NKT Photonics
the power of light

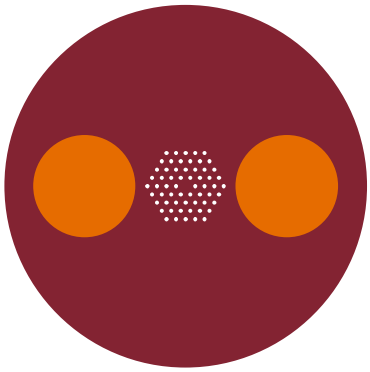
Crystal Fibre • *aero*LASE • Koheras • SuperK

SC-5.0-1040-PM

Highly Nonlinear | Single Mode | Polarization Maintaining

Polarization -maintaining nonlinear fiber for supercontinuum generation

- Dispersion optimized for 1 µm wavelength pumping
- Single mode
- Polarization maintaining
- Pure silica



This single-mode polarization-maintaining nonlinear photonic crystal fiber combines a high nonlinear coefficient with zero dispersion around 1040 nm to allow efficient nonlinear interactions using 1060 nm range lasers.

The fiber is designed to convert passively Q-switched Nd3+-microchip lasers into a compact, low-cost, ultra-bright supercontinuum source with polarized output.

Due to the optimized dispersion profile, a length of only 20 m of these fibers is sufficient to achieve near-unity conversion efficiency in combination with a laser that delivers pulses of ~1 ns, 5-10 kHz repetition rate and a few tens of milliwatts of average power at 1064 nm wavelength.

The fiber is available spliced to standard single mode fiber or endlessly single mode fiber, and is also available with hermetically sealed ends and FC/PC connectors.

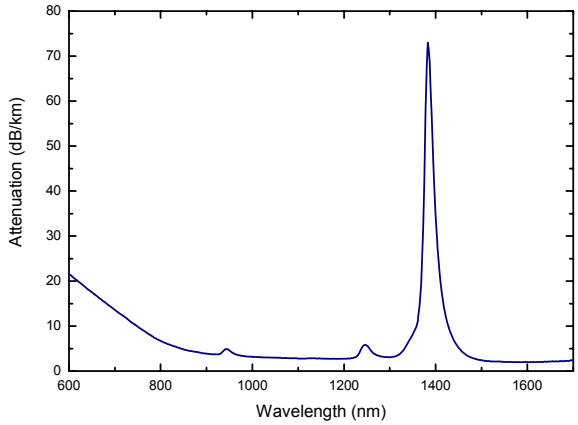
Applications

Broadband continuum generation for:
- Spectroscopy and Microscopy
- Metrology
- Optical coherence tomography, OCT

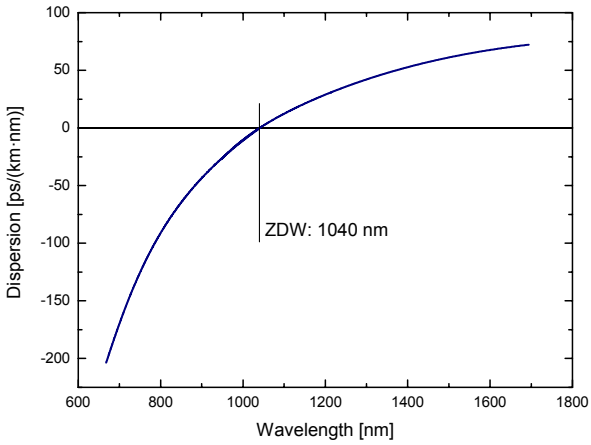
Physical properties	
Material	Pure silica
Cladding diameter	125 ± 3 µm
Coating diameter	244 ± 10 µm
Coating material	Acrylate
Core diameter	4.8 ± 0.2 µm

Optical properties	
Zero dispersion wavelength	1040 ± 10 nm
Cut-off wavelength	< 1000 nm
Nonlinear coefficient @ 1060 nm	11 (W·km)-1
Attenuation @ 1040nm	< 3 dB/km
Attenuation @ 1550 nm	< 2.5 dB/km
Attenuation @ 600 nm	< 25 dB/km
Mode Field Diameter	4.0 ± 0.2 µm
NA @ 1060 nm	0.20 ± 0.05
Δn @ 1060 nm	$1.7 \cdot 10^{-4}$
Polarization extinction ratio, PER	>20 dB

Typical spectral attenuation



Typical measured dispersion



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NKT Photonics A/S (Headquarters)
Blokken 84 • 3460 Birkerød • Denmark
Phone: +45 4348 3900
Fax: +45 4348 3901
www.nktphotonics.com

NKT Photonics GmbH
Schanzenstrasse 39 • Bldg D9-D13
51063 Cologne • Germany
Phone: +49 221 99511-0
Fax: +49 221 99511-650

NKT Photonics Inc.
1400 Campus Drive West • Morganville
NJ 07751 • USA
Phone: +1 732 972 9937
Fax: +1 732 414 4094