

**Wissenschaftliche Publikationen | Scientific Publications**

**Bücher | Books**

Bräuer-Burchardt, Christian; Möller, Max; Munkelt, Christoph; Heinze, Matthias; Kühmstedt Peter; Notni, Gunther  
**Determining Exact Point Correspondences in 3D Measurement Systems Using Fringe Projection – Concepts, Algorithms and Accuracy Determination**  
Md. Zahurul Haq (Ed.), Applied Measurement Systems, InTech, Rijeka, Croatia 2012, p. 211-228,  
ISBN 978-953-51-0103-1

Breitenborn, Holger  
**Die sehende Nadelspitze**  
Bullinger, Hans-Jörg (Hrsg.), TECHNOlogisch! Technologien erfolgreich in den Markt bringen, LOG\_X Verlag, Ludwigsburg 2012, S. 149-154,  
ISBN 978-3-932298-44-8

Breitenborn, Holger; Mauroner, Oliver  
**Miniaturisierte Endoskopkamera**  
Bullinger, Hans-Jörg (Hrsg.), Fokus Technologiemarkt. Technologiepotenziale identifizieren – Marktchancen realisieren, Carl Hanser Verlag, München 2012, S. 327-347,  
ISBN 978-3-446-43323-6

März, Reinhard; Wächter, Christoph  
**Integrated Optics**  
Träger, Frank (Ed.), Handbook of Lasers and Optics, Springer-Verlag, Dordrecht 2012, p. 1209-1253,  
ISBN 978-3642194085

Riehemann, Stefan; Mauroner, Oliver; Weber, Brigitte; Tünnermann, Andreas  
**In der Jenaer Optik-Landschaft etabliert – 20 Jahre Fraunhofer-Institut für Angewandte Optik und Feinmechanik**  
Jenaer Jahrbuch zur Technik- und Industriegeschichte Band 15, Verlag Vopelius, Jena 2012, S. 349-372,  
ISBN 978-3-939718-69-7

Schreiber, Thomas; Eberhardt, Ramona; Limpert, Jens; Tünnermann, Andreas

**High-Power Fiber Lasers and Amplifiers: Fundamentals and Enabling Technologies to Enter the Upper Limits**

Okhotnikov, Oleg G. (Ed.), Fiber Lasers, Wiley-VCH Verlag, Weinheim 2012, p. 7-61, ISBN 978-3527411146

**Zeitschriften | Journals**

Bartl, Dominik; Michalowski, Andreas; Hafner, Margit; Letsch, Andreas; Nolte, Stefan; Tünnermann, Andreas

**Time-resolved study of back side ablated molybdenum thin films by ultrashort laser pulses**

Applied Physics A: Materials Science & Processing (2012)

DOI: 10.1007/s00339-012-7118-9,

ISSN 0947-8396

Baumgartl, Martin; Chemnitz, Mario; Jauregui, Cesar; Meyer, Tobias; Dietzek, Benjamin; Popp, Jürgen; Limpert, Jens; Tünnermann, Andreas

**All-fiber laser source for CARS microscopy based on fiber optical parametric frequency conversion**

Optics Express 20 (2012) 4 p. 4484-4493,

ISSN 1094-4087

Baumgartl, Martin; Gottschall, Thomas; Abreu-Afonso, Javier; Díez, Antonio; Meyer, Tobias; Dietzek, Benjamin; Rothhardt, Manfred; Popp, Jürgen; Limpert, Jens; Tünnermann, Andreas

**Alignment-free, all-spliced fiber laser source for CARS microscopy based on four-wave-mixing**

Optics Express 20 (2012) 19 p. 21010-21018,

ISSN 1094-4087

Baumgartl, Martin; Lecaplain, Caroline; Hideur, Ammar; Limpert, Jens; Tünnermann, Andreas

**66 W average power from a microjoule-class sub-100 fs fiber oscillator**

Optics Letters 37 (2012) 10 p. 1640-1642, ISSN 0146-9592

Baumgartl, Martin; Ortaç, B.; Limpert, Jens; Tünnermann, Andreas

**Impact of dispersion on pulse dynamics in chirped-pulse fiber lasers**

Applied Physics B: Lasers and Optics 107 (2012) 2 p. 263-274,

ISSN 0946-2171

Beier, Matthias; Gebhardt, Andreas; Eberhardt, Ramona; Tünnermann, Andreas

**Lens centering of aspheres for high-quality optics**

Advanced Optical Technologies 1 (2012) 6 p. 441-446,

ISSN 2192-8576

Braig, Christoph; Fritzsche, Ludwig; Käsebier, Thomas; Kley, Ernst-Bernhard; Laubis, Christian; Liu, Ying; Scholze, Frank; Tünnermann, Andreas

**An EUV beamsplitter based on conical grazing incidence diffraction**

Optics Express 20 (2012) 2 p. 1825-1838, ISSN 1094-4087

Breitkopf, Sven; Klenke, Arno; Gottschall, Thomas; Otto, Hans-Jürgen; Jauregui, Cesar; Limpert, Jens; Tünnermann, Andreas

**58 mJ burst comprising ultra-short pulses with homogeneous energy level from an Yb-doped fiber amplifier**

Optics Letters 37 (2012) 24 p. 5169-5171, ISSN 0146-9592

Burmeister, Frank; Steenhusen, Sönke; Houbertz, Ruth; Zeitner, Uwe Detlef; Nolte, Stefan; Tünnermann, Andreas

**Materials and technologies for fabrication of three-dimensional microstructures with sub-100 nm feature sizes by two-photon polymerization**

Journal of Laser Applications 24 (2012) 4 042014, ISSN 1042-346X

Burmeister, Frank; Zeitner, Uwe Detlef; Nolte, Stefan; Tünnermann, Andreas

**High numerical aperture hybrid optics for two-photon polymerization**

Optics Express 20 (2012) 7 p. 7994-8005, ISSN 1094-4087

Chemnitz, Mario; Baumgartl, Martin; Meyer, Tobias; Jauregui, Cesar; Dietzek, Benjamin; Popp, Jürgen; Limpert, Jens; Tünnermann, Andreas

**Widely tuneable fiber optical parametric amplifier for coherent anti-Stokes Raman scattering microscopy**

Optics Express 20 (2012) 24 p. 26583-26595, ISSN 1094-4087

Danz, Norbert; Flämmich, Michael; Setz, Daniel S.; Krummacher, Benjamin C.; Michaelis, Dirk; Dobbertin, Thomas

**Detection of sub-10 nm emission profile features in organic light-emitting diodes using destructive interference**

Optics Letters 37 (2012) 19 p. 4134-4136, ISSN 0146-9592

Danz, Norbert; Sinibaldi, Alberto; Michelotti, Francesco; Descrovi, Emiliano; Munzert, Peter; Schulz, Ulrike; Sonntag, Frank

**Improving the sensitivity of optical biosensors by means of Bloch surface waves**

Biomedizinische Technik 57 (2012) p. 584-587, ISSN 0013-5585

Danz, Norbert; Wächter, Christoph; Michaelis, Dirk; Dannberg, Peter; Flämmich, Michael

**Micro optical pattern shaping for tailored light emission from organic LEDs**

Optics Express 20 (2012) 12 p. 12682-12691, ISSN 1094-4087

Demmler, Stefan; Rothhardt, Jan; Hädrich, Steffen; Bromage, Jake; Limpert, Jens; Tünnermann, Andreas

**Control of nonlinear spectral phase induced by ultra-broadband optical parametric amplification**

Optics Letters 37 (2012) 19 p. 3933-3935, ISSN 0146-9592

Dick, Lars; Risse, Stefan; Tünnerman, Andreas

**Injection molded high precision freeform optics for high volume applications**

Advanced Optical Technologies 1 (2012) 1 p. 39–50, ISSN 2192-8576

Dietrich, Kay; Lehr, Dennis; Helgert, Christian; Tünnermann, Andreas; Kley, Ernst-Bernhard

**Circular dichroism from chiral nanomaterial fabricated by on-edge lithography**

Advanced Materials 24 (2012) 44 p. OP321–OP325, ISSN 1521-4095

Döring, Sven; Szilagyi, John; Richter, Sören; Zimmermann, Felix; Richardson, Martin; Tünnermann, Andreas; Nolte, Stefan

**Evolution of hole shape and size during short and ultrashort pulse laser deep drilling**

Optics Express 20 (2012) 24 p. 27147-27154, ISSN 1094-4087

Dreisow, Felix; Keil, Robert; Tünnermann, Andreas; Nolte, Stefan; Longhi, Stefano; Szameit, Alexander

**Klein tunneling of light in waveguide superlattices**

Europhysics Letters 97 (2012) 1 10008, ISSN 0295-5075

Dreisow, Felix; Longhi, Stefano; Nolte, Stefan; Tünnermann, Andreas; Szameit, Alexander

**Vacuum instability and pair production in an optical setting**

Physical Review Letters 109 (2012) 11 110401, ISSN 0031-9007

Dunkel, Jens; Wippermann, Frank; Brückner, Andreas; Bräuer, Andreas; Tünnermann, Andreas

**Laser lithographic approach to micro-optical freeform elements with extremely large sag heights**

Optics Express 20 (2012) 4 p. 4763-4775, ISSN 1094-4087

Duparré, Angela; Coriand, Luisa

**Abrollen, abperlen, spreiten**

Optik & Photonik 7 (2012) 1 S. 37-41, ISSN 1863-1460

Filatova, Elena O.; Kozhevnikov, Igor V.; Sokolov, Andrey A.; Ubyivovk, Evgeniy V.; Yulin, Sergiy; Gorgoi, Mihaela; Schäfers, Franz

**Soft x-ray reflectometry, hard x-ray photoelectron spectroscopy and transmission electron microscopy investigations of the internal structure of TiO<sub>2</sub>/(Ti)/SiO<sub>2</sub>/Si stacks**

Science and technology of advanced materials 13 (2012) 1 015001, ISSN 1468-6996

Frank, Dieter W.; Kaiser, Norbert

**Green Photonics auf der OPTATEC 2012**

Vakuum in Forschung und Praxis 24 (2012) 3 S. 3, ISSN 0947-076X

Gopal, Amrutha; May, Torsten; Herzer, Sven; Reinhard, A.; Minardi, Stefano; Schubert, Manfred; Dillner, Ulrich; Pradarutti, Boris; Polz, Jens; Gaumnitz, T.; Kaluza, Malte; Jäckel, Oliver; Riehemann, Stefan; Ziegler, Wolfgang; Gemuend, Hans-Peter; Meyer, Hans-Georg; Paulus, Gerhard G.

**Observation of energetic terahertz pulses from relativistic solid density plasmas**

New Journal of Physics 14 (2012) 8 083012, ISSN 1367-2630

Gottschall, Thomas; Baumgartl, Martin; Sagnier, Aude; Rothhardt, Jan; Jauregui, Cesar; Limpert, Jens; Tünnermann, Andreas

**Fiber-based source for multiplex-CARS microscopy based on degenerate four-wave mixing**

Optics Express 20 (2012) 11 p. 12004-12013, ISSN 1094-4087

Gräfe, Markus; Solntsev, Alexander S.; Keil, Robert; Sukhorukov, Andrey A.; Heinrich, Matthias; Tünnermann, Andreas; Nolte, Stefan; Szameit, Alexander; Kivshar, Yuri S.

**Biphoton generation in quadratic waveguide arrays: A classical optical simulation**

Scientific Reports 2 (2012) Article number 562, ISSN 2045-2322

Grange, Rachel; Brönstrup, Gerald; Kiometzis, Michael; Sergeev, Anton; Richter, Jessica; Leiterer, Christian; Fritzsche, Wolfgang; Gutsche, Christoph; Lysov, Andrey; Prost, Werner; Tegude, Franz-Josef; Pertsch, Thomas; Tünnermann, Andreas; Christiansen, Silke

**Far-field imaging for direct visualization of light interferences in GaAs nanowires**

Nano Letters 12 (2012) 10 p. 5412–5417, ISSN 1530-6984

Großmann, Constanze; Gawronski, Ute; Breitbarth, Martin; Notni, Gunther; Tünnermann, Andreas

**Simulation and system design of a 3-D metrology optical system based on a bi-directional OLED microdisplay**

Advances in Materials Science and Engineering (2012) 417376, ISSN 1687-8434

- Haarlammer, Nicoletta; de Vries, Oliver; Liem, Andreas; Kliner, Andrea; Peschel, Thomas; Schreiber, Thomas; Eberhardt, Ramona; Tünnermann, Andreas  
**Build up and decay of mode instability in a high power fiber amplifier**  
 Optics Express 20 (2012) 12 p. 13274-13283, ISSN 1094-4087
- Hädrich, Steffen; Rothhardt, Jan; Krebs, Manuel; Demmler, Stefan; Limpert, Jens; Tünnermann, Andreas  
**Improving carrier-envelope phase stability in optical parametric chirped-pulse amplifiers by control of timing jitter**  
 Optics Letters 37 (2012) 23 p. 4910-4912, ISSN 0146-9592
- Harvey, James; Schröder, Sven; Choi, Narak; Duparré, Angela  
**Total integrated scatter from surfaces with arbitrary roughness, correlation widths and incident angles**  
 Optical Engineering 51 (2012) 1 013402, ISSN 0091-3286
- Heidler, Nils; Schenk, Christoph; Harnisch, Gerd; Risse, Stefan; Schubert, Gerhard; Eberhardt, Ramona; Tünnermann, Andreas  
**Contact-free exhaust system for vacuum compatible gas bearing guides**  
 Precision Engineering 36 (2012) 1 p. 37-43, ISSN 0141-6359
- Heinrich, Matthias; Eilenberger, Falk; Keil, Robert; Dreisow, Felix; Suran, Eric; Louradour, Frédéric; Tünnermann, Andreas; Pertsch, Thomas; Nolte, Stefan; Szameit, Alexander  
**Optical limiting and spectral stabilization in segmented photonic lattices**  
 Optics Express 20 (2012) 24 p. 27299-27310, ISSN 1094-4087
- Heinrich, Matthias; Keil, Robert; Lahini, Yoav; Naether, Uta; Dreisow, Felix; Tünnermann, Andreas; Nolte, Stefan; Szameit, Alexander  
**Disorder-enhanced nonlinear delocalization in segmented waveguide arrays**  
 New Journal of Physics 14 (2012) 073026, ISSN 1367-2630
- Held, Mario; Stenzel, Olaf; Wilbrandt, Steffen; Kaiser, Norbert; Tünnermann, Andreas  
**Manufacture and characterization of optical coatings with incorporated copper island films**  
 Applied Optics 51 (2012) 19 p. 4436-4447, ISSN 0003-6935
- Held, Mario; Wilbrandt, Steffen; Stenzel, Olaf; Kaiser, Norbert; Tünnermann, Andreas  
**Practical optimization of a coating deposition process by application of hybrid monitoring strategies in an industrial production environment**  
 Advanced Optical Technologies (2012)  
 DOI: 10.1515/aot-2012-0062, ISSN 2192-8576
- Janicki, Vesna; Sancho-Parramon, Jordi; Yulin, Sergiy; Flemming, Marcel; Chuvilin, Andrey  
**Optical and structural properties of Nb<sub>2</sub>O<sub>5</sub>-SiO<sub>2</sub> mixtures in thin films**  
 Surface & coatings technology 206 (2012) 17 p. 3650-3657, ISSN 0257-8972
- Jansen, Florian; Stutzki, Fabian; Jauregui, Cesar; Limpert, Jens; Tünnermann, Andreas  
**High-power very large mode-area thulium-doped fiber laser**  
 Optics Letters 37 (2012) 21 p. 4546-4548, ISSN 0146-9592
- Jansen, Florian; Stutzki, Fabian; Otto, Hans-Jürgen; Eidam, Tino; Liem, Andreas; Jauregui, Cesar; Limpert, Jens; Tünnermann, Andreas  
**Thermally induced waveguide changes in active fibers**  
 Optics Express 20 (2012) 4 p. 3997-4008, ISSN 1094-4087
- Jauregui, Cesar; Eidam, Tino; Otto, Hans-Jürgen; Stutzki, Fabian; Jansen, Florian; Limpert, Jens; Tünnermann, Andreas  
**Physical origin of mode instabilities in high-power fiber laser systems**  
 Optics Express 20 (2012) 12 p. 12912-12925, ISSN 1094-4087
- Jauregui, Cesar; Eidam, Tino; Otto, Hans-Jürgen; Stutzki, Fabian; Jansen, Florian; Limpert, Jens; Tünnermann, Andreas  
**Temperature-induced index gratings and their impact on mode instabilities in high-power fiber laser systems**  
 Optics Express 20 (2012) 1 p. 440-451, ISSN 1094-4087
- Jauregui, Cesar; Steinmetz, Alexander; Limpert, Jens; Tünnermann, Andreas  
**High-power efficient generation of visible and mid-infrared radiation exploiting four-wave-mixing in optical fibers**  
 Optics Express 20 (2012) 22 p. 24957-24965, ISSN 1094-4087
- Jocher, Christoph; Eidam, Tino; Hädrich, Steffen; Limpert, Jens; Tünnermann, Andreas  
**Sub 25 fs pulses from solid-core nonlinear compression stage at 250 W of average power**  
 Optics Letters 37 (2012) 21 p. 4407-4409, ISSN 0146-9592
- Jourlin, Yves; Tonchev, Svetlen; Parriaux, Olivier; Sauvage-Vincent, Jean; Harzendorf, Torsten; Zeitner, Uwe Detlef  
**Waveguide grating radial polarizer for the photolithography of circularly symmetrical optical elements**  
 IEEE Photonics Journal 4 (2012) 5 p.1728-1736, ISSN 1943-0655

- Kaiser, Norbert  
**V2011 Workshop »Beschichtungen für den optischen Gerätebau«**  
Vakuum in Forschung und Praxis 24 (2012) 1 p. 32-37, ISSN 0947-076X
- Kalkowski, Gerhard; Rothhardt, Carolin; Jobst, Paul-Johannes; Schürmann, Mark; Eberhardt, Ramona  
**Glass direct bonding for optical applications**  
ECS Transactions 50 (2012) 7 p. 399-405, ISSN 1938-6737
- Kalkowski, Gerhard; Zeitner, Uwe Detlef; Benkenstein, Tino; Fuchs, Hans-Jörg; Rothhardt, Carolin; Eberhardt, Ramona  
**Direct wafer bonding for encapsulation of fused silica optical gratings**  
Microelectronic Engineering 97 (2012) p. 177-180, ISSN 0167-9317
- Keil, Robert; Lahini, Yoav; Shechtman, Yoav; Heinrich, Matthias; Pugatch, Rami; Dreisow, Felix; Tünnermann, Andreas; Nolte, Stefan; Szameit, Alexander  
**Perfect imaging through a disordered waveguide lattice**  
Optics Letters 37 (2012) 5 p. 809-811, ISSN 0146-9592
- Klein, Angela E.; Janunts, Norik; Tünnermann, Andreas; Pertsch, Thomas  
**Investigation of mechanical interactions between the tips of two scanning near-field optical microscopes**  
Applied Physics B: Lasers and Optics 108 (2012) 4 p. 737-741, ISSN 0946-2171
- Klein, Angela E.; Minovich, Alexander; Steinert, Michael; Janunts, Norik; Tünnermann, Andreas; Neshev, Dragomir N.; Kivshar, Yuri S.; Pertsch, Thomas  
**Controlling plasmonic hot spots by interfering Airy beams**  
Optics Letters 37 (2012) 16 p. 3402-3404, ISSN 0146-9592
- Köhler, Stefan; Benz, Christian; Becker, Holger; Beckert, Erik; Beushausen, Volker; Belder, Detlev  
**Micro free-flow electrophoresis with injection molded chips**  
RSC Advances 2 (2012) 2 p.520-525, ISSN 2046-2069
- Legall, Herbert; Blobel, G.; Stiel, Holger; Sandner, Wolfgang; Seim, Christian; Takman, Per; Martz, Dale; Selin, Marten; Vogt, Ulrich; Hertz, Hans; Esser, Dominik; Sipma, H.; Luttmann, Jörg; Höfer, M.; Hoffmann, H.D.; Yulin, Sergiy; Feigl, Torsten; Rehbein, Stefan; Guttman, Peter; Schneider, Gerd; Wiesemann, Urs; Wirtz, M.; Dietsch, Wolfgang  
**Compact x-ray microscope for the water window based on a high brightness laser plasma source**  
Optics Express 20 (2012) 16 p. 18362-18369, ISSN 1094-4087
- Lehneis, Reinhold; Steinmetz, Alexander; Jauregui, Cesar; Limpert, Jens; Tünnermann, Andreas  
**Dispersion-free pulse duration reduction of passively Q-switched microchip lasers**  
Optics Letters 37 (2012) 21 p. 4401-4403, ISSN 0146-9592
- Lehr, Dennis; Dietrich, Kay; Helgert, Christian; Käsebier, Thomas; Fuchs, Hans-Jörg; Tünnermann, Andreas; Kley, Ernst-Bernhard  
**Plasmonic properties of aluminum nanorings generated by double patterning**  
Optics Letters 37 (2012) 2 p. 157-159, ISSN 0146-9592
- Limpert, Jens; Stutzki, Fabian; Jansen, Florian; Otto, Hans-Jürgen; Eidam, Tino; Jauregui, Cesar; Tünnermann, Andreas  
**Yb-doped large-pitch fibres: effective single-mode operation based on higher-order mode delocalization**  
Light: Science & Applications 1 (2012) e8  
DOI:10.1038/lssa.2012.8, ISSN 2047-7538
- Müller, Matthias; Barkusky, Frank; Feigl, Torsten; Mann, Klaus  
**EUV damage threshold measurements of Mo/Si multilayer mirrors**  
Applied Physics A: Materials Science & Processing 108 (2012) 2 p. 263-267, ISSN 0947-8396
- Munzert, Peter; Präfke, Christiane; Schulz, Ulrike; Kaiser, Norbert  
**Adhesion of vacuum deposited optical coatings on PMMA and polycarbonate**  
Journal of Adhesion Science and Technology 26 (2012) 18-19 p. 2269-2276, ISSN 0169-4243
- Naether, Uta; Kartashov, Yaroslav; Vysloukh, Victor; Nolte, Stefan; Tünnermann, Andreas; Torner, Lluís; Szameit, Alexander  
**Observation of the gradual transition from one-dimensional to two-dimensional Anderson localization**  
Optics Letters 37 (2012) 4 p. 593-595, ISSN 0146-9592
- Naether, Uta; Meyer, Julia; Stützer, Simon; Tünnermann, Andreas; Nolte, Stefan; Molina, Mario; Szameit, Alexander  
**Anderson localization in a periodic photonic lattice with a disordered boundary**  
Optics Letters 37 (2012) 4 p. 485-487, ISSN 0146-9592
- Naether, Uta; Rojas-Rojas, Santiago; Martinez, Alejandro J.; Stützer, Simon; Tünnermann, Andreas; Nolte, Stefan; Molina, Mario I.; Vicencio, Rodrigo A.; Szameit, Alexander  
**Expansion of a wave-packet in lattices with disorder and nonlinearity**  
E-paper of the Cornell University Library, arXiv.org (2012), arXiv:1205.5457

Notni, Gunther; Arib-Mundt, Stephany

**Die Kolibri-Revolution**

median - Das Info-Magazin für Mitteldeutschland 1 (2012) 1  
S. 17

Oliva, Maria; Michaelis, Dirk; Dannberg, Peter; Józwiak, Michał;  
Liżewski, Kamil; Kujawińska, Małgorzata; Zeitner, Uwe Detlef  
**Twyman–Green-type integrated laser interferometer  
array for parallel MEMS testing**

Journal of Micromechanics and Microengineering 22 (2012) 1  
015018, ISSN 0960-1317

Otto, Hans-Jürgen; Stutzki, Fabian; Jansen, Florian; Eidam,  
Tino; Jauregui, Cesar; Limpert, Jens; Tünnermann, Andreas  
**Temporal dynamics of mode instabilities in high-power  
fiber lasers and amplifiers**

Optics Express 20 (2012) 14 p. 15710-15722, ISSN 1094-4087

Otto, Martin; Kroll, Matthias; Käsebier, Thomas; Salzer, Roland;  
Tünnermann, Andreas; Wehrspohn, Ralf B.

**Extremely low surface recombination velocities in black  
silicon passivated by atomic layer deposition**

Applied Physics Letters 100 (2012) 19 191603, ISSN 0003-6951

Pabst, Oliver; Schiffer, Michael; Obermeier, Ernst; Tekin, Tolga;  
Lang, Klaus Dieter; Ngo, Ha-Duong

**Measurement of Young's modulus and residual stress of  
thin SiC layers for MEMS high temperature applications**

Microsystem Technologies 18 (2012) 7-8 p. 945-953,  
ISSN 0946-7076

Pacholski, Claudia; Morhard, Christoph; Spatz, Joachim; Lehr,  
Dennis; Schulze, Marcel; Kley, Ernst-Bernhard; Tünnermann,  
Andreas; Helgert, Michael; Sundermann, Michael; Brunner, Robert  
**Antireflective subwavelength structures on microlens  
arrays - comparison of various manufacturing techniques**

Applied Optics 51 (2012) 1 p. 8-14, ISSN 0003-6935

Peter, Monika; Kammel, Robert; Ackermann, Roland; Bühren,  
Stephanie; Schramm, Stefan; Seifert, Bernd-Ulrich;  
Frey, Katharina; Kunert, Kathleen

**Analysis of optical side effects of fs-laser therapy in human  
presbyopic lens simulated with modified contact lenses**

Graefe's Archive for Clinical and Experimental Ophthalmology  
250 (2012) 12 p. 1813-1825, ISSN 1435-702X

Präfke, Christiane; Schulz, Ulrike; Kaiser, Norbert

**Organische UV-Schutzschichten für die Polycarbonatverglasung**

Vakuum in Forschung und Praxis 24 (2012) 1 p. 22-23,  
ISSN 0947-076X

Präfke, Christiane; Schulz, Ulrike; Kaiser, Norbert

**Preparation and characterization of organic layers for  
UV protection of polycarbonate**

Thin Solid Films 520 (2012) 12 p. 4180-4183,  
ISSN 0040-6090

Rechtsman, Mikael C.; Zeuner, Julia M.; Tünnermann, Andreas;  
Nolte, Stefan; Segev, Mordechai; Szameit, Alexander  
**Strain-induced pseudomagnetic field and Landau levels  
in photonic structures**

E-paper of the Cornell University Library, arXiv.org (2012)  
arXiv:1207.3596

Reinhold, Jörg; Schulze, Marcel; Kley, Ernst-Bernhard;  
Tünnermann, Andreas

**High dispersive and monolithic 100% efficiency grisms**

E-paper of the Cornell University Library, arXiv.org (2012),  
arXiv:1211.5260

Reinhold, Jörg; Shcherbakov, M.R.; Chipouline, Arkadi; Panov,  
V.I.; Helgert, Christian; Paul, T.; Rockstuhl, Carsten; Lederer,  
Falk; Kley, Ernst-Bernhard; Tünnermann, Andreas;  
Fedyanin, A.A.; Pertsch, Thomas

**Contribution of the magnetic resonance to the third  
harmonic generation from a fishnet metamaterial**

Physical Review B 86 (2012) 11 115401,  
ISSN 1098-0121

Rekas, Miroslaw; Schmidt, Oliver; Zimer, Hagen; Schreiber,  
Thomas; Eberhardt, Ramona; Tünnermann, Andreas

**Over 200 W average power tunable Raman amplifier  
based on fused silica step index fiber**

Applied Physics B: Lasers and Optics 107 (2012) 3 p. 711-716,  
ISSN 0946-2171

Rekas, Miroslaw; Vries, Oliver; Zimer, Hagen; Neuschaefer-  
Rube, Sven; Schreiber, Thomas; Eberhardt, Ramona; Tünner-  
mann, Andreas

**High power transmission properties of all-solid photonic  
bandgap fibre and its application to Raman amplification**

Electronics Letters 48 (2012) 18 p. 1142-1144,  
ISSN 0013-5194

Rheinschmitt, Liane; Burkhardt, Thomas; Nagel, Jörg A.;  
Beckert, Erik; Gengenbach, Ulrich; Bretthauer, Georg

**Investigation of the use of Solderjet Bumping for joining  
the thinwalled glass package of a complex mechatronic  
lens implant**

Biomedizinische Technik 57 (2012) Suppl. 1 p. 863-866,  
ISSN 0013-5585

Richter, Jessica; Steinbrück, Andrea; Pertsch, Thomas;  
Tünnermann, Andreas; Grange, Rachel

**Plasmonic core-shell nanowires for enhanced second-harmonic generation**

Plasmonics (2012) DOI: 10.1007/s11468-012-9429-2,  
ISSN 1557-1963

Richter, Sören; Heinrich, Matthias; Döring, Sven;  
Tünnermann, Andreas; Nolte, Stefan; Peschel, Ulf

**Nanogratings in fused silica: Formation, control, and applications**

Journal of Laser Applications 24 (2012) 4 042008,  
ISSN 1042-346X

Richter, Sören; Jia, Fei; Heinrich, Matthias; Döring, Sven;  
Peschel, Ulf; Tünnermann, Andreas; Nolte, Stefan

**The role of self-trapped excitons and defects in the formation of nanogratings in fused silica**

Optics Letters 37 (2012) 4 p. 482-484,  
ISSN 0146-9592

Richter, Sören; Nolte, Stefan; Tünnermann, Andreas  
**Ultrashort pulse laser welding - a new approach for high-stability bonding of different glasses**

Physics Procedia 37 (2012) p. 556–562, ISSN 1875-3892

Richter, Sören; Plech, Anton; Steinert, Michael; Heinrich, Matthias; Döring, Sven; Zimmermann, Felix; Peschel, Ulf; Kley, Ernst Bernhard; Tünnermann, Andreas; Nolte, Stefan  
**On the fundamental structure of femtosecond laser-induced nanogratings**

Laser & Photonics Reviews 6 (2012) 6 p. 787-792,  
ISSN 1863-8899

Risse, Stefan; Damm, Christoph; Hornaff, Marcel; Kamm, Andreas; Mohaupt, Matthias; Eberhardt, Ramona; Schmidt, Ingo; Ramm, Roland; Kühmstedt, Peter; Notni, Gunther; Döring, Hans-Joachim; Elster, Thomas; Kirschstein, Ulf Carsten; Schenk, Christoph  
**Precision assembly of a miniaturized wire deflector for electron-beam lithography**

Microelectronic Engineering 97 (2012) p. 100-104,  
ISSN 0167-9317

Rothhardt, Jan; Demmler, Stefan; Hädrich, Steffen; Limpert, Jens; Tünnermann, Andreas

**Octave-spanning OPCPA system delivering CEP-stable few-cycle pulses and 22 W of average power at 1 MHz repetition rate**

Optics Express 20 (2012) 10 p. 10870-10878,  
ISSN 1094-4087

Rothhardt, Jan; Heidt, Alexander; Hädrich, Steffen; Demmler, Stefan; Limpert, Jens; Tünnermann, Andreas  
**High stability soliton frequency-shifting mechanisms for laser synchronization applications**

Journal of the Optical Society of America B 29 (2012) 6 p. 1257-1262, ISSN 0740-3224

Rupp, Daniela; Adolph, Marcus; Gorkhover, Tais; Schorb, Sebastian; Wolter, David; Hartmann, Robert; Kimmel, Nils; Reich, Christian; Feigl, Torsten; de Castro, Antonio Rubens Britto; Treusch, Rolf; Strüder, Lothar; Möller, Thomas; Bostedt, Christoph  
**Identification of twinned gas phase clusters by single shot scattering with intense soft x-ray pulses**

New Journal of Physics 14 (2012) 5 055016,  
ISSN 1367-2630

Schmidt, Carsten; Liebsch, Mattes; Klein, Angela; Janunts, Norik; Chipouline, Arkadi; Käsebier, Thomas; Etrich, Christoph; Lederer, Falk; Kley, Ernst-Bernhard; Tünnermann, Andreas; Pertsch, Thomas  
**Near-field mapping of optical eigenstates in coupled disk microresonators**

Physical Review A 85 (2012) 3 033827,  
ISSN 1050-2947

Schmidt, Tobias D.; Setz, Daniel S.; Flämmich, Michael; Scholz, Bert J.; Jaeger, Arndt; Diez, Carola; Michaelis, Dirk; Danz, Norbert; Brütting, Wolfgang

**Degradation induced decrease of the radiative quantum efficiency in organic light-emitting diodes**

Applied Physics Letters 101 (2012) 10 103301,  
ISSN 0003-6951

Schmieder, Florian; Schmieder, Stefan; Eger, Rene; Friedrich, Sandra; Werner, Anett; Danz, Norbert; Marx, Uwe; Sonntag, Frank  
**Automated universal chip platform for fluorescence based cellular assays**

Biomedizinische Technik 57 (2012) Suppl. 1 p. 340-343,  
ISSN 0013-5585

Schöberl, Michael; Brückner, Andreas; Foessel, Siegfried; Kaup, André

**Photometric limits for digital camera systems**

Journal of Electronic Imaging 21 (2012) 2 020501,  
ISSN 1017-9909

Schulze, Marcel; Damm, Michael; Helgert, Michael; Kley, Ernst-Bernhard; Nolte, Stefan; Tünnermann, Andreas

**Durability of stochastic antireflective structures – analyses on damage thresholds and adsorbate elimination**  
Optics Express 20 (2012) 16 p. 18348-18355, ISSN 1094-4087

Schürmann, Mark; Jobst, Paul-Johannes; Kaiser, Norbert; Luck, Frank-Ulrich; Beier, Bernd; Thaut, Michael  
**Strukturierbare reflexionsgeminderte Chromschichten**  
Vakuum in Forschung und Praxis 24 (2012) 4 S. 32,  
ISSN 0947-076X

Sieler, Marcel; Schreiber, Peter; Dannberg, Peter;  
Bräuer, Andreas; Tünnermann, Andreas  
**Ultraslim fixed pattern projectors with inherent  
homogenization of illumination**  
Applied Optics 51 (2012) 1 p. 64-74,  
ISSN 0003-6935

Sinibaldi, Alberto; Danz, Norbert; Descrovi, Emiliano; Munzert,  
Peter; Schulz, Ulrike; Sonntag, Frank; Dominici, Lorenzo;  
Michelotti, Francesco  
**Direct comparison of the performance of Bloch surface  
wave and surface plasmon polariton sensors**  
Sensors and Actuators B: Chemical 174 (2012) p. 292-298,  
ISSN 0925-4005

Sinibaldi, Alberto; Descrovi, Emiliano; Giorgis, Fabrizio;  
Dominici, Lorenzo; Ballarini, Mirko; Mandracci, Pietro;  
Danz, Norbert; Michelotti, Francesco  
**Hydrogenated amorphous silicon nitride photonic  
crystals for improved-performance surface  
electromagnetic wave biosensors**  
Biomedical Optics Express 3 (2012) 10 p. 2405-2410,  
ISSN 2156-7085

Steglich, Martin; Bingel, Astrid; Jia, Guobin; Falk, Fritz  
**Atomic layer deposited ZnO:Al for nanostructured  
silicon heterojunction solar cells**  
Solar Energy Materials & Solar Cells 103 (2012) p. 62-68,  
ISSN 0927-0248

Steiner, Stefan; Kroker, Stefanie; Käsebier, Thomas;  
Kley, Ernst-Bernhard; Tünnermann, Andreas  
**Angular bandpass filters based on dielectric  
resonant waveguide gratings**  
Optics Express 20 (2012) 20 p. 22555-22562,  
ISSN 1094-4087

Steinmetz, Alexander; Jansen, Florian; Stutzki, Fabian;  
Lehneis, Reinhold; Limpert, Jens; Tünnermann, Andreas  
**Sub-5ps, multi-megawatt peak-power pulses from  
a fiber-amplified and optically compressed passively  
Q-switched microchip laser**  
Optics Letters 37 (2012) 13 p. 2550-2552,  
ISSN 0146-9592

Stenzel, Olaf; Macleod, Angus  
**Metal-dielectric composite optical coatings:  
underlying physics, main models, characterization,  
design and application aspects**  
Advanced Optical Technologies 1 (2012) 6 p. 463-481,  
ISSN 2192-8584

Stenzel, Olaf; Schulz, Ulrike; Kaiser, Norbert  
**Tailoring optical and non-optical properties of  
interference coating materials through the explicit  
use of small-scale optical inhomogeneities**  
Advances Optical Technologies 1 (2012) 1 p. 79-89,  
ISSN 2192-8584

Stützer, Simon; Kartashov, Yaroslav; Vysloukh, Victor;  
Tünnermann, Andreas; Nolte, Stefan; Lewenstein, Maciej;  
Torner, Lluís; Szameit, Alexander  
**Anderson cross-localization**  
Optics Letters 37 (2012) 10 p. 1715-1717, ISSN 0146-9592

Stutzki, Fabian; Jansen, Florian; Liem, Andreas; Jauregui,  
Cesar; Limpert, Jens; Tünnermann, Andreas  
**26 mJ, 130 W Q-switched fiber-laser system with  
near-diffraction-limited beam quality**  
Optics Letters 37 (2012) 6 p. 1073-1075, ISSN 0146-9592

Thomas, Jens U.; Jovanovic, Nemanja; Krämer, Ria G.;  
Marshall, Graham D.; Withford, Michael J.;  
Tünnermann, Andreas; Nolte, Stefan; Steel, Michael J.  
**Cladding mode coupling in highly localized fiber Bragg  
gratings II: complete vectorial analysis**  
Optics Express 20 (2012) 19 p. 21434-21449, ISSN 1094-4087

Thomas, Jens; Voigtl, Christian; Becker, Ria; Richter, Daniel;  
Tünnermann, Andreas; Nolte, Stefan  
**Femtosecond pulse written fiber gratings: a new avenue  
to integrated fiber technology**  
Laser & Photonics Reviews 6 (2012) 6 p. 709-723,  
ISSN 1863-8899

Tünnermann, Andreas  
**The engine of growth for the entire industry**  
Laser Technik Journal 9 (2012) 1 p. 1, ISSN 1613-7728

Walther, Benny; Helgert, Christian; Rockstuhl, Carsten; Setz-  
pfandt, Frank; Eilenberger, Falk; Kley, Ernst-Bernhard; Lederer,  
Falk; Tünnermann, Andreas; Pertsch, Thomas  
**Spatial and Spectral Light Shaping with Metamaterials**  
Advanced Materials 24 (2012) 47 p. 6300-6304,  
ISSN 1521-4095



Weber, Thomas; Käsebier, Thomas; Helgert, Michael;  
Kley, Ernst-Bernhard; Tünnermann, Andreas  
**Tungsten wire grid polarizer for applications in the  
DUV spectral range**  
Applied Optics 51 (2012) 16 p. 3224-3227, ISSN 0003-6935

Weber, Thomas; Käsebier, Thomas; Szeghalmi, Adriana;  
Knez, Mato; Kley, Ernst-Bernhard; Tünnermann, Andreas  
**High aspect ratio deep UV wire grid polarizer fabricated  
by double patterning**  
Microelectronic Engineering, 98 (2012) Special issue MNE  
2011 – Part II p. 433-435, ISSN 0167-9317

Wilbrandt, Steffen; Stenzel, Olaf; Heiße, Hanno;  
Kaiser, Norbert  
**Aluminiumbasierte Reflektoren für das DUV und VUV**  
Vakuum in Forschung und Praxis 24 (2012) 4 S. 34,  
ISSN 0947-076X

Wünscher, Sebastian; Stumpf, Steffi; Teichler, Anke;  
Pabst, Oliver; Perelaer, Jolke; Beckert, Erik; Schubert, Ulrich S.  
**Localized atmospheric plasma sintering of inkjet printed  
silver nanoparticles**  
Journal of Materials Chemistry 22 (2012) 47 p. 24569-24576,  
ISSN 0959-9428

Zeitner, Uwe Detlef; Oliva, Maria; Fuchs, Frank; Michaelis, Dirk;  
Benkenstein, Tino; Harzendorf, Torsten; Kley, Ernst-Bernhard  
**High performance diffraction gratings made by  
e-beam lithography**  
Applied Physics A 109 (2012) 4 p. 789-796, ISSN 0947-8396

Zeuner, Julia M.; Efremidis, Nikolaos K.; Keil, Robert;  
Dreisow, Felix; Christodoulides, Demetrios N.;  
Tünnermann, Andreas; Nolte, Stefan; Szameit, Alexander  
**Optical analogues for massless dirac particles and conical  
diffraction in one dimension**  
Physical Review Letters 109 (2012) 2 023602, ISSN 0031-9007

Zeuner, Julia M.; Rechtsman, Mikael C.; Keil, Robert; Dreisow,  
Felix; Tünnermann, Andreas; Nolte, Stefan; Szameit, Alexander  
**Negative coupling between defects in waveguide arrays**  
Optics Letters 37 (2012) 4 p. 533-535, ISSN 0146-9592

Zwick, Susanne; Feßler, Robert; Jegorov, Jevgenij;  
Notni, Gunther  
**Resolution limitations for tailored picture-generating  
freeform surfaces**  
Optics Express 20 (2012) 4 p. 3642-3653, ISSN 1094-4087

### Eingeladene Vorträge und Publikationen I Invited Lectures and Publications

Brückner, Andreas  
**Insekten-inspirierte Mikrooptik: Wie aus Facettenaugen  
flache Kameras und Mikroskope werden**  
VDI Wissensforum »Kunststoffe in Optischen Systemen«,  
7.-8.11.2012, Baden-Baden, Deutschland  
Proceedings VDI Wissensforum (2012) S. 1-23,  
ISBN 978-3-942980-85-2

Brückner, Andreas; Wippermann, Frank; Leitel, Robert;  
Dannberg, Peter; Höfer, Bernd; Bräuer, Andreas  
**Flachbauende Multiaperturabbildungsoptiken**  
27. Optik-Kolloquium ITO Stuttgart, 22.2.2012,  
Stuttgart, Deutschland

Burkhardt, Thomas; Hornaff, Marcel; Acker, Anne; Peschel,  
Thomas; Beckert, Erik; Suphan, Karl-Heinz; Mesel, Karsten;  
Jirak, Stephan; Eberhardt, Ramona; Tünnermann, Andreas  
**Die-attach technologies for ultraviolet LED multi-chip  
module based on ceramic substrate**  
Journal of Microelectronics and Electronic Packaging 9 (2012)  
3 p. 113-119, ISSN 1551-4897

Danz, Norbert; Flämmich, Michael; Michaelis, Dirk;  
Schmidt, Tobias; Brütting, Wolfgang  
**Accessing OLED emitter properties by radiation  
pattern analysis**  
International Conference on Simulation of Organic Electronics  
and Photovoltaics (SimOEP12), 10.-14.6.2012, Oliva, Spain  
Nanoenergy Symposia Vol. 10: Proceedings SimOEP12 p. 50,  
ISBN 978-84-940189-1-6

Duparré, Angela  
**Assessment criteria for (super)hydrophobic surfaces with  
stochastic roughness**  
8th International Symposium on Contact Angle, Wettability  
and Adhesion, 13.-15.6.2012, Québec, Canada

Feigl, Torsten  
**Multilayer optics for EUV lithography**  
CXRO X-Ray Optics Seminar, Lawrence Berkeley National  
Laboratory, 11.9.2012, Berkeley, USA

Feigl, Torsten  
**EUV and soft X-ray multilayer optics**  
SLAC Photon Science Seminar, Stanford University,  
12.9.2012, Menlo Park, USA

Feigl, Torsten

**Extreme ultraviolet lithography**

Spectaris Forum Semicon Europe,  
10.10.2012, Dresden, Germany

Füchsel, Kevin

**Nanostrukturierte Grenzflächen und dünne Schichten für die Photovoltaik**

8. ThGOT, Thementage Grenz- und Oberflächentechnik/3.  
Optik-Kolloquium Dünne Schichten in der Optik,  
4.-6.9.2012, Leipzig, Deutschland

Füchsel, Kevin; Kroll, Matthias; Käsebier, Thomas;

Otto, Martin; Pertsch, Thomas; Kley, Ernst-Bernhard;

Wehrspohn, Ralf B.; Kaiser, Norbert; Tünnermann, Andreas

**Black silicon photovoltaics**

SPIE Proceedings Vol. 8438 (2012) 84380M,  
ISBN 9780819491305

Kaiser, Norbert

**Die Bedeutung dünner Schichten für die Optischen Technologien**

OTTI Seminar Optische Technologien – vom Design zum Produkt, 16.2.2012, Regensburg, Deutschland

Kaiser, Norbert

**Design optischer Schichtsysteme**

OTTI Seminar Schichten auf Glas,  
7.3.2012, Regensburg, Deutschland

Kaiser, Norbert

**Fortschritte in den optischen Dünnschichttechnologien**

DPG – Frühjahrstagung der Fachverbände Plasmaphysik und Kurzzeitphysik, Symposium Plasma und optische Technologien (SYPT), 15.3.2011, Stuttgart, Deutschland

Kaiser, Norbert

**Mo/Si multilayers for EUV lithography**

1st VACOM Conference,  
15.6.2012, Jena-Großlobichau, Germany

Kaiser, Norbert

**Plasma and optical thin film technologies**

13th International Conference on Plasma Surface Engineering,  
10.9.2012, Garmisch-Partenkirchen, Germany

Kaiser, Norbert

**Trends und Herausforderungen der Optikbeschichtung**

2. Wetzlarer Herbsttagung Moderne Optikfertigung,  
19.9.2012, Wetzlar, Deutschland

Kaiser, Norbert

**Physics and technology of optical thin film deposition**

The Sixth Seminar for Optical Thin Film Technology and Application, 11.-13.10.2012, Suzhou, China

Kaiser, Norbert

**Plasma and optical thin film technologies**

Frontiers of Optical Coatings (FOC 2012),  
15.-18.10.2012, Hangzhou, China

Kaiser, Norbert

**Plasma und Optische Technologien – ein neuer Forschungsansatz für dielektrische Schichten**

EFDS-Seminar „Struktur und Eigenschaften dielektrischer Schichten für die Optik“, 7.11.2012, Jena, Deutschland

Minardi, Stefano; Eilenberger, Falk; Kartashov, Yaroslav;

Szameit, Alexander; Röpke, Ulrich; Kobelke, Jens;

Schuster, Kay; Bartelt, Hartmut; Nolte, Stefan; Torner, Lluís;

Lederer, Falk; Tünnermann, Andreas; Pertsch, Thomas

**Three-dimensional light bullets**

SPIE Proceedings Vol. 8240 (2012) 82400P,  
ISBN 9780819488831

Notni, Gunther

**Mikro- und Makroform / 3D-Messtechnik – vom stationären zum dynamischen Messen**

VDI-Tagung „Optische Messung von Funktionsflächen in der Praxis“, 21.-22.11.2012, Nürtingen, Deutschland

Notni, Gunther; Kühmstedt, Peter; Ramm, Roland; Schmidt, Ingo

**Computertomographische Untersuchung von kunststoff- und faserverstärkten Leichtbaukomponenten**

9. Jenaer Technologietag JeTT 2012 »Innovativer Leichtbau – Moderne Materialien, Verarbeitung und Anwendung«, 12.11.2012, Jena, Deutschland

Notni, Gunther; Zwick, Susanne

**Vermessung präzisionsbearbeiteter Oberflächen –**

**Von der Makrogeometrie bis zur Oberflächenrauheit**

IFSW Kolloquium, Universität Stuttgart, Institut für Strahlwerkzeuge, 27.6.2012, Stuttgart, Deutschland

Perske, Marco; Pauer, Hagen; Fiedler, Tobias; Yulin, Sergiy;

Nesterenko, Viatcheslav; Schürmann, Mark; Feigl, Torsten;

Kaiser, Norbert

**New high reflective multilayer designs for the EUV and soft X-ray range**

2012 International Workshop on EUV and Soft X-Ray Sources,  
8.-11.10.2012, Dublin, Ireland

Schreiber, Thomas

### **Faserlasersimulation mit Hilfe der nichtlinearen Schrödinger-Gleichung und Ratengleichungen**

IOQ/LHZ Summer School, 10.-14.9.2012, Akademie Waldschlößchen, Reinhausen, Deutschland

Schreiber, Thomas; Limpert, Jens; Tünnermann, Andreas

### **High power fiber laser systems: fundamentals and enabling technologies to enter the upper limits**

Workshop "Trends in Fiber Optics", Institute of Photonic Technology IPHT, 23.2.2012, Jena, Germany

Schröder, Sven; Trost, Marcus; Duparré, Angela

### **Spectral scattering characteristics of interference coatings from the EUV to the IR**

Frontiers of Optical Coatings (FOC 2012), 15.-18.10.2012, Hangzhou, China

Schröder, Sven; Trost, Marcus; Herffurth, Tobias;

Finck, Alexander von; Duparré, Angela

### **Sophisticated light scattering techniques from the VUV to the IR regions**

SPIE Proceedings Vol. 8495 (2012) 84950V, ISBN 9780819492128

Stenzel, Olaf; Schulz, Ulrike; Kaiser, Norbert

### **Tailoring optical and non-optical properties of interference coating materials through the explicit use of small-scale optical inhomogeneities**

Advances Optical Technologies 1 (2012) 1-2 p. 79-89, ISSN 2192-8584

Stenzel, Olaf; Wilbrandt, Steffen; Held, Mario; Kaiser, Norbert

### **Einflussnahme auf optische und nichtoptische Eigenschaften von Interferenzschichten durch bewusstes Ausnutzen von Inhomogenitäten auf der Nanometerskala**

EFDS-Seminar »Struktur und Eigenschaften dielektrischer Schichten für die Optik«, 7.11.2012, Jena, Deutschland

Tünnermann, Andreas

### **Mikro- und Nanooptik**

Kolloquium am Institut für Materialwissenschaft und Werkstofftechnologie der Friedrich-Schiller-Universität Jena, 4.1.2012, Jena, Deutschland

Tünnermann, Andreas

### **Prospects and challenges in high power fiber lasers**

Kolloquium am Fraunhofer-Institut für Lasertechnik, 12.1.2012, Aachen, Germany

Tünnermann, Andreas

### **Advances in high power fiber laser systems**

SPIE Photonics Europe 2012, 16.-19.4.2012, Brussels, Belgium

Tünnermann, Andreas

### **Optische Technologien als Wegbereiter in Schlüsseltechnologien für weitere Wachstumsfelder**

3. Weimarer Wirtschaftsforum, 4.-5.9.2012, Weimar, Deutschland

Tünnermann, Andreas

### **Advances in high power fiber lasers**

3rd IMPRS Annual Meeting, 17.-20.9.2012, Schnaittach-Osternohe, Germany

Tünnermann, Andreas

### **Photonics: optical solution for a sustainable future**

European Commission „Photonics Unit“, 22.10.2012, Brussels, Belgium

Tünnermann, Andreas

### **Advances in high power fiber laser systems**

Laser Welding Workshop, 1.11.2012, Munkebo, Denmark

Tünnermann, Andreas

### **Green Photonics – nachhaltige Lösungen mit Licht**

Ehrenkolloquium Prof. Sauerbrey, Helmholtz-Institut Dresden-Rossendorf, 22.11.2012, Dresden, Deutschland

Tünnermann, Andreas

### **Ultrakurzpulsentwicklungen für neue Bearbeitungsverfahren und -anwendungen**

8. Jenaer Lasertagung, 22.-23.11.2012, Jena, Deutschland

Tünnermann, Andreas; Bräuer, Andreas; Brückner, Andreas; Wippermann, Frank

### **Multi-aperture optics inspired by facet eye of insects – small lenses go big**

90 Jahre Optisches Museum, Symposium »Historische optische Instrumente und die Sammlung des Optischen Museums Jena«, 13.10.2012, Jena, Germany

Tünnermann, Andreas; Limpert, Jens; Schreiber, Thomas

### **Recent developments in lasers for use in accelerators**

IPAC 2012, 20.-25.5.2012, New Orleans, Louisiana, USA

Yulin, Sergiy

### **Multilayer reflective optics**

Summer School on Short-Wavelength Imaging & Spectroscopy Sources, 10.-11.9.2012, Bern, Switzerland

Yulin, Sergiy; Feigl, Torsten; Nesterenko, Viatcheslav; Schürmann, Mark; Perske, Marco; Pauer, Hagen; Fiedler, Tobias; Kaiser, Norbert

**EUV multilayer coatings: potentials and limits**

2012 International Workshop on EUV Lithography, 4.-8.6.2012, Maui, Hawaii

Zwick, Susanne; Heist, Stefan; Franzl, Yannick, Steinkopf, Ralf; Kühmstedt, Peter; Notni, Gunther

**3D measurement system on the basis of a tailored free-form mirror**

SPIE Optics + Photonics, 12.-16.8.2012, San Diego, CA, USA  
SPIE Proceedings Vol. 8494 (2012) 84940F,  
ISBN 9780819492111

**Vorträge, Poster, Konferenzen I**  
**Lectures, Posters, Conferences**

Apel, Stefan; Suphan, Karl-Heinz; Hornaff, Marcel; Burkhardt, Thomas; Seeger, Stefan

**AVT-Konzepte für zuverlässige Leistungs-LED-Module**

Deutsche IMAPS-Konferenz 2012,  
11.-12.10.2012, München, Deutschland

Baumgartl, Martin; Lecaplain, Caroline; Hideur, Ammar; Limpert, Jens; Tünnermann, Andreas

**65 W of average power and 6-MW peak power generation from a mode-locked fiber oscillator**

SPIE Proceedings Vol. 8237 (2012) 82370H,  
ISBN 9780819488800

Baumgartl, Martin; Chemnitz, Mario; Jauregui, Cesar; Gottschall, Thomas; Meyer, Tobias; Dietzek, Benjamin; Popp, Jürgen; Limpert, Jens; Tünnermann, Andreas

**Fiber optical parametric frequency conversion: Alignment and maintenance free all-fiber laser concept for CARS microscopy**

Proceedings CLEO: Science and Innovations (CLEO: S and I), OSA Technical Digest (2012) CF1B.4

Baumgartl, Martin; Chemnitz, Mario; Jauregui, Cesar; Meyer, Tobias; Dietzek, Benjamin; Popp, Jürgen; Limpert, Jens; Tünnermann, Andreas

**Alignment and maintenance free all-fiber laser source for CARS microscopy based on frequency conversion by four-wave-mixing**

SPIE Proceedings Vol. 8247 (2012) 82470F,  
ISBN 9780819488909

Baumgartl, Martin; Lecaplain, Caroline; Hideur, Ammar; Limpert, Jens; Tünnermann, Andreas

**Fiber oscillator producing 91fs pulses with 0.8  $\mu$ J at 60W of average power**

Proceedings Lasers, Sources, and Related Photonic Devices, OSA Technical Digest (2012) AT1A.2,  
ISBN 978-1-55752-933-6

Becker, Ria G.; Voigtländer, Christian; Thomas, Jens; Richter, Daniel; Singh, Anshuman; Tünnermann, Andreas; Nolte, Stefan

**Tailored fiber Bragg gratings inscribed with a phase mask and a deformed wave front by ultrashort pulses**

SPIE Proceedings Vol. 8237 (2012) 82372H,  
ISBN 9780819488800

Beckert, Erik

**UP-Bearbeitung mikrooptischer Arraystrukturen für Faserkoppler**

Anwenderkonferenz Optische Mikrosysteme, 20.-21.11.2012, Erfurt, Deutschland

Beckert, Erik; Pabst, Oliver; Perelaer, Jolke; Schubert, Ulrich S.; Eberhardt, Ramona; Tünnermann, Andreas

**Inkjet printing for applications in microfluidic lab-on-chip systems**

NIP/Digital Fabrication Conference, 9.-13.9.2012, Quebec City, Canada

Berlich, René; Brückner, Andreas; Leitel, Robert; Bräuer, Andreas

**Ultra-compact illumination module for multi-aperture imaging systems**

SPIE Photonics West 2012, 21.-26.1.2012, San Francisco, CA, USA

Bingel, Astrid; Fuchsel, Kevin; Kaiser, Norbert; Tünnermann, Andreas

**Pulsed DC magnetron sputtering of transparent conductive oxide layers**

Frontiers of Optical Coatings (FOC 2012), 15.-18.10.2012, Hangzhou, China

Böhme, Steffen; Fabian, Simone; Schreiber, Thomas; Eberhardt, Ramona; Tünnermann, Andreas

**End cap splicing of photonic crystal fibers with outstanding quality for high-power applications**

SPIE Proceedings Vol. 8244 (2012) 824406,  
ISBN 9780819488879

Bourgin, Yannick; Stürzebecher, Lorenz; Käsebier, Thomas;  
Fuchs, Frank; Harzendorf, Torsten; Zeitner, Uwe D.

### **Sub-Micrometer period diffraction grating generated by i-line mask-aligner lithography**

EOS Annual meeting EOSAM 2012,  
25.-28.9.2012, Aberdeen, Scotland, UK

Brahm, Anika; Müller, Martin; Wichmann, Felix;  
Buß, Wolfgang; Gerth, Carsten; Riehemann, Stefan;  
Notni, Gunther; Tünnermann, Andreas

### **Development of a multichannel lock-in amplifier for terahertz time-domain systems**

International Forum on Terahertz Spectroscopy and Imaging,  
6.-7.3.2012, Kaiserslautern, Germany

Brahm, Anika; Müller, Martin; Wichmann, Felix;  
Buß, Wolfgang; Gerth, Carsten; Riehemann, Stefan;  
Notni, Gunther; Tünnermann, Andreas

### **Development of a multichannel lock-in amplifier for terahertz time-domain systems**

IRMMW-THZ 2012, 37th International Conference on Infrared,  
Terahertz and Millimeter Waves,  
23.-28.9.2012, Wollongong, Australia

Braig, Christoph; Burwitz, Vadim; Käsebier, Thomas;  
Kley, Ernst-Bernhard; Predehl, Peter; Tünnermann, Andreas

### **Resolution limits of transmission optics for x-ray astronomy**

SPIE Proceedings Vol. 8443 (2012) 844341,  
ISBN 9780819491442

Bramati, Arianna; Weichelt, Tina; Stürzebecher, Lorenz;  
Meliorisz, Balint; Vogler, Uwe; Voelkel, Reinhard

### **AMALITH: Advanced mask aligner lithography**

113. Jahrestagung DGaO,  
29.5.-2.6.2012, Eindhoven, Netherlands  
Proceedings DGaO (2012) A001,  
ISSN 1614-8436

Bräuer-Burchardt, Christian; Kühmstedt, Peter; Notni, Gunther

### **Ultra-precise hybrid lens distortion correction**

ICIVC 2012 – International Conference on Image and Vision  
Computing, 14.-16.11.2012, Venice, Italy

Bräuer-Burchardt, Christian; Kühmstedt, Peter; Notni, Gunther

### **Combination of sinusoidal and single binary pattern projection for fast 3D surface reconstruction**

DAGM-OAGM 2012,  
28.-31.8.2012, Graz, Austria

Bräuer-Burchardt, Christian; Zwick, Susanne; Notni, Gunther;  
Beier, Matthias; Gebhardt, Andreas

### **A simulation model for the development of an aspheric lens adjustment system**

SPIE Optical Systems Design, 26.-29.11.2012, Barcelona, Spain  
SPIE Proceedings Vol. 8550 (2012) 855008,  
ISBN 9780819493019

Breitbarth, Andreas

### **Hochdynamische 3-D-Verfahren**

Fraunhofer-Allianz VISION Seminar mit Praktikum „Optische  
3-D-Messtechnik für die Qualitätssicherung in der Produk-  
tion“, 5.-6.12.2012, Jena, Deutschland

Breitbarth, Andreas; Kühmstedt, Peter; Notni, Gunther;  
Denzler, Joachim

### **Motion compensation for three-dimensional measurements of macroscopic objects using fringe projection**

113. Jahrestagung DGaO, 29.5.-2.6.2012,  
Eindhoven, Netherlands  
Proceedings DGaO (2012) A11, ISSN 1614-8436

Breitbarth, Martin; Notni, Gunther; Hage, Holger

### **Prüfen von Freiformflächen: Übersicht und Ergebnisse aus dem BMBF-Projekt „Mesofrei“**

VDI Wissensforum »Kunststoffe in Optischen Systemen«,  
7.-8.11.2012, Baden-Baden, Deutschland

Bruchmann, Claudia; Appelfelder, Michael; Beckert, Erik;  
Eberhardt, Ramona; Tünnermann, Andreas

### **Thermo-mechanical properties of a deformable mirror with screen printed actuator**

SPIE Proceedings Vol. 8253 (2012) 82530D,  
ISBN 9780819488961

Brückner, Andreas; Oberdörster, Alexander; Leitel, Robert;  
Dannberg, Peter; Wippermann, Frank; Bräuer, Andreas

### **Electronic Cluster Eye: A multi aperture approach to wafer-level camera lenses**

International Symposium on Microoptical Imaging and  
Projection, 27.-29.11.2012, Jena, Germany

Burkhardt, Thomas; Beckert, Erik; Hornaff, Marcel;  
Thiele, Julia; Burkhardt, Diana; Galan, Miguel;

Gilaberte, Marta; Ferrando, Sergi; Montes, David; Ribes, Pol;  
Eberhardt, Ramona; Tünnermann, Andreas

### **Solder joining of a miniaturized laser on a multi-material smart platform**

Smart Systems Integration, 21.-22.3.2012, Zurich, Switzerland  
Proceedings SSI (2012) paper 60, ISBN 978-3-8007-3423-8

Burkhardt, Thomas; Hornaff, Marcel; Acker, Anne; Peschel, Thomas; Becker, Erik; Suphan, Karl-Heinz; Mensel, Karsten; Jirak, Stephan; Eberhardt, Ramona; Tünnermann, Andreas  
**Ultraviolet LED multi-chip module based on ceramic substrate**

IMAPS/ACerS 8th International CICMT Conference and Exhibition, 16.-19.4.2012, Erfurt, Germany  
Proceedings IMAPS/ACerS (2012) p. 238-245

Burkhardt, Thomas; Hornaff, Marcel; Beckert, Erik  
**Hermetic Sealing of Intracorporeal and Biomedical Devices by Solderjet Bumping**

COMPAMED High-Tech Forum by IVAM, 14.-16.11.2012, Düsseldorf, Germany

Burmeister, Frank; Zeitner, Uwe D.; Nolte, Stefan; Tünnermann, Andreas

**Hybrid optics for three-dimensional microstructuring of polymers via direct laser writing**

SPIE Proceedings Vol. 8249 (2012) 824910, ISBN 9780819488923

Carius, Reinhard; Michaelis, Dirk; Moulin, Emmanuel; Paetzold, Ursula; Wächter, Christoph

**Modelling of nanoparticle arrays in Si solar cells**

19th International Workshop on Optical Waveguide Theory and Numerical Modelling (OWTNNM) 2012, 20.-21.4.2012, Barcelona, Spain

Coriand, Luisa; Duparré, Angela; Tünnermann, Andreas  
**Investigation of hydrophilic optical coatings with anti-fog behavior**

8th International Symposium on Contact Angle, Wettability and Adhesion, 13.-15.6.2012, Québec, Canada

Danz, Norbert; Sinibaldi, Alberto; Michelotti, Francesco; Descrovi, Emiliano; Munzert, Peter; Schulz, Ulrike; Sonntag, Frank

**Steigerung der Empfindlichkeit markierungsfreier optischer Sensoren mittels Bloch-Oberflächenwellen**

16. Heiligenstädter Kolloquium »Technische Systeme für die Lebenswissenschaften«, 24.-26.9.2012, Heiligenstadt, Deutschland  
Proceedings S. 23-30, ISBN 978-3-00-039458-4

Danz, Norbert; Sinibaldi, Alberto; Michelotti, Francesco; Descrovi, Emiliano; Munzert, Peter; Schulz, Ulrike; Sonntag, Frank

**Improving the sensitivity of optical biosensors by means of Bloch surface waves**

46. Jahrestagung der Deutschen Gesellschaft für Biomedizinische Technik (DGBMT), 16.-19.9.2012, Jena, Germany

Demmler, Stefan; Hädrich, Steffen; Rothhardt, Jan; Limpert, Jens; Tünnermann, Andreas

**Octave spanning amplification in single color pumped OPCPA system at megahertz repetition rate**

Proceedings Quantum Electronics and Laser Science Conference (QELS), OSA Technical Digest (2012) QM4E.8

Demmler, Stefan; Rothhardt, Jan; Hädrich, Steffen; Limpert, Jens; Tünnermann, Andreas

**Octave spanning optical parametric amplification of CEP stable sub-two cycle pulses at high average power**

Proceedings Lasers, Sources, and Related Photonic Devices, OSA Technical Digest (2012) AT2A.4, ISBN 978-1-55752-933-6

Döring, Sven; Richter, Sören; Tünnermann, Andreas; Nolte, Stefan  
**Influence of pulse duration on the hole formation during short and ultrashort pulse laser deep drilling**

SPIE Proceedings Vol. 8247 (2012) 824717, ISBN 9780819488909

Dreisow, Felix; Longhi, Stefano; Nolte, Stefan; Tünnermann, Andreas; Szameit, Alexander

**Dynamical pair production in optical waveguide arrays**

Proceedings Quantum Electronics and Laser Science Conference (QELS), OSA Technical Digest (2012) QTh1E.5

Dunkel, Jens; Wippermann, Frank; Bräuer, Andreas

**Fabrication of microstructures with continuous surface profiles and very large sag heights by laser lithography**

SPIE Proceedings Vol. 8248 (2012) 824807, ISBN 9780819488916

Duparré, Angela

**Streulichtverfahren zur Rauheitsbewertung von Oberflächen**

Fraunhofer-Allianz VISION Technologietag 2012 „Innovative Technologien für die industrielle Qualitätssicherung mit Bildverarbeitung“, 17.-18.10.2012, Jena, Deutschland

Duparré, Angela; Trost, Markus

**Funktionsrelevante Rauheitsanalyse durch kombinatorische Verfahren**

VDI-Tagung „Optische Messung von Funktionsflächen in der Praxis“, 21.-22.11.2012, Nürtingen, Deutschland

Eberhardt, Ramona; Kalkowski, Gerhard; Tünnermann, Andreas; Beckert, Erik; Böhme, Steffen

**New joining technologies for high stable and smart optical systems**

Proceedings Optical Fabrication and Testing (OFT), OSA Technical Digest (2012) OTu3D.1

Eilenberger, Falk; Minardi, Stefano; Szameit, Alexander;  
Röpke, Ulrich; Kobelke, Jens; Schuster, Kay; Bartelt, Hartmut;  
Nolte, Stefan; Tünnermann, Andreas; Pertsch, Thomas

### **Nonlinear spectral symmetry breaking of light bullets in waveguide arrays**

Proceedings Quantum Electronics and Laser Science Conference (QELS), OSA Technical Digest (2012) QF1G.6

Feigl, Torsten; Perske, Marco; Pauer, Hagen; Fiedler, Tobias;  
Yulin, Sergiy; Kaiser, Norbert; Tünnermann, Andreas; Böwering, Norbert; Ershov, Alex; Hoffmann, Kay; La Fontaine, Bruno

### **Enhanced lifetime and optical performance of the NXE:3100 LPP collector mirrors**

2012 International Symposium on Extreme Ultraviolet Lithography, 2.10.2012, Brussels, Belgium

Feigl, Torsten; Perske, Marco; Pauer, Hagen; Fiedler, Tobias;  
Yulin, Sergiy; Trost, Marcus; Schroeder, Sven; Duparré, Angela;  
Kaiser, Norbert; Tünnermann, Andreas; Böwering, Norbert;  
Ershov, Alex; Hoffmann, Kay; La Fontaine, Bruno;  
Cummings, Kevin D.

### **Optical performance of LPP multilayer collector mirrors**

SPIE Proceedings Vol. 8322 (2012) 832217,  
ISBN 9780819489784

Finck, Alexander von; Hauptvogel, Matthias; Duparré, Angela  
**Optical performance and symmetry assessment of diamond cuts using the ALBATROSS-TT system**

113. Jahrestagung DGaO,  
29.5.-2.6.2012, Eindhoven, Netherlands

Fischer, Stephanie; Sieler, Marcel; Schreiber, Peter; Dannberg, Peter  
**The array projector: Breaking Scheimpflug's rule**

113. Jahrestagung DGaO,  
29.5.-2.6.2012, Eindhoven, Netherlands

Flügge, Jens; Beckert, Erik; Jennett, Nigel; Maxwell, Tony;  
Petit, Daniel; Rudtsch, Steffen; Salgado, J.; Schalles, Marc;  
Schödel, René; Voigt, Dirk; Voigt, Michael

### **The EMRP Project „Thermal design and dimensional drift“**

Proceedings 12th euspen International Conference and Exhibition, 4.-8.6.2012, Stockholm, Sweden (2012) p. 80-83,  
ISBN 978-0-9566790-0-0

Franke, Christian; Schürmann, Mark; Wilbrandt, Steffen; Kaiser, Norbert  
**Simulation der Abscheidung von dielektrischen Schichtsystemen auf große optische Bauteile**

8. ThGOT, Thementage Grenz- und Oberflächentechnik/3.  
Optik-Kolloquium Dünne Schichten in der Optik, 4.-6.9.2012,  
Leipzig, Deutschland  
Proceedings 8. ThGOT (2012) S. 402-403, ISBN 978-3-00-038451-6

Fuchs, Frank; Michaelis, Dirk; Zeitner, Uwe D.;  
Kley, Ernst-Bernhard

### **Avoiding Resonance in Dielectric Reflection Gratings**

8th EOS Topical Meeting on Diffractive Optics 2012,  
27.2.-1.3.2012, Delft, Netherlands

Fuchs, Werner; Kühmstedt, Peter

### **Entwicklung und Einsatz eines Schneidkantensensors**

Anwenderkonferenz Optische Mikrosysteme,  
20.-21.11.2012, Erfurt, Deutschland

Füchsel, Kevin; Bingel, Astrid; Blumröder, Ulrike; Schulz, Ulrike;  
Kaiser, Norbert

### **Nanostrukturierte Grenzflächen und dünne Schichten für die Photovoltaik**

Proceedings 8. ThGOT, Thementage Grenz- und Oberflächentechnik/3. Optik-Kolloquium Dünne Schichten in der Optik, 4.-6.9.2012, Leipzig, Deutschland (2012) S. 325-330,  
ISBN 978-3-00-038451-6

Gebhardt, Andreas; Damm, Christoph; Kinast, Jan; Rohloff, Ralf-Rainer; Lenzen, Rainer; Rochau, Boyke

### **Ultraprecision manufacturing and alignment of the GRAVITY K-Mirror for the very large telescope interferometer**

12th euspen International Conference and Exhibition,  
4.-8.6.2012, Stockholm, Sweden  
Proceedings (2012) p. 116-120, ISBN 978-0-9566790-0-0

Gerth, Carsten; Brahm, Anika; Zwick, Susanne; Notni, Gunther  
**Investigation of textile spectral properties for the THz video camera**

IRMMW-THZ 2012, 37th International Conference on Infrared, Terahertz and Millimeter Waves,  
23.-28.9.2012, Wollongong, Australia

Gräfe, Markus; Solntsev, Alexander S.; Keil, Robert;  
Tünnermann, Andreas; Nolte, Stefan; Szameit, Alexander;  
Sukhorukov, Andrey A.; Kivshar, Yuri S.

### **Classical optical simulation of bi-photon generation in quadratic waveguide arrays**

Proceedings Nonlinear Photonics (NP),  
OSA Technical Digest (2012) NW2D.2

Grange, Rachel; Brönstrup, Gerald; Sergejev, Anton; Richter, Jessica; Pertsch, Thomas; Tünnermann, Andreas; Christiansen, Silke; Leiterer, Christian; Fritzsche, Wolfgang; Gutsche, Christoph; Lysov, Andrey; Prost, Werner; Tegude, Franz-Josef  
**Imaging of waveguiding and scattering interferences in individual GaAs nanowires via second-harmonic generation**  
SPIE Proceedings Vol. 8424 (2012) 84241J,  
ISBN 9780819491169

Großmann, Constanze; Gawronski, Ute; Breitbarth, Martin; Baumgarten, Judith; Notni, Gunther; Tünnermann, Andreas  
**3D metrology system based on a bidirectional OLED microdisplay**  
SID Display Week 2012 International Symposium, Seminar and Exhibition, 3.-8.6.2012, Boston, MA, USA

Großmann, Constanze; Gawronski, Ute; Breitbarth, Martin; Notni, Gunther; Tünnermann, Andreas  
**3-D metrology system based on a bi-directional OLED microdisplay**  
SPIE Photonics Europe 2012,  
16.-19.4.2012, Brussels, Belgium  
SPIE Proceedings Vol. 8429 (2012) 842903,  
ISBN 9780819491213

Großmann, Constanze; Gawronski, Ute; Riehemann, Stefan; Notni, Gunther; Tünnermann, Andreas  
**First step to the development of an optical system based on a bi-directional OLED microdisplay: Specified display characterization**  
SID-ME Spring Meeting 2012,  
7.-8.5.2012, Stockholm, Schweden

Großmann, Constanze; Gawronski, Ute; Perske, Franziska; Notni, Gunther; Tünnermann, Andreas  
**Optical system design based on bi-directional sensor devices**  
SPIE Optics + Photonics, 12.-16.8.2012, San Diego, CA, USA  
SPIE Proceedings Vol. 8487 (2012) 848706,  
ISBN 9780819492043

Gutzeit, Nam; Müller, Jens; Bruchmann, Claudia; Gebhardt, Sylvia  
**Manufacturing and characterization of a deformable LTCC membrane with integrated temperature sensors, strain gauges and heating structures**  
IMAPS/ACerS 8th International CICMT Conference and Exhibition, 16.-19.4.2012, Erfurt, Germany  
Proceedings IMAPS/ACerS (2012) p. 512-519

Hädrich, Steffen; Krebs, Manuel; Demmler, Stefan; Rothhardt, Jan; Limpert, Jens; Tünnermann, Andreas  
**Megahertz high harmonic generation at the  $\mu\text{W}$  level with fiber CPA systems**  
Proceedings Research in Optical Sciences (HILAS), OSA Technical Digest (2012) HM3C.1

Hädrich, Steffen; Rothhardt, Jan; Carstens, Henning; Demmler, Stefan; Gottschall, Thomas; Limpert, Jens; Tünnermann, Andreas  
**High peak and average power generation by cascaded nonlinear compression of fiber CPA system**  
SPIE Proceedings Vol. 8237 (2012) 82371O,  
ISBN 9780819488800

Hädrich, Steffen; Rothhardt, Jan; Carstens, Henning; Demmler, Stefan; Herrick, Nicholas; Limpert, Jens; Tünnermann, Andreas  
**100 W nonlinear compression in hollow core fibers at 1 MHz repetition rate**  
Proceedings Lasers, Sources, and Related Photonic Devices, OSA Technical Digest (2012) AT1A.6, ISBN 978-1-55752-933-6

Harzendorf, Torsten; Stürzebecher, Lorenz; Zeitner, Uwe Detlef  
**Novel gap alignment sensor for high-resolution proximity lithography**  
SPIE Photonics Europe 2012, 16.-19.4.2012, Brussels, Belgium  
SPIE Proceedings Vol. 8428 (2012) 842815,  
ISBN 9780819491206

Heidler, Nils; Gossel, Marcus; Risse, Stefan; Eberhardt, Ramona; Schenk, Christoph  
**Mechanical vacuum feedthrough using gas lubricated guiding elements**  
27th Annual Meeting of the American Society for Precision Engineering (ASPE), 21.-26.10.2012, San Diego, CA, USA  
Proceedings ASPE (2012) p. 386-289, ISBN 978-1-887706-61-2

Heinrich, Matthias; Lahini, Yoav; Keil, Robert; Naether, Uta; Dreisow, Felix; Tünnermann, Andreas; Nolte, Stefan; Szameit, Alexander  
**Disorder-enhanced nonlinear delocalization in segmented photonic lattices**  
Proceedings Quantum Electronics and Laser Science Conference (QELS), OSA Technical Digest (2012) QM1E.7

Herffurth, Tobias; Schröder, Sven; Duparré, Angela  
**Defect assessment of optical surfaces using the light scatter sensor HOROS**  
113. Jahrestagung DGaO,  
29.5.-2.6.2012, Eindhoven, Netherlands



Herfurth, Tobias; Schröder, Sven; Trost, Marcus;  
Duparré, Angela

**Light scattering to detect imperfections relevant for laser-induced damage**

Laser Damage Symposium XLIV: Annual Symposium on Optical Materials for High Power Lasers, 23.-26.9.2012, Boulder, Colorado, USA  
SPIE Proceedings Vol. 8530 (2012) 85301B, ISBN 9780819492708

Holzberger, Simon; Pupeza, Ioachim; Esser, Dominik; Weitenberg, Johannes; Carstens, Henning; Eidam, Tino; Russbült, Peter; Limpert, Jens; Udem, Thomas; Tünnermann, Andreas; Hänsch, Theodor; Krausz, Ferenc; Fill, Ernst

**Sub-25 nm high-harmonic generation with a 78-MHz repetition rate enhancement cavity**

Proceedings Quantum Electronics and Laser Science Conference (QELS), OSA Technical Digest (2012) QTh5B.7

Holzberger, Simon; Pupeza, Ioachim; Kaster, Jan; Eidam, Tino; Bernhardt, Birgitta; Vernaleken, Andreas; Pronin, Oleg; Pervak, Volodymyr; Holzwarth, Ronald; Udem, Thomas; Limpert, Jens; Apolonskiy, Alexander; Fill, Ernst E.; Hänsch, Theodor W.; Tünnermann, Andreas; Krausz, Ferenc

**Power scaling limitations for cavity-assisted high-harmonic generation**

Proceedings Lasers, Sources, and Related Photonic Devices, OSA Technical Digest (2012) AM4A.12, ISBN 978-1-55752-933-6

Jacobitz, Tassilo; Kroker, Stefanie; Käsebier, Thomas; Kley, Ernst-Bernhard; Tünnermann, Andreas

**Tuning the reflectivity of high contrast gratings based on silicon and silica by means of wet etching with hydrofluoric acid**

SPiE Proceedings Vol. 8270 (2012) 82700U, ISBN 9780819489135

Jansen, Florian; Stutzki, Fabian; Liem, Andreas; Jauregui, Cesar; Limpert, Jens; Tünnermann, Andreas

**High power Q-switched fiber laser system delivering 22mJ pulse energy with excellent beam quality**

Proceedings Lasers, Sources, and Related Photonic Devices, OSA Technical Digest (2012) AT1A.4, ISBN 978-1-55752-933-6

Jansen, Florian; Stutzki, Fabian; Liem, Andreas; Jauregui, Cesar; Limpert, Jens; Tünnermann, Andreas

**26-mJ pulse energy Q-switched large-pitch fiber laser system with excellent beam quality**

SPiE Proceedings Vol. 8237 (2012) 82371S, ISBN 9780819488800

Jansen, Florian; Stutzki, Fabian; Otto, Hans-Jürgen; Eidam, Tino; Liem, Andreas; Jauregui, Cesar; Limpert, Jens; Tünnermann, Andreas

**Thermal waveguide changes in high power fiber lasers**

Proceedings Fiber Lasers and Applications (FILAS), OSA Technical Digest (2012) FTh3A.3

Jarczynski, M.; Mitra, T.; Ivanenko, M.; Aschke, L.; Wächter, C.; Fuchs, U.; Linke, T.; Kiontke, S.

**Monolithic optical components for splitting of high-power beams**

SPiE Optical Design and Systems Engineering, 12.-16.8.2012, San Diego, CA, USA  
SPiE Proceedings Vol. 8490 (2012) 84900Q, ISBN 9780819492074

Jauregui, Cesar; Eidam, Tino; Otto, Hans-Jürgen; Stutzki, Fabian; Jansen, Florian; Limpert, Jens; Tünnermann, Andreas

**Thermally induced index gratings in few-mode high-power fiber laser systems**

Proceedings Lasers, Sources, and Related Photonic Devices, OSA Technical Digest (2012) AT4A.10, ISBN 978-1-55752-933-6

Jauregui, Cesar; Eidam, Tino; Otto, Hans-Jürgen; Stutzki, Fabian; Jansen, Florian; Limpert, Jens; Tünnermann, Andreas

**On the thermal origin of mode instabilities in high power fiber lasers**

SPiE Proceedings Vol. 8237 (2012) 82370D, ISBN 9780819488800

Jauregui, Cesar; Steinmetz, Alexander; Nodop, Dirk; Limpert, Jens; Tünnermann, Andreas

**All-Fiber Parametric Generation of Sub-100ps Pulses at 650nm with 9Watt Average Power**

Proceedings Lasers, Sources, and Related Photonic Devices, OSA Technical Digest (2012) AT1A.7, ISBN 978-1-55752-933-6

Jobst, Paul Johannes; Schürmann, Mark; Gebhardt, Andreas; Risse, Stefan; Kaiser, Norbert

**Polierbare Siliziumschichten zur Herstellung ultra-präziser optischer Komponenten**

8. ThGOT, Thementage Grenz- und Oberflächentechnik/3. Optik-Kolloquium Dünne Schichten in der Optik, 4.-6.9.2012, Leipzig, Deutschland

**Fiber based generation of azimuthally polarized light**

SPiE Proceedings Vol. 8237 (2012) 82373Q, ISBN 9780819488800

Jocher, Christoph; Jauregui, Cesar; Voigtländer, Christian; Stutzki, Fabian; Nolte, Stefan; Limpert, Jens; Tünnermann, Andreas  
**Fiber based modal filter for radially and azimuthally polarized beams**  
Proceedings Fiber Lasers and Applications (FILAS), OSA Technical Digest (2012) FW5C.3

Kalkowski, Gerhard; Peschel, Thomas; Hassall, Geoffrey; Risse, Stefan  
**Investigations into an electrostatic chuck design for 450 mm Si wafer**  
SPIE Advanced Lithography, 12.-16.2.2012, San Jose, CA, USA  
SPIE Proceedings Vol. 8324 (2012) 83242Z, ISBN 9780819489807

Keil, Robert; Lahini, Yoav; Shechtman, Yoav; Heinrich, Matthias; Pugatch, Rami; Dreisow, Felix; Tünnermann, Andreas; Nolte, Stefan; Szameit, Alexander  
**Self-imaging through a disordered waveguide lattice**  
Proceedings Quantum Electronics and Laser Science Conference (QELS), OSA Technical Digest (2012) QF1H.1

Kinast, Jan; Gebhardt, Andreas; Schönherr, Veit; Eberhardt, Ramona  
**Analyse des thermischen Ausdehnungskoeffizienten von Chemisch Nickel für Tieftemperaturanwendungen**  
2. Workshop Oberflächentechnik, 6.-7.9.2012, Ilmenau, Deutschland  
Proceedings (2012) S. 42-46, ISBN 978-3-938843-72-7

Klenke, Arno; Seise, Enrico; Bretkopf, Sven; Demmler, Stefan; Rothhardt, Jan; Limpert, Jens; Tünnermann, Andreas  
**3mJ coherently combined two channel femtosecond fiber CPA laser system**  
Proceedings Lasers, Sources, and Related Photonic Devices, OSA Technical Digest (2012) AM3A.3, ISBN 978-1-55752-933-6

Klenke, Arno; Seise, Enrico; Bretkopf, Sven; Limpert, Jens; Tünnermann, Andreas  
**Analytical and experimental analysis of the stability of coherently combined femtosecond laser systems**  
Proceedings Lasers, Sources, and Related Photonic Devices, OSA Technical Digest (2012) AM4A.2, ISBN 978-1-55752-933-6

Klenke, Arno; Seise, Enrico; Demmler, Stefan; Rothhardt, Jan; Bretkopf, Sven; Limpert, Jens; Tünnermann, Andreas  
**Coherently combined CPA fiber laser system delivering 3mJ femtosecond pulses**  
SPIE Proceedings Vol. 8237 (2012) 823708, ISBN 9780819488800

Klenke, Arno; Seise, Enrico; Limpert, Jens; Tünnermann, Andreas  
**Analytical analysis of coherent combining of ultrashort laser pulses**  
SPIE Proceedings Vol. 8237 (2012) 82373R, ISBN 9780819488800

Kley, Ernst-Bernhard; Schmidt, Holger; Zeitner, Uwe; Banasch, Michael; Schnabel, Bernd  
**Enhanced E-beam pattern writing for nano-optics based on character projection**  
SPIE Proceedings Vol. 8352 (2012) 83520M, ISBN 978-081949030-8

Krebs, Manuel; Hädrich, Steffen; Demmler, Stefan; Rothhardt, Jan; Limpert, Jens; Tünnermann, Andreas  
**High repetition rate few-cycle OPCPA for generation of isolated attosecond pulses**  
Proceedings Research in Optical Sciences (HILAS), OSA Technical Digest (2012) HT3C.1

Kroker, Stefanie; Käsebier, Thomas; Weber, Thomas; Steiner, Stefan; Fuchs, Frank; Kley, Ernst-Bernhard; Tünnermann, Andreas  
**Diffraction optical elements based on subwavelength high-contrast gratings**  
SPIE Proceedings Vol. 8270 (2012) 82700P, ISBN 9780819489135

Kroll, Matthias; Otto, Martin; Käsebier, Thomas; Fuchs, Kevin; Wehrspohn, Ralf; Kley, Ernst-Bernhard; Tünnermann, Andreas; Pertsch, Thomas  
**Black silicon for solar cell applications**  
SPIE Proceedings Vol. 8438 (2012) 843817, ISBN 9780819491305

Kühmstedt, Peter  
**Robuste Multi-View-3-D-Messsysteme in Rapid Prototyping- und Qualitätssicherungs-Prozessketten**  
Fraunhofer-Allianz VISION Seminar mit Praktikum »Optische 3-D-Messtechnik für die Qualitätssicherung in der Produktion«, 5.-6.12.2012, Jena, Deutschland

Kühmstedt, Peter; Notni, Gunther  
**Ultraschnelle Vermessung von Lotpasten**  
CoOPTICS Jahrestagung 2012 – Status und Ergebnisse, 17.10.2012, Jena, Deutschland

Kühmstedt, Peter; Ramm, Roland; Heinze, Matthias; Schmidt, Ingo; Notni, Gunther  
**3D-Schneidkantenvermessung von Präzisionswerkzeugen**  
113. Jahrestagung DGaO, 29.5.-2.6.2012, Eindhoven, Netherlands

Lange, Nicolas; Wippermann, Frank; Beckert, Erik;  
Eberhardt, Ramona; Tünnermann, Andreas  
**High stroke polymer based electrostatic actuators**  
Actuator 2012, International Conference and Exhibition on New  
Actuators and Drive Systems, 18.-20.6.2012, Bremen, Germany  
Proceedings Actuator 2012, p. 709-712, ISBN 978-3-933339-20-1

Lange, Nicolas; Wippermann, Frank; Beckert, Erik;  
Eberhardt, Ramona; Tünnermann, Andreas  
**Successful fabrication of polymer based low voltage  
electrostatic actuators**  
MME 2012, 23rd Micromechanics and Microsystems Europe  
Workshop, 9.-12.9.2012, Ilmenau, Germany  
Proceedings MME 2012, C 02, ISBN 978-3-938843-71-0

Legall, Herbert; Stiel, Holger; Blobel, H. G.; Seim, Christian;  
Baumann, J.; Yulin, Sergiy; Esser, Dominik; Hofer, M.; Wiesemann,  
Urs; Wirtz, M.; Schneider, Gerd; Rehbein, Stefan; Hertz, Hans  
**A compact laboratory full field soft x-ray transmission  
microscope for the water window**  
11th International Conference on X-ray Microscopy,  
5.-10.8.2012, Shanghai, China

Limpert, Jens; Rothardt, Jan; Hädrich, Steffen;  
Demmler, Stefan; Krebs, Manuel; Tünnermann, Andreas  
**Fiber laser pumped MHz high repetition rate few-cycle  
OPCPA system**  
Proceedings Frontiers in Optics (FIO),  
OSA Technical Digest (2012) FTu5B.1

Lippmann, Uwe; Notni, Gunther; Merschdorf, Matthias  
**Stray light analysis of multi-spectral optical filters**  
International Light Simulation Symposium (ILISIS) 2012,  
7.-8.3.2012, Nürnberg, Germany  
Proceedings ILISIS 2012, p. 199-215, ISBN 978-3941417847

Ludewigt, Klaus; Riesbeck, Thomas; Schünemann, B.;  
Graf, A.; Jung, Markus; Schreiber, Thomas;  
Eberhardt, Ramona; Tünnermann, Andreas  
**Overview of the laser activities at Rheinmetall  
Waffe Munition**  
SPIE Proceedings Vol. 8547 (2012) 854704,  
ISBN 9780819492883

Lutzke, Peter; Kühmstedt, Peter; Notni, Gunther  
**Effiziente Simulation von optischen 3D Messungen  
an transluzenten Messobjekten**  
11. Oldenburger 3D-Tage, 1.-2.2.2012, Oldenburg, Deutschland  
Beiträge der Oldenburger 3D-Tage 2012, S. 146-153,  
ISBN 978-3-87907-515-7

Lutzke, Peter; Kühmstedt, Peter; Notni, Gunther  
**Fast error simulation of optical 3D measurements  
at translucent objects**  
SPIE Optics + Photonics, 12.-16.8.2012, San Diego, CA, USA  
SPIE Proceedings Vol. 8493 (2012) 84930U,  
ISBN 9780819492104

Lutzke, Peter; Kühmstedt, Peter; Notni, Gunther  
**Simulation des Messfehlers und Bestimmung von Modell-  
parametern bei der optischen 3D-Vermessung**  
113. Jahrestagung DGaO,  
29.5.-2.6.2012, Eindhoven, Netherlands

Minovich, Aliaksandr; Klein, Angela E.; Steinert, Michael;  
Janunts, Norik; Tünnermann, Andreas; Bleckmann, Felix;  
Linden, Stefan; Pertsch, Thomas; Neshev, Dragomir; Kivshar, Yuri  
**Non-diffracting airy surface plasmons: Generation,  
manipulation, and interference**  
Proceedings Frontiers in Optics (FIO),  
OSA Technical Digest (2012) FW2F.4

Mohaupt, Matthias; Beckert, Erik; Burkhardt, Thomas;  
Hornaff, Marcel; Damm, Christoph; Eberhardt, Ramona;  
Tünnermann, Andreas; Döring, Hans-Joachim; Reimer, Klaus  
**Precisely assembled multi deflection arrays – key compo-  
nents for multi shaped beam lithography**  
Svetan Ratchev (Ed.), Precision Assembly Technologies and  
Systems, Proceedings 6th IFIP WG 5.5 International Precision  
Assembly Seminar, IPAS 2012, 12-15.2.2012,  
Chamonix, France (2012) p. 42-50,  
ISBN 978-3-642-28162-4

Mundus, Markus; Thomas, Jens U.; Voigtländer, Christian;  
Becker, Ria G.; Jauregui, Cesar; Tünnermann, Andreas;  
Nolte, Stefan  
**CGH-based real-time analysis of fiber Bragg gratings in  
few mode LMA fibers**  
SPIE Proceedings Vol. 8237 (2012) 823712,  
ISBN 9780819488800

Munzert, Peter; Präfke, Christiane; Schulz, Ulrike;  
Kaiser, Norbert  
**Nanostrukturen zur Verbesserung der Lackhaftung auf  
Kunststoffoberflächen**  
8. ThGOT, Thementage Grenz- und Oberflächentechnik/3.  
Optik-Kolloquium Dünne Schichten in der Optik,  
4.-6.9.2012, Leipzig, Deutschland  
Proceedings 8. ThGOT, (2012) S. 355-359,  
ISBN 978-3-00-038451-6

Munzert, Peter; Präfke, Christiane; Schulz, Ulrike; Kaiser, Norbert  
**Formation of plasma-generated nanostructures on polymer surfaces for various polymer types**  
13th International Conference on Plasma Surface Engineering (PSE 2012), 10.-14.9.2012, Garmisch-Partenkirchen, Germany

Naether, Uta; Rojas-Rojas, Santiago; Stützer, Simon;  
Heinrich, Matthias; Tünnermann, Andreas; Nolte, Stefan;  
Vicencio, Rodrigo A.; Szameit, Alexander  
**Delocalization enhancement induced by weak disorder and nonlinearity**  
Proceedings Quantum Electronics and Laser Science Conference (QELS), OSA Technical Digest (2012) QM1E.4

Notni, Gunther  
**Entwicklung zur Terahertz-Tomographie am Fraunhofer IOF**  
IPHT Kolloquium, 13.6.2012, Jena, Deutschland

Notni, Gunther  
**Messen mit CT in der optischen Industrie**  
Fraunhofer-Allianz VISION Seminar, Industrielle Röntgentechnik als zerstörungsfreies Prüfverfahren für die Qualitätssicherung in der Produktion, 28.-29.3.2012, Fürth, Deutschland

Notni, Gunther  
**Hochdynamische optische 3-D-Messtechniken**  
Fraunhofer-Allianz VISION Technologietag 2012  
»Innovative Technologien für die industrielle Qualitätssicherung mit Bildverarbeitung«,  
17.-18.10.2012, Jena, Deutschland

Notni, Gunther  
**Überblick über Verfahren der optischen 3-D-Messtechnik**  
Fraunhofer-Allianz VISION Technologietag 2012  
»Innovative Technologien für die industrielle Qualitätssicherung mit Bildverarbeitung«,  
17.-18.10.2012, Jena, Deutschland

Notni, Gunther; Brahm, Anika; Bauer, Maris; Hoyer, Theo;  
Quast, Holger; Löffler, Torsten; Riehemann, Stefan;  
Tünnermann, Andreas  
**3D computed terahertz tomography**  
International Forum on Terahertz Spectroscopy and Imaging,  
6.-7.3.2012, Kaiserslautern, Germany

Notni, Gunther; Kühmstedt, Peter  
**Mesofrei – Multiscale freeform measurement**  
OptoNet Workshop „Ultra Precision Manufacturing of Aspheres and Freeforms“, 26.-27.9.2012, Jena, Germany

Oberdörster, Alexander; Brückner, Andreas; Bräuer, Andreas;  
Lensch, Hendrik  
**Refocusing with thin micro-optical cameras**  
IEEE International Conference on Computational Photography 2012 (ICCP), 27.-29.4.2012, Seattle, USA

Oberdörster, Alexander; Brückner, Andreas;  
Wippermann, Frank; Bräuer, Andreas; Lensch, Hendrik  
**Digital focusing and refocusing with thin multi-aperture cameras**  
SPIE Electronic Imaging 2012,  
22.-26.1.2012, Burlingame, CA, USA  
SPIE Proceedings Vol. 8299 (2012) 829907, ISBN 9780819489463

Oliva, Maria; Michaelis, Dirk; Fuchs, Frank; Zeitner, Uwe D.  
**Effective-medium enhanced three-level grating in resonance domain**  
8th EOS Topical Meeting on Diffractive Optics 2012,  
27.2.-1.3.2012, Delft, Netherlands

Otto, Hans-Jürgen; Jauregui, Cesar; Eidam, Tino; Stutzki, Fabian; Jansen, Florian; Limpert, Jens; Tünnermann, Andreas  
**Dynamics and origin of mode instabilities in high power fiber laser amplifiers**  
Proceedings CLEO: Science and Innovations (CLEO: S and I),  
OSA Technical Digest (2012) CF2N.7

Otto, Hans-Jürgen; Stutzki, Fabian; Jansen, Florian; Eidam, Tino; Jauregui, Cesar; Limpert, Jens; Tünnermann, Andreas  
**Experimental Study of Mode Instabilities in High Power Fiber Amplifiers**  
Proceedings Lasers, Sources, and Related Photonic Devices,  
OSA Technical Digest (2012) AM4A.5, ISBN 978-1-55752-933-6

Pabst, Oliver; Beckert, Erik; Eberhardt, Ramona;  
Tünnermann, Andreas  
**Inkjet printing of functional structures for lab-on-chip systems**  
Smart Systems Integration, 21.-22.3.2012, Zurich, Switzerland  
Proceedings SSI (2012) paper 33, ISBN 978-3-8007-3423-8

Pabst, Oliver; Perelaer, Jolke; Beckert, Erik; Schubert, Ulrich S.;  
Eberhardt, Ramona; Tünnermann, Andreas  
**Static and dynamic behavior of all inkjet-printed piezoelectric polymer actuators for use in microfluidic systems**  
Actuator 2012, International Conference and Exhibition on New Actuators and Drive Systems,  
18.-20.6.2012, Bremen, Germany  
Proceedings Actuator 2012, p. 414-417,  
ISBN 978-3-933339-20-1

- Peschel, Thomas; Kalkowski, Gerhard; Eberhardt, Ramona  
**Influence of thermal load on 450mm Si-wafer IPD during lithographic patterning**  
SPIE Advanced Lithography,  
12.-16.2.2012, San Jose, CA, USA  
SPIE Proceedings Vol. 8323 (2012) 83230J,  
ISBN 9780819489791
- Peters, Christa; Böhme, Steffen  
**Skalierbare Faserschmelzkoppler**  
Anwenderkonferenz Optische Mikrosysteme,  
20.-21.11.2012, Erfurt, Deutschland
- Präfke, Christiane; Schulz, Ulrike; Kaiser, Norbert;  
Tünnermann, Andreas  
**UV/VIS and FTIR spectroscopic investigations of organic-inorganic hybrid layers for UV protection**  
9th International Conference on Coatings on Glass and Plastics (ICCG 9), 24.-28.6.2012, Breda, Netherlands  
Proceedings ICCG 9 (2012) p. 257-261,  
ISBN 978-905986-404-7
- Pulsack, Julian; Füchsel, Kevin; Kaiser, Norbert  
**Herstellung und Charakterisierung nanostrukturierter ITO-Elektroden**  
8. ThGOT, Thementage Grenz- und Oberflächentechnik/3.  
Optik-Kolloquium Dünne Schichten in der Optik,  
4.-6.9.2012, Leipzig, Deutschland  
Proceedings 8. ThGOT (2012) S. 411-412,  
ISBN 978-3-00-038451-6
- Reinlein, Claudia; Türke, Sascha; Gutzeit, Nam; Müller, Jens;  
Peschel, Thomas; Burkhardt, Thomas; Beckert, Erik;  
Tünnermann, Andreas  
**Effect of internal silver conductor on heat spreading capability of LTCC membrane**  
IMAPS/ACerS 8th International CICMT Conference and Exhibition, 16.-19.4.2012, Erfurt, Germany  
Proceedings IMAPS/ACerS (2012) p. 353-358
- Rekas, Miroslaw; Haarlammert, Nicoletta; Kliner, Andrea;  
Schreiber, Thomas; Eberhardt, Ramona; Tünnermann, Andreas  
**Limitations of narrow-bandwidth amplification at different seed wavelengths in Ytterbium-doped fibers**  
Proceedings Lasers, Sources, and Related Photonic Devices,  
OSA Technical Digest (2012) AT4A.25,  
ISBN 978-1-55752-933-6
- Richter, Daniel; Voigtländer, Christian; Thomas, Jens U.;  
Tünnermann, Andreas; Nolte, Stefan  
**Discrete non-planar reflections of a fs laser pulse written volume Bragg grating (VBG)**  
Proceedings Bragg Gratings, Photosensitivity, and Poling in Glass Waveguides (BGPP), OSA Technical Digest (2012) BM2D.3
- Richter, Sören; Döring, Sven; Zimmermann, Felix; Lesclieux, Ludovic; Eberhardt, Ramona; Nolte, Stefan; Tünnermann, Andreas  
**Welding of transparent materials with ultrashort laser pulses**  
SPIE Proceedings Vol. 8244 (2012) 824402, ISBN 9780819488879
- Richter, Sören; Jia, Fei; Heinrich, Matthias; Döring, Sven; Nolte, Stefan; Tünnermann, Andreas  
**Enhanced formation of nanogratings inside fused silica due to the generation of self-trapped excitons induced by femtosecond laser pulses**  
SPIE Proceedings Vol. 8247 (2012) 82470N,  
ISBN 9780819488909
- Risse, Stefan  
**Ultrapräzise Metallspiegel mit exzellenter Form und Rauheit**  
410. JENAer Carl-Zeiss-Optikkolloquium,  
21.2.2012, Jena, Deutschland
- Risse, Stefan; Scheiding, Sebastian; Eberhardt, Ramona  
**Diamond machining of aspherical and freeform mirrors**  
113. Jahrestagung DGaO,  
29.5.-2.6.2012, Eindhoven, Netherlands
- Rothhardt, Carolin; Rekas, Miroslaw; Kalkowski, Gerhard; Eberhardt, Ramona; Tünnermann, Andreas  
**New approach to fabrication of a Faraday isolator for high power laser applications**  
SPIE Proceedings Vol. 8237 (2012) 82373Z, ISBN 9780819488800
- Rothhardt, Jan; Demmler, Stefan; Heidt, Alexander M.; Hartung, Alexander; Bartelt, Hartmut; Rohwer, Erich G.; Limpert, Jens; Tünnermann, Andreas  
**High-quality 3.6-fs pulses by compression of an octave-spanning supercontinuum**  
SPIE Proceedings Vol. 8240 (2012) 82400Z, ISBN 9780819488831
- Rothhardt, Jan; Hädrich, Steffen; Krebs, Manuel; Carstens, Henning; Demmler, Stefan; Limpert, Jens; Tünnermann, Andreas  
**Microwatt average power high harmonic generation with high repetition rate ultrafast fiber lasers**  
Proceedings Lasers, Sources, and Related Photonic Devices,  
OSA Technical Digest (2012) AT4A.9, ISBN 978-1-55752-933-6

Schmieder, Florian; Eger, Rene; Schmieder, Stefan; Ruhnow, M.; Friedrich, Sandra; Danz, Norbert; Marx, Uwe; Sonntag, Frank  
**Universelle automatisierte Chipplattform zur Vermessung zellbasierter Assays**

Proceedings 16. Heiligenstädter Kolloquium „Technische Systeme für die Lebenswissenschaften“, 24.-26.9.2012, Heiligenstadt, Deutschland (2012) S. 197-204, ISBN 978-3-00-039458-4

Schmidt, Tobias D.; Flämmich, Michael; Scholz, Bert J.; Michaelis, Dirk; Mayr, Christian; Danz, Norbert; Brütting, Wolfgang  
**Non-isotropic emitter orientation and its implications for efficiency analysis of organic light-emitting diodes**

SPIE Proceedings Vol. 8435 (2012) 843513, ISBN 9780819491275

Schröder, Sven

**Charakterisierung von Mikro- und Nanostrukturen**

Fraunhofer-Allianz VISION Seminar mit Praktikum „Inspektion und Charakterisierung von Oberflächen mit Bildverarbeitung“, 21.-22.11.2012, Karlsruhe, Deutschland

Schröder, Sven; Finck, Alexander von; Herffurth, Tobias; Duparré, Angela

**Quality assessment of precision optical surfaces through light scattering techniques**

OSA Optical Fabrication and Testing (OFT), 24.-28.6.2012, Monterey, USA  
Proceedings Optical Fabrication and Testing (OFT), OSA Technical Digest (2012) JTu5A.10

Schröder, Sven; Trost, Marcus; Coriand, Luisa; Duparré, Angela  
**Light scattering-based measurement of relevant surface roughness**

OSA Optical Fabrication and Testing (OFT), 24.-28.6.2012, Monterey, USA  
Proceedings Optical Fabrication and Testing (OFT), OSA Technical Digest (2012) OTu1D.2

Schröder, Sven; Trost, Marcus; Herffurth, Tobias; Duparré, Angela; Wang, Jue; Schreiber, Horst

**Optical scattering – from simple models to complex applications**

113. Jahrestagung DGaO, 29.5.-2.6.2012, Eindhoven, Netherlands

Schulz, Ulrike; Munzert, Peter; Kaiser, Norbert

**Antireflective nanostructures for low-index substrates**

9th International Conference on Coatings on Glass and Plastics (ICCG 9), 24.-28.6.2012, Breda, Netherlands  
Proceedings ICCG 9 (2012) p. 267-269, ISBN 978-905986-404-7

Schulz, Ulrike; Munzert, Peter; Präfke, Christiane; Kaiser, Norbert  
**Wide-angle broadband AR coating by combining**

**interference layers with a plasma-etched gradient layer**  
13th International Conference on Plasma Surface Engineering (PSE 2012), 10.-14.9.2012, Garmisch-Partenkirchen, Germany

Schulz, Ulrike; Munzert, Peter; Präfke, Christiane; Kaiser, Norbert  
**Plasma-IAD of optical coatings on thermoplastics**

Frontiers of Optical Coatings (FOC 2012), 15.-18.10.2012, Hangzhou, China

Schulz, Ulrike; Munzert, Peter; Präfke, Christiane; Rickelt, Friedrich; Kaiser, Norbert

**Entspiegelung von Glas durch Kombination von Interferenzschichten mit plasma-geätzten Nanostrukturen**

8. ThGOT, Thementage Grenz- und Oberflächentechnik/3. Optik-Kolloquium Dünne Schichten in der Optik, 4.-6.9.2012, Leipzig, Deutschland  
Proceedings 8. ThGOT (2012) S. 406-408, ISBN 978-3-00-038451-6

Schürmann, Mark; Jobst, Paul Johannes; Yulin, Sergiy; Feigl, Torsten; Heiße, Hanno; Wilbrandt, Steffen; Stenzel, Olaf; Gebhardt, Andreas; Risse, Stefan; Kaiser, Norbert

**Optical reflector coatings for astronomical applications from EUV to IR**

SPIE Proceedings Vol. 8450 (2012) 84502K, ISBN 9780819491510

Schürmann, Mark; Jobst, Paul Johannes; Yulin, Sergiy; Feigl, Torsten; Heiße, Hanno; Wilbrandt, Steffen; Stenzel, Olaf; Kaiser, Norbert

**Optical coatings from VUV to IR**

SPIE Astronomical Telescopes and Instrumentation 2012, 1.-6.7.2012, Amsterdam, Netherlands

Steiner, Stefan; Kroker, Stefanie; Käsebier, Thomas; Fuchs, Frank; Kley, Ernst-Bernhard; Tünnermann, Andreas

**Novel direction selective filter elements based on high-contrast gratings**

SPIE Proceedings Vol. 8270 (2012) 827007, ISBN 9780819489135

Steinkopf, Ralf; Scheiding, Sebastian; Gebhardt, Andreas; Risse, Stefan

**Fly-cutting and testing of freeform optics with sub- $\mu\text{m}$  shape deviations**

SPIE Optical Engineering + Applications, 12.-16.8.2012, San Diego, California, USA  
Proceedings Vol. 8486 (2012) 84860K, ISBN 9780819492036

Steinmetz, Alexander; Jansen, Florian; Stutzki, Fabian; Lehneis, Reinhold; Limpert, Jens; Tünnermann, Andreas  
**Sub-5ps high energy pulses from a fiber-amplified and compressed passively Q-switched microchip laser**  
SPIE Proceedings Lasers, Sources, and Related Photonic Devices, OSA Technical Digest (2012) AM4A.6, ISBN 978-1-55752-933-6

Steglich, Martin; Käsebier, Thomas; Höger, Ingmar; Kley, Ernst-Bernhard; Tünnermann, Andreas  
**Black Silicon nanostructures on silicon thin films prepared by reactive ion etching**  
Frontiers of Optical Coatings (FOC 2012), 15.-18.10.2012, Hangzhou, China

Steglich, Martin; Schreppe, Frank; Fuchs, Kevin; Kley, Ernst-Bernhard  
**Extrinsic Black Silicon photodiodes – Present research status and simulation**  
5th International Symposium on Optronics in Defence and Security (OPTRO 2012), 8.-10.2.2012, Paris, France  
Proceedings OPTRO 2012, S04\_11

Stover, John; Schröder, Sven; Duparré, Angela; Germer Thomas A.  
**Upper roughness limitations on the TIS/RMS relationship**  
SPIE Optics + Photonics, 12.-16.8.2012, San Diego, CA, USA  
SPIE Proceedings Vol. 8495 (2012) 849503, ISBN 9780819492128

Stover, John; Schröder, Sven; Finck, Alexander von; Duparré, Angela  
**Estimating hemispherical scatter from incident plane measurements of isotropic samples**  
SPIE Optics + Photonics, 12.-16.8.2012, San Diego, CA, USA  
SPIE Proceedings Vol. 8495 (2012) 84950F, ISBN 9780819492128

Stürzebecher, Lorenz; Harzendorf, Torsten; Fuchs, Frank; Zeitner, Uwe D.  
**Wafer scale fabrication of submicron chessboard gratings using phase masks in proximity lithography**  
SPIE Photonics West 2012, 21.-26.1.2012, San Francisco, CA, USA  
SPIE Proceedings Vol. 8249 (2012) 82490R, ISBN 9780819488923

Stützer, Simon; Kartashov, Yaroslav; Vysloukh, Victor; Tünnermann, Andreas; Nolte, Stefan; Lewenstein, Maciej; Torner, Lluís; Szameit, Alexander  
**Anderson cross-localization in photonic lattices**  
Proceedings CLEO: Science and Innovations (CLEO: S and I), OSA Technical Digest (2012) CTh4D.2

Stützer, Simon; Kottos, Tsampikos; Tünnermann, Andreas; Nolte, Stefan; Christodoulides, Demetrios N.; Szameit, Alexander  
**Observation of super-ballistic transport in hybrid ordered/disordered photonic lattices**  
Proceedings Quantum Electronics and Laser Science Conference (QELS), OSA Technical Digest (2012) QF1H.6

Stutzki, Fabian; Jansen, Fabian; Liem, Andreas; Jauregui, Cesar; Limpert, Jens; Tünnermann, Andreas  
**High power Q-switched fiber laser system emitting 26 mJ pulses with near diffraction-limited beam quality**  
Proceedings Quantum Electronics and Laser Science Conference (QELS), OSA Technical Digest (2012) JTh4I.5

Szameit, Alexander; Rechtsman, Mikael C.; Dreisow, Felix; Zeuner, Julia M.; Gräfe, Markus; Tünnermann, Andreas; Segev, Mordechai; Nolte, Stefan  
**Relativistic physics in optical waveguide arrays: Simulating the dirac equation**  
Proceedings Quantum Electronics and Laser Science Conference (QELS), OSA Technical Digest (2012) QM1E.3

Szameit, Alexander; Stützer, Simon; Kottos, Tsampikos; Tünnermann, Andreas; Nolte, Stefan; Christodoulides, Demetrios  
**Superballistic transport and anomalous diffusion in inhomogeneous lattices**  
Proceedings Frontiers in Optics (FiO), OSA Technical Digest (2012) FTh2G.1

Thomas, Jens U.; Mundus, Markus; Voigtländer, Christian; Becker, Ria G.; Tünnermann, Andreas; Nolte, Stefan  
**Orientation dependence of higher order mode reflections in femtosecond pulse written fiber Bragg gratings**  
Proceedings Bragg Gratings, Photosensitivity, and Poling in Glass Waveguides (BGPP), OSA Technical Digest (2012) BM2D.4

Trost, Marcus; Schröder, Sven; Lin C.C.; Duparré, Angela; Tünnermann, Andreas  
**Roughness characterization of EUV multilayer coatings and ultra-smooth surfaces by light scattering**  
SPIE Optics + Photonics, 12.-16.8.2012, San Diego, CA, USA  
SPIE Proceedings Vol. 8501 (2012) 85010F, ISBN 9780819492180

Tünnermann, Andreas; Eidam, Tino; Limpert, Jens  
**Advanced solid-state lasers are merging with accelerators**  
Proceedings of IPAC 2012, 20.-25.5.2012, New Orleans, Louisiana, USA (2012) p. 4157-4159, ISBN 978-3-95450-115-1

Voigtländer, Christian; Williams, Robert J.; Withford, Michael; Thomas, Jens U.; Nolte, Stefan; Tünnermann, Andreas  
**Femtosecond induced fiber mode filter**  
Proceedings CLEO: Science and Innovations (CLEO: S and I), OSA Technical Digest (2012) CTh4G.1

Völkel, Reinhard; Vogler, Uwe; Bramati, Arianna; Weichelt, Tina; Stürzebecher, Lorenz; Zeitner, Uwe D.; Motzek, Kristian; Erdmann, Andreas; Hornung, Michael; Zoberbier, Ralph  
**Advanced mask aligner lithography (AMALITH)**  
SPIE Optical Microlithography XXV, 13.-16.2.2012, San Jose, CA, USA  
SPIE Proceedings Vol. 8326 (2012) 83261Y, ISBN 9780819489821

Wächter, Christoph; Michaelis, Dirk  
**Effects of Metallic Nanoparticle Arrays in Si Solar Cell Structures**  
Matheon-Workshop 2012, 5th Annual Meeting Photonic Devices, 23.-24.2.2012, Berlin, Germany

Wächter, Christoph; Michaelis, Dirk; Danz, Norbert  
**Approaches for tailoring organic LED emission patterns by microoptic arrays**  
OSA Topical Meeting Solid State and Organic Lighting (SOLED), 11.-14.11.2012, Eindhoven, Netherlands

Weber, Thomas; Käsebier, Thomas; Kroker, Stefanie; Kley, Ernst-Bernhard; Tünnermann, Andreas  
**High frequency binary amorphous silicon grating working as wire grid polarizer for UV applications**  
SPIE Proceedings Vol. 8270 (2012) 82700F, ISBN 9780819489135

Weichelt, Tina; Vogler, Uwe; Stürzebecher, Lorenz; Völkel, Reinhard; Zeitner, Uwe D.  
**Resolution Enhancement for Advanced Mask Aligner Lithography using phase-shifting photomasks**  
EOS Annual meeting EOSAM 2012, 25.-28.9.2012, Aberdeen, Scotland, UK

Wilbrandt, Steffen; Stenzel, Olaf; Heiße, Hanno; Kaiser, Norbert  
**Dielektrisch verstärkte Aluminiumspiegel für VUV-Anwendungen**  
8. ThGOT, Thementage Grenz- und Oberflächentechnik/3. Optik-Kolloquium Dünne Schichten in der Optik, 4.-6.9.2012, Leipzig, Deutschland  
Proceedings 8. ThGOT (2012) S. 365-369, ISBN 978-3-00-038451-6

Zeitner, Uwe D.; Fuchs, Frank; Kley, Ernst-Bernhard  
**High performance dielectric diffraction gratings for space applications**  
SPIE Conference Astronomical Telescopes and Instrumentation, 1.-6.7.2012, Amsterdam, Netherlands  
SPIE Proceedings Vol. 8450 (2012) 84502Z, ISBN 9780819491510

Zeitner, Uwe D.; Oliva, Maria; Fuchs, Frank; Michaelis, Dirk; Benkenstein, Tino; Harzendorf, Torsten; Kley, Ernst-Bernhard  
**High performance diffraction gratings made by e-beam lithography**  
META 2012 – 3rd International conference on metamaterials, photonic crystals and plasmonics, 19.-22.4.2012, Paris, France

Zeitner, Uwe D.; Scheiding, Sebastian; Eckstein, Hans-Christoph; Fuchs, Frank; Risse, Stefan  
**High performance asphere test CGHs with advanced alignment features**  
EOS Annual meeting EOSAM 2012, 25.-28.9.2012, Aberdeen, Scotland, UK

Zeitner, Uwe D.; Stürzebecher, Lorenz; Harzendorf, Torsten; Fuchs, Frank; Michaelis, Dirk  
**Submicrometer pattern generation by diffractive mask-aligner lithography**  
SPIE Photonics West 2012, 21.-26.1.2012, San Francisco, CA, USA  
SPIE Proceedings Vol. 8249 (2012) 82490Q, ISBN 9780819488923

Zeuner, Julia M.; Efremidis, Nikolaos K.; Keil, Robert; Dreisow, Felix; Tünnermann, Andreas; Nolte, Stefan; Szameit, Alexander  
**One-dimensional massless dirac-particles in waveguide arrays with alternating coupling**  
Proceedings Quantum Electronics and Laser Science Conference (QELS), OSA Technical Digest (2012) QW1E.3

Zeuner, Julia M.; Rechtsman, Mikael; Keil, Robert; Dreisow, Felix; Tünnermann, Andreas; Nolte, Stefan; Szameit, Alexander  
**Negative coupling between two defect waveguides embedded in an array**  
Proceedings Quantum Electronics and Laser Science Conference (QELS), OSA Technical Digest (2012) QM1E.5

Zwick, Susanne; Knoth, Roberto; Steinkopf, Ralf; Notni, Gunther  
**Tolerancing free form elements considering manufacturing characteristics**  
SPIE Optical Systems Design, 26.-29.11.2012, Barcelona, Spain  
SPIE Proceedings Vol. 8550 (2012) 855006, ISBN 9780819493019