HighRI Optics, Inc

Fiber vortex phase plate specification

Phase plate on a fiber that creates a vortex beam that caries angular momentum. Phase singularity in the center of the beam creates a dark spot with zero light intensity on axis. This is a low-cost alternative to the free space vortex phase plate that does not require any optical alignment and does not occupy space.

Applications:

- STED microscopy
- Telecommunication
- Optical trapping

Advantages:

- No optical alignment is necessary
- Stability and reproducibility
- Ease of integration
- Small size

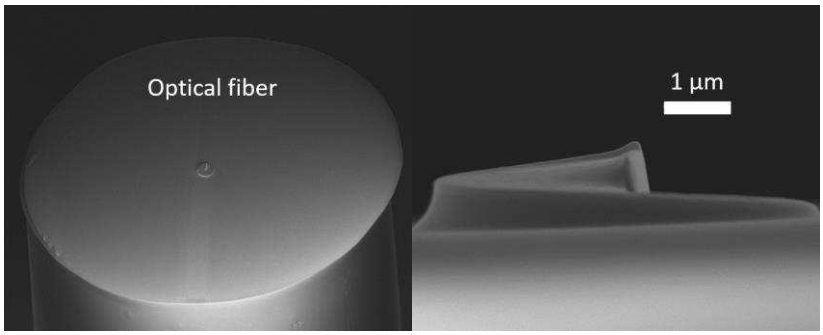

Figure 1. SEM images of the vortex phase plate on a fiber.

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Topological charge	1	1-4
Refractive index of material	1.51	1.51-1.70
Refractive index of surrounding medium	1	1-1.4
Fiber	460HP	Any single mode fiber.
Central wavelength	520 nm	400-2000 nm. Optical testing is only available in 400-1100 nm spectral range.

Table 1. Vortex phase plate specification