
Laboratory for Joining Technologies & Corrosion

Publications 2012

- Z. Wang, L. Gu, L.P.H. Jeurgens, E.J. Mittemeijer, *Real-time visualization of convective transportation of solid materials at nanoscale*, **Nano Letters** 12 (2012) 6126–6132 [DOI: [10.1021/nl303801u](https://doi.org/10.1021/nl303801u)].
- G. Pigozzi, A. Antušek, J. Janczak-Rusch, M. Parlinska-Wojtan, D. Passerone, C.A. Pignedoli, V. Bissig, J. Patscheider, L.P.H. Jeurgens, *Phase constitution and interface structure of nano-sized Ag-Cu/AlN multilayers: Experiment and ab initio modeling*, **Applied Physics Letters** 101 (2012) 181602 [DOI: [10.1063/1.4761471](https://doi.org/10.1063/1.4761471)].
- H. Bo, J. Wang, L.I. Duarte, C. Leinenbach, L.B. Liu, H.S. Liu, Z.P. Jin, *Thermodynamic re-assessment of the Fe-Ti binary system*, **Transactions of Nonferrous Metals Society of China** 22 (2012) 2204-2211 [DOI: [10.1016/S1003-6326\(11\)61450-7](https://doi.org/10.1016/S1003-6326(11)61450-7)].
- S. Buhl, C. Leinenbach, R. Spolenak, K. Wegener, *Failure mechanisms and cutting characteristics of brazed single diamond grains*, **The International Journal of Advanced Manufacturing Technology**, Springer-Verlag, July 2012 [DOI: [10.1007/s00170-012-4365-z](https://doi.org/10.1007/s00170-012-4365-z)].
- A. Lis, M. Koster, C. Leinenbach, *Numerical and Experimental Investigations on the Defect Tolerance of Brazed Steel Joints*, **MP Materials Testing** 9 (2012) 605-611 [URL: [source](#)].
- C. Leinenbach, M. Koster, A. Lis, H.J. Schindler, *Defect Assessment of Brazed Steel Components*, **Welding Journal**, July ed. (2012) 42-48 [URL: [source](#)].
- D. Flötotto, Z.M. Wang, L.P.H. Jeurgens, E.J. Mittemeijer, *Quantum confinement drives macroscopic stress oscillations at the initial stage of thin film growth*, **Physical Review Letters** 109 (2012) 045501 [DOI: [10.1103/PhysRevLett.109.045501](https://doi.org/10.1103/PhysRevLett.109.045501)].
- J. Baier, T. Naumburg, N.J. Blumenstein, L.P.H. Jeurgens, U. Welzel, T.A. Do, J. Pleiss, J. Bill, *Bio-inspired mineralization of zinc oxide in presence of ZnO-binding peptides*, **Biointerface Research in Applied Chemistry** 2 (2012) 380-391 [URL: [source](#)].
- S. Jin, L.I. Duarte, G. Huang, C. Leinenbach, *Experimental investigation and thermodynamic modeling of the Au–Ge–Ni system*, **Monatshefte für Chemie - Chemical Monthly** 143 (2012) 1263-1274 [DOI: [10.1007/s00706-012-0772-y](https://doi.org/10.1007/s00706-012-0772-y)].
- D. Flötotto, Z.M. Wang, L.P.H. Jeurgens, E. Bischoff, E.J. Mittemeijer, *Effect of adatom surface diffusivity on microstructure and intrinsic stress evolutions during Ag film growth*, **Journal of Applied Physics** 112 (2012) 043503 [DOI: [10.1063/1.4746739](https://doi.org/10.1063/1.4746739)].
- J. Janczak-Rusch, G. Pigozzi, B. Lehmet, M. Parlinska, V. Bissig, W. Tillmann, L. Wojarski, F. Hoffmann, *Deposition and utilization of nano-multilayered brazing filler systems designed for melting point depression*, **Proceedings from the 5th International Brazing and Soldering Conference (IBSC) 2012** (Eds. R. Gourley and C. Walker), ASM International, USA, 2012, p. 162-168 [URL: [source](#)]
- M. Pawełkiewicz, B. Wierzba, M.J. Danielewski and J. Janczak-Rusch, *Modeling of multi-phase solid state reactions – case of IMC growth*, **Defect and Diffusion Forum** 323-325 (2012) 127-132 [DOI: [10.4028/www.scientific.net/DDF.323-325.127](https://doi.org/10.4028/www.scientific.net/DDF.323-325.127)]

- T. Reichmann, K. Richter, L.I. Duarte, C. Leinenbach, *Phase equilibria and structural investigations in the Ni-poor part of the system Al – Ge – Ni*, **Intermetallics** 28 (2012) 84-91 [DOI: [10.1016/j.intermet.2012.04.002](https://doi.org/10.1016/j.intermet.2012.04.002)]
- H.J. Schindler, C. Leinenbach, *Mechanics of fatigue crack growth in a bonding interface*, **Engineering Fracture Mechanics** 89 (2012) 52-64 [DOI: [10.1016/j.engfracmech.2012.04.009](https://doi.org/10.1016/j.engfracmech.2012.04.009)]
- C. Leinenbach, N. Weyrich, H.R. Elsener, G. Gamez, *Al₂O₃–Al₂O₃ and Al₂O₃–Ti Solder Joints—Influence of Ceramic Metallization and Thermal Pretreatment on Joint Properties*, **International Journal of Applied Ceramic Technology** 9 (2012) 751-763 [DOI: [10.1111/j.1744-7402.2012.02769.x](https://doi.org/10.1111/j.1744-7402.2012.02769.x)]
- S. Jin, C. Leinenbach, J. Wang, L.I. Duarte, S. Delsante, G. Borzone, A. Scott, A. Watson, *Thermodynamic study and re-assessment of the Ge-Ni binary system*, **CALPHAD** 38 (2012) 23-34 [DOI: [10.1016/j.calphad.2012.03.003](https://doi.org/10.1016/j.calphad.2012.03.003)]
- D. Shopova-Gospodinova, L.P.H. Jeurgens, U. Welzel, L. Pitta Bauermann, R.C. Hoffmann, J. Bill, *Synthesis of V-doped TiO₂ films by chemical bath deposition and the effect of post-annealing on their properties*, **Thin Solid Films** 520 (2012) 5928–5935 [DOI: [10.1016/j.tsf.2012.03.047](https://doi.org/10.1016/j.tsf.2012.03.047)]
- A. Antušek, D. Kedziera, A. Kaczmarek-Kedziera, M. Jaszunski, *Coupled cluster study of NMR shielding of alkali metal ions in water complexes and magnetic moments of alkali metal nuclei*, **Chemical Physics Letters** 532 (2012) 1-8 [DOI: [10.1016/j.cplett.2012.02.036](https://doi.org/10.1016/j.cplett.2012.02.036)]
- G. Bakradze, L.P.H. Jeurgens, E.J. Mittemeijer, *An STM study of the initial oxidation of single-crystalline zirconium surfaces*, **Surface Science** 606 (2012) 846-851 [DOI: [10.1016/j.susc.2012.01.026](https://doi.org/10.1016/j.susc.2012.01.026)]
- M. Akbari, S. Buhl, C. Leinenbach, R. Spolenak, K. Wegener, *Thermomechanical analysis of residual stresses in brazed diamond-metal joints using Raman spectroscopy and finite element simulation*, **Mechanics of Materials** 52 (2012) 69-77 [DOI: [10.1016/j.mechmat.2012.04.010](https://doi.org/10.1016/j.mechmat.2012.04.010)]
- J. Langecker, H. Ritter, A. Fichini, P. Rupper, M. Faller, B. Hanselmann, *Ultrathin, Flexible, and Transparent Polymer Multilayer Composites for the Protection of Silver Surfaces*, **ACS Applied Materials Interfaces** 4 (2012) 619 - 627 [DOI: [10.1021/am2015684](https://doi.org/10.1021/am2015684)]
- C. Leinenbach, M. Koster, H.J. Schindler, *Fatigue assessment of defect free and defect containing brazed steel joints*, **Journal of Materials Engineering and Performance** 21 (2012) 739-747 [DOI: [10.1007/s11665-012-0182-7](https://doi.org/10.1007/s11665-012-0182-7)]
- N. Çetinkaya, M. Jeive, Grossbritannien: *Beyond Diversity, Equality? Diversity Management in UK Tertiary Education*, in **Gender und Diversity an Hochschulen: Praxisbeispiele aus Deutschland, Grossbritannien und Norwegen und Empfehlungen zur Umsetzung**, FHNW (2012) 4.2 141-182 [URL: [source](#)]
- N. Çetinkaya, *Herkunft: inländisch, ausländisch oder beides?*, in **Gender und Diversity an Hochschulen: Praxisbeispiele aus Deutschland, Grossbritannien und Norwegen und Empfehlungen zur Umsetzung**, FHNW (2012) 3.1 47-54 [URL: [source](#)]
- M. Türpe, J. Janczak-Rusch, B. Grünenwald, V. Bissig, *Approach for Al brazing with nano filler metals*, **DVS-Berichte** 289 (2012) 125-129.
- L.C. Abodi, J.A. DeRose, S. Van Damme, A. Demeter, T. Suter, J. Deconinck, *Modeling localized aluminum alloy corrosion in chloride solutions under non-equilibrium conditions: Steps toward understanding pitting initiation*, **Electrochimica Acta** 63 (2012) 169-178 [DOI: [10.1016/j.electacta.2011.12.074](https://doi.org/10.1016/j.electacta.2011.12.074)]

- L.I. Duarte, F. Viana, A.S. Ramos, M.T. Vieira, C. Leinenbach, U.E. Klotz, M.F. Vieira, *Diffusion bonding of TiAl using modified Ti/Al nanolayers*, **Journal of Alloys and Compounds**, in press [DOI: [10.1016/j.jallcom.2011.12.037](https://doi.org/10.1016/j.jallcom.2011.12.037)]
- L.I. Duarte, C. Leinenbach, U.E. Klotz, M. Marker, K. Richter, J.F. Löffler, *Experimental study of the section FeAl-NiAl-TiAl*, **Intermetallics** 23 (2012) 80-90 [DOI: [10.1016/j.intermet.2011.12.007](https://doi.org/10.1016/j.intermet.2011.12.007)]
- G.Garzel, J.Janczak-Rusch, L. Zabdyr, *Reassessment of Ag-Cu phase diagram for nanosystem including particle size and shape effect*, **Calphad** 36 (2012) 52-56 [DOI: [10.1016/j.calphad.2011.11.005](https://doi.org/10.1016/j.calphad.2011.11.005)]
- J.A. DeRose, T. Suter, A. Bałkowiec, J. Michalski, K.J. Kurzydlowski, P. Schmutz, *Localised corrosion initiation and microstructural characterisation of an Al 2024 alloy with a higher Cu to Mg ratio*, **Corrosion Science** 55 (2012) 313-325 [DOI: [10.1016/j.corsci.2011.10.035](https://doi.org/10.1016/j.corsci.2011.10.035)]
- M. Breimesser, S. Ritter, HP. Seifert, S. Virtanen, T. Suter, *Application of the electrochemical microcapillary technique to study intergranular stress corrosion cracking of austenitic stainless steel on the micrometre scale*, **Corrosion Science** 55 (2012) 126-132 [DOI: [10.1016/j.corsci.2011.10.011](https://doi.org/10.1016/j.corsci.2011.10.011)]
- S. Buhl, C. Leinenbach, K. Wegener, R. Spolenak, *Microstructure, residual stresses and shear strength of diamond-steel-joints brazed with a Cu-Sn-based active filler alloy*, **International Journal of Refractory Metals and Hard Materials** 30 (2012) 16-24 [DOI: [10.1016/j.ijrmhm.2011.06.006](https://doi.org/10.1016/j.ijrmhm.2011.06.006)]
- J. Tidblad, V. Kucera, M. Ferm, K. Kreislova, St. Brüggerhoff, St. Doytchinov, A. Screpanti, T. Grøntoft, T. Yates, D. de la Fuente, O. Toots, T. Lombardo, St. Simon, M. Faller, L. Kwiatkowski, J. Kobus, C. Varotsos, Ch. Tzanis, L. Krage, M. Schreiner, M. Melcher, I. Granchorov a. N. Karmanova, *Effects of Air Pollution on Materials and Cultural Heritage: ICP Materials Celebrates 25 Years of Research*, **International Journal of Corrosion** 2012 (2012) Article ID 496321 [DOI: [10.1155/2012/496321](https://doi.org/10.1155/2012/496321)]
- C. Leinenbach, H. Kramer, C. Bernhard, D. Eifler, *Thermo-mechanical properties of a Fe-Mn-Si-Cr-Ni-VC shape memory alloy with low transformation temperature*, **Advanced Engineering Materials** 14 (2012) 62-67 [DOI: [10.1002/adem.201100129](https://doi.org/10.1002/adem.201100129)]