



1. Medical Image Processing

- P. Rösch, K.-H. Kunzelmann: *Efficient 3D rigid Registration of large micro CT Images* International Journal of Computer assisted Radiology and Surgery **13 (Suppl. 1)** (2018) 118–119
- D. Kaisarly, M. El Gezawi, X. Xu, P. Rösch, K.-H. Kunzelmann: *Shrinkage vectors of a flowable composite in artificial cavity models with different boundary conditions: Ceramic and Teflon*. Journal of the Mechanical Behavior of Biomedical Materials **77** (2018) 414–421
- D. Kaisarly, M. El Gezawi, G. Lai, J. Jin, P. Rösch, K.-H. Kunzelmann: *Effects of occlusal cavity configuration on 3D shrinkage vectors in a flowable composite* Clin Oral Invest (2017) <https://doi.org/10.1007/s00784-017-2304-y>
- K.-H. Kunzelmann, P. Rösch, H. Schäfer: *Fatigue Testing of Ultrathin Occlusal Veneers*, Clinical Oral Investigations **19** (2015) 1704
- P. Rösch, K.-H. Kunzelmann, *Finite Element Analysis of Ultrathin Occlusal Veneers*, Clinical Oral Investigations **19** (2015) 1705
- D. Kaisarly, M. El Gezawi, P. Rösch, R. Hickel, K.-H. Kunzelmann: *Shrinkage Vectors in Cavities with Different Bonding Substrates*. J Dent Res **94 A** (2015) 382
- D. Kaisarly, M. El Gezawi, P. Rösch, R. Hickel, K.-H. Kunzelmann: *Shrinkage Vectors in Bulk versus Incrementally Applied SDR Bulkfill Composite*. J Dent Res **94 A** (2015) 383
- P. Rösch, R. Zweifler, K.-H. Kunzelmann: *3D Image Processing for the Characterisation of Glass Ionomer Cement Porosity from micro CT Images*. International Journal of Computer assisted Radiology and Surgery **8 (Suppl. 1)** (2013) 246
- D. Kaisarly, P. Rösch, R. Hickel, K.-H. Kunzelmann: *Composite Shrinkage Vector Patterns in non-adhesive Teflon Cavities*. Clin Oral Invest **17** (2013) 1140
- D. Kaisarly, P. Rösch, R. Hickel, K.-H. Kunzelmann: *Shrinkage Vectors in different Cavity Configurations*. J Dent Res **92 A** (2013) 418
- D. Kaisarly, M. El Gezawi, P. Rösch, R. Hickel, K.-H. Kunzelmann: *Composite Shrinkage Vector Patterns in Cavities with optimal Adhesion*. J Dent Res **92 A** (2013) 633
- K.-H. Kunzelmann, P. Rösch: *3D Porosity Quantification in Set Glassionomer Cements*. J Dent Res **92** (2013) 481
- P. Rösch, J. Jin, K.-H. Kunzelmann: *Quantitative Evaluation of Root Canal Instrumentation using Skeleton Models derived from 3D Level Set Segmentation of μ CT Data*. International Journal of Computer assisted Radiology and Surgery **6 (Suppl. 1)** (2011) 209
- Y.-C. Chiang, P. Rösch, A. Dabanoglu, C.-P. Lin, R. Hickel, K.-H. Kunzelmann: *Polymerization composite shrinkage evaluation with 3D deformation analysis from μ CT images*. Dental Materials **26** (2010) 223–231
- P. Rösch, Y.-C. Chiang, K.-H. Kunzelmann: *Quantification of local polymerisation shrinkage from 3D μ CT images of dental composites*. International Journal of Computer assisted Radiology and Surgery **4 (Suppl. 1)** (2009) 200
- Y.-C. Chiang, P. Rösch, A. Dabanoglu, I. Nyam, C.-P. Lin, R. Hickel, K.-H. Kunzelmann: *Evaluation of DBAs Effects on Composite Polymerization Shrinkage with μ CT*. J Dent Res **88** (2009) 358
- Y.-C. Chiang, P. Rösch, C.-P. Lin, R. Hickel, K.-H. Kunzelmann: *Deformation analysis of composite polymerization shrinkage from μ CT images*. Dental Materials **25** (2009) e10

- R. Wiemker, P. Rogalla, E. Hein, T. Blaffert, P. Rösch: *Computer Aided Segmentation of Pulmonary Nodules: Automated Vasculature Cutoff in Thin- and Thick-Slice CT*. Proceedings of CARS'2003, International Congress Series **1256** (2003) 965–970
- J. Neumann, Z. Lin, P. Rösch, C. Lu, J. Lu, R. Ma, M. Steinmiller, D. Smith, J. Durgan: *Clinical Evaluation of a Registration-Based Bone Masking Technique for Improved CT Angiography*. European Congress of Radiology, ECR 2003, B-0122
- P. Rösch, T. Netsch, M. Quist, J. Weese: *3D Respiratory Motion Compensation by Template Propagation*. In: T. Dohi, R. Kikins (Eds.) *MICCAI 2002*, Lecture Notes in Computer Science **2489** (2002) 639–646
- D. Manke, K. Nehrke, P. Börnert, P. Rösch, O. Dössel: *Model Evaluation and Calibration for Prospective Respiratory Motion Compensation in Coronary MR Angiography Based on 3D Image Registration*. IEEE Transactions on Medical Imaging **21** (2002) 1132–1141
- A. J. Da Silva, Z. Zhao, L. Shao, P. Rösch, C. Cardi: *Comparison Of Automatic Rigid Registration Algorithms For Multi-Modality Images*. Society of Nuclear Medicine, SNM, 49th annual meeting 2002
- T. Netsch, P. Rösch, A. v. Muiswinkel, J. Weese: *Towards Real-Time Multi-Modality 3-D Medical Image Registration*. Eight IEEE International Conference on Computer Vision, ICCV 2001, 718-725
- D. Manke, K. Nehrke, P. Rösch, P. Börnert, O. Dössel: *Study of Respiratory Motion in Coronary MRA*. In: Proceedings of the 9th Meeting ISMRM 2001, 1852
- P. Rösch, T. Mohs, T. Netsch, M. Quist, G. P. Penney, D. J. Hawkes, J. Weese, *Template Selection and Rejection for Robust Non-Rigid 3D Registration in the Presence of Large Deformations*. In: K. M. Hanson, M. Sonka (Eds.): *Medical Imaging 2001: Image Processing*, Proceedings of SPIE Vol. **4322** (2001) 545-556
- P. Rösch, T. Netsch, M. Quist, G. P. Penney, D. L. G. Hill, J. Weese: *Robust 3D Deformation Field Estimation by Template Propagation*. In: S. L. Delp, A. M. Di Gioia, B. Jaramaz (Eds.): *MICCAI'2000*, Lecture Notes in Computer Science **1935**, (2000), 521-530
- T. Netsch, P. Rösch, J. Weese, A.v. Muiswinkel. P. Desmedt *Grey Value-Based 3D Registration of Functional MRI Time-Series: Comparison of Interpolation Order and Similarity Measure*. In: K. M. Hanson (Eds.): *Medical Imaging 2000: Image Processing*, Proceedings of SPIE Vol. **3979** (2000) 1148-1159
- J. Weese, P. Rösch, T. Netsch, T. Blaffert, M. Quist, *Gray-Value Based Registration of CT and MR Images by Maximisation of Local Correlation*. In: C. Taylor, A. Colchester (Eds.): *MICCAI'99*, Lecture Notes in Computer Science **1679** (1999) 656-663
- P. Rösch, T. Blaffert, J. Weese: *Multi-Modality Image Registration using Local Correlation*. In: H. U. Lemke, M. W. Vannier, K. Inamura, A. G. Farman (Eds.): *Proceedings of CARS'99*, Elsevier Science (1999) 228-232

2. Physics

- M. T. Kelemen, P. Rösch, E. Dormann, K. H. J. Buschow: *Spiral Spin Structure of RMn_6Ge_6 ($R=Gd, Tb, Dy$)*. Journal of Magnetism and Magnetic Materials **223** (2001) 253-260
- M. T. Kelemen, P. Rösch, E. Dormann: *Anisotropy of Manganese Hyperfine Interaction in the Intermetallic Compound $GdMn_6Ge_6$* . Physics Letters A **279** (2001) 275-280

- P. Rösch, M. T. Kelemen, T. Wokrina, E. Dormann: *A Low-Cost Upgrade of a Commercial Magnetic Resonance Spectrometer to a Broad-Band System for NMR and ESR*. Meas. Sci. Technol. **11** (2000) 1610-1616
- P. Rösch, M. T. Kelemen, E. Dormann, G. Tomka, P. C. Riedi: *Magnetic Structures of $GdMn_6Ge_6$ - a Nuclear Magnetic Resonance Analysis*. Journal of Physics: Condensed Matter **12** (2000) 1065-1084
- M. T. Kelemen, P. Rösch, N. Kaplan, E. Dormann: *The Contribution of Gd and Mn Neighbours to the Gd Hyperfine Field in $GdMn_6Ge_6$* . Eur. Phys. J. B **18** (2000) 435-440
- M. T. Kelemen, P. Rösch, E. Dormann, K. H. J. Buschow: *The Magnetic Phase Diagram of $Gd_x Y_{(1-x)} Mn_6 Ge_6$* . Journal of Magnetism and Magnetic Materials **188** (1998) 195-202
- P. Rösch, J. Weizenecker, M. T. Kelemen, J. Ruf, C. Zobel, E. Dormann: *NMR and Magnetisation of Rare-Earth Compounds*. Journal of Magnetism and Magnetic Materials **177-181** (1998) 1071-1072
- M. T. Kelemen, P. Rösch, E. Dormann: *NMR und magnetische Eigenschaften von $Gd_x Y_{(1-x)} Mn_6 Ge_6$* . In: Verhandl. DPG (VI) **32** (1997) 814 (AM 18.30)
- P. Rösch, M. T. Kelemen, E. Dormann: *Analyse der magnetischen Eigenschaften von $GdMn_6Ge_6$ mittels Kernresonanz*. In: Verhandl. DPG (VI) **32** (1997) 819 (AM 21.3)
- P. Rösch, E. Dormann, G. Tomka, P. C. Riedi: *Magnetic Structure of $R Mn_6 Ge_6$ Analysed by NMR*. In: M. E. Smith, J. H. Strange (Eds.): *Extended Abstracts of the 28. Congr. AMPERE* (1996) 490-491
- P. Rösch, M. T. Kelemen, B. Pilawa, E. Dormann, K. H. J. Buschow: *NMR Analysis and the Magnetic Properties of $GdMn_6Ge_6$* . Journal of Magnetism and Magnetic Materials **164** (1996) 175-182
- M. T. Kelemen, C. Wachter, P. Rösch, B. Pilawa, H. Winter, E. Dormann: *NMR und magnetische Suszeptibilität von intermetallischen Mn-Verbindungen*. In: Verhandl. DPG (VI) **30** (1995) 1395 (AM 17.48)
- A. V. Chadwick, K. W. Flack, S. M. Rageb, P. Rösch, J. H. Strange, Z. H. Xie: *Defect Mobilities in Lithium Oxide*. In: O. Kanert, J.-M. Spaeth (Eds.): *Proceedings of the XII International Conference on Defects in Insulating Materials*, World Scientific (1993) 955-957