GMP INFO

Summary:

1. Smooth and Narrow

Continuum®
An Excel Technology Company

Continuum is proud to announce the release of a **new injection seeder system** for the Surelite Family of Nd:YAG lasers. Seeding produces **ultra-narrow single longitudinal mode (SLM) outputs with a smooth temporal profile.** The technique delivers near transform limited linewidths and smooth temporal profiles **for hours of flawless operation.** Seeding is accomplished by injecting a seed beam from a single mode cw diode pumped fiber laser into a Surelite oscillator. Continuum pioneered the commercial introduction of this technique and holds the patent on its use with radially variable reflectivity resonator optics (U.S. Patent #4,918,704).

Applications

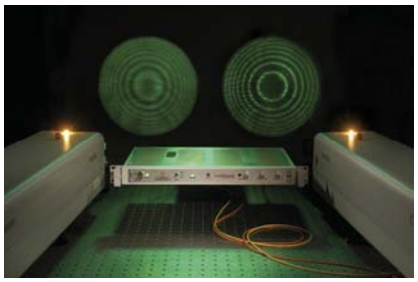
As mentioned above, injection seeding produces output that has both narrow SLM linewidth and smooth temporal profile. Important applications that require narrow linewidth include **pumping narrow linewidth tunable systems, holography, and Doppler LiDAR. Since the fiber seed laser can be temperature tuned over a narrow range,** other applications will benefit as well. The smooth temporal profile of the seeded output can also be critical for applications where precise timing is desirable.

Flexible and Reliable

The fiber seeder was designed with flexibility and ease of use in mind. The rack mount power supply allows for **simple integration and serviceability.** The main diode of the fiber seed laser itself was designed around the very stringent standards of the Telecom Industry **(Telcordia-Qualified)** and has an **expected lifetime of over 20 years.** The integrated power supply which drives the seed laser is auto sensing for use worldwide (100-240VAC, 47-63Hz).

Field Upgrades

Finally, the design of the **new seeder allows current Surelite systems to be upgraded in the field** to seeded operation. The procedure requires a Field Service visit **and generally takes less than one day to complete.**



Please visit Continuum at Booth B3.439

2. New Ytterbium Doped Pulsed Fiber Laser

KEOPSYS
KEY OPTICAL SYSTEMS

Keopsys has launched its new Ytterbium doped pulsed fiber laser with energy reaching **1mJ per pulse.** Centered **at 1064nm,** this laser has been designed for industrial applications such as **marking, µ-welding and µ-drilling**. The **repetition rate is adjustable from 20 to 80kHz** and the **peak power can reach 20W with a pulse width of 120ns.** The collimated output procures an optimum beam quality with M^2<1.5. This **very compact** source is **air cooled** by fans, powered in 24V and **electrical consumption is less than 400W.** A RS-232 interface with TTL commands allows users to manage the unit and gives status and alarms.

Please visit Keopsys at Booth B1.283

GMP SA Avenue des Baumettes 17 CH-1020 Renens Tél. 021 633 21 21 Fax 021 633 21 70 laser@gmp.ch
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3. New Nd:YVO4 Laser for High-Speed Marking and Micromachining Applications

Quantronix has introduced the Osprey Series of diode-pumped Nd:YVO4 lasers which are configured for shortest Q-switch pulse widths **(~10 ns),** yet maintaining excellent average power stability and mode quality **(M^2 < 1.2)**. High pulse repetition rates **(up to 200 kHz)** combined with Quantronix' Q-Mark X-Y galvo-scanner and Design Commander software makes the Osprey Series **ideally suited for high-speed marking and micromachining applications.** Very efficient optical coupling between pump diodes and the Osprey Series' gain medium allows **10 watts output-power operation without any liquid-cooling heat-removal requirements** and comfortably supports Quantronix' **10,000 hour lifetime warranty** of the Osprey Series' field-replaceable pump diodes. A hermetically sealed enclosure protects all laser optics from harsh industrial environments. Further, all control electronics are hosted in a 4U 19" rack-mountable unit with full-featured front panel, digital, or applications software interface, which provides comprehensive interface choices from hands-on to full computer control. Quantronix' proprietary **high-efficiency intra-cavity frequency-conversion design** is employed in the Osprey Series 532 and 355 nm versions, which are the lasers of choice for **micro-hole drilling, glass marking, CTO patterning, sapphire cutting** and other micromachining applications **where the heat affected zone (HAZ) must be minimized**.

Please visit Quantronix at Booth B3.439

4. TuiLaser's UV Light: A Fast and Precise Processing Tool

Ultraviolet (UV) lasers efficiently and precisely manufacture microstructures in cold ablation for drilling, cutting, marking and perforating films or by alteration of chemical properties. Their precise and non-thermal interaction has long been used in medicine. Nowadays UV light sources are also used for a wide range of applications in the industrial and scientific field.

Micro Wire Stripping

The accurate stripping of micro wires is achieved with the excimer laser. A major advantage is the non-thermal ablation of the isolating material, since the plastic material does not melt.

Accurate Marking and Engraving

An excimer laser system could engrave an unlimited mix of characters, patterns or codes in glass, ceramics, diamonds, plastics and other sensitive materials.

Pulsed Laser Deposition (PLD)

Today excimer lasers are the main source of the UV radiation use in PLD processes for ablating material from stoichiometric targets.

Please visit TuiLaser at Booth B3.435

5. I.D.I.L. Innovative Fibres Optic Educational Kits

IDIL Fibres Optiques produces innovative Fibres Optic Educator kits dedicated to **Optical Communication, Optoelectronics, Fibre Optics, lasers and Physics teaching sectors.**

IDIL Fibres Optiques provides a **wide range of kits:** Fibre Optic Reflectometer, Erbium Doped Fibre Amplifiers and Fibre Lasers, Optical Spectrum Analyser, Multi-Wavelength Demultiplexing and Multiplexing, Michelson & Mach-Zender Fibre Optic Interferometer, Picoseconds Pulsed Fibre Laser.

Each kit **includes all opto-electronic components** required to perform the experimental programme **and a comprehensive teacher's manual** which contains: background theory, lessons, exercises and experiments with all results and solutions. IDIL Fibres Optiques also announces **new exciting kits in development: Fiber Bragg gratings, splicing & Welding fibres, Incoherent light Fibre Optic Interferometer, Laser diode wavelength stabilization.**

Please visit I.D.I.L. at Booth B2.423

6. Laser Diode Current Source for Quantum Cascade Lasers

ILX Lightwave, a world-leader in laser diode instrumentation and test systems, announced the introduction of the **LDX-3232 High Compliance Laser Diode Current Source,** the industry's only laser diode driver designed specifically for controlling high compliance voltage devices such as quantum cascade laser diodes.

The design, based on precision current source technology, allows the LDX-3232 to deliver up to **4A of low noise current at up to 15V with a stability of better than 20ppm**. This performance is critical **for spectroscopic applications** such as development of new **quantum cascade laser-based sensors for gas analysis.**

The LDX-3232 also includes fourth generation laser diode protection technology developed by ILX and a **new over-temperature sense input for protecting expensive quantum cascade lasers.**

The need for the LDX-3232 was determined through interviews with scientists and engineers who use quantum cascade laser diodes in their research and development of optical sensors.

ILX Lightwave
Lighting the Way in Electro-Optic Instrumentation.

Please visit ILX Lightwave Corporation at Booth B1.439

7. Optical Switches with Bulkhead Connector

Piezosystem Jena introduces their new optical switches with integrated bulkhead connectors.

The new FSM series of **multimode optical fiber switch** can be equipped with bulkhead connectors for **SMA, ST or FC/PC.** The new series of switches gives the customer more connector options. The patchcord architecture allows for **easy exchange of damaged fiber** - especially useful when using very sensitive quartz fiber.

Integrating the switch into an existing system is also very easy because of the **compact switch size**. The user can plug in his connectors into the switch after mounting.

The unique switching principles based on piezoelectrical elements provide a **fast switching frequency up to 500Hz.** The system is very compact. **Insertion losses are < 0.6dB**. The direct fiber coupling principal means there are **no optical components inside** which can have an influence on the beam characteristics. Piezojena specializes in custom manufacturing of fast fiber optical switches for **channel configurations from 1by1 up to 1by81.**

piezosystem jena

Please visit Piezosystem jena at Booth B2.430

8. JDS Uniphase's Ultra-Reliable 5 W Laser Diodes

JDS Uniphase's ultra-reliable 6390 series laser diodes offer **5 W of laser power from a 100 µm fiber into 0.2 NA.** The L3 package is a design that incorporates telecom design approaches into a commercial product and resulting in **a reliability of >200,000 hours MTBF.** The L3 multimode pump modules are **based on single-emitter** diodes and allow a radical departure from standard bar-based pumping architectures. **Hundreds of Watts** of ultra-reliable pump power can easily be achieved **with a distributed architecture using L3s and a multimode fiber coupler or fiber bundle**. In a distributed architecture, "cascading" failure modes are avoided, and ensemble statistics can be used to predict lifetimes. The L3 multimode pump modules ease thermal management by distributing the diodes (heat sources), **allowing air or water cooled architectures** for laser pumps **and direct-diode applications.**

Applications

- Yb laser pumping
- Material processing
- Graphic arts
- Medical
- Remote power generation
- Pyrotechnic ignition

JDS Uniphase

Please visit JDS Uniphase at Booth B2.610

9. Quasi-CW 355nm Air-Cooled Format Laser

JDS Uniphase

Q series lasers provide the highest green and **UV output** powers in their class - from more than **10W at 355nm** to more than **15W at 532nm**. The simple and efficient design of the DCP® engine supports an excellent beam quality with an M^2 of less than 1.2 and leads to superior average power stability with less than ±2% average power drift. At the same time, the self-stabilizing effect of the intracavity harmonic generation architecture minimizes any pulse-to-pulse energy fluctuations, while the low UV power density at the tripling crystal and a coating-free, patented Brewster design eliminates the need for complicated and unreliable crystal shifting. The same design aspects allow burst operation with virtually no decline in pulse energy.

This inherent stability of the Q-series enables the precise process control and the stable and reliable long-term operation demanded by industrial 24-7 operation.

Applications

-UV Micro Via Drilling
-Low-k Dielectric Grooving
-Wafer Scribing
-Direct Ablation of Silicon
-Semiconductor and PCB fabrication processes

Xcyte lasers offer the advantages of diode-pumped solid-state lasers in **quasi-CW 355nm air-cooled format.**

Xcyte series lasers provide near diffraction-limited beam profile, excellent stability, long life time and low amplitude noise in a compact, low cost of ownership (COO) package. These qualities make the Xcyte laser the ideal **replacement for bulky and inefficient HeCd and Argon lasers** in varied applications such as flow cytometry, microstereolithography and semiconductor wafer inspection.

Applications

-Flow Cytometry
-Microstereolithography
-Semiconductor Wafer Inspection
-Biomedical to semiconductor procesing and inspection applications

Please visit JDS Uniphase at Booth B2.610

GMP

General Microtechnology & Photonics

Instruments for Industry, Research, Telecom & Medicine

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As early as 1977, Jean-Jacques Goy was among Switzerland's early laser pioneers when he founded GMP SA, designed to be an active interface between manufacturers and users of high-tech systems and instruments. The relations he established with the world's leading manufacturers helped him obtain the exclusivity for their avant-garde systems. GMP soon ranked first in its field on the Swiss market. The Company began to supply the research laboratories of Switzerland's Federal Institutes of Technology, joined in the development of research centers operated by major industrial groups and set out to serve hospitals, clinics and doctor's practices.

Please, contact our photonic specialists for all your inquiries:

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