

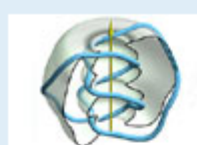
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Tying Knots in Light



Light can be induced to tie itself into knots, but under certain conditions such knots can form spontaneously, new research suggests. "It is part of the incredible progress science is making in the field of optics, we're beginning to do things with light that would have once seemed impossible," said Anton Desyatnikov of the Nonlinear Physics Centre at The Australian National University. The light knots could hold promise for applications in quantum computing, laser beams and advanced modern optics.

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Fiber Laser Pioneer Honored with IEEE Milestone

Elias Snitzer, the father of fiber lasers and fiber amplifiers, was honored posthumously by the Institute of Electrical and Electronics Engineers (IEEE) with a granite plaque across the street from the former American Optical headquarters, where the discoveries were made.

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IPG Photonics Reports Another Record Quarter

Fiber laser maker IPG Photonics reported another quarter of double-digit profit and revenue growth for the third quarter of 2012 and said it also expects to report strong year-over-year growth in the fourth quarter.

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DSU Breaks Ground on Optics Research Building

Delaware State University's renowned optics program, currently involved in NASA's Mars Curiosity rover mission, will soon have a new home.

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In this week's edition of the industry's premier weekly newscast: tribute is paid to an optical fiber pioneer, DNA is used to form nanolenses, and the International Year of Light inches closer. Hosted by Photonics Media's Melinda Rose and Laura Marshall.

UN Committee Endorses International Year of Light in 2015

A resolution declaring 2015 as the International Year of Light was endorsed by the United Nations Educational, Scientific and Cultural Organization (UNESCO), and backed by 28 other nations, at the organization's 190th session in Paris last week. Its adoption paves the way for approval by the full UN general assembly.

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Dark Matter Halos May Contain Stars

Stars kicked to the edges of space during violent collisions and mergers with other galaxies can get tossed into large, invisible cocoons of dark matter, which might explain why astronomers say they see more light in the universe than it seems they should.

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Quantum Computer Recycles Photons

New demonstrations show it is possible to recycle the photons inside a quantum computer so that quantum factoring can be achieved using only one-third of the particles originally required.

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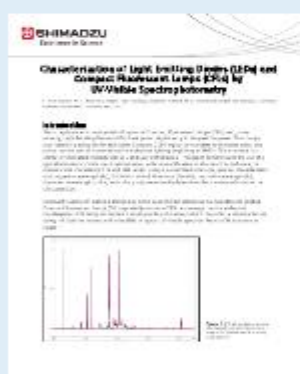
Most Advanced Giant Telescope Mirror Completed

The most challenging astronomical mirror ever made – 10 times more powerful than any other large mirror – was completed for a giant telescope that will explore star formation, black holes and planets in the early universe.

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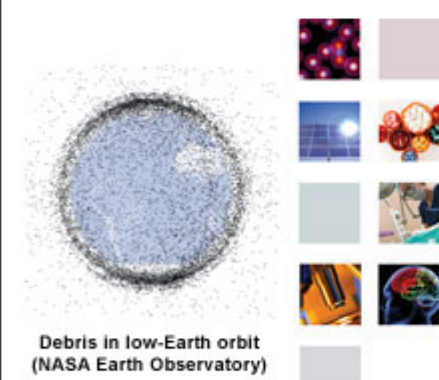
Featured White Paper



Characterization of Light Emitting Diodes (LEDs) and Compact Fluorescent Lamps (CFLs) by UV-Visible Spectrophotometry
 Shimadzu Scientific Instruments

The acceptance and commercial utilization of Compact Fluorescent Lamps (CFLs) and, more recently, Light Emitting Diodes (LEDs) have grown significantly in the past five years, leading to increased research. This paper demonstrates the use of a typical laboratory UV-Vis spectrophotometer to measure and characterize CFL and LED lamps, focusing on spectral characteristics such as peak wavelength, Full Width at Half Maximum, centroid wavelength, dominant wavelength, color, and color purity.

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 2012 Webinar Series - Expert Briefings

Photonics in Space Applications

Thursday, November 15, 2012 – 1 p.m. EST/ 10 a.m. PST/ 1700 GMT/UTC

Photonics Media will host Dr. Alexander M. Rubenchik, Lawrence Livermore National Laboratory, for "The Promise of Pulsed Lasers in Removing Orbital Debris." Dr. Rubenchik will present research from a paper he co-authored on a proposal for debris removal, which uses a focused, pulsed ground-based laser to change the debris orbit and cause it to re-enter the atmosphere.

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Industry Events

VISION 2012 - November 6 - 8, 2012 • Stuttgart, Germany

Visit us at booth 1D01



Two spectacular events coincide this year with VISION 2012, the leading international trade fair for machine vision: VISION celebrates its 25th anniversary and it moves into the most attractive and largest trade fair hall on the Stuttgart trade fair grounds, Hall 1. All exhibitors are united for the first time under one roof under the theme "One VISION." Approximately 360 exhibitors representing 30 countries are expected at the world's largest and most important form for the machine vision industry. More than 7000 visitors are expected in Stuttgart, with an increasing number coming from outside Germany. VISION 2012 will present the latest high-tech machine vision components such as cameras, image sensors, vision sensors, frame grabbers, illumination, laser, optics, lenses and software.

[MORE EVENTS >>](#)

APOMA Fall 2012 Optical Manufacturing Workshop - November 12 - 13, 2012 • Tucson, AZ



The American Precision Optics Manufacturers Association (APOMA) annual fall optical manufacturing workshop will include workshops and demonstrations featuring seven optical equipment manufacturers; bound and loose abrasive grinding; optical pitch and polishing pads; optical materials; optical tolerances, and; metrology. The event will take place at the University of Arizona, Optical Science Building. Cost for the event is \$150 and includes a light breakfast and lunch each day, as well as a reception and facilities tour on Monday evening.

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