

PUBLIKATIONSLISTE DR. SIMON ZABLER

A. Eggert, M. Müller, F. Nachtrab, J. Dombrowski, A. Rack, S. Zabler (2014), High-speed in-situ tomography of liquid protein foams. *Int. J. Mater. Res.*, 105(7): 632-39. DOI: 10.3139/146.111057

P. Stahlhut, T. Ebensperger, S. Zabler, R. Hanke (2014), A laboratory X-ray microscopy setup using a field emission electron source and micro-structured reflection targets, *Nucl. Inst. Meth. Phys. Res. B*, 324: 4-10, DOI: 10.1016/j.nimb.2013.12.028

T. Ebensperger, C. Rimbach, S. Zabler and R. Hanke (2014), Influences on 3D image quality in a high-resolution X-ray laminography system, *J. Inst.*, 9: C05030, DOI:10.1088/1748-0221/9/05/C05030

J. Lautensack, A. Rack, C. Redenbach, S. Zabler, H. Fischer, H.-G. Gräber (2013), In situ demineralisation of human enamel studied by synchrotron-based X-ray microtomography – A descriptive pilot-study. *Micron*, 44: 404–409, DOI: 10.1016/j.micron.2012.09.006

P. Stahlhut, T. Ebensperger, S. Zabler and R. Hanke, Laboratory x-ray microscopy using a reflection target system and geometric magnification, *J. Phys. (2013) Conf. Ser.* 463 012007
DOI: 10.1088/1742-6596/463/1/012007.

F. Bayer, S. Zabler, C. Brendel, G. Pelzer, J. Rieger, A. Ritter, T. Weber, T. Michel and G. Anton, Projection angle dependence in grating-based X-ray dark-field imaging of ordered structures, *Optics Express* (2013) 21(17), p. 19922-19933. DOI 10.1364/OE.21.019922

T. Rack, S. Zabler, A. Rack, H. Riesemeier, K. Nelson, An in vitro pilot study of abutment stability during loading in new and fatigue-loaded conical dental implants using synchrotron-based radiography, *Int. J. Oral & Maxillofacial Implants* (2013) 28(1), p. 44-50. DOI 10.11607/jomi.2748

S. Zabler, C. Fella, A. Dietrich, F. Nachtrab, M. Salamon, V. Volland, T. Ebensperger, S. Oeckl, R. Hanke, N. Uhlmann, High-resolution and high-speed CT in industry and research, *Proc. SPIE 8506, Developments in X-Ray Tomography VIII*, 850617 (October 17, 2012); DOI 10.1117/12.964588

S. Zabler, A. Ershov, A. Rack, F. Garcia-Moreno, T. Baumbach, J. Banhart, Particle and liquid motion in semi-solid aluminium alloys: A quantitative in situ microradiography study, *Acta Mater.* (2013) 61(4), p. 1244-1253. DOI 10.1016/j.actamat.2012.10.047

U. Matsushima, W. Graf, S. Zabler, I. Manke, M. Dawson, G. Choinka, A. Hilger, W. Herppich, 3D-analysis of plant microstructures: advantages and limitations of synchrotron X-ray microtomography, *Int. Agrophys.* (2013) 27(1), p.23-30.

U. Matsushima, A. Hilger, W. Graf, S. Zabler, I. Manke, M. Dawson, G. Choinka, W. Herppich, Calcium oxalate crystal distribution in rose peduncles: Non-invasive analysis by synchrotron X-ray micro-tomography, *Postharvest Biol. & Tech.* (2012) 72, p. 27–34, DOI 10.1016/j.postharvbio.2012.04.013

S. Zabler, T. Rack, A. Rack, K. Nelson, Fatigue induced deformation of taper connections in dental titanium implants, *Int. J. Mater. Res.* (2012) 103(2), p. 207-216.

S. Zabler, Interstitial Oxygen diffusion hardening - A practical route for the surface protection of titanium, *Mater. Character.* (2011) 62(12), p. 1205–1213. DOI 10.1016/j.matchar.2011.10.012

P. Zaslansky, S. Zabler, P. Fratzl, 3D variations in human crown dentin tubule orientation: A phase-contrast microtomography study, *Dental Materials* (2010) 26(1), p. e1-e10.
DOI 10.1016/j.dental.2009.09.007

A. Rack, T. Rack, M. Stiller, H. Riesemeier, S. Zabler and K. Nelson, In vitro synchrotron-based radiography of micro-gap formation at the implant-abutment interface of two-piece dental implants, *J. Synchrotron Rad.* (2010) 17, 289-294. DOI 10.1107/S0909049510001834

A. Rack, F. Garcia-Moreno, C. Schmitt, O. Betz, A. Cecilia, A. Ershov, T. Rack, J. Banhart, S. Zabler, On the possibilities of hard X-ray imaging with high spatio-temporal resolution using polychromatic synchrotron radiation, *J. X-Ray Sci. & Tech.* (2010) 18(4), p. 429-441. DOI 10.3233/XST-2010-0273

S. Zabler, O. Paris, I. Burgert, O. Fratzl, Moisture changes in the plant cell wall force crystalline cellulose to deform, *J. Struct. Biol.* (2010) 171(2), p. 133–141.

S. Zabler, A. Rack, F. García-Moreno, A. Ershov, T. Baumbach, J. Banhart, Imaging Fast Processes in Liquid Metal Foams and Semi-Solid Alloys Using Synchrotron Radioscopy with Spatio-Temporal Micro-Resolution, in *In-situ Studies with Photons, Neutrons and Electrons Scattering*(2010), pp 149-158, Springer. DOI 10.1007/978-3-642-14794-4_10

S. Zabler, T. Rack, A. Rack, K. Nelson, Quantitative studies on inner interfaces in conical metal joints using hard x-ray inline phase contrast radiography, *Rev. Sci. Instrum.* (2010) 81(10), p. 103703 - 103703-8. DOI 10.1063/1.3495966

A. Rack, T. Rack, M. Stiller, H. Riesemeier, S. Zabler, K. Nelson, In vitro synchrotron-based radiography of micro-gap formation at the implant-abutment interface of two-piece dental implants, *J. Synchrotron Rad.* (2010) 10, p. 289-294.

S. Zabler, A. Rack, A. Rueda, L. Helfen, F. García-Moreno, J. Banhart, Direct observation of particle flow in semi-solid alloys by synchrotron X-ray micro-radioscopy, *Phys. Stat. Solid. A* (2010) 207(3), p. 718–723. DOI 10.1002/pssa.200925329

H. Riesemeier, A. Rack, S. Zabler, J. Goebbels, B. Müller and J. Banhart, The synchrotron-based imaging station for micro-radiography and-tomography at the BAMline (BESSY), *J. Phys.* (2009): Conf. Ser. 186 012047, DOI 10.1088/1742-6596/186/1/012047

M. Stiller, A. Rack, S. Zabler, J. Goebbels, O. Dalügge, S. Jonscher, C. Knabe, Quantification of bone tissue regeneration employing β -tricalcium phosphate by three-dimensional non-invasive synchrotron micro-tomography – a comparative examination with histomorphometry, *Bone* (2009) 44(4), p. 619-628. DOI 10.1016/j.bone.2008.10.049

F. Garcia-Moreno, A. Rack, L. Helfen, T. Baumbach, S. Zabler, N. Babcsán, J. Banhart, T. Martin, C. Ponchut, M. Di Michiel, Fast processes in liquid metal foams investigated by high-speed synchrotron x-ray microradioscopy, *Appl. Phys. Lett.* (2008) 92, p. 134104/1-3. DOI 10.1063/1.2905748

A. Rack, S. Zabler, B. Müller, H. Riesemeier, G. Weidemann, A. Lange, J. Goebbels, M. Hentschel, W. Görner, High resolution synchrotron-based radiography and tomography using hard X-rays at the BAMline (BESSY II). *Nuclear Instruments and Methods in Physics Research A* 586 (2008), p. 327-344.

S. Zabler, A. Rack, I. Manke, K. Thermann, J. Tiedemann, N. Harthill, H. Riesemeier, High-resolution tomography of cracks, voids and micro-structure in greywacke and limestone, *J. Struct. Geol.* (2008) 30, p. 876-887. DOI 10.1016/j.jsg.2008.03.002

S. Zabler, A. Rueda, A. Rack, H. Riesemeier, P. Zaslansky, I. Manke, F. Garcia-Moreno, J. Banhart, Coarsening of grain-refined semi-solid Al-Ge₃₂ alloy: X-ray microtomography and in situ radiography, *Acta Mater.* (2007) 55, p. 5045-5055.

S. Zabler, P. Cloetens, P. Zaslansky, Fresnel-propagated submicrometer x-ray imaging of water-immersed tooth dentin, *Opt. Lett.* (2007) 32, p. 2987-2989.

I. Manke, J. Banhart, A. Haibel, A. Rack, S. Zabler, N. Kardjilov, A. Hilger, A. Melzer, H. Riesemeier, In situ investigation of the discharge of alkaline Zn-MnO₂ batteries with synchrotron x-ray and neutron tomographies, *Appl. Phys. Lett.* (2007) 90, p. 214102/1-3. DOI 10.1063/1.2742283

T. Link, S. Zabler, A. Epishin, A. Haibel, M. Bansal, X. Thibault. Synchrotron tomography of porosity in single-crystal nickel-base superalloys, *Materials Science and Engineering A* 425 (2006), p. 47-54, doi:10.1016/j.msea.2006.03.005

P. Tafforeau, R. Boistel, E. Boller, A. Bravin, M. Brunet, Y. Chaimanee, P. Cloetens, M. Feist, J. Hozowska, J.-J. Jaeger, R. Kay, V. Lazzari, L. Marivaux, A. Nel, C. Nemoz, X. Thibault, P. Vignaud, S. Zabler, Applications of X-ray synchrotron microtomography for non-destructive 3D studies of paleontological specimens. *Applied Physics A* 83 (2006), p. 195-202

Zabler S, Haibel A, Lohmüller A, Banhart J, Rueda A, Rack A, Riesemeier H, Goebbels J, Wolk T, Weidemann G. Study of the evolution of semi-solid alloys by means of phase-sensitive synchrotron tomography. In: 9th European Conference on NDT : ECNDT Berlin 2006 ; September 25 - 29, 2006. [Ausg. auf CD]. Berlin, 2006. - ISBN 3-931381-86-2, p. 1-7

Zabler S, Riesemeier H, Fratzl P, Zaslansky P. Fresnel-propagated imaging for the study of human tooth dentin by partially coherent x-ray tomography. *Optics Express* 14 (2006), p. 8584-8597

Zabler S, Cloetens P, Guigay JP, Baruchel J, Schlenker M. Optimization of phase contrast imaging using hard x rays. *Review of Scientific Instruments* 76 (2005), p. 073705/1-7

Manke I, Haibel A, Rack A, Zabler S, Banhart J. Hochauflösende Tomographie mit Synchrotronstrahlung an Papier. In: *Moderne Oberflächenanalytik und bildgebende Verfahren*. Workshop 10.05 und 11.05.2005 in München, 2005, p. 11.1-11.18

Manke I, Kardjilov N, Haibel A, Hartnig C, Strobl M, Rack A, Hilger A, Scholta J, Lehnert W, Treimer W, Zabler S, Banhart J. Untersuchung der Wasserverteilung in Brennstoffzellen. In: *ZfP in Forschung, Entwicklung und Anwendung* : Rostock, 2.-4. Mai 2005 ; Jahrestagung 2005 Zerstörungsfreie Materialprüfung / DGZfP. Berlin: DGZfP, 2005 (Berichtsband / Deutsche Gesellschaft für Zerstörungsfreie Prüfung e.V. ; 94-CD). - ISBN 3-931381-64-1
Beitrag auf CD-ROM

Manke I, Kardjilov N, Haibel A, Rack A, Hilger A, Strobl M, Treimer W, Zabler S, Banhart J. Untersuchung industrieller Bauteile mit bildgebenden Verfahren. In: *ZfP in Forschung, Entwicklung und Anwendung* : Rostock, 2.-4. Mai 2005 ; Jahrestagung 2005 Zerstörungsfreie Materialprüfung / DGZfP. Berlin: DGZfP, 2005 (Berichtsband / Deutsche Gesellschaft für Zerstörungsfreie Prüfung e.V. ; 94-CD). - ISBN 3-931381-64-1
Beitrag auf CD-ROM

Salvo L, Cloetens P, Maire E, S. Zabler, Blandin JJ, Buffière JY, Ludwig W, Boller E, Bellet D, Josserond C. X-ray micro-tomography an attractive characterisation technique in materials science. Nuclear Instruments and Methods in Physics Research Section B 200 (2002), p. 273-286. DOI 10.1016/S0168-583X(02)01689-0