

DC-200/40-PZ-Si

Single-mode, polarizing double-clad Si fiber

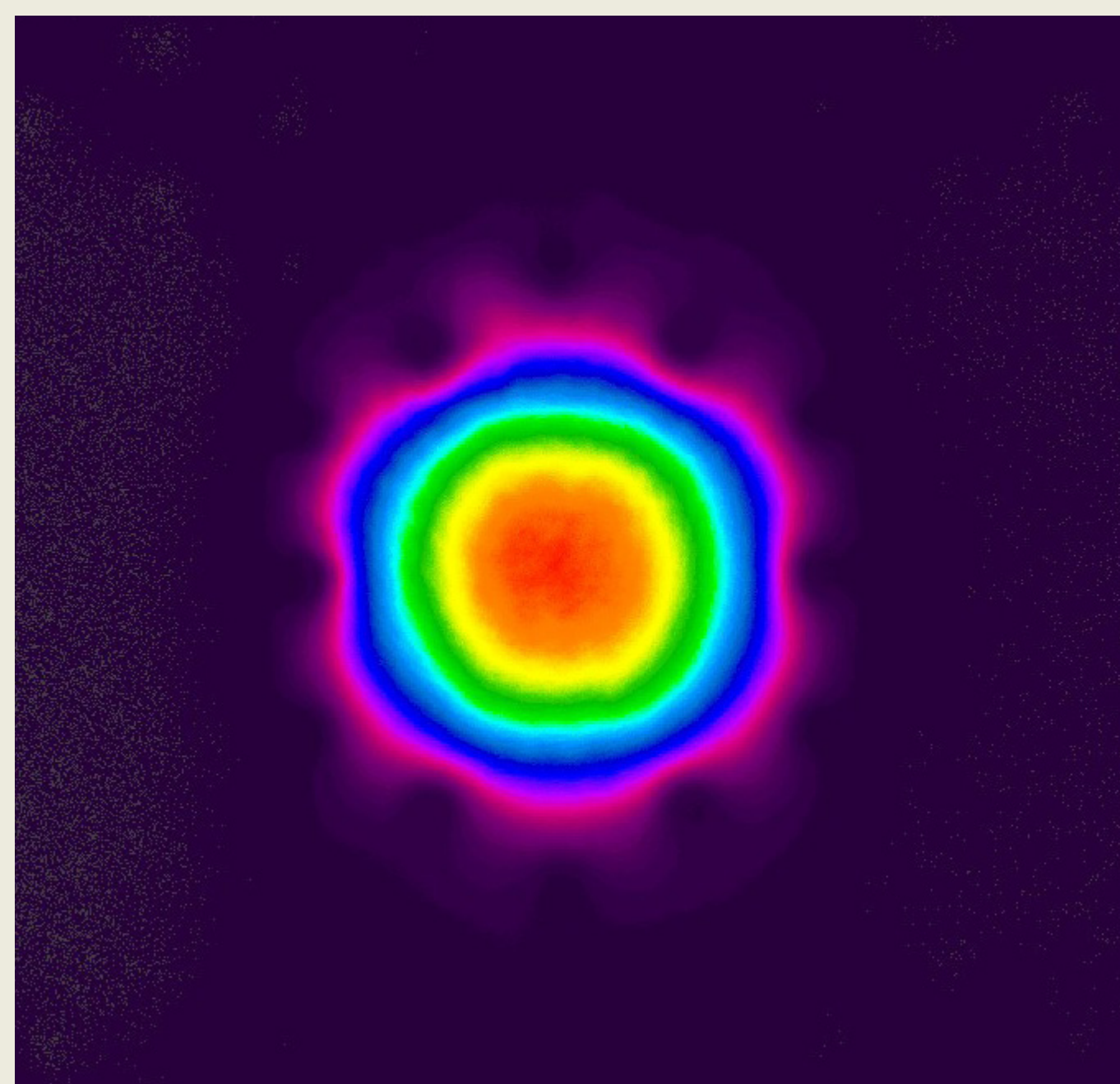
Large area, single-mode gain fiber

Ideal for industrial fiber lasers

The DC-200/40-PZ-Si is a passive, large mode area, single-mode core embedded in a high NA multimode fiber structure. It is substantially similar to our DC-200/40-PZ-Yb active ytterbium-doped fiber apart from the core material and can be used to optimize procedures that will be used with the active version.

With a mode area of more than $700 \mu\text{m}^2$, this fiber represents the best in flexible single-mode passive fibers. The single-polarization core improves the PER compared to normal PM fibers.

Typical near field intensity profile



Multi-mode pump light is guided by our proven air clad technology, ensuring low loss, high damage threshold, and a large numerical aperture. The large NA relaxes the tolerances on coupling optics and facilitates the use of lower brightness diodes.

Coil Control

Coil Control ensures that the fiber coils in one plane leading to superior mode stability. Depending on the wavelength, we recommend a 25-40 cm coiling diameter and operating the fiber in the slow (in-plane) axis.

Features

- Single-mode polarizing
- Large mode area
- High NA circular pump core
- Coil Control ensuring excellent stability

Also available in a Yb-doped version: DC-200/40-PZ-Yb

DC-200/40-PZ-Si

The single-mode advantages

Our single-mode fibers offer several advantages compared to standard multi-mode large area fibers:

- Excellent output stability**
- Outstanding beam quality**
- No need for tight coiling**
- No coiling-induced mode area compression**

Specifications

DC-200/40-PZ-Si

Optical

Signal core	
Mode properties	Single-mode
Beam quality, typical @ 1064 nm	$M^2 < 1.2$
Mode-field diameter, $1/e^2$ @ 1064 nm [μm]	31 ± 2
Numerical aperture @ 1064 nm	≈ 0.03
Multi-mode pump core	
Numerical aperture @ 950 nm	0.60 ± 0.05
Polarization parameters	
Birefringence Δn @ 1100 nm	$\geq 1 \times 10^{-4}$

Physical

Signal core diameter [μm]	≈ 40
Pump cladding diameter [μm]	200 ± 3
Outer cladding diameter [μm]	450 ± 20
Coating diameter [μm]	540 ± 30
Coating material, single-layer	High-temperature acrylate
Outer and pump cladding material	Pure silica

All NKT Photonics products are produced under our quality management system certified in accordance with the ISO 9001:2015 standard.



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