Publikationsliste

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Übersicht
Stand: 03.03.2021

 Za: Zeitschriftenartikel
rBb: Referierte Buchbeiträge
 rK: Referierte Konferenzartikel
  E: Editionen
 rB: Referierte Berichte
 Th: Thesen
 iB: Interne Berichte (nicht ref.)

	Za	rBb	rK	E	rB	Th	iB	Σ
1990						1		1
1992	1							1
1994		1						1
1996						1		1
1998					1		4	5
2000							1	1
2001			3		1			4
2002	1		1		1			3
2003	1		3					4
2004			1					1
2005	1	1	4		1			7
2006	2	3	1					6
2007	5	1	3					9
2008		3	1			1		5
2009	3	1	2	1				6
2010	1		1					2
2011	2		1		1			4
2012		3	1					4
2013	3	1	2		1			7
2014	2	1	1	1				5
2015		1	3					4
2017		1	1					2
2018	1							1
2019			1	1				2
Σ	23	17	30	3	6	3	5	87

A. Zeitschriftenartikel

1. A. Kleefeld, S. Vorderwlbecke, B. Burgeth: Anomalous diffusion, dilation, and erosion in image processing. Int. J. Comput. Math. 95(6-7): 1375-1393, 2018

2. M. Schöneich, M. Stommel, A. Kratz, V. Zobel, G. Scheuermann I. Hotz, B. Burgeth: Optimization strategy for the design of ribbed plastic components. Int. J. Plastics Technology, 10, 160-175, 2014.

3. B. Burgeth, A. Kleefeld: An approach to color-morphology based on Einstein addition and Loewner order, Pattern Recognition Letters, 47, 29-39, 2014

4. Felix Retter, Claudia Plant, Bernhard Burgeth, Guillermo Botella, Thomas Schlossbauer, Anke Meyer-Bäse: Computer-aided diagnosis for diagnostically challenging breast lesions in DCE-MRI based on image registration and integration of morphologic and dynamic characteristics. EURASIP J. Adv. Sig. Proc. 157, 2013.

5. Sebastian Hoffmann, Jamie D. Shutler, Marc Lobbes, Bernhard Burgeth, Anke Meyer-Bäse: Automated analysis of non-mass-enhancing lesions in breast MRI based on morphological, kinetic, and spatio-temporal moments and joint segmentation-motion compensation technique. EURASIP J. Adv. Sig. Proc. 172. 2013.

6. M. Krause, R. M. Alles, B. Burgeth, and J. Weickert: Fast retinal vessel analysis. Journal of Real-Time Image Processing ISSN 1861-8200, DOI 10.1007/s11554-013-0342-5, 2013.

7. R. Moreno, M. Angel García, D. Puig, L. Pizarro, B. Burgeth, J. Weickert: On Improving the Efficiency of Tensor Voting. IEEE Trans. Pattern Anal. Mach. Intell. 33(11), 2215-2228, 2011.

8. B. Burgeth, L. Pizarro, M. Breuß, and J. Weickert: Adaptive Continuous-Scale Morphology for Matrix Fields. International Journal of Computer Vision 92(2), 146-161, 2011.

9. M. Krause, J.M. Hausherr, B. Burgeth, C. Herrmann, W. Krenkel: Determination of the fibre orientation in composites using the structure tensor and local X-ray transform. Journal of Meterials Science, Volume 45, Number 4, 888-896, Springer, Berlin, 2010.

10. Andreas Keller, Nicole Ludwig, Sabrina Heisel, Petra Leidinger, Claudia Andres, Wolf-Ingo Steudel, Hanno Huwer, Bernhard Burgeth, Matthias Hein, Joachim Weickert, Eckart Meese, Hans-Peter Lenhof: Large-scale antibody profiling of human blood sera: The future of molecular diagnosis. Informatik Spektrum 32(4): 332-338, 2009.

11. S. Didas, J. Weickert, B. Burgeth: Properties of Higher Order Nonlinear Diffusion Filtering. Journal of Mathematical Imaging and Vision 35(3): 208-226, 2009

12. Z. Belhachmi, D. Bucur, B. Burgeth, J. Weickert: How to choose Interpolation Data in Images. SIAM Journal of Applied Mathematics 70(1): 333-352, 2009.

13. B. Burgeth, S. Didas, L. Florack, and J. Weickert. A generic approach to diffusion filtering of matrix-fields. Computing, 179-197, Springer, Berlin, 2007.

14. G. Steidl, S. Setzer, B. Popilka, and B. Burgeth. Restoration of matrix fields by SOCP. Computing, 161-178, Springer, Berlin, 2007.

15. B. Burgeth, A. Bruhn, S. Didas, J. Weickert, M. Welk: Morphology for Tensor Data: Ordering versus PDE-Based Approach. Image and Vision Computing, special issue „ISMM 05", Volume 25, Issue 4, 496-511, April 2007.

16. B. Burgeth, A. Bruhn, N. Papenberg, M. Welk, J. Weickert: Mathematical morphology for matrix data induced by the Loewner ordering in higher dimensions. Signal Processing, special issue „Tensor Signal Processing", Volume 87, Issue 2, 277-290, February 2007.

17. M. Welk, J. Weickert, F. Becker, C. Schnörr, C. Feddern, B. Burgeth: Median and related local filters for tensor-valued images. Signal Processing, special issue „Tensor Signal Processing", Volume 87, Issue 2, 291-308, February 2007.

18. C. Feddern, J. Weickert, B. Burgeth, M. Welk: Curvature-driven PDE methods for matrix-valued images. International Journal of Computer Vision, Volume 87, Issue 2, 291-308, 2006.

19. T. Brox, J. Weickert, B. Burgeth, P. Mrazek: Nonlinear structure tensors. Image and Vision Computing, Vol. 24, No. 1, 41-55, 2006.

20. B. Burgeth, J. Weickert: An explanation for the logarithmic connection between linear and morphological system theory. International Journal of Computer Vision, Vol. 64, No. 2/3, 157-1.569, Sept. 2005.

21. B. Burgeth. On integral representation formulae for biharmonic functions on the Ball. PAMM, Volume 2, Issue 1, pp. 408-409, March 2003.

22. B. Burgeth. Numerical evaluation of integrals involving the β-PDF. PAMM, Volume 1, Issue 1, pp. 466-467, March 2002.

23. B. Burgeth. A Schwarz Lemma for harmonic and hyperbolic-harmonic functions in higher dimensions. *Manuscripta Math.* 77, 283-291, 1992.

B. Referierte Buchbeiträge

1. B. Burgeth, A. Kleefeld: Towards Processing Fields of General Real-Valued Square Matrices. In (Eds.) Thomas Schultz, Evren Özarslan, Ingrid Hotz: Modeling, Analysis, and Visualization of Anisotropy. Springer, pp. 115 - 144, 2017.

2. A. Kleefeld, B. Burgeth: Processing Multispectral Images via Mathematical Morphology. In (Eds.) Ingrid Hotz, Thomas Schultz: Visualization and Processing of Higher Order Descriptors for Multi-Valued Data. Springer, pp. 129-148, 2015.

3. B. Burgeth, A. Kleefeld: Order based morphology for color images via matrix fields. In (Eds.) C.-F. Westin, A. Vilanova, B. Burgeth: Visualization and Processing of Tensors and Higher Order Descriptors for Multi-Valued Data. Springer, Berlin, pp. 75-95, 2014.

4. M. Breuß, B. Burgeth, L. Pizarro: Discrete flux-corrected transport: Numerical analysis, tensor-valued extension and application in image processing. In (Eds.) R. Ansorge, H. Bijl, A. Meister and T. Sonar: Recent Developments in the Numerics of Nonlinear Hyperbolic Conservation Laws (Notes on Numerical Fluid Mechanics and Multidisciplinary Design). Springer, Berlin, pp. 73-87, 2013.

5. B. Burgeth, L. Pizarro, S. Didas: Edge-enhancing diffusion filtering for matrix fields. In (Eds.) D. H. Laidlaw and A. Vilanova: New Developments in the Visualization and Processing of Tensor Fields. Springer, Wiesbaden, pp. 50-69, 2012.

6. R. Moreno, L. Pizarro, B. Burgeth, J. Weickert, M. A. Garcia, D. Puig: Adaptation of tensor voting to image structure estimation. In (Eds.) D. H. Laidlaw and A. Vilanova: New Developments in the Visualization and Processing of Tensor Fields. Springer, Wiesbaden, pp. 29-50, 2012. .

7. B. Burgeth, L. Pizarro, S. Didas, and J. Weickert: 3D coherence-enhancing diffusion filtering for matrix fields. In (Eds.) L. Florack, R. Duits, G. Jongbloed, M.-C. van Lieshout, L. Davies: Mathematical Methods for Signal and Image Analysis and Representation. Springer, Berlin, pp. 49-63, 2012.

8. B. Burgeth, M. Breuß, S. Didas, J. Weickert: PDE-based Morphology for Matrix Fields: Numerical Solution Schemes. In (Eds.) Aja-Fernandez, S.; Luis-Garcia, R. de; Tao, D.; Li, X.: Tensors in image processing and computer vision (Advances in pattern recognition) London, Springer, pp. 125-150, 2009.

9. B. Burgeth, S. Didas, and J. Weickert: A general structure tensor concept and coherence-enhancing diffusion filtering for matrix fields.
In (Eds.) D. Laidlaw, J. Weickert: Visualization and Processing of Tensor Fields. Springer, Berlin, pp. 305-323, 2008.

10. J. Lie, B. Burgeth, and O. Christiansen: An operator algebraic inverse scale space method for matrix images.
In (Eds.) D. Laidlaw, J. Weickert: Visualization and Processing of Tensor Fields.

Springer, Berlin, pp. 362-376, 2008.

11. S. Setzer, G. Steidl, B. Popilka and B. Burgeth: Variational methods for denoising matrix fields. In (Eds.) D. Laidlaw, J. Weickert: Visualization and Processing of Tensor Fields. Springer, Berlin, pp. 341-360, 2008.

12. B. Burgeth, J. Weickert, S. Tari: Minimally stochastic schemes for singular diffusion equations. In (Eds.) X.-C. Tai, K.-A. Lie, T. F. Chan, S. Osher: Image Processing Based on Partial Differential Equations, pp. 325-339, Springer, Berlin, 2007.

13. M. Welk, C. Feddern, B. Burgeth, J. Weickert: Tensor median filtering and M-smoothing. In (Eds.) J. Weickert, H. Hagen: Visualization and Processing of Tensor Fields, Chapter 21. Springer, Berlin, 2006.

14. B. Burgeth, M. Welk, Ch. Feddern, J. Weickert: Mathematical morphology on tensor data using the Loewner ordering. In (Eds.) J. Weickert, H. Hagen: Visualization and Processing of Tensor Fields, Chapter 22. Springer, Berlin, 2006.

15. J. Weickert, C. Feddern, M. Welk, B. Burgeth, T. Brox: PDEs for tensor image processing. In (Eds.) J. Weickert, H. Hagen: Visualization and Processing of Tensor Fields, Chapter 25. Springer, Berlin, 2006.

16. B. Burgeth, N. Papenberg, A. Bruhn, M. Welk, C. Feddern, J. Weickert: Morphology for higher-dimensional tensor data via Loewner ordering. In (Eds.) C. Ronse, L. Najman, E. Decenciere: Mathematical Morphology: 40 Years On. Computational Imaging and Vision, Vol. 30, Springer, Dordrecht, pp. 407-418, 2005.

17. B. Burgeth: Schwarz Lemma type inequalities for harmonic functions in the ball. In (Eds.) Editors: GowriSankaran, K., et al.: *Classical and Modern Potential Theory and Applications*. Kluwer Academic Publishers, Dordrecht, pp. 133-147, 1994.

C. Referierte Konferenzartikel

1. B. Burgeth, S. Didas, A. Kleefeld: A Unified Approach to the Processing of Hyperspectral Images. ISMM 2019: pp. 202-214

2. B. Burgeth, A. Kleefeld: A Unified Approach to PDE-Driven Morphology for Fields of Orthogonal and Generalized Doubly-Stochastic Matrices. ISMM 2017: pp. 284-295

3. A. Kleefeld, M. Breuß, M. Welk, B. Burgeth: Adaptive Filters for Color Images: Median Filtering and Its Extensions. CCIW 2015: pp. 149-158

4. A. Kleefeld, A. Meyer-Baese, B. Burgeth: Elementary Morphology for SO(2)- and SO(3)-Orientation Fields. ISMM 2015: pp. 458-469

5. A. S. Boroujerdi, M. Breuß, B. Burgeth, A. Kleefeld: PDE-Based Color Morphology Using Matrix Fields. SSVM 2015: pp. 461-473

6. A. Kratz, M. Schöneich, V. Zobel, B. Burgeth, G. Scheuermann, I. Hotz, M. Stommel: Tensor Visualization Driven Mechanical Component Design. PacificVis 2014: pp. 145-152

7. B. Burgeth, A. Kleefeld: Morphology for Color Images via Loewner Order for Matrix Fields. In Gunilla Borgefors, Christer Kiselman, Cris Luengo, and Robin Strand (Eds.), Mathematical Morphology and its Applications to Image and Signal Processing, Proceedings ISMM 2013, Uppsala, Sweden, LNCS 7883, pp. 241-252, 2013.

8. B. Burgeth, F. Kern: Mathematik besser einsehen durch Bildverarbeitung. Im Tagungsband zur 47. Jahrestagung der Gesellschaft für Didaktik der Mathematik (GDM), Münster, März 2013.

9. S. Hoffmann, J. Shutler, M. Lobbes, B. Burgeth, A. Meyer-Baese: Automated analysis of single and joint kinetic and morphologic features for non-masses. Proceedings of SPIE , Volume 8401 (1), 2012.

10. F. Retter, C. Plant, B. Burgeth, T. Schlossbauer, and A. Meyer-Baese: Improved computer-aided diagnosis for breast lesions detection in DCE-MRI based on image registration and integration of morphologic and dynamic characteristics Proceedings of SPIE , Volume 8059 (1), 2011.

11. S. Tari, B. Burgeth, and I. Tari: Components of the Shape Revisited. AAAI Spring Symposium: Cognitive Shape Processing 2010.

12. L. Pizarro, B. Burgeth, M. Breuß, and J. Weickert: A Directional Rouy-Tourin Scheme for Adaptive Matrix-Valued Morphology. In Michael H. F. Wilkinson, Jos B. T. M. Roerdink (Eds.): Mathematical Morphology and Its Application to Signal and Image Processing, ISMM 2009, Groningen, The Netherlands, LNCS, 250-260, 2009

13. B. Burgeth, M. Breuß, L. Pizarro, J. Weickert: PDE-Driven Adaptive Morphology for Matrix Fields. In Xue-Cheng Tai, Knut Mrken, Marius Lysaker, Knut-Andreas Lie (Eds.): Scale Space and Variational Methods in Computer Vision, SSVM 2009, Voss, Norway, LNCS, 247-258, 2009.

14. L. Pizarro, B. Burgeth, S. Didas, and J. Weickert: A generic neighbourhood filtering framework for matrix fields. In D. Forsyth, P. Torr, A. Zisserman (Eds.): Computer Vision ECCV 2008. Lecture Notes in Computer Science, Vol. 5304, 521-532. Springer, Berlin, 2008.

15. M. Breuß, B. Burgeth, J. Weickert: Anisotropic continuous-scale morphology. In Proceedings of the 3rd Iberian Conference on Pattern Recognition and Image Analysis, IbPRIA, June 6-8, 2007, Girona, Spain, LNCS, Springer, Berlin, 2007.

16. B. Burgeth, S. Didas, L. Florack, and J. Weickert: A generic approach to the filtering of matrix fields with singular PDEs. In F. Sgallari, A. Murli, and N. Paragios, editors, Scale-Space and Variational Methods in Image Processing, LNCS 4485, 556-567, Springer, Berlin, 2007.

17. R. Duits, B. Burgeth: Scale spaces on Lie groups In F. Sgallari, A. Murli, and N. Paragios (Eds.): Scale-Space and Variational Methods in Image Processing, LNCS 4485, 300-312, Springer, Berlin, 2007.

18. T. Schultz, B. Burgeth, J. Weickert: Flexible Segmentation and Smoothing of DT-MRI Fields Through a Customisable Structure Tensor . Second International Symposium, ISVC 2006 Lake Tahoe. LNCS 4291, 455-464, Springer, Berlin, 2006. *Received the ISVC 2006 Best Paper Award.*

19. B. Burgeth, S. Didas, J. Weickert: The Bessel scale-space. In O. F. Olsen, L. Florack, A. Kuijper (Eds.): Deep Structure, Singularities, and Computer Vision. Lecture Notes in Computer Science, Vol. 3753, 84 - 95, Springer, Berlin, 2005.

20. S. Didas, J. Weickert, B. Burgeth: Stability and local feature enhancement of higher order nonlinear diffusion filtering. In W. Kropatsch, R. Sablatnig, A. Hanbury (Eds.): Pattern Recognition. LNCS 3663, 451-458, Springer, Berlin, 2005.

21. B. Burgeth, S. Didas, J. Weickert: Relativistic scale-spaces. In R. Kimmel, N. Sochen, J. Weickert (Eds.): Scale-Space and PDE Methods in Computer Vision. Lecture Notes in Computer Science, Vol. 3459, Springer, Berlin, 2005.

22. S. Didas, B. Burgeth, A. Imiya, J. Weickert: Regularity and scale-space properties of fractional high order linear filtering. In R. Kimmel, N. Sochen, J. Weickert (Eds.): Scale-Space and PDE Methods in Computer Vision. Lecture Notes in Computer Science, Vol. 3459, Springer, Berlin, 2005.

23. B. Burgeth, M. Welk, C. Feddern, J. Weickert: Morphological operations on matrix-valued images. In T. Pajdla, J. Matas (Eds.): Computer Vision - ECCV 2004. Lecture Notes in Computer Science, Vol. 3024, Springer, Berlin, 155-167, 2004.

24. C. Feddern, J. Weickert, B. Burgeth: Level-set methods for tensor-valued images. In O. Faugeras, N. Paragios (Eds.): Proc. Second IEEE Workshop on Variational, Geometric and Level Set Methods in Computer Vision. Nice, France, 65-72. INRIA, Oct. 2003.

25. M. Welk, C. Feddern, B. Burgeth, J. Weickert: Median filtering of tensor-valued images. In B. Michaelis, G. Krell (Eds.): Pattern Recognition. Lecture Notes in Computer Science, Vol. 2781, Springer, Berlin, 17-24, 2003.
Received a DAGM 2003 Paper Prize.

26. B. Burgeth, J. Weickert: An explanation for the logarithmic connection between linear and morphological system theory. In L. D. Griffin, M. Lillholm (Eds.): Scale Space Methods in Computer Vision. Lecture Notes in Computer Science, Vol. 2695, Springer, Berlin, 325-339, 2003.

27. U. Bielert, W. Breitung, B. Burgeth, A. Kotchourko, et al.: Integral Large Scale Experiments on Hydrogen Combustion for Severe Accident Code Validation HYCOM. Proceedings of FISA-2001, 446-457 Euroatom, Luxembourg, 2001.

28. U. Bielert, W. Breitung, B. Burgeth, et al.: Large scale experiments for validation of hydrogen combustion models and criteria. Jahrestagung Kerntechnik 2002, Stuttgart, 14.-16. Mai 2002.

29. A. Kotchourko, B. Burgeth, S. Dorofeev, W. Breitung: Turbulent reactive flow simulations with presumed β-PDF combustion model. CD-ROM proceedings of 18th ICDERS, Seattle, Washington, University of Washington, 2001.

30. U. Bielert, A. Kotchourko, B. Burgeth, W. Breitung: Numerical simulation of large scale hydrogen explosions in complex geometries. Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik, Göttingen, 2.-7. April 2000 Zeitschrift für Angewandte Mathematik und Mechanik, 81 Suppl. 3, 519-520, 2001.

D. Editionen

1. Bernhard Burgeth, Andreas Kleefeld, Benot Naegel, Nicolas Passat, Benjamin Perret (Eds.): Mathematical Morphology and Its Applications to Signal and Image Processing - 14th International Symposium, ISMM 2019, Saarbrcken, Germany, July 8-10, 2019, Proceedings. Lecture Notes in Computer Science 11564, Springer 2019

2. Carl-Fredrik Westin, Anna Vilanova, Bernhard Burgeth (Eds.): Visualization and Processing of Tensors and Higher Order Descriptors for Multi-Valued Data. Springer 2014

3. Bernhard Burgeth, David H. Laidlaw (Eds.): New Developments in the Visualization and Processing of Tensor Fields, 19.07. - 24.07.2009. Dagstuhl Seminar Proceedings 09302, Schloss Dagstuhl - Leibniz-Zentrum fr Informatik, Germany 2009

E. Referierte Berichte

1. B. Burgeth, F. Kern: Bildverarbeitung: Mathematik arbeiten sehen. Computeralgebra Rundbrief, Ausgabe 52, ISSN 0933-5994, pp. 18-21, März 2013.

2. B. Burgeth, C.-F. Westin: Visualization and Processing of Tensors and Higher Order Descriptors for Multi-Valued Data (Dagstuhl Seminar 11501). Dagstuhl Reports 1(12): 27-46 (2011)

3. Breitung, W., Baumann, W., Bielert, U. Burgeth, B.,Dorofeev, S., Kaup, B., Kotchourko, A., Necker, G., Redlinger, R., Royl, P., Starflinger, J., Stern, G., Travis, J.R., Veser, A., Xu, Z.: Innovative Methoden zu Analyse und Kontrolle des Wasserstoffverhaltens bei Kernschmelzunfällen. Abschlussbericht zu Teilprojekt 1 des HGF-Strategiefondsprojekts 98/07. Wissenschaftliche Berichte, Forschungszentrum Karlsruhe, FZKA-7085, Februar 2005.

4. A. Veser, G. Stern, J. Grune, W. Breitung, B. Burgeth: CO-H2-air combustion tests in the FZK-7m-tube. Programm Nukleare Sicherheitsforschung. Jahresbericht 2001. Teil 1, Wissenschaftliche Berichte, Forschungszentrum Karlsruhe, FZKA-6741 , S.6-14, Juni 2002.

5. B. Burgeth, A. Veser: Ein strukturdynamisches Modell zur Interpretation realer dynamischer Drucklasten. *Programm Nukleare Sicherheitsforschung. Jahresbericht 2000.* Hrsg.: B. Mühl, Wissenschaftliche Berichte, Forschungszentrum Karlsruhe, FZKA-6653, 39-48, 2001.

6. U. Bielert, B. Burgeth, R. Redlinger: Implementation of a parallel AMR algorithm. In *Projekt Nukleare Sicherheitsforschung, Jahresbericht 1998*. Hrsg.: B. Mühl, Wissenschaftliche Berichte, Forschungszentrum Karlsruhe, FZKA 6300, 113-134, 1999.

F. Diplomarbeit, Dissertation und Habilitationsschrift

1. B. Burgeth: Partial Differential Equations for Scale Space Analysis and Matrix Field Processing.
   Habilitationsschrift, Fakultät für Mathematik und Informatik der Universität des Saarlandes, 2008.

2. B. Burgeth: Analoga zum Schwarzschen Lemma und Harnack-Ungleichungen.
   Dissertation, Mathematisches Institut der Friedrich-Alexander-Universität Erlangen-Nürnberg, 1996.

3. B. Burgeth: Scharfe Ungleichungen für harmonische Funktionen.
   Diplomarbeit, Mathematisches Institut der Friedrich-Alexander-Universität Erlangen-Nürnberg, 1990.

G. Interne Berichte und nicht referierte Arbeiten

1. B. Burgeth: The presumed beta-pdf approach in turbulent combustion: An efficient calculation of mean reaction rates. In *Gemeinsames Arbeitsseminar des IKET (FZ Karlsruhe) und LKT (ETH Zürich)*, Hrsg.: Müller, U., Yadigaroglu, G., Schulenberg, T., Interner Bericht 32.21.05/A, Forschungszentrum Karlsruhe, 37-43, 2000.

2. B. Burgeth: On the First and Second Boundary-Value Problem for Biharmonic Functions on the Ball: A Simple Method for Deriving Integral Representation Formulae. *Report to the German Research Association (DFG), part 1*, 1998.

3. B. Burgeth: On Integral Representation Formulae for Biharmonic Functions with Various Boundary Data. *Report to the German Research Association (DFG), part 2*, 1998.

4. B. Burgeth: On a Partial Differential Operator Acting on Caloric Functions and Its Inverse. *Report to the German Research Association (DFG), part 3*, 1998.

5. B. Burgeth: On an Integral Representation Formula for Polycaloric Functions in the Half Space. *Report to the German Research Association (DFG), part 4*, 1998.