

## Curriculum Vitae

Name: Dewilde  
First Name: Patrick  
Date of Birth: 17-1-1943  
Nationality: Belgian  
Married to: Anne J. Renaer  
Three children: Sabine, Benjamin and Muriël  
Present Positions: Emeritus Director TUM Institute for Advanced Study and  
Emeritus Professor TU Delft.  
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### Education:

1966 Electrical Engineer (M.Sc.), Catholic University of Leuven  
1968 License in Mathematics, Belgian Central Examination Commission  
1970 Ph.D. in Electrical Engineering, Stanford University  
Thesis: Cascade Scattering Matrix Synthesis  
Thesis advisor: R.W. Newcomb

### Professional Career:

1966-68 Teaching Assistant in Electronics, Catholic University of Leuven  
1970-71 Associate Researcher in Mathematics (ONR Fellow), University of California at Berkeley  
1971-73 Lecturer in Electrical Engineering, University of Lagos  
Teaching Duties in Electronics and Microwave Techniques  
Head of the Electronics Laboratory and the Microwave Laboratory  
1973-76 Qualified Researcher in Circuit and System Theory and Numerical Mathematics, Belgian National Fund for Scientific Research  
1975-77 Associate Professor in Numerical Analysis, Catholic University of Leuven  
1977-93 Professor in Network Theory and Chairman of the CACD and Signal Processing Laboratory, Delft University of Technology (ca. 25 researchers)  
1993-2001 Director of DIMES, the Delft Institute for Microelectronics and Submicron Technology - ca. 300 employees, annual budget 20 M\$.  
2001-2007 Chairman of the Circuits and Systems Section of the Faculty EEMCS at TU Delft  
1995-2004 Chairman of the Dutch Technology Foundation STW - the Dutch funding agency for academic research in Technology, annual budget 40 M\$.  
2003-2007 Scientific Director of the ICT Delft Research Centre  
2008-2013 Director Institute for Advanced Study of the Technische Universität München  
2013- Freelance

Awards:

1. Award for the 'Best Master Thesis' by the Belgian Association of Engineers (K.VIV) - 1966
2. ONR Postgraduate Fellow in Applied Mathematics (1970)
3. IEEE Fellow (1981) for 'contributions to Network Theory, especially the synthesis of scattering matrices'.
4. Best paper award (International Journal of Circuit Theory and Applications - 1988)
5. Meyerhoff Fellow at the Weizmann Institute (1985 and 1990)
6. Elected Member of the Dutch Royal Academy of Science (1993).
7. Honorary Medal of Delft University of Technology for advisorship of 25 Ph.D. graduates (1995)
8. Titulary of the Honorary Chair 'Vlaamse Leergangen 1994' at the Catholic University of Louvain.
9. IEEE Circuits and System Society Golden Jubilee Medal - 2000
10. Humboldt Research Prize - 2003
11. Knighthood of the Dutch Lion - 2006
12. (Elected) chairman of the ENIAC Scientific Community Council - 2007
13. Chairman of the Point-One Academic Council - 2007
14. Vitold Belevitch IEEE Circuits and Systems Award - 2011
15. Distinguished Affiliated Professor in Electrical Engineering, Technische Universität München - 2013
16. Honorable Professor, Technische Universität Wroclaw, 2014

## Main professional contributions

1. The title of IEEE Fellow was awarded (in 1981) for original scientific contributions in Network Theory (the general solution of the Darlington problem, contributions to factorization theory and original methods in linear least squares estimation theory, especially the generalized Schur algorithm).
2. A large project of construction of an open hierarchical and multiview design management system was successfully executed under his direction (the NELSYS system).
3. Original methods to solve large scale VLSI modeling problems. These are embodied in new programs for three dimensional VLSI layout verification. In particular, a solution was found to a large scale model reduction problem in which a network of low complexity is found as optimal replacement of a network of much higher complexity (the algebraic Schur algorithm). This research has led to the publication of a book: "Models for Large Integrated Circuits", P. Dewilde and Z. Ning, Kluwer Academic Publishers, 1990.
4. The solution of the 'Partial Inverse Scattering Problem' in the context of multiport system theory. This problem is a generic problem in estimation theory, whereby it is asked to estimate an unknown system from input and output data. The solution can also be applied in model reduction theory where it is asked to replace a complex system by a simpler one in an optimal fashion, and without loss of its main physical properties (with H. Dym and D. Alpay).
5. The solution of the "Algebraic Nevanlinna-Pick Problem" in which interpolation and approximation theory for matrices and operators is defined and receives a solution in terms of a new type of transform called the "W-transform".
6. The solution of the "Optimal time-varying system model reduction problem" in which an optimal approximant to a matrix or operator is found for linear time-varying systems, given a measure of complexity, with applications to solving very large systems of equations such as originate in large scale finite element modeling problems (with A.-J. van der Veen).
7. The development of a new global theory for time-varying systems (together with A.-J. van der Veen) in which a number of classical problems such as interpolation, embedding, inverse scattering, approximation and factorization are solved in this much more general context using a natural system theoretical and algebraic interpretation (see the book P. Dewilde and A.-J. van der Veen, Time-varying systems and computations, Kluwer 1998, 450pp.)

8. In recent years: the development of new methods to solve large systems of equations in a numerically stable way. The discovery (in 2012) of a numerically stable method to compute LU and spectral factorization of doubly infinite matrices.
9. The education of more than 30 doctoral students, several of whom have achieved a high professional reputation in their own right (one received the price for the best thesis in Numerical Analysis of 1977 (P. Van Dooren), three others have become Fellow of the IEEE (J. Vandewalle, E. Deprettere and A.-J. van der Veen)).
10. Co-originator and occasional chairman of major international conferences, MTNS (Mathematical Theory for Networks and Systems), ECCTD and founding chairman of DATE (Design Automation and Testing in Europe).
11. First director of the Institute of Advance Study of the Technische Universität München.

## Books

1. P. Dewilde *Systemic Relativism, A philosophical exploration of chaos and creation, evolution and intelligence*. Published by Stichting PRCS, Delft, the Netherlands via Brave New Books, 2017
2. P. Dewilde and A.-J. van der Veen. *Time-varying Systems and Computations*. Kluwer, 1998.
3. P. Dewilde and Z.-Q. Ning. *Models for large integrated circuits*. Kluwer, Boston, 1990.
4. P. Dewilde. *Cascade Scattering Matrix Synthesis*. Stanford University, Stanford, 1970.

## Recent keynote presentations

- Pushing the boundaries of Innovation Farewell Symposium Rick Harwig Eindhoven, February 18th, 2010
- The role of interpolation in Model Reduction Workshop on Electromagnetic Modeling and Large Computations Delft, June 28th, 2010
- Hankel norm model reduction for Matrices DCSE Symposium on Model Order Reduction Delft, September 23d, 2010
- Algebraic and geometric aspects of Darlington and Brune Synthesis Workshop Mathematical Aspects of Network Synthesis Würzburg, September 28th, 2010
- Ethics, Aesthetics and Economics of Design STW-ICT Symposium Veldhoven, Nov. 19th, 2010

- Research Challenges in ICT ICT Delta Conference Rotterdam, 2012
- Bright Wroclaw: Beacon for Innovation Distinguished Visitor Lecture Wroclaw, May 2013
- Centralized vs. Decentralized Systems: a critical Appraisal IESP yearly conference Wildbad-Kreuth, April 2014

## Articles

1. R.W. Newcomb and P. Dewilde. A passive transfer function synthesis valid for unstable systems (Revue H.F. VII - 8 - 1968.)
2. P. Dewilde, R.W. Newcomb and L. Silverman. A Passive Synthesis for Time-Invariant Transfer Functions (IEEE Trans. on Circuit Th.-17, No. 3, Aug. 1970, pp. 333-338).
3. P. Dewilde. A comprehensive approach to cascade synthesis (Mem. de la Conf. Int'l sobre Sistemas, Redes y Computadores, Mexico, 1970.)
4. P. Dewilde Cascade Scattering Matrix Synthesis, Ph.D. Thesis, Stanford Univ. Techn. Rept. 6560-21, 130pp, 1970.)
5. P. Dewilde, V. Belevitch and R.W. Newcomb. On the Problem of Degree Reduction of a Scattering Matrix by Factorization, (Journal of the Franklin Institute, Vol 291, No. 5, May 1971, pp. 387-401.)
6. P. Dewilde. On the finite unitary embedding theorem for lossy scattering matrices (IEE Proc. 1974 Conf. on Circuit Theory and Design, Aug. 1974).
7. J. Vandewalle and P. Dewilde. On the determination of the order and the degree of a zero of a rational matrix, (IEEE Trans. on Automatic Control, Vol. AC-19, No. 5, Oct. 1974).
8. P. Dewilde. L2 systems theory: some applications (Proc. of CNR-CISM Symp., Advanced School on Algebraic System Theory, Udine, Italy, June 1975).
9. P. Dewilde and J. Vandewalle. On the Factorization of a Nonsingular Rational Matrix (IEEE Trans. on CAS-22, No. 8, Aug. 75, pp. 637-645).
10. P. Dewilde and J. Vandewalle. Multivariable cascade system synthesis: algebraic and engineering properties (Proc. Third Int'l Congress on Cybernetics and Systems, Bucharest, Romania, Aug. 1975.)
11. J.P. Vandewalle and P. Dewilde. On the Minimal Spectral Factorization of Nonsingular Positive Rational Matrices (IEEE Trans. on Inform. Th., Vol. IT-21, No. 6, Nov. 1975, pp. 612-618).

12. J.S. Baras and P. Dewilde. Invariant Subspace Methods in Linear Multivariable-Distributed and Lumped-Distributed Network Synthesis (IEEE Proceedings, Vol. 64, No. 1, Jan. 1976, pp. 160-178).
13. P. Dewilde. Input-Output Description of Roomy Systems (Siam Journal on Control and Optimization, Vol. 14, No. 4, July 1976, pp. 712-736.)
14. P. Dewilde. Elementary factorizations (Proc. ISCAS, 1976.)
15. J. Vandewalle and P. Dewilde. On the Irreducible Cascade Synthesis of a System with a Real Rational Transfer Matrix, (IEEE Trans. on Circuits and Systems, Vol. CAS-24, No. 9, Sept. 1977).
16. J. Vandewalle and P. Dewilde. A Local I/O Structure Theory for Multivariable Systems and Its Application to Minimal Cascade Synthesis (IEEE Trans. on Circuits and Systems, Vol. CAS-25, No. 5, May 1978).
17. P. Dewilde, A.C. Vieira and T. Kailath. On a Generalized Szegö-Levinson Realization Algorithm for Optimal Linear Predictors Based on a Network Theory Approach (IEEE Trans. on Circuits and Systems, Vol. CAS-25, No. 9, Sept. 1978, pp. 663-675.)
18. P. Dewilde. On the theory of approximation of positive sequences in the time domain (Proc. ECCTD'78, Lausanne, 1978, pp. 277-282).
19. P. van Dooren, P. Dewilde and J. Vandewalle. On the determination of the Smith-McMillan Form of a Rational Matrix from its Laurent Expansion, (IEEE Trans. on Circuits and Systems, Vol. CAS-26, No. 3, March 1979, pp. 180-189).
20. E. Deprettere and P. Dewilde. Orthogonal Cascade Realization of Real Multiport Digital Filters (Int'l Journal on Circuit Theory and Appl., Vol. 8, pp. 245-272, 1980).
21. A. Bultheel and P. Dewilde. On the Adamjan-Arov-Krein approximation, identification and balanced realization of a system, (Proc. ECCTD'80, Warschau, pp. 186-191.)
22. P. Dewilde, J.T. Fokkema and I. Widya, Inverse Scattering and Linear Prediction, the Time Continuous Case, (in Stochastic Systems: the Mathematics of Filtering and Identification and Applications, pp. 351-382, 1981, D. Reidel Publ. Comp., Dordrecht.)
23. P. van Dooren and P. Dewilde. Minimal Cascade Factorization of Real and Complex Rational Transfer Matrices (IEEE Trans. on Circuits and Systems, Vol. CAS-28, No. 5, May 1981, pp. 390-400).
24. P. Dewilde and H. Dym. Schur Recursions, Error and Convergence of Rational Estimators for Stationary Stochastic Sequences (IEEE Trans. on Information Theory, Vol. It-27, No. 4, July 1981, pp. 446-461).

25. P. Dewilde and H. Dym. Lossless Chain Scattering Matrices and Optimum Linear Prediction: The Vector Case, (*Int. Journal on Circuit Theory and Applications*, Vol. 9, 1981, pp. 135-175).
26. I. Widya and P. Dewilde. Signal Estimation Using Inverse Scattering Techniques, (*Proceedings ECCTD'81, DUP, Delft, 1981, pp. 1030-1038.*)
27. P.M. van Dooren and P. Dewilde. Cascade Factorization: a numerical approach (*Proceedings MTNS'81, Western Periodicals, California, Vol. 4, pp.64-71.*)
28. P. Dewilde and R. Boite (Eds.) *Proceedings ECCTD'81, DUP, Delft, North-Holland Publ. Comp., Amsterdam, 1981.*
29. A. Benveniste and P. Dewilde (Eds.) *Outils et modeles mathématiques pour l'automatique, l'analyse de systemes et le traitement du signal (2). Algorithmes rapides pour les systemes dynamiques linéaires. Paris, 1982, pp. 227-705.*
30. P. Dewilde. How to approximate a spectrum recursively using ARMA Models. (*In: Proceedings IEEE Int. Conf. on Acoustics, Speech and Signal Processing, ICASSP, Paris, May 1982, pp. 1736-1739.*)
31. P. Dewilde Least squares approximation of the spectral function of an outer system. (*In: Proceedings IEEE Int. Symp. on Circuits and Systems, ISCAS 1982 (3), Rome, 10-12, pp. 935-937.*)
32. P. Dewilde. Orthogonal Filter for Linear Least Squares Estimation. (*In: Proceedings of the IFAC Symp. on Theory and Applications of Digital Control, New Dehli, 5-8 January 1982.*)
33. P. Dewilde. Stochastic Modeling with Orthogonal Filters. *In: Outils et Modèles mathématiques pour l'automatique, l'analyse de systèmes et le traitement du signal (2), pp. 331-398, 1982.*
34. E. de Doncker, P. Dewilde, J. Fokkema, R. Sennema and K.J. Singh. Interactive Database Management for Integrated Circuit Design on the UNIX Operating System. (*In: IEEE Int. Conf. on Circuits and Computers, ICC 82, New York, 1982.*)
35. J. Annevelink, P. Dewilde and J.T. Fokkema. A Hierarchical Layout to Circuit Extractor Using a Finite State Approach. (*In: Proceedings IEEE Int. Conf. on Computer Design, VLSI in Computers. Port Chester, 31 October - 3 November 1983. Silver Spring, 1983, pp. 481-484.*)
36. P. van Dooren and P. Dewilde. The Eigenstructure of an Arbitrary Polynomial Matrix, Computational Aspects (*Linear Algebra and its applications, 50 (1983), pp. 545-579.*)

37. I.A. Widya and P. Dewilde. Stable Modelling of a Continuous Covariance Function with Application to Continuous Speech. (In: Proceedings IEEE Conference on Acoustics, Speech and Signal Processing, Boston, 14-16 April 1983, pp. 793-796.)
38. S.Y. Kung, J. Annevelink and P. Dewilde, Hierarchical Iterative Flow-graph Integration for VLSI Array Processors, (Proc. Workshop on VLSI and Signal Processing, USC, 1983).
39. J. Annevelink, P. Dewilde, T.G.R. van Leuken and J.T. Fokkema. Hierarchical Verification of VLSI Artwork, (Proc. IEEE Int. Symp. on Circuits and Systems, May 7-10, 1984, Montreal, Canada, pp. 461-464, Vol. 2.)
40. E.F.A. Deprettere, P. Dewilde and R. Udo. Pipelined CORDIC Architectures for fast VLSI Filtering and Array Processing, (IEEE Int. Conf. on Acoustic, Speech, and Signal Processing, March 19-21, 1984, San Diego, pp. 10.4.1-10.4.4, Vol. 1.)
41. E.F. Deprettere, P. Dewilde and Prabhakara Rao. Orthogonal Filter Design and VLSI Implementation, (Proc. Int. Conf. on Computers, Systems & Signal Processing, Bangalore, India, 9-12 December 1984, pp. 779-790.)
42. P. Dewilde and A.C. de Graaf. APPLY: An Applicative Network Description Method, (Proc. IEEE Int. Conf. on Computer-Aided Design, November 12-15, 1984, Santa Clara, pp. 45-47.)
43. P. Dewilde. Orthogonal Filters: A Numerical Approach to Filtering Theory, (in Lecture Notes in Control and Information Sciences, Ed. P.A. Fuhrmann, Springer Verlag, Berlin, Vol. 58, 1984, pp. 253-267.)
44. P. Dewilde Scattering Theoretical Methods in Signal Processing, (Proc. Aachner Colloquiums, Mathematische Methoden in der Signalverarbeitung, vom 26. bis 29. September 1984, an der Rheinisch-Westfalischen Technischen Hochschule Aachen, pp. 312-313.)
45. P. Dewilde and C. May (Eds.) Links for the future, Science, Systems & Services for Communications, North Holland, Amsterdam, etc., 1984, part 1 and part 2.
46. P. Dewilde, E.F. Deprettere and C.V.K. Prabhakara Rao. Orthogonal Digital Filters (Proc. 1984 Int. Symp. on Circuits and Systems, Montreal, Canada, May 7-10 1984, pp. 230-233, Vol. 1.)
47. P. Dewilde. Spectral Approximation and Estimation with Scattering Functions (In: Lecture Notes in Control and Information Sciences, Ed. P.A. Fuhrmann, Springer Verlag, 1984, pp. 234-252.)



48. P. Dewilde. The Lossless Inverse Scattering Problem in the Network Theory Context, (In: Operator Theory Advances and Applications, Vol. 12, Topics in Operator Theory Systems and Networks, Eds. H. Dym and I. Gohberg, pp. 109-128, Birkhauser Verlag, Basel, 1984.)
49. P. Dewilde and A.C. de Graaf. APPLY: an applicative network description method, (Proc. ICCAD, Santa Clara, 1984.)
50. P. Dewilde and H. Dym. Lossless Inverse Scattering, Digital Filters, and Estimation Theory, (IEEE Trans. on Information Theory, July 1984, Vol. IT-30, Number 4, pp. 644-662.)
51. Prabhakara Rao, and P. Dewilde. On the Convergence of Levinson-Type Tone Detectors, (in: Proceedings IEEE 1984, Int. Symp. on Circuits and Systems, Montreal, Canada, May 7-10, 1984, pp. 1086-1088, Vol. 1.)
52. P. Dewilde, E.F. Deprettere, and R. Nouta, "Parallel and pipelined VLSI implementation of signal processing algorithms," in *VLSI and Modern Signal Processing* (H.J. Whitehouse S.Y. Kung and T. Kailath, eds.), Englewood Cliffs, NJ: Prentice-Hall, 1984.
53. H. Cai, H.Th. Verheyen, R. Nouta and P. Dewilde. An Automatic Routing System for General Cell VLSI Circuits. (In: Proc. IEEE 1985 Custom Integrated Circuits Conference, Portland, 20-23 May 1985, pp. 68-71.)
54. P. Dewilde and A.J. van Genderen. Switch Level Timing Simulation (In: Proc. ICCAD'85, Santa Clara, 18-21 November 1985, New York 1985, pp. 18-21.)
55. P. Dewilde, E. Deprettere and R. Nouta. Parallel and Pipelined VLSI Implementation of Signal Processing Algorithms. (In: VLSI and Modern Signal Processing, S.Y. Kung and H.J Whitehouse and T. Kailath (Eds.), Englewood Cliffs, pp. 257-276, 1985.
56. P. Dewilde. Chapter 4, "Advanced Digital Filters". (In: Modern Signal Processing, T. Kailath (Ed.) Hemisphere Pub. co., 1985, pp. 169-210.)
57. S.Y. Kung, J. Annevelink, P. Dewilde and S.C. Lo. Hierarchical Flow-graph Integration for VLSI Array Processors, In: Proc. ICASSP'85, Tampa, U.S.A., 26-29 March 1985, New York, 1985, pp. 288-291.)
58. P. Dewilde, A. van Genderen and A.C. de Graaf, Switch level timing simulation, (Proc. ICCAD-85, pp. 182-184.)
59. C.V.K. Prabhakara Rao and P. Dewilde, A state space approach to the lossless inverse scattering problem, (Proc. ISCAS, Kyoto, 1985.)
60. D. Alpay, P. Dewilde and H. Dym. A General Representation for Alpha Stationary Stochastic Processes Based on Inverse Scattering (In: Signal Processing III: Theories and Applications, I.T. Young et al. (Eds.), Elsevier, EURASIP Conf., September 1986, Den Haag, pp. 65-68.)

61. D. Alpay, P. Dewilde and H. Dym. On Partial Lossless Inverse Scattering and Alpha-Stationary Estimation. (In: Proceedings 1986 IEEE Int. Symp. on Circuit and Systems, May 5-7, 1986, pp. 690-694.)
62. H. Cai and P. Dewilde. Automatic Routing in a General Cell Environment, (In: The Integrated Circuit Design Book, Delft University Press, Delft, 1986, pp. 3.1-3.20.)
63. H. Cai and P. Dewilde. Attacking the Problem of Minimizing Channel Density, (In: Proceedings 1986 IEEE Int. Symp. on Circuit and Systems, San Jose, May 5-7, 1986, pp. 353-356.)
64. P. Dewilde (Editor) The Integrated Circuit Design Book, Delft University Press, Delft, 1986.
65. P. Dewilde, S. de Graaf, A. v.d. Hoeven, T.G.R. van Leuken, N. v.d. Meijs, J. Nusteling, T. Vogel and P. v.d. Wolf, Datamanagement for Hierarchical and Multiview VLSI Design. (In: The Integrated Circuit Design Book, Delft Univ. Press, Delft, 1986, pp. 1.1-1.29)
66. P. Dewilde, J. Annevelink, E.F. Deprettere and K. Jainandunsing. Compiling Silicon: from Software to Hardware, (In: Signal Processing III: Theories and Applications, I.T. Young (Eds.), Elsevier, 1986, EURASIP, Sept. 1986, pp. 1235-1238, Part 2.)
67. P. Dewilde and J. Annevelink. VLSI Data-Management (Invited Paper) (In: Proc. ESSCIRC'86, Delft, September 16-18, 1986, pp. 184-189.)
68. P. Kazil and P. Dewilde. A Simple and Fast Method for Obtaining Resistance of VLSI Interconnect, (In: Proceedings IEEE Int. Conf. on Computer Design: VLSI in Comp., Oct. 1986, pp. 342-345.)
69. Prabhakara Rao and P. Dewilde. System Theory for Lossless Wave Scattering, (Operator Theory: Advances and Applications, Vol. 19, 1986, Birkhauser Verlag, Basel, pp. 333-358.)
70. J. Annevelink and P. Dewilde. Object-Oriented Data Management Based on Abstract Data Types, (Software-Practice and Experience, Vol. 17 (11), pp. 757-781, Nov. 1987, John Wiley & Sons, Ltd.)
71. P. Dewilde and E.F. Deprettere. Modelling VLSI Interconnects as an Inverse Scattering Problem, (In: Proceedings IEEE 1987 Int. Symp. on Circuits and Systems, Vol. 1, Philadelphia, May 1987, pp. 147-153.)
72. P. Dewilde, J. Annevelink, T.G.R. van Leuken and P. v.d. Wolf. Intelligent VLSI Datamanagement, (In: ESPRIT'86 Results and Achievements, Elsevier, 1987 pp. 527-539.)
73. P. Dewilde. Computer Aided Circuit Design, (In: Advances in Modern Circuit Theory and Design (M. Bellanger, L.O. Chua, P. Dewilde and Y. Genin, eds.), Paris 1987, pp. 119-193.

74. P. Dewilde and E.F. Deprettere. Approximative inversion of positive matrices with Application to Modeling. (In: Modeling, robustness and sensitivity reduction in control systems, NATO ASI Series, (R.F. Curtain ed.), Berlin, Springer 1987, pp. 212-238, ISBN 3-540-17845-7.)
75. P. Dewilde, J. Annevelink, E.F. Deprettere and K. Jainandusing. The Design of Dedicated VLSI systems: a unified methodology. (In: VLSI and computers. First International Conference on Computer Technology, Systems and Applications, Hamburg, 11-15 May 1987, New York, IEEE 1987, pp. 1-30.)
76. P. Groeneveld, H. Cai and P. Dewilde. A Contour-Based Variable-width Gridless Channel-Router, (In: Proceedings IEEE Int. Conf. on Computer-Aided Design, Nov. 1987, Santa Clara, IEEE, New York, 1987, pp. 374-377.)
77. N. v.d. Meijs, T.G.R. van Leuken, P. v.d. Wolf, I. Widya and P. Dewilde. A Data Management Interface to Facilitate CAD/IC Software Exchanges, (In: Proc. ICCD'87, New York, Oct 1987, pp. 403-406.)
78. Z.Q. Ning, P. Dewilde and F.L. Neerhoff. Capacitance coefficients for VLSI multilevel metallization lines. (IEEE Trans. on Electron Devices, ED-34 (1987) no. 3, pp. 644-649.)
79. P. Dewilde and E. Deprettere, "Approximative inversion of positive matrices with applications to modeling," in *NATO ASI Series, Vol. F34 on Modeling, Robustness and Sensitivity Reduction in Control Systems*, Berlin: Springer Verlag, 1987.
80. J. Annevelink and P. Dewilde. HIFI: a functional design system for VLSI processing arrays, (In: Proc. 1988 IEEE Int. Conf. on Systolic Arrays, San Diego, May 1988, pp. 413-451, ISBN 0-8186-8860-2.)
81. P. Dewilde. New algebraic methods for modelling large-scale integrated circuits. (Int. Journal of Circuit theory and Applications 16, (1988) blz 473-503.)
82. P. Dewilde. Multiview and hierarchical VLSI design achievements of the ICD Project (ESPRIT (991)). (In: Delft progress report 12 (1988) no. 3 pp 207-219 and Esprit '88, putting the technology to use (1) Proc. of the 5th annual ESPRIT Conference, Amsterdam, Elsevier 1988, pp 245-263, ISBN 0-444-87145-4.)
83. P. Dewilde and E.F. Deprettere. Singular value decomposition; an introduction, (In: SVD and signal processing (E.F. Deprettere ed.), Amsterdam, Elsevier 1988. pp. 3-41. ISBN 0-444-70439-6.)
84. P. Dewilde. The generalized Schur algorithm: approximation and hierarchy, (In: Operator theory: advances and applications, vol.29, Basel, Birkhauser Verlag 1988, pp. 97-116.)

85. H. Nelis, E.F. Deprettere and P. Dewilde. Approximate inversion of positive definite matrices specified on a multiple band, (In: Delft progress report 12 (1988) no 3, pp.245-259, and SPIE conf.on advanced algorithms and architectures for signal processing III, San Diego, 14-19 August 1988. San Diego SPIE 1988.)
86. Z. Ning and P. Dewilde. An efficient modeling technique for computing the parasitic capacitance in VLSI circuits. (In: Proc. of Int. Symposium on Circuits and Systems, Helsinki, June, 1988. IEEE, New York 1988, pp.1131-1134. ISBN 951-721-241-0.)
87. Z. Ning and P. Dewilde. SPIDER: capacitance modeling for VLSI interconnections, (IEEE transactions on CAD of integrated circuits and systems, 7, New York IEEE (1988) pp. 1221-1228.)
88. A.A.J. de Lange, A.J. v.d.Hoeven, E.F. Deprettere, P. Dewilde and J.C. Bu. The design of a 50Mflop arithmetic chip for massively parallel pipelined DSP algorithms: the floating point pipeline cordic processor, (In: European Conf.on Circuit Theory and Design, Brighton, Sept. 1989, London IEE 1989, pp.410-414. ISBN 0-85296-383-1.)
89. H. Nelis, E.F. Deprettere and P. Dewilde. An efficient method for modelling VLSI interconnections, (In: European Conf. on Circuit Theory and Design, Brighton, September 1989, London IEE 1989, pp. 94-98. ISBN 0-85296-383-1.)
90. H. Nelis, P. Dewilde and E.F. Deprettere. Efficient modelling of interconnections in a VLSI circuit, (Proc. of IEEE Int. Symposium on Circuits and Systems, vol.2 of 3, 1989, Portland, May 1989, pp.872-876.)
91. A.C. Yilmaz, S. Hagestein, E.F. Deprettere and P. Dewilde. A hardware solution to the generalized two-pass approach for rendering of artificial scenes. (In: Proc. of the Fourth Eurographics Workshop on Graphics Hardware, Springer 1990.)
92. D. Alpay and P. Dewilde. Time-varying signal approximation and estimation, (Proc. of the Int.Symposium MTNS-89, Vol.III. Amsterdam, June 1989, Boston, Birkhauser. 1990, pp. 1-22.)
93. D. Alpay, P. Dewilde, and H. Dym, "On the existence and construction of solutions to the Partial Lossless Inverse Scattering problem with applications to estimation theory," *IEEE Trans. Informat. Th.*, vol. 35, pp. 1184-1205, Nov. 1989.
94. H. Nelis, P. Dewilde and E.F. Deprettere. Optimal Sparse Approximations of Inverse Matrices, (In: Proc. of the Int.symposium MTNS-89, Vol.III. Amsterdam, June 1989, Boston, Birkhauser. 1990. pp. 149-156.)

95. J. Bu, E.F. Deprettere and P. Dewilde. Systolic Array Implementaion of Nested Loop Programs, (In: Proc. of the Int. Conf.on Application Specific Array Processors, Princeton, 5-7 September 1990. IEEE New York 1990.
96. E.F. Deprettere, A.A.J. de Lange and P. Dewilde. The synthesis and Implementation of Signal Processing Applications Specific VLSI CORDIC Arrays, (In IEEE Int.Symposium on Circuits and Systems, New Orleans, May 1-3, 1990. IEEE, New York 1990, Vol 2 of 4 , pp. 974-977.)
97. P. v.d. Wolf, G.W. Sloof, P. Bingley and P. Dewilde. Meta Data Management in the NELSYS CAD Framework, (In: Proc. of the 27th ACM/IEEE De-sign and Automation Conference, Orlando, Florida, June 24-28 1990, pp. 142-146.)
98. G.W. Sloof, P. Bingley, P. Dewilde, T.G.R. v.Leuken and P. v.d.Wolf. Design Data Management in a Distributed Hardware Environment, (In: Proc. of the European Design Automation Conference, Glasgow, March 1990, IEEE, New York 1990, pp. 34-38.)
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