Gerd Vandersteen

List of Publications by Year
in descending order

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92 papers	2,110 citations	218381 26 h-index	264894 42 g-index
92 all docs	92 docs citations	92 times ranked	1301 citing authors

#	Article	IF	Citations
1	Forced Oscillation Technique Measurement Apparatus Using Fan-Speaker Hybrid. IEEE Transactions on Instrumentation and Measurement, 2022, 71, 1-9.	2.4	2
2	LPMLEnâ€“A Frequency Domain Method to Estimate Vertical Streambed Fluxes and Sediment Thermal Properties in Semiâ€Infinite and Bounded Domains. Water Resources Research, 2022, 58, .	1.7	11
3	Frequency Response Function Measurements via Local Rational Modeling, Revisited. IEEE Transactions on Instrumentation and Measurement, 2021, 70, 1-16.	2.4	7
4	Adaptive Excitation Signals for Low-Frequency Forced Oscillation Technique Measurements in Patients. IEEE Transactions on Instrumentation and Measurement, 2021, 70, 1-9.	2.4	2
5	Frequency Response Function Measurements of Multivariable Systems via Local Rational Modeling. IEEE Transactions on Instrumentation and Measurement, 2021, 70, 1-9.	2.4	1
6	Correcting for non-periodic behaviour in perturbative experiments: application to heat pulse propagation and modulated gas-puff experiments. Plasma Physics and Controlled Fusion, 2020, 62, 094001.	0.9	11
7	Accurate estimation of the non-parametric FRF of lightly-damped mechanical systems using arbitrary excitations. Mechanical Systems and Signal Processing, 2019, 130, 545-564.	4.4	9
8	A novel frequency domain maximum likelihood approach for estimating transport coefficients in cylindrical geometry for nuclear fusion devices. , 2019, , .		3
9	FRF Measurements Subject to Missing Data: Quantification of Noise, Nonlinear Distortion, and Time-Varying Effects. IEEE Transactions on Instrumentation and Measurement, 2019, 68, 4175-4187.	2.4	1
10	Precompensation of Supply Dynamics of Dynamic Power Supply Transmitters Using a Linear Parameter-Varying Model. IEEE Transactions on Microwave Theory and Techniques, 2019, 67, 278-287.	2.9	1
11	Improved FRF Measurements of Lightly Damped Systems Using Local Rational Models. IEEE Transactions on Instrumentation and Measurement, 2018, 67, 1749-1759.	2.4	12
12	Impact of the Missing Data Pattern, the Oversampling, the Noise Level, and the Excitation on Nonparametric Frequency Response Function Estimates. IFAC-PapersOnLine, 2018, 51, 1002-1007.	0.5	1
13	Heat flux reconstruction and effective diffusion estimation from perturbative experiments using advanced filtering and confidence analysis. Nuclear Fusion, 2018, 58, 096036.	1.6	4
14	Experimentally driven demystification of system identification for nonlinear mechanical systems. IEEE Instrumentation and Measurement Magazine, 2018, 21, 16-25.	1.2	1
15	A systematic approach to optimize excitations for perturbative transport experiments. Physics of Plasmas, 2018, 25, .	0.7	4
16	Separation of transport in slow and fast time-scales using modulated heat pulse experiments (hysteresis in flux explained). Nuclear Fusion, 2018, 58, 106042.	1.6	5
17	Distortion Contribution Analysis With the Best Linear Approximation. IEEE Transactions on Circuits and Systems I: Regular Papers, 2018, 65, 4133-4146.	3.5	10
18	Estimating Respiratory Impedance at Breathing Frequencies Using Regularized Least Squares on Forced Oscillation Technique Measurements. IEEE Transactions on Instrumentation and Measurement, 2017, 66, 479-491.	2.4	12

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19	An Improved Describing Function With Applications for OTA-Based Circuits. IEEE Transactions on Circuits and Systems I: Regular Papers, 2017, 64, 1748-1757.	3.5	2
20	Time-Variant Frequency Response Function Measurement in the Presence of Missing Data. IEEE Transactions on Instrumentation and Measurement, 2017, 66, 3091-3099.	2.4	6
21	New evidence and impact of electron transport non-linearities based on new perturbative inter-modulation analysis. Nuclear Fusion, 2017, 57, 126036.	1.6	6
22	A measurement-based error-vector-magnitude model to assess non linearity at the system level. , 2017, , .		12
23	Common-denominator modelling for stability analysis of electronic circuits. , 2016, , .		1
24	A simplified approach to concurrent dual-band power amplifiers digital predistortion. , 2016, , .		0
25	LPMLE3: A novel 1â€D approach to study water flow in streambeds using heat as a tracer. Water Resources Research, 2016, 52, 6596-6610.	1.7	33
26	Distortion contribution analysis of strongly non-linear analog circuits. , 2016, , .		2
27	From streambed temperature measurements to spatial-temporal flux quantification: using the LPML method to study groundwater-surface water interaction. Hydrological Processes, 2016, 30, 203-216.	1.1	31
28	Determining groundwaterâ€surface water exchange from temperatureâ€time series: Combining a local polynomial method with a maximum likelihood estimator. Water Resources Research, 2015, 51, 922-939.	1.7	43
29	Frequency Response Matrix Estimation From Partially Missing Dataâ€"for Periodic Inputs. IEEE Transactions on Instrumentation and Measurement, 2015, 64, 3615-3628.	2.4	3
30	Wideband Distortion Contribution Analysis of analog circuits with differential signalling. , 2015, , .		0
31	Structure discrimination in block-oriented models using linear approximations: A theoretic framework. Automatica, 2015, 53, 225-234.	3.0	28
32	Frequency Response Function Estimation in the Presence of Missing Output Data. IEEE Transactions on Instrumentation and Measurement, 2015, 64, 541-553.	2.4	20
33	Frequency Response Matrix Estimation From Missing Inputâ€"Output Data. IEEE Transactions on Instrumentation and Measurement, 2015, 64, 3124-3136.	2.4	10
34	Design and Tuning of Coupled-LC mm-Wave Subharmonically Injection-Locked Oscillators. IEEE Transactions on Microwave Theory and Techniques, 2015, 63, 2301-2312.	2.9	26
35	Parametric identification of parallel Wienerâ€"Hammerstein systems. Automatica, 2015, 51, 111-122.	3.0	32
36	Estimation of the thermal diffusion coefficient in fusion plasmas taking frequency measurement uncertainties into account. Plasma Physics and Controlled Fusion, 2014, 56, 105004.	0.9	12

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37	Fast identification of Wienerâ€Hammerstein systems using discrete optimisation. Electronics Letters, 2014, 50, 1942-1944.	0.5	16
38	Estimation of respiratory impedance at low frequencies during spontaneous breathing using the forced oscillation technique. , 2014, 2014, 3410-3.		5
39	Respiratory mechanics in children with cystic fibrosis. Biomedical Signal Processing and Control, 2014, 11, 74-79.	3.5	12
40	Finding the dominant source of distortion in two-stage op-amps. Analog Integrated Circuits and Signal Processing, 2014, 78, 153-163.	0.9	6
41	Heat transfer in a borehole heat exchanger: Frequency domain modeling. International Journal of Heat and Mass Transfer, 2014, 69, 129-139.	2.5	9
42	Comparative study of a fully differential op amp in FinFET and planar technologies. , 2014, , .		2
43	A Fan-Based, Low-Frequent, Forced Oscillation Technique Apparatus. IEEE Transactions on Instrumentation and Measurement, 2014, 63, 603-611.	2.4	20
44	Frequency domain sample maximum likelihood estimation for spatially dependent parameter estimation in PDEs. Automatica, 2014, 50, 2113-2119.	3.0	14
45	Bias Compensation When Identifying Static Nonlinear Functions Using Averaged Measurements. IEEE Transactions on Instrumentation and Measurement, 2014, 63, 1855-1862.	2.4	4
46	Measuring Nonlinear Effects in Respiratory Mechanics: A Proof of Concept for Prototype Device and Method. IEEE Transactions on Instrumentation and Measurement, 2014, 63, 124-134.	2.4	23
47	Novel approach of processing electrical bioimpedance data using differential impedance analysis. Medical Engineering and Physics, 2013, 35, 1349-1357.	0.8	33
48	In vivo electrical bioimpedance characterization of human lung tissue during the bronchoscopy procedure. A feasibility study. Medical Engineering and Physics, 2013, 35, 949-957.	0.8	38
49	Identification of a Noninsulated Distillation Column From Transient Response Data. IEEE Transactions on Instrumentation and Measurement, 2013, 62, 1382-1391.	2.4	0
50	Maximum Likelihood Estimation of diffusion and convection in tokamaks using infinite domains. , 2013, , .		7
51	A mm-wave 40 nm CMOS subharmonically injection-locked QVCO with lock detection. , 2013, , .		3
52	Bounding the Polynomial Approximation Errors of Frequency Response Functions. IEEE Transactions on Instrumentation and Measurement, 2013, 62, 1346-1353.	2.4	22
53	An identification algorithm for parallel Wiener-Hammerstein systems. , 2013, , .		11
54	Frequency Response Function Measurements Using Concatenated Subrecords With Arbitrary Length. IEEE Transactions on Instrumentation and Measurement, 2012, 61, 2682-2688.	2.4	25

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55	Basics of broadband impedance spectroscopy measurements using periodic excitations. Measurement Science and Technology, 2012, 23, 105501.	1.4	71
56	Novel Estimation of the Electrical Bioimpedance Using the Local Polynomial Method. Application to In Vivo Real-Time Myocardium Tissue Impedance Characterization During the Cardiac Cycle. IEEE Transactions on Biomedical Engineering, 2011, 58, 3376-3385.	2.5	48
57	Optimal multisine excitation design for broadband electrical impedance spectroscopy. Measurement Science and Technology, 2011, 22, 115601.	1.4	67
58	Improved (non-)parametric identification of dynamic systems excited by periodic signalsâ€"The multivariate case. Mechanical Systems and Signal Processing, 2011, 25, 2892-2922.	4.4	50
59	Improved (non-)parametric identification of dynamic systems excited by periodic signals. Mechanical Systems and Signal Processing, 2011, 25, 2683-2704.	4.4	23
60	Substrate Noise Coupling Mechanisms in Lightly Doped CMOS Transistors. IEEE Transactions on Instrumentation and Measurement, 2010, 59, 1727-1733.	2.4	14
61	An ARMAX Identification Method for Sigmaâ€"Delta Modulators Using Only Input-Output Data. IEEE Transactions on Instrumentation and Measurement, 2010, 59, 1007-1012.	2.4	5
62	Estimation of nonparametric noise and FRF models for multivariable systemsâ€"Part I: Theory. Mechanical Systems and Signal Processing, 2010, 24, 573-595.	4.4	157
63	Estimation of nonparametric noise and FRF models for multivariable systemsâ€"Part II: Extensions, applications. Mechanical Systems and Signal Processing, 2010, 24, 596-616.	4.4	83
64	Multirate Cascaded Discrete-Time Low-Pass Î”Î£ Modulator for GSM/Bluetooth/UMTS. IEEE Journal of Solid-State Circuits, 2010, 45, 1198-1208.	3.5	43
65	Robustness Issues of the Best Linear Approximation of a Nonlinear System. IEEE Transactions on Instrumentation and Measurement, 2009, 58, 1737-1745.	2.4	70
66	Experimental Analysis of the Coupling Mechanisms Between a 4 GHz PPA and a 5â€"7 GHz LC-VCO. IEEE Transactions on Instrumentation and Measurement, 2009, 58, 2706-2713.	2.4	11
67	Calibration of Direct-Conversion Transceivers. IEEE Journal on Selected Topics in Signal Processing, 2009, 3, 488-498.	7.3	29
68	Nonparametric Preprocessing in System Identification: a Powerful Tool. European Journal of Control, 2009, 15, 260-274.	1.6	64
69	Estimating Parameterized Scalable Models From the Best Linear Approximation of Nonlinear Systems for Accurate High-Level Simulations. IEEE Transactions on Instrumentation and Measurement, 2006, 55, 1186-1191.	2.4	3
70	Spectrally Pure Excitation Signals: Only a Dream?. IEEE Transactions on Instrumentation and Measurement, 2004, 53, 1433-1440.	2.4	37
71	An Automatic Detection Scheme for Periodic Signals Based on Spectrum Analyzer Measurements. IEEE Transactions on Instrumentation and Measurement, 2004, 53, 847-853.	2.4	8
72	Experimental Characterization of Operational Amplifiers: A System Identification Approachâ€" Part II: Calibration and Measurements. IEEE Transactions on Instrumentation and Measurement, 2004, 53, 863-876.	2.4	23

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73	Experimental Characterization of Operational Amplifiers: A System Identification Approachâ€" Part I: Theory and Simulations. IEEE Transactions on Instrumentation and Measurement, 2004, 53, 854-862.	2.4	57
74	Why are Nonlinear Microwave Systems Measurements so Involved?. IEEE Transactions on Instrumentation and Measurement, 2004, 53, 726-729.	2.4	14
75	Linearization of Nonlinear Dynamic Systems. IEEE Transactions on Instrumentation and Measurement, 2004, 53, 1245-1248.	2.4	15
76	Broadband high-frequency hybrid. IEEE Transactions on Instrumentation and Measurement, 2002, 51, 1204-1209.	2.4	1
77	Measuring mixed-signal substrate coupling. IEEE Transactions on Instrumentation and Measurement, 2001, 50, 959-964.	2.4	5
78	An identification technique for data acquisition characterization in the presence of nonlinear distortions and time base distortions. IEEE Transactions on Instrumentation and Measurement, 2001, 50, 1355-1363.	2.4	39
79	Maximum likelihood estimator for jitter noise models [HF sampling scopes]. IEEE Transactions on Instrumentation and Measurement, 2000, 49, 1282-1284.	2.4	31
80	Measurement and identification of nonlinear systems consisting of linear dynamic blocks and one static nonlinearity. IEEE Transactions on Automatic Control, 1999, 44, 1266-1271.	3.6	32
81	Identification of invariants of (over)parameterized models: finite sample results. IEEE Transactions on Automatic Control, 1999, 44, 1073-1077.	3.6	14
82	Frequency-domain identification of linear systems using arbitrary excitations and a nonparametric noise model. IEEE Transactions on Automatic Control, 1999, 44, 343-347.	3.6	13
83	Analyses, Development, and Applications of TLS Algorithms in Frequency Domain System Identification. SIAM Journal on Matrix Analysis and Applications, 1998, 19, 983-1004.	0.7	38
84	On the use of compensated total least squares in system identification. IEEE Transactions on Automatic Control, 1998, 43, 1436-1441.	3.6	9
85	Model selection through a statistical analysis of the global minimum of a weighted nonlinear least squares cost function. IEEE Transactions on Signal Processing, 1997, 45, 686-693.	3.2	18
86	Frequency domain system identification using arbitrary signals. IEEE Transactions on Automatic Control, 1997, 42, 1717-1720.	3.6	133
87	Non-parametric Estimation of the Frequency-response Functions of the Linear Blocks of a Wiener-Hammerstein Model**The original version of this paper was presented at the 13th IFAC World Congress, which was held in San Francisco, CA during 30 June-5 July 1996. The Published Proceedings of this IFAC Meeting may be ordered from: Elsevier Science Limited, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, U.K. This paper was recommended for publication in revised form by Associate Editor L Ljung under r. Automatica, 1997, 33, 1351-1355.	3.0	40
88	A sinewave fitting procedure for characterizing data acquisition channels in the presence of time base distortion and time jitter. IEEE Transactions on Instrumentation and Measurement, 1997, 46, 1005-1010.	2.4	36
89	An improved sliding-load calibration procedure using a semiparametric circle-fitting procedure. IEEE Transactions on Microwave Theory and Techniques, 1997, 45, 1027-1033.	2.9	7
90	Frequency-domain system identification using non-parametric noise models estimated from a small number of data sets. Automatica, 1997, 33, 1073-1086.	3.0	150

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91	General framework for asymptotic properties of generalized weighted nonlinear least-squares estimators with deterministic and stochastic weighting. IEEE Transactions on Automatic Control, 1996, 41, 1501-1507.	3.6	25
92	On the use of system identification for accurate parametric modeling of nonlinear systems using noisy measurements. IEEE Transactions on Instrumentation and Measurement, 1996, 45, 605-609.	2.4	13