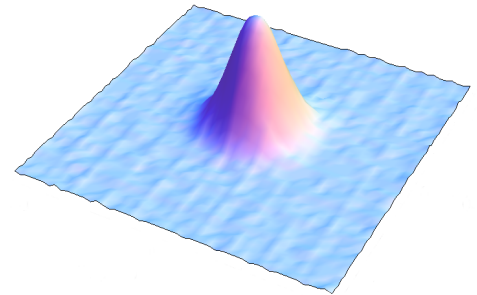




Single-Mode Mid-Infrared Fibers



QCL, ICL, and CO₂ Beam Delivery



Single-Mode Output

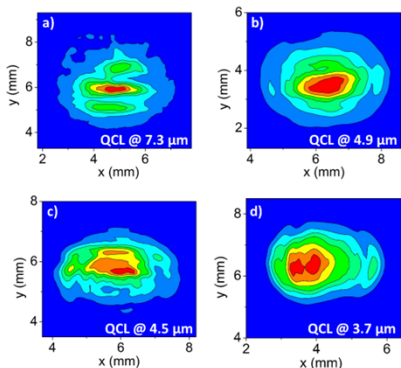
Single mode Mid-IR output is available with ID = 200 μm and 300 μm core hollow fibers. Mode filtering occurs due to strong damping of higher order waveguide modes.

Key Features

- Single spatial mode output
- Mode filtering of non-Gaussian beams
- High coupling efficiency (> 95%)
- High energy/power (up to 10 W CW)
- No end reflections
- No cladding modes
- Robust and Flexible

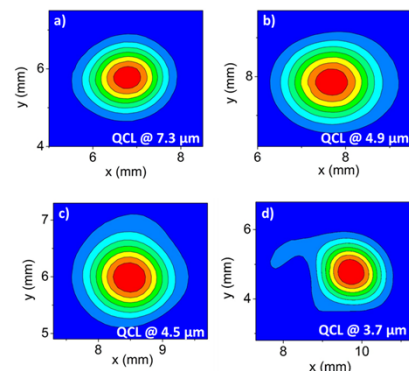
Off the Shelf Patch Cables and Custom Configurations

- Patch cabling with SMA or FC connectors
- Bundles for multi-beam delivery
- Optics for direct coupling of QC Lasers
- Application specific collimation / focusing optics
- Options for the entire Mid-IR: $\lambda = 3$ to 16 μm



Multi-mode Laser Output

Mode Filtering



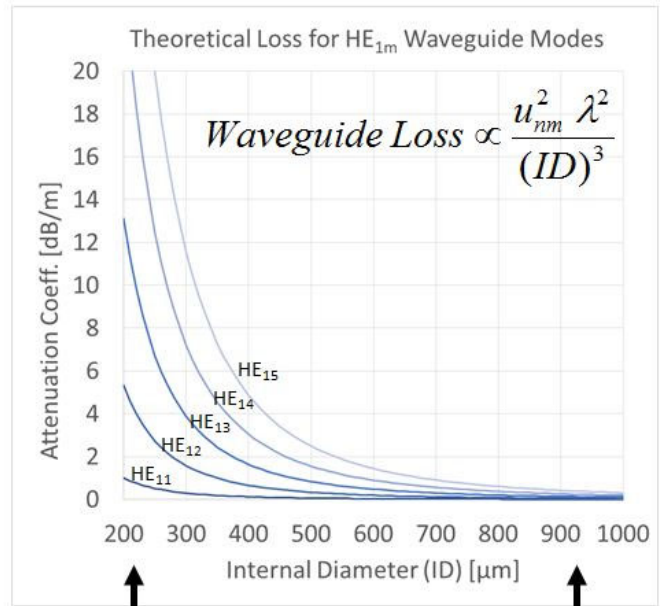
Beam Profiles After Exiting Fiber



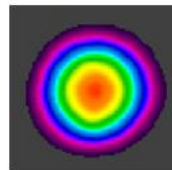
Single-Mode Mid-Infrared Fibers

Single Mode for $\lambda = 8 - 16 \mu\text{m}$

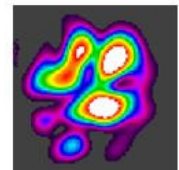
Internal Bore Diameter	300 μm
Internal Coating Type	LW
Length Dependent Loss	1 dB/m
Bending Loss (R = 0.5 m)	0.2 dB/m
End Reflection Loss	0 % (hollow)
Output Divergence $\frac{1}{2}$ Angle	40 mRad
Minimum Bend Radius	5 cm
Max. Recommended Power	10 Watts
Standard Patch Cable Length	1.0 m



Single mode



Multi-mode



Single Mode for $\lambda = 4 - 12 \mu\text{m}$

Internal Bore Diameter	200 μm
Internal Coating Type	MWLW
Length Dependent Loss	4 dB/m
Bending Loss (R = 0.5 m)	0.2 dB/m
End Reflection Loss	0 % (hollow)
Output Divergence $\frac{1}{2}$ Angle	50 mRad
Minimum Bend Radius	5 cm
Max. Recommended Power	5 Watts
Standard Patch Cable Length	0.25 m

