

Materials List for:

In-situ Tapering of Chalcogenide Fiber for Mid-infrared Supercontinuum Generation

Charles W. Rudy¹, Alireza Marandi¹, Konstantin L. Vodopyanov¹, Robert L. Byer¹

¹Edward L. Ginzton Laboratory, Stanford University

Correspondence to: Charles W. Rudy at cwrudy@stanford.edu

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Materials

Name	Company	Catalog Number	Comments
Motorized Linear Stages	Newport	MFA-PPD	Available from other vendors.
Motorized Stage Controller	Newport	ESP301	Available from other vendors.
Aluminum Block	Any vendor.		Dimensions will vary depending on desired taper length.
RTD Sensor	Omega	1PT100GX1510	
Cartridge Heaters	Omega	CSS-01115/120V	
Temperature Controller	Omega	CSC32	
Input Coupling Linear Translation Stage	CVI	07TXS224	Available from other vendors.
Output Coupling Linear Translation Stage	Newport	422-1S	Available from other vendors.
XYZ Linear Translation Stage	Newport	461	Available from other vendors.
Assorted posts, optics mounts, bases, and forks	Any vendor.		
Optical Breadboard	Thorlabs	MB12	Available from other vendors.
Input Coupling ZnSe Lens	Thorlabs	AL72512-E	Available from other vendors. Input coupling focal length depends on pump source and fiber mode field diameter.
Output Coupling ZnSe Lens	Edmund Optics	NT62-961	Available from other vendors.
Box	Any type will do.		Must be large enough to allow stage movement. Needs apertures for input and output coupling of light.
Ceramic Optical Post	Any vendor.		
Digital Microscope	Any vendor.		Optional.
Table Clamps	Thorlabs	CL5	Available from other vendors.
Bare Fiber clamps	Thorlabs	HFF003	Available from other vendors.

Table 1. Tapering Setup Materials.

As ₂ S ₃ Optical Fiber	Fiber Optics Research Center of the Russian Academy of Sciences		Available from other vendors, such as CorActive.
Beavertail Cleaver	Fiber Network Tools	S-315	Available from other vendors. Hand cleaving or polishing fiber tips can also produce high quality fiber tips.
KimWipes	Kimberly-Clark Professional	34120	Available from other vendors.
Acetone, Isopropanol	Any vendor.		

Table 2. Materials for Chalcogenide Fiber Preparation.

Pyrocam	Ophir Photonics	Pyrocam III Series	Any camera with sensitivity at pump wavelength will work.
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Monochromator	Photon Technology International		A 100 line/mm grating was used. Any spectral measurement device will work (e.g. longpass filter).
CaF ₂ Lenses	Thorlabs	LB5922	Available from other vendors.
InAs Filter	Any vendor.		Available from other vendors.
Amplified InSb Detector	Hamamatsu	P4631-03	Available from other vendors.
Computer	Any vendor.		
DAQ	National Instruments	USB X Series	
Labview software for motorized stages	National Instruments		Optional. Custom program.
Labview software for collecting detector data	National Instruments		Optional. Custom program.
Assorted posts, optics mounts, bases, and forks			
1" Gold mirrors	Any vendor.		
Chopper and controller	Any vendor.	SRS Model SR540	Optional. Depends on detector being used.

Table 3. Materials for *In-situ* Tapering Procedure.