

Special Issue: 10 Best reviews and tutorials in Advanced Optical Technologies

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This is a selection of articles published in Advanced Optical Technologies between 2012 and 2015. They cover various fields of applied optics and were selected by the level of excellence and feedback from the community. All articles are available for free online and in the printed version as distributed on the occasion of LASER World of PHOTONICS 2015 trade fair and conference

Optical Design

David Shafer

Lens designs with extreme image quality features — I

DOI: 10.1515/aot-2012-0068

Christoph Menke and G.W. Forbes,

Optical design with orthogonal representations of rotationally symmetric and freeform aspheres — II

DOI: 10.1515/aot-2012-0072

Optical Engineering, Aspheres

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

Lens centering of aspheres for high-quality optics — III

DOI: 10.1515/aot-2012-0052

Microoptics

Hans Zappe

Micro-optics: a micro-tutorial — IV

DOI: 10.1515/aot-2012-0016

LED Lighting

Julius Muschaweck, Christopher Wiesmann

Extracting light out of LEDs — V

DOI: 10.1515/aot-2013-0027

Lithography

Kafai Lai

Review of computational lithography modeling: focusing on extending optical lithography and design-technology co-optimization — VI

DOI: 10.1515/aot-2012-0037

Super-Resolution Microscopy

Klaus Weisshart, Thomas Dertinger, Thomas Kalkbrenner, Ingo Kleppe and Michael Kempe

Super-resolution microscopy heads towards 3D dynamics — VII

DOI: 10.1515/aot-2013-0015

Optics for Materials Processing

Koji Sugioka and Ya Cheng

A tutorial on optics for ultrafast laser materials processing: basic microprocessing system to beam shaping and advanced focusing methods — VIII

DOI: 10.1515/aot-2012-0033

Remote Sensing

Mikhail A. Vorontsov

Speckle effects in target-in-the-loop laser beam projection systems — IX

DOI: 10.1515/aot-2013-0054

Optical Materials

Peter Hartmann

Optical glass: past and future of a key enabling material — X

DOI: 10.1515/aot-2012-0009