

MICROSTRUCTURED FIBERS HOLLOW CORE PHOTONIC BANDGAP FIBER

光可以在光子晶体光纤空心的空气中被导引传输，因而可提供许多有前途的应用，如低损耗波导、高功率传输、对光纤弯曲引入的损耗不敏感。空气导引的光子晶体光纤几乎对弯曲不敏感（即使是小弯曲直径）、具有极端的色散特性、高度依赖波导元件。如果将合适的气体、液体填充在空心中心，光子晶体光纤可用于传感应用和非线性光学。

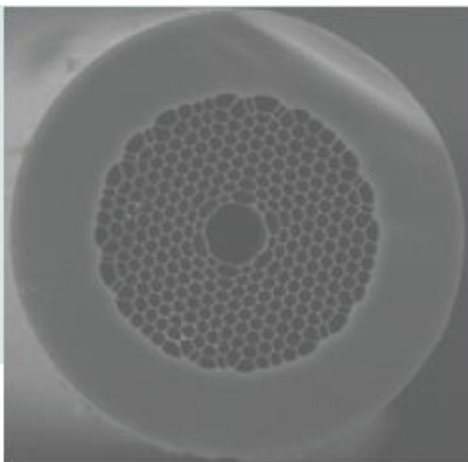
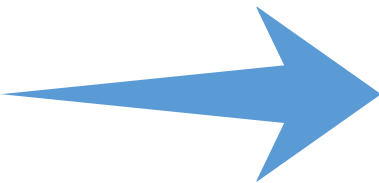
主要特征：

- 空心、超低非线性系数
- 低背景损耗
- 传输波段处低色散

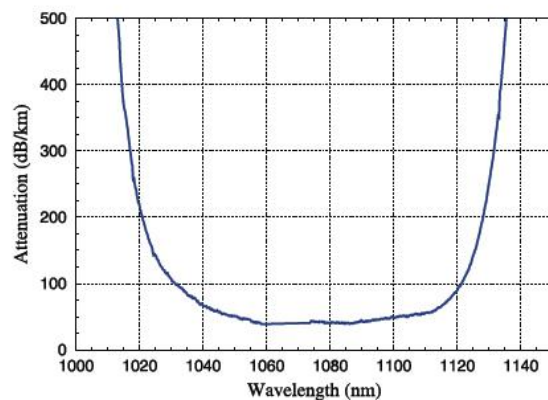
典型应用：

- 光束传输
- 光纤传感
- 非线性应用（压缩、整形）

| Fiber type | HCF-11-80-785 | HCF-10-90-950 | HCF-10-110-1060 |
|--|------------------------------|---------------|-----------------|
| Optical parameters | | | |
| Center wavelength (nm) | 785 +/- 15 | 950 +/-10 | 1060 +/- 10 |
| Minimum attenuation (dB/km) | 125 | 105 | 40 |
| Spectral transmission window (nm) | 750 - 800 | 900 - 990 | 1030 - 1120 |
| Maximum attenuation in transmission window (dB/km) | 260 | 215 | 80 |
| Optical power fraction in core | >90% | >90% | >90% |
| Effective modal index | ~ 0.99 | ~ 0.99 | ~ 0.99 |
| Mode field diameter (μm) | 7.1 +/- 1 | 7.5 +/- 1 | 7.6 +/- 1 |
| Physical/Material parameters | | | |
| Fibre material | synthetic silica | | |
| Core concentricity error (μm) | < 0.5 | | |
| Core diameter (μm) | 11 +/- 1 | 10.5 +/- 1 | 10 +/- 1 |
| Cladding diameter (μm) | 80 +/- 5 | 90 +/- 5 | 110 +/- 5 |
| Coating outside diameter (μm) | 240 +/- 10 | | |
| Coating type | dual coat high index coating | | |
| Proof test level (kpsi) | 75 | | |



Typical measured attenuation



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