From: OSA Journals

Date sent 10/05/2011 07:10:36 am

Subject: Top Downloads in Optics Express

Print This

View this message online

View Top-Downloaded Articles from September 2011

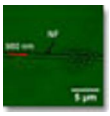
Stay current on the latest research by reviewing the most downloaded articles in OSA's *Optics Express* in September. *Optics Express* is an open-access journal so access to an article is free.

Dual-frequency pattern scheme for high-speed 3-D shape measurement

Abstract | Full Text: PDF (603 KB)
Optics Express, Vol. 18, Iss. 5, pp. 5229–5244 (2010)
Kai Liu, Yongchang Wang, Daniel L. Lau, Qi Hao, and Laurence G. Hassebrook

A novel dual-frequency pattern is developed which combines a high-frequency sinusoid component with a unit-frequency sinusoid component, where the high-frequency component is used to generate robust phase information, and the unit-frequency component is used to reduce phase unwrapping ambiguities. With the proposed pattern scheme, phase unwrapping can overcome the major shortcomings of conventional spatial phase unwrapping: phase jumping and discontinuities.

Targeted delivery and controllable release of nanoparticles using a defect-decorated optical nanofiber



Abstract | Full Text: PDF (1127 KB)
Optics Express, Vol. 19, Iss. 14, pp. 13285–13290 (2011)
Hongbao Xin and Baojun Li

Targeted drug delivery and controllable release are particularly beneficial in medical therapy. This work provides a demonstration of nanoparticles targeted delivery and controllable release using a defect-decorated optical nanofiber (NF).

Pure optical dynamical color encryption

Abstract | Full Text: PDF (1935 KB)
Optics Express, Vol. 19, Iss. 15, pp. 13779–13786 (2011)
Fabian Mosso, Myrian Tebaldi, John Fredy Barrera, Néstor Bolognini, and Roberto Torroba

The authors introduce a way to encrypt-decrypt a color dynamical phenomenon using a pure optical alternative. They split the three basic chromatic channels composing the input, and then each channel is processed through a 4f encoding method and a theta modulation applied to the each encrypted frame in every channel. All frames for a single channel are multiplexed.

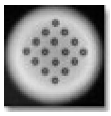
All-optical encrypted movie

Abstract | Full Text: PDF (1035 KB) | Note: a summary of this article is available in OSA's *Spotlight on Optics* publication
Optics Express, Vol. 19, Iss. 6, pp. 5706–5712 (2011)
Fabian Mosso, John Fredy Barrera, Myrian Tebaldi, Néstor Bolognini, and Roberto Torroba

The authors introduce for the first time the concept of an all-optical encrypted movie. This movie joints several encrypted frames corresponding to a time evolving situation employing the same encoding mask. Thanks to a multiplexing operation they compact the encrypted movie information

into a single package.

Shaping the light transmission through a multimode optical fibre: complex transformation analysis and applications in biophotonics



Abstract | Full Text: PDF (1582 KB)
Optics Express, Vol. 19, Iss. 20, pp. 18871–18884 (2011)
Tomáš Cižmár and Kishan Dholakia

The authors present a powerful approach towards full understanding of laser light propagation through multimode optical fibres and control of the light at the fibre output. Transmission of light within a multimode fibre introduces randomization of laser beam amplitude, phase and polarization. The authors discuss the importance of each of these factors and introduce an experimental geometry allowing full analysis of the light transmission through the multimode fibre and subsequent beam-shaping using a single spatial light modulator.

Frequency domain depth filtering of integral imaging

Abstract | Full Text: PDF (2548 KB)
Optics Express, Vol. 19, Iss. 19, pp. 18729–18741 (2011)
Jae-Hyeung Park and Kyeong-Min Jeong

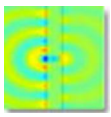
A novel technique for depth filtering of integral imaging is proposed. Integral imaging captures spatio-angular distribution of the light rays which delivers three-dimensional information of the object scene. The proposed method performs filtering operation in the frequency domain of the captured spatio-angular light ray distribution, achieving depth selective reconstruction.

Introduction: Optics in LEDs for Lighting

Abstract | Full Text: PDF (780 KB)
Optics Express, Vol. 19, Iss. S4, pp. A897–A899 (2011)
Jae-Hyun Ryou and Russell D. Dupuis

The papers in this Focus Issue provide an overview of the current trends and the state-of-the-art in research and development activities in the field of LEDs for SSL. The Focus Issue editors hope that the readers of *Optics Express* and its *Energy Express* supplement will enjoy learning about the latest advances described in this Focus Issue and that it will motivate them to publish their own latest discoveries in the area of optics for energy in *Energy Express*.

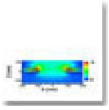
The electromagnetics of light transmission through subwavelength slits in metallic films



Abstract | Full Text: PDF (1554 KB)
Optics Express, Vol. 19, Iss. 17, pp. 16139–16153 (2011)
John Weiner

By numerically calculating the relevant electromagnetic fields and charge current densities, the authors show how local charges and currents near subwavelength structures govern light transmission through subwavelength apertures in a real metal film. The illumination of a single aperture generates surface waves; and in the case of slits, generates them with high efficiency and with a phase close to –π with respect to a reference standing wave established at the metal film front facet.

Nonlinear responses in optical metamaterials: theory and experiment



Abstract | Full Text: PDF (1286 KB)
Optics Express, Vol. 19, Iss. 19, pp. 18283–18293 (2011)
Shiwei Tang, David J. Cho, Hao Xu, Wei Wu, Y. Ron Shen, and Lei Zhou

The authors employed both theoretical calculations and experiments to study the nonlinear responses in optical metamaterials. The spectra of second-harmonic generations measured on a fishnet metamaterial are in quantitative agreements with calculations based on full-wave numerical simulations combined with field integrations, both exhibiting ~80 times enhancements at the magnetic resonance frequency.

Plasmonic crystal defect nanolaser

Abstract | Full Text: PDF (1322 KB)
Optics Express, Vol. 19, Iss. 19, pp. 18237–18245 (2011)
Amit M. Lakhani, Myung-ki Kim, Erwin K. Lau, and Ming C. Wu

Surface plasmons are widely interesting due to their ability to probe nanoscale dimensions. To create coherent plasmons, the authors demonstrate a nanolaser based on a plasmonic bandgap defect state inside a surface plasmonic crystal. This demonstration should pave the way for achieving engineered nanolasers with deep-subwavelength mode volumes and attractive nanophotonics integration capabilities while enabling the use of plasmonic crystals as an attractive platform for designing plasmons.