

Gerd Vandersteen
Academic
Electricity
Electricity
Electricity

Postal address:

Pleinlaan 2
1050
Brussels
Belgium

Email: Gerd.Vandersteen@vub.ac.be

Phone: +32-2-6292947, +32-2-6292767



Expertise

Gerd Vandersteen was born in Belgium in 1968 and received the degree in electrical engineering from the Vrije Universiteit Brussel (VUB), Brussels, Belgium, in 1991. In 1997, Gerd received his PhD in electrical engineering, entitled "Identification of Linear and Nonlinear Systems in an Errors-in-Variables Least Squares and Total Least Squares Framework", from the VUB / dept. ELEC. During his PhD, he obtained the expertise in modeling and analyzing nonlinear systems.

From 1997-2008, Gerd worked at the microelectronic research institute imec, where he worked as Principal Scientist in the Wireless Group in the NES division with the focus on modelling, measurement, and simulation of electronic circuits in state-of-the-art silicon technologies. The wide variety of analogue design problems in which he was involved (RF-PA, RF-LNA, RF-receivers, 60GHz PLL design, sigma-delta modulators) enabled him to obtain theoretical and practical experience in analogue and RF design.

In parallel with working at imec, he collaborated with the dept. ELEC of the VUB on signal processing techniques that enable a simulation-based analysis of nonlinear systems. The developed techniques for nonlinear analysis are based on the so-called Best-Linear-Approximation, a technique that is well known in the identification, measurement, and control society.

He is currently part-time (30%) Director of the Doctoral School of Natural Science and (Bio)Engineering (NSE) at the VUB and is professor at the VUB / dept. ELEC within the context of measuring, modelling and analysis of complex linear and nonlinear systems. In this context, he combines his electronic design knowledge with his nonlinear analysis experience to obtain accurate nonlinear analyses within the practical limitations imposed by the design of analogue and RF circuits.

At the VUB, he teaches courses on the use of CAE-tools for electronic design, as well as microwave design and general telecommunication techniques. Additionally, he is one of the tutors in the international spring school that is organized at the VUB to teach starting PhD researchers the state-of-the-art system identification and modelling techniques.

Research outputs

A flexible feature selection approach for predicting students' academic performance in online courses

Al-Zawqari, A., Peumans, D. & Vandersteen, G., Nov 2022, In: Computers and Education. Artificial Intelligence. 3, 14 p., 100103.

Improved respiratory system impedance estimation in presence of a quasi-periodic breathing disturbance

Marchal, A., Keymolen, A., Lataire, J. & Vandersteen, G., 19 Sep 2022.

LPMLEn – A frequency domain method to estimate vertical streambed fluxes and sediment thermal properties in semi-infinite and bounded domains

van Kampen, R., Schneidewind, U., Anibas, C., Bertagnoli, A., Tonina, D., Vandersteen, G., Luce, C., Krause, S. & Van Berkel, M., 1 Mar 2022, In: Water Resources Research. 58, 3, 23 p., e2021WR030886.

Forced Oscillation Technique Measurement Apparatus Using Fan-Speaker Hybrid

Busschots, C., Pattyn, J., Peumans, D., Rolain, Y. & Vandersteen, G., 1 Feb 2022, In: IEEE Transactions on Instrumentation and measurement. 71, 9 p., 6500209.

Graph Entropy-Based Learning Analytics

Al-Zawqari, A. & Vandersteen, G., 2022, *International Conference on Artificial Intelligence in Education*. Rodrigo, M. M., Matsuda, N., Cristea, A. I. & Dimitrova, V. (eds.). Springer Cham, p. 16-21 6 p.

Investigating the Role of Demographics in Predicting High Achieving Students

Al-Zawqari, A. & Vandersteen, G., 2022, *International Conference on Artificial Intelligence in Education*. Rodrigo, M. M., Matsuda, N., Cristea, A. I. & Dimitrova, V. (eds.). Springer Cham, Vol. 13356. p. 440-443 4 p.

Identification of physiological lung parameters using the forced oscillation technique

Marchal, A., Keymolen, A., Van Dijk, G., Lataire, J. & Vandersteen, G., Sep 2021.

Frequency Response Function Measurements of Multivariable Systems via Local Rational Modelling

Peumans, D., Pintelon, R., Lataire, J. & Vandersteen, G., 19 Feb 2021, In: *IEEE Transactions on Instrumentation and Measurement*. 70, 9 p., 9358212.

Frequency Response Function Measurements via Local Rational Modeling, Revisited

Pintelon, R., Peumans, D., Vandersteen, G. & Lataire, J., 1 Jan 2021, In: *IEEE Transactions on Instrumentation and Measurement*. 70, 16 p., 6501016.

Adaptive excitation signals for low frequency Forced Oscillation Technique measurements in patients

Busschots, C., Keymolen, A., Verbanck, S., Schuermans, D., Maes, H., Peumans, D., Pattyn, J., Rolain, Y., Vandersteen, G. & Lataire, J., 2021, In: *IEEE Transactions on Instrumentation and Measurement*. 70, 10 p., 9438063.

Correcting for non-periodic behaviour in perturbative experiments: application to heat pulse propagation and modulated gas-puff experiments

Van Berkel, M., van Kampen, R. J. R., Vandersteen, G., Kobayashi, T., Ravensbergen, T., Igami, H., Lammers, J. T., Oosterwegel, G. W., Galperti, C., Felici, F. & de Baar, MR., Sep 2020, In: *Plasma Physics & Controlled Fusion*. 62, 9, 11 p., 094001.

Adaptive excitation signals for low frequency FOT

Busschots, C., Keymolen, A., Maes, H., Peumans, D., Pattyn, J., Vandersteen, G. & Lataire, J., 10 Jul 2020, *2020 IEEE International Symposium on Medical Measurements and Applications (MeMeA)*. IEEE, 5 p.

A novel frequency domain maximum likelihood approach for estimating transport coefficients in cylindrical geometry for nuclear fusion devices

van Berkel, M., Oosterwegel, G. W., Anthonissen, M., Zwart, H. J. & Vandersteen, G., Dec 2019, In: *Proceedings of the IEEE Conference on Decision & Control*. 2019, p. 3220-3226

Design and Implementation of a Digital Mixer with Digital Logic

Niyonkuru, L., Vandersteen, G. & Van Biesen, L., 29 Nov 2019. 6 p.

FRF Measurements Subject to Missing Data: Quantification of Noise, Nonlinear Distortion, and Time-Varying Effects

Pintelon, R., Lataire, J. & Vandersteen, G., Oct 2019, In: *IEEE Transactions on Instrumentation and Measurement*. 68, 10, p. 4175-4187 13 p., 8579212.

Power spectrum measurement of high frequency angle modulated digital signal from output power spectrum of a digital divider

Niyonkuru, L., Vandersteen, G. & Van Biesen, L., 17 Sep 2019, *24th IMEKO TC4 International Symposium*. IMEKO, p. 186-189

Accurate estimation of the non-parametric FRF of lightly-damped mechanical systems using arbitrary excitations

Peumans, D., De Vestel, A., Busschots, C., Rolain, Y., Pintelon, R. & Vandersteen, G., 1 Sep 2019, In: *Mechanical Systems and Signal Processing*. 130, p. 545-564 20 p.

Noise leakage suppression in VCO-based Sigma Delta-modulators excited by modulated signals

Peumans, D., Bronders, P. & Vandersteen, G., Jul 2019, *2019 16th International Conference on Synthesis, Modeling, Analysis and Simulation Methods and Applications to Circuit Design (SMACD)*. IEEE, p. 249-252 4 p. 8795256. (2019 16TH INTERNATIONAL CONFERENCE ON SYNTHESIS, MODELING, ANALYSIS AND SIMULATION METHODS AND APPLICATIONS TO CIRCUIT DESIGN (SMACD 2019)).

Precompensation of Supply Dynamics of Dynamic Power Supply Transmitters Using a Linear Parameter-Varying Model
Bronders, P., Lataire, J., Coppens, T., Pailloncy, G., Gustafsson, S., Rolain, Y. & Vandersteen, G., Jan 2019, In: IEEE Transactions on Microwave Theory and Techniques. 67, 1, p. 278-287 10 p., 8520874.

Distortion Contribution Analysis with the Best Linear Approximation

Cooman, A., Bronders, P., Peumans, D., Vandersteen, G. & Rolain, Y., 1 Dec 2018, In: IEEE Transactions on Circuits and Systems I: Regular Papers. 65, 12, p. 4133-4146 14 p., 8369354.

A Unified, Wave-Based Calibration framework for Vector Network Analyzers

Magnus, I., Rolain, Y. & Vandersteen, G., 20 Nov 2018, *2018 48th European Microwave Conference, EuMC 2018*. IEEE, p. 29-32 4 p. 8541529

Separation of transport in slow and fast time-scales using modulated heat pulse experiments (hysteresis in flux explained)

Van Berkel, M., Vandersteen, G., Zwart, H., Hogeweij, GMD., Citrin, J., Westerhof, E., Peumans, D. & de Baar, M. R., Oct 2018, In: Nuclear Fusion. 58, 10, 17 p., 106042.

Exposing resonances using the Bootstrapped Total Least Squares estimator

Peumans, D., De Vestel, A., Busschots, C., Rolain, Y., Pintelon, R. & Vandersteen, G., 24 Sep 2018.

Enhancing Envelope Tracking Power Amplifier understanding using the wonderful properties of LPV

Bronders, P., Peumans, D., Lataire, J. & Vandersteen, G., 23 Sep 2018.

Time-variant frequency response function measurement in the presence of missing data

Pintelon, R., Ugrumova, D., Vandersteen, G., Louarroudi, E. & Lataire, J., 23 Sep 2018.

Measurement & Extraction of the Low-Frequency Dynamics of an Envelope Tracking Amplifier using Multisine Excitations

Bronders, P., Goos, J., Lataire, J., Rolain, Y., Vandersteen, G., Gustafsson, S. & Pailloncy, G., 17 Aug 2018, *2018 IEEE/MTT-S International Microwave Symposium - IMS*. Philadelphia, PA, USA: IEEE, Vol. 2018-June. p. 1039-1042 4 p. 8439139

A systematic approach to optimize excitations for perturbative transport experiments

van Berkel, M., De Cock, A., Hogeweij, GMD., Zwart, H. J. & Vandersteen, G., 1 Aug 2018, In: Physics of Plasmas. 25, 8, 15 p., 082510.

Heat flux reconstruction and effective diffusion estimation from perturbative experiments using advanced filtering and confidence analysis

Van Berkel, M., Kobayashi, T., Vandersteen, G., Zwart, H., Igami, H., Kubo, S., Tamura, N., Tsuchiya, H., de Baar, M. R. & Experiment Group, LHD., 24 Jul 2018, In: Nuclear Fusion. 58, 9, 11 p., 096036.

Improved FRF measurements of lightly damped systems using local rational models

Peumans, D., Busschots, C., Vandersteen, G. & Pintelon, R., 1 Jul 2018, In: IEEE Transactions on Instrumentation and Measurement. 67, 7, p. 1749-1759 11 p.

Time-Variant Frequency Response Function Measurement in the Presence of Missing Data

Pintelon, R., Ugrumova, D., Vandersteen, G., Louarroudi, E. & Lataire, J., 14 May 2018.

Experimentally driven demystification of system identification for nonlinear mechanical systems

Vaes, M., Rolain, Y., Pattyn, J. & Vandersteen, G., 1 Apr 2018, In: IEEE Instrumentation & Measurement Magazine. 21, 2, p. 16-25 10 p., 8327974.

Impact of the Missing Data Pattern, the Oversampling, the Noise Level and the Excitation on Nonparametric Frequency Response Function Estimates

Pintelon, R., Lataire, J., Vandersteen, G. & Ugrumova, D., 2018, *18th IFAC Symposium on System Identification (SYSID 2018)*. 15 ed. IFAC - PapersOnLine, Vol. 51. p. 1002-1007 6 p. (IFAC-PapersOnLine).

Improved methods for determining respiratory properties and system therefor

Maes, H. & Vandersteen, G., 2018, Patent No. WO2018002268

Improved methods for determining respiratory properties and system therefor

Maes, H. & Vandersteen, G., 2018, Patent No. EP3263028

New evidence and impact of electron transport non-linearities based on new perturbative inter-modulation analysis

van Berkel, M., Kobayashi, T., Igami, H., Vandersteen, G., Hogewei, G. M. D., Tanaka, K., Tamura, N., Zwart, H. J., Kubo, S., Ito, S., Tsuchiya, H. & de Baar, M. R., Dec 2017, In: Nuclear Fusion. 57, 12, 15 p., 126036.

Time-Variant Frequency Response Function Measurement in the Presence of Missing Data

Pintelon, R., Ugrumova, D., Vandersteen, G., Louarroudi, E. & Lataire, J., 1 Nov 2017, In: IEEE Transactions on Instrumentation and Measurement. 66, 11, p. 3091-3099 9 p., 8008854.

A measurement-based error-vector-magnitude model to assess non linearity at the system level

Rolain, Y., Zyari, M., Van Nechel, E. & Vandersteen, G., 4 Oct 2017, *2017 IEEE MTT-S International Microwave Symposium, IMS 2017*. IEEE, p. 1429-1432 4 p. 8058887

Multi-Delay Rational Modeling of Lumped-Distributed Systems

Zyari, M., Rolain, Y., Ferranti, F., Vandersteen, G. & Bronders, P., 4 Oct 2017, *2017 IEEE MTT-S International Microwave Symposium, IMS 2017*. IEEE, p. 1624-1627 4 p. 8058945

Local rational modelling - Can Bootstrapped Total Least Squares improve the FRF estimate?

Peumans, D., Busschots, C., Vandersteen, G. & Pintelon, R., 24 Sep 2017.

An improved Describing Function with applications for OTA-based circuits

Peumans, D. & Vandersteen, G., 1 Jul 2017, In: IEEE Transactions on Circuits and Systems I: Regular Papers. 64, 7, p. 1748-1757 10 p., 7886340.

Frequency domain estimation of parabolic partial differential equations with spatially varying transport coefficients

Van Berkel, M., Vandersteen, G. & Zwart, H., 28 Mar 2017, p. 55. 1 p.

Estimating Respiratory Impedance at Breathing Frequencies Using Regularized Least Squares on Forced Oscillation Technique Measurements

Maes, H., Zivanovic, M., Schoukens, J. & Vandersteen, G., Mar 2017, In: IEEE Transactions on Instrumentation and Measurement. 66, 3, p. 479-491 13 p., 7819554.

Monitoring the Doctoral Trajectory Through an Annual Survey

De Grande, H. & Vandersteen, G., 2017, *10th EUA-CDE Annual Meeting: Digitalisation: a game changer for doctoral education?*. p. 9-9 1 p.

A Simplified Approach to Concurrent Dual-Band Power Amplifiers Digital Predistortion

Bshara, M., Vandersteen, G. & Van Biesen, L., 12 Oct 2016, *ATC 2016 conference, Advanced Technologies for Communications*. IEEE, p. 22-26 5 p.

Common-denominator modelling for stability analysis of electronic circuits

Cooman, A., Ferranti, F., Rolain, Y., Vandersteen, G. & Louarroudi, E., 3 Oct 2016, *Proceedings of the 2016 European Microwave Integrated Circuits Conference: 46th European Microwave Week 2016*. EuMA, p. 361-364

LPMLE3: A novel 1-D approach to study water flow in streambeds using heat as a tracer

Schneidewind, U., Van Berkel, M., Anibas, C., Vandersteen, G., Schmidt, C., Joris, I., Seuntjens, P., Batelaan, O. & Zwart, H., Aug 2016, In: Water Resources Research. 52, 8, p. 6596-6610 15 p.

Analysis of Phase-Locked Loops using the Best Linear Approximation

Peumans, D., Cooman, A. & Vandersteen, G., 28 Jun 2016, *Proceedings of the 2016 13th International Conference on Synthesis, Modeling, Analysis and Simulation Methods and Applications to Circuit Design (SMACD)*. IEEE, 4 p.

Distortion Contribution Analysis of strongly non-linear analog circuits

Cooman, A., Bronders, P. & Vandersteen, G., 27 Jun 2016, *Proceedings of the 2016 13th International Conference on Synthesis, Modeling, Analysis and Simulation Methods and Applications to Circuit Design (SMACD)*. IEEE, 4 p.

Cyclo-Stationary process analysis within telecom applications

Lazov, V. & Vandersteen, G., 23 May 2016, *Proceedings of the IEEE International Instrumentation and Measurement Technology Conference, 23-26 May, 2016, Taipei, Taiwan*. IEEE, p. 539-544 6 p.

Issues of carrier aggregation intermodulation distortions in LTE-Advanced System

leonidas, N., Van Biesen, L. & Vandersteen, G., 22 Mar 2016.

From streambed temperature measurements to spatial-temporal flux quantification: using the LPML method to study groundwater-surface water interaction

Anibas, C., Schneidewind, U., Vandersteen, G., Ingeborg, J., Seuntjens, P. & Batelaan, O., 1 Jan 2016, In: *Hydrological Processes*. 30, 2, p. 203-216 14 p.

Frequency Response Matrix Estimation From Partially Missing Data—for Periodic Inputs

Ugryumova, D., Pintelon, R. & Vandersteen, G., 1 Dec 2015, In: *IEEE Transactions on Instrumentation and Measurement*. 64, 12, p. 3615-3628

Frequency Response Matrix Estimation From Missing Input-Output Data

Ugryumova, D., Pintelon, R. & Vandersteen, G., 1 Nov 2015, In: *IEEE Transactions on Instrumentation and Measurement*. 64, 11, p. 3124-3136

The Best Linear Approximation and Linearisation

Cooman, A., Louarroudi, E., Rolain, Y. & Vandersteen, G., 20 Sep 2015, *European Research Network on System Identification - ERNSI*.

Wideband Distortion Contribution Analysis of Analog Circuits with Differential Signalling

Cooman, A. & Vandersteen, G., 7 Sep 2015, *International Conference on Synthesis, Modeling, Analysis and Simulation Methods and Applications to Circuit Design (SMACD)*. 4 p.

Design and Tuning of Coupled-LC mm-Wave Subharmonically Injection-Locked Oscillators

Mangraviti, G., Khalaf, K., Parvais, B., Vaesen, K., Szortyka, V., Vandersteen, G. & Wambacq, P., 1 Jul 2015, In: *IEEE Transactions on Microwave Theory and Techniques*. 63, 7, p. 2301-2312

Design of Envelope Tracking Power Amplifiers using Multisines

Bronders, P. & Vandersteen, G., 18 May 2015, *Presentation of poster at the DYSCO study day*.

Description of the cyclostationary processes in Linear Periodically Time-Varying (LPTV) systems

Lazov, V., Louarroudi, E. & Vandersteen, G., 24 Mar 2015, *34th Benelux Meeting on Systems and Control, Center Parcs "De Vossemereen", Lommel, 24th to 26th March, 2015*. 1 p.

Estimating the BLA of MIMO sub-networks in simulations

Cooman, A., Louarroudi, E. & Vandersteen, G., 24 Mar 2015, *34th Benelux Meeting on Systems and Control, March 24-26, 2015, Lommel, Belgium*. p. 31 1 p.

Multi-Tone Synthesis of RF Power Amplifiers

Bronders, P. & Vandersteen, G., 24 Mar 2015, *34th Benelux Meeting on Systems and Control, March 24-26, 2015, Lommel, Belgium*. p. 93 1 p.

Separation of breathing signals from respiratory response using regularization

Maes, H. & Vandersteen, G., 24 Mar 2015, *34th Benelux Meeting on Systems and Control, March 24-26, 2015, Lommel Belgium*. 1 p.

Structure discrimination in block-oriented models using linear approximations: A theoretic framework

Schoukens, J., Pintelon, R., Rolain, Y., Schoukens, M., Tiels, K., Vanbeylen, L., Van Mulders, A. & Vandersteen, G., 1 Mar 2015, In: *Automatica*. 53, p. 225-234 10 p.

Determining groundwater-surface water exchange from temperature-time series: Combining a local polynomial method with a maximum likelihood estimator

Vandersteen, G., Schneidewind, U., Anibas, C., Schmidt, C., Seuntjens, P. & Batelaan, O., 1 Feb 2015, In: *Water Resources Research*. 51, 2, p. 922-939 18 p.

Frequency response function estimation in the presence of missing output data

Ugryumova, D., Pintelon, R. & Vandersteen, G., 1 Feb 2015, In: *IEEE Transactions on Instrumentation and Measurement*. 64, p. 541-553 13 p.

Parametric identification of parallel Wiener-Hammerstein systems

Schoukens, M., Marconato, A., Pintelon, R., Vandersteen, G. & Rolain, Y., 1 Jan 2015, In: *Automatica*. 51, 1, p. 111-122 12 p.

System Identification

Vandersteen, G., 2015, *Modern Measurements: Fundamentals and Applications*. Ferrero, A., Petri, D. & Catelani, M. (eds.). Wiley / IEEE Press, p. 265-286

Fast Identification of Wiener-Hammerstein Systems using Discrete Optimization

Schoukens, M., Vandersteen, G., Rolain, Y. & Ferranti, F., 1 Dec 2014, In: *Electronics Letters*. 50, 25, p. 1942-1944 3 p.

Modeling a broadband Doherty power amplifier using a parallel Wiener-Hammerstein model

Schoukens, M., Ozen, M., Fager, C., Thorsell, M., Vandersteen, G. & Rolain, Y., 12 Nov 2014, *Presentation of poster at the DYSCO study day, 12 November 2014, Ghent*.

Estimation of the thermal diffusion coefficient in fusion plasmas taking frequency measurement uncertainties into account

Van Berkel, M., Zwart, H., Hogeweij, D., Vandersteen, G., van den Brand, H. & de Baar, M. R., 1 Oct 2014, In: *Plasma Physics and Controlled Fusion*. 56, 10, 19 p., 105004.

Analysis of breathing disturbances for the estimation of respiratory impedance

Maes, H. & Vandersteen, G., 21 Sep 2014.

Estimating the Best Linear Approximation in electronic circuits

Cooman, A., Bronders, P. & Vandersteen, G., 21 Sep 2014, *Presentation of poster at ERNSI 2014, European Research Network on System Identification, Oostende, Belgium, September 21-24, 2014*.

Frequency response matrix estimation from partially missing data

Ugryumova, D., Pintelon, R. & Vandersteen, G., 21 Sep 2014, *Presentation of poster at ERNSI 2014, European Research Network on System Identification, Oostende, Belgium, September 21-24, 2014*.

Novel approach of processing electrical bioimpedance data using differential impedance analysis

Sanchez, B., Bandarenka, A. S., Vandersteen, G., Schoukens, J. & Bragos, R., 1 Sep 2014, In: *Medical Engineering & Physics*. 35, p. 1349-1357 9 p.

Estimation of Respiratory Impedance at Low Frequencies During Spontaneous Breathing Using the Forced Oscillation Technique

Maes, H., Ionescu, C. & Vandersteen, G., 26 Aug 2014, *36th Annual International IEEE EMBS Conference, August 26-30, 2014, Sheraton Hotel & Towers, Chicago, Illinois, USA*. p. 3410-3413 3 p.

Frequency domain sample maximum likelihood estimation for spatially dependent parameter estimation in PDEs

Van Berkel, M., Vandersteen, G., Geerardyn, E., Pintelon, R., Zwart, H. & De Baar, M. R., 1 Aug 2014, In: *Automatica*. 50, p. 2113-2119 7 p.

A Low-Power Analog Baseband Section for 60-GHz Receivers in 90-nm CMOS

D'amico, S., Spagnolo, A., Vandersteen, G., Donno, A., Chironi, V., Wambacq, P. & Baschiroto, A., 8 Jul 2014, In: *IEEE Transactions on Microwave Theory and Techniques*. 62, 8, p. 1724-1735 12 p.

Bias Compensation When Identifying Static Nonlinear Functions Using Averaged Measurements

Carbone, P. & Vandersteen, G., 1 Jul 2014, In: *IEEE Transactions on Instrumentation and Measurement*. 63, 7, p. 1855-1862 8 p.

Comparative Study of a Fully Differential Op Amp in FinFET and Planar Technologies

Morrison, S., Parvais, B., Vandersteen, G., Miyaguchi, K., Mercha, A. & Wambacq, P., 29 Jun 2014, *10th Conference on PhD Research in Microelectronics and Electronics - PRIME 2014*. IEEE, p. 1-4 4 p. 000345737400016

Distortion Contribution Analysis by combining the Best Linear Approximation and noise analysis

Cooman, A. & Vandersteen, G., 1 Jun 2014, *Proceedings of the 2014 International Symposium on Circuits and Systems (ISCAS 2014), Melbourne, Australia, June 1-5, 2014*. p. 2772-2775 4 p.

Nonlinear distortion analysis of circuits and systems

Vandersteen, G. & Cooman, A., 1 Jun 2014.

Bestimmung von vertikalen Grundwasser-Oberflächenwasseraustauschraten mittels Temperaturzeitreihenanalyse am Beispiel des Slootbeek.

Schneidewind, U., Anibas, C., Vandersteen, G., Joris, I., Batelaan, O. & Schmidt, C., 28 May 2014, *Tagung der FH- DGG: Grundwasser trifft Boden und Energie, Bayreuth, Germany, May 28.-31, 2014., Bayreuther Forum Ökologie 2014, Vol.118, Abstract O 6.13*.

Nonparametric FRF estimation from data with partially missing output

Ugryumova, D., Pintelon, R. & Vandersteen, G., 16 May 2014, *Presentation of poster at the DYSCO Study Day Namur, May 16, 2014*.

Respiratory mechanics in children with cystic fibrosis

Ionescu, C., Desager, K., Vandersteen, G. & De Keyser, R., 1 May 2014, In: *Biomedical Signal Processing and Control*. 11, p. 74-75 12 p.

Distortion Contribution Analysis by combining the MIMO BLA and noise analysis

Cooman, A. & Vandersteen, G., 25 Mar 2014, *33rd Benelux Meeting on Systems and Control, March 25 - 27, 2014 Heijden, The Netherlands*.

Estimation of respiratory impedance on breathing patients

Maes, H. & Vandersteen, G., 25 Mar 2014, *Benelux meeting, Heijden, The Netherlands, March 25-27, 2014*.

FRF estimation in the presence of missing output data

Ugryumova, D., Pintelon, R. & Vandersteen, G., 25 Mar 2014, *Benelux meeting, Heijden, The Netherlands, March 25-27, 2014*.

System Identification in a Real World

Schoukens, J., Marconato, A., Pintelon, R., Rolain, Y., Schoukens, M., Tiels, K., Vanbeylen, L., Vandersteen, G. & Van Mulders, A., 14 Mar 2014, *13th International Workshop on Advanced Motion Control (AMC), Yokohama, Japan, 14-16 March, 2014*. IEEE, p. 1-9

Structural and Functional Changes Occuring During Growth of the Respiratory System Can Be Quantified and Classified
Ionescu, C., Copot, D., Maes, H., Vandersteen, G., Chevalier, A. & De Keyser, R., 3 Mar 2014, *7th International Joint Conference on Biomedical Engineering Systems and Technologies (BIOSTEC 2014), Angers, France, March 3-6, 2014*. p. 110-115 6 p.

A Fan-based, Low-frequent, Forced Oscillation Technique Apparatus

Maes, H., Vandersteen, G., Muehlebach, M. & Ionescu, C., 1 Mar 2014, In: *IEEE Transactions on Instrumentation and Measurement*. 63, p. 603-611 9 p.

System-Level ESD Protection Design Using On-Wafer Characterization and Transient Simulations

Scholz, M., Chen, S-H., Thijs, S., Linten, D., Hellings, G., Vandersteen, G., Sawada, M. & Groeseneken, G., 1 Mar 2014, In: *IEEE Transactions on Device and Materials Reliability*. 14, p. 104-111 8 p.

Heat transfer in a borehole heat exchanger: Frequency domain modeling

Monteyne, G., Javed, S. & Vandersteen, G., 1 Feb 2014, In: *International Journal of Heat and Mass Transfer*, February 2014. 69, p. 129-139 11 p.

Finding the dominant source of distortion in two-stage op-amps

Cooman, A., Vandersteen, G. & Rolain, Y., 1 Jan 2014, In: *Analog Integrated Circuits and Signal Processing*. 78, p. 153-163 11 p.

Measuring Nonlinear Effects in Respiratory Mechanics: A Proof of Concept for Prototype Device and Method

Ionescu, C., Vandersteen, G., Schoukens, J., Desager, K. & De Keyser, R., 1 Jan 2014, In: *IEEE Transactions on Instrumentation and Measurement*. 63, p. 124-134 11 p.

An identification algorithm for parallel Wiener-Hammerstein systems

Schoukens, M., Vandersteen, G. & Rolain, Y., 10 Dec 2013, *52nd IEEE Conference on Decision and Control, Florence, Italy, December 10-13, 2013*. p. 4907-4912 6 p.

Study of Small Data Set Efficiency Losses in System Identification: The FIR Case

Schoukens, J., Rolain, Y., Vandersteen, G. & Pintelon, R., 10 Dec 2013, *11th IFAC International Workshop on Adaptation and Learning in Control and Signal Processing*. International Federation of Automatic Control, p. 68-73 6 p. (Adaptation and Learning in Control and Signal Processing; vol. 11, no. 1).

Distortion Contribution Analysis by combining the BLA and MIMO noise analysis

Cooman, A. & Vandersteen, G., 22 Nov 2013, *Poster presented at the IAP DYSCO study day organized by the Vrije Universiteit Brussel, Palais des Académies, Brussels, November 22, 2013*.

Nonparametric system identification with missing data

Ugryumova, D., Pintelon, R. & Vandersteen, G., 22 Nov 2013, *Poster presented at the IAP DYSCO study day organized by the Vrije Universiteit Brussel, Palais des Académies, Brussels, November 22, 2013*.

A mm-Wave 40 nm CMOS Subharmonically Injection-Locked QVCO with Lock Detection

Mangraviti, G., Parvais, B., Shi, Q., Vidojkovic, V., Libois, M., Vandersteen, G. & Wambacq, P., 11 Nov 2013, *2013 IEEE Asian Solid-State Circuits Conference (A-SSCC), Proceedings of Technical Papers*. p. 461-464 4 p. (2013 IEEE Asian Solid-State Circuits Conference (A-SSCC), Proceedings of Technical Papers).

Finding the dominant source of distortion by combining the BLA and MIMO noise analysis

Cooman, A. & Vandersteen, G., 7 Nov 2013, *BEMEKO Workshop on measurement, 7 november, Liege, Belgium*.

Lung function testing for disease monitoring: extending Forced Oscillation Technique (FOT) to low frequencies

Maes, H. & Vandersteen, G., 7 Nov 2013.

Frequency Enhancement of a 40-nm CMOS Static Frequency Divider by Negative Capacitance

Issakov, V., Mangraviti, G., Szortyka, V., Vidojkovic, V., Vandersteen, G. & Wambacq, P., 6 Oct 2013, *European Microwave Week 2013 EuMW2013, Nürnberg Convention Center, Nuremberg, Germany October 6-11, 2013*. p. 564-567
4 p.

Distortion Contribution Analysis by combining the BLA and MIMO noise analysis

Cooman, A. & Vandersteen, G., 23 Sep 2013, *ERNSI 2013, European Research Network on System Identification, 22-25 September, Nancy, France*.

Low-frequent lung impedance estimation on breathing patients

Maes, H. & Vandersteen, G., 23 Sep 2013.

A Low-cost demonstrator for nonlinear system identification

Vaes, M., PATTYN, J., Vandersteen, G., Rolain, Y. & Schoukens, J., 22 Sep 2013, *ERNSI 2013, Nancy, France, September 22-25, 2013*.

An identification algorithm for parallel Wiener-Hammerstein systems

Schoukens, M., Vandersteen, G. & Rolain, Y., 22 Sep 2013.

Nonparametric system identification with missing data

Ugryumova, D., Pintelon, R. & Vandersteen, G., 22 Sep 2013, *ERNSI 2013, Nancy, France, September 22-25, 2013*.

Maximum Likelihood Estimation of Diffusion and Convection in Tokamaks using Infinite Domains

Van Berkel, M., Vandersteen, G., Zwart, H., Hogeweij, D. & De Baar, M. R., 28 Aug 2013, *2013 IEEE International Conference on Control Applications (CCA 2013)*. IEEE, p. 1230-1234 5 p.

Transient suppression in FRF measurement: Comparison and analysis of four state-of-the-art methods

Monteyne, G., Vandersteen, G., Pintelon, R. & Ugryumova, D., Aug 2013, In: *Measurement*. 46, 7, p. 2210-2222 13 p.

Distortion Contribution Analysis by combining the BLA and MIMO noise analysis

Cooman, A. & Vandersteen, G., 11 Jul 2013, *Presentation of poster at 2013 BEMEKO workshop on Measurement: Challenges and Opportunities, University of Liège, Belgium, 7 November 2013*.

In vivo electrical bioimpedance characterization of human lung tissue during the bronchoscopy procedure. A feasibility study

Sanchez, B., Vandersteen, G., Martin, I., Castillo, D., Torrego, A., Riu, P. J., Schoukens, J. & Bragos, R., 1 Jul 2013, In: *Medical Engineering & Physics*. 35, p. 949-957 9 p.

Vector network analysis for nonlinear systems

Rolain, Y., Vandersteen, G. & Schoukens, M., 1 Jun 2013, *Modern RF and Microwave Measurement Techniques*. Teppati, V., Ferrero, A. & Sayed, M. (eds.). Cambridge University Press, p. 309-344 36 p. (The Cambridge RF and Microwave Engineering Series).

Lung function testing for disease monitoring: A new approach

Maes, H. & Vandersteen, G., 31 May 2013.

Optimal input design for ill-conditioned systems

Ugryumova, D. & Vandersteen, G., 31 May 2013, *VUB PhD Research Day, May 31st, 2013*.

Bounding the Polynomial Approximation Errors of Frequency Response Functions

Schoukens, J., Vandersteen, G., Pintelon, R., Emedi, Z. & Rolain, Y., 1 May 2013, In: *IEEE Transactions on Instrumentation and Measurement*. 62, p. 1346-1353 8 p.

Identification of a Noninsulated Distillation Column From Transient Response Data

Ugryumova, D., Vandersteen, G., Huyck, B., Logist, F., Van Impe, J. & De Moor, B., 1 May 2013, In: IEEE Transactions on Instrumentation and Measurement. 62, 5, p. 1382-1391 9 p.

A ventilator-based, low-frequent, Forced Oscillation Technique (FOT) instrumentation

Maes, H. & Vandersteen, G., 26 Mar 2013, *32nd Benelux Meeting on Systems and Control, March 26-28, OL FOSSE D'OUTH, Houffalize, Belgium.*

Black-Box Modeling of Heat Transfer around Borehole Heat Exchangers

Monteyne, G., Javed, S. & Vandersteen, G., 26 Mar 2013, *32nd Benelux Meeting on Systems and Control, March 26-28, OL FOSSE D'OUTH, Houffalize, Belgium.*

Does QR decomposition work for ill-conditioned systems?

Ugryumova, D. & Vandersteen, G., 26 Mar 2013, *32nd Benelux Meeting on Systems and Control, March 26-28, OL FOSSE D'OUTH, Houffalize, Belgium.*

Finding the dominant source of non-linear distortion in an op-amp

Cooman, A. & Vandersteen, G., 26 Mar 2013, *32nd Benelux Meeting on Systems and Control, March 26-28, OL FOSSE D'OUTH, Houffalize, Belgium.*

Comparison of System-Level ESD Design Methodologies—Towards the Efficient and ESD Robust Design of Systems

Scholz, M., Chen, S-H., Vandersteen, G., Linten, D., Hellings, G., Sawada, M. & Groeseneken, G., 1 Mar 2013, In: IEEE Transactions on Device and Materials Reliability. 13, p. 213-222 10 p.

Where are the Dominant Nonlinear Contributions in a Feedback Op-amp?

Cooman, A., Geerardyn, E., Vandersteen, G. & Rolain, Y., 8 Oct 2012, *Poster presentation at the IUAP/PAI DYSCO workshop, Louvain-la-neuve, Château-Ferme de Profondval, 2012.*

Basics of broadband impedance spectroscopy measurements using periodic excitations

Sanchez, B., Rojas, C. R., Vandersteen, G., Bragos, R. & Schoukens, J., 1 Oct 2012, In: Measurement Science and Technology. 23, 10, 14 p., 105501.

Frequency Response Function Measurements Using Concatenated Subrecords With Arbitrary Length

Schoukens, J., Vandersteen, G., Rolain, Y. & Pintelon, R., 1 Oct 2012, In: IEEE Transactions on Instrumentation and Measurement. 61, p. 2682-2688 7 p.

Frequency Domain Modeling of Heat Transport around Borehole Heat Exchangers

Monteyne, G. & Vandersteen, G., 23 Sep 2012, *ERNSI'2012, European Research Network on System Identification, 23-26 September 2012, Maastricht, The Netherlands.*

Polynomial approximation errors for integrator frequency response functions

Ugryumova, D., Pintelon, R. & Vandersteen, G., 23 Sep 2012, *ERNSI'2012, European Research Network on System Identification, 23-26 September 2012, Maastricht, The Netherlands.*

Where are the Dominant Nonlinear Contributions in a Feedback Op-amp?

Cooman, A., Geerardyn, E., Vandersteen, G. & Rolain, Y., 23 Sep 2012, *ERNSI'2012, European Research Network on System Identification, 23-26 September 2012, Maastricht, The Netherlands.,*

Determining the Dominant Nonlinear Contributions in a multistage Op-amp in a Feedback Configuration

Cooman, A., Geerardyn, E., Vandersteen, G. & Rolain, Y., 19 Sep 2012, *SMACD 2012 International Conference on Synthesis, Modeling, Analysis and Simulation Methods and Applications to Circuit Design, Seville, Spain, 19-21 September 2012.* p. 205-208 4 p.

Miscorrelation between IEC61000-4-2 type of HMM tester and 50 Ohm HMM tester

Scholz, M., Chen, S-H., Johnsson, D., Gallerano, A., Hellings, G., Linten, D., Lafonteese, D., Concannon, A., Vandersteen, G., Sawada, M. & Groeseneken, G., 9 Sep 2012, *34th Electrical Overstress/Electrostatic Discharge Symposium Proceedings (EOS/ESD)*, Tucson, AZ, USA, 9-14 Sept. 2012. p. 51-59 9 p.

Miscorrelation between IEC61000-4-2 type of HMM tester and 50 Omega HMM tester

Scholz, M., Chen, S-H., Johnsson, D., Gallerano, A., Hellings, G., Linten, D., Lafonteese, D., Concannon, A., Vandersteen, G., Sawada, M. & Groeseneken, G., 9 Sep 2012, *4th Electrical Overstress/Electrostatic Discharge Symposium (EOS/ESD)*. IEEE, 9 p.

Mixed-mode simulations for power-on ESD analysis

Scholz, M., Shibkov, A., Chen, S-H., Linten, D., Thijs, S., Sawada, M., Vandersteen, G. & Groeseneken, G., 9 Sep 2012, *34th Electrical Overstress/Electrostatic Discharge Symposium Proceedings (EOS/ESD)*, Tucson, AZ, USA, 9-14 Sept. 2012. p. 379-387 9 p.

Mixed-mode simulations for power-on ESD analysis

Scholz, M., Shibkov, A., Chen, S-H., Linten, D., Thijs, S., Sawada, M., Vandersteen, G. & Groeseneken, G., 9 Sep 2012, *Invited lecture at RCJ/ESD Symposium, 2012*, Tucson, AZ, USA, 9-14 Sept. 2012. p. 62-69 8 p.

Minimally invasive in vivo human lung tissue bioimpedance measurements during the bronchoscopy procedure

Sanchez, B., Vandersteen, G., Martin, I., Castillo, D., Torrego, A., Riu, P. J., Schoukens, J. & Bragos, R., 28 Aug 2012, *34th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC'12)*, San Diego, California, USA, August 28 - September 1, 2012..

On the calculation of the D-optimal multisine excitation power spectrum for broadband impedance spectroscopy measurements

Sanchez, B., Rojas, C. R., Vandersteen, G., Bragos, R. & Schoukens, J., 1 Aug 2012, In: *Measurement Science and Technology*. 23, 15 p.

Errors-In-Variables Identification of Linear Dynamic Systems Using Periodic Excitations

Pintelon, R., Schoukens, J. & Vandersteen, G., 11 Jul 2012, *Proceedings of the 16th IFAC Symposium on System Identification, Brussels, Belgium, July 11-13, 2012*. Elsevier, p. 1365-1370 6 p. (IFAC Proceedings Volumes; vol. 45, no. 16).

Extension of Local Polynomial Method for Periodic Excitations

Monteyne, G., Ugryumova, D. & Vandersteen, G., 11 Jul 2012, *Proceedings of the 16th IFAC Symposium on System Identification, Brussels, Belgium, July 11-13, 2012*. IFAC, p. 61-65 5 p. (IFAC Proceedings Volumes; vol. 45, no. 16).

User Choices for Nonparametric Preprocessing in System Identification

Schoukens, J., Vandersteen, G., Gevers, M., Pintelon, R. & Rolain, Y., 11 Jul 2012, *Proceedings of the 16th IFAC Symposium on System Identification, Brussels, Belgium, July 11-13, 2012*. Elsevier, p. 37-42 6 p. (IFAC Proceedings Volumes; vol. 45, no. 16).

Synchronizing modulated NVNA measurements on a dense spectral grid

Rolain, Y., Schoukens, M., Pintelon, R. & Vandersteen, G., 22 Jun 2012, *Microwave Measurement Conference (ARFTG), 2012 79th ARFTG, June 22-22, 2012*. p. 1-3 3 p.

A 52-66GHz Subharmonically Injection-Locked Quadrature Oscillator with 10GHz Locking Range in 40nm LP CMOS

Mangraviti, G., Parvais, B., Vidojkovic, V., Vaesen, K., Szortyka, V., Khalaf, K., Soens, C., Vandersteen, G. & Wambacq, P., 17 Jun 2012, *2012 IEEE Radio Frequency Integrated Circuits Symposium*. p. 309-312 4 p.

Identification and Modeling of Distillation Columns From Transient Response Data

Ugryumova, D., Vandersteen, G., Huyck, B., Logist, F., Van Impe, J. & De Moor, B., 13 May 2012, *I2MTC 2012, IEEE International Instrumentation and Measurement Technology Conference, Graz, Austria, May 13-16, 2012*. p. 2098-2103 6 p.

Study of the maximal interpolation errors of the local polynomial method for frequency response function measurements
Schoukens, J., Vandersteen, G., Pintelon, R., Emedi, Z. & Rolain, Y., 13 May 2012, *I2MTC 2012, IEEE International Instrumentation and Measurement Technology Conference, Graz, Austria, May 13-16, 2012*. IEEE, p. 1395-1399 5 p.

Transient Suppression in Non-Parametric Frequency Response Function Estimates of Heat Diffusion Phenomena
Monteyne, G., Vandersteen, G. & Pintelon, R., 13 May 2012, *I2MTC 2012, IEEE International Instrumentation and Measurement Technology Conference, Graz, Austria, May 13-16, 2012*. p. 1983-1987 5 p.

A new mechanism for sawtooth period control

Lauret, M., Felici, F., Witvoet, G., Goodman, T. P., Vandersteen, G., Westerhof, E., Steinbuch, M., Sauter, O. & De Baar, M. R., 7 May 2012, In: *EPJ Web of Conferences*. 32, 2 p., 02008.

Identification and modeling of distillation columns from transient response data

Ugryumova, D., Vandersteen, G., Huyck, B. & Logist, F., 27 Mar 2012, *31th Benelux Meeting on Systems and Control, March 27-29 2012, CenterParcs Heijderbos, Heijden, The Netherlands*.

Robust or fast local polynomial method: How to choose?

Monteyne, G., Ugryumova, D., Vandersteen, G. & Pintelon, R., 27 Mar 2012, *31th Benelux Meeting on Systems and Control, March 27-29 2012, CenterParcs Heijderbos, Heijden, The Netherlands*.

Demonstration of sawtooth period locking with power modulation in TCV plasmas

Lauret, M., Felici, F., Witvoet, G., Goodman, T. P., Vandersteen, G., Sauter, O. & De Baar, M. R., 1 Mar 2012, In: *Nuclear Fusion*. 52, 6, 4 p., 062002.

Die Lokal- polynomiale Methode (LPM) zur Bestimmung von Grundwasser-Oberflächenwasseraustauschraten: Theorie und Praxis.

Anibas, C., Batelaan, O., Schneidewind, U. & Vandersteen, G., 2012, *Conference proceedings 'Grundwasserschutz und Grundwassernutzung', FH-DGG-Tagung, Dresden 2012, Schriftenreihe der Deutschen Gesellschaft für Geowissenschaften, SDGG*. Vol. 78.

User friendly Box-Jenkins identification using nonparametric noise models

Schoukens, J., Rolain, Y., Vandersteen, G. & Pintelon, R., 12 Dec 2011, *50th IEEE Conference on Decision and Control and European Control Conference (CDC-ECC11), Orlando, FL, USA, December 12-15, 2011*.

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

Sanchez, B., Schoukens, J., Bragos, R. & Vandersteen, G., 1 Dec 2011, In: *IEEE Transactions on Biomedical Engineering*. 58, p. 3376-3385 10 p.

Under-modeling of Local Polynomial method

Monteyne, G., Ugryumova, D. & Vandersteen, G., 29 Nov 2011, *Poster presentation at the IUAP/PAI DYSCO workshop, Leuven-Heverlee, Thermotechnisch Instituut, November 29, 2011..*

Optimal multisine excitation design for broadband electrical impedance spectroscopy

Sanchez, B., Vandersteen, G., Bragos, R. & Schoukens, J., 1 Nov 2011, In: *Measurement Science and Technology*. 22, 11 p., 115601.

Improved (non-)parametric identification of dynamic systems excited by periodic signals

Pintelon, R., Barbé, K., Vandersteen, G. & Schoukens, J., 1 Oct 2011, In: *Mechanical Systems and Signal Processing*. 25, 7, p. 2683-2704 22 p.

A novel Approach for Impedance Spectrum Estimation: the Local Polynomial Method

Sanchez, B., Vandersteen, G., Bragos, R. & Schoukens, J., 28 Sep 2011, *International Workshop on Impedance Spectroscopy (IWIS), Chemnitz, Germany, September 28-30, 2011*.

One-step identification of parallel Hammerstein systems

Schoukens, M., Rolain, Y. & Vandersteen, G., 25 Sep 2011, *Presentation of poster at the European Research Network on System Identification workshop (ERNSI 2011), Nice (France), 25-28 September 2011.*

Under modeling and Border effect of Local Polynomial method

Monteyne, G., Ugryumova, D. & Vandersteen, G., 25 Sep 2011, *Presentation of poster at the European Research Network on System Identification workshop (ERNSI 2011), Nice (France), 25-28 September 2011.*

User friendly Box-Jenkins identification using nonparametric noise models

Schoukens, J., Rolain, Y., Vandersteen, G., Pintelon, R. & Gevers, M., 25 Sep 2011, *Presentation at the European Research Network on System Identification workshop (ERNSI 2011), Nice (France), 25-28 September 2011.*

System-level ESD protection of high-voltage tolerant IC pins-A case study

Scholz, M., Thijs, S., Griffoni, A., Chen, S-H., Linten, D., Sawada, M., Vandersteen, G. & Groeseneken, G., 11 Sep 2011, *ESDSym 2011 : EOS/ESD Symposium, Disneyland Hotel, Anaheim, CA, September 11-16, 2011.* p. 35-38 4 p.

In-cycle myocardium tissue electrical impedance monitoring using broadband impedance spectroscopy

Sanchez, B., Vandersteen, G., Bragos, R. & Schoukens, J., 30 Aug 2011, *33rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Boston, USA. August 30th - September 3rd, 2011.* p. 2518-2521 4 p.

Influence of the multisine excitation amplitude design for biomedical applications using impedance spectroscopy

Sanchez, B., Bragos, R. & Vandersteen, G., 30 Aug 2011, *33rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Boston, USA. August 30th - September 3rd, 2011.* p. 3975-3978 4 p.

System-level ESD protection of high-voltage tolerant IC pins-A case study

Scholz, M., Thijs, S., Griffoni, A., Chen, S-H., Linten, D., Sawada, M., Vandersteen, G. & Groeseneken, G., 11 Aug 2011, *ESD Forum, 11-16 August, 2011, Tokyo, Japan.* p. 87-94 8 p.

Improved (non-)parametric identification of dynamic systems excited by periodic signals—The multivariate case

Pintelon, R., Vandersteen, G., Schoukens, J. & Rolain, Y., 1 Aug 2011, In: *Mechanical Systems and Signal Processing.* 25, p. 2892-2922 31 p.

A high-speed on-chip pseudo-random binary sequence generator for multi-tone phase calibration

Gomme, L., Vandersteen, G. & Rolain, Y., 1 Jun 2011, In: *Measurement Science and Technology.* 22, 14 p., 075901.

Design, realization and measurement of a CMOS Phase Locked Loop (PLL) to study its nonlinear performance

Jain, M. & Vandersteen, G., 12 May 2011, *DYSCO study day at Colonster, University of Liège, May 12th, 2011.*

Estimation of nonparametric harmonic transfer functions for linear periodically time-varying systems using periodic excitations

Louarroudi, E., Pintelon, R., Lataire, J. & Vandersteen, G., 10 May 2011, *IEEE International Instrumentation and Measurement Technology Conference - I2MTC, Hangzhou (China), May 10-12, 2011.* p. 699-704 6 p.

Fast FRF measurement of multivariable systems using periodic excitations

Pintelon, R., Vandersteen, G., Schoukens, J. & Rolain, Y., 10 May 2011, *IEEE International Instrumentation and Measurement Technology Conference - I2MTC, Hangzhou (China), May 10-12, 2011.* p. 460-465 6 p.

On the efficiency loss of the Local Polynomial method for single experiment MIMO Frequency Response Matrix extraction

Vandersteen, G., Ugryumova, D., Rolain, Y., De Locht, L., Pintelon, R. & Schoukens, J., 10 May 2011, *IEEE International Instrumentation and Measurement Technology Conference - I2MTC, Hangzhou (China), May 10-12, 2011.* p. 809-813 5 p.

On the Use of Laplace and Warburg Variables for Heat Diffusion Modeling

Monteyne, G. & Vandersteen, G., 8 May 2011, *10th International Conference on Environment and Electrical Engineering, Rome, Italy, 8-11 May 2011.*

Analysis of the biological composition of fresh water lakes by measuring and modelling

De Coster, D., Vandersteen, G., Rolain, Y. & Triest, L., 15 Mar 2011, *30th Benelux Meeting on Systems and Control, Lommel, Belgium, March 15-17, 2011.*

Comparison of Rational Heat Diffusion Model in Laplace and Warburg Variable

Monteyne, G., Vandersteen, G., Verhelst, C. & Helsen, L., 15 Mar 2011, *30th Benelux Meeting on System and Control, Lommel, Belgium, March 15-17, 2011.*

Identification of distillation columns using multisine excitation

Ugryumova, D., Vandersteen, G., Pintelon, R., Huyck, B., Bonilla, J., Logist, F. & Van Impe, J., 15 Mar 2011, *30th Benelux Meeting on Systems and Control, Lommel, Belgium, March 15-17, 2011.*

Finite record effects of the errors-in-variables estimator for linear dynamic systems

Barbé, K., Pintelon, R. & Vandersteen, G., 1 Jan 2011, In: *IEEE Transactions on Instrumentation and Measurement*. 60, p. 642-654 13 p.

A 0.5mm² power scalable 0.5-3.8 GHz CMOS DT-SDR receiver with 2nd order RF band-pass sampler

Geis, A., Ryckaert, J., Bos, L., Vandersteen, G., Rolain, Y. & Craninckx, J., 1 Nov 2010, In: *IEEE JOURNAL OF SOLID-STATE CIRCUITS*. 45, 11, p. 2375-2387 13 p.

Nonlinear least-squares modeling of 3D interaction position in a monolithic scintillator block

Li, Z., Wedrowski, M., Bruyndonckx, P. & Vandersteen, G., 1 Nov 2010, In: *Physics in Medicine and Biology*. 55, p. 6515-6532

Modeling and identification of distillation columns using optimized excitations

Ugryumova, D. & Vandersteen, G., 28 Oct 2010, *Presentation of poster at the IUAP/PAI DYSCO workshop, Louvain-la-Neuve, Château-Ferme de Profondval, 28-29 October 2010.*

Comparison of heat diffusion model in Laplace and Warburg variable

Monteyne, G. & Vandersteen, G., 26 Sep 2010, *ERNSI Workshop Cambridge, UK, September 26-29, 2010.*

Modeling and identification of distillation columns using optimized excitations.

Ugryumova, D. & Vandersteen, G., 26 Sep 2010, *ERNSI Workshop Cambridge, UK, September 26-29, 2010.*

Frequency Response Function measurements using concatenated data records

Schoukens, J., Vandersteen, G. & Pintelon, R., 20 Sep 2010, *ISMA2010, International Conference on Noise and Vibration Engineering, Leuven, 20-22 September 2010*. p. 3423-3430 8 p.

Noise Leakage Suppression in Multivariate FRF Measurements Using Periodic Excitations

Pintelon, R., Vandersteen, G., Schoukens, J. & Rolain, Y., 20 Sep 2010, *ISMA2010, International Conference on Noise and Vibration Engineering, Leuven, 20-22 September 2010*. p. 2559-2576 18 p.

Designing systems from concepts: a crucial engineering approach

De Locht, L., Vandersteen, G., Rolain, Y., Van De Perre, G. & Lybeert, M., 19 Sep 2010, *EESD10, Engineering Education in Sustainable Development, Gothenburg, Sweden, September 19-22, 2010*. 7 p.

A 40 nm LP CMOS PLL for high-speed mm-wave communication

Parvais, B., Scheir, K., Vidojkovic, V., Vandebriel, R., Vandersteen, G., Soens, C. & Wambacq, P., 13 Sep 2010, *Proceedings of the ESSCIRC'10 conference, Seville, 13-17 Sept. 2010*. p. 254 1 p.

Multirate Cascaded Discrete-Time Lowpass Delta Sigma Modulator for GSM/Bluetooth/UMTS

Bos, L., Vandersteen, G., Rombouts, P., Geis, A., Morgado, A., Rolain, Y., Van Der Plas, G. & Ryckaert, J., 1 Jun 2010, In: *IEEE JOURNAL OF SOLID-STATE CIRCUITS*. 45, 6, p. 1198-1208 11 p.

Substrate Noise Coupling Mechanisms in Lightly Doped CMOS Transistors

Bronckers, S., Scheir, K., Van Der Plas, G., Vandersteen, G. & Rolain, Y., 1 Jun 2010, In: IEEE Transactions on Instrumentation and Measurement. 59, p. 1727-1733 7 p.

Nonlinear distortion analysis of circuits and systems

Vandersteen, G., De Locht, L. & Wambacq, P., 30 May 2010, *presentation of tutorial at ISCAS 2010, May 30th-June 2nd 2010 Paris, France.*

A VNA based broadband loadpull for non-parametric 2-port Best Linear Approximation Modelling

Rolain, Y., Schoukens, J., Pintelon, R., De Locht, L. & Vandersteen, G., 23 May 2010, *75th ARFTG, Anaheim, California, May 23-28, 2010.* p. 34-38 5 p.

An 0.045mm² 0.1-6GHz reconfigurable multi-band, multi-gain LNA for SDR

Geis, A., Rolain, Y. & Vandersteen, G., 23 May 2010, *2010 IEEE Radio Frequency Integrated Circuits Symposium, Anaheim, California, May 23-28, 2010.* p. 123-126 4 p.

Design of excitation signals for nonparametric measurements on MIMO-systems in the presence of nonlinear distortions

Schoukens, J., Pintelon, R., Vandersteen, G. & Rolain, Y., 3 May 2010, *I2MTC 2010, International Instrumentation and Measurement Technology Conference, Austin, Texas, 3-6 May, 2010.* p. 1-5 5 p.

DSP in Measurement, Part 2, convolution / correlation

Vandersteen, G., 3 May 2010, *Tutorial presentation at I2MTC 2010, International Instrumentation and Measurement Technology Conference, Austin, Texas, 3-6 May, 2010.*

Noise Leakage Suppression in FRF Measurements Using Periodic Signals

Pintelon, R., Barbé, K., Vandersteen, G. & Schoukens, J., 3 May 2010, *I2MTC 2010, International Instrumentation and Measurement Technology Conference, Austin, Texas, 3-6 May, 2010.* p. 380-385 6 p.

Nonlinear Distortion Analysis in Circuits and Systems

Vandersteen, G., 3 May 2010, *Tutorial presentation at I2MTC 2010, International Instrumentation and Measurement Technology Conference, Austin, Texas, 3-6 May, 2010.*

An ARMAX Identification Method for Sigma-Delta Modulators Using Only Input-Output Data

Vandersteen, G., Jain, M. & Pintelon, R., 1 May 2010, In: IEEE Transactions on Instrumentation and Measurement. 59, p. 1007-1012 6 p.

Estimation of nonparametric noise and FRF models for multivariable systems—Part I: Theory

Pintelon, R., Schoukens, J., Vandersteen, G. & Barbé, K., 1 Apr 2010, In: Mechanical Systems and Signal Processing. 24, 3, p. 573-595 23 p.

Estimation of nonparametric noise and FRF models for multivariable systems—Part II: Extensions, applications

Pintelon, R., Schoukens, J., Vandersteen, G. & Barbé, K., 1 Apr 2010, In: Mechanical Systems and Signal Processing. 24, 3, p. 596-616 21 p.

Behavioral Modeling of the Thermal dynamics of borefields for geothermal applications

Monteyne, G. & Vandersteen, G., 30 Mar 2010, *29 th Benelux Meeting on Systems and Control, Heeze, The Netherlands, March 30-1 April 2010.*

Transient characterization of high voltage switching devices

Scholz, M., Thijs, S., Linten, D., Sawada, M., Vashchenko, V., Vandersteen, G. & Groeseneken, G., 10 Mar 2010, *International Electrostatic Discharge (ESD) Workshop, March 10-13, 2010, Tutzing, Germany, poster 2.4.*

An 11.6-19.3mW 0.375-13.6GHz CMOS Frequency Synthesizer With Rail-to-Rail Operation

Geis, A., Nuzzo, P., Ryckaert, J., Craninckx, J., Rolain, Y. & Vandersteen, G., 8 Mar 2010, *DATE 2010, Dresden, Germany, March 8-12, 2010.* p. 254-257 4 p.

A 0.5mm² power scalable 0.5-3.8GHz CMOS DT-SDR receiver with 2nd order RF band-pass sampler

Geis, A., Ryckaert, J., Vandersteen, G. & Rolain, Y., 7 Feb 2010, *ISSCC 2010, IEEE International Solid-State Circuits Conference, San Francisco, CA, February 7-11, 2010.*

Substrate Noise Coupling in Analog/RF Circuits

Bronckers, S., Van Der Plas, G., Vandersteen, G. & Rolain, Y., 1 Jan 2010, Artech House Microwave Library, 2010. 240 p.

Räumliche und zeitliche Grundwasser-Oberflächenwasserinteraktion: Eine Studie des hydroökologischen Schlüsselstandorts Biebrza (Polen)

Anibas, C., Batelaan, O., Vandersteen, G. & Schneidewind, U., 2010, In: Conference proceedings 'Grundwasser für die Zukunft', FH-DGG-Tagung, Tübingen 2010, Schriftenreihe der Deutschen Gesellschaft für Geowissenschaften, SDGG. 67, p. 116 1 p.

On-wafer human metal model measurements for system-level ESD analysis

Scholz, M., Linten, D., Thijs, S., Griffoni, A., Sawada, M., Nakaei, T., Hasebe, T., Lafontese, D., Vashchenko, V., Vandersteen, G., Hopper, P., Meneghesso, G. & Groeseneken, G., 30 Nov 2009, In: Reliability Center for Electronic Components of Japan RCJ/ESD Symposium, Japan, November 2009. p. 41-52 12 p.

Behavioral modeling of the thermal dynamics of borefields for geothermal applications

Monteyne, G. & Vandersteen, G., 27 Nov 2009, *DYSCO study day at KU Leuven-Heverlee, Thermotechnisch Instituut.*

A Methodology to Predict the Impact of Substrate Noise in Analog/RF Systems

Bronckers, S., Scheir, K., Van Der Plas, G., Vandersteen, G. & Rolain, Y., 1 Nov 2009, In: IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems. 28, p. 1613-1626 13 p.

3D Nonlinear Least Squares Position Estimation in a Monolithic Scintillator Block

Li, Z., Bruyndonckx, P., Wedrowski, M. & Vandersteen, G., 25 Oct 2009, *Nuclear Science Symposium and Medical Imaging Conference, 25-31 October 2009, Orlando, Florida, USA.* 4 p.

A 7 GHz FBAR Overtone-Based Oscillator

El-Barkouky, M. R., Vandersteen, G., Rolain, Y. & Wambacq, P., 28 Sep 2009, *European Microwave week 2009, Rome, Italy, 28/09/09 - 2/10/09.* 4 p.

On-wafer human metal model measurements for system-level ESD analysis

Scholz, M., Linten, D., Thijs, S., Sawada, M., Kakaei, T., Hasebe, T., Lafontese, D., Vashchenko, V., Vandersteen, G., Hopper, P. & Groeseneken, G., 30 Aug 2009, *2009, 31st Electrical Overstress/Electrostatic Discharge Symposium. EOS/ESD 2009 Anaheim, Ca, USA, August 30 - September 4, 2009.*

Nonparametric preprocessing in system identification: a powerful tool

Schoukens, J., Vandersteen, G., Barbé, K. & Pintelon, R., 23 Aug 2009, *invited plenary presentation at the European Control Conference 2009 - ECC'09, 23-26 August 2009, Budapest, Hungary.* p. 1-14 14 p.

Qualification and Quantification of the Nonlinear Distortions in Discrete-Time Sigma-Delta ADCs

Vandersteen, G. & De Locht, L., 23 Aug 2009, *European Conference on Circuit Theory and Design, ECCTD 2009, Antalya, Turkey, Aug. 23-27, 2009.* p. 759-762 4 p.

Experimental Analysis of the Coupling Mechanisms Between a 4 GHz PPA and a 5-7 GHz LC-VCO

Bronckers, S., Vandersteen, G., De Locht, L., Libois, M., Van Der Plas, G. & Rolain, Y., 1 Aug 2009, In: IEEE Transactions on Instrumentation and Measurement. 58, p. 2706-2713 8 p.

Bootstrapped Total Least Squares estimator using (circular) overlap for Errors-In-Variables identification

Vandersteen, G., Barbé, K., Pintelon, R. & Schoukens, J., 6 Jul 2009, *15th IFAC Symposium on System Identification (SYSID 2009), July 6-8, 2009, St. Malo, France*. p. 1568-1573 6 p.

Wave distortion in Multiplying, Switching or Sampling Mixers

Rolain, Y., Dunsmore, J., Schoukens, J., Van Moer, W. & Vandersteen, G., 12 Jun 2009, *73rd ARFTG Microwave Measurement Conference, Spring 2009, Boston (USA), June 12, 2009*. p. 16-20 5 p.

A Compact Low Power SDR receiver with 0.5-20MHz Baseband Sampled Filter

Geis, A., Ryckaert, J., Borremans, J., Vandersteen, G., Rolain, Y. & Craninckx, J., 7 Jun 2009, *2009 IEEE Radio Frequency Integrated Circuits Symposium (IEEE RFIC 09), Boston, Massachusetts June 7-9, 2009*.

A Power-Scalable Linearized Model for RF Power Amplifiers Starting from S-Parameter Measurements

Vandermot, K., Rolain, Y., Vandersteen, G., Pintelon, R., Ferranti, F. & Dhaene, T., 7 Jun 2009, *International Microwave Symposium (IMS2009), Boston (USA), June 7-12, 2009*. Vol. 745.

A Linear dynamic borehole model for use in Model based Predictive Control

Verhelst, C., Vandersteen, G., Schoukens, J. & Helsens, L., 1 Jun 2009, *International Conference on Energy Storage, Effstock, Stockholm, June 2009*.

Calibration of Direct-Conversion Transceivers

Debaillie, B., Van Wesemael, P., Vandersteen, G. & Craninckx, J., 1 Jun 2009, In: *IEEE Journal of Selected Topics in Signal Processing*. 3, p. 488-498 11 p.

Finite record effects of the errors-in-variables estimator for linear dynamic systems

Barbé, K., Pintelon, R. & Vandersteen, G., 7 May 2009, *I2MTC 2009 - International Instrumentation and Measurement Technology Conference Singapore, 5-7 May 2009*. p. 1525-1530 6 p.

Characterization of sigma-delta modulators using ARMAX identification methods

Vandersteen, G., Jain, M. & Pintelon, R., 5 May 2009, *I2MTC 2009 - International Instrumentation and Measurement Technology Conference Singapore, 5-7 May 2009*. p. 1485-1489 5 p.

eSYSID: A proposal for a flexible electronic SYSTEM IDentification test

Vandersteen, G., De Locht, L. & Schoukens, J., 5 May 2009, *I2MTC 2009 - International Instrumentation and Measurement Technology Conference Singapore, 5-7 May 2009*. Vol. 1309.

Nonparametric Noise Modeling in the Presence of Exogenous Inputs

Pintelon, R., Schoukens, J. & Vandersteen, G., 5 May 2009, *I2MTC 2009 - International Instrumentation and Measurement Technology Conference Singapore, 5-7 May 2009*. p. 1520-1524 5 p.

Nonparametric preprocessing in system identification: a powerful tool.

Schoukens, J., Vandersteen, G., Barbé, K. & Pintelon, R., 1 May 2009, In: *European Journal of Control*. 15, 3-4, p. 260-274 15 p.

Robustness Issues of the Best Linear Approximation of a Nonlinear System

Schoukens, J., Lataire, J., Pintelon, R., Vandersteen, G. & Dobrowiecki, T., 1 May 2009, In: *IEEE Transactions on Instrumentation and Measurement*. 58, p. 1737-1745 9 p.

Estimating a Power-Scalable Linearized Model for Amplifiers

Vandermot, K., Rolain, Y., Vandersteen, G. & Pintelon, R., 16 Mar 2009, *28th Benelux Meeting on Systems and Control, Spa, Belgium, March 16-18, 2009*.

Finite record effects of the errors-in-variables estimator for linear dynamic systems

Barbé, K., Pintelon, R. & Vandersteen, G., 16 Mar 2009, *28th Benelux Meeting on Systems and Control, Spa, Belgium, March 16-18, 2009*.

A Multirate 3.4-to-6.8mW 85-to-66dB DR GSM/Bluetooth/UMTS Cascade DT DSM in 90nm Digital CMOS

Bos, L., Vandersteen, G., Ryckaert, J., Rombouts, P., Rolain, Y. & Van Der Plas, G., 8 Feb 2009, *2009 IEEE INTERNATIONAL SOLID-STATE CIRCUITS CONFERENCE, ISSCC 09, USA, San Francisco, February 8-12, 2009.*

A 57-to-66GHz Quadrature PLL in 45nm Digital CMOS

Scheir, K., Vandersteen, G., Rolain, Y. & Wambacq, P., 8 Feb 2009, *2009 IEEE INTERNATIONAL SOLID-STATE CIRCUITS CONFERENCE, ISSCC 09, USA, San Francisco, February 8-12, 2009.*

Quasi-Analytical Bit-Error-Rate Analysis Technique Using Best Linear Approximation Modeling

Vandersteen, G., Rolain, Y., Vandermot, K., Pintelon, R., Schoukens, J. & Van Moer, W., 1 Feb 2009, In: *IEEE Transactions on Instrumentation and Measurement.* 58, p. 475-482 8 p.

Identification of the Nonlinear Circuit Contributions Caused by Multitone Excitation

De Locht, L., Vandersteen, G. & Rolain, Y., 14 Nov 2008, *Poster presented at the IAP VI/4, DYSCO study day, Palais des Académies, 14 November 2008.*

Identification of the Nonlinear Circuit Contributions Caused by Multitone Excitation

De Locht, L., Vandersteen, G. & Rolain, Y., 1 Oct 2008, *ERNSI 2008 workshop in System Identficiation, October 1-3, 2008, Sigtuna, Sweden.*

Study of the Different Coupling Mechanisms Between a 4 GHz PPA and a 5-7 GHz LC-VCO

Bronckers, S., Vandersteen, G., De Locht, L., Van Der Plas, G. & Rolain, Y., 15 Jun 2008, *RFIC Symposium , Atlanta, Georgia, 15-17 June, 2008.*

Study of the different coupling mechanisms between a 4 GHz PPA and a 5-7 GHz LC-VCO

Bronckers, S., Vandersteen, G., De Locht, L., Van Der Plas, G. & Rolain, Y., 15 Jun 2008, *RFIC Symposium , Atlanta, Georgia, 15-17 June, 2008.* p. 475-478 4 p.

Calibration of Direct-Conversion Transceivers

Debaillie, B., Van Wesemael, P., Vandersteen, G. & Craninckx, J., 19 May 2008, *IEEE International Conference on Communications (ICC 2008), May 19-23, Beijing, PR China.*

Advanced nonlinearity analysis of a 6 GHz wideband receiver

Bronckers, S., Vandersteen, G., Borremans, J., Vandermot, K., Van Der Plas, G. & Rolain, Y., 12 May 2008, *I2MTC/2008, Proceedings of the IEEE International Instrumentation and Measurement Technology Conference, Victoria, Vancouver, Canada, May 12-15, 2008.* p. 1340-1343 4 p.

Analysis and Modelling of Mixed-Data Systems with Frequency Translation

Bos, L., Vandersteen, G., Rolain, Y. & Pintelon, R., 12 May 2008, *I2MTC/2008, Proceedings of the IEEE International Instrumentation and Measurement Technology Conference, Victoria, Vancouver, Canada, May 12-15, 2008.* p. 542-546 5 p.

Estimating the Dynamic Response of a Voltage Controlled Oscillator based on Large-Signal Network Analyser Measurements

Rolain, Y., Pintelon, R., Van Moer, W. & Vandersteen, G., 12 May 2008, *I2MTC/2008, Proceedings of the IEEE International Instrumentation and Measurement Technology Conference, Victoria, Vancouver, Canada, May 12-15, 2008.* p. 432-435 4 p.

Nonlinear Distortion Measurements of Discrete-Time Radio Receivers

Geis, A., Vandersteen, G. & Rolain, Y., 12 May 2008, *I2MTC/2008, Proceedings of the IEEE International Instrumentation and Measurement Technology Conference, Victoria, Vancouver, Canada, May 12-15, 2008.* p. 1572-1576 5 p.

Robustness issues of the equivalent linear representation of a nonlinear system

Schoukens, J., Lataire, J., Vandersteen, G. & Pintelon, R., 12 May 2008, *I2MTC/2008, Proceedings of the IEEE International Instrumentation and Measurement Technology Conference, Victoria, Vancouver, Canada, May 12-15, 2008.*

p. 332-335 4 p.

Data Based Modelling and Model Quality Assessment

Vandersteen, G., 18 Jan 2008, In: Scientific lecture at the University of Twente, Enschede, 2008.

On the P+ guard ring sizing strategy to shield against substrate noise

Bronckers, S., Vandersteen, G., Van Der Plas, G. & Rolain, Y., 9 Oct 2007, *Oral presentation at the meeting of the Chameleon RF project (STREP-project sponsored by the European Commission under the IST-Programme) in Lisboa, Portugal, 9-10 October 2007.*

Scaling friendly design methodology for inductively-degenerated RF Low-Noise Amplifiers

Vandersteen, G., Bos, L. & Dobrovolny, P., 8 Oct 2007, *European Microwave Week 2007, 8-12 October 2007, Munich, Germany.*

Design and analysis of inductors for 60 GHz applications in a digital CMOS technology

Scheir, K., Wambach, P., Rolain, Y. & Vandersteen, G., 3 Jun 2007, *69th ARFTG Microwave Measurement Conference, June 3-8, 2007, Honolulu, Hawaii. ARFTG*

On the P+ guard ring sizing strategy to shield against substrate noise

Bronckers, S., Vandersteen, G., Van Der Plas, G. & Rolain, Y., 3 Jun 2007, *2007 IEEE Radio Frequency Integrated Circuits Symposium (RFIC), Honolulu, Hawaii, June 3-5, 2007.*

Using Multisines to Measure State-of-the-art Analog to Digital Converters

Rabijns, D., Van Moer, W. & Vandersteen, G., 1 Jun 2007, In: *IEEE Transactions on Instrumentation and Measurement.* 56, p. 1012-1017 6 p.

Measurement and modeling of the sensitivity of LC-VCO's to substrate noise perturbations

Bronckers, S., Vandersteen, G., Soens, C., Van Der Plas, G. & Rolain, Y., 1 May 2007, *IMTC/2007, Proceedings of the IEEE Instrumentation and Measurement Technology Conference, Warsaw, Poland, May 1-3, 2007.*

Optimizing Analog Filter Designs for Minimum Nonlinear Distortions Using Multisine Excitations

Lataire, J., Vandersteen, G. & Pintelon, R., 16 Apr 2007, *DATE 2007, Design, Automation and Test in Europe, Nice, France, 16-20 April, 2007.*

Simulation methodology and experimental verification for the analysis of substrate noise on LC-VCO's

Bronckers, S., Soens, C., Van Der Plas, G., Vandersteen, G. & Rolain, Y., 14 Apr 2007, *DATE 2007, Design, Automation and Test in Europe, Nice, France, 16-20 April, 2007.*

Analysis and modelling of analog discrete-time systems using multisine excitations

Bos, L., Vandersteen, G. & Rolain, Y., 13 Mar 2007, *26th Benelux Meeting on Systems and Control, Center Parcs "De Vossemeren", Lommel, Belgium, March 13-15, 2007.*

Estimating Parameterized Scalable Models From the Best Linear Approximation of Nonlinear Systems for Accurate High-Level Simulations

De Locht, L., Vandersteen, G., Rolain, Y. & Pintelon, R., 16 Aug 2006, In: *IEEE Transactions on Instrumentation and Measurement.* 55, p. 1186-1191 6 p.

An Iterative Method to Stabilize a Transfer Function in the s- and z-Domains

D'Haene, T., Pintelon, R. & Vandersteen, G., 1 Aug 2006, In: *IEEE Transactions on Instrumentation and Measurement.* 55, 4, p. 1192-1196

Energy-scalable OFDM transmitter design and control

Debaillie, B., Bougard, B., Lenoire, G., Vandersteen, G. & Cattoor, F., 24 Jul 2006, *Design Automation Conference, pp. 536-541, San Francisco, 24-28 July, 2006.* p. 536-541 6 p.

Ensuring consistency during front-end design using an object-oriented interfacing tool called NETLISP

Goffioul, M., Vandersteen, G., Debaille, B. & Come, B., 24 Jul 2006, *Design Automation Conference, 2006 43rd ACM/IEEE, San Francisco, CA, July 24-28, 2006.* p. 889-892 4 p.

Designing Power Amplifiers? Use Good Excitation Signals

De Locht, L., Rolain, Y. & Vandersteen, G., 16 Jun 2006, *67th ARFTG conference, 16 June 2006, San Francisco, California, 2006, pp. 211-213.*

Nonparametric Initial Estimates for Wiener-Hammerstein Systems

Schoukens, J., Pintelon, R., Paduart, J. & Vandersteen, G., 29 Mar 2006, *14th IFAC Symposium on System Identification (SYSID 2006), March 29-31, 2006, Newcastle, Australia, pp. 778-783.*

Systematic stability-analysis method for analog circuits

Vandersteen, G., Bronckers, S., Dobrovolny, P. & Rolain, Y., 6 Mar 2006, *Design, Automation and Test in Europe, 2006. DATE '06. Proceedings. Vol. 1. p. 1-6 6 p.*

A Novel and Low-Cost Analog Front-end Mismatch Calibration Scheme for MIMO-OFDM WLANs

Liu, J., Vandersteen, G., Craninckx, J., Libois, M., Maryse, W., Petre, F. & Barel, A., 17 Jan 2006, *IEEE Radio and Wireless Symposium, San Diego, CA, January 17-19, 2006, pp. 219-222. p. 219-222 4 p.*

Measuring nonlinear devices to retrieve good system-level models

De Locht, L., Vandersteen, G., Rolain, Y. & Rabijns, D., 1 Dec 2005, *66th ARFTG conference, 1-2 December 2005; Washington D.C., USA, 2005.*

An Iterative Method to Stabilise a Transfer function in the s- and z-Domains

D'Haene, T., Pintelon, R. & Vandersteen, G., 2 Jun 2005, *Presentation of poster at the ICCoS workshop (Identification and control of Complex Systems - FWO onderzoeksgemeenschap), KUL - dept. PMA, 2 June 2005.*

An Iterative Method to Stabilise a Transfer function in the s- and z-Domains

D'Haene, T., Pintelon, R. & Vandersteen, G., 16 May 2005, *IMTC/2005, Proceedings of the IEEE Instrumentation and Measurement Technology Conference, Ottawa, Ontario, Canada, 16-19 May, 2005, pp. 666-671.*

Estimating Parameterized Scalable Models from the Best Linear Approximation of Nonlinear Systems for Accurate High-Level Simulations

De Locht, L., Vandersteen, G., Rolain, Y. & Pintelon, R., 16 May 2005, *IMTC/2005, Proceedings of the IEEE Instrumentation and Measurement Technology Conference, Ottawa, Ontario, Canada, 16-19 May, 2005, pp. 517-522.*

Using Multisines to Measure State-of-the-art Analog to Digital Converters

Rabijns, D., Van Moer, W., Vandersteen, G. & Schoukens, J., 16 May 2005, *IMTC/2005, Proceedings of the IEEE Instrumentation and Measurement Technology Conference, Ottawa, Ontario, Canada, 16-19 May, 2005, pp. 7-12.*

An Improved algorithm to create spectrally pure signals

Rabijns, D., Van Moer, W. & Vandersteen, G., 22 Mar 2005, *24th Benelux Meeting on Systems and Control, March 22-24, 2005, Houffalize, Belgium, pp. 31.*

Estimating scalable common-denominator Laplace-domain MIMO models in an errors-in-variables framework

Vandersteen, G., De Locht, L., Jenei, S., Rolain, Y. & Pintelon, R., 7 Mar 2005, *Design, Automation and Test in Europe Conference, DATE' 05, Munich, Germany, 7-11 March 2005, pp. 1076-1082. Design, Automation and Test in Europe Conference, DATE 05, Munich, Germany, 7-11 March 2005, pp. 1076-1082*

Substrate noise coupling: accurate modeling for deep sub-micron technologies

Van Der Plas, G., Badaroglu, M., Soens, C., Wambacq, P., Dobrovolny, P., Eberle, W., Vandersteen, G., Craninckx, J. & Donnay, S., 1 Mar 2005, *DATE 2005 Workshop, March 2005.*

Identifying the main nonlinear contributions: Use of multisine excitations during circuit design

De Locht, L., Vandersteen, G., Wambacq, P., Rolain, Y., Pintelon, R., Schoukens, J. & Donnay, S., 3 Dec 2004, *64 ARFTG conference, Orlando, Florida, 3-4 December 2004*. 64 ARFTG conference, Orlando, Florida, 3-4 December 2004, pp. 75-84, p. 75-84 10 p.

Identification of contributions to nonlinear circuit behavior caused by multitone excitation

De Locht, L., Vandersteen, G., Wambacq, P., Rolain, Y., Pintelon, R., Schoukens, J. & Donnay, S., 30 Nov 2004, *Proceedings 64th ARFTG Conference, Orlando, Florida (USA), November 30-December 3, 2005*, pp. 75-84.

Spectrally pure excitation signals: only a dream?

Rabijns, D., Van Moer, W. & Vandersteen, G., 1 Oct 2004, In: *IEEE Transactions on Instrumentation and Measurement*. 53, 5, p. 1433-1440

Analysis of substrate noise propagation in a lightly doped substrate

Van Der Plas, G., Soens, C., Vandersteen, G., Wambacq, P. & Donnay, S., 21 Sep 2004, *ESSDERC 2004, 34th European Solid-State Device Research Conference, Leuven, Belgium, 21-23 September 2004*.

Linearization of nonlinear dynamic systems

Schoukens, J., Németh, J. G., Vandersteen, G., Pintelon, R. & Crama, P., 1 Aug 2004, In: *IEEE Transactions on Instrumentation and Measurement*. 53, 4, p. 1245-1248

High-level simulation of substrate noise in high-ohmic substrates with interconnect and supply effects

Van Der Plas, G., Badaroglu, M., Vandersteen, G., Dobrovoiny, P., Wambacq, P., Donnay, S., Gielen, G. & De Man, H., 7 Jun 2004, *Design Automation Conference, 2004. Proceedings. 41st, June 7-11, 2004*, pp. 854 - 859.

An Automatic Detection Scheme for Periodic Signals Based on Spectrum Analyzer Measurements

Rabijns, D., Vandersteen, G. & Van Moer, W., 1 Jun 2004, In: *IEEE Transactions on Instrumentation and Measurement*. 53, 3, p. 847-853

Experimental Characterization of Operational Amplifiers: a System Identification Approach—Part I: Theory and Simulations

Pintelon, R., Vandersteen, G., De Locht, L., Rolain, Y. & Schoukens, J., 1 Jun 2004, In: *IEEE Transactions on Instrumentation and Measurement*. 53, 3, p. 854-862

Experimental Characterization of Operational Amplifiers: a System Identification Approach—Part II: Calibration and Measurements

Pintelon, R., Vandersteen, G., Rolain, Y. & Schoukens, J., 1 Jun 2004, In: *IEEE Transactions on Instrumentation and Measurement*. 53, 3, p. 863-876

Why are Nonlinear Microwave systems Measurements so Involved?

Rolain, Y., Van Moer, W., Vandersteen, G. & Schoukens, J., 1 Jun 2004, In: *IEEE Transactions on Instrumentation and Measurement*. 53, 3, p. 726-729

Creating Spectrally Pure Signals for ADC-testing

Rabijns, D., Van Moer, W. & Vandersteen, G., 17 Mar 2004, *23rd Benelux meeting on Systems and Control, Helvoirt, The Netherlands, March 17-19, 2004*.

Extended subspace identification of improper linear systems

Vandersteen, G., Pintelon, R., Linten, D. & Donnay, S., 16 Feb 2004, *Design, Automation and Test in Europe Conference, DATE' 04, Paris, France, February 16-20, 2004*. Design, Automation and Test in Europe Conference, DATE 04, Paris, France, February 16-20, 2004

A full grown differential signal source

Rabijns, D., Van Moer, W. & Vandersteen, G., 4 Dec 2003, *62nd ARFTG Conference Digest, Boulder, CO, December 4-5, 2003*, pp. 187-196.

Analysis and Compact Behavioral Modeling of Nonlinear Distortion in Analog Communication Circuits

Dobrovolny, P., Vandersteen, G., Wambacq, P. & Donnay, S., 1 Sep 2003, In: IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems. 22, 9, p. 1215-1227

Spectrally pure excitation signals: only a dream?

Rabijns, D., Van Moer, W. & Vandersteen, G., 13 Jun 2003, *61st ARFTG conference digest, spring 2003, Pennsylvania, Philadelphia, USA, 13 June, 2003*, pp. 53-63.

Characterization of Substrate Noise Impact on RF CMOS Integrated Circuits in Lightly Doped Substrates

Soens, C., Crunelle, C., Wambacq, P., Vandersteen, G., Donnay, S., Rolain, Y., Kuijk, M. & Barel, A., 20 May 2003, *20th IEEE Instrumentation and Measurement Technology Conference*. IEEE, 345 E 47TH ST, NEW YORK, p. 1303-1308 6 p.

Creating Spectrally Pure Signals for ADC-testing

Rabijns, D., Vandersteen, G., Van Moer, W., Rolain, Y. & Schoukens, J., 20 May 2003, *IMTC/2003, Proceedings of the 20th IEEE Instrumentation and Measurement Technology Conference, Vail, Colorado, USA, 20-22 May, 2003*, pp. 614-618.

Experimental Characterization of Operational Amplifiers: a System Identification Approach

Pintelon, R., Vandersteen, G. & Rolain, Y., 20 May 2003, *IMTC/2003, Proceedings of the 20th IEEE Instrumentation and Measurement Technology Conference, Vail, Colorado, USA, 20-22 May, 2003*, pp. 362-367.

Linearization of nonlinear dynamic systems

Schoukens, J., Németh, J. G., Vandersteen, G., Pintelon, R. & Crama, P., 20 May 2003, *IMTC/2003, Proceedings of the 20th IEEE Instrumentation and Measurement Technology Conference, Vail, Colorado, USA, 20-22 May, 2003*, pp. 1524-1527.

An Automatic Harmonic Selection Scheme based on Spectrum Analyzer Measurements

Rabijns, D., Vandersteen, G., Rolain, Y., Van Moer, W., Geens, A. & Schoukens, J., 19 Mar 2003, *22nd Benelux Meeting on Systems and Control, Lommel, Belgium, March 19-21, 2003*.

Analysis and White-Box Modeling of Weakly Nonlinear Time-Varying Circuits

Dobrovolny, P., Vandersteen, G., Wambacq, P. & Donnay, S., 3 Mar 2003, *Design, Automation and Test in Europe Conference and Exhibition - DATE, Munich, Germany, 3-7 March 2003*, pp. 624-629.

Behavioral Modeling and Simulation of a Mixed Analog/Digital Automatic GainControl Loop in a 5 GHz WLAN Receiver

Eberle, W., Vandersteen, G., Wambacq, P., Donnay, S., Gielen, G. & De Man, H., 3 Mar 2003, *Design, Automation and Test in Europe Conference and Exhibition - DATE, Munich, Germany, 3-7 March 2003*, pp. 642-647.

RF performance degradation due to coupling of digital switching noise in lightly doped substrates

Soens, C., Crunelle, C., Wambacq, P., Vandersteen, G., Linten, D., Donnay, S., Rolain, Y., Kuijk, M. & Barel, A., 23 Feb 2003, *2003 SOUTHWEST SYMPOSIUM ON MIXED-SIGNAL DESIGN*. IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, p. 127-132 6 p.

An Automatic Harmonic Selection Scheme based on Spectrum Analyzer Measurements

Rabijns, D., Vandersteen, G., Rolain, Y., Van Moer, W., Geens, A. & Schoukens, J., 5 Dec 2002, *60th ARFTG conference digest, Washington D.C., December 5-6, 2002*, pp. 123-130.

Broadband high-frequency hybrids

Vandersteen, G., Barel, A. & Rolain, Y., 1 Dec 2002, In: IEEE Transactions on Instrumentation and Measurement. 51, 6, p. 1204-1209

Dataflow Simulation of Mixed-Signal Communication Circuits Using a Local Multirate, Multicarrier Signal Representation

Wambacq, P., Vandersteen, G., Rolain, Y., Dobrovolny, P., Goffioul, M. & Donnay, S., 1 Nov 2002, In: IEEE Transactions on Circuits and Systems I: Regular Papers. 49, 11, p. 1554-1562

High-Level Simulation and Modeling Tools for Mixed-Signal Front-Ends of Wireless Systems

Wambacq, P., Vandersteen, G., Dobrovolny, P., Goffioul, M., Eberle, W., Badaroglu, M. & Donnay, S., 1 May 2002, *Chapter in: Analog circuit design, structured mixed-mode design, multi-bit sigma delta converters, short range RF circuits*. Steyaert, M., Roermund, A. V. & Huijsing, J. (eds.). Kluwer Academic Publishers, p. 77-94 18 p.

High-frequency nonlinear amplifier model for the efficient evaluation of inband distortion under nonlinear load-pull conditions

Vandersteen, G., Verbeyst, F., Wambacq, P. & Donnay, S., 4 Mar 2002, *Design, Automation and Test in Europe Conference, DATE 2002, Paris, France, March 4-8, 2002*, pp. 586-590.

High-Level Simulation and Modeling Tools for Mixed-Signal Front-Ends of Wireless Systems

Wambacq, P., Vandersteen, G., Rolain, Y., Dobrovolny, P., Goffioul, M., Eberle, W., Badaroglu, M. & Donnay, S., 1 Mar 2002, *AACD Spa, Belgium, March 2002*.

Analysis of nonlinearities in RF front-end architectures using a modified Volterra series approach

Goffioul, M., Wambacq, P., Vandersteen, G. & Donnay, S., 2002, *Design, Automation and Test in Europe Conference, DATE 2002, Paris, France, March 4-8, 2002*, pp. 352-356.

FAST: an efficient high-level dataflow simulator of mixed-signal front-ends of digital telecom transceivers

Vandersteen, G., Wambacq, P., Donnay, S., Rolain, Y. & Eberle, W., 1 Jan 2001, *Chapter in: Low-power design techniques and CAD tools for analog and RF integrated circuits*. Wambacq, P., Gielen, G. & Gerrits, J. (eds.). Kluwer Academic Publishers, p. 43-59 17 p.

An Identification Technique for Data Acquisition Characterization in the Presence of Nonlinear Distortions and Time Base Distortions

Vandersteen, G., Rolain, Y. & Schoukens, J., 2001, In: *IEEE Transactions on Instrumentation and Measurement*. 50, 5, p. 1355-1363

Broadband High Frequency Differential Coupl

Vandersteen, G., Barel, A. & Rolain, Y., 2001, *IMTC/2001, Proceedings of the 18th IEEE Instrumentation and Measurement Technology Conference, Rediscovering Measurement in the Age of Informatics, Budapest, Hungary, May 21-23, 2001, Vol. 3*, pp. 1897-1902.

CAD for RF circuits

Wambacq, P., Vandersteen, G., Philips, J., Roychowdhury, J., Eberle, W., Yang, B., Long, D. & Demir, A., 2001, *Design, Automation and Test in Europe Conference, DATE 2001, Munich, Germany, 13-16 March 2001*, pp. 520-527.

Efficient Bit-Error-Rate Estimation of Multi-Carrier Transceiver

Vandersteen, G., Wambacq, P., Rolain, Y. & Schoukens, J., 2001, *Design, Automation and Test in Europe Conference, DATE 2001, Munich, Germany, 13-16 March 2001*, pp. 164-168.

Efficient Bit-Error-Rate Estimation of Multi-Carrier Transceivers

Vandersteen, G., Wambacq, P., Rolain, Y. & Schoukens, J., 2001, *Design, Automation and Test in Europe Conference, DATE 2001, Munich, Germany, 13-16 March 2001*, pp. 164-168.

Generation of multicarrier complex lowpass models of RF ICs

Dobrovolny, P., Wambacq, P., Vandersteen, G., Donnay, S., Engels, M. & Bolsens, I., 2001, *IEEE MTT International Microwave Symposium Digest Volume 3, Phoenix, Arizona, May 20-25, 2001*, pp. 419-422.

High-frequency nonlinear amplifier model for the efficient evaluation of inband distortion under nonlinear load-pull conditions

Vandersteen, G., Verbeyst, F., Wambacq, P. & Donnay, S., 2001, *58th ARFTG Conference Digest, 29-30 November 2001, San Diego*.

Measuring mixed signal substrate coupling

Rolain, Y., Van Moer, W., Vandersteen, G. & Van Heijningen, M., 2001, In: IEEE Transactions on Instrumentation and Measurement. 50, 4, p. 959–964

A methodology for efficient high-level dataflow simulation of mixed-signal front-ends of digital transceiver

Vandersteen, G., Wambacq, P., Rolain, Y., Dobrovolny, P., Donnay, S., Engels, M. & Bolsens, I., 2000, *Proceedings of the 37th Design Automation conference, Los Angeles, CA, June 5-9, 2000*, pp. 440-445.

Accurate Bit-Error-Rate estimation for OFDM based telecommunication systems schemes in the presence of nonlinear distortion

Vandersteen, G., Verbeeck, J., Rolain, Y. & Schoukens, J., 2000, *IMTC/2000, Proceedings of the 17th IEEE Instrumentation and Measurement Technology Conference, Baltimore, Maryland, USA, May 1-4, 2000*, pp. 80-85.

Bit-Error-Rate Estimation for OFDM Based Telecommunication Systems Schemes in the Presence of Nonlinear Distortion

Vandersteen, G., Rolain, Y., Van Moer, W., Verbeeck, J. & Schoukens, J., 2000, *55th ARFTG Conference Digest, Boston, Massachusetts, June 15-16, 2000*, pp. 82-88.

Efficient Bit-Error-Rate Estimation of Multi-Carrier Transceiver

Vandersteen, G., Wambacq, P., Rolain, Y. & Schoukens, J., 2000, *IUAP-PAI 4/02 workshop on Modeling, Identification, Simulation and Control of Complex Systems, Kasteel Arenberg (KUL), Dec. 5, 2000: presentation of poster*.

Maximum Likelihood Estimator for Jitter Noise Model

Vandersteen, G. & Pintelon, R., 2000, In: IEEE Transactions on Instrumentation and Measurement. 49, 6, p. 1282–1284

Measuring mixed signal substrate coupli

Rolain, Y., Van Moer, W., Vandersteen, G. & Van Heijningen, M., 2000, *IMTC/2000, Proceedings of the 17th IEEE Instrumentation and Measurement Technology Conference, Baltimore, Maryland, USA, May 1-4, 2000*, pp. 855-859.

Measuring mixed signal substrate couplin

Rolain, Y., Van Moer, W., Vandersteen, G. & Van Heijningen, M., 2000, *IMTC/2000, Proceedings of the 17th IEEE Instrumentation and Measurement Technology Conference, Baltimore, Maryland, USA, May 1-4, 2000*, pp. 855-859.

Why are Non-Linear Microwave Systems Measurements so Involved

Rolain, Y., Van Moer, W., Vandersteen, G. & Schoukens, J., 2000, *55th ARFTG Conference Digest, Boston, Massachusetts, June 15-16, 2000*, pp. 1-8.

Maximum likelihood estimator for jitter noise models

Vandersteen, G. & Pintelon, R., 24 May 1999, *IMTC/99 proceedings of the 16th IEEE instrumentation and measurement technology conference Venice italy pp.877-879*.

Study of non-linear distortion in an ADSL-Lite environment

Van Bladel, M. & Vandersteen, G., 1 May 1999, *5th Bayona Workshop on Emerging Technologies in Telecommunication, Bayona, Spain, 1999*.

Frequency-Domain Identification of Linear Systems Using Arbitrary Excitations and a Nonparametric Noise Model

Schoukens, J., Vandersteen, G., Pintelon, R. & Guillaume, P., 1 Feb 1999, In: IEEE Transactions on Automatic Control. 44, p. 343-347 5 p.

Frequency Domain Identification of Linear Systems Using Arbitrary Excitations and a Nonparametric Noise Model

Schoukens, J., Vandersteen, G., Pintelon, R. & Guillaume, P., 16 Dec 1998, *Proceedings of the 37th IEEE Conference on Decision and Control, Tampa, Florida, USA, December 16–18, 1998*, pp. 3909–3913. *Proceedings of the 37th IEEE Conference on Decision and Control, Tampa, Florida, USA, December 1618, 1998*, pp. 39093913

Analyses, Development and Applications of TLS Algorithms in Frequency-Domain System Identification

Pintelon, R., Guillaume, P., Vandersteen, G. & Rolain, Y., 1 Oct 1998, In: SIAM Journal on Matrix Analysis and Applications. 19, 4, p. 983-1004

Identifying S-parameter models in the Laplace domain for high frequency multiport linear networks

Verschueren, A., Rolain, Y., Vuerinckx, R. & Vandersteen, G., 7 Jun 1998, *Proceedings of the IEEE MTT-S International Microwave Symposium, Baltimore, Maryland, June 7-12, 1998, Vol. 1, pp. 25-28*. Proceedings of the IEEE MTT-S International Microwave Symposium, Baltimore, Maryland, June 7-12, 1998, Vol. 1, pp. 25-28 4 p.

Analysis, Development and Applications of TLS Algorithms in Frequency-Domain System Identification

Pintelon, R., Guillaume, P., Vandersteen, G. & Rolain, Y., 1998, In: Unknown Journal.

Best conditioned Common Denominator Transfer Function Matrix Estimation in the Frequency Domain

Rolain, Y., Vandersteen, G. & Schoukens, J., 1998, *Proceedings of the 37th IEEE Conference on Decision and Control, Tampa, Florida, USA, December 16-18, 1998, pp. 3938-3939*. Proceedings of the 37th IEEE Conference on Decision and Control, Tampa, Florida, USA, December 16-18, 1998, pp. 3938-3939

On the Use of Compensated Total Least Squares in System Identification

Vandersteen, G., 1998, In: IEEE Transactions on Automatic Control. 43, 10, p. 1436-1441

Signal Reconstruction for Non-Equidistant Finite Length Sample Sets: a "KIS" approach

Rolain, Y., Schoukens, J. & Vandersteen, G., 1998, *Conference Proceedings of the IEEE Instrumentation and Measurement Technology Conference IMTC/98, Minnesota, USA, May 18-21, 1998, pp. 1217-1222*. Conference Proceedings of the IEEE Instrumentation and Measurement Technology Conference IMTC/98, Minnesota, USA, May 18-21, 1998, pp. 1217-1222

Signal Reconstruction for Non-Equidistant Finite Length Sample Sets: a "KIS" approach

Rolain, Y., Schoukens, J. & Vandersteen, G., 1998, In: IEEE Transactions on Instrumentation and Measurement. 47, 5, p. 1046-1052

System Identification for Data Acquisition Characterization

Vandersteen, G., Rolain, Y. & Schoukens, J., 1998, *Conference Proceedings of the IEEE Instrumentation and Measurement Technology Conference IMTC/98, Minnesota, USA, May 18-21, 1998, pp. 1211-1216*. Conference Proceedings of the IEEE Instrumentation and Measurement Technology Conference IMTC/98, Minnesota, USA, May 18-21, 1998, pp. 1211-1216

Frequency domain system identification using arbitrary signals

Schoukens, J., Pintelon, R., Vandersteen, G. & Guillaume, P., 1 Dec 1997, In: IEEE Transactions on Automatic Control. 42, p. 1717-1720 4 p.

A Sinewave Fitting Procedure for Characterizing Data Acquisition Channels in the presence of Time Base Distortions and Time Jitter

Schoukens, J., Pintelon, R. & Vandersteen, G., 1 Aug 1997, In: IEEE Transactions on Instrumentation and Measurement. 46, 4, p. 1005-1010

Frequency domain identification using non-parametric noise models estimated from a small number of data sets.

Schoukens, J., Pintelon, R., Vandersteen, G. & Guillaume, P., 8 Jul 1997, *SYSID '97 SICE, 11th IFAC Symposium on System Identification, 8-11 July 1997, Kitakyushu, Japan 1997, pp. 1729-1734*. SYSID '97 SICE, 11th IFAC Symposium on System Identification, 8-11 July 1997, Kitakyushu, Japan 1997, pp. 1729-1734

An Improved Sliding-Load Calibration Procedure Using an Semiparametric Circle-Fitting Procedure

Vandersteen, G., Rolain, Y., Schoukens, J. & Verschueren, A., 1 Jul 1997, In: IEEE Transactions on Microwave Theory and Techniques. 45, 7, p. 1027-1033 7 p.

General Framework for Asymptotic Properties of Generalized Weighted Nonlinear Least-Squares Estimators with Deterministic and Stochastic Weighting

Vandersteen, G., Van Hamme, H. & Pintelon, R., 1 Jul 1997, *European Control Conference, ECC 97, Brussels, Belgium, July 1-4, 1997, Vol. 6 Part B, FR-A F3*. European Control Conference, ECC 97, Brussels, Belgium, July 14, 1997, Vol. 6 Part B, FR-A F3

GTLS Algorithms in the Frequency Domain System Identification using Noise Information out of A Finite Number of Repeated Independent Realizations

Vandersteen, G., Pintelon, R. & Schoukens, J., 1 Jul 1997, *European Control Conference, ECC 97, Brussels, Belgium, July 1-4, 1997, Vol. 4, TH-M-F5*. European Control Conference, ECC 97, Brussels, Belgium, July 14, 1997, Vol. 4, TH-M-F5

Non-parametric Estimation of the Frequency-response Functions of the Linear Blocks of a Wiener-Hammerstein Model

Vandersteen, G., Rolain, Y. & Schoukens, J., 1 Jul 1997, In: *Automatica*. 33, p. 1351-1355 5 p.

Non-parametric Estimation of the Frequency-response Functions of the Linear Blocks of a Wiener-Hammerstein Model

Vandersteen, G., Rolain, Y. & Schoukens, J., 1 Jun 1997, *Proceedings of the 13th IFAC World Congress Vol.1: Identification I, San Francisco, CA, USA, 1997..* p. 459-464 6 p.

Measurement and identification of nonlinear systems consisting out of linear dynamic blocks and one static nonlinearity

Vandersteen, G. & Schoukens, J., 19 May 1997, *IEEE Instrumentation and Measurement, Technology Conference, Ottawa, Canada, May 19-21 1997*. p. 853-858 6 p.

Model Selection through a Statistical Analysis of the Global Minimum of a Weighted Nonlinear Least Squares Cost Function

Pintelon, R., Schoukens, J. & Vandersteen, G., 1 Mar 1997, In: *IEEE Transactions on Signal Processing*. 45, 3, p. 686-693

Analysis, Development and Applications of TLS Algorithms in Frequency Domain System Identification

Pintelon, R., Guillaume, P., Vandersteen, G. & Rolain, Y., 1 Jan 1997, *Chapter in: Recent advances in total least squares techniques and errors-in-variables modeling*. Huffel, S. V. (ed.). SIAM Society for Industrial and Applied Mathematics, Philadelphia, 1997, p. 341-358 18 p.

Frequency domain system identification using nonparametric noise models estimated from a small number of data sets

Schoukens, J., Pintelon, R., Vandersteen, G. & Guillaume, P., 1997, In: *Automatica*.

Identification of Linear and Nonlinear Systems in an Errors-in-Variables Least Squares and Total Least Squares Framework

Vandersteen, G., 1997, (Unpublished) Brussels.

Frequency Domain System Identification Using Arbitrary Signals

Pintelon, R., Schoukens, J. & Vandersteen, G., 11 Dec 1996, *Proceedings of the 35th Conference on Decision and Control, Kobe, Japan, December 11-13, 1996, pp. 2048-2051*. Proceedings of the 35th Conference on Decision and Control, Kobe, Japan, December 11-13, 1996, pp. 2048-2051, p. 2048-2051 4 p.

Model Selection Through a Statistical Analysis of the Global Minimum of a Weighted Non-Linear Least Squares Cost Function

Pintelon, R., Schoukens, J. & Vandersteen, G., 11 Dec 1996, *Proceedings of the 35th Conference on Decision and Control, Kobe, Japan, December 11-13, 1996*. Proceedings of the 35th Conference on Decision and Control, Kobe, Japan, December 11-13, 1996, pp. 3100-3106, p. 3100-3106 7 p.

Non-Parametric Identification of the Linear Dynamic Parts of Non-Linear Systems containing one static Non-Linearity

Vandersteen, G., 11 Dec 1996, *Proceedings of the 35th Conference on Decision and Control, Kobe, Japan, December 11-13, 1996*. p. 1099-1102 4 p.

General Framework for Asymptotic Properties of Generalized Weighted Nonlinear Least-Squares Estimators with Deterministic and Stochastic Weighting

Vandersteen, G., Van Hamme, H. & Pintelon, R., 1 Oct 1996, In: IEEE Transactions on Automatic Control. 41, 10, p. 1501–1507

Analyses, Development and Applications of TLS Algorithms in Frequency Domain System Identification

Pintelon, R., Guillaume, P., Vandersteen, G. & Rolain, Y., 21 Aug 1996, *Second International Workshop on "TLS and Errors-In-Variables Modeling"*, Heverlee, Belgium, August 21–24, 1996, p. 46. Second International Workshop on TLS and Errors-In-Variables Modeling, Heverlee, Belgium, August 2124, 1996, p. 46

A Circle Fitting Procedure using Semi-Parametric modelling: Toward an Improved Sliding Load Calibration Procedure

Vandersteen, G., Schoukens, J., Rolain, Y. & Verschueren, A., 4 Jun 1996, *Conference Proceedings of the IEEE Instrumentation and Measurement Technology Conference (IMTC-IMEKO TC-7), Brussels (Belgium), June 4-6, 1996*. p. 1254-1258 5 p.

A Sinewave Fitting Procedure for Characterizing Data Acquisition Channels in the presence of Time Base Distortions

Schoukens, J., Pintelon, R. & Vandersteen, G., 4 Jun 1996, *Conference Proceedings of the IEEE Instrumentation and Measurement Technology Conference (IMTC-IMEKO TC-7), Brussels (Belgium), June 4-6, 1996*, pp. 1419–1424. Conference Proceedings of the IEEE Instrumentation and Measurement Technology Conference (IMTC-IMEKO TC-7), Brussels (Belgium), June 4-6, 1996, pp. 14191424

Parametric modelling of Linear Time Invariant S-parameter devices in the Laplace domain

Rolain, Y., Vandersteen, G., Schreurs, D. & Van Den Bosch, S., 4 Jun 1996, *Conference Proceedings of the IEEE Instrumentation and Measurement Technology Conference (IMTC-IMEKO TC-7), Brussels (Belgium), June 4-6, 1996*. p. 1244-1249 6 p.

On the Use of System Identification for Accurate Parametric Modelling of Non-Linear Systems using Noisy Measurements

Vandersteen, G., Rolain, Y., Schoukens, J. & Pintelon, R., 1 Apr 1996, In: IEEE Transactions on Instrumentation and Measurement. 45, p. 605-609 5 p.

On the Use of Compensated Total Least Squares in System Identification

Vandersteen, G., 13 Dec 1995, *Proceedings of the 34th IEEE conference on Decision and Control, New Orleans, LA, December 13–15 1995*. p. 1801-1806 6 p.

On the Use of System Identification for Accurate Parametric Modelling of Nonlinear Systems Using Noisy Measurements

Vandersteen, G., Rolain, Y., Schoukens, J. & Pintelon, R., 24 Apr 1995, *IEEE IMTC/95 Instrumentation and Measurement Technology Conference. Boston, April 24-26, 1995*, pp. 723–728. IEEE IMTC/95 Instrumentation and Measurement Technology Conference. Boston, April 24-26, 1995, pp. 723728

Nonlinear model and measurement method for microwave mixers

Vandersteen, G. & Vander Vorst, A., 1 May 1993, In: IEEE Microwave and Guided Wave Letters (1993). 3, p. 133-135 3 p.

Modulating Device Characterization Method and Apparatus, authors: Vandersteen, G.; Rolain, Y., and Barel, A.

Vandersteen, G., 1970

Awards

Projects

SRP78: SRP-Onderzoekszwaartepunt: Center for model-based system improvement - From Computer-Aided Engineering to Model Aided Engineering

Vandersteen, G., Rolain, Y., Wambacq, P. & Kuijk, M.

1/11/22 → 31/10/27

HERC61: ROAMI: 110 GHz Real-time Oscilloscope for Advancing Flemish Measurement Infrastructures

Stiens, J., Vandersteen, G. & Rolain, Y.

1/05/22 → 28/02/26

SRP19: Strategic Research Programme: Center for model-based system improvement - From Computer-Aided Engineering to Model-Aided Engineering

Vandersteen, G., Rolain, Y., Wambacq, P., Kuijk, M., Vandersteen, G., Rolain, Y., Wambacq, P. & Kuijk, M.

1/11/12 → 31/10/24

EUREG1: Interreg: InVentIVE

Vandersteen, G. & Lataire, J.

1/01/18 → 31/12/22

OZR3700: Interreg: InVentIVE (OZR EU BONUS)

Vandersteen, G.

1/01/18 → 31/12/21

VLOV106: Creation of the Flemish AI Academy (doctoral school and continuing education).

Vicerector, V. O., Vandersteen, G. & De Grande, H.

1/10/20 → 30/09/21

OZR3605: Research Council backup mandate Dries Peumans: Scalable models for the design and control of linear periodically time-varying systems

Peumans, D. & Vandersteen, G.

1/10/20 → 30/09/21

FWOAL825: A Novel Wave-Based Stochastic Calibration Framework for High-Frequency Measurement and Modeling

Rolain, Y. & Vandersteen, G.

1/01/17 → 31/12/20

FWOTM823: BLA-based Design and Analysis of VCO-based Sigma-Delta Modulators

Vandersteen, G. & Peumans, D.

1/10/16 → 30/09/20

DOZ84: Onderwijsvernieuwingproject (OVP) 2016 : Methodologische aanpak voor projectmatig onderwijs

Vandersteen, G.

1/06/16 → 1/02/18

FWOAL673: Accurate parametric models for the efficient design of linear and nonlinear RF and microwave systems

Rolain, Y., Vandersteen, G., Knockaert, L. & Ferranti, F.

1/01/13 → 31/12/16

FWOAL662: Detection and validation of changing viscoelastic effects in the respiratory system with disease

Schoukens, J., Vandersteen, G., Ionescu, C. & De Keyser, R.

1/01/13 → 31/12/16

IWT608: Study and development of analysis and design techniques in a model-based framework

Vandersteen, G. & Cooman, A.

1/01/13 → 31/12/16

OZR2833: Modeleren en linealizeren van Hoog-Frekwente vermogen versterkers

Vandersteen, G.

1/10/15 → 30/09/16

FWOAL561: Black-box modelgebaseerde predictieve regeling van grondgekoppelde warmtepompsystemen

Vandersteen, G., Pintelon, R. & Helsen, L.

1/01/10 → 31/12/13

FWOAL483: Analysis, modeling and design of multi-rate discrete-time sigma-delta circuits

Vandersteen, G.

1/01/08 → 31/12/11

FWOAL434: Scalable compact macromodels for general microwave and RF structures

Rolain, Y., Vandersteen, G., D'haene, T., Knockaert, L. & Rogier, H.

1/01/08 → 31/12/11

OZR1735: Measuring, modelling and simulation.

Vandersteen, G.

1/01/09 → 31/12/10

IWT153: Measurement and Characterization of analog-digital convertors

Schoukens, J. & Vandersteen, G.

1/01/02 → 31/12/05

EUSOC20540: Erasmus mobility scholarships

Vandersteen, G.

1/10/95 → 30/09/97

Student theses

Model Driven Design and Characterization of Microwave Systems

Author: Van Nechel, E., Rolain, Y., Lataire, J., Ferranti, F., Hubin, A., Vounckx, R., Vandersteen, G., Bila, S. & Thorsell, M., 16 Oct 2019

Supervisor: Rolain, Y. (Promotor), Lataire, J. (Co-promotor) & Ferranti, F. (Promotor)

Vertical Integration of an electro-absorption modulator onto a VCSEL for high-speed data communications

Author: Marigo Lombart, L., Panayotov, K., Almuneau, G., Vandersteen, G., Vounckx, R., Ottevaere, P. D. I. H., Thienpont, H., Bente, E., Schatz, J. R. & Llopis, O., 2019

Ultra Low Power Communication Channels

Author: Hawchar, M. & Vandersteen, G., 2018

Supervisor: Vandersteen, G. (Promotor)

Low Frequency Forced Oscillation Technique in Clinical Practice

Author: Maes, H., Lataire, J., Ottevaere, P. D. I. H., Vounckx, R., Verbanck, S., Louarroudi, E., Dellac, R., Kaczka, D. W. & Vandersteen, G., 5 Oct 2017

Supervisor: Vandersteen, G. (Promotor)

Differentiation of Soft Biological Tissues and Phantoms using a Piezoelectric Tactile Sensor for Applications in Brain Tumor Resection

Author: Oliva Uribe, D., Scharf, R., Raatz, A., Vanlanduit, S., Hemsel, T., Panning-von Scheidt, L., Antoni, J., Vounckx, R. & Vandersteen, G., Jul 2017

Supervisor: Schoukens, J. (Promotor) & Wallaschek, J. (External person) (Promotor)

Make your own wireless telecom link!

Author: Diallo, M., Vandersteen, G. & Van Biesen, L., 2017

Supervisor: Vandersteen, G. (Promotor) & Van Biesen, L. (Co-promotor)

Make your own wireless telecom link!

Author: Huong, N. & Vandersteen, G., 2017
Supervisor: Vandersteen, G. (Promotor)

Distortion Analysis of Analog Electronic Circuits Using Modulated Signals

Author: Cooman, A., Vandersteen, G., Ottevaere, H., Vounckx, R., Wambacq, P., Seyfert, F., Filicori, M. & Quéré, R., 16 Dec 2016
Supervisor: Vandersteen, G. (Promotor)

System Identification in Highly Non-Informative Environment

Author: Kolumban, S., Campi, M., Edelmayer, A., van den Hof, P., Levendovszky, J., Guillaume, P., Deconinck, J., Vandersteen, G., Bálint, K. & László, Z., 14 Jan 2016
Supervisor: Vajk, I. (External person) (Promotor) & Schoukens, J. (Promotor)

Design and realization on a mixed analog-digital lock-in amplifier

Author: Rouschop, S. & Vandersteen, G., 2016
Supervisor: Vandersteen, G. (Promotor)

Microcontroller based signal processing

Author: Peters, S. & Vandersteen, G., 2016
Supervisor: Vandersteen, G. (Promotor)

Identification From Partially Missing Data and Modeling of Distillation Columns

Author: Ugyumova, D., Vandersteen, G. & Pintelon, R., 10 Jul 2015
Supervisor: Vandersteen, G. (Promotor), Pintelon, R. (Promotor), Rivera, D. E. (External person) (Jury), Godfrey, K. R. (External person) (Jury), Kinnaert, M. (External person) (Jury), Vanlanduit, S. (Jury), Deconinck, J. (Jury) & Louarroudi, E. (Jury)

Analysis of Phase-Locked Loops using the Best Linear Approximation

Author: Peumans, D., Cooman, A. & Vandersteen, G., 22 Jun 2015
Supervisor: Cooman, A. (Advisor) & Vandersteen, G. (Promotor)

Estimation of Heat Transport Coefficients in Fusion Plasmas

Author: Van Berkel, M., de Baar, M. & Vandersteen, G., 2 Jun 2015
Supervisor: de Baar, M. (External person) (Promotor), Vandersteen, G. (Promotor), De Goey, L. (External person) (Jury), Zwart, H. (External person) (Jury), Hogewei, D. (External person) (Jury), Ida, K. (External person) (Jury), Lopes Cardozo, N. (External person) (Jury) & Weiland, S. (External person) (Jury)

Identification of Parallel Block-Oriented Models starting from the Best Linear Approximation

Author: Schoukens, M., Rolain, Y. & Vandersteen, G., 4 May 2015
Supervisor: Rolain, Y. (Promotor), Vandersteen, G. (Promotor), Ljung, L. (External person) (Jury), Giri, F. (External person) (Jury), Vandewalle, J. (External person) (Jury), Pintelon, R. (Jury), Hubin, A. (Jury), Deconinck, J. (Jury) & Ferranti, F. (Jury)

Injection Locking Techniques for CMOS-Based mm-Wave Frequency Synthesis

Author: Mangraviti, G., Wambacq, P., Vandersteen, G., Pintelon, R., Ottevaere, H., Rolain, Y., Kuijk, M., Craninckx, J. & Levantino, S., 23 Jan 2015
Supervisor: Wambacq, P. (Promotor), Vandersteen, G. (Promotor), Pintelon, R. (Jury), Ottevaere, P. D. I. H. (Jury), Rolain, Y. (Jury), Kuijk, M. (Jury), Craninckx, J. (External person) (Jury) & Levantino, S. (External person) (Jury)

Identification and Analysis of Power Amplifiers using Envelope Engineering

Author: Bronders, P., Cooman, A., Rolain, Y. & Vandersteen, G., 2015
Supervisor: Cooman, A. (Advisor), Rolain, Y. (Promotor) & Vandersteen, G. (Co-promotor)

Modeling and Analysis of Defective Ground Plane Microstrip Structures

Author: Van Nechel, E., Rolain, Y., Vandersteen, G. & Caenepeel, M., 2015

Frequency Domain Measurement and Identification of Weakly Nonlinear Time-Periodic Systems

Author: Louarroudi, E., Pintelon, R., Lataire, J., Vanlanduit, S., Deconinck, J., Vandersteen, G., Markovsky, I., Godfrey, K., Antoni, J. & Van Der Helm, F. C., 5 Sep 2014

Supervisor: Pintelon, R. (Promotor), Lataire, J. (Co-promotor), Vanlanduit, S. (Jury), Deconinck, J. (Jury), Vandersteen, G. (Jury), Markovsky, I. (Jury), Godfrey, K. (External person) (Jury), Antoni, J. (External person) (Jury) & Van Der Helm, F. C. (External person) (Jury)

Measurement of the top quark pair production cross section at the LHC with the CMS experiment

Author: Maes, M., D'Hondt, J., Van Eijndhoven, N., Blekman, F., Lowette, S., Sevrin, A., Vandersteen, G., Bentvelsen, S. & Tenchini, R., 23 Oct 2013

Supervisor: D'Hondt, J. (Promotor), Van Eijndhoven, N. (Jury), Blekman, F. (Jury), Lowette, S. (Jury), Sevrin, A. (Jury), Vandersteen, G. (Jury), Bentvelsen, S. (External person) (Jury) & Tenchini, R. (External person) (Jury)

Study of the Best Linear Approximation of Nonlinear Systems with Arbitrary Inputs

Author: Wong, R., Godfrey, K. R., Stocks, N. G., Schoukens, J., Vanlanduit, S., Dobrowiecki, T., Deconinck, J., Vandersteen, G., Jones, P. & Antoni, J., 21 Jun 2013

Supervisor: Schoukens, J. (Promotor), Vanlanduit, S. (Jury), Deconinck, J. (Jury), Vandersteen, G. (Jury), Godfrey, K. R. (External person) (Promotor), Stocks, N. G. (External person) (Promotor), Dobrowiecki, T. (External person) (Jury), Jones, P. (External person) (Jury) & Antoni, J. (External person) (Jury)

Closing the design gap between system-level and component-level Electro Static Discharge (ESD)

Author: Scholz, M., Vandersteen, G., Linten, D., Kuijk, M., Deconinck, J., Wambacq, P., Vashchenko, V. & Gossner, H., 29 May 2013

Supervisor: Vandersteen, G. (Promotor), Kuijk, M. (Jury), Deconinck, J. (Jury), Wambacq, P. (Jury), Vashchenko, V. (External person) (Jury), Gossner, H. (External person) (Jury) & Linten, D. (External person) (Co-promotor)

Identification in Nuclear and Thermal Energy. Moderator Temperature Coefficient Estimation via Noise Analysis and Black-Box Modeling of Heat Transfer

Author: Monteyne, G., Vandersteen, G., Baeten, P., Demazière, C., Javed, S., Swevers, J., Vanlanduit, S., Deconinck, J., Lataire, J. & Schoukens, J., 22 Apr 2013

Supervisor: Vandersteen, G. (Promotor), Baeten, P. (Co-promotor), Vanlanduit, S. (Jury), Deconinck, J. (Jury), Lataire, J. (Jury), Schoukens, J. (Jury), Demazière, C. (External person) (Jury), Javed, S. (External person) (Jury) & Swevers, J. (External person) (Jury)

Design and Analysis of an On-chip Programmable Op-amp Based Filter

Author: Cooman, A. & Vandersteen, G., 27 Jun 2012

Supervisor: Vandersteen, G. (Promotor)

Design and evaluation of channel models for DSL applications

Author: Foubert, W., Van Biesen, L., Rolain, Y., Bauwens, W., Terryn, H., Vandersteen, G., Correia, L., Eugène, C. & Boets, P., 28 Nov 2011

Supervisor: Van Biesen, L. (Promotor), Rolain, Y. (Promotor), Bauwens, W. (Jury), Terryn, H. (Jury), Vandersteen, G. (Jury), Correia, L. (External person) (Jury), Eugène, C. (External person) (Jury) & Boets, P. (External person) (Jury)

Discrete-Time Receiver Topologies for SDR

Author: Geis, A., Rolain, Y., Vandersteen, G., Bauwens, W., Pintelon, R., Wambacq, P., Craninckx, J., Ryckaert, J. & Staszewski, R. B., 17 Aug 2011

Supervisor: Rolain, Y. (Promotor), Vandersteen, G. (Promotor), Bauwens, W. (Jury), Pintelon, R. (Jury), Wambacq, P. (Jury), Craninckx, J. (External person) (Jury), Ryckaert, J. (External person) (Jury) & Staszewski, R. B. (External person) (Jury)

Study of 3D position determination of the interaction point in monolithic scintillator blocks for PET

Author: Li, Z., Tavernier, S. & Vandersteen, G., 5 May 2011

Study of 3D position determination of the interaction point in monolithic scintillator blocks for PET

Author: Li, Z., Tavernier, S., Vandersteen, G., Schoukens, J., Defrise, M., Ziemons, K. & Pérez, J., 5 May 2011
Supervisor: Tavernier, S. (Promotor), Vandersteen, G. (Promotor), Schoukens, J. (Jury), Defrise, M. (Jury), Ziemons, K. (External person) (Jury) & Pérez, J. (External person) (Jury)

Nonlinear dynamic systems: blind identification of block-oriented models, and instability under random inputs

Author: Vanbeylen, L., Pintelon, R., Schoukens, J., Wills, A., Suykens, J., Sepulchre, R., Guillaume, P., Sol, H., Terryn, H. & Vandersteen, G., 4 May 2011
Supervisor: Pintelon, R. (Promotor), Schoukens, J. (Co-promotor), Sol, H. (Jury), Terryn, H. (Jury), Vandersteen, G. (Jury), Wills, A. (External person) (Jury), Suykens, J. (External person) (Jury), Sepulchre, R. (External person) (Jury) & Guillaume, P. (External person) (Jury)

Use and modeling of overtone resonances in FBAR resonators operating at RF frequencies

Author: El-Barkouky, M. R., Rolain, Y., Wambacq, P., Lefeber, D., Terryn, H., Vandersteen, G., Otis, B. & Van De Walle, K., 27 Jan 2011
Supervisor: Rolain, Y. (Promotor), Wambacq, P. (Promotor), Lefeber, D. (Jury), Terryn, H. (Jury), Vandersteen, G. (Jury), Otis, B. (External person) (Jury) & Van De Walle, K. (External person) (Jury)

Multirate Cascaded DS Converters for Wireless Applications

Author: Bos, L., Vandersteen, G., Ryckaert, J., Guillaume, P., Terryn, H., Wambacq, P., Rombouts, P., Makinwa, K. & Murmann, B., 7 Jan 2011
Supervisor: Vandersteen, G. (Promotor), Guillaume, P. (Jury), Terryn, H. (Jury), Wambacq, P. (Jury), Rombouts, P. (External person) (Jury), Makinwa, K. (External person) (Jury), Murmann, B. (External person) (Jury) & Ryckaert, J. (External person) (Co-promotor)

Best Linearized models for RF systems

Author: Vandermot, K., Rolain, Y., Bauwens, W., Pintelon, R., Vandersteen, G., Vanhoenacker, D., Dhaene, T. & Vanden Bossche, M., 8 Oct 2010
Supervisor: Rolain, Y. (Promotor), Bauwens, W. (Jury), Pintelon, R. (Jury), Vandersteen, G. (Jury), Vanhoenacker, D. (External person) (Jury), Dhaene, T. (External person) (Jury) & Vanden Bossche, M. (External person) (Jury)

Advanced calibration and instrumentation setups for nonlinear RF devices.

Author: Gomme, L., Rolain, Y., Hubin, A., Pintelon, R., Vandersteen, G., Godfrey, K. R., Barataud, D. & Vanden Bossche, M., 23 Aug 2010
Supervisor: Rolain, Y. (Promotor), Hubin, A. (Jury), Pintelon, R. (Jury), Vandersteen, G. (Jury), Godfrey, K. R. (External person) (Jury), Barataud, D. (External person) (Jury) & Vanden Bossche, M. (External person) (Jury)

Localization in wireless networks and co-existence of broadband services

Author: Bshara, M., Van Biesen, L., Tiberghien, J., Pintelon, R., Schelkens, P., Gustafsson, F., Vandersteen, G., Boets, P. & Vandendorpe, L., 8 Jun 2010
Supervisor: Van Biesen, L. (Promotor), Tiberghien, J. (Jury), Pintelon, R. (Jury), Schelkens, P. (Jury), Vandersteen, G. (Jury), Gustafsson, F. (External person) (Jury), Boets, P. (External person) (Jury) & Vandendorpe, L. (External person) (Jury)

CMOS Building Blocks for 60 GHz Phased-Array Receivers

Author: Scheir, K., Wambacq, J., Rolain, Y., Hubin, A., Pintelon, R., Vandersteen, G., Wambacq, P., Rolain, Y., Long, J., Halonen, K. & Debaes, C., 7 Dec 2009
Supervisor: Wambacq, J. (Promotor), Rolain, Y. (Promotor), Pintelon, R. (Jury), Vandersteen, G. (Jury), Wambacq, P. (Jury), Rolain, Y. (Jury), Hubin, A. (External person) (Jury), Long, J. (External person) (Jury), Halonen, K. (External person) (Jury) & Debaes, C. (External person) (Jury)

Identification and use of nonparametric noise models extracted from overlapping subrecords

Author: Barbé, K., Pintelon, R., Schoukens, J., Ljung, L., Antoni, J., Joos, V., Vanlanduit, S., Hubin, A., Guillaume, P. & Vandersteen, G., 25 Sep 2009
Supervisor: Pintelon, R. (Promotor), Schoukens, J. (Promotor), Vanlanduit, S. (Jury), Hubin, A. (Jury), Guillaume, P. (Jury), Vandersteen, G. (Jury), Ljung, L. (External person) (Jury), Antoni, J. (External person) (Jury) & Vandewalle, J. (External person) (Jury)

A framework for the analysis and modelling of substrate noise

Author: Bronckers, S., Van Der Plas, G., Vandersteen, G., Hubin, A., Pintelon, R., Nagata, M., Clément, F. J., Schoenmaker, W. & Wambacq, P., 1 May 2009

Supervisor: Vandersteen, G. (Promotor), Pintelon, R. (Jury), Wambacq, P. (Jury), Van Der Plas, G. (External person) (Promotor), Hubin, A. (External person) (Jury), Nagata, M. (External person) (Jury), Clément, F. J. (External person) (Jury) & Schoenmaker, W. (External person) (Jury)

Resource-Aware Design of Smart Measurement Systems: A Learning-from-examples Approach

Author: Marconato, A., Petri, D., Schoukens, J., Caprile, B., Hubin, A., Vandersteen, G., Verleysen, M., Anguita, D. & Nowe, A., 25 Mar 2009

Supervisor: Schoukens, J. (Co-promotor), Hubin, A. (Jury), Vandersteen, G. (Jury), Nowe, A. (Jury), Petri, D. (External person) (Promotor), Verleysen, M. (External person) (Jury), Anguita, D. (External person) (Jury) & Caprile, B. (External person) (Co-promotor)

Ontwerp en realisatie van een indoor positioneringssysteem

Author: Vandenneucker, J., Vandersteen, G., Schelkens, P., Van Moer, W. & Rolain, Y., 2009

Supervisor: Vandersteen, G. (Promotor), Schelkens, P. (Jury), Van Moer, W. (Advisor) & Rolain, Y. (Advisor)

Algorithms for identifying guaranteed stable and passive models from noisy data

Author: D'Haene, T., Pintelon, R., Desmet, G., Vereecken, J., Guillaume, P., Vandersteen, G., Dhaene, T. & Olivier, M., 21 Jan 2008

Supervisor: Pintelon, R. (Promotor), Desmet, G. (Jury), Vereecken, J. (Jury), Guillaume, P. (Jury), Vandersteen, G. (Jury), Dhaene, T. (External person) (Jury) & Olivier, M. (External person) (Jury)

Body Area Communications: Channel characterization and ultra-wideband system-level approach for low power

Author: Fort, A., Van Biesen, L., Wambacq, P., Hubin, A., Pintelon, R., Hao, Y., Desset, C. & Vandersteen, G., 22 Nov 2007

Supervisor: Van Biesen, L. (Promotor), Wambacq, P. (Promotor), Hubin, A. (Jury), Pintelon, R. (Jury), Vandersteen, G. (Jury), Hao, Y. (External person) (Jury) & Desset, C. (External person) (Jury)

Measuring, modeling and realization of high-frequency amplifiers

Author: De Locht, L., Rolain, Y., Vandersteen, G., Hubin, A., Pintelon, R., Van Moer, W., Van Hoenacker, D., Ferrero, A. & Vanden Bossche, M., 22 Nov 2007

Supervisor: Rolain, Y. (Promotor), Vandersteen, G. (Co-promotor), Hubin, A. (Jury), Pintelon, R. (Jury), Van Moer, W. (Jury), Van Hoenacker, D. (External person) (Jury), Ferrero, A. (External person) (Jury) & Vanden Bossche, M. (External person) (Jury)

Photonic modelling and packaging of chip-level interconnects

Author: Vervaeke, M., Thienpont, H., Debaes, C., Tiberghien, J., Vandersteen, G., Pintelon, R., Meuret, Y., Vounckx, R., Watté, J. & Karpinnen, M., 13 Jun 2007

Supervisor: Thienpont, H. (Promotor), Debaes, C. (Promotor), Vandersteen, G. (Jury), Meuret, Y. (Jury), Tiberghien, J. (External person) (Jury), Pintelon, R. (External person) (Jury), Vounckx, R. (External person) (Jury), Watté, J. (External person) (Jury) & Karpinnen, M. (External person) (Jury)

Ultra-Wideband transceiver for low-power low data rate applications

Author: Ryckaert, J., Rolain, Y., Wambacq, P., Hubin, A., Pintelon, R., Vandersteen, G., Rabaey, J., Tiebout, M., Debaes, C. & Desset, C., 6 May 2007

Supervisor: Rolain, Y. (Promotor), Wambacq, P. (Co-promotor), Hubin, A. (Jury), Pintelon, R. (Jury), Vandersteen, G. (Jury), Debaes, C. (Jury), Rabaey, J. (External person) (Jury), Tiebout, M. (External person) (Jury) & Desset, C. (External person) (Jury)

Multi-Mode Receiver RF Front-ends for Multi-Standard Applications

Author: Liu, M., Kuijk, M., Craninckx, J., Lataire, P., Janssens, J., Vandersteen, G., Pintelon, R. & Wambacq, P., 21 Dec 2006

Supervisor: Kuijk, M. (Promotor), Lataire, P. (Jury), Vandersteen, G. (Jury), Pintelon, R. (Jury), Wambacq, P. (Jury), Craninckx, J. (External person) (Promotor) & Janssens, J. (External person) (Jury)

Impact and Mitigation of Analog Impairments in Multiple Antenna Wireless Communications

Author: Liu, J., Barel, A., Stiens, J., Vandersteen, G., Lataire, P., Vereecken, J., L., V. D. P., V., Ö. & Van Moer, W., 15 May 2006

Supervisor: Barel, A. (Promotor), Stiens, J. (Promotor), Vandersteen, G. (Co-promotor), Lataire, P. (Jury), Vereecken, J. (Jury), Van Moer, W. (Jury), Van der Perre, L. (External person) (Jury) & Öwall, V. (External person) (Jury)

Verification and Correction of Test Signals with a Spectrum Analyzer

Author: Rabijns, D., Vandersteen, G., Lataire, P., Schoukens, J., Vereecken, J., Kollar, I., Degroot, D., Guillaume, P. & Van Moer, W., 2006

Supervisor: Vandersteen, G. (Promotor), Lataire, P. (Jury), Schoukens, J. (Co-promotor), Vereecken, J. (Jury), Guillaume, P. (Jury), Van Moer, W. (Jury), Kollar, I. (External person) (Jury) & Degroot, D. (External person) (Jury)

Design of a 0.18 μm CMOS GM/C filter for Wireless LAN applications

Author: Bronckers, S., Pintelon, R., Kuijk, M. & Vandersteen, G., 2005

Supervisor: Pintelon, R. (Promotor), Kuijk, M. (Jury) & Vandersteen, G. (Co-promotor)

Design of a balanced biCMOS power amplifier for 5 GHz WLAN

Author: De Locht, L., Kuijk, M., Rolain, Y., Wambacq, P., Coppee, D., Vandersteen, G. & Maillard, X., 2002

Supervisor: Kuijk, M. (Promotor), Rolain, Y. (Jury), Wambacq, P. (Co-promotor), Coppee, D. (Jury), Vandersteen, G. (Jury) & Maillard, X. (Jury)

MODEL BASED CALIBRATION OF D/A CONVERTERS

Author: Vargha, B., Schoukens, J., Maggetto, G., Zoltan, I., Vereecken, J., Barel, A., Bell, B., Kollár, I., Rolain, Y. & Vandersteen, G., 2002

Supervisor: Schoukens, J. (Promotor), Maggetto, G. (Jury), Vereecken, J. (Jury), Barel, A. (Jury), Rolain, Y. (Jury), Vandersteen, G. (Jury), Bell, B. (External person) (Jury), Kollár, I. (External person) (Jury) & Zoltan, I. (External person) (Co-promotor)

Ontwerp en implementatie van een netwerkanalyse voor RF systemen

Author: Brouckxon, H., Rolain, Y., Barel, A., Van Moer, W., Wambacq, P., Vandersteen, G. & Van Loon, R., 2002

Supervisor: Rolain, Y. (Promotor), Barel, A. (Jury), Van Moer, W. (Jury), Vandersteen, G. (Jury), Van Loon, R. (Jury) & Wambacq, P. (External person) (Jury)

Gebruik van 'beste' lineaire benaderingen in feedback systemen

Author: Janssens, E., Schoukens, J., Lataire, P., Vandersteen, G., Pintelon, R., Crama, P., Rolain, Y. & Van Loon, R., 2001

Supervisor: Schoukens, J. (Promotor), Lataire, P. (Jury), Vandersteen, G. (Jury), Pintelon, R. (Jury), Crama, P. (Jury), Rolain, Y. (Jury) & Van Loon, R. (Jury)

Ontwerp en bouw van een hoogfrequente harmonische sampler

Author: Vanhecke, T., Rolain, Y., Barel, A., Vandersteen, G., Wambacq, P. & Van Loon, R., 2001

Supervisor: Rolain, Y. (Promotor), Barel, A. (Jury), Vandersteen, G. (Jury), Van Loon, R. (Jury) & Wambacq, P. (External person) (Jury)

Ontwerp en realisatie van een hoogfrequente bemonsteringseenheid

Author: Van Essche, S., Rolain, Y., Barel, A., Vandersteen, G., Wambacq, P., Van Moer, W. & Van Loon, R., 2001

Supervisor: Rolain, Y. (Promotor), Barel, A. (Jury), Vandersteen, G. (Jury), Van Moer, W. (Jury), Van Loon, R. (Jury) & Wambacq, P. (External person) (Jury)

Simulatie en design rond een GPS-ontvanger

Author: Redoute, J., Rolain, Y., Barel, A., Vandersteen, G., Wambacq, P., Geens, A. & Van Loon, R., 2001

Supervisor: Rolain, Y. (Promotor), Barel, A. (Jury), Vandersteen, G. (Jury), Geens, A. (Jury), Van Loon, R. (Jury) & Wambacq, P. (External person) (Jury)

Design and implementation of Web-based Object-Oriented instrumentation

Author: Lejeune, S., Rolain, Y., Verbeyst, F., Goossens, M., Vandersteen, G., Vanden Bossche, M. & Van Loon, R., 1998

Supervisor: Rolain, Y. (Promotor), Verbeyst, F. (Jury), Goossens, M. (Jury), Vandersteen, G. (Jury), Van Loon, R. (Jury) & Vanden Bossche, M. (External person) (Jury)

Identification of Linear and Nonlinear Systems in an Errors-in-Variables Least Squares and Total Least Squares Framework

Author: Vandersteen, G., Pintelon, R., Maggetto, G., Schoukens, J., Barel, A., Gevers, M., Ljung, L., Van Den Bos, A. & Vandewalle, J., 1997

Supervisor: Pintelon, R. (Promotor), Maggetto, G. (Jury), Schoukens, J. (Co-promotor), Barel, A. (Jury), Gevers, M. (External person) (Jury), Ljung, L. (External person) (Jury), Van Den Bos, A. (External person) (Jury) & Vandewalle, J. (External person) (Jury)

HAALBAARHEIDSSSTUDIE EN BASISONTWERP VAN EEN GEORADAR

Author: Vandersteen, G., Van Biesen, L. & Barel, A., 1991

Supervisor: Van Biesen, L. (Promotor) & Barel, A. (Co-promotor)