

Michel Verhaegen

List of Publications by Year in descending order

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79
papers

2,800
citations

218677

26
h-index

214800

47
g-index

81
all docs

81
docs citations

81
times ranked

1674
citing authors

#	ARTICLE	IF	CITATIONS
1	Distributed Control for Identical Dynamically Coupled Systems: A Decomposition Approach. IEEE Transactions on Automatic Control, 2009, 54, 124-135.	5.7	285
2	Subspace identification of Bilinear and LPV systems for open- and closed-loop data. Automatica, 2009, 45, 372-381.	5.0	206
3	Subspace Algorithms for the Identification of Multivariable Dynamic Errors-in-Variables Models**This paper was not presented at any IFAC meeting. This paper was recommended for publication in revised form by Associate Editor H. Hjalmarsson under the direction of Editor Torsten Söderström.. Automatica, 1997, 33, 1857-1869.	5.0	198
4	Subspace identification of MIMO LPV systems using a periodic scheduling sequence. Automatica, 2007, 43, 1684-1697.	5.0	139
5	Closed-loop subspace identification methods: an overview. IET Control Theory and Applications, 2013, 7, 1339-1358.	2.1	105
6	Subspace Identification of Large-Scale Interconnected Systems. IEEE Transactions on Automatic Control, 2014, 59, 2754-2759.	5.7	76
7	Moving Horizon Estimation for Large-Scale Interconnected Systems. IEEE Transactions on Automatic Control, 2013, 58, 2834-2847.	5.7	68
8	Subspace identification of individual systems in a large-scale heterogeneous network. Automatica, 2019, 109, 108517.	5.0	66
9	Constrained Subspace Method for the Identification of Structured State-Space Models (COSMOS). IEEE Transactions on Automatic Control, 2020, 65, 4201-4214.	5.7	60
10	Distributed Control: A Sequentially Semi-Separable Approach for Spatially Heterogeneous Linear Systems. IEEE Transactions on Automatic Control, 2009, 54, 1270-1283.	5.7	59
11	N2SID: Nuclear norm subspace identification of innovation models. Automatica, 2016, 72, 57-63.	5.0	58
12	A Data-Driven H_2 -Optimal Control Approach for Adaptive Optics. IEEE Transactions on Control Systems Technology, 2008, 16, 381-395.	5.2	54
13	Exploiting the spatiotemporal correlation in adaptive optics using data-driven H_2 -optimal control. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2007, 24, 1714.	1.5	46
14	Identification of Fault Estimation Filter From I/O Data for Systems With Stable Inversion. IEEE Transactions on Automatic Control, 2012, 57, 1347-1361.	5.7	46
15	Adaptive illumination based on direct wavefront sensing in a light-sheet fluorescence microscope. Optics Express, 2016, 24, 24896.	3.4	44
16	Identification of structured state-space models. Automatica, 2018, 90, 54-61.	5.0	43
17	Model-based wavefront sensorless adaptive optics system for large aberrations and extended objects. Optics Express, 2015, 23, 24587.	3.4	40
18	Linear computational complexity robust ILC for lifted systems. Automatica, 2012, 48, 1102-1110.	5.0	39

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19	Subspace identification of circulant systems. <i>Automatica</i> , 2008, 44, 2825-2833.	5.0	38
20	Data-driven robust receding horizon fault estimation. <i>Automatica</i> , 2016, 71, 210-221.	5.0	36
21	Modal-based phase retrieval for adaptive optics. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2015, 32, 1160.	1.5	31
22	Wavefront sensorless adaptive optics OCT with the DONE algorithm for in vivo human retinal imaging [Invited]. <i>Biomedical Optics Express</i> , 2017, 8, 2261.	2.9	31
23	Wavefront reconstruction in adaptive optics systems using nonlinear multivariate splines. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2013, 30, 82.	1.5	30
24	Online Optimization With Costly and Noisy Measurements Using Random Fourier Expansions. <i>IEEE Transactions on Neural Networks and Learning Systems</i> , 2018, 29, 167-182.	11.3	30
25	Model-based sensor-less wavefront aberration correction in optical coherence tomography. <i>Optics Letters</i> , 2015, 40, 5722.	3.3	27
26	Subspace Identification of Distributed Clusters of Homogeneous Systems. <i>IEEE Transactions on Automatic Control</i> , 2017, 62, 463-468.	5.7	26
27	K4SID: Large-Scale Subspace Identification With Kronecker Modeling. <i>IEEE Transactions on Automatic Control</i> , 2019, 64, 960-975.	5.7	26
28	Identification of a dynamical model of a thermally actuated deformable mirror. <i>Optics Letters</i> , 2013, 38, 3061.	3.3	24
29	Fault Estimation Filter Design With Guaranteed Stability Using Markov Parameters. <i>IEEE Transactions on Automatic Control</i> , 2018, 63, 1132-1139.	5.7	23
30	Sparse solution of the Lyapunov equation for large-scale interconnected systems. <i>Automatica</i> , 2016, 73, 256-268.	5.0	22
31	Fast & Furious focal-plane wavefront sensing. <i>Applied Optics</i> , 2014, 53, 4565.	1.8	21
32	Subspace Identification of Individual Systems Operating in a Network (SI ² SON). <i>IEEE Transactions on Automatic Control</i> , 2018, 63, 1120-1125.	5.7	20
33	Fast Calculation of Computer Generated Holograms for 3D Photostimulation through Compressive-Sensing Gerchberg-Saxton Algorithm. <i>Methods and Protocols</i> , 2019, 2, 2.	2.0	20
34	Fast reconstruction and prediction of frozen flow turbulence based on structured Kalman filtering. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2010, 27, A235.	1.5	19
35	Modeling and state-space identification of deformable mirrors. <i>Optics Express</i> , 2020, 28, 4726.	3.4	19
36	Robust spectral factor approximation of discrete-time frequency domain power spectras. <i>Automatica</i> , 2005, 41, 1791-1798.	5.0	18

#	ARTICLE	IF	CITATIONS
37	Subspace identification of distributed, decomposable systems. , 2009, , .		18
38	Controller Design for a High-Sampling-Rate Closed-Loop Adaptive Optics System with Piezo-Driven Deformable Mirror. European Journal of Control, 2011, 17, 290-301.	2.6	18
39	Predictor-Based Tensor Regression (PBTR) for LPV subspace identification. Automatica, 2017, 79, 235-243.	5.0	18
40	Subspace Identification of Local Systems in One-Dimensional Homogeneous Networks. IEEE Transactions on Automatic Control, 2018, 63, 1126-1131.	5.7	17
41	Structured Modeling and Control of Adaptive Optics Systems. IEEE Transactions on Control Systems Technology, 2018, 26, 664-674.	5.2	14
42	A Decomposition Approach to Distributed Control of Dynamic Deformable Mirrors. International Journal of Optomechatronics, 2010, 4, 269-284.	6.6	13
43	Subspace identification of MIMO LPV systems using a piecewise constant scheduling sequence with hard/soft switching. , 2007, , .		12
44	Sparsity preserving optimal control of discretized PDE systems. Computer Methods in Applied Mechanics and Engineering, 2018, 335, 610-630.	6.6	12
45	Identification of affinely parameterized state-space models with unknown inputs. Automatica, 2020, 122, 109271.	5.0	12
46	Validation of a new adaptive deformable mirror concept. , 2008, , .		11
47	Sequential convex relaxation for convex optimization with bilinear matrix equalities. , 2016, , .		11
48	On distributed wavefront reconstruction for large-scale adaptive optics systems. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2016, 33, 817.	1.5	11
49	Anisoplanatic adaptive optics in parallelized laser scanning microscopy. Optics Express, 2020, 28, 14222.	3.4	10
50	Distributed control in adaptive optics: deformable mirror and turbulence modeling. , 2006, , .		9
51	Solving large-scale general phase retrieval problems via a sequence of convex relaxations. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2018, 35, 1410.	1.5	9
52	Phase retrieval based on the vectorial model of point spread function. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2020, 37, 16.	1.5	8
53	Framework to trade optimality for local processing in large-scale wavefront reconstruction problems. Optics Letters, 2016, 41, 5162.	3.3	8
54	Tensor-based predictive control for extremely large-scale single conjugate adaptive optics. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2018, 35, 1612.	1.5	7

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55	Tensor networks for MIMO LPV system identification. International Journal of Control, 2020, 93, 797-811.	1.9	7
56	QUARKS: Identification of Large-Scale Kronecker Vector-AutoRegressive Models. IEEE Transactions on Automatic Control, 2018, , 1-1.	5.7	6
57	Automatic Delay Tuning of a Novel Ring Resonator-Based Photonic Beamformer for a Transmit Phased Array Antenna. Journal of Lightwave Technology, 2019, 37, 4976-4984.	4.6	6
58	Identification of structured LTI MIMO state-space models. , 2015, , .		5
59	Nuclear norm minimization for blind subspace identification (N2BSID). , 2015, , .		5
60	Tensor Nuclear Norm LPV Subspace Identification. IEEE Transactions on Automatic Control, 2018, 63, 3897-3903.	5.7	5
61	Predictive wavefront sensorless adaptive optics for time-varying aberrations. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2019, 36, 1810.	1.5	5
62	Optimal model-based sensorless adaptive optics for epifluorescence microscopy. PLoS ONE, 2018, 13, e0194523.	2.5	5
63	State feedback control with quadratic output for wavefront correction in adaptive optics. , 2013, , .		4
64	Blind multi-frame deconvolution by tangential iterative projections (TIP). Optics Express, 2017, 25, 32305.	3.4	4
65	Extended-image-based correction of aberrations using a deformable mirror with hysteresis. Optics Express, 2018, 26, 27161.	3.4	4
66	Recursive Kronecker-Based Vector Autoregressive Identification for Large-Scale Adaptive Optics. IEEE Transactions on Control Systems Technology, 2019, 27, 1677-1684.	5.2	3
67	Identification of the dynamics of time-varying phase aberrations from time histories of the point-spread function. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2019, 36, 809.	1.5	3
68	Gray Box Identification Using Difference of Convex Programming. IFAC-PapersOnLine, 2017, 50, 9462-9467.	0.9	2
69	Convex combination of alternating projection and Douglas-Rachford operators for phase retrieval. Advances in Computational Mathematics, 2021, 47, 1.	1.6	2
70	Sparse data-driven wavefront prediction for large-scale adaptive optics. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2021, 38, 992.	1.5	2
71	Sensorless adaptive optics system based on image second moment measurements. Proceedings of SPIE, 2016, , .	0.8	1
72	Systematically Structured H_2 Optimal Control for Truss-Supported Segmented Mirrors. IEEE Transactions on Control Systems Technology, 2019, 27, 2263-2270.	5.2	1

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73	Phase retrieval of large-scale time-varying aberrations using a non-linear Kalman filtering framework. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2021, 38, 25.	1.5	1
74	Identification of Network Connected Systems. , 2021, , 952-963.		0
75	Projection methods for high numerical aperture phase retrieval. Inverse Problems, 0, , .	2.0	0
76	The Identification of Network Connected Systems. , 2019, , 1-11.		0
77	Convex optimization-based blind deconvolution for images taken with coherent illumination. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2019, 36, 678.	1.5	0
78	New dimension for the phase retrieval problem. , 2020, , .		0
79	Blind Identification of Structured State-Space Models. , 2022, , 199-231.		0