

# **Publikationsbericht 2007**

**Institut für Elektronik, Signalverarbeitung und  
Kommunikationstechnik**



**Otto-von-Guericke-Universität Magdeburg**

**Fakultät für Elektrotechnik und Informationstechnik**

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## 1. Leitung

Prof. Dr.-Ing. Ulrich Kleine  
Prof. Dr.-Ing. habil. Bernd Michaelis (geschäftsführender Leiter)  
Prof. Dr.-Ing. Abbas Omar  
Prof. Dr. rer. nat Georg Rose  
Prof. Dr. rer. nat. Andreas Wendemuth

## 2. Hochschullehrer

Prof. Dr.-Ing. Ulrich Kleine (Integrierte Schaltungen)  
Prof. Dr.-Ing. habil. Bernd Michaelis (Technische Informatik)  
Prof. Dr.-Ing. Abbas Omar (Hochfrequenz- und Kommunikationstechnik)  
Prof. Dr. rer. nat Georg Rose (Medizinische Telematik)  
Prof. Dr. rer. nat. Andreas Wendemuth (Kognitive Systeme)

## 3. Veröffentlichungen

### *Originalartikel in begutachteten internationalen Zeitschriften*

#### **Al-Hamadi, Ayoub K. ; Niese, Robert; Michaelis, Bernd**

Multiobject tracking in video using a trisection paradigm

In: Pattern recognition and image analysis. - Moscow: MAIK Nauka/Interperiodica Publ., Bd. 17.2007, 4, S. 493-507

#### **Balalem, Atallah; Ali R., Ali; Machac, Jan; Omar, Abbas**

Quasi-elliptic microstrip low-pass filters using an interdigital DGS slot

In: Institute of Electrical and Electronics Engineers: IEEE microwave and wireless components letters. - New York,

NY: Inst., Bd. 17.2007, 8, S. 586-588; [Link unter URL](#)

[Imp.fact.: 1.424]

#### **Boutejdar, Ahmed; Elsherbini, A. ; Haiwen, Liu; Omar, Abbas**

Improvement of microstrip low pass filters' characteristics using an optimized number of new multi-ring defected ground structures

In: Microwave and optical technology letters. - New York, NY [u.a.]: Wiley, Bd. 49.2007, 12, S. 3074-3078;

[Link unter URL](#)

[Imp.fact.: 0.568]

#### **Herzog, Andreas; Kube, Karsten; Michaelis, Bernd; Lima, Ana D. de; Voigt, Thomas**

Displaced strategies optimize connectivity in neocortical networks

In: Neurocomputing. - Amsterdam: Elsevier, Bd. 70.2007, 7/9, S. 1121-1129; [Link unter URL](#)

[Imp.fact.: 0.860]

#### **Kube, Karsten; Herzog, Andreas; Michaelis, Bernd; Lima, Ana D. de; Voigt, Thomas**

Spike-timing-dependent plasticity in small-world networks

In: Neurocomputing. - Amsterdam: Elsevier; [Link unter URL](#)

[Imp.fact.: 0.860]

**Lilienblum, Erik; Michaelis, Bernd**

Optical 3D surface reconstruction by a multi-period phase shift method

In: Journal of computers. - Oulu: Academy Publisher, Bd. 2.2007, 2, S. 73-83; [Abstract unter URL](#)

**Niese, Robert; Al-Hamadi, Ayoub; Michaelis, Bernd**

A novel method for 3D face detection and normalization

In: Journal of multimedia. - Oulu: Academy Publ., Bd. 2.2007, 5, S. 1-12; [Abstract unter URL](#)

**Niese, Robert; Al-Hamadi, Ayoub; Michaelis, Bernd**

Nearest neighbor classification for emotion recognition in stereo image sequences

In: ISAST transactions on electronics and signal processing. - S.I., Bd. 1.2007, 1, S. 88-94

#### ***Originalartikel in begutachteten nationalen Zeitschriften***

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In: Magdeburger Wissenschaftsjournal. - Magdeburg: Univ., Bd. 11.2006, 1/2, S. 3-12, 2007

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**Awida, Mohamed; Boutejdar, Ahmed; Safwat, Amr; El-Hennawy, Hadia; Omar, Abbas**

Multi-bandpass filters using multi-armed open loop resonators with direct feed

In: 2007 IEEE MTT-S International Microwave Symposium, Honolulu, Hawaii, June 03 - 08, 2007. - [Piscataway, NY]: IEEE Operations Center, S. 913-916

[MTT-S 2007; (Honolulu, Hawaii): 2007.06.03-08]

**Batmanov, Anatoliy; Boutejdar, Ahmed; Burte, Edmund P. ; Omar, Abbas**

New compact MEMS-switch controlled tunable DGS coplanar bandpass filter

In: ESSDERC 2007 - ESSCIRC 2007. - Piscataway, NJ: IEEE Service Center, S. 438-441

[ESSDERC 2007; 37 (Munich, Germany): 2007.09.11-13]

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Control of bandwidth and resonant frequency of a new coplanar bandpass filter

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[Asia-Pacific Microwave Conference; (Bangkok, Thailand): 2007.12.11-14]

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In: 2007 IEEE Nuclear Science Symposium and Medical Imaging Conference. - Piscataway, NJ: IEEE Service Center, S. 3440-3445

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**Boutejdar, Ahmed; Elsherbini, Adel; Batmanov, Anatoliy; Omar, Abbas**

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In: "Technology convergence. - Piscataway NJ: IEEE Service Center, insges. 4 S., 2007  
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A neuromorphic a VLSI network chip with configurable plastic synapses

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In: Advances in computational intelligence and learning. - Evere: d-side, S. 421-426, 2007

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**Wissenschaftliche Monografien**

**Bandyopadhyay, Ayan K. ; Jöstingmeier, Andreas; Omar, Abbas; Wanzenberg, R.**

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**Buchbeiträge**

**Ahmad, Mostafa A. ; Al-Hamadi, Ayoub; Krell, Gerald; Michaelis, Bernd**

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[APS 2007; 2007 (Honolulu, Hawaii, USA): 2007.06.10-15]

**Bade, Ragnar; Schumann, Christian; Oldhafer, K. J. ; Seshadhri, S. ; Janiga, Gábor; Bölke, Thorsten; Krischek, Özlem; Kalej, Martin; Rose, Georg; Thevenin, Dominique; Preim, Bernhard**

High-quality surface generation flow simulation in cerebral aneurysms

In: CURAC 2007. - Berlin: Pro Business, S. 125-128

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**Bähr, Rüdiger; Pavlak, Lubos; Riefenstahl, Nils**

Untersuchung der Strömungsvorgänge beim Gießen hochbeanspruchter Bauteile durch hochauflösende Videotechnik

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Quasi-lumped filters on doubly metallized planar lines

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**Bandyopadhyay, Ayan K. ; Anis, Michael; Jöstingmeier, Andreas; Meyer, Tobias; Omar, Abbas**

Analysis of a compact ultra-wideband antenna for radio frequency applications

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**Bordás, Robert; Fellegi, György; Wunderlich, Bernd; Kuhn, Robert; Thévenin, Dominique; Michaelis, Bernd**

Appropriate tracers to measure velocities in particle-laden gas flows using optical techniques

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**Boutejdar, Ahmed; Amari, S. ; Elsherbini, A. ; Omar, Abbas**

A novel lowpass filter with ultra-wide stopband and improved Q-factor performance using H-defected ground structure (DGS)

In: 2007 IEEE Antennas and Propagation Society international symposium. - Piscataway, NJ: IEEE Operations Center, S. 1545-1548

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**Boutejdar, Ahmed; Elsherbini, A. ; Omar, Abbas**

A new cross-head defected ground structure (CDGS) for a compact low-pass filter with a wide stop-band

In: Proceedings of the 37th European Microwave Conference, EuMC as part of the European Microwave Week, EuMW 2007. - London: Horizon House Publ. Ltd, S. 842-845

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**Boutejdar, Ahmed; Elsherbini, A. ; Omar, Abbas**

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[APS 2007; 2007 (Honolulu, Hawaii, USA): 2007.06.10-15]

**Boutejdar, Ahmed; Elsherbini, A. ; Omar, Abbas**

A new numerical method to improve the stopband of compact lowpass filter employing defected ground structure (DGS)

In: 2007 IEEE Antennas and Propagation Society international symposium. - Piscataway, NJ: IEEE Operations Center, S. 1553-1556

[APS 2007; 2007 (Honolulu, Hawaii, USA): 2007.06.10-15]

**Boutejdar, Ahmed; Makkey, M. ; Elsherbini, A. ; Luxor, O. ; Omar, Abbas**

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**El-Etriby, Sherif; Al-Hamadi, Ayoub K. ; Michaelis, Bernd**

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**Hofmann, Marc; Mecke, Rüdiger; Bendicks, Christian; Michaelis, Bernd**

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**Kaszubiak, Jens; Kuhn, Robert; Tornow, Michael; Michaelis, Bernd**

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**Katz, Marcel; Schafföner, Martin; Andelić, Edin; Krüger, Sven E. ; Wendemuth, Andreas**

Discriminative Kernel classifiers in speaker recognition

In: Fortschritte der Akustik. - Berlin: Dt. Ges. für Akustik, insges. 2 S., 2007

[DAGA; 33 (Stuttgart): 2007.03.19-22]

**Katz, Marcel; Schafföner, Martin; Krüger, Sven E. ; Wendemuth, Andreas**

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**Knauf, Rainer; Böck, Ronald; Sakurai, Yoshitaka; Dohi, Shinishi; Tsuruta, Setsuo**

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**Schafföner, Martin; Andelić, Edin; Katz, Marcel; Krüger, Sven E. ; Wendemuth, Andreas**

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**Stuhlsatz, André**

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**Tadesse Mengistu, Kifle; Katz, Marcel; Wendemuth, Andreas**

Acoustic modeling for a speaker-independent telephone-based spoken dialog system

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[SPECOM 2007; 12 (Moscow): 2007.10.15-18]

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Phase measurement of microwave devices with amplitude independent ultra-fine resolution  
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**Al-Hamadi, Ayoub; Homberg, Ulrike; Niese, Robert; Michaelis, Bernd**

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Computation of wakefields and impedances for the PETRA III longitudinal feedback cavity  
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A new methode to suppress high harmonic of lowpass filter using compensated microstrip line and coupled DGS  
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A new technique to improve the stopband of miniaturized microstrip low-pass filter by using a cross-head defected ground structure (CDGS)  
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