

Highly Nonlinear Multimode Mid Infrared Fibers

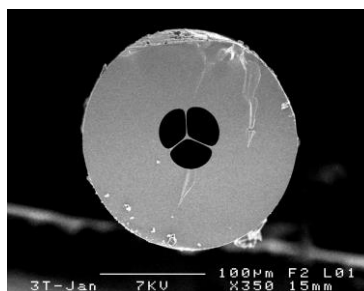
Advantages

- Highly NonLinear
- Low losses transmission up to 8.5 μm
- Core diameter and dispersion can be adjusted

Applications

- Supercontinuum generation
- Wavelength Conversion

Specifications



Reference	AsSe Suspended Core
Glass	$\text{As}_{38}\text{Se}_{62}$
Refractive Index @1.55 μm	2.81
Nonlinear Refractive index n_2 (m^2/W)	$\approx 1.1 \cdot 10^{-17}$ ($\approx 500 \cdot n_2$ silica)
Brillouin Gain, gB (W/m)	$\approx 5.5 \cdot 10^{-9}$ ($\approx 130 \cdot \text{gB}$ silica)
Operating Range (μm)/Guiding Regime	1.5-8.5 (Multimode) (possibility to extend the transmission up to 10 μm)
Typical Attenuation (dB/m)	Equivalent to AsSe SM2
Typical Core Diameter (μm)	4
Typical Cladding Diameter (μm)	200
Typical Numerical Aperture	>0.7
Zero Dispersion Wavelength (μm)	<3.5
Possible Customized specifications	- Core diameter can be adjusted in the [2-7] μm range - Transmission can be upgraded up to 10 μm

Reference:

- Uffe Mollet et Al; « Multi-milliwatt mid-infrared supercontinuum generation in a suspended core chalcogenide fiber »; Optics Express, Vol.23, N°3, 2015.