

DFG-SPP1386 Publikationsliste

Publikationen 2009:

Gan, Y. & Kamlah, M.

Thermo-mechanical analyses of HELICA and HEXCALIBER mock-ups

Journal of Nuclear Materials, **2009**, 386-388, 1060-1064

Soekmen, U.; Stranz, A.; Fuending, S.; Wehmann, H.-H.; Bandalo, V.; Bora, A.;
Tornow, M.; Waag, A. & Peiner, E.

Capabilities of ICP-RIE cryogenic dry etching of silicon: review of exemplary
microstructures

Journal of Micromechanics and Microengineering, **2009**, 19, 105005

Voelklein, F.; Reith, H.; Cornelius, T. W.; Rauber, M. & Neumann, R.

The experimental investigation of thermal conductivity and the Wiedemann-Franz law
for single metallic nanowires

Nanotechnology, **2009**, 20

Voelklein, F.; Schmitt, M.; Cornelius, T. W.; Picht, O.; Mueller, S. & Neumann, R.

Microchip for the Measurement of Seebeck Coefficients of Single Nanowires

Journal of Electronic Materials, **2009**, 38, 1109-1115

Yang, R. B.; Bachmann, J.; Pippel, E.; Berger, A.; Woltersdorf, J.; Gosele, U. &
Nielsch, K.

Pulsed Vapor-Liquid-Solid Growth of Antimony Selenide and Antimony Sulfide
Nanowires

Advanced Materials, **2009**, 21, 3170+

Publikationen 2010:

Birkel, C. S.; Mugnaioli, E.; Gorelik, T.; Kolb, U.; Panthoefler, M. & Tremel, W.
Solution Synthesis of a New Thermoelectric Zn_{1-x}Sb Nanophase and Its Structure
Determination Using Automated Electron Diffraction Tomography
Journal of the American Chemical Society, **2010**, 132, 9881-9889

Bof Bufon, C. C.; Gonzalez, J. D. C.; Thurmer, D. J.; Grimm, D.; Bauer, M. &
Schmidt, O. G.
Self-Assembled Ultra-Compact Energy Storage Elements Based on Hybrid
Nanomembranes
Nano Letters, **2010**, 10, 2506-2510

Fomin, V. M. & Kratzer, P.
Thermoelectric transport in periodic one-dimensional stacks of InAs/GaAs quantum
dots
Physical Review B, **2010**, 82

Fomin, V. M. & Kratzer, P.
Modeling of minibands and electronic transport in one-dimensional stacks of
InAs/GaAs quantum dots
Physica E-Low-Dimensional Systems & Nanostructures, **2010**, 42, 906-910

Gan, Y. & Kamlah, M.
Thermo-mechanical modelling of pebble bed-wall interfaces
Fusion Engineering and Design, **2010**, 85, 24-32

Graf, T.; Barth, J.; Balke, B.; Populoh, S.; Weidenkaff, A. & Felser, C.
Tuning the carrier concentration for thermoelectrical application in the quaternary
Heusler compound Co₂TiAl_{1-x}Si_x
Scripta Materialia, **2010**, 63, 925-928

Homm, G.; Piechotka, M.; Kronenberger, A.; Laufer, A.; Gather, F.; Hartung, D.;
Heiliger, C.; Meyer, B. K.; Klar, P. J.; Steinmueller, S. O. & Janek, J.
Thermoelectric Measurements on Sputtered ZnO/ZnS Multilayers
Journal of Electronic Materials, **2010**, 39, 1504-1509

Homm, G.; Teubert, J.; Henning, T.; Klar, P. J. & Szyszka, B.
Seebeck effect of as-grown and micro-structured metallic (Zn,Al)O
Physica Status Solidi C, **2010**, 7, 1602-1604

Kienle, L.; Duppel, V.; Lembke, G.; Mogwitz, B.; Janek, J.; Kreuzbruck, M. & Simon,
A.
Microstructure and magnetoresistance of heterogeneous gold-rich Ag₃Au_{1.1}Te₂
Solid State Sciences, **2010**, 12, 1770 - 1778

Lee, J.; Berger, A.; Cagnon, L.; Gosele, U.; Nielsch, K. & Lee, J.
Disproportionation of thermoelectric bismuth telluride nanowires as a result of the
annealing process
Physical Chemistry Chemical Physics, **2010**, 12, 15247-15250

- Lee, J.; Kim, Y.; Cagnon, L.; Gosele, U.; Lee, J. & Nielsch, K.
Power factor measurements of bismuth telluride nanowires grown by pulsed electrodeposition
Physica Status Solidi-rapid Research Letters, Wiley-v C H Verlag Gmbh, **2010**, *4*, 43-45
- Li, W.; Sevincli, H.; Cuniberti, G. & Roche, S.
Phonon transport in large scale carbon-based disordered materials: Implementation of an efficient order-N and real-space Kubo methodology
Physical Review B, **2010**, *82*, 041410
- Nozaki, D.; Sevincli, H.; Li, W.; Gutierrez, R. & Cuniberti, G.
Engineering the figure of merit and thermopower in single-molecule devices connected to semiconducting electrodes
Physical Review B, **2010**, *81*, 235406
- Pernot, G.; Stoffel, M.; Savic, I.; Pezzoli, F.; Chen, P.; Savelli, G.; Jacquot, A.; Schumann, J.; Denker, U.; Moench, I.; Deneke, C.; Schmidt, O. G.; Rampoux, J. M.; Wang, S.; Plissonnier, M.; Rastelli, A.; Dilhaire, S. & Mingo, N.
Precise control of thermal conductivity at the nanoscale through individual phonon-scattering barriers
Nature Materials, **2010**, *9*, 491-495
- Petri, D.; Schlecht, S.; Nebe, M.; Homm, G.; Klar, P. J.; Schürmann, U.; Kienle, L.; Schmidt, A. & Müller, E.
Microstructure analysis and thermoelectric properties of different ball-milled AgPbmSbTem+2 materials
Proceedings of the 8th European Conference on Thermoelectrics, **2010**, 35-37
- Piefke, C.; Boehnke, L.; Georges, A. & Lechermann, F.
Considerable nonlocal electronic correlations in strongly doped Na_xCoO₂
Physical Review B, **2010**, *82*, 165118
- Schierning, G.; Claudio, T.; Theissmann, R.; Stein, N.; Petermann, N.; Becker, A.; Denker, J.; Wiggers, H.; Hermann, R. T. & Schmechel, R.
Nanocrystalline silicon compacted by spark-plasma sintering: Microstructure and thermoelectric properties
MRS Proceedings, **2010**, *1267*, 1267-DD01-09
- Sesselmann, A.; Hassdorf, R.; Kelm, K.; Perlt, S. & Müller, E.
Microstructure study of cobalt-antimony based skutterudites with partial indium filling
Proceedings of the 8th European Conference on Thermoelectrics, **2010**, 262-265
- Sesselmann, A.; Hassdorf, R.; Zastrow, S. & Müller, E.
High-Temperature Transport Properties of Indium Added Cobalt-Antimonide Based Skutterudites Processed by Current Assisted Short-Term Sintering
Advances in Science and Technology, **2010**, *74*, 54-59

Sevincli, H. & Cuniberti, G.

Enhanced thermoelectric figure of merit in edge-disordered zigzag graphene nanoribbons

Physical Review B, **2010**, *81*, 113401

Soekmen, U.; Stranz, A.; Fuending, S.; Merzsch, S.; Neumann, R.; Wehmann, H. H.; Peiner, E. & Waag, A.

Shallow and deep dry etching of silicon using ICP cryogenic reactive ion etching process

Microsystem Technologies, **2010**, *16*, 863-870

Stranz, A.; Soekmen, U.; Wehmann, H. H.; Waag, A. & Peiner, E.

Fabrication and Characterization of Nanopillars for Silicon-Based Thermoelectrics

Journal of Electronic Materials, **2010**, *39*, 2013-2016

Voelklein, F.; Reith, H.; Schmitt, M. C.; Huth, M.; Rauber, M. & Neumann, R.
Microchips for the Investigation of Thermal and Electrical Properties of Individual Nanowires

Journal of Electronic Materials, **2010**, *39*, 1950-1956

Wang, C.; Cimalla, V. & Ambacher, O.

Harrison, R. (Ed.)

Photon stimulated ozone sensing

Nova Science Pub Inc, **2010**, *Chemical Sensors: Properties, Performance and Applications*, 1-63

Wille, H.-C.; Hermann, R. P.; Sergueev, I.; Pelzer, U.; Möchel, A.; Claudio, T.; Perßon, J.; Ruffer, R.; Said, A. & Shvyd'ko, Y. V.

Nuclear forward and inelastic spectroscopy on ^{125}Te and $\text{Sb}_2^{125}\text{Te}_3$

EPL (Europhysics Letters), **2010**, *91*, 62001

Winkler, M.; König, J. D.; Buller, S.; Schürmann, U.; Kienle, L.; Bensch, W. & Böttner, H.

Bi_2Te_3 , Sb_2Te_3 and $\text{Bi}_2\text{Te}_3 / \text{Sb}_2\text{Te}_3$ – Superlattices Created Using the Nanoalloying Approach

Proceedings of 8th European Conference on Thermoelectrics, Como (Italy), **2010**

Yang, R. B.; Zakharov, N.; Moutanabbir, O.; Scheerschmidt, K.; Wu, L. M.; Gosele, U.; Bachmann, J. & Nielsch, K.

The Transition between Conformal Atomic Layer Epitaxy and Nanowire Growth

Journal of the American Chemical Society, **2010**, *132*, 7592-+

Publikationen 2011:

Aabdin, Z.; Winkler, M.; Bessas, D.; König, J.; Peranio, N.; Eibl, O.; Hermann, R. & Böttner, H.

Sb₂Te₃ and Bi₂Te₃ Thin Films Grown by Molecular Beam Epitaxy at Room Temperature

MRS Proceedings, **2011**, 1329, mrss11-1329-i04-04

Bachmann, M.; Czerner, M.; Edalati-Boostan, S. & Heiliger, C.

Atomistic Green's Function Method supported by ab initio Calculations : Application to phonon transport in ZnO and ZnS

arXiv:1111.2540v1 [cond-mat.mtrl-sci], **2011**

Bachmann, M.; Czerner, M. & Heiliger, C.

Calculation of Thermoelectric Transport Properties in Heterostructures

Journal of Electronic Materials, **2011**, 40, 577-582

Bartsch, T.; Schmidt, M.; Heyn, C. & Hansen, W.

Thermal Conductance of Ballistic Point Contacts

arXiv:1111.1164v1 [cond-mat.mes-hall], **2011**, Physical Review Letters, accepted

Birkel, C. S.; Claudio, T.; Panthoefer, M.; Birkel, A.; Koll, D.; Kieslich, G.; Schmidt, J.; Hermann, R. & Tremel, W.

Properties of spark plasma sintered nanostructured Zn_{1+x}Sb

Physica Status Solidi A - Applications and Materials Science, **2011**, 208, 1913-1919

Birkel, C. S.; Kieslich, G.; Bessas, D.; Claudio, T.; Branscheid, R.; Kolb, U.; Panthoefer, M.; Hermann, R. P. & Tremel, W.

Wet Chemical Synthesis and a Combined X-ray and Mossbauer Study of the Formation of FeSb₂ Nanoparticles

Inorganic Chemistry, **2011**, 50, 11807-11812

Boehnke, L.; Hafermann, H.; Ferrero, M.; Lechermann, F. & Parcollet, O.

Orthogonal polynomial representation of imaginary-time Green's functions

Physical Review B, **2011**, 84, 075145

Bof Bufon, C. C.; Arias Espinoza, J. D.; Thurmer, D. J.; Bauer, M.; Deneke, C.; Zschieschang, U.; Klauk, H. & Schmidt, O. G.

Hybrid Organic/Inorganic Molecular Heterojunctions Based on Strained Nanomembranes

Nano Letters, **2011**, 11, 3727-3733

Buchholz, S. S.; Sternemann, E.; Chiatti, O.; Reuter, D.; Wieck, A. D. & Fischer, S. F.
Noise thermometry in a narrow 2D electron gas and thermal gradients across a quasi-1D interferometer

arXiv:1111.1591v1 [cond-mat.mes-hall], **2011**

- Buczek, P.; Ernst, A. & Sandratskii, L. M.
Different dimensionality trends in the Landau damping of magnons in iron, cobalt, and nickel: Time-dependent density functional study
Physical Review B, **2011**, *84*, 174418
- Czerner, M.; Bachmann, M. & Heiliger, C.
Spin caloritronics in magnetic tunnel junctions: Ab initio studies
Physical Review B, **2011**, *83*, 132405
- Eichhorn, T.; Hausmanns, R. & Jakob, G.
Microstructure of freestanding single-crystalline Ni₂MnGa thin films
Acta Materialia, **2011**, *59*, 5067 - 5073
- Eltschka, C. & Siewert, J.
Even-odd effect in the thermopower and strongly enhanced thermoelectric efficiency for superconducting single-electron transistors
arXiv:1111.2629v1 [cond-mat.mes-hall], **2011**
- Gather, F.; Heiliger, C. & Klar, P. J.
Modeling of interface roughness in thermoelectric composite materials
Journal of Physics: Condensed Matter, **2011**, *23*, 135601
- Gather, F.; Heiliger, C. & Klar, P. J.
NeMo: A network model program for analyzing the thermoelectric properties of meso and nanostructured composite materials
Progress in Solid State Chemistry, **2011**, *39*, 97-107
- Hashibon, A. & Elsässer, C.
First-principles density functional theory study of native point defects in Bi₂Te₃
Physical Review B, **2011**, *84*, 144117
- Hinsche, N. F.; Mertig, I. & Zahn, P.
Effect of strain on the thermoelectric properties of silicon: an ab initio study
Journal of Physics: Condensed Matter, **2011**, *23*, 295502
- Hinsche, N. F.; Yavorsky, B. Y.; Mertig, I. & Zahn, P.
Influence of strain on anisotropic thermoelectric transport in Bi₂Te₃ and Sb₂Te₃
Physical Review B, **2011**, *84*, 165214
- Homm, G. & Klar, P. J.
Thermoelectric materials - Compromising between high efficiency and materials abundance
Physica Status Solidi-Rapid Research Letters, **2011**, *5*, 324-331
- Homm, G.; Petznick, S.; Gather, F.; Henning, T.; Heiliger, C.; Meyer, B. K. & Klar, P. J.
Effect of Interface Regions on the Thermoelectric Properties of Alternating ZnO/ZnO:Al Stripe Structures
Journal of Electronic Materials, **2011**, *40*, 801-806

Jaeger, T.; Mix, C.; Schwall, M.; Kozina, X.; Barth, J.; Balke, B.; Finsterbusch, M.; Idzerda, Y. U.; Felser, C. & Jakob, G.
Epitaxial growth and thermoelectric properties of TiNiSn and $Zr_{0.5}Hf_{0.5}NiSn$ thin films
Thin Solid Films, **2011**, *520*, 1010 - 1014

Kasinathan, D.; Pacheco-Espejel, V. & Rosner, H.
Thermoelectric properties of two-dimensional slabs of $Ba_8Ga_{16}Ge_{30}$ from first principles
arXiv:1111.3336v2 [cond-mat.mtrl-sci], **2011**

Kasinathan, D.; Wagner, M.; Koepernik, K.; Cardoso-Gil, R.; Grin, Y. & Rosner, H.
Electronic and Thermoelectric Properties of $RuN_{3-x}A_x$ (A = Sn, Zn)
Physical Review B, *accepted*
arXiv:1110.3607v2 [cond-mat.mtrl-sci], **2011**

Kienle, L.; Duppel, V.; Mogwitz, B.; Janek, J.; Kreuzbruck, M. v.; Leineweber, A. & Simon, A.
Synthesis–Real Structure–Property: The Showcase of Silver-Rich Ag_2Se
Crystal Growth & Design, **2011**, *11*, 2412-2421

Kieslich, G.; Birkel, C. S.; Stewart, A.; Kolb, U. & Tremel, W.
Solution Synthesis of Nanoparticulate Binary Transition Metal Antimonides
Inorganic Chemistry, **2011**, *50*, 6938-6943

Kimling, J.; Martens, S. & Nielsch, K.
Thermal conductivity measurements using 1 omega and 3 omega methods revisited for voltage-driven setups
Review of Scientific Instruments, **2011**, *82*, 074903

Koenig, J. D.; Winkler, M.; Buller, S.; Bensch, W.; Schuermann, U.; Kienle, L. & Boettner, H.
 Bi_2Te_3 - Sb_2Te_3 Superlattices Grown by Nanoalloying
Journal of Electronic Materials, **2011**, *40*, 1266-1270

Kozina, X.; Jaeger, T.; Ouardi, S.; Gloskowskij, A.; Stryganyuk, G.; Jakob, G.; Sugiyama, T.; Ikenaga, E.; Fecher, G. H. & Felser, C.
Electronic structure and symmetry of valence states of epitaxial NiTiSn and $NiZr_{0.5}Hf_{0.5}Sn$ thin films by hard x-ray photoelectron spectroscopy
arXiv:1111.1031v1 [cond-mat.mtrl-sci], **2011**

Li, W.; Sevincli, H.; Roche, S. & Cuniberti, G.
Efficient linear scaling method for computing the thermal conductivity of disordered materials
Physical Review B, **2011**, *83*, 155416

Mitdank, R.; Handweg, M.; Steinweg, C.; Töllner, W.; Daub, M.; Nielsch, K. & Fischer, S. F.
Thermoelectric power factor of a 70 nm Ni-nanowire in a magnetic field
arXiv:1111.1873v1 [cond-mat.mes-hall], **2011**

Nielsch, K.; Bachmann, J.; Kimling, J. & Boettner, H.
Thermoelectric Nanostructures: From Physical Model Systems towards Nanograined Composites
Advanced Energy Materials, **2011**, *1*, 713-731

Nika, D. L.; Pokatilov, E. P.; Balandin, A. A.; Fomin, V. M.; Rastelli, A. & Schmidt, O. G.
Reduction of lattice thermal conductivity in one-dimensional quantum-dot superlattices due to phonon filtering
Physical Review B, American Physical Society, **2011**, *84*, 165415

Pacheco, V.; Cardoso-Gil, R.; Kasinathan, D.; Rosner, H.; Wagner, M.; Tepech-Carrillo, L.; Carrillo-Cabrera, W.; Meier, K. & Grin, Y.
Nanostructuring of Ba₈Ga₁₆Ge₃₀ clathrates
arXiv:1111.3233v1 [cond-mat.mtrl-sci], **2011**

Peil, O. E.; Georges, A. & Lechermann, F.
Strong Correlations Enhanced by Charge Ordering in Highly Doped Cobaltates
Physical Review Letters, **2011**, *107*, 236404

Peranio, N.; Aabdin, Z.; Töllner, W.; Winkler, M.; König, J.; Eibl, O.; Nielsch, K. & Böttner, H.
Low loss EELS and EFTEM study of Bi₂Te₃ based bulk and nanomaterials
MRS Proceedings, **2011**, *1329*, mrss11-1329-i10-21

Peranio, N.; Winkler, M.; Aabdin, Z.; König, J.; Böttner, H. & Eibl, O.
Room temperature MBE deposition of Bi₂Te₃ and Sb₂Te₃ thin films with low charge carrier densities
physica status solidi (a), WILEY-VCH Verlag, **2011**, n/a-n/a

Petermann, N.; Stein, N.; Schierning, G.; Theissmann, R.; Stoib, B.; Brandt, M. S.; Hecht, C.; Schulz, C. & Wiggers, H.
Plasma synthesis of nanostructures for improved thermoelectric properties
Journal of Physics D: Applied Physics, **2011**, *44*, 174034

Rostek, R.; Sklyarenko, V. & Woias, P.
Influence of vapor annealing on the thermoelectric properties of electrodeposited Bi₂Te₃
Journal of Materials Research, **2011**, *26*, 1785-1790

Schierning, G.; Theissmann, R.; Stein, N.; Petermann, N.; Becker, A.; Engenhorst, M.; Kessler, V.; Geller, M.; Beckel, A.; Wiggers, H. & Schmechel, R.
Role of oxygen on microstructure and thermoelectric properties of silicon nanocomposites
Journal of Applied Physics, **2011**, *110*, 113515

Schmidt, M.; Schneider, G.; Heyn, C.; Stemmann, A. & Hansen, W.
Zero-field thermopower of a thin heterostructure membrane with a 2D electron gas
arXiv:1111.1324v1 [cond-mat.mes-hall], **2011**

Schmidt, M.; Schneider, G.; Heyn, C.; Stemann, A. & Hansen, W.
Thermopower of a 2D Electron Gas in Suspended AlGaAs/GaAs Heterostructures
Journal of Electronic Materials, **2011**, arXiv:1111.1303v1 [cond-mat.mes-hall]

Schwesig, D.; Schierning, G.; Theissmann, R.; Stein, N.; Petermann, N.; Wiggers, H.;
Schmechel, R. & Wolf, D. E.
From nanoparticles to nanocrystalline bulk: percolation effects in field assisted
sintering of silicon nanoparticles
Nanotechnology, **2011**, *22*, 135601

Schürmann, U.; Duppel, V.; Buller, S.; Bensch, W. & Kienle, L.
Precession Electron Diffraction – a versatile tool for the characterization of Phase
Change Materials
Crystal Research and Technology, *WILEY-VCH Verlag*, **2011**, *46*, 561-568

Schürmann, U.; Winkler, M.; König, J. D.; Liu, X.; Duppel, V.; Bensch, W.; Böttner, H.
& Kienle, L.
In Situ TEM Investigations on Thermoelectric Bi₂Te₃/Sb₂Te₃ Multilayers
Advanced Engineering Materials, *WILEY-VCH Verlag*, **2011**, n/a-n/a

Sergueev, I.; Wille, H.-C.; Hermann, R. P.; Bessas, D.; Shvyd'ko, Y. V.; Zając, M. &
Rüffer, R.
Milli-electronvolt monochromatization of hard X-rays with a sapphire backscattering
monochromator
Journal of Synchrotron Radiation, **2011**, *18*, 802-810

Sesselmann, A.; Dasgupta, T.; Kelm, K.; Müller, E.; Perlt, S. & Zastrow, S.
Transport properties and microstructure of indium-added cobalt–antimony-based
skutterudites.
Journal of Materials Research, **2011**, *26*, 1820-1826

Sesselmann, A.; Dasgupta, T.; Stiewe, C. & Müller, E.
Transport Properties and Microstructure of Indium and Cerium added Cobalt-
Antimony based Skutterudites
MRS Online Proceedings, **2011**, *1329*, mrss11-1329-i12-03

Stein, N.; Petermann, N.; Theissmann, R.; Schierning, G.; Schmechel, R. & Wiggers,
H.
Artificially nanostructured n-type SiGe bulk thermoelectrics through plasma enhanced
growth of alloy nanoparticles from the gas phase (vol 26, pg 1872, 2011)
Journal of Materials Research, **2011**, *26*, 2459

Stein, N.; Petermann, N.; Theissmann, R.; Schierning, G.; Schmechel, R. & Wiggers,
H.
Artificially nanostructured n-type SiGe bulk thermoelectrics through plasma enhanced
growth of alloy nanoparticles from the gas phase
Journal of Materials Research, **2011**, *26*, 1872-1878

- Stranz, A.; Kahler, J.; Waag, A. & Peiner, E.
Schmid, U.; Sanchez-Rojas, J. L. & Leester-Schaedel, M. (Eds.)
Nanostructured silicon for thermoelectric
Smart Sensors, Actuators, and MEMS V, SPIE, 2011, 8066, 80662I
- Stranz, A.; Soekmen, U.; Kaehler, J.; Waag, A. & Peiner, E.
Measurements of thermoelectric properties of silicon pillars
Sensors and Actuators A - Physical, 2011, 171, 48-53
- Stranz, A.; Waag, A. & Peiner, E.
Thermal characterization of vertical silicon nanowires
Journal of Materials Research, 2011, 26, 1958-1962
- Voelklein, F.; Schmitt, M. C.; Reith, H. & Huzel, D.
Hashim, A. (Ed.)
Characterization and Application of Thermoelectric Nanowires
Ch. 14 – in *Nanowires - Implementations and Applications, INTECH, 2011, 289-316*
- Wagner, M.; Cardoso-Gil, R.; Oeschler, N.; Rosner, H. & Grin, Y.
RuIn_{3-x}Sn_x, RuIn_{3-x}Zn_x, and Ru_{1-y}In₃-new thermoelectrics based on the semiconductor RuIn₃
Journal of Materials Research, 2011, 26, 1886-1893
- Walter, M.; Walowski, J.; Zbarsky, V.; Muenzenberg, M.; Schaefer, M.; Ebke, D.;
Reiss, G.; Thomas, A.; Peretzki, P.; Seibt, M.; Moodera, J. S.; Czerner, M.;
Bachmann, M. & Heiliger, C.
Seebeck effect in magnetic tunnel junctions
Nature Materials, 2011, 10, 742-746
- Wang, C.; Becker, R. W.; Kappeler, O.; Cimalla, V.; Matthes, M. & Mundhenke, J.
Stratospheric Ozone Detection Using a Photon Stimulated Ozone Sensor Based on
Indium Oxide Nanoparticles
Journal of Environmental Protection, 2011, 2, 1108-1112
- Wang, C. Y.; Becker, R. W.; Passow, T.; Pletschen, W.; Koehler, K.; Cimalla, V. &
Ambacher, O.
Photon stimulated sensor based on indium oxide nanoparticles I: Wide-
concentration-range ozone monitoring in air
Sensors and Actuators B - Chemical, 2011, 152, 235-240
- Wang, C. Y.; Kirste, L.; Morales, F. M.; Manuel, J. M.; Roehlig, C. C.; Koehler, K.;
Cimalla, V.; Garcia, R. & Ambacher, O.
Growth mechanism and electronic properties of epitaxial In₂O₃ films on sapphire
Journal of Applied Physics, 2011, 110, 093712
- Winkler, M.; Koenig, J. D.; Buller, S.; Schuermann, U.; Kienle, L.; Bensch, W. &
Boettner, H.
Nanoalloyed Bi₂Te₃, Sb₂Te₃ and Bi₂Te₃/Sb₂Te₃ Multilayers
MRS Proceedings, 2011, 1329, mrss11-1329-i10-15

Wolff, M.; D.Görlitz; K.Niensch; Messing, M. & K.Deppert
Synthesis and magnetic characterization of MnAs nanoparticles via nanoparticle conversion
Nanotechnology, **2011**, 22, 055602

Yavorsky, B. Y.; Hinsche, N. F.; Mertig, I. & Zahn, P.
Electronic structure and transport anisotropy of Bi₂Te₃ and Sb₂Te₃
Physical Review B, **2011**, 84, 165208

Yella, A.; Gautam, U. K.; Mugnaioli, E.; Panthoefner, M.; Bando, Y.; Golberg, D.; Kolb, U. & Tremel, W.
Asymmetric tungsten oxide nanobrushes via oriented attachment and Ostwald ripening
CrystEngComm, **2011**, 13, 4074-4081

Zahn, P.; Hinsche, N. F.; Yavorsky, B. Y. & Mertig, I.
Bi₂Te₃: implications of the rhombohedral k -space texture on the evaluation of the in-plane/out-of-plane conductivity anisotropy
Journal of Physics: Condensed Matter, **2011**, 23, 505504

Zeier, W.; Panthoefner, M.; Janek, J. & Tremel, W.
Electricity from Waste heat Thermo-electrical Connections
Chemie in unserer Zeit, **2011**, 45, 188-200

Publikationen 2012:

Aabdin, Z.; Peranio, N.; Eibl, O.; Töllner, W.; Nielsch, K.; Bessas, D.; Hermann, R.; Winkler, M.; König, J.; Böttner, H.; Pacheco, V.; Schmidt, J.; Hashibon, A. & Elsässer, C.

Nanostructure, excitations, and thermoelectric properties of Bi₂Te₃ based nanomaterials

Journal of Electronic Materials, **2012**, in print

Aabdin, Z.; Peranio, N.; Winkler, M.; Bessas, D.; König, J.; Hermann, R.; Böttner, H. & Eibl, O.

Sb₂Te₃ and Bi₂Te₃ Thin Films Grown by Room-Temperature MBE

Journal of Electronic Materials, **2012**, in print

Kähler, J.; Heuck, N.; Stranz, A.; Waag, A. & Peiner, E.

Pick-and-Place Silver Sintering Die Attach of Small-Area Chips

IEEE Transactions on Components, Packaging and Manufacturing Technology, **2012**, 2, 199-207

Müller S, Schötz C, Picht O, Sigle W, Kopold P, Rauber M, Alber I, Neumann R, Toimil-Molares ME

Electrochemical Synthesis of Bi_{1-x}Sb_x Nanowires with Simultaneous Control on Size Composition and Surface Roughness

Crystal Growth and Design, **2012**, 12 (2), 615-621

Peranio, N.; Leister, E.; Töllner, W.; Eibl, O. & Nielsch, K.

Stoichiometry Controlled, Single-Crystalline Bi₂Te₃ Nanowires for Transport in the Basal Plane

Advanced Functional Materials, WILEY-VCH Verlag, **2012**, 22, 151-156

Peranio, N.; Winkler, M.; Bessas, D.; Aabdin, Z.; König, J.; Böttner, H.; Hermann, R. & Eibl, O.

Room-temperature MBE deposition, thermoelectric properties, and advanced structural characterization of binary Bi₂Te₃ and Sb₂Te₃ thin films

Journal of Alloys and Compounds, **2012**, accepted

Picht O, Müller S, Alber I, Rauber M, Lensch-Falk J, Medlin DL, Neumann R, Toimil-Molares ME

Tuning the Geometrical and Crystallographic Characteristics of Bi₂Te₃ Nanowires by Electrodeposition in Ion-Track Membranes

J. Phys. Chem. C, **2012**, 116 (9), pp 5367-5375. DOI: 10.1021/jp210491g

Schmidt, M.; Schneider, G.; Heyn, C.; Stemmann, A. & Hansen, W.

Zero-field thermopower of a thin heterostructure membrane with a two-dimensional electron gas

Physical Review B, **2012**, 85, 075408

Stranz, A.; Kähler, J.; Merzsch, S.; Waag, A.; Peiner, E.

Nanowire silicon as a material for thermoelectric energy conversion,

Microsystems Technology, **2012**, accepted. DOI 10.1007/s00542-011-1390-z

Völklein, F.; Schmitt, M.; Reith, H. & Huzel, D.

Rowe, D. (Ed.)

CRC Thermoelectrics Handbook -Thermoelectrics and Its Energy Harvesting
Microchips and Methods for the Characterisation of Thermoelectric Transport
Properties of Nanostructures

Taylor & Francis, Boca Raton USA, 2012

Wiedigen, S.; Kramer, T.; Feuchter, M.; Knorr, I.; Nee, N.; Hoffmann, J.; Kamlah, M.;
Volkert, C. A. & Jooss, C.

Interplay of point defects, biaxial strain and thermal conductivity in homoepitaxial
SrTiO₃ thin films

Applied Physics Letters, 2012, accepted

Winkler, M.; Liu, X.; König, J.; Kirste, L.; Böttner, H.; Bensch, W. & Kienle, L.

Sputtered p-Type Sb₂Te₃/(Bi,Sb)₂Te₃ Soft Superlattices Created by Nanoalloying

Journal of Electronic Materials, 2012, 41