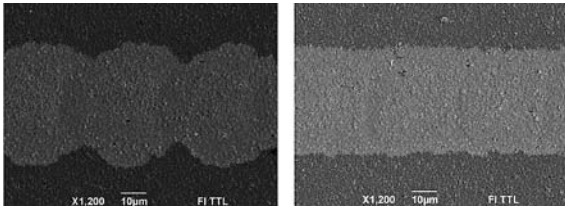


**P1 – „Scribing“**

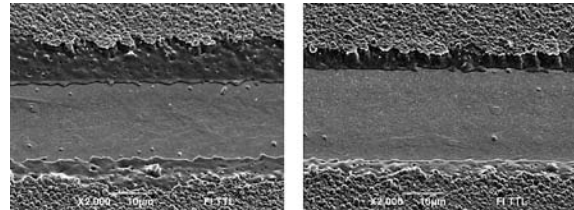


Gaussian Profile

FBS-Top-Hat Profile  
small overlap, smooth edges

Removal of a front contact in ZnO(1 μm)/CIGS/Mo/PI structure. Laser PL10100/SH, 10 ps, 370 mW, 100 kHz, 532 nm; scanning speed 4.3 m/s, single pass.

**P3 – „Scribing“**



Gaussian Profile

FBS-Top-Hat Profile  
small HAZ, smooth edges

Tilted SEM pictures of the P3 scribe in ZnO(1 μm)/CIGS/ Mo/PI structure. Laser PL10100/SH, 10 ps, 370 mW, 100 kHz, 532 nm; scanning speed 60 mm/s, single pass.

Raciukaitis et. al, JLMN-Vol. 6, No. 1, 2011

**RECOMMENDED ACCESSORIES**

Zoom Beam Expander  
See page 7.4



Two Axes Translation Polarizer Holder 840-0240  
See page 8.98



**990-0060 CONTINUOUSLY VARIABLE ATTENUATOR / BEAMSPLITTER**



- Divides laser beam into two beams of manually adjustable intensity ratio
- Convenient 90° angle between reflected and transmitted beams
- Negligible beam deviation
- Large dynamic range
- Broadband transmission
- Weight – 0.16 kg

Continuously Variable Attenuator/Beamsplitter is designed for down to 100 fs laser pulses. It consists of 2 high-performance polarizing optics components placed in

precision opto-mechanical holder 840-0197. Variable attenuator/beamsplitter incorporates a high-performance Polarizing Cube Beamsplitter which reflects s-polarized light at 90° while transmitting p-polarized light.

A rotating λ/2 waveplate is placed in the incident polarized laser beam. The intensity ratio of those two beams may be continuously varied without alteration of other beam parameters by rotating the waveplate. The intensity of either exit beam, and their intensity ratio, can be controlled over a wide dynamic range. Pure p-polarization could be selected for maximum transmission, or pure s-polarization for maximum attenuation of the transmitted beam.

**Multiple Order Half Waveplate and Cube Polarizing Beamsplitters**

**SPECIFICATIONS**

Damage threshold	200 mJ/cm <sup>2</sup> pulsed at 1064 nm, typical
Antireflection coating	R < 0.25% all entrance and exit surfaces
Extinction ratio	T <sub>s</sub> /T <sub>p</sub> < 1:200

Catalogue number	Central wavelength, nm	Clear aperture, mm	Price, EUR
990-0061-10	1064	9	465
990-0061-15	1064	14	495
990-0061-20	1064	17	515
990-0064-10	532	9	465
990-0064-15	532	14	495
990-0064-20	532	17	515
990-0065-10	355	9	596
990-0065-15	355	14	656
990-0065-20	355	17	706

**Achromatic Air-Spaced Waveplate and Glan Laser Polarizing Prism**

**SPECIFICATIONS**

Damage threshold	0.5 J/cm <sup>2</sup> 10 ns, 10 Hz at 1064 nm
Antireflection coating	R < 1% all entrance and exit surfaces
Extinction ratio	T <sub>s</sub> /T <sub>p</sub> < 1:10000

for Broadband Region

Catalogue number	Central wavelength, nm	Clear aperture, mm	Price, EUR
990-0060-10VIS	450-680	9	1290
990-0060-12VIS	450-680	11	1395
990-0060-10IR	700-1000	9	1290
990-0060-12IR	700-1000	11	1395
990-0060-10FIR	950-1300	9	1290
990-0060-12FIR	950-1300	11	1395