Paweł Śniatała

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Monograph:

Śniatała P., „CMOS Current Mode ΣΔ Modulators",
published in series "Poznan Monographs in Computing and Its Applications", editor-in-chief:
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Networking Center. Publisher NAKOM, Poznań 2016 (158 pages in English).

Journals

Śniatała, P., Handkiewicz A., Naumowicz, M., Szczęsny, Sz., L. A. de Melo, J., Paulino, N.,
Goes, J., "Current mode sigma-delta modulator designed with the help of transistor's size
optimization tool", Bulletin of the Polish Academy of Sciences, Technical Sciences, Vol. 63,
No. 4, 2015.

A.Handkiewicz, Sz.Szczęsny, M.Naumowicz, P.Katarzyński, M.Melosik, **P.Śniatała**,
M.Kropidłowski, "SI-Studio, a layout generator of current mode circuits", Expert Systems
With Applications, 2015/4/15, vol.42, no.6 , pp.3205-3218.

A. Handkiewicz, A., Katarzyński, P., Szczęsny, Sz., Naumowicz, M., Melosik, M., **Śniatała, P.**,
Kropidłowski, M.,"Design automation of a lossless multiport network and its application to
image filtering", Expert Systems With Applications, pp.2211-2221, vol 41, Issue 5, 2014 ISSN
0957-4175.

Handkiewicz A., Katarzyński P., Szczęsny S., Naumowicz M, Melosik M., **Śniatała P.**, "VHDL-
AMS in SI (switched-current) analog filter pair design based on a gyrator-capacitor prototype
circuit", International Journal of Numerical Modelling: Electronic Networks, Devices and
Fields, DOI: 10.1002/jnm.1921, Vol.27, pp.268-281, March 2014.

Handkiewicz, A., Katarzyński, P., Szczęsny S., Wencel J., **Śniatała P.** , "Analog filter pair design
on the basis of a gyrator–capacitor prototype circuit", International Journal of Circuit Theory
and Applications, n/a. doi: 10.1002/cta.741, 23 Nov 2010.

Kapela, R., **Śniatała, P.**, Rybarczyk, A.,"Real-time Visual Content Description System based on
MPEG-7 descriptors", Multimedia Tools and Applications, ISSN 1380-7501 (Print), 1573-7721
(Online), March 2010.

Świetlicka, A., Gugała, K., Jurkowlaniec, A., **Śniatała, P.**, Rybarczyk, A., "The stochastic,
Markovian, Hodgkin-Huxley type of mathematical model of the neuron", Neural Network
World.

Kapela, R., Gugała, K., **Śniatała, P.**, Świetlicka, A., Kolanowski, K., "Embedded Platform for
Local Image Descriptor Based Object Detection", Applied Mathematics and Computation,
2015, DOI:10.1016/j.amc.2015.02.029.

Śniatała P., Botha A.S., „A/D converter based on a new memory cell implemented using the switched current technique", Microelectronics Reliability vol.44, 2004, pp.861-867

Handkiewicz A., **Śniatała P.,** "Symbolic analysis approach to settling time minimization in SC networks", Int. Journal of Circuit Theory and Applications, vol.23, 1995, pp. 357-368

Szczęsny Sz., Kropidłowski M., Handkiewicz A., Melosik M., **Śniatała P**. "2D DCT compression in the switched-current technique", Przegląd Elektrotechniczny, R. 90 NR 9/2014, pp.94-97, ISSN 0033-2097.

Śniatała P., Handkiewicz A., Naumowicz M., Szczęsny Sz., Melosik M., Katarzyński P., Kropidłowski M. "Switched Current Sigma-Delta Modulator with a New Comparator Structure Designed Based on VHDL-AMS Description", International Journal of Electronics and Telecommunications. Volume 59, Issue 4, Pages 391–396, ISSN (Print) 0867-6747, DOI: 10.2478/eletel-2013-0048, December 2013.

Handkiewicz, A., **Śniatała, P**., Pałaszyński, G., Szczęsny, Sz., Katarzyński, P., Melosik, M., Naumowicz, M., "Automated DCT Layout generation using AMPLE language" Zeszyty Naukowe nr 256 Uniwersytet Technologiczno-Przyrodniczego w Bydgoszczy, Telekomunikacja i Elektronika 13 (2010), pp.5-14.

Pierzchlewski J., **Śniatała P**., Handkiewicz A. ,"Current mode comparator design", Elektronika, 11/ 2008, pp.167-169.

Śniatała P., Pierzchlewski J., Handkiewicz A., Nowakowski B. „Testing Environments for Mixed Signal Chips based on PLD Devices" Elektronika, 10/2007, pp.22-26

Śniatała P., Rudnicki R., „Handel-C Based Approach to Hardware Synthesis of Image Processing Algorithms", Foundation of Control and Management Science vol.04, 2005, pp.73-83.

Handkiewicz A., **Śniatała P**., Lukowiak M., Marek Kropidlowski, "Properties of bilinear SI integrators composed of a complementary memory cell", Journal of Electron Technology, Institute of Electron Technology, vol.32-3, 1999, pp.247-250.

Conference Proceedings
(ISCAS, EUSIPCO, ASIC, ESCO, ICECS, ISCES, PARALEC, AVLSIW, IWSSIP, Asilomar, DDECS , MIXDES)

Kapela R., **Śniatała P.,** Turkot A., Pożarycki A., Wyczałek M., Błoch A., Rybarczyk A., „Asphalt surfaced pavement cracks detection based on Histograms of Oriented Gradients", ", Proc. 21th Mixed Design of Integrated Circuits and Systems, MIXDES'2015.

Kapela R., Gugała K., **Śniatała P**., Majchrzycki M., "Image Local Descriptor Matching Coprocessor for Embedded Systems", ESCO 2014, 4th European Seminar on Computing, Pilsen, Czech Republic, book of abstracts / eds. Pavel Solin, Lukasz Koudela. - Plzeň : University of West Bohemia, 2014, p. 96.

Śniatała P., Naumowicz M., Melo J., Paulino N, Goes J. , "A Hybrid Current-Mode Passive Second-Order Continuous-Time ΣΔ Modulator", ", Proc. 21th Mixed Design of Integrated Circuits and Systems, MIXDES'2014, pp.117-120. ISBN 978-83-63578-03-9.

Śniatała P., Handkiewicz A., Naumowicz M., Szczęsny Sz., Melosik M., Katarzyński, Kropidłowski M., "Automated Design of Switched Current Sigma-Delta Modulator with a New Comparator Structure", Proc. 20th Mixed Design of Integrated Circuits and Systems, MIXDES'2013, pp.198-203, ISBN 978-83-63578-00-8.

Dlugosz, R. ; Talaska, T. ; Szulc, M. ; **Śniatała, P.** ; Stadelmann, P. ; Tanner, S. ; Farine, P., "A low power, low chip area decimation filter for Σ - Δ modulator for flywheel MEMS gyro realized in the CMOS 180 nm technology", Proc. 28th International Conference on Microelectronics, MIEL 2012, pp.411-414, ISBN 978-1-4673-0238-8.

Handkiewicz, A., **Śniatała, P.** ,Pałaszyński G., Szczęsny S., Katarzyński P., Melosik M., Naumowicz M., "Automated DCT layout generation using AMPLE language", Proceedings of the 17th International Conference Mixed Design of Integrated Circuits and Systems, MIXDES' 2010, pp. 215 – 218, ISBN 978-1-4244-7011-2.

M. Figueiredo, T. Michalak, J. Goes, L. Gomes, **P. Śniatała**, "Improved Clock-Phase Generator based on Self-biased CMOS Logic for Time-Interleaved SC circuits", Proceeding of the 16th IEEE International Conference on Electronics, Circuits, and Systems, ICECS 2009.

Handkiewicz A., **Śniatała P.,** Rudnicki R., Pierzchlewski J., "Thermal Noise Measurement of SI Integrator" ISCES 2008, September 14-17, 2008, Kraków, Poland, pp.85-88,ISBN: 978-83-88309-47-2.

Śniatała P., Pierzchlewski J., Handkiewicz A. „VHDL-AMS Models for SI Systems Design", Proc. 15th Mixed Design of Integrated Circuits and Systems, MIXDES'2008, pp. 455-459, ISBN 83-922632-7-8.

Śniatała P., Kapela R., Rudnicki R., Rybarczyk A."Efficient Hardware Architecture of Selected MPEG-7 Color Descriptors., Proceedings of 15th European Signal Processing Conference, EUSIPCO 2007.

Śniatała P., Pierzchlewski J., Handkiewicz A., Nowakowski B. „CPLD Based Development Board for Mixed Signal Chip Testing", Proc. 14th Mixed Design of Integrated Circuits and Systems, MIXDES'2007, pp. 492-495, ISBN 83-922632-4-3.
40% - Opracowanie koncepcji układu.

Śniatała P., Rudnicki R., "Automated Design and Layout Generation for Switched Current Circuits", Proceedings of IEEE International Symposium on Circuits and Systems (ISCAS 2006), pp. 637-640, ISBN: 0-7803-9390-2.

Śniatała P., Rudnicki R., „SI Circuits Design Automation Using AMPLE Language", Proc. 13th Mixed Design of Integrated Circuits and Systems, MIXDES'2006, Gdynia, pp. 383-386, ISBN 83-922632-1-9.

Pierzchlewski J., **Śniatała P.,** Nowakowski B., Rybarczyk , Wencel W., „FPGA Chip as a System Master for Hardware Aided Parallel Computing", Proc. of International Conference on Parallel Computing in Electrical Engineering, Paralec 2006, pp.220-226.

Kapela R., Rybarczyk A., **Śniatała P.,** Rudnicki R., „Hardware Realization of the MPEG-7 edge histogram descriptor", MIXDES'2006, Gdynia, pp. 675-678, ISBN 83-922632-1-9.

Śniatała P., Goławski M., „VHDL-AMS Models of Switched Current Circuits", Proc. Conference Computer Methods and Systems, Kraków 2005, pp.59-64.

Śniatała P., „VHDL-AMS Descriptions to Accelerate Analog SI Circuits Design", IEEJ International Analog VLSI Workshop, Bordeaux 2005, AVLSIW, No. 47.

Śniatała P., Savakis A., Rudnicki R.: „FPGA based system for MPEG-7 Descriptors Extraction", Proc. 11th International Workshop on Systems, Signals and Image Processing, IWSSIP'2004, Poznań, pp. 171-174.

Śniatała P., Rudnicki R., Savakis A.: „Hardware Implementation of MPEG-7 Color Descriptors", Proc. 11th Mixed Design of Integrated Circuits and Systems, MIXDES'2004, Szczecin, pp. 199-203.

Śniatała P., Handkiewicz A., Rudnicki R.: „Switched-Current Technique as a Convenient Solution for Mixed Signal Design", Proceedings of Mentor Graphics International User Conference, U2U'2004, Santa Clara, USA, pp. 19.1-19.6.

Savakis A., **Śniatała P.,** Rudnicki R., "Real Time Video Annotation Using MPEG-7 Motion Activity Descriptors", Proc. of 'Mixed Design of Integrated Circuits and Systems', MIXDES'2003, Lodz, Poland, June 2003, pp 625-628.

Śniatała P., Rudnicki R., Kropidlowski M., Handkiewicz A., "Hardware/Software Co-Design Targeting RC1000 Prototyping Board", Proc. of 'Mixed Design of Integrated Circuits and Systems', MIXDES'2003, Lodz, Poland, June 2003, pp 680-683.

Śniatała P, Handkiewicz A., Rudnicki R., "C++ Based Design Flow for Document Processing", Proc. of Design & Diagnostics of Electronic Circuits & Systems, DDECS' 2003, Poznan, Poland, April 14-16 2003, pp.135-141.

Śniatała P., Hsu K. W., Woz B., "Low-voltage switched-current ΣΔ analog-to-digital converters modeling based on VHDL-AMS" Proc. Thirty-Sixth Asilomar Conference on Signals, Systems and Computers, USA 2002, ISSN: 1058-6393, vol.2, pp.1041-1045.

Botha A. S., **Śniatała P**., "HDL-A Description of A/D Converter Based on Delta-Sigma Modulator", Proc. of 'Mixed Design of Integrated Circuits and Systems', MIXDES'2002, Wroclaw, Poland, June 2002, pp.447-451.

Botha A.S., **Śniatała P.,** Hsu K. W., Mukund P.R., "A low-voltage switched-current memory cell based delta-sigma modulator", ", Proc. IEEE International ASIC Conference and Exhibit, ASIC'01, 12-15 Sept. 2001, Washighton D.C.

Botha A.S., **Śniatała P.,** "A/D Converter based on a new switched-current memory cell", Proc. of 'Mixed Design of Integrated Circuits and Systems', MIXDES'2001, Zakopane Poland, 21-23 June 2001, pp.471-474.

Handkiewicz A., **Śniatała P.,** Lukowiak M., "Analog ASIC design based on object-oriented tools", Proc. of 'Mixed Design of Integrated Circuits and Systems', MIXDES'97, Poznań , 12-14 June 1997, pp. 97-102.

Handkiewicz A., **Śniatała P.,** Lukowiak M., "Low-voltage high-performance switched current memory cell", Proc. Ninth Annual IEEE International ASIC Conference and Exhibit, ASIC'97, 7-10 Sept. 1997, Portland, Oregon, pp. 12-16.

Handkiewicz A., **Śniatała P**., Lukowiak M., "Object oriented design system for color image filters", Proc. of the 4th Int. Workshop on Systems, Signals and Image Processing, IWSSIP'97, Poznań, 28-30 May 1997, pp. 57-60.

Handkiewicz A., **Śniatała P.,** Lukowiak M., "High performance switched current memory cell for 2-D signal processing", Proc. of the European Conference of Circuit Theory and Design", ECCTD'97, Budapest, 31. Aug. - 3. Sept. 1997.

Handkiewicz A., Domański M., **Śniatała P.,** Lukowiak M., "Switched-current technique application for color image processing", Proc. Ninth Annual IEEE International ASIC Conference and Exhibit, ASIC'96, 23-27 Sept. 1996, Rochester, New York, pp. 287-290.

Handkiewicz A., Lukowiak M., **Śniatała P.,** "SI vector filter design for color image processing", Proc. of 'Mixed Design of Integrated Circuits and Systems', MIXDES'96, Lódz, 30 May - 1 June 1996, pp. 287-292 .

Handkiewicz, A., Kozbial, W. , **Śniatała P**, "2-D switched-current filter design tools for silicon compiler system", Proc. of European Conference on Circuit Theory and Design (ECCTD'95), 27-31 August 1995, Istambul, pp. 251-254.

Handkiewicz, A., Kozbial, W., **Śniatała P**, "High speed GaAs amplifiers and their impact on SC circuits", Proc. 2-nd Mixed Design of VLSI Circuits, 29-31 May 1995, Kraków, pp. 181-186.

Handkiewicz A., Kozbial W., **Śniatała P.** "Symbolic Analysis as a Tool for Silicon Compiler System", 3rd Intern. Workshop on Symbolic Methods and Applications to Circuits Design, SMACD'94, Sevilla, Spain, 1994, pp.17-24.

A. Handkiewicz, **Śniatała P**, "Symbolic analysis approach to settling time minimization in SC networks", Circuit Theory and Design, H. Dedieu (Editor), Elsevier Science Publisher, 1993, pp. 953-956.

Handkiewicz A., **Śniatała P**.: "Symbolic analysis approach to 2D filter design", Proc. Intern. Workshop on Symbolic Methods and Applications to Circuits Design, SMACD'92 Florencja. 50% - Opracowanie struktur danych i procedur do przetwarzania liczb strukturalnych.

Handkiewicz A., **Śniatała P**.: "Minimization of settling time in SC networks", Proc. ECCTD'91 Kopenhaga vol.III pp 931-935.

Markiewicz-Wrzeciono M., **Śniatała P**.: "A simple design program for optimal antialiasing filters", Proceeding of the European Conference on Circuit Theory and Design ECCTD 89, Brighton pp.185-191.

(KKE, KKTOiE, SPETO, ZKwE)

Śniatała P., Kropidłowski M., Handkiewicz A., Naumowicz M.,"MASH 2-2 current mode sigma-delta modulator for medical sensor applications XIV Krajowa Konferencja Elektroniki, KKE'2015, Darłówko.

Śniatała P., Naumowicz M., Handkiewicz A., Szczęsny Sz., Melo J., Paulino N, Goes J. , „Current mode sigma-delta modulator designed with the help of transistor size optimizer tool". XIII Krajowa Konferencja Elektroniki, KKE'2014, Darłówko.

Śniatała P., Kropidłowski M., Handkiewicz A., Szczęsny S., „VHDL-AMS Based Testing Environment for 2D Switched Current Filters". XII Krajowa Konferencja Elektroniki, KKE'2013, Darłówko.

Śniatała P., Rudnicki R., Sydow P., „Implementacja sprzętowa deskryptora aktywności ruchu standardu MPEG-7", III Krajowa Konferencja Elektroniki, KKE'2004, Kołobrzeg, pp. 375-380.

Handkiewicz A., **Śniatała P.,** Łukowiak M., Kropidłowski M., "Low-voltage bilinear SI integrator for video applications", Proc. of the XX-th National Conference on Circuit Theory and Electronic Circuits, KKTOiUE'97, 21-24 October 1997, pp.331-336.

Śniatała P., Handkiewicz A., Lukowiak M., Kropidlowski M., "A new approach to behavioral synthesis of analog discrete time VLSI circuits", Proc. of the XX-th National Conference on Circuit Theory and Electronic Circuits, KKTOiUE'97, 21-24 October 1997, pp.337-342.

Handkiewicz A., Lukowiak M., **Śniatała P.,** "Application of parameterized cells for switched current circuit design", Proc. XIX Seminarium z Podstaw Elektrot. i Teorii Obwodów, SPETO'97, Gliwice-Ustroń, May 1997, pp. 415-418.

Handkiewicz A., **Śniatała P.,** Lukowiak M., "Design system of two-dimensional switched current filters", Proc. of the XIX-th National Conference on Circuit Theory and Electronic Circuits, KKTOiUE'96, 23-26 October 1996, pp.313-318.

Handkiewicz A., Lukowiak M., **Śniatała P.,** "Linear model of CMOS transistor for switched-current network design", Proc. XIX Seminarium z Podstaw Elektrot. i Teorii Obwodów, SPETO'96, Gliwice-Ustron, 15-18 May 1996, pp. 523-526.

Handkiewicz A., Lukowiak M., **Śniatała P.,** "Gain error compensation in scalable switched-current circuits", Proc. Konf. Naukowo-Techn. 'Zastosowania Komputerów w Elektrotechnice', ZKwE'96, 15-17 April 1996, pp. 17-20.

Handkiewicz A., Lukowiak M., **Śniatała P.,** "Application of VLSI design systems for analog switched current integrated circuit design", Proc. Konf. Naukowo-Techn. 'Zastosowania Komputerów w Elektrotechnice', ZKwE'96, April 1997, pp. 239-241.