

NL-2.3-125-59

Nonlinear photonic crystal fiber

DESCRIPTION

Non-linear photonic crystal fibers guide light in a small silica core, surrounded by a high air filling ratio micro-structured

The optical properties of the core closely resemble those of a rod of glass suspended in air, resulting in strong confinement of the light and, correspondingly, a large nonlinear coefficient. By selecting the appropriate core diameter, the zero dispersion wavelength can be chosen over a wide range in the visible and near infrared spectrum, making these fibers particularly suited to supercontinuum generation with Ti:Sapphire or diode-pumped

Nd3+-laser sources. The fiber is able to be spliced to standard single mode fiber or endlessly single mode fiber.

ADVANTAGES

High Nonlinear coefficients, up to $40 \text{ W}^{-1}\text{km}^{-1}$ at 1550nm

Single material

Spliceable to standard single mode

Zero dispersion wavelengths are to be adjusted

Zero dispersion wavelengths from 670-900 nm available

Near-Gaussian mode profile

APPLICATIONS

Supercontinuum generation for frequency metrology, spectroscopy or optical coherence tomography

Four-wave mixing and self-phase modulation for switching, pulse-forming and

Wavelength conversion applications

Raman amplification

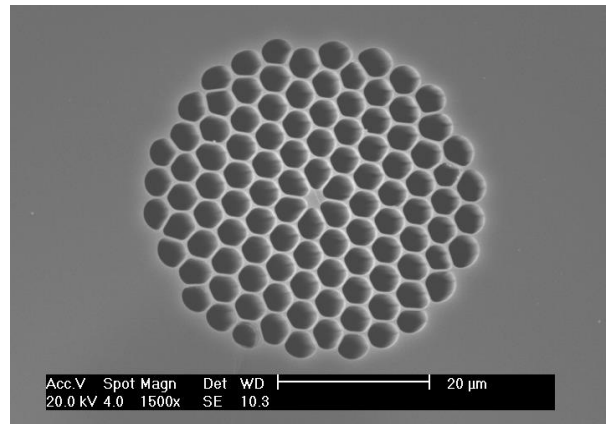
OPTICAL PROPERTIES

Zero dispersion wavelength: $800 \pm 50 \text{ nm}$
 Dispersion@1550 nm: $127 \pm 3 (\text{ps}/\text{nm}\cdot\text{km})$
 MFD@1550 nm: $2.3 \pm 0.2 \mu\text{m}$
 Attenuation@1550 nm: $< 0.06 (\text{dB}/\text{m})$
 nonlinear coefficient@1550 nm: $> 36 \text{ W}^{-1}\text{km}^{-1}$

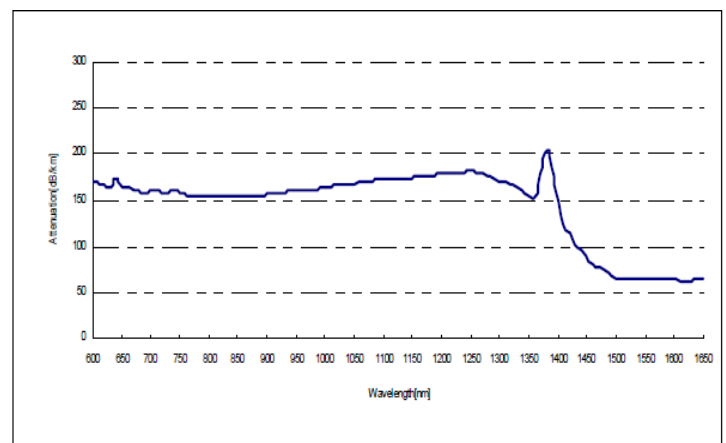
PHYSICAL PROPERTIES

Core material: pure silica
 Core diameter: $2.2 \pm 0.2 \mu\text{m}$
 Diameter of silica cladding: $125 \pm 2 \mu\text{m}$
 Coating diameter (two layer): $245 \pm 7 \mu\text{m}$
 Coating material: Acrylate

CROSS SECTION PHOTOGRAPH SAMPLE



TYPICAL SPECTRAL ATTENUATION



TYPICAL MEASURED DISPERSION

