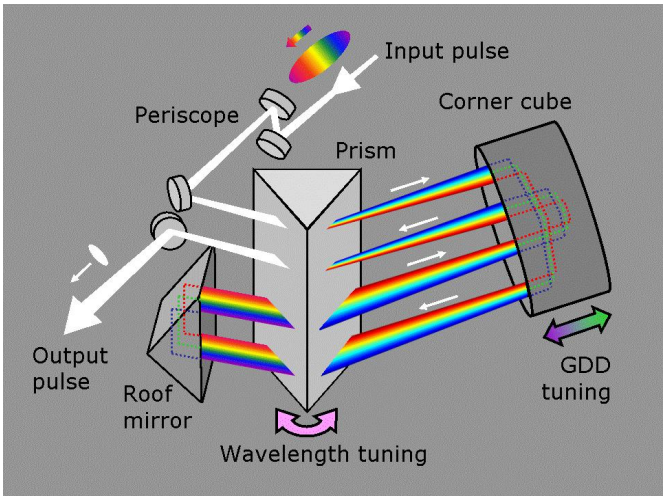
BOA™ Pulse Compressor Specifications (IR Wavelengths)

Pulse compressor model:	BOA-800	BOA-1050	BOA-1300	BOA-1550
Wavelength range:	700 - 1100 nm	900 - 1200 nm	1200 - 1450 nm	1400 - 1700 nm
Max neg. GDD @ center wavelength[1]:	-38,000 fs^2	-14,000 fs^2	-44,000 fs^2	-20,000 fs^2
Transmission[2] @ shortest wavelength: @ center wavelength:	> 80% > 70%	> 80% > 70%	> 80% > 70%	> 80% > 70%
Max bandwidth @ maximum GDD[3]: @ half-maximum GDD :	40 nm 70 nm	110 nm 190 nm	65 nm 110 nm	120 nm 200 nm
Maximum peak power:	500 MW			
Total additional beam path:	< 1.5 m			
Pulse repetition rate:	Any			
Angular dispersion ($d\theta/d\lambda$) added:	0			
Pulse-front tilt (dt/dx) added:	0			
Spatial chirp ($dx/d\lambda$) added:	0			
1D beam magnification:	1			
Output/input beam collinearity:	< 10 mrad			
Required input polarization:	Horizontal			
Polarization rotation:	<0.1°			
Required input-beam diameter:	1 – 4 mm (collimated)			
Input-beam lateral-displ. tolerance:	1 mm			
Number of alignment knobs:	Zero			
Time to set up:	~ 10 minutes			
Dimensions (L x W x H):	46 cm x 13.5 cm x 16 cm			
Weight:	~ 10 kg			

1- Center wavelength in nanometers is the number following the "BOA-" in the device model. Wavelength-dependent data for the full operation range is given in the following pages.
2- The overall transmission depends on polarization purity and beam divergence. The indicated numbers are typical, experimentally obtainable values, not theoretical estimates.
3- As with all dispersive pulse compressors, the maximum bandwidth is limited by beam clipping on the second pass through the prism and so depends on the prism-corner-cube separation (and hence the device's maximum negative GDD). A unique advantage of the BOA single-prism/corner-cube design, which tunes GDD by varying this separation, however, is that, if less than the full negative GDD is needed, the beam path will be shorter, and, as a result, the compressor can accommodate a pulse with a larger bandwidth.

ADDITIONAL NOTES

- The added angular dispersion, pulse-front tilt, and spatial chirp can be shown to always be identically zero and were all immeasurable in our experiments.
- If your beam is larger than 4 mm, please let us know, and we can easily design a pulse compressor with a larger aperture at no extra cost.
- Alignment of the pulse compressor into a beam is achieved using a simple trick: back-reflection off a removable glass window (provided) is used to make sure the beam is incident perpendicularly to the compressor-axis. Once you do this, simply remove the window. You are all set to compress your pulses.
- The pulse compressor itself is auto-aligning, so no alignment knobs are required for internal components.
- Motorized and computer-controlled versions are available upon request.



Layout for the BOA single-prism pulse compressor

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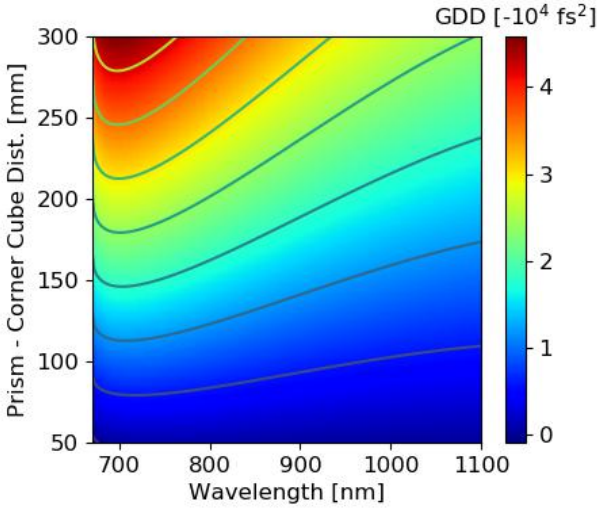
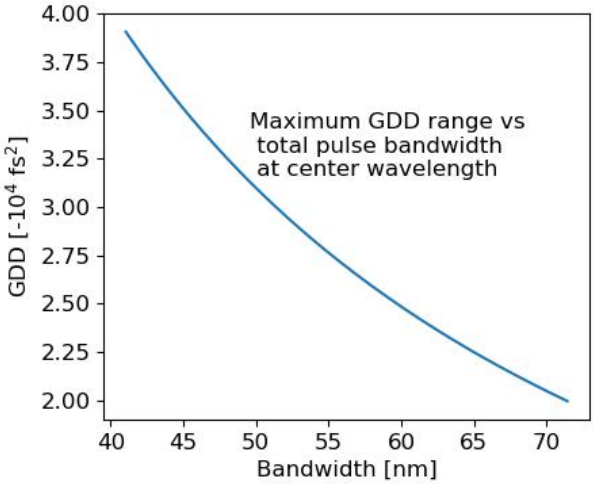
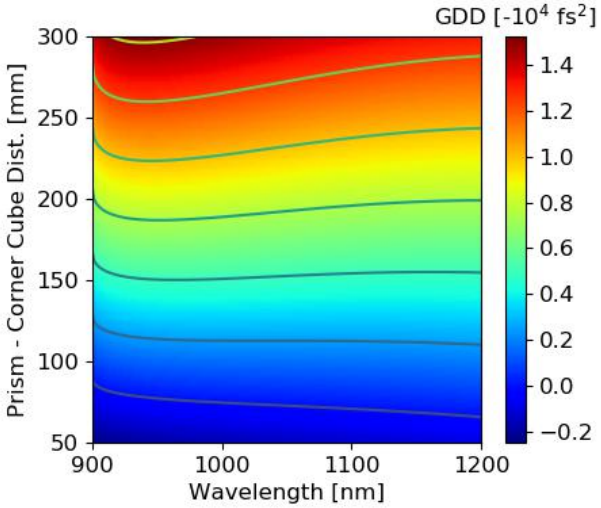
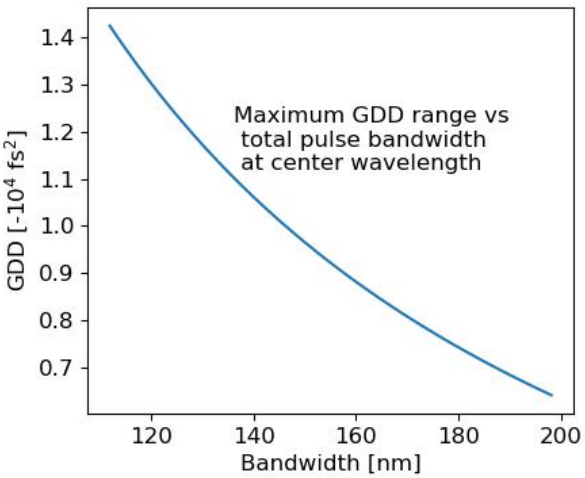
Single Prism Pulse Compressor, BOA-800



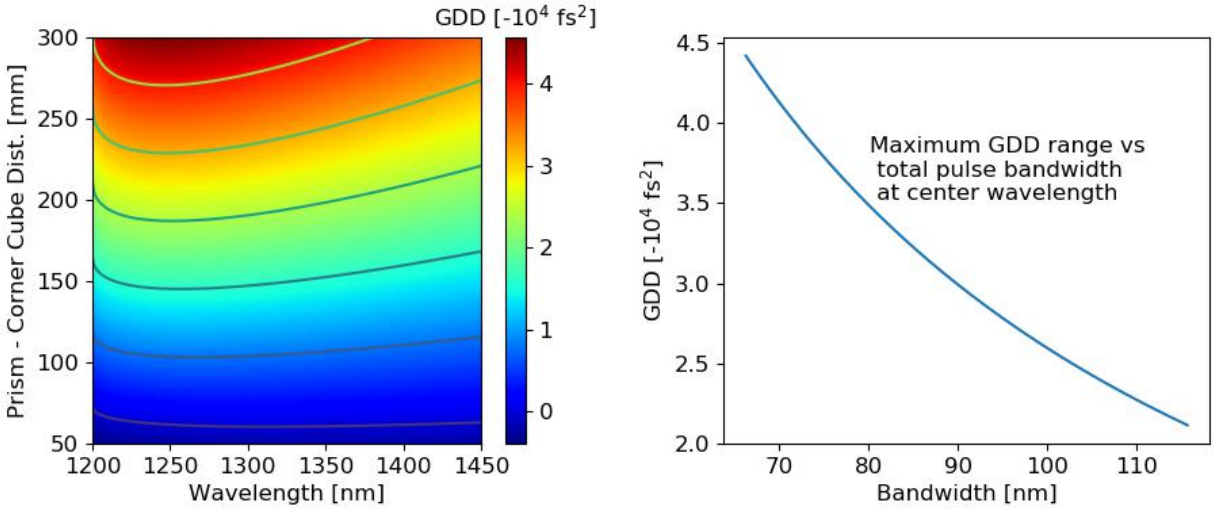


Single Prism Pulse Compressor, BOA-1050

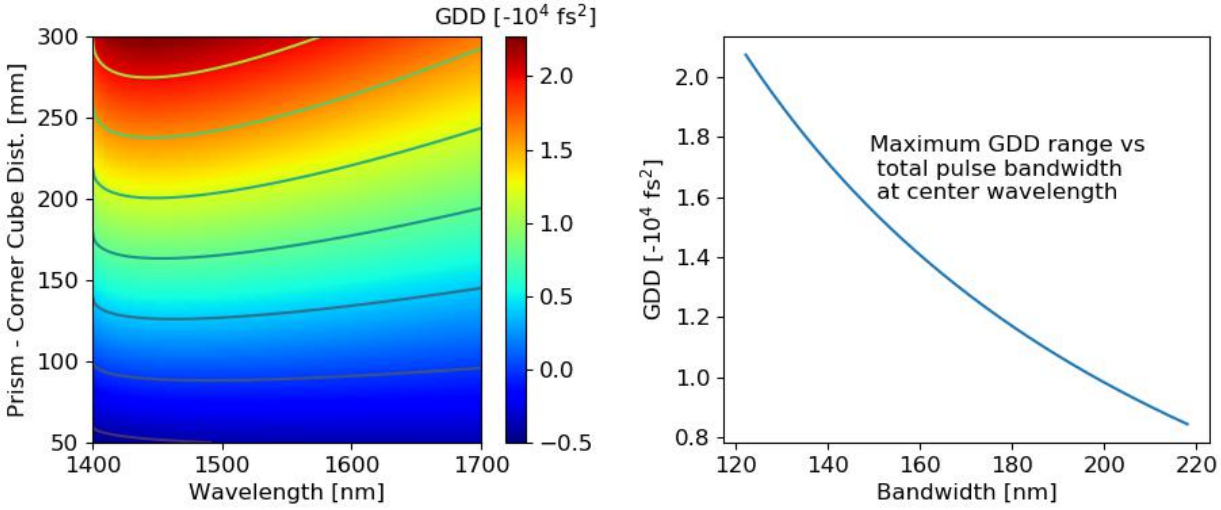




Single Prism Pulse Compressor, BOA-1300



Single Prism Pulse Compressor, BOA-1550



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