

## 中红外 (1.5~10μm) 光子晶体光纤

上海昊量光电设备有限公司推出一系列适用于中红外波段 (1.5~10μm) 的光子晶体光纤 (PCF), 包括单模、高非线性 PCF 等等, 同时根据您的需求我们可以提供定制其他例如多模光子晶体光纤、保偏光子晶体光纤等 (在其中, 芯径、数值孔径将被改变)。

除以下列出的不同种类光子晶体光纤之外, 我们还可为客户定制不同材料基质不同结构设计的 PCF (硫化物、碲化物、硒化物等), 例如保偏光子晶体光纤、锥形光子晶体光纤等等。

### 一、 宽带单模中红外光子晶体光纤

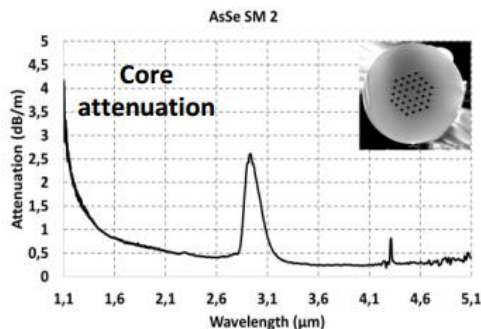
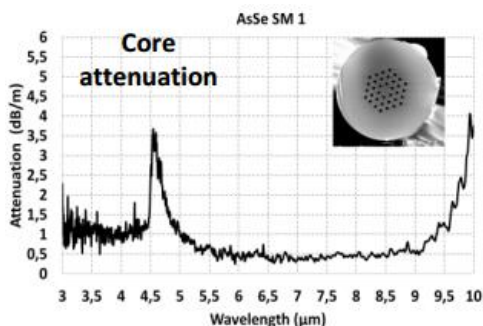
#### 特征:

1. 工作波段 1.5~10μm
2. 低传输损耗
3. 极好的空间光束质量

#### 应用:

1. 中红外光束传输(QCL, OPO)
2. 非线性应用: 超连续谱

Reference	AsSe SM1	AsSe SM2
Glass	As <sub>32</sub> Se <sub>68</sub>	
Refractive Index@1.55μm	2.81	
Nonlinear Refractive Index n <sub>2</sub>	=1.1 × 10 <sup>-17</sup> (m <sup>2</sup> /W) (=500 × n <sub>2</sub> silica)	
Transmission Range(μm)	3-9	1.5-8
Typical Attenuation(dB/m)	2.5@1.55μm α<1@5-9μm	<2.5@1.55μm α<1@3.2-8μm
Core diameter(μm)	=13	
Cladding Diameter(μm)	=125	
Typical Numerical Aperture@5μm	0.4	
Zero Dispersion Wavelength(μm)	=5	



### Aunion Tech Co.,Ltd

Room 904 Building 1 No.1878, West Zhongshan Road, Shanghai 200235, China

Tel: +86-21-51083793

Fax: +86-21-34241962

E-Mail: [info@auniontech.com](mailto:info@auniontech.com)

Website: [www.auniontech.com](http://www.auniontech.com)

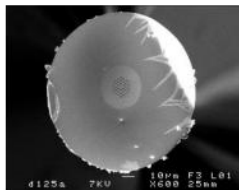
## 二、高非线性单模中红外光子晶体光纤

### 特征:

1. 高非线性
2. 单模
3. 低传输损耗
4. 芯径和色散可选

### 应用:

1. 超连续谱产生
2. 布里渊光纤激光器波长转换



**Highly nonlinear  
single mode fiber**

<b>Reference</b>	<b>GeAsSe SM</b>
<b>Glass</b>	Ge <sub>10</sub> As <sub>22</sub> Se <sub>68</sub>
<b>Refractive Index@1.55μm</b>	2.62
<b>Nonlinear Refractive Index n<sub>2</sub> (m<sup>2</sup>/W)</b>	=8.8 × 10 <sup>-18</sup> (m <sup>2</sup> /W) (=400 × n <sub>2</sub> silica)
<b>Brillouin Gain, g<sub>B</sub> (W/m)</b>	=4.4 × 10 <sup>-9</sup> (m <sup>2</sup> /W) (=100 × g <sub>B</sub> silica)
<b>Operating Range(μm)/Guiding Regime</b>	1.5~4(Single Mode)
<b>Typical Attenuation(dB/m)</b>	2.5@1.55μm
<b>Core diameter(μm)</b>	4
<b>Cladding Diameter(μm)</b>	130
<b>Typical Numerical Aperture</b>	0.35@1.55μm
<b>Zero Dispersion Wavelength(μm)</b>	<4.5

## Aunion Tech Co.,Ltd

Room 904 Building 1 No.1878, West Zhongshan Road, Shanghai 200235, China

Tel: +86-21-51083793

Fax: +86-21-34241962

E-Mail: [info@auniontech.com](mailto:info@auniontech.com)

Website: [www.auniontech.com](http://www.auniontech.com)

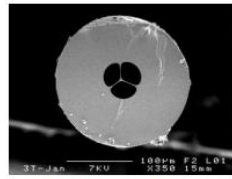
### 三、高非线性多模中红外光子晶体光纤

**特征:**

1. 高非线性
2. <8μm 低损耗传输
3. 芯径和色散可选

**应用:**

1. 波长转换
2. 非线性应用: 超连续谱



**Highly nonlinear  
multi mode fiber**

Reference	AsSe Suspended Core
Glass	As <sub>38</sub> S <sub>62</sub>
Refractive Index@1.55μm	2.81
Nonlinear Refractive Index n <sub>2</sub> (m <sup>2</sup> /W)	=1.1 × 10 <sup>-17</sup> (m <sup>2</sup> /W) (=500 × n <sub>2</sub> silica)
Brillouin Gain, g <sub>B</sub> (W/m)	=5.5 × 10 <sup>-9</sup> (m <sup>2</sup> /W) (=130 × g <sub>B</sub> silica)
Operating Range(μm)/Guiding Regime	1.5~8.5(Multimode)
Typical Attenuation(dB/m)	Equivalent to AsSe SM2
Core diameter(μm)	4
Cladding Diameter(μm)	200
Typical Numerical Aperture	>0.7
Zero Dispersion Wavelength(μm)	<3.5

## Aunion Tech Co.,Ltd

Room 904 Building 1 No.1878, West Zhongshan Road, Shanghai 200235, China

Tel: +86-21-51083793

Fax: +86-21-34241962

E-Mail: [info@auniontech.com](mailto:info@auniontech.com)

Website: [www.auniontech.com](http://www.auniontech.com)