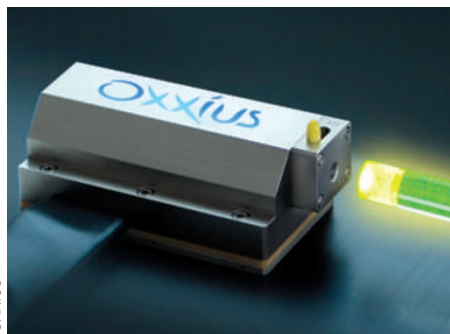


Yellow source aids fluorescence studies



OXXIUS

French company Oxxius has released the SLIM-550 — a diode-pumped solid-state laser that emits up to 200 mW of yellow light at 550 nm. The company claims that the laser's monolithic resonator guarantees outstanding performance, with optical noise of <0.2%, pointing stability of <5 microrad and power consumption as low as 10 W. These features make the SLIM-550 ideal for fluorescence applications, and in particular enable very efficient light collection from the fluorophore phycoerythrin without unwanted excitation of allophycocyanin. It also allows optimal excitation of fluorescent proteins such as DsRed and dTomato.

www.oxxius.com

Combiner enables power scaling

Australian firm AOFR, a supplier of fused fibre-couplers and a subsidiary of Aegis Lightwave, has released a laser combiner with a high-power handling capability yet small form-factor. The 5 mm × 5 mm × 50 mm product combines the output from up to seven pump lasers, each up to 25 W in power. It is available for use at the popular wavelengths of 1,064, 1,550 and 2,050 nm. AOFR says that the combiner is a key building block for constructing kilowatt-class fibre lasers, which are now replacing gas and solid-state lasers in materials processing applications. "We bring to the industrial laser market our decades of experience in telecommunications, where we have a proven track record for high-quality and high-reliability products and where we have shown the ability to scale manufacturing to high volumes," commented David Moser, product lifecycle manager at AOFR. "Working with a reliable laser-combiner supplier will be a key factor in enabling fibre-laser vendors to meet the rapid growth in demand while continuing to achieve record levels of output power."

www.aofr.com

Kaai reports direct green diode

US firm Kaai claims to have fabricated green laser diodes that operate at 523 nm, filling the gap between blue- and red-emitting devices. The lasers are based on InGaN semiconductor technology and are fabricated on innovative non-polar and semi-polar GaN substrates. Direct diode green lasers offer dramatic improvements in size, weight and cost over conventional green sources based on frequency-doubled solid-state lasers. Once commercially available they will enable a variety of new applications in consumer projection displays, defence equipment and illuminators, biomedical instrumentation and therapeutics, and industrial imaging applications. Kaai was founded in 2008 by the world-renowned semiconductor laser pioneers Shuji Nakamura, Steven Denbaars and James Speck of the University of California at Santa Barbara in the USA.

www.kaai.com

RGB laser light source is energy efficient

Sony has developed a red–green–blue (RGB) laser light source module for use in large-screen digital projectors. The module uses semiconductor diodes for the red and blue lasers, and a compact, high-power solid-state green laser based on second-harmonic generation wavelength conversion. The three lasers generate output powers of 10 W for red, 6 W for green, and 5 W for blue, resulting in a total power output of 21 W. Energy conversion ratios for the lasers range from 15% to 22% (18% on average), representing extremely high efficiencies for visible-wavelength lasers. The module can be used as the light source for a range of projectors, from 1,000-lumen home theatre projectors to 10,000-lumen large-screen projectors. This is due to the scalability of the module design, which outputs collimated light beams for each of the three colours, enabling multiple modules to be stacked.

www.sony.com

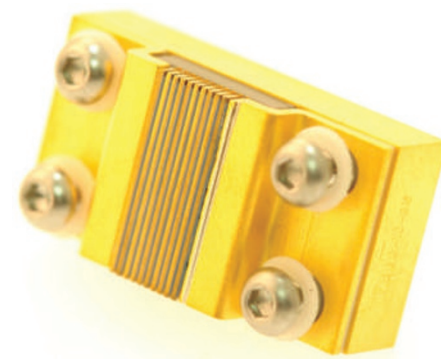
Argon-ion alternative now ready for orders

Orders are now being taken for the Axiom laser developed by Solus Technologies, a Glasgow-based manufacturer of semiconductor disk lasers. The Axiom laser emits up to 0.5 W of continuous-wave power at 514 nm, allowing it to replace bulky and expensive argon-ion lasers for some applications. According to its UK distributor

Elliot Scientific, the Axiom combines excellent beam quality with high power and a narrow linewidth to suit a broad range of laboratory and industrial applications, including metrology and biophotonics. Furthermore, the laser's operational wavelength can be specified anywhere in the 500–599 nm range with an accuracy of 1 nm. Axiom comes complete with a simple graphical user interface as well as integrated control and monitoring systems, making it a convenient and compact source of visible light.

www.elliotscientific.com

Laser stack offers high optical power density



INTENSE

Intense, a developer of semiconductor lasers in Glasgow, UK, has added the 600 W Mini stack to its Hermes family of high-power quasi-continuous-wave stacked arrays. The 600 W Mini stack is an ultra-compact 600 W quasi-continuous-wave stack with an emission area of less than 3 mm × 3 mm and an optical power density in the range of 7.6 kW cm⁻². The device is built for standard wavelengths of 808 and 940 nm, but custom wavelengths, including multicolour options, are available on request.

The company claims that the 600 W Mini stack offers an optical power density that is 50% higher than some 2 kW stacks that use standard bar technology. The standard 600 W Mini stack is suitable for operating conditions of around 60 °C, but high-temperature versions covering 70–130 °C are available. Power levels and emission areas can also be custom-designed to meet the specific needs of OEM customers.

The 600 W Mini stack and all Hermes bars and stacked arrays use Intense's patented quantum well intermixing technology. This increases the brightness and reliability of the lasers while dramatically reducing instances of catastrophic optical damage.

www.intenseco.com