SPI Lasers launch variMODE – a switchable beam delivery system

SPI Lasers, the UK based designer and manufacturer of fiber lasers have developed a switchable beam delivery feature in variMODE. It is available as an option on all SPI 3kW to 10kW high power fiber lasers.

variMODE can be used with the redPOWER CW Fiber Lasers covering the range of systems from 300W all the way up to 10kW. Supplied in a variety of formats to meet user demands such as stand alone or incorporation into an existing machine, laser functionality is now improved with the adaptable laser beam capability in variMODE.

Now users can tailor their fiber laser system to optimise the beam characteristics – including spot size and beam profile - in a number of applications such as cutting, welding or piercing, improving the functionality of your SPI Laser and increasing productivity. Additionally, the variMODE has a unique construction that modifies the delivery fiber, by maintaining the output through the central core of the delivery fiber and reducing the need for additional expensive optical components.

Currently, there are two modes available:

1.) A Low Beam Parameter Product (BPP) mode profile, excellent for fast cutting of thin metals, especially bright highly reflective ones, but also for producing high speed, high quality pieces in thick metals.

2.) A High BPP mode giving excellent, smooth cut edges at good speeds when cutting thick metal sheets, especially mild steel.

Mark Richmond, Product Manager for High power CW lasers stated: “variMODE will allow our customers to quickly change the beam quality of their laser, selecting the best Beam Parameter Product value for each manufacturing process, allowing users to work more cost efficiently than ever before! At SPI Lasers we are committed to providing the best value, highest quality products for our customers, variMODE is another perfect example of how we bring this to life.

We’ve created a great video to bring the feature to life and make it easy to understand, head over to our website to watch it for yourself!”

To get a handle on this new product watch the video on https://www.youtube.com/watch?time_continue=3&v=3FQt7gQ01yA&feature=emb_logo

You might like to download the Press Release for more details.

NEWS FLASH:

The purmundus challenge recognises products of the future in 3D and 4D printing. Issued annually at Formnext, CellCore GmbH who received third prize for their Monolithic Rocket Chamber: “In order to demonstrate the potential and the benefits of metallic, powder bed-based 3D printing for space flight, CellCore GmbH and SLM Solutions Group AG developed a highly complex rocket engine demonstrator that combines a fuel inlet, injection head, thrust chamber and innovative structural cooling concept in an integral design.”

https://www.linkedin.com/pulse/wanting-launch-your-satellite-ko-biomimetic-engineer-lexie/
Spectrometers with extreme performance specifications from LightMachinery

The HyperFine Spectrometer - compact, sub picometer resolution
The HyperFine series of spectrometers are based on LightMachinery’s patented fluid jet polishing technology. Designed for measuring hyperfine spectra and subtle spectral shifts. A compact spectrometer capable of 1 picometer resolution, ideal for measuring fine features in plasmas, pulsed laser characterization and for measuring the small spectral shifts from Brillouin or Raman scattering. Can be integrated into automated experimental setups.

Brillouin Hyperfine Spectrometer: HF-8999-532-AUTO with Computer Controlled Alignment, Green Killer Pump Suppression, Massive Dynamic Range and Picometer Resolution!

Overcoming the great challenge with Brillouin spectroscopy, the HyperFine spectrometer has a very narrow band tunable filter to suppress the bright un-shifted laser frequency, achieving a dynamic ratio of 65dB with our standard CMOS camera and is designated – the Green Killer. The tunable filter is comprised of a double passed air spaced etalon. The etalon tuning and alignment are both computer controlled.

LightMachinery’s proprietary fluid jet polishing process is utilized to create both the tunable etalon filter and the main VIPA etalon in the spectrometer. The result of the combination of the high finesse elements is unparalleled sensitivity and relatively compact size, perfect for Brillouin scattering.

The Hornet Spectrometer - compact, < 30pm resolution in the Vis and NIR. The Hornet series of spectrometers are based on LightMachinery’s patented Fluid Jet Polishing technology. Designed for characterizing laser spectra, the Hornet spectrometer from LightMachinery is capable of better than 30 picometer resolution. The Hornet Spectrometer achieves the resolution of large gratings spectrometers while covering a larger wavelength range, and easy to integrate into automated experimental setups.

UltraBright Spectrometer launched in 2019. Your spectrometer would work better if you had 100X the light? Introducing the UltraBright Spectrometers with no slit, just a giant aperture and a huge field of view.
Boom. Spectrum. Done!

These spectrometers are ideal when you are looking at an extended or distant source (not a 10 micron spot). Now you can collect a lot of light and not worry about trying to convince it to pass through a tiny slit.

A fast OSA!
The Optical Spectrum Analyzer has been a work horse for the telecommunications industry for decades. We thought it was time to revolutionize the performance of the OSA and re-think the design of the instrument. The Ultra-OSA solves the biggest drawback of the technology (speed) while retaining the resolution and sensitivity.

WHAT’S IN MY INBOX?
Dr Karl wins UN prize for science communication

Our home-grown Dr Karl Kruszelnicki has become the first ever Australian to receive UNESCO’s Kalinga Prize for the Popularisation of Science, joining the ranks of laureates such as Sir David Attenborough, Arthur C Clarke, Margaret Mead and David Suzuki.

Dr Kruszelnicki, popularly known as Dr Karl, is certainly well educated in the sector, having earned degrees in mathematics, physics, biomedical engineering, medicine and surgery — also electrical engineering, astrophysics, computer science and philosophy!

In 1981, Dr Kruszelnicki started presenting Great Moments in Science on ABC radio station 2JJ and ABC TV’s Quantum and Sleek Geeks. Since 1995 he has been the Julius Sumner Miller Fellow in the School of Physics at the University of Sydney. He has written 45 science books – yet still has time to buy those crazy shirts!!