

Mesophotonics releases white light continuum generation planar waveguides

Southampton, UK – 14 July 2004 Mesophotonics Ltd, a developer of disruptive photonic crystal technology, today announced release of the next generation of planar waveguides optimised for white light continuum generation. These 2 dimensional waveguides offer users a convenient way of generating low noise, low ripple spectrum of 100's nm bandwidth for frequency metrology, spectroscopy and optical coherence tomography applications.

The latest generation of continuum generation chips (CGC's), which are only 1cm long, feature two dimensional planar waveguides with tapers on the input and output ends of the waveguide to simplify pump launching. This design has enabled over 40mW of continuum to be generated with only 200mW of incident power. The generated continua also feature very low spectral ripple and are fully polarisation preserving as a result of the unique waveguide design which also means that the continuum is generated into a high quality single mode output. Extensive tests have shown that in excess of 150nm of 3dB bandwidth can be generated from most femtosecond pump lasers at 800nm, 1µm or 1.5µm pump lasers with as little as 10mW (100pJ) of power launched into the waveguide.

Each supplied chip contains over 40 waveguides of differing sizes effectively providing 40 devices in one and enabling the user to easily investigate the effect of changing waveguide geometry without changing the sample. To further increase ease of use, these latest generation of chips can also be supplied mounted with adapters compatible with most common translation stages.

John Lincoln, Mesophotonics Business Development Director commented, "We believe that these continuum generation chips offer a genuine alternative method of creating continuum which combines some of the best features of fibre and bulk continuum generation such as low threshold and low spectral ripple making this method ideal for applications such as optical coherence tomography. The small size and silicon base of the chips also makes them ideal for integration with existing laser sources. For the future we are investigating integrating additional functionality on the chip, such as filtering to further tune the continuum output".

About Mesophotonics

Mesophotonics is commercialising breakthrough photonic crystal technology that allows light to be bent, routed and processed at sub-millimetre scale. This will enable multiple optical

functions and complex systems to be implemented at high density on a single silicon chip, leading the way to low cost, high volume production of integrated optical devices. Additional optical devices will also be possible at efficiencies and sizes not previously achievable as photonic band gaps are used to modify fundamentally how light is generated inside photonic crystals. The company was founded in 2001 by Prof. Greg Parker and a team of 7 founders from 3 departments at the University of Southampton with expertise in modelling fabrication design and characterisation. Venture capital funding is provided by Quester Capital Management (London), BTG (London), Auriga Partners (Paris) and NIF (Tokoyo). For further information see www.mesophotonics.com

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