



# LBO

Lithium Triborate -  $\text{LiB}_3\text{O}_5$

## MAIN FEATURES

- High bulk damage threshold
- High optical homogeneity
- Small walk-off angle with a NCPM possibility for type I SHG
- Suitable for UV applications

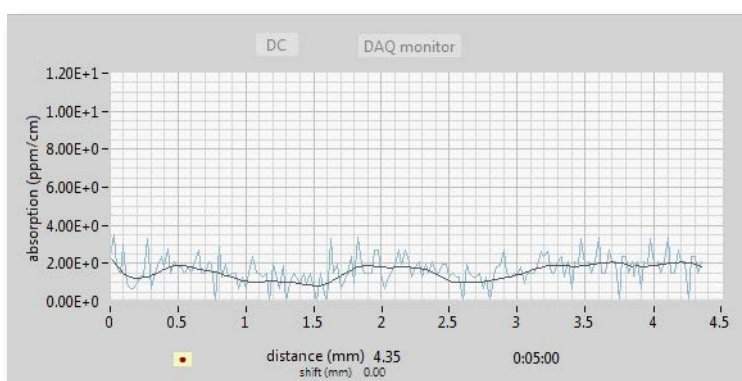
## APPLICATIONS

- Green and UV high power industrial lasers
- Green lasers for Ti:Sapphire pumping
- OPA/OPCPA applications
- Biophotonics & medical lasers

## WHAT MAKES US DIFFERENT?

- Ultra-low bulk absorption:  $<2\text{ppm/cm}@1064\text{nm}^*$
- Super polishing with roughness  $<3 \text{ \AA}$  rms and 2/1 scratch/dig
- Long lifetime in the UV: over 10.000 hours at 30W on one single spot
- Extremely low coating absorption in UV: 3ppm per side @ 355nm
- High damage threshold coating in the UV:  $>20\text{J/cm}^2 @ 355\text{nm}, 10\text{ns}$
- Aperture up to  $100 \times 100\text{mm}^2$  and length up to 100mm

## TECHNICAL HIGHLIGHTS

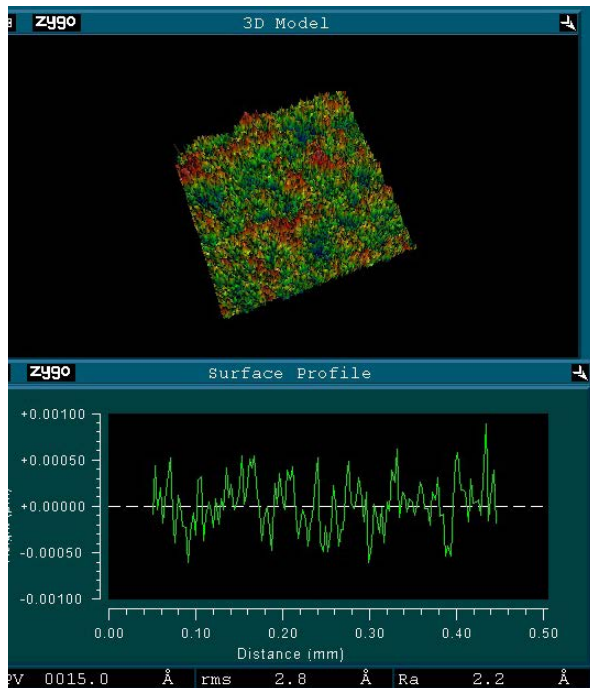


**Bulk absorption measurement at IR and green wavelengths:**

**typical value is 1-2ppm/cm at 1.07 $\mu\text{m}$**

\*as measured by Photo-Thermal Common-Path Interferometry with a calibration coefficient of 1.

# TECHNICAL HIGHLIGHTS



## Surface roughness measurement:

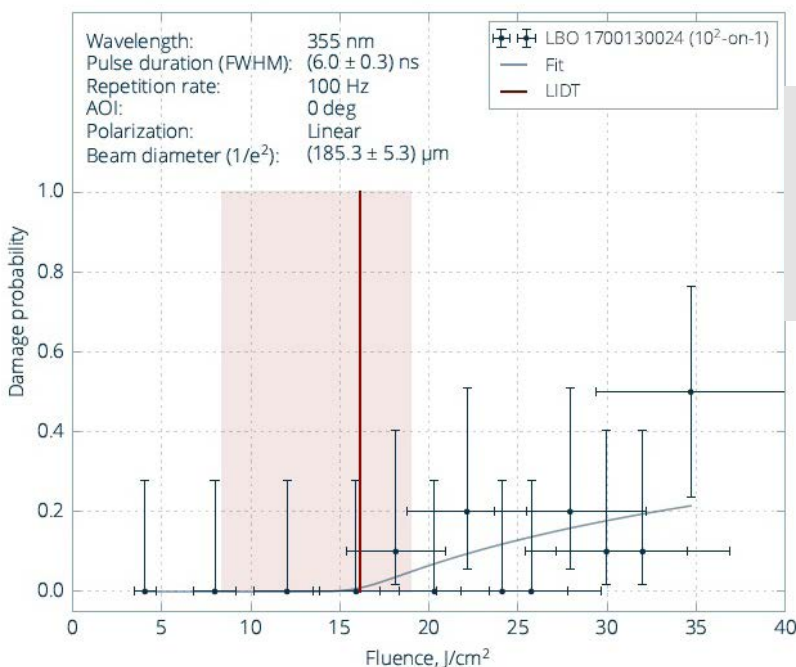
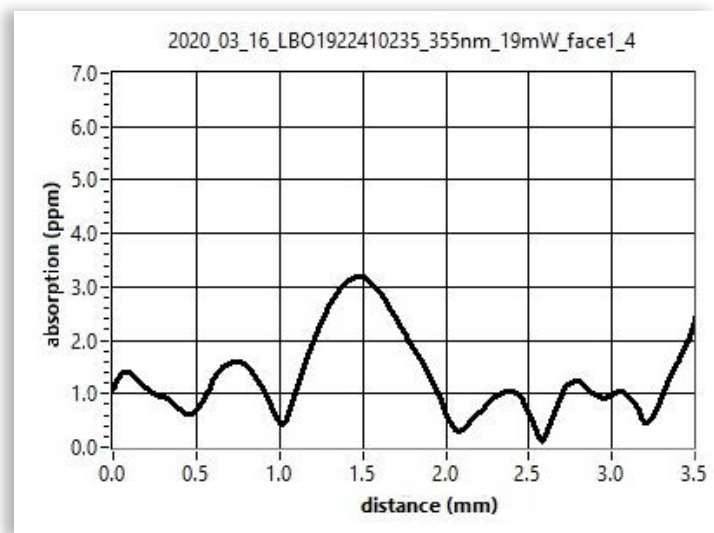
**<3 Å rms and Ra around 2 Å**

### RESULTS

Peak-Valley	15.0 Å
rms	2.8 Å
Ra	2.2 Å

## Surface absorption measurement

**3ppm at 355nm of AR-coated output side of THG**



## Coatings damage threshold @ 355nm:

**16J/cm<sup>2</sup> @ 6ns equivalent to 20J/cm<sup>2</sup> @ 10ns**

# SPECIFICATIONS

<b>Aperture</b>	Up to 100x100mm <sup>2</sup>
<b>Length</b>	Up to 100mm
<b>Flatness</b>	$<\lambda/10$ @633nm
<b>Wavefront distortion</b>	$<\lambda/8$ @633nm
<b>Parallelism</b>	Down to 5"
<b>Perpendicularity</b>	Down to 5'
<b>Scratch and dig</b>	$<2/1$
<b>Bulk absorption</b>	$<2$ ppm/cm @ 1064nm $<2$ ppm/cm @ 532nm
<b>Damage threshold</b>	$>40\text{J}/\text{cm}^2$ @ 1064nm, 10ns, 10Hz $>20\text{J}/\text{cm}^2$ @ 532nm, 10ns, 10Hz $>20\text{J}/\text{cm}^2$ @ 355nm, 10ns, 10Hz $>2,000$ GW/cm <sup>2</sup> @ 1030nm, 1.5ps, 1kHz

*Ordering Information:*



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