



List of deliverables

Overview of publications produced over the past 5 years and PhD theses

CERN-INTC-2017-020 (INTC-P-502)

Local Probing of Ferroic and Multiferroic Compounds Collaboration

Dr. Juliana Schell on behalf of the University Duisburg-Essen



Complete list available at: <https://www.uni-due.de/materials/veroeffentlichungen.shtml>

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PhD Thesis

Name	PhD thesis
Dr.-Ing. Gerhard Lackner	"Carbon Nanotubes in Organic Solar Cells"
Dr.-Ing. Danka Dittmer-Gobeljic	"Polar Microstructure and Nanoscale Electromechanical Behavior of Lead-Free Piezoelectric Ceramics"
Dr.-Ing. Morad Etier	"Preparation and Magnetoelctric Effect of Multiferroic Cobalt Ferrite-Barium Titanate Composites"
Dr. rer. nat. Yanling Gao	"Synthesis of Core-Shell High-k Nanoparticles"
Dr. rer. nat. Harshkumar Bhadreshkumar Trivedi	"Mapping Local Manifestations of the Strain Mediated Magnetoelectric Effect in Composites"

Publications

2017

Y.-B. Ma, C. Molin, V. V. Shvartsman, S. Gebhardt, D. C. Lupascu, K. Albe, and B.-X. Xu
[State transition and electrocaloric effect in BaZr_xTi_{1-x}O₃: Simulation and experiment](#)
J. Appl. Phys. **121**(2), 024103 (2017)

J. Schell, D. C. Lupascu, J. G. M. Correia, A. W. Carbonari, M. Deicher, M. B. Barbosa, R. D. Mansano, K. Johnston, I. S. Ribeiro, and the ISOLDE collaboration
[In and Cd as defect traps in titanium dioxide](#)
Hyperfine Interact. **238**(2), (2017)

2016

A. Belianinov, D. Gobeljic, V. V. Shvartsman, E. Endeve, E. J. Lingerfelt, R. Archibald, S. Kalinin, and S. Jesse
[High Performance Computing Tools for Cross Correlation of Multi-Dimensional Data Sets Across Instrument Platforms](#)
Microscopy and Microanalysis **22**(3), 288-289 (2016)

M. Sanlialp, V. V. Shvartsman, M. Acosta, and D. C. Lupascu
[Electrocaloric Effect in Ba\(Zr,Ti\)O₃-\(Ba,Ca\)TiO₃ Ceramics Measured Directly](#)
J. Am. Ceram. Soc. **99**(12), 4022-4030 (2016)

M. Sanlialp, C. Molin, V. V. Shvartsman, S. Gebhardt, and D. C. Lupascu
[Modified Differential Scanning Calorimeter for Direct Electrocaloric Measurements](#)
IEEE T Ultrason Ferr. **63**(10), 1690-1696 (2016)

M. Etier, V. V. Shvartsman, S. Salamon, Y. Gao, H. Wende, and D. C. Lupascu
[The direct and the converse magnetoelectric effect in multiferroic cobalt ferrite-barium titanate ceramic composites](#)
J. Am. Ceram. Soc. **99**(11), 3623-3631 (2016)

D. A. Kiselev, R. N. Zhukov, S. V. Ksenich, I. V. Kubasov, A. A. Temirov, N. G. Timushkin, A. S. Bykov, M. D. Malinkovich, V. V. Shvartsman, D. C. Lupascu, and Y. N. Parkhomenko

The effect of silicon-substrate orientation on the local piezoelectric characteristics of LiNbO₃ films
J. Surf. Investig-X-Ra. **10**, 742-747 (2016)

M. Melo, E. B. Araujo, V. V. Shvartsman, V. Y. Shur, and A. L. Khoklin
Thickness effect on the structure, grain size, and local piezoresponse of self-polarized lead lanthanum zirconate titanate thin films
J. Appl. Phys. **120**(5), 054101 (2016)

M. Naveed-Ul-Haq, V. V. Shvartsman, S. Salomon, H. Wende, H. Trivedi, A. Mumtaz and D. C. Lupascu
A new (Ba,Ca)(Ti,Zr)O₃ based multiferroic composite with large magnetoelectric effect
Scientific Reports **6**, 32164 (2016)

G. Lackner, I. Anusca, M. Sanialp, M. Escobar, S. Iffländer, and D. C. Lupascu
Thin films for photovoltaic application
Ferroelectrics **496**, 187-195 (2016)

M. Khazaee, W. Xia, G. Lackner, R. G. Mendes, M. Rümmeli, M. Muhler, and D. C. Lupascu
Dispersibility of vapor phase oxygen and nitrogen functionalized multi-walled carbon nanotubes in various organic solvents
Scientific Reports **6**, 26208 (2016)

J. Belovickis, V. Samulionis, J. Banys, M. Sibilin, A. Solnyshkin, Y. Shilyaeva, K. Nekludov, S. Gavrilov, V. Rubanik, and V. V. Shvartsman
Ultrasonic spectroscopy of copolymer based P(VDF-TrFE) composites with fillers on lead zirconate titanate basis
Polymer Testing **53**, 211-216 (2016)

M. Labusch, M.-A. Keip, V. V. Shvartsman, D. C. Lupascu, and J. Schröder
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Technische Mechanik **36**, 73-87 (2016)

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L. F. Henrichs, O. Cespedes, J. Bennett, J. Landers, S. Salomon, C. Heuser, T. Hansen, T. Helbig, O. Gutfleisch, D. C. Lupascu, H. Wende, W. Kleemann and A. J. Bell
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Adv. Funct. Mater. , 2111-2121 (2016)

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H.-Y. Amanieu, H. N. M. Thai, S. Y. Luchkin, D. Rosato, D. C. Lupascu, M.-A. Keip, J. Schröder, and A. L. Khoklin
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J. Appl. Phys. **118**, 055101 (2015)

E.L. Fertman, A. V. Fedorchenco, A. V. Kotlyar, V. A. Desnenko, E. Čižmár, A. Baran, D. D. Khalyavin, A. N. Salak, V. V. Shvartsman, and A. Fehler
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[Dynamic pyroelectric response of composite based on ferroelectric copolymer of poly\(vinylidene fluoride-trifluoroethylene\) and ferroelectric ceramics of barium lead zirconate titanate](#)
Appl. Phys. A **121**, 311-316 (2015)

M. Sanliap, V. V. Shvartsman, D. C. Lupascu, C. Molin, and S. Gebhardt
[Direct electrocaloric measurements using a differential scanning calorimeter](#)
IEEE International Symposium on ISAF, ISIF and PFM, 159-162, Singapore (2015)

D. C. Lupascu, H. Wende, M. Etier, A. Nazrabi, I. Anusca, H. Trivedi, V. V. Shvartsman, J. Landers, S. Salamon, and C. Schmitz-Antoniak
[Measuring the magnetoelectric effect across scales](#)
GAMM-Mitt. **38**, 25-74 (2015)

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Appl. Phys. Lett. **106**, 062901 (2015)

D. Gobeljic, R. Dittmer, J. Rödel, V. V. Shvartsman, and D. C. Lupascu

Macroscopic and Nanoscopic Polarization Relaxation Kinetics in Lead-Free Relaxors $\text{Bi}_{1/2}\text{Na}_{1/2}\text{TiO}_3\text{-}\text{Bi}_{1/2}\text{K}_{1/2}\text{TiO}_3\text{-}\text{BiZn}_{1/2}\text{Ti}_{1/2}\text{O}_3$

J. Am. Ceram. Soc. **97**(12), 3904-3912 (2014)

J. Landers, S. Salomon, M. Escobar Castillo, D. C. Lupascu, and H. Wende

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Nano Letters **14**(11), 6061-6065 (2014)

J. Pozingis, J. Macutkevic, R. Grigalaitis, J. Banys, and D. C. Lupascu

Dielectric Properties of $0.9\text{AgO}_{0.9}\text{Li}_{0.1}\text{NbO}_3 - 0.1\text{BiO}_{0.5}\text{K}_{0.5}\text{TiO}_3$ Ceramics

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Dense nanopowder composites for thermal insulation

Phys. Status Solidi A **212**(2), 439-442 (2014)

J. Pozingis, J. Macutkevic, R. Grigalaitis, J. Banys, and D. C. Lupascu

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Ceramics International **40**, 9961-9969 (2014)

Y. Liu, I. C. Infante, X. Lou, D. C. Lupascu, and B. Dkhil

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Product properties of a two-phase magneto-electric composite: Synthesis and numerical modelling

Comput. Mech. **54**, 71-83 (2014)

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Mechanical property measurements of heterogeneous materials by selective nanoindentation: Application to LiMn_2O_4 cathode

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Phys. Status Solidi RRL, 6: 68–70 (2012) (doi: 10.1002/pssr.201105488)

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Morad F. Etier, Vladimir V. Shvartsman, Frank Stromberg, Joachim Landers, Heiko Wende, Doru C. Lupascu

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Dyes in carbon nanotube arrays

Journal of Materials Science and Engineering. B **2** (2012), No.6, pp.334-346 (ISSN: 2161-6221)

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