions on Automatic Control</i> , 1980 , 25, 913-919	5.9	45
99	A dead-beat servo problem. <i>International Journal of Control</i> , 1980 , 32, 107-113	1.5	45
98	Control of linear systems subject to input constraints: a polynomial approach. <i>Automatica</i> , 2001 , 37, 597-604	5.7	43
97	On deadbeat controllers. <i>IEEE Transactions on Automatic Control</i> , 1984 , 29, 719-722	5.9	40
96	Constant solutions of polynomial equations. <i>International Journal of Control</i> , 1991 , 53, 495-502	1.5	37

95	Infinite structure and exact model matching problem: A geometric approach. <i>IEEE Transactions on Automatic Control</i> , 1984 , 29, 266-268	5.9	37
94	On the assignment of invariant factors by time-varying feedback strategies. <i>Systems and Control Letters</i> , 1984 , 5, 75-80	2.4	34
93	Exact model matching, polynomial equation approach. <i>International Journal of Systems Science</i> , 1981 , 12, 1477-1484	2.3	32
92	Model matching for linear systems with delays and 2D systems. <i>Automatica</i> , 1998 , 34, 183-191	5.7	30
91	Reachability and controllability indices for linear descriptor systems. <i>Systems and Control Letters</i> , 1990 , 15, 119-123	2.4	30
90	Algebraic design of anisochronic controllers for time delay systems. <i>International Journal of Control</i> , 2003 , 76, 1654-1665	1.5	25
89	Decoupling by restricted static-state feedback: The general case. <i>IEEE Transactions on Automatic Control</i> , 1984 , 29, 79-81	5.9	24
88	Stationary LQG control of singular systems. <i>IEEE Transactions on Automatic Control</i> , 1986 , 31, 31-39	5.9	23
87	The model matching problem for periodic discrete-time systems. <i>IEEE Transactions on Automatic Control</i> , 1997 , 42, 1472-1476	5.9	20
86	Polynomial approach to the control of SISO periodic systems subject to input constraint. <i>Automatica</i> , 2003 , 39, 1417-1424	5.7	18
85	Disturbance rejection: A polynomial approach. <i>IEEE Transactions on Automatic Control</i> , 1983 , 28, 508-511	5.9	18
84	Generalized output regulation problem for a class of nonlinear systems with nonautonomous exosystem. <i>IEEE Transactions on Automatic Control</i> , 2004 , 49, 1737-1742	5.9	16
83	Model matching of descriptor systems by proportional state feedback. <i>Automatica</i> , 1992 , 28, 423-425	5.7	14
82	Polynomial approach to quadratic tracking in discrete linear systems. <i>IEEE Transactions on Automatic Control</i> , 1982 , 27, 1248-1250	5.9	14
81	Matrix fraction construction of linear compensators. <i>IEEE Transactions on Automatic Control</i> , 1985 , 30, 1112-1114	5.9	13
80	Algebraic approach to discrete linear control. <i>IEEE Transactions on Automatic Control</i> , 1975 , 20, 116-120	5.9	13
79	Design of steady-state minimum variance controllers. <i>Automatica</i> , 1979 , 15, 411-418	5.7	11
78	Robust static output feedback controller LMI based design via elimination. <i>Journal of the Franklin Institute</i> , 2011 , 348, 2468-2479	4	10

77	MIMO systems properties preservation under SPR substitutions. <i>IEEE Transactions on Circuits and Systems Part 2: Express Briefs</i> , 2004 , 51, 222-227		10
76	An efficient and versatile algorithm for computing the covariance function of an ARMA process. <i>IEEE Transactions on Signal Processing</i> , 1998 , 46, 1591-1600	4.8	10
75	The partial model matching problem with stability. <i>Systems and Control Letters</i> , 1995 , 24, 61-74	2.4	10
74	A Method to Teach the Parameterization of All Stabilizing Controllers. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2011 , 44, 6355-6360		9
73	. <i>IEEE Transactions on Automatic Control</i> , 1994 , 39, 1502-1507	5.9	9
72	Optimizing simultaneously over the numerator and denominator polynomials in the Youla-Kuc/spl caron/era parametrization. <i>IEEE Transactions on Automatic Control</i> , 2005 , 50, 1369-1374	5.9	8
71	Dampening controllers via a Riccati equation approach. <i>IEEE Transactions on Automatic Control</i> , 1998 , 43, 1280-1284	5.9	8
70	The general problem of pole assignment: A polynomial equation approach. <i>IEEE Transactions on Automatic Control</i> , 1985 , 30, 286-289	5.9	8
69	Diagonal Decoupling of Linear Systems by Static-State Feedback. <i>IEEE Transactions on Automatic Control</i> , 2017 , 62, 6250-6265	5.9	7
68	H _∞ -Robustness properties preservation in SISO systems when applying SPR substitutions. <i>International Journal of Control</i> , 2003 , 76, 728-740	1.5	7
67	On minimum finite length control problem. <i>International Journal of Control</i> , 2000 , 73, 152-158	1.5	7
66	Polynomial control: past, present, and future. <i>International Journal of Robust and Nonlinear Control</i> , 2007 , 17, 682-705	3.6	6
65	FIFO stable control systems. <i>Automatica</i> , 1995 , 31, 605-609	5.7	6
64	The H ₂ control problem: a general transfer-function solution. <i>International Journal of Control</i> , 2007 , 80, 800-815	1.5	5
63	Static realization of dynamic precompensators for descriptor systems. <i>Systems and Control Letters</i> , 1991 , 16, 273-276	2.4	5
62	Model matching of discrete linear systems. <i>Systems and Control Letters</i> , 1982 , 1, 321-325	2.4	5
61	Expanding spectral density into correlation sequence. <i>IEEE Transactions on Automatic Control</i> , 1976 , 21, 592-593	5.9	5
60	Robust decentralized controller design based on equivalent subsystems. <i>Automatica</i> , 2019 , 107, 29-35	5.7	4

59	A review of stable exact model matching by state feedback 2014 ,		4
58	Partial model matching: Parametrization of solutions. <i>Automatica</i> , 1997 , 33, 975-977	5.7	4
57	Characterizing families of positive real matrices by matrix substitutions on scalar rational functions. <i>Systems and Control Letters</i> , 2006 , 55, 871-878	2.4	4
56	Robust Pole Placement for Second-Order Systems: An LMI Approach. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2003 , 36, 419-424		4
55	Control of linear systems subject to input constraints: a polynomial approach. MIMO case 2000 ,		4
54	Shortest correlation control strategy. <i>IEEE Transactions on Automatic Control</i> , 1977 , 22, 463-465	5.9	4
53	Stability-Preserving Morse Normal Form. <i>IEEE Transactions on Automatic Control</i> , 2020 , 65, 5099-5113	5.9	3
52	IAE optimization of delayed PID control loops using dimensional analysis approach 2014 ,		3
51	Feedback realization of nonsingular precompensators for linear systems with delays. <i>IEEE Transactions on Automatic Control</i> , 1997 , 42, 848-852	5.9	3
50	MEROMORPHIC STABILIZATION AND CONTROL OF TIME DELAY SYSTEMS. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2005 , 38, 412-417		3
49	State feedback in linear control theory. <i>Linear Algebra and Its Applications</i> , 2000 , 317, 177-192	0.9	3
48	Output stabilizability of periodic systems: necessary and sufficient conditions 1998 ,		3
47	A note on the stationary LQG control. <i>IEEE Transactions on Automatic Control</i> , 1985 , 30, 1242-1245	5.9	3
46	Stable Model Matching by Non-Regular Static State Feedback. <i>IEEE Transactions on Automatic Control</i> , 2016 , 61, 4138-4142	5.9	3
45	Robust Decentralized PI Control Design. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2014 , 47, 4699-4703		2
44	Performance and robustness preservation in MIMO systems when applying SPR Substitutions. <i>International Journal of Systems Science</i> , 2008 , 39, 1153-1163	2.3	2
43	Deadbeat response is l2 optimal 2008 ,		2
42	Minimum variance control: a homage to Peterka. <i>International Journal of Adaptive Control and Signal Processing</i> , 1999 , 13, 433-449	2.8	2

41	An Alternative Proof of the Kronecker/Morse Normal Form 2019 ,		2
40	Achievable Structures at Infinity of Linear Systems Decoupled by Non-regular Static State Feedback. <i>IFAC-PapersOnLine</i> , 2017 , 50, 10834-10838	0.7	1
39	Model matching by non-regular static state feedback 2015 ,		1
38	Realization of full column rank precompensators using stabilizing static state feedback. <i>Systems and Control Letters</i> , 2015 , 76, 42-46	2.4	1
37	Optimal and suboptimal decoupling controllers 2012 ,		1
36	Optimal decoupling controllers for singular systems 2013 ,		1
35	Affine parameterization design of cascade control for time delay plants. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2010 , 43, 162-167		1
34	Model matching for periodic systems 1997 ,		1
33	Model Matching with Stability for Periodic Discrete-Time Systems. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 1997 , 30, 75-80		1
32	Affine Parameterization of Cascade Control with Time Delays. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2008 , 41, 3907-3912		1
31	Optimizing simultaneously over the numerator and denominator polynomials in the Youla-Kucera parametrization 2004 ,		1
30	An Evaluation of Algorithms for Computing the Covariance Function of a Multivariable Arma Process. <i>European Journal of Control</i> , 2002 , 8, 315-325	2.5	1
29	H2 Optimal Control Via Pole Placement. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2000 , 33, 711-716		1
28	Pole structure assignment via non-regular static state feedback. <i>Automatica</i> , 1999 , 35, 1549-1555	5.7	1
27	External Descriptions and Staircase Forms in Implicit Systems. <i>SIAM Journal on Matrix Analysis and Applications</i> , 1995 , 16, 289-306	1.5	1
26	Numerical analysis of diophantine equations 1991 , 128-136		1
25	Testing controllability and constructibility in discrete linear systems. <i>IEEE Transactions on Automatic Control</i> , 1980 , 25, 297-298	5.9	1
24	Dynamical indices and order of delay-operator models. <i>IEEE Transactions on Automatic Control</i> , 1980 , 25, 269-270	5.9	1

23	Assignment of infinite zero orders in linear systems using state feedback. <i>Automatica</i> , 2022 , 135, 109954-7	5.7	1
22	Cascade Control for Time Delay Plants. <i>Lecture Notes in Control and Information Sciences</i> , 2012 , 343-354	0.5	1
21	Decoupling With Stability of Linear Systems by Static-State Feedback. <i>IEEE Transactions on Automatic Control</i> , 2020 , 1-1	5.9	1
20	Block Decoupling of Linear Systems by Static-State Feedback. <i>IEEE Transactions on Automatic Control</i> , 2019 , 64, 3447-3452	5.9	1
19	Model Matching by Dynamic State Feedback. <i>IFAC-PapersOnLine</i> , 2017 , 50, 3045-3050	0.7	0
18	Partial model matching via static feedback (the multivariable case). <i>IEEE Transactions on Automatic Control</i> , 1999 , 44, 386-392	5.9	0
17	Control system design: Conventional, algebraic and optimal methods. <i>Automatica</i> , 1989 , 25, 322-323	5.7	0
16	From Differential to Algebraic Riccati Equations: The influence of Kalman [Historical Perspectives]. <i>IEEE Control Systems</i> , 2017 , 37, 153-156	2.9	
15	Model Matching Via Stabilizing Static State Feedback. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2014 , 47, 4709-4714		
14	Rudolf E. Kalman: Life and Works. <i>IFAC-PapersOnLine</i> , 2017 , 50, 631-636	0.7	
13	Cascade control parameterization for time delay plants. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2007 , 40, 123-128		
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11	H 2 Optimal Computer Control: Polynomial Toolbox. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2001 , 34, 123-127		
10	Polynomial Matrices, LMIs and Static Output Feedback. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2001 , 34, 183-188		
9	Robust regional pole placement: An affine approximation 1999 , 258-270		
8	Partial Model Matching by Static State Feedback. <i>European Journal of Control</i> , 1996 , 2, 286-290	2.5	
7	Fixed Degree Solutions of Polynomial Equations. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 1992 , 25, 24-26		
6	Towards a computer aided design of linear control systems 1991 , 95-102		

- 5 Parametrization of Stabilizing Controllers with Applications **2004**, 173-192
- 4 The Models that Can Be Matched by Feedback. *Lecture Notes in Computer Science*, **2018**, 191-196 0.9
- 3 FIXED DEGREE SOLUTIONS OF POLYNOMIAL EQUATIONS **1992**, 24-26
- 2 Algebraic methods in control, theory and applications **1996**, 54-63
- 1 Which State Feedback Control Laws will not Alter the System's Transfer Function?. *Lecture Notes in Computer Science*, **2015**, 3-9 0.9