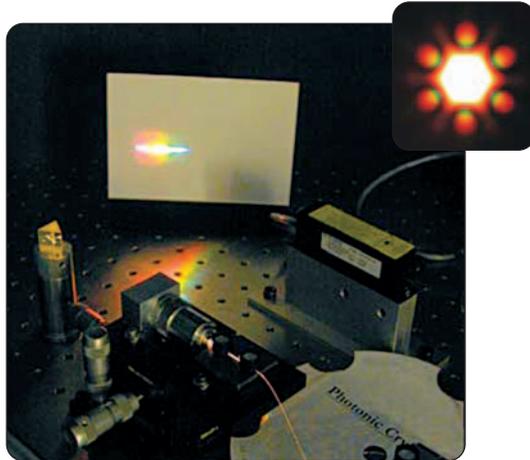


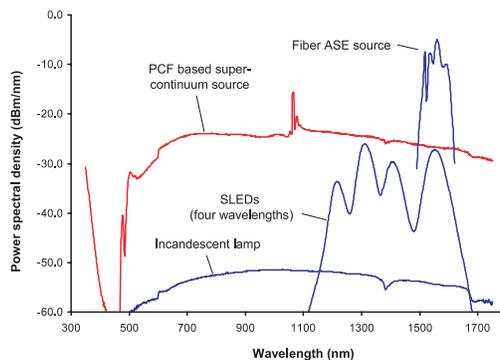
Highly Nonlinear Photonic Crystal Fiber

Hollow Core Fibers for Visible Light



Red-guiding hollow core fiber HC-633 back illuminated with white light

Broadband light sources



Top: supercontinuum generation with 75mW average power Nd³⁺ microchip laser and 20m of fiber SC-5.0-1060

Bottom: comparison of broadband light sources

†These fibers are experimental and may be subject to modification, production limitations, or cancellations.

Supercontinuum sources are a new type of light source that combine the high brightness of a laser (output in a single transverse mode), with a spectral bandwidth usually associated with an incandescent source. Supercontinuum sources can often drastically improve the signal-to-noise ratio, reduce the measurement time or widen the spectral range in applications that require a broadband source, including high-resolution spectroscopy, the characterization of optical components, or optical coherence tomography.

Despite the complex nature of the non-linear optical processes that convert the narrowband output of a laser into a supercontinuum, the practical realization can be surprisingly straight forward. All that is required is a high peak power laser, and a non-linear element with the right dispersion characteristics. The high concentration of power, long length at comparatively low loss and the ability to achieve zero dispersion at wavelength shorter than 1250nm – something that is not achievable with conventional fibers – makes small-core PCF ideally suited as the non-linear element in a SC source. BlazePhotonics offers a range of small-core fibers suitable for use with fs Ti:sapphire lasers (NLxx-xxx), as well as a fiber specifically designed to generate SC radiation from the output of a compact, low-cost Nd³⁺-YAG microchip laser (SC-5.0-1040). The graph shows the time averaged power spectral density supercontinuum sources realized with these fibers in comparison to the spectrum of other typical broadband sources. Detailed application notes are available at www.thorlabs.com

Specifications for SC-5.0-1060

- Core diameter: 4.9 ± 0.1μm
- Mode field diameter: 3.2 ± 0.1μm
- Zero dispersion wavelength λ_0 : 10400 ± 5nm
- Dispersion slope at λ_0 : 0.2ps/nm²/km
- Pitch, Λ (spacing between holes): 3.2 ± 0.1μm
- Diameter of holey region: 35 ± 0.5μm
- Outside diameter: 125 ± 1μm
- Coating diameter (single layer acrylate): 220 ± 5μm

Highly Nonlinear Photonic Crystal Fiber (Price for 1 meter*)

ITEM#	\$	£	€	¥	DESCRIPTION
NL-1.5-670-02	\$ 549.00	£ 384.30	€ 549.00	¥ 93,330	1.5μm Core Diameter nonlinear PCF
NL-1.7-700-02	\$ 549.00	£ 384.30	€ 549.00	¥ 93,330	1.7μm Core Diameter nonlinear PCF
NL-1.8-710	\$ 549.00	£ 384.30	€ 549.00	¥ 93,330	1.8μm Core Diameter nonlinear PCF
NL-1.8-730-02	\$ 549.00	£ 384.30	€ 549.00	¥ 93,330	1.8μm Core Diameter nonlinear PCF
NL-2.0-745-02	\$ 549.00	£ 384.30	€ 549.00	¥ 93,330	2.0μm Core Diameter nonlinear PCF
NL-2.3-790-02	\$ 549.00	£ 384.30	€ 549.00	¥ 93,330	2.3μm Core Diameter nonlinear PCF
NL-2.4-800	\$ 549.00	£ 384.30	€ 549.00	¥ 93,330	2.4μm Core Diameter nonlinear PCF
NL-2.5-810	\$ 549.00	£ 384.30	€ 549.00	¥ 93,330	2.5μm Core Diameter nonlinear PCF
NL-2.6-830-02	\$ 549.00	£ 384.30	€ 549.00	¥ 93,330	2.6μm Core Diameter nonlinear PCF
NL-2.8-840	\$ 549.00	£ 384.30	€ 549.00	¥ 93,330	2.8μm Core Diameter nonlinear PCF
NL-2.8-850-02	\$ 549.00	£ 384.30	€ 549.00	¥ 93,330	2.8μm Core Diameter nonlinear PCF
NL-3.0-870-02	\$ 549.00	£ 384.30	€ 549.00	¥ 93,330	3.0μm Core Diameter nonlinear PCF
NL-3.3-880	\$ 549.00	£ 384.30	€ 549.00	¥ 93,330	3.3μm Core Diameter nonlinear PCF
NL-3.3-890-02	\$ 549.00	£ 384.30	€ 549.00	¥ 93,330	3.3μm Core Diameter nonlinear PCF
PM-NL-3.0-850	\$ 549.00	£ 384.30	€ 549.00	¥ 93,330	Polarization maintaining nonlinear PCF
SC-5.0-1040	\$ 3,780.00	£ 2,646.00	€ 3,780.00	¥ 642,600	Nonlinear PCF for supercontinuum generation with Nd ³⁺ laser**

*Call for Pricing on longer lengths

** Price for 20m (This fiber is sold with a 20m minimum).