

2012

Conference (reviewed):

- [1/2012] A 25 GHz Analog Demultiplexer with a Novel Track and Hold Circuit for a 50 GS/s A/D-Conversion System in InP DHBT Technology
Damir Ferenci, Markus Grözing, Manfred Berroth, Robert Makon, Rachid Driad, Josef Rosenzweig, " ", International Microwave Symposium (IMS), June 2012, Montreal Canada
[accepted](#)
- [2/2012] A High Gain SiGe-GaN Switching Power Amplifier in the GHz-Range
S. Heck, A. Bräckle, S. Maroldt, R. Quay, M. Berroth
13th IEEE Wireless and Microwave Technology Conference (WAMICON), 15.-17.04.2012, Cocoa Beach, Florida.
[accepted](#)
- [3/2012] An Envelope Tracking System Using a GaAs Class-AB Power Amplifier and a Class-AD Modulator
A. Bräckle, S. Egorenkov, M. Ott, F. Siegert, S. Heck, M. Berroth
Proceedings of German Microwave Conference (GeMiC), 12.-14.03.2012, Ilmenau, Germany, 2012.
[accepted](#)

Monograph:

- [4/2012] Chapter 10: Noise Modeling
Manfred Berroth
in: Nonlinear Transistor Model Parameter Extraction Techniques
Edited by: Matthias Rudolph, Christian Fager, David E. Root
The Cambridge RF and Microwave Engineering Series, Cambridge University Press, 2012
ISBN:978-0-521-76210-6

2011

Journals:

- [1/2011] Low loss broadband polarization independent fishnet negative index metamaterial at 40 GHz
Wissem Sfar Zaoui, Ke Chen, Wolfgang Vogel, Manfred Berroth
Photonics and Nanostructures: Fundamentals and Applications (2011)
doi: [10.1016/j.photonics.2011.02.003](https://doi.org/10.1016/j.photonics.2011.02.003)

Conference (reviewed):

- [3/2011] A 3 bit 36 GS/s Flash ADC in 65 nm Low Power CMOS Technology
Damir Ferenci, Simon Mauch, Markus Grözing, Felix Lang and Manfred Berroth
International Symposium on Integrated Circuits (ISIC) 2011, Singapore, 12-14 December 2011, pp. 344-347
IEEE Catalog Number: CFP1176B-CDR, ISBN: 978-1-61284-864-8
doi: [10.1109/ISICir.2011.6131967](https://doi.org/10.1109/ISICir.2011.6131967)
- [4/2011] A 6 bit and a 7 bit 80 MS/s SAR ADC for an IR-UWB Receiver
Johannes. Digel, Michelangelo Masini, Markus Grözing, Manfred Berroth, Georg Fischer, Sonom Olonbayar, Hans Gustat, Johann-Christoph Scheytt
IEEE Conference on Microwaves, Communications, Antennas and Electronic Systems (COMCAS), Tel-Aviv, Israel, November 7-9, 2011. paper 2C4-4
doi: [10.1109/COMCAS.2011.6105902](https://doi.org/10.1109/COMCAS.2011.6105902)

- [5/2011] Class-S Power Amplifier Concept for Mobile Communications in Rural Areas with Concurrent Transmission at 450 MHz and 900 MHz
Martin Schmidt, Johannes Digel, Manfred Berroth
IEEE Conference on Microwaves, Communications, Antennas and Electronic Systems (COMCAS), Tel-Aviv, Israel, November 7-9, 2011. paper 2D7-1
doi: 10.1109/COMCAS.2011.6105919
- [6/2011] A 25 GHz Analog Multiplexer for a 50 GS/s D/A-Conversion System in InP DHBT Technology
Damir Ferenci, Markus Grözing, Manfred Berroth
IEEE Compound Semiconductor IC (CSIC) Symposium, Technical Digest, Kona, Hawaii, USA, October 16-19, 2011, paper D2.
IEEE Catalog Number: CFP11GAA-ART, ISBN: 978-1-61284-712-2
doi:10.1109/CSICS.2011.6062440
- [7/2011] A 28 GS/s 6 bit CMOS DAC with Real-Time Interface
Thomas Alpert, Felix Lang, Markus Grözing, Manfred Berroth
ESSCIRC 2011 Fringe (European Solid-State Circuits Conference Fringe), Helsinki, Finland, September 12-16, 2011.
doi: 10.1109/MWSYM.2011.5972565
- [8/2011] A 6 bit 25 GS/s Flash Interpolating ADC in 90 nm CMOS Technology
Felix Lang, Thomas Alpert, Damir Ferenci, Markus Grözing, Manfred Berroth
7th Conference on Ph.D. Research in Microelectronics and Electronics (PRIME), Madonna di Campiglio, Trento, Italy, pp. 117-120.
IEEE Catalog Number: CFP11622-USB, ISBN: 978-1-4244-9136-0
doi: 10.1109/PRIME.2011.5966231
- [9/2011] A High Speed Linear Buffer for A/D Conversion beyond 100 GS/s in InP DHBT Technology
Damir Ferenci, Markus Grözing, Manfred Berroth
7th Conference on Ph.D. Research in Microelectronics and Electronics (PRIME), Madonna di Campiglio, Trento, Italy, pp. 113-116.
IEEE Catalog Number: CFP11622-USB, ISBN: 978-1-4244-9136-0
doi: 10.1109/PRIME.2011.5966230
- [10/2011] A 28 GS/s 6b Pseudo Segmented Current Steering DAC in 90nm CMOS
Thomas Alpert, Felix Lang, Damir Ferenci, Markus Grözing, Manfred Berroth
IEEE International Microwave Symposium (IMS), digest (ISBN: 978-1-61284-756-6), Baltimore, USA, 2011, paper TH1D-2.
doi: 10.1109/MWSYM.2011.5972565
- [11/2011] Comparison of a Single and a Dual-Gate GaN Switching-Amplifier for Future Communication Systems
S. Heck, S. Maroldt, A. Bräckle, R. Quay, M. Berroth
IEEE International Microwave Symposium (IMS), digest (ISBN: 978-1-61284-756-6), Baltimore, USA, 2011, paper TU4G-3
doi: 10.1109/MWSYM.2011.5972874
- 12/2011] A Pipelined 3-Level Bandpass Delta-Sigma Modulator for Class-S Power Amplifiers
Martin Schmidt, Sebastian Haug, Markus Grözing, Manfred Berroth
IEEE International Symposium on Circuits and Systems (ISCAS), Conference Proceedings (ISBN: 978-1-4244-9472-9), Rio de Janeiro, Brazil, 2011, pp. 2757-2760.
doi: 10.1109/ISCAS.2011.5938176
- 13/2011] A High-Power Dual-Gate GaN Switching-Amplifier
S. Heck, A. Bräckle, M. Berroth, S. Maroldt, R. Quay
12th IEEE Wireless and Microwave Technology Conference (WAMICON), Clearwater, Florida, USA, Proceedings (ISBN: 978-1-61284-079-6), 2011, paper 8-390589.
doi: 10.1109/WAMICON.2011.5872895

- [14/2011] An 8 W GaAs Class-AB Amplifier for Operation in Envelope Tracking Systems
Alexander Bräckle, Michael Ott, Stefan Heck, Manfred Berroth
Proceedings of German Microwave Conference (GeMiC), 14.-16.03.2011, Darmstadt, Germany, 2011, E-ISBN: 978-3-9812668-3-2, paper M3-2.
- [15/2011] 2.2 GHz LC VCO for RFID on a 0.5-um digital gate-array designed for ultra-thin silicon substrates
Mohamed S. Abdelfattah, Damir Ferenci, Markus Grözing, Manfred Berroth, Cor Scherjon, Joachim Burghartz
Proceedings of German Microwave Conference (GeMiC), 14.-16.03.2011, Darmstadt, Germany, 2011, E-ISBN: 978-3-9812668-3-2, paper W2-3.

Conference (not reviewed):

- [15/2011] An Integrating Digitizer for an IR-UWB Receiver
Michelangelo Masini, Markus Grözing, Manfred Berroth, G. Fischer, Sonom Olonbayar, Hans Gustat, Johann-Christoph Scheytt
12.GMM/ITG-Fachtagung Analog 2011, Entwicklung von Anlogschaltungen mit CAE-Methoden, Schwerpunkt: Entwurf eingebetteter Sensorsysteme, 07.-09.11.2011, Erlangen, 2011, pp. 182-184
GMM Fachbericht, ISBN 978-3-8007-3369-9, ISSN 1432-3419
- [16/2011] Silicon Photonic Devices for Advanced Modulation Formats
Manfred Berroth, Wolfgang Vogel, Wissem Sfar Zaoui, Thomas Föhn, Sandra Klinger
ITG-Workshop Silicon Photonics, 11. Mai 2011, Nürnberg
- [17/2011] 25 GS/s 6 bit CMOS DACs and ADCs for 100Gbit/s Photonic networks
M. Grözing, F. Lang, T. Alpert, Hao Huang, D. Ferenci, M. Berroth
12. ITG-Fachtagung Photonische Netze, 2.-3. Mai 2011, Leipzig
ITG-Fachbericht, ISBN 978-3-8007-3346-0, pp 37-44.

Others:

- [19/2011] 25 GS/s 6 bit DACs and ADCs for 100 Gbit/s Photonic Networks
Markus Grözing, Thomas Alpert, Felix Lang, Hao Huang, Damir Ferenci, Michelangelo Masini, Manfred Berroth
1 st Chinese-German Young Scientists Forum on Microelectronics and Microwave Systems
September 13th - 16th, Shanghai, China
- [20/2011] Entwurf von 25GS/s 6bit D/A- und A/D-Wandlern im 90nm CMOS
Grözing, M.; Berroth, M.
EEEFCom Workshop 2011, Ulm, 25.-26. Mai 2011
B2-6

2010

Conference (reviewed):

- [1/2010] A 56 Gbit/s 0.35 μm SiGe Limiting Amplifier with 2.4 THz Gain-Bandwidth-Product
Markus Grözing, Martin Schmidt, Manfred Berroth
IEEE Compound Semiconductor IC (CSIC) Symposium, October 3-6, 2010, Monterey, CA, USA
- [2/2010] Photonic crystal polarization beam splitter in Silicon-On-Insulator platform
W. Sfar Zaoui, S. Klinger, W. Vogel, M. Berroth
Joint Symposium on Opto- and Microelectronic Devices and Circuits, (SODC), October 4-7, 2010, Berlin, Germany, pp. 75-78.

- [3/2010] Equivalent circuit of fast Ge on Si p-i-n photodiodes
S. Klinger, N. Moreno, Y. Quintas, B. Wang, M. Berroth, M. Kaschel, M. Oehme, E. Kasper, J. Schulze
Joint Symposium on Opto- and Microelectronic Devices and Circuits, (SODC), October 4-8, 2010, Berlin, Germany, pp. 89-92.
- [4/2010] Delta Sigma modulators and switching amplifiers for the class S concept
M. Berroth, M. Schmidt, S. Heck, M. Grözing
Joint Symposium on Opto- and Microelectronic Devices and Circuits, (SODC 2010), October 4-8, 2010, Berlin, Germany, pp. 111-114.
- [5/2010] Novel low loss broadband polarization independent fishnet negative index metamaterials at 40 GHz
Wissef Sfar Zaoui, Ke Chen, Wolfgang Vogel, Manfred Berroth
9th International Conference on Photonic and Electromagnetic Crystal Structures, (PECS-IX), September 26-30, 2010, Granada, Spain, Book of Abstracts, p. 126.
- [6/2010] A 3 bit 20 GS/s Flash ADC in 65 nm Low Power CMOS Technology
Damir Ferenci, Markus Grözing, Felix Lang, Manfred Berroth
Proceedings of the 5th European Microwave Integrated Circuits Conference (EuMIC), 27-28 September 2010, Paris, France, pp. 214-217.
- [7/2010] 12.5 Gbit/s Configurable Threefold 2:1 MUX and 1:2 DEMUX Chips in 130 nm CMOS Technology
Hao Huang, Markus Grözing, Thomas Alpert, Manfred Berroth
European Solid-State Circuits Conference Fringe (ESSCIRC Fringe), Seville, Spain, September 13-17, 2010.
- [8/2010] Wireless field bus communication with software defined IR-UWB in a manufacturing environment
M. Masini, T. Alpert, F. Lang, M. Grözing, M. Berroth
Proceedings of IEEE International Conference on Ultra Wideband and Ultrashort Impulse Signals, September 6-10, Sevastopol, Ukraine, pp. 168-170.
- [9/2010] A 100 Gigabit Measurement System with State of the Art FPGA Technology for Characterization of High Speed ADCs and DACs
Damir Ferenci, Manfred Berroth
6th Conference on Ph.D. Research in Microelectronics & Electronics (PRIME), 18 – 21 July 2010 Berlin, Germany, paper 10076.
- [10/2010] High-Speed Comparators for SAR ADCs in 130 nm BiCMOS
Johannes Digel, Markus Grözing, Manfred Berroth, Hans Gustat, Johann-Christoph Scheytt
6th Conference on Ph.D. Research in Microelectronics & Electronics (PRIME), 18 – 21 July 2010 Berlin, Germany, paper 10049.
- [11/2010] Wireless Field Bus Communication with UWB for Manufacturing Environments
M. Masini, M. Jakob, M. Berroth
43rd CIRP International Conference on Manufacturing Systems 2010, Vienna, Austria
- [12/2010] A Switching-Mode Amplifier for Class-S Transmitters for Clock Frequencies up to 7.5 GHz in 0.25 μ m SiGe-BiCMOS
Stefan Heck, Martin Schmidt, Alexander Bräckle, Frieder Schuller, Markus Grözing, Manfred Berroth, Hans Gustat, Christoph Scheytt
2010 IEEE RFIC Symposium, May 23-25, 2010, Anaheim, CA, USA, pp. 565-568.
DOI: 10.1109/RFIC.2010.5477368

- [13/2010] A SiGe H-Bridge Switching Amplifier for Class-S Amplifiers With Clock Frequencies up to 6 GHz
S. Heck, A. Bräckle, M. Schmidt, F. Schuller, M. Grözing and M. Berroth, H. Gustat, J.-C. Scheytt
German Microwave Conference (GeMIC) 2010, Berlin, Germany, pp. 174-177.
- [14/2010] SiGe Bipolar Limiting Amplifier with a Bit Rate of 50 Gbit/s for Optoelectronic Receivers
S. Klinger, M. Schmidt, M. Grözing, M. Berroth
GigaHertz 2010 Symposium, March 9-10, 2010, Lund University, Sweden, Book of Abstracts, p. 18.

Conference (not reviewed):

- [15/2010] Characterization of red VCSELs via S-Parameter Analysis
Hendrik Niederbracht, Marcus Eichfelder, Wolfgang Vogel, Michael Wiesner, Sandra Klinger, Robert Roßbach, Michael Jetter, Manfred Berroth, Peter Michler
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM), 21. - 26. März 2010, Regensburg, Session: HL 48.4.
- [16/2010] High frequency behaviour of Ge pin junctions
E. Kasper, M. Oehme, J. Schulze, S. Klinger, M. Berroth, International Workshop on New Group IV Semiconductor Nanoelectronics, Jan. 29 - 30, 2010, Tohoku University, Sendai, Japan, Digest of Papers (2010), pp 1-3.

Others:

- [17/2010] Schnelle komplexe Multiplizierer zur Umsetzung der schnellen diskreten Fourier-Transformation für OFDM-Sender mit Datenraten über 100 Gbit/s
Veigel, T.; Hipp, T.; Grözing, M.; Berroth, M.
Kleinheubacher Tagung 2010, Miltenberg, KH2010-D-1503
- [18/2010] Low Latency Architectures of a Comparator for Binary Signed Digits in a 28-nm CMOS Technology
Schmidt, M.; Veigel, T.; Haug, S.; Grözing, M.; Berroth, M.
Kleinheubacher Tagung 2010, Miltenberg, KH2010-D-1509
- [19/2010] Synchronization of Multi-Gigabit Transceivers with an Undersampling Test Register
M. Schmidt, D. Ferenci, T. Alpert, M. Groezing, M. Berroth;
22. ITG/GMM/GI Workshop „Testmethoden und Zuverlässigkeit von Schaltungen und Systemen“, 28. Februar - 2. März 2010, Paderborn
- [20/2010] Data Converter and Signal Processing Circuits for Future Communication Systems
M. Berroth
Keynote Speech, International Symposium on Signals, Systems and Electronics (ISSSE2010), September 17-20, Nanjing, China.

Patents:

- [21/2010] Circuit with selectable data paths
Inventors: J. Reichart, P. Gregorius, M. Berroth M. Grözing
Assignee: Qimonda AG, Munich
US Patent No. US7.646.320 B1, filed: Aug. 18, 2008, granted: Jan. 12, 2010
- [22/2010] Metamaterial having the capability of broadband left-hand guidance of electromagnetic waves
Inventors: H. Schweizer, H. Gräbeldinger, M. Berroth, H. Giessen, A. Rumberg, L. Fu
Assignee: Universität Stuttgart
US Patent No. US7.710.336 B2, filed: Sept. 15, 2006, granted: May 4, 2010

2009

Journals:

- [1/2009] Ge-on-Si p-i-n Photodiodes With a 3-dB Bandwidth of 49 GHz
Klinger, S.; Berroth, M.; Kaschel, M.; Oehme, M.; Kasper, E.;
IEEE Photonics Technology Letters, Vol. 21, No.13, 2009, pp. 920-922.
DOI: 10.1109/LPT.2009.2020510

Conference (reviewed):

- [2/2009] Design of a 25 GS/s 6-bit Flash-ADC in 90 nm CMOS technology
F. Lang, T. Alpert, D. Ferenci, M. Grözing, M. Berroth
ESSCIRC 2009 Fringe (European Solid-State Circuits Conference Fringe), Athens, Greece,
September 14-18, 2009.
- [3/2009] 25 GS/s 6-bit Pseudo Segmented Current Steering DAC in 90 nm CMOS
T. Alpert, F. Lang, M. Grözing, M. Berroth
ESSCIRC 2009 Fringe (European Solid-State Circuits Conference Fringe), Athens, Greece,
September 14-18, 2009.
- [4/2009] Design of a Viterbi Equalizer Circuit for Data Rates up to 43 Gb/s
T. Veigel, M. Grözing, M. Berroth, F. Buchali
ESSCIRC 2009 Fringe (European Solid-State Circuits Conference Fringe), Athens, Greece,
September 14-18, 2009.
- [5/2009] Ge on Si p-i-n Photodiodes for a Bit Rate of up to 25 Gbit/s
Sandra Klinger; Markus Groezing; Wissem Sfar Zaoui; Manfred Berroth; Mathias Kaschel;
Michael Oehme; Erich Kasper; Joerg Schulze
European Conference on Optical Communication (ECOC), September 20-24, Vienna, Austria,
2009, Paper 9.2.3
- [6/2009] A 1.6 GHz Switch Mode Power Amplifier with Continuous-Time Bandpass Delta-Sigma
Modulator
Manfred Berroth, Martin Schmidt, Stefan Heck, Alexander Braeckle, Markus Groezing
Proceedings of IEEE International Midwest Symposium on Circuits and Systems, MWSCAS
2009, Cancun, Mexico, pp. 1051-1054.
DOI: 10.1109/MWSCAS.2009.5235982
- [7/2009] Design of a 3 Bit 20 GS/s ADC in 65 nm CMOS
Damir Ferenci, Markus Grözing, Manfred Berroth
5th International Conference on Ph.D. Research in Microelectronics & Electronics PRIME
2009, 12-17 July 2009, Cork, Ireland
DOI: 10.1109/RME.2009.5201305
- [8/2009] A 1.55 GHz to 2.45 GHz Center Frequency Continuous-Time Bandpass Delta-Sigma
Modulator for Frequency Agile Transmitters
M. Schmidt, M. Grözing, S. Heck, I. Dettmann, M. Berroth, D. Wiegner, W. Templ, A. Pascht
Proceedings of 2009 IEEE RFIC Symposium, Paper RMO2C-4, pp.153-156.
DOI: 10.1109/RFIC.2009.5135511
- [9/2009] Ultrafast Analog-to-Digital and Digital-to-Analog Converters
M. Berroth, D. Ferenci, M. Grözing
Joint Symposium on Opto- and Microelectronic Devices and Circuits, (SODC 2009), May 10-
12, 2009, Beijing, China, pp. 67-72.

- [10/2009] Comparing Measurement Setups to Determine the Frequency Response of Ge on Si p-i-n Photodiodes up to 40 GHz
S. Klinger, M. Berroth, M. Kaschel, M. Oehme, E. Kasper, V. Hurm
Joint Symposium on Opto- and Microelectronic Devices and Circuits, (SODC 2009), May 10-12, 2009, Beijing, China, pp. 155-158.
- [11/2009] Supply Modulation of Power Amplifiers with a Class AD Modulator
I. Dettmann, M. Berroth
German Microwave Conference 2009, March 16-18, 2009, München, Germany
Paper 3A-01.
DOI: 10.1109/GEMIC.2009.4815868
- [12/2009] Continuous-Time Bandpass Delta-Sigma Modulator for a Signal Frequency of 2.2 GHz
M. Schmidt, S. Heck, I. Dettmann, M. Grözing, M. Berroth, D. Wiegner, W. Templ
German Microwave Conference 2009, March 16-18, 2009, München, Germany
Paper 3A-05.
DOI: 10.1109/GEMIC.2009.4815872
- [13/2009] Efficiency of Current-Mode Class-D Amplifiers with Delta-Sigma Modulated Drive Signals
A. Bräckle, S. Heck, M. Berroth, I. Dettmann
German Microwave Conference 2009, March 16-18, 2009, München, Germany
Paper 7A-02.
DOI: 10.1109/GEMIC.2009.4815901

Monograph:

- [14/2009] Entwurf und Aufbau eines digitalen und optischen Strahlformers zur Phasen- und Amplitudenstellung bei Gruppenantennen
Hayattin Yilmaz
Dissertation , Shaker Verlag, Aachen, ISBN 978-3-8322-8027-7, 2009.
- [15/2009] Effiziente Leistungsverstärkerarchitekturen für Mobilfunkbasisstationen
Ingo Dettmann
Dissertationsschrift, Universität Stuttgart, 2009.
- [16/2009] Mikrowellenmodellierung von photonischen Kristallen und Metamaterialien für die optische Nachrichtentechnik
Axel Rumberg
Dissertationsschrift, Universität Stuttgart, 2009.
- [17/2009] Design of radio frequency power amplifiers for cellular phones and base stations in modern mobile communication systems
Lei Wu
Dissertationsschrift, Universität Stuttgart, 2009.

Others:

- [18/2009] Noise Modeling
Manfred Berroth, Markus Grözing, Stefan Heck, Alexander Bräckle
Workshop Parameter Extraction Strategies for Compact Transistor Models
International Microwave Symposium 2009 (IMS 2009)
- [19/2009] Design of an RF Transmitter for RFID Tags in a New Technology with Ultra Thin Silicon Substrates
M. S. Abdelfattah, D. Ferenci, M. Grözing, M. Berroth, C. Scherjon and J.N. Burghartz
Workshop on Signal Processing, Integrated Systems and Circuits, ProRISC 2009, 26-27 November 2009, Veldhoven, The Netherlands

- [20/2009] Schneller Operationsverstärker für A/D-Wandler mit 6 bit Auflösung und Wandlerraten bis 28 GS/s
Grözing, M; Digel, J; Ferenci, D; Berroth, M.
Kleinheubacher Tagung 2009, Miltenberg, 28. September 2009
- [21/2009] Thermometer/Binär-Umsetzer für einen schnellen Flash Analog/Digital-Umsetzer in CMOS Technologie
Bozler, J.; Lang, F.; Ferenci, D.; Berroth, M.
Kleinheubacher Tagung 2009, Miltenberg, 28. September 2009
- [22/2009] A Q-enhanced LC-Resonator with Digitally Configurable Notch Frequency, Notch Bandwidth and Input Transconductance in a Bipolar-Only SiGe-Technology
Schmidt, M.; Grözing, M.; Berroth, M.
Kleinheubacher Tagung 2009, Miltenberg, 28. September 2009
- [23/2009] Eingebettete Taktübertragung auf differentiellen Leitungen
Reichart, J., Grözing, M.; Schmidt, M.; Gregorius, P; Berroth, M.
Kleinheubacher Tagung 2009, Miltenberg, 28. September 2009

Patents:

- [24/2009] Filter Structure and Method for Filtering an Input Signal
M. Grözing, M. Berroth
United States Patent Application 20090327385
Publication Date: 12/31/2009
- [25/2009] Power amplifier for amplifying high-frequency (H.F.) signals
M. Berroth, L. Wu
United States Patent 7551036
Publication Date: 06/23/2009

2008

Journals:

- [1/2008] A 900-MHz 29.5-dBm 0.13- μ m CMOS HiVP Power Amplifier
Wu, L.; Dettmann, I.; Berroth, M.;
Microwave Theory and Techniques, IEEE Transactions on
Volume 56, Issue 9, September 2008 pp. 2040-2045.
DOI: 10.1109/TMTT.2008.2001961

Conference (reviewed):

- [2/2008] Design of a Quadrature Clock Conditioning Circuit in 90-nm CMOS Technology
Tarek Zaki, Damir Ferenci, Markus Groezing, Manfred Berroth
20th International Conference on Microelectronics (ICM 2008)
14.-17. December 2008, Sharjah, UAE
- [3/2008] Continuous-Time Bandpass Delta-Sigma Modulator with 8 GHz Sampling Frequency
Martin Schmidt, Stefan Heck, Ingo Dettmann, Markus Grözing, Manfred Berroth, Dirk Wiegner, Wolfgang Tempel
ESSDERC / ESSCIRC 2008, 15-19. September 2008, Edinburgh, UK
ESSCIRC Fringe P21
- [4/2008] Concept for a 12-bit Digital Bandpass Delta-Sigma Modulator for Power Amplifier Applications
Thomas Alpert, Martin Schmidt, Ingo Dettmann, Thomas Veigel, Markus Grözing, Manfred Berroth
ESSDERC / ESSCIRC 2008, 15-19. September 2008, Edinburgh, UK
ESSCIRC Fringe P1

- [5/2008] Ge on Si p-i-n Photodetectors with 40 GHz bandwidth
S. Klinger, W. Vogel, M. Berroth, M. Kaschel, M. Oehme, E. Kasper
5th International Conference on Group IV Photonics
GFP 08, September 17-19, 2008, Sorrento, Italy, pp. 188-190.
DOI: 10.1109/GROUP4.2008.4638140
- [6/2008] A Microwave Doherty Amplifier with Programmable Bias Control
Manfred Berroth, Jan Willeke, Ingo Dettmann
51st International IEEE Midwest Symposium on Circuits and Systems
Knoxville, Tennessee, USA, pp. 811-813.
DOI: 10.1109/MWSCAS.2008.4616923
- [7/2008] Focusing and Coupling into Dielectric Waveguides with Dielectric and Metallic Photonic Crystals
A. Rumberg, W. Sfar Zaoui and M. Berroth
German Microwave Conference, GeMIC 2008, Germany, pp. 424-427.
- [8/2008] Equivalent Circuit of Metamaterials with a Negative Permeability
A. Rumberg, M. Berroth
GigaHertz Symposium 2008, Book of Abstracts, Göteborg, Sweden, 2008, p. 17.
- [9/2008] Noise in Advanced MOS-Transistors
M. Berroth, M. Grözing
Invited Paper
SCD2008, International Semiconductor Conference, Dresden, Germany, 2008
- [10/2008] Advanced CMOS Circuits for High Speed Serial Links up to 100 Gb/s
M. Berroth, M. Grözing, D. Ferenci, T. Veigel
Proceedings of IEEE Lester Eastman Conference on High Performance Devices, 2008

Monograph:

- [11/2008] Untersuchung des Rauschens in Komplementären Metall-Oxid-Halbleiter-Ringoszillatoren
Markus Grözing
Dissertationsschrift, Universität Stuttgart, 2008.

Others:

- [12/2008] Einstellbarer Bandpass-Delta-Sigma-Modulator für Signalfrequenzen von 1.6 GHz bis 2.7 GHz
M. Schmidt, S. Heck, M. Grözing, M. Berroth
Workshop Integrierte Analogschaltungen 2008, TU Berlin, März 2008
- [13/2008] Sende- und Empfangsschaltungen für schnelle serielle Mehrpegelübertragung in 90 nm CMOS-Technologie
M. Grözing, M. Berroth, M. May
Workshop Integrierte Analogschaltungen 2008, TU Berlin, März 2008

2007

Journals:

- [1/2007] Photocurrent analysis of a fast Ge p-i-n detector on Si
M. Oehme, J. Werner, E. Kasper, S. Klinger, and M. Berroth
Appl. Phys. Lett. 91, 2007, pp. 051108/1-3.
DOI: 10.1063/1.2757599

Conference (reviewed):

- [2/2007] Stacking of Negative Refractive Index Cut-Wire Pair Configuration in a Waveguide Environment
A. Rumberg, M. Berroth
Proceedings of IEEE Asia-Pacific Microwave Conference 2007 (APMC'07), Bangkok, Thailand, 2007, pp. 1335-1338.
DOI: 10.1109/APMC.2007.4555122
- [3/2007] Negative refractive index in stacked conventional structured printed circuit board material
A. Rumberg, M. Berroth
First International Congress on Advanced Electromagnetic Materials in Microwaves and Optics, Metamaterials '07, Rome, Italy, 2007, pp. 280-283.

Conference (not reviewed):

- [4/2007] CMOS Circuits for High Speed Serial Links
Berroth, M.
Invited talk, Kleinheubacher Tagung, 24.9.07 - 25.9.07, Miltenberg
KH2007-D-036
- [5/2007] A/D Wandler in CMOS Technologie für die schnelle serielle Datenübertragung
Ferenci, D.; Grözing, M.; Berroth, M.
Kleinheubacher Tagung, 24.9.07 - 25.9.07, Miltenberg
KH2007-D-070
- [6/2007] Entwurf eines elektronischen Entzerrers mit Maximum-Likelihood-Sequence-Estimation für Kanäle mit 43 GBit/s serieller Eingangsdatenrate
Veigel, T.; Bindel, A.; Lang, F. u.a. , Buchali, F.
Kleinheubacher Tagung, 24.9.07 - 25.9.07, Miltenberg
KH2007-D-071

Monograph:

- [7/2007] Charakterisierung und Modellierung von Aluminiumgallium-Galliumnitrid Heterostruktur-feldeffekttransistoren
Elena Jutzi (geb. Chigaeva)
Dissertation , Shaker Verlag, Aachen, ISBN 978-3-8322-6342-3, 2007.
- [8/2007] Modellierung von Transistoren in CMOS/BiCMOS-Technologie zum Entwurf von rauscharmen Verstärkern
Umut Basaran
Dissertationsschrift, Universität Stuttgart, 2007.
- [9/2007] The Design of Wide Bandwidth Front-End Amplifiers for High Speed Optical Interconnects
Tao Rui
Dissertation, Shaker Verlag, Aachen, ISBN 978-3-8322-5905-1, 2007.

Others:

- [10/2007] Exceeding the Limits of Binary Data Transmission on Printed Circuit Boards by Multilevel Signaling
M. Grözing, M. Berroth
EEEfCOM Workshop 2007, Ulm, 20. Juni 2007
- [11/2007] A SPICE Model for Silicon Photodiode
B. Senapati, S. Klinger, V. Vescoli, E. Seebacher, M. Berroth
MOS-AK/ESSDERC/ESSCIRC Workshop, München - MOS-AK Poster Session, September 14, 2007

Patents:

- [12/2007] Filterstruktur und Verfahren zum Filtern eines Eingangssignals
M. Grözing, M. Berroth
German patent DE 10 2006 034 033 B3, Munich, Germany, filed: July 24, 2006, Granted: October 31, 2007.

2006

Journals:

- [1/2006] Large-signal modelling of AlGaIn/GaN HEMTs with analytically calculated thermal resistance
E. Jutzi, I. Dettmann, M. Berroth, H. Roll, and H. Schweizer
Proceedings of the European Microwave Association Vol. 2; Dec. 2006; pp. 288-293.
- [2/2006] High bandwidth Ge p-i-n photodetector integrated on Si
M. Oehme, J. Werner, E. Kasper, M. Jutzi and M. Berroth
Applied Physics Letters, Vol. 89, No. 7, 2006, pp. 071117/1-071117/3.
[doi:10.1063/1.2337003](https://doi.org/10.1063/1.2337003)
- [3/2006] A Dual-Frequency Wilkinson Power Divider
L. Wu, Z. Sun, H. Yilmaz, M. Berroth
IEEE Transactions on Microwave Theory and Techniques
Vol. 54, No. 1, pp. 278-284.
DOI: 10.1109/TMTT.2005.860300
- [4/2006] High-speed germanium photodiodes monolithically integrated on silicon with MBE
M. Oehme, J. Werner, M. Jutzi, G. Wöhl, E. Kasper, M. Berroth
Thin Solid Films, Vol. 508, Elsevier 2006, pp. 393-395.

Conference (reviewed):

- [5/2006] High-speed ADC building blocks in 90 nm CMOS
M. Grözing, M. Berroth, E. Gerhardt, B. Franz, W. Templ
Fourth Joint Symposium on Opto- and Microelectronic Devices and Circuits, (SODC 2006),
September 02-08, 2006, Duisburg, Germany, pp. 99-103.
- [6/2006] Metal/oxide-based Photonic Crystal Waveguide Structure and Its Applications in Photonic Devices
Junqing Li, Axel Rumberg, Wolfgang Vogel, Manfred Berroth
Fourth Joint Symposium on Opto- and Microelectronic Devices and Circuits, (SODC 2006),
September 02-08, 2006, Duisburg, Germany, pp. 45-52.
- [7/2006] Sampling Receive Equalizer with Bit-Rate Flexible Operation up to 10 Gbit/s
Markus Grözing, Bernd Philipp, Matthias Neher, Manfred Berroth
European Solid-State Circuits Conference, ESSCIRC 2006, Montreux, Switzerland, September
18-22, 2006, pp. 516-519.
DOI: 10.1109/ESSCIR.2006.307503
- [8/2006] Focussing by Negative-Index Effect in Two-Dimensional Photonic Crystals in a High-Index-Contrast Material System
A. Rumberg, E. Dörner, M. Berroth
36th European Microwave Conference (EuMC 2006), Manchester, England, September 10-15,
2006, pp. 784-787.
DOI: 10.1109/EUMC.2006.281036

- [9/2006] Reduction of CMOS Inverter Ring Oscillator Close-In Phase Noise by Current Mode Instead of Voltage Mode Supply
Markus Grözing, Manfred Berroth
IEEE Conference on Ph. D. Research in Microelectronics and Electronics, Otranto (Lecce), Italy, June 11-15 2006, pp. 97-100.
DOI: 10.1109/RME.2006.1689905
- [10/2006] The Effect of 1/f Noise on the Spectrum and the Jitter of a Free Running Oscillator
Markus Grözing, Manfred Berroth
IEEE Conference on Ph. D. Research in Microelectronics and Electronics, Otranto (Lecce), Italy, June 11-15 2006, pp. 485-488.
DOI: 10.1109/RME.2006.1689999
- [11/2006] Fast Ge p-i-n Photodetectors on Si
Kasper, E.; Oehme, M.; Werner, J.; Jutzi, M.; Berroth, M.;
Third International SiGe Technology and Device Meeting, 2006. ISTDm 2006.
15-17 May 2006 Page(s):1-2
DOI: 10.1109/ISTDM.2006.246583
- [12/2006] 40-Gbit/s Ge-Si Photodiodes
M. Jutzi, M. Berroth, G. Wöhl, M. Oehme, E. Kasper
Invited Paper
Silicon Monolithic Integrated Circuits in RF-Systems (SiRF 2006), San Diego, CA, USA, January 18-20, 2006, pp. 303-307.
DOI: 10.1109/SMIC.2005.1587978
- [13/2006] A 2 Gbit/s 0.18 μm CMOS Front-End Amplifier for Integrated Differential Photodiodes
M. Grözing, M. Jutzi, W. Nanz, M. Berroth
Silicon Monolithic Integrated Circuits in RF-Systems (SiRF 2006), San Diego, CA, USA, January 18-20, 2006, pp. 361-364.
DOI: 10.1109/SMIC.2005.1587996
- [14/2006] Entwicklung und Aufbau einer Elektrolarynx mit variabler Frequenz und integrierter Bluetooth-Funkschnittstelle für laryngektomierte und tracheotomierte Patienten
T. Müller, H. Yilmaz, M. Berroth
13. ITG-/GMA Fachtagung Sensoren und Messsysteme, Freiburg i. Breisgau, 13.-14.03. 2006, Tagungsband ISBN 978-3-8007-2939-5, VDE Verlag, Berlin, pp. 395-398.
- [15/2006] Design and W-CDMA Characterization of a Wideband AlGaIn/GaN HEMT Power Amplifier for Future 3G/4G Multiband Base Station Applications
D. Wiegner, U. Seyfried, W. Templ, T. Naß, S. Weber, S. Wörner, I. Dettmann, R. Quay, F. van Raay, H. Walcher, H. Massler, M. Seelmann-Eggebert, R. Reiner, R. Moritz, R. Kiefer
German Microwave Conference (GeMiC 2006), Karlsruhe, Germany, March 28-30, 2006, Session 7a-3.
- [16/2006] Large-Signal Modeling of AlGaIn/GaN HEMTs with Analytically Calculated Thermal Resistance
E. Jutzi, I. Dettmann, M. Berroth, H. Roll, and H. Schweizer
German Microwave Conference (GeMiC 2006), Karlsruhe, Germany, March 28-30, 2006, Session 7a-4.
- Others:**
- [17/2006] Elektronische Entzerrer für die hochbitratige Datenübertragung
M. Grözing, B. Philipp, M. Neher, M. Kabbab, M. Berroth,
EEEFcOM Workshop 2006, Ulm, 28. Juni 2006
- [18/2006] From Small-Signal to Large-Signal Modeling of AlGaIn/GaN HEMTs
Elena Jutzi
TARGET Tutorial on Device Modelling, May 16, Benalmadena (Málaga), Spain, 2006

- [19/2006] Elektronischer Entzerrer und A/D-Wandler-Komponenten in CMOS-Technologie für die schnelle serielle Datenübertragung
Grözing, M.; Berroth, M.
U.R.S.I. Landesausschuss Deutschland e.V., Kleinheubacher Tagung 2006
Miltenberg, Germany, 25-29 September 2006, KH2006-A-00032

2005

Journals:

- [1/2005] Integrated Wide-Band CMOS Duobinary Transmitter for Optical Communication Systems
Rui Tao, Manfred Berroth
International Journal of High Speed Electronics and Systems, Vol. 15, No. 3, 2005, pp. 513-523.
- [2/2005] Ge-on-Si Vertical Incidence Photodiodes With 39-GHz Bandwidth
M. Jutzi, M. Berroth, G. Wöhl, M. Oehme, E. Kasper
IEEE Photonics Technology Letters
Vol. 17, No. 7, July 2005, pp. 1510-1512.
- [3/2005] 2-Gb/s CMOS optical integrated receiver with a spatially modulated photodetector
Jutzi, M.; Grözing, M.; Gaugler, E.; Mazioschek, W.; Berroth, M.;
IEEE Photonics Technology Letters
Vol. 17, No. 6, June 2005, pp. 1268-1270.
- [4/2005] Small-signal and high-frequency noise modeling of SiGe HBTs
Basaran, U.; Wieser, N.; Feiler, G.; Berroth, M.;
IEEE Transactions on Microwave Theory and Techniques
Vol. 53, No. 3, March 2005, pp. 919-928.
- [5/2005] A dual-frequency Wilkinson power divider: for a frequency and its first harmonic
Wu, L.; Yilmaz, H.; Bitzer, T.; Berroth, M.; Pascht, A.;
IEEE Microwave and Wireless Components Letters [see also IEEE Microwave and Guided Wave Letters]
Vol. 15, No. 2, Feb. 2005, pp. 107-109.
- [6/2005] Low-noise amplifier in 0.12 μm standard CMOS technology for K-band
Basaran, U.; Tao, R.; Wu, L.; Berroth, M.;
Electronics Letters
Volume 41, Issue 10, 12 May 2005, pp. 592-593.
- [7/2005] Zero Biased Ge-on-Si Photodetector on a Thin Buffer with a Bandwidth of 3.2 GHz at 1300 nm
M. Jutzi, M. Berroth, G. Wöhl, M. Oehme, E. Kasper
Materials Science in Semiconductor Processing, No. 8, 2005, pp. 423-427.

Conference (reviewed):

- [8/2005] Comparison of A Single-Ended Class-AB, A Balanced and A Doherty Power Amplifier
I. Dettmann, L. Wu, M. Berroth
Asia-Pacific Microwave Conference, Suzhou, China, December 4-7 2005, Conference Proceedings ISBN 0-7803-9433-X, Vol. 2, pp. 1167-1170.
- [9/2005] A Broadband High Efficiency Class-AB LDMOS Balanced Power Amplifier
L. Wu, U. Basaran, I. Dettmann, M. Berroth, T. Bitzer, A. Pascht
35th European Microwave Conference (EuMC 2005), Paris, France, October 3-7 2005, pp. 1079-1082.

- [10/2005] A 2 GHz CMOS dB-Linear Programmable-Gain Amplifier with 51 dB Dynamic Range
L. Wu, U. Basaran, R. Tao, M. Berroth, Z. Boos
35th European Microwave Conference (EuMC 2005), Paris, France, October 3-7 2005, pp. 1563-1566.

Monograph:

- [11/2005] Photodetektoren auf Silizium-Substraten für integrierte optische Empfänger
Michael Jutzi, Dissertation
Shaker Verlag, Aachen, ISBN 978-3-8322-4241-4, 2005.

Others:

- [12/2005] Silicon-based photodetectors for high-speed integrated optical receivers
M. Berroth, E. Kasper, M. Jutzi
Themenheft Forschung Nr. 2, Photonics, ISSN 1861-0269, Universität Stuttgart, 2005, pp. 34-39
- [13/2005] Effiziente Leistungsverstärker für Mobilfunkbasisstationen
I. Dettmann, E. Chigaeva, L. Wu, M. Berroth
EEEFOM, Workshop, Ulm, June 2005.

Patents:

- [14/2005] Mehrstufiger Ringoszillator
M. Grözing, B. Philipp, M. Berroth
German patent DE 103 01 638, München, Germany, filed: January 17, 2003
Granted: January 27, 2005.

2004

Journals:

- [1/2004] Low power 10 GHz ring VCO using source capacitively coupled current amplifier in 0.12 μm CMOS technology
Tao, R.; Berroth, M.;
Electronics Letters
Vol. 40, No. 23, 11 Nov. 2004, pp. 1484-1486.
- [2/2004] Analysis of the modulation behavior of red VCSELs
Tabitha Ballmann, Robert Rossbach, Michael Jetter, Michael Jutzi, Manfred Berroth, Heinz C. Schweizer
Proc. SPIE Vol. 5597, Nanophotonics for Communication: Materials and Devices; Oct. 2004, pp. 102-108.
- [3/2004] Variable optical attenuator realized on silicon V-groove for optical beamforming networks
Hayattin Yilmaz, Andreas Breuel, Wolfgang Vogel, Manfred Berroth
Proc. SPIE Vol. 5358, Photonics Packaging and Integration IV; Jun 2004, pp. 1-9.
- [4/2004] MOSFET noise modeling and parameter extraction
Manfred Berroth, Umut Basaran, Bo Ma
Invited paper
Proc. SPIE Vol. 5470, Noise in Devices and Circuits II; May 2004, pp. 61-73.
- [5/2004] SiGe PIN photodetector for infrared optical fiber links operating at 1.25 Gbit/s
M. Jutzi, M. Berroth, G. Wöhl, C. Parry, M. Oehme, M. Bauer, C. Schöllhorn, E. Kasper
Applied Surface Science, Elsevier, Vol. 224, 2004, pp. 170-174.

- [6/2004] A novel modulation and direct detection scheme of optical phase shift keying
Yongcai Yang, Wolfgang Vogel
Chinese Optics Letters, Vol. 2, No. 3, 2004, pp. 128-130.

Conference (reviewed):

- [7/2004] The integrated 2W high voltage/high power 0.12- μ m RF CMOS power amplifier
Wu, L.; Tao, R.; Basaran, U.; Luger, J.; Dettmann, I.; Berroth, M.;
34th European Microwave Conference, 11-15 Oct. 2004, Vol. 1, pp. 53-56.
- [8/2004] MOSFET thermal- and 1/f-noise modulating functions for the impulse sensitivity function theory of oscillator phase noise
Grözing, M.; Stumpf, T.; Hauger, S.; Berroth, M.;
34th European Microwave Conference, 11-15 Oct. 2004, Vol. 2, pp. 949-952.
- [9/2004] The Integrated 2W High Voltage/High Power 0.12- μ m RF CMOS power amplifier
L. Wu, R. Tao, U. Basaran, J. Luger, I. Dettmann, M. Berroth
European Gallium Arsenide and other Compound Semiconductors Application Symposium (GAAS2004), Amsterdam, Netherlands, October 12-15, 2004, pp. 451-454.
- [10/2004] Wide-band low-power CMOS transimpedance preamplifier
Tao, R.; Berroth, M.; Zhi Gong Wang;
IEEE MTT-S International Microwave Symposium Digest, 2004
Vol. 2, 6-11 June 2004, pp. 983-985.
- [11/2004] Ge-on-Si pin-photodiodes for vertical and in-plane detection of 1300 to 1580 nm light
Jutzi, M.; Berroth, M.; Wöhl, G.; Oehme, M.; Stefani, V.; Kasper, E.;
Proceedings of the 34th European Solid-State Device Research conference, ESSDERC, Leuven, Belgium, 2004, 21-23 Sept. 2004, pp. 345-348.
DOI: 10.1109/ESSDER.2004.1356560
- [12/2004] Derivation of single-ended CMOS inverter ring oscillator close-in phase noise from basic circuit and device properties
Grözing, M.; Berroth, M.;
IEEE Radio Frequency Integrated Circuits (RFIC) Symposium, Digest of Papers, 6-8 June 2004, pp. 277-280.
- [13/2004] Monolithically integrated 5 Gb/s CMOS duobinary transmitter for optical communication systems
Rui Tao; Berroth, M.;
IEEE Radio Frequency Integrated Circuits (RFIC) Symposium, Digest of Papers, 6-8 June 2004, pp. 21-24.
- [14/2004] Spatially Modulated Photodetector in an Unmodified 0.18 μ m CMOS-Process
M. Jutzi, E. Gaugler, M. Berroth
Third Joint Symposium on Opto- and Microelectronic Devices and Circuits, (SODC 2004), March 21-26, 2004, Wuhan, China, pp. 1-4.
- [15/2004] Monolithically Integrated 10 Gb/s Fully Differential CMOS Transimpedance Preamplifier
Rui Tao, M. Berroth, Zheng Gu, ZhiGong Wang
Third Joint Symposium on Opto- and Microelectronic Devices and Circuits (SODC 2004), March 21-26, 2004, Wuhan, China.
- [16/2004] Zero Biased Ge-on-Si Photodetector on a Thin Buffer with a Bandwidth of 3.2 GHz at 1300 nm
M. Jutzi, M. Berroth, G. Wöhl, M. Oehme, E. Kasper
Second International SiGe Technology and Device Meeting (ISTDM 2004), May 17-19, 2004, Frankfurt/Oder, Germany.

Monograph:

- [17/2004] Untersuchung von flüssigkristallbasierten Fabry-Pérot-Filtern und variablen Dämpfungsgliedern für die optische Nachrichtentechnik
Wolfgang Vogel
Dissertation, Shaker Verlag, Aachen, ISBN 978-3-8322-2348-7, 2004.

Others:

- [18/2004] CMOS Photodiodes
M. Jutzi, E. Gaugler, J. Kaiser, K. Eve, M. Berroth
MOS-AK Meeting, 7 May 2004, Stuttgart.
- [19/2004] Close-in Phase Noise Issues in CMOS Oscillators
M. Grözing,
MOS-AK Meeting, 7 May 2004, Stuttgart.
- [20/2004] Switching-mode high efficiency power amplifiers
L. Wu, Y. Dong, N. Wieser, M. Berroth
Target Tutorial on Power Amplifier Design, Rome, Italy, Nov. 17, 2004, pp. 13-26.
- [21/2004] High Speed CMOS Circuits: Analog- und Digitalschaltungen in Stromschaltertechnik für hochbitratige serielle Empfänger
M. Grözing, M. Berroth
EEEFOM Workshop & Entwicklerforum, May 26-27, 2004, Ulm, Germany,
Seminarunterlagen Teil A1, pp. 25-50.

2003

- [1/2003] Monolithically integrated CMOS current-mode transimpedance preamplifier
Tao, R.; Berroth, M.; Wang, Z.G.;
Electronics Letters
Vol. 39, No. 25, 11 Dec. 2003, pp. 1772-1774.
- [2/2003] Low power 10 Gbit/s VCSEL driver for optical interconnect
Tao, R.; Berroth, M.; Zhi Gong Wang;
Electronics Letters
Vol. 39, No. 24, 27 Nov. 2003, pp. 1743-1744.
- [3/2003] Wideband fully differential CMOS transimpedance preamplifier
Rui Tao; Berroth, M.; Zheng Gu; Zhi Gong Wang;
Electronics Letters
Vol. 39, No. 21, 16 Oct. 2003, pp. 1488-1490.
- [4/2003] SiGe pin-photodetectors integrated on silicon substrates for optical fiber links
Wöhl, G.; Parry, C.; Kasper, E.; Jutzi, M.; Berroth, M.;
IEEE International Solid-State Circuits Conference, ISSCC 2003, Digest of Technical Papers,
Vol.1, 2003, pp. 374-375.
- [5/2003] Microstrip line fed patch antenna with liquid crystal phase shifter for optically generated RF-signals
Yilmaz, H.; Chakam, G.-A.; Breuel, A.; Vogel, W.; Berroth, M.; Freude, W.;
International Topical Meeting on Microwave Photonics, MWP 2003 Proceedings,
10-12 Sept. 2003, pp. 359-362.
- [6/2003] 10 Gb/s CMOS limiting amplifier for optical links
Tao, R.; Berroth, M.;
Proceedings of the 29th European Solid-State Circuits Conference, ESSCIRC 2003,
16-18 Sept. 2003, pp. 285-287.

- [7/2003] A 10Gb/s fully differential CMOS transimpedance preamplifier
Tao, R.; Berroth, M.;
Proceedings of the 29th European Solid-State Circuits Conference, ESSCIRC 2003,
16-18 Sept. 2003, pp. 549-552.
- [8/2003] CMOS ring oscillator with quadrature outputs and 100 MHz to 3.5 GHz tuning range
Grözing, M.; Phillip, B.; Berroth, M.;
Proceedings of the 29th European Solid-State Circuits Conference, ESSCIRC 2003,
16-18 Sept. 2003, pp. 679-682.
- [9/2003] Wide-band low-power CMOS current mode transimpedance preamplifier
Tao, R.; Berroth, M.;
The 11th IEEE International Symposium on Electron Devices for Microwave and
Optoelectronic Applications, EDMO 2003.
17-18 Nov. 2003, pp. 128-132.
- [10/2003] An accurate method to determine the substrate network elements and base resistance
Basaran, U.; Berroth, M.;
Proceedings of the Bipolar/BiCMOS Circuits and Technology Meeting,
28-30 Sept. 2003, pp. 93-96.
- [11/2003] The design of 5 GHz voltage controlled ring oscillator using source capacitively coupled
current amplifier
Tao, R.; Berroth, M.;
IEEE Radio Frequency Integrated Circuits (RFIC) Symposium
8-10 June 2003, pp. 623-626.
- [12/2003] The design of 5 GHz voltage controlled ring oscillator using source capacitively coupled
current amplifier
Rui Tao; Berroth, M.;
IEEE MTT-S International Microwave Symposium Digest
Vol. 1, 8-13 June 2003, pp. A109-A112.
- [13/2003] 5 GHz voltage controlled ring oscillator using source capacitively coupled current amplifier
Rui Tao; Berroth, M.;
Topical Meeting on Silicon Monolithic Integrated Circuits in RF Systems, Digest of Papers.
9-11 April 2003, pp. 45-48.
- [14/2003] Tunable liquid crystal Fabry-Perot filters
Wolfgang Vogel, Manfred Berroth
Proc. SPIE Vol. 4944, Integrated Optical Devices: Fabrication and Testing; Apr 2003, pp. 293-
302.
- [15/2003] Large-Signal Modeling of SiGe HBTs Including a New Substrate Network Extraction Method
Basaran, Umut, Berroth, Manfred
Gallium Arsenide applications symposium, GAAS 2003, 6-10 October 2003, Munich, pp. 437-
440.
- [16/2003] Tuned Active Inductor and Switched Bandpass Amplifier in CMOS Technology
M. Grözing, D. Moser, M. Berroth
GigaHertz 2003 Symposium, Linköping, Sweden, November 4-5, 2003.
<http://www.ep.liu.se/ecp/008/posters/001/>
- [17/2003] SiGe PIN photodetector for infrared optical fiber links operating at 1.25 Gbit/s
M. Jutzi, M. Berroth, G. Wöhl, C. Parry, M. Oehme, M. Bauer, C. Schöllhorn, E. Kasper
First International SiGe Technology and Device Meeting (ISTDM 2003), Jan. 15-17, 2003,
Nagoya, Japan, pp. 170-174.

- [18/2003] Special Etch Technologies for Ge/Si Devices
G. Wöhl, M. Oehme, C. Parry, E. Kasper, M. Jutzi, M. Berroth, E. Voorneman
Third International Conference on SiGe(C) Epitaxy and Heterostructures, March 9-12, 2003,
Santa Fe, New Mexico, USA, pp. 77-79.

2002

- [1/2002] Small-signal and temperature noise model for MOSFETs
Pascht, A.; Grözing, M.; Wiegner, D.; Berroth, M.;
IEEE Transactions on Microwave Theory and Techniques,
Vol. 50, No. 8, Aug. 2002, pp. 1927-1934.
- [2/2002] High frequency noise modeling of SiGe HBTs using a direct parameter extraction technique
Basaran, U.; Berroth, M.;
The 10th IEEE International Symposium on Electron Devices for Microwave and
Optoelectronic Applications, EDMO 2002, 18-19 Nov. 2002, pp. 189-195.
- [3/2002] Microstrip phased array patch antenna based on a liquid crystal phase shifter for optically
generated RF-signals
Chakam, G.-A.; Vogel, W.; Yilmaz, H.; Berroth, M.; Freude, W.;
International Topical Meeting on Microwave Photonics
5-8 Nov. 2002, pp. 265-268.
- [4/2002] Advanced large-signal modeling of GaN-HEMTs
Berroth, M.; Chigaeva, E.; Dettmann, I.; Wieser, N.; Vogel, W.; Roll, H.; Scholz, F.; Schweizer,
H.;
Proceedings of IEEE Lester Eastman Conference on High Performance Devices
6-8 Aug. 2002, pp. 172-180.
- [5/2002] Lateral PIN-Photodetector in Commercial CMOS Technology Operating at 1.25 Gbit/s and 850
nm
M. Jutzi, K. Eve, W. Vogel, D. Wiegner, M. Berroth
Proceedings 7 th Workshop „Optics in Computing Technology“, 18./19. September 2002,
Mannheim, pp. 55-62.
- [6/2002] Non-linear GaN-HEMT Modeling Including Thermal Effects
M. Berroth, E. Chigaeva, I. Dettmann, N. Wieser, W. Walthes, and M. Grözing
Second Joint Symposium on Opto- and Microelectronic Devices and Circuits (SODC 2002),
March 10-16, 2002, Stuttgart, pp. 236-239.
- [7/2002] RF-CMOS active inductors and their application
M. Grözing,
MOS-AK Meeting, 21 October 2002, Erfurt
- [8/2002] Temperaturlaufzeichnungsgerät mit drahtloser Datenübertragung
H. Yilmaz, M. Berroth
2. GMM-Workshop „Energieautarke Sensorik“, 6.–7. Juni 2002, Dresden.
- [9/2002] Monolithic SiGe Photodiode Technology
G. Wöhl, C. Parry, E. Kasper, M. Jutzi, M. Berroth
Second Joint Symposium on Opto- and Microelectronic Devices and Circuits (SODC 2002),
March 10-16, 2002, Stuttgart, Germany, pp. 78-83.
- [10/2002] High Ge Content Photodetectors on Thin SiGe Buffers
M. Bauer, C. Schöllhorn, K. Lyutovich, E. Kasper, M. Jutzi, M. Berroth
Materials Science and Engineering B89, pp. 77-83, 2002.

- [11/2002] Germanium Photodiodes Integrated on Silicon Substrates Using Nickel Germanide Contacts
G. Wöhl, C. Parry, E. Kasper, M. Jutzi, M. Berroth
Second International Workshop on New Group IV (Si-Ge-C) Semiconductors: Control of Properties and Applications to Ultrahigh Speed and Opto-Electronic Devices, Kofu, Japan, June 2-4, 2002.
- [12/2002] Stationäres und dynamisches Verhalten von Verstärkern mit dominanter Laufzeit in der Rückkopplung
Wolfgang Walthes
Dissertationsschrift, Universität Stuttgart, 2002.

2001

- [1/2001] A 2.5 V CMOS differential active inductor with tunable L and Q for frequencies up to 5 GHz
Grözing, M.; Pascht, A.; Berroth, M.;
IEEE Radio Frequency Integrated Circuits (RFIC) Symposium, 2001, Digest of Papers, 20-22 May 2001, pp. 271-274.
- [2/2001] A CMOS low noise amplifier at 2.4 GHz with active inductor load
Pascht, A.; Fischer, J.; Berroth, M.;
Topical Meeting on Silicon Monolithic Integrated Circuits in RF Systems, Digest of Papers 12-14 Sept. 2001, pp. 1-5.
- [3/2001] Complete RF characterisation of CMOS power transistors for low noise and high power front end amplifier design
Walthes, W.; Pascht, A.; Berroth, M.;
International Semiconductor Device Research Symposium, 5-7 Dec. 2001, pp. 605-608.
- [4/2001] A 2.5 V CMOS differential active inductor with tunable L and Q for frequencies up to 5 GHz
Grözing, M.; Pascht, A.; Berroth, M.;
IEEE MTT-S International Microwave Symposium Digest Vol. 1, 20-25 May 2001 pp. 575-578.
- [5/2001] Polarisation Independent 360° Liquid Crystal Phase Shifter for Optically Generated RF-Signals
W. Vogel, M. Berroth
31st European Microwave Conference (EuMC 2001), Conference Proceedings, Vol. 3, 2001, London, UK, pp. 31-34.
- [6/2001] Dynamic Large-Signal I-V Analysis and Non-Linear Modelling of AlGaIn/Ga HEMTs
E. Chigaeva, N. Wieser, W. Walthes, M. Grözing, M. Berroth, H. Roll, O. Breitschädel, J. Off, B. Kuhn, F. Scholz, H. Schweizer
The 9th European Gallium Arsenide and related III-V Compounds Application Symposium, London, GAAS 2001 conference proceedings, 2001, pp. 631-634.
- [7/2001] Flüssigkristall-Phasenschieber für Optisch Generierte Hochfrequenzsignale
W. Vogel, M. Berroth,
ITG-Tagung Messung und Modellierung in der Optischen Nachrichtentechnik (MMONT 2001), Schloss Reisenburg, Günzburg, 2001.
- [8/2001] SiGe-pin-Photodioden auf dünnen Pufferschichten für $\lambda = 1,3 \mu\text{m}$
M. Jutzi, M. Berroth, M. Bauer, C. Schöllhorn, W. Zhao, E. Kasper
ITG-Tagung "Messung und Modellierung in der Optischen Nachrichtentechnik MMONT 2001", Schloss Reisenburg, Günzburg 2001.

- [9/2001] Non-Linear Characterisation and Simulation of a Travelling Wave Amplifier
W. Walthes, M. Berroth
31st European Microwave Conference (EuMC 2001), Conference Proceedings, Vol. 2, 2001, London, UK, pp. 73-76.
- [10/2001] Measured and Simulated Characteristics of AlGaIn/GaN-HEMTs
E. Chigaeva, N. Wieser, W. Walthes, M. Grözing, M. Berroth, H. Roll, O. Breitschädel, J. Off, B. Kuhn, F. Scholz, and H. Schweizer
11th European Heterostructure Workshop, Italy, October 28-30, 2001.
- [11/2001] Transistor Noise Models and Low Noise Amplifiers
M. Berroth, A. Pascht
3rd International Workshop on Commercial Radio Sensors and Communication Techniques, 23. August 2001, Linz, Austria, pp. 102-105.
- [12/2001] Kleinsignal- und Rauschcharakterisierung von MOS-Feldeffekttransistoren zur Realisierung rauscharmer Verstärker
Andreas Pascht, Dissertation
Verlagsgruppe Mainz, Wissenschaftsverlag, Aachen, ISBN 3-89653-887-x, 2001.

2000

- [1/2000] Variable gain SiGe HBT amplifier with low noise figure
Pascht, A.; Kalfass, I.; Obergfell, R.; Berroth, M.;
8th IEEE International Symposium on High Performance Electron Devices for Microwave and Optoelectronic Applications
13-14 Nov. 2000, pp. 20-25.
- [2/2000] Determination of small-signal parameters of GaN-based HEMTs
Chigaeva, E.; Walthes, W.; Wiegner, D.; Grözing, M.; Schaich, F.; Wieser, N.; Berroth, M.; Breitschadel, O.; Kley, L.; Kuhn, B.; Scholz, F.; Schweizer, H.; Ambacher, O.; Hilsenbeck, J.;
Proceedings of the IEEE/Cornell Conference on High Performance Devices,
7-9 Aug. 2000, pp. 115-122.
- [3/2000] Liquid Crystal Phase Shifter for Optically Generated RF-Signals
W. Vogel, M. Berroth
30th European Microwave Conference, Paris, France, EuMC 2000 conference proceedings, Vol. 2, 2000, pp. 45-48.
- [4/2000] Modeling of Coplanar Structures on Lossy Si-Substrates by Conformal Mapping
W. Walthes, M. Berroth
30th European Microwave Conference, Paris, France, EuMC 2000 conference proceedings, Vol. 2, 2000, pp. 226-229.
- [5/2000] Temperature Noise Model for MOSFET Noise Characterization
A. Pascht, D. Wiegner, M. Berroth
30th European Microwave Conference, Paris, France, EuMC 2000 conference proceedings, Vol. 3, 2000, pp. 280-283.
- [6/2000] High Frequency Transistor Models for Low Noise Applications
M. Berroth, A. Pascht, D. Wiegner
SODC 2000, Nanjing, China, 2000, pp. 1-4.
- [7/2000] MOSFET noise model and low noise amplifier design
M. Berroth, A. Pascht, J. Fischer, and D. Wiegner
Proc. 5th Swedish National Symp. GigaHertz Electronics, Sweden, Mar. 13-14, 2000, pp. 367-370.

[8/2000] Bias-dependence of AlGaIn/GaN-HEMT small-signal equivalent circuit elements
F. Schaich, E. Chigaeva, W. Walthes, N. Wieser, M. Berroth, O. Breitschädel, B. Kuhn, F. Scholz, H. Schweizer
10th European Heterostructure Workshop, Germany, September 17-19, 2000.

[9/2000] SiGe-based photodetectors for optical communication applications
M. Jutzi, M. Berroth
edited by Erich Kasper and Klara Lyutovich
INSPEC 2000, EMIS Data Review Series No. 24, ISBN 0 85296 783 7, pp. 342-348.

1999

[1/1999] Comparison of advanced transistor technologies with regard to their noise figures
Pascht, A.; Reimann, M.; Berroth, M.;
Symposium on High Performance Electron Devices for Microwave and Optoelectronic Applications, EDMO 1999
22-23 Nov. 1999, pp. 125-130.

[2/1999] Fabrication approach for antiphase narrow linewidth complex coupled 1.55 μm DFB lasers
Schreiner, R.; Wiedmann, J.; Coenning, W.; Porsche, J.; Gentner, J.L.; Berroth, M.; Scholz, F.; Schweizer, H.;
Electronics Letters
Vol. 35, No. 2, 21 Jan. 1999, pp. 146-148.

[3/1999] Dynamic measurements on narrow linewidth complex coupled 1.55 μm DFB lasers with gain and index grating in antiphase
Schreiner, R.; Mulot, M.; Wiedmann, J.; Coenning, W.; Porsche, J.; Gentner, J.L.; Berroth, M.; Scholz, F.; Schweizer, H.;
Eleventh International Conference on Indium Phosphide and Related Materials, 1999, IPRM, 16-20 May 1999, pp. 25-28.

[4/1999] Optische Schalter auf Flüssigkristallbasis
W. Vogel, M. Berroth
Workshop Optik in der Rechentechnik (ORT 99), Tagungsband, ISSN 1437-8507
Jena, 1999, pp. 42-47.

[5/1999] Untersuchung von Flüssigkristallmodulen für die Optische Nachrichtentechnik
W. Vogel, D. Rabus, W. Coenning, M. Berroth
GMM-ITG-GI-Workshop Multi-Nature Systems: optoelektronische, mechatronische und sonstige Systeme, Jena, 1999.

[6/1999] De-Embedding Procedure for RF Equivalent Circuits of MOSFETs
A. Pascht, D. Wiegner, M. Berroth
International Semiconductor Device Research Symposium, Charlottesville, USA, 1999.

[7/1999] Entwurf und Simulation einer SiGe-Abtasthalteschaltung mit einer Auflösung von 11 bit und einer Samplingrate von 160 MS/s
H. Hofmann, M. Berroth
9. E.I.S.-Workshop, Darmstadt 1999, pp. 19-22.

[8/1999] Optimiertes Transistorlayout durch Sensitivitätsanalyse des Rauschverhaltens von SiGe-HBTs
A. Pascht, T. Heß, M. Berroth
9. E.I.S.-Workshop, Darmstadt 1999, pp. 173-178.

[9/1999] Short-Channel AlGaIn/GaN HEMTs with 70 nm T-Gate
O. Breitschädel, H. Gräbeldinger, B. Kuhn, F. Scholz, W. Walthes, M. Berroth, I. Daumiller, K. B. Schad, E. Kohn, H. Schweizer
Electronics Letters
Vol. 35, No. 23, 11. Nov. 1999, pp. 2018-2019.

1998

- [1/1998] Parasitic Extraction for Silicon MOSFETs
A. Pascht, M. Grözing, V. Dudek, B. Höfflinger, M. Berroth
IEEE MTT (AP Workshop on MMIC's), Freiburg 1998.
- [2/1998] Experimental Results of a Comparative Study with Passive Structures using a Standard 0.8 μm CMOS Process
W. Walthes, V. Dudek, B. Höfflinger, M. Berroth
IEEE Workshop On MMIC Design and System Applications, Freiburg, pp. 52-55, 1998.
- [3/1998] Analytical charge conservative large signal model for MODFETS validated up to mm-wave range
Osorio, R.; Berroth, M.; Marsetz, W.; Verweyen, L.; Demmler, M.; Massler, H.; Neumann, M.; Schlechtweg, M.;
IEEE MTT-S International Microwave Symposium Digest
Vol. 2, 7-12 June 1998, pp. 595-598.
- [4/1998] Modulator Driver and Photoreceiver for 20 Gb/s Optic-Fiber Links
Z. Lao, V. Hurm, A. Thiede, M. Berroth, M. Ludwig, H. Lienhardt, M. Schlechtweg,
J. Hornung, W. Bronner, K. Köhler, A. Hülsmann, G. Kaufel, Th. Jakobus
IEEE Journal of Lightwave Technology,
Vol. 16, No. 8, pp.1491-1497, 1998.
- [5/1998] Mixed signal integrated circuits based on GaAs HEMTs
Thiede, A.; Zhi-Gong; Schlechtweg, M.; Lang, M.; Leber, P.; Zhihao Lao; Nowotny, U.; Hurm, V.; Rieger-Motzer, M.; Ludwig, M.; Sedler, M.; Kohler, K.; Bronner, W.; Hornung, J.; Hülsmann, A.; Kaufel, G.; Raynor, B.; Schneider, J.; Jakobus, T.; Schroth, J.; Berroth, M.;
IEEE Transactions on Very Large Scale Integration (VLSI) Systems,
Vol. 6, No. 1, March 1998, pp. 6-17.

1997

- [1/1997] Nichtlineare Verzerrungen in OFDM-Multiträgerübertragungssystemen für den digitalen terrestrischen Rundfunk
Jürgen Baur
Verlagsgruppe Mainz, Wissenschaftsverlag, Aachen, ISBN 3-89653-760-1, 1997.
- [2/1997] Möglichkeiten und Grenzen sehr schneller Abtasthalteglieder für die A/D-Umsetzung mit Silizium- und Silizium-Germanium-Bipolartransistoren
Heinz-Peter Bürkle
Verlagsgruppe Mainz, Wissenschaftsverlag, Aachen, ISBN 3-89653-225-1, 1997.

Patente

- [P1/2010] Circuit with selectable data paths
Inventors: J. Reichart, P. Gregorius, M. Berroth M. Grözing
Assignee: Qimonda AG, Munich
US Patent No. US7.646.320 B1, filed: Aug. 18, 2008, granted: Jan. 12, 2010.
- [P2/2010] Metamaterial having the capability of broadband left-hand guidance of electromagnetic waves
Inventors: H. Schweizer, H. Graebeldinger, M. Berroth, H. Giessen, A. Rumberg, L. Fu
Assignee: Universität Stuttgart
US Patent No. US7.710.336 B2, filed: Sept. 15, 2006, granted: May 4, 2010.

- [P3/2009] Filter Structure and Method for Filtering an Input Signal
M. Grözing, M. Berroth
US Patent Application 20090327385
Publication Date: 12/31/2009.
- [P4/2009] Power amplifier for amplifying high-frequency (H.F.) signals
M. Berroth, L. Wu
Assignee: Universität Stuttgart
US Patent US7.551.036 B2, filed: Nov.10, 2005, granted: June 23, 2009.
- [P5/2007] Filterstruktur und Verfahren zum Filtern eines Eingangssignals
M. Grözing, M. Berroth
Assignee: Universität Stuttgart
German patent DE 10 2006 034 033 B3, filed: July 24, 2006, granted: Oct. 31, 2007.
- [P6/2005] Mehrstufiger Ringoszillator
M. Grözing, B. Philipp, M. Berroth
Assignee: Universität Stuttgart
German patent DE 103 01 638 B4, filed: Jan. 17, 2003, granted: Jan. 27, 2005.