Thursday, December 28, 2023

PHOTONICS spectra

Weekly News

Quantum Computers Begin to Measure Up

Much of the progress so far in quantum computing has been done on so-called gate-based quantum computers. These devices use physical components, most notably superconducting circuits, to host and control the qubits. The approach bears similarity to conventional, device-based classical computers. But the Optical Quantum Computing Research Team at the RIKEN Center for Quantum Computing has been taking a very different approach. Instead of optimizing gate-based quantum computers, Atsushi Sakaguchi, Junichi Yoshikawa and team leader Akira Furusawa have been developing measurement-based quantum computing. Read Article

Researchers Create Terahertz-Permeable Aerogel Material

Researchers at Linköping University have developed an aerogel — one of the world's lightest materials — made of cellulose and a conducting polymer enabling the tuning of terahertz waves. Its absorption of terahertz signals can be switched on and off through a redox reaction. Read Article

Laser Light Sheet Unveils Snowflake Acceleration

To reach the ground, snowflakes are swept into the turbulent atmosphere, swirling through the air instead of plummeting directly to the ground. Determining snowflake fall speed is crucial for predicting weather patterns and measuring climate change. In order to study the acceleration of snowflakes in atmospheric turbulence, researchers from the University of Utah deployed a tracking system comprised of a laser light sheet and a single-lens reflex (SLR) camera. They found that regardless of turbulence or snowflake type, acceleration follows a universal statistical pattern that can be described as an exponential distribution. Read Article

Featured Products & Services

High Performance IBS Coatings

Northrop Grumman Synoptics

Quasi-Rugate thin film designs are optimized for high-power laser applications for ultra-fast through CW applications across the wavelength range of 355 nm to 2200 nm. Each design has a unique refractive index profile specifically tuned to give optimal performance for our customer's applications. Quasi-Rugate design structures have the highest demonstrated Laser Damage Thresholds of any Ion Beam Sputtered films.

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871 Series Laser Wavelength Meter

Bristol Instruments Inc.

Bristol's popular 871 system measures laser wavelength at a sustained rate of 1 kHz, the fastest available. It also measures wavelength to an accuracy as high as ±0.0001 nm. By combining proven Fizeau etalon technology with automatic calibration, the most reliable accuracy is ensured for the most meaningful experimental results.

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Working with our partners, we can design, develop and manufacture any broadband LED modules you want. Our chip options cover the range from visible light to near-infrared light. Our modules are well-suited for a high number of applications. Anything you can think of, we can design and build.

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More News

Optoacoustics and AI Unite to Monitor Disease Progression in Diabetics

Researchers Develop High-Precision Dual-Color Optogenetic Brain Probe

Researchers Seek to Minimize Thermal Penalty of PIC-EIC Integration

Foxconn Synchs with Porotech for Micro-LED Commercialization

Latest Webinars

Laser Application for Display Manufacturing

Tue, Jan 16, 2024 10:00 AM - 11:00 AM EST

Displays are windows into the connected world as nearly every consumer device today has a display and a smartphone without one is impossible to imagine. To produce state-of-the-art displays lasers must be utilized, especially to create high-end and high-resolution designs. Dr. Oliver Haupt from Coherent focuses on OLED displays for smart phones as well as the adoption of OLED displays in the IT sector. He also addresses the incremental market opportunity for MicroLED displays from the very small range in AR to the very large 4K TV market. Finally, he explains how over the last few years more and more UV short wavelengths lasers have been required and implemented in production due to the display material combinations, increase of active display areas, and pixel sizes down to the micron level.

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