

## RayVen-L

### 2.1 $\mu\text{m}$ ultrafast amplifier system

Dust-tight industrial design



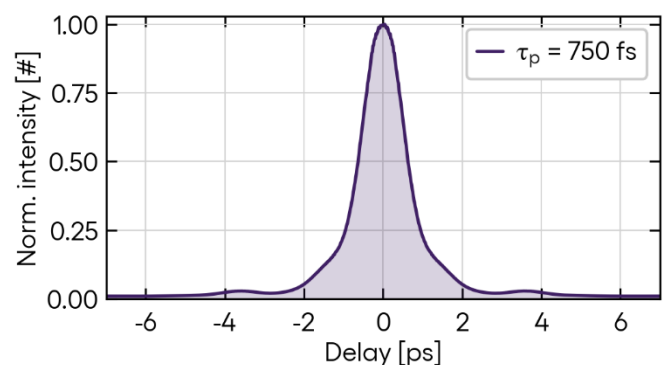
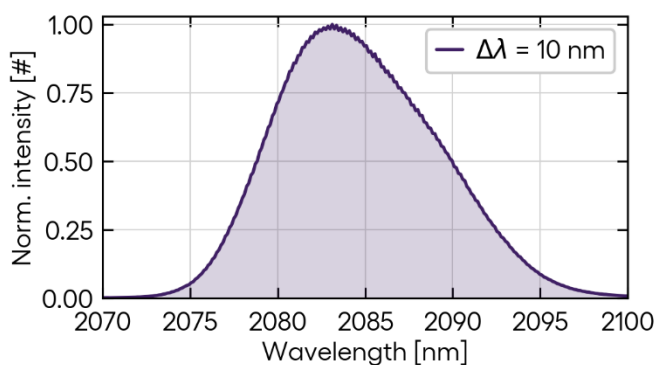
Laser aperture

Interfaces on backside

### Specifications

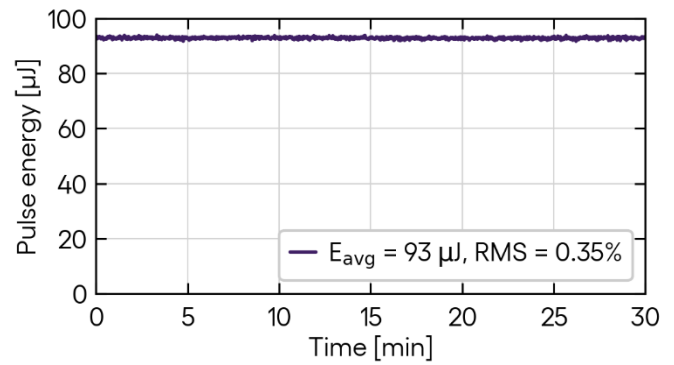
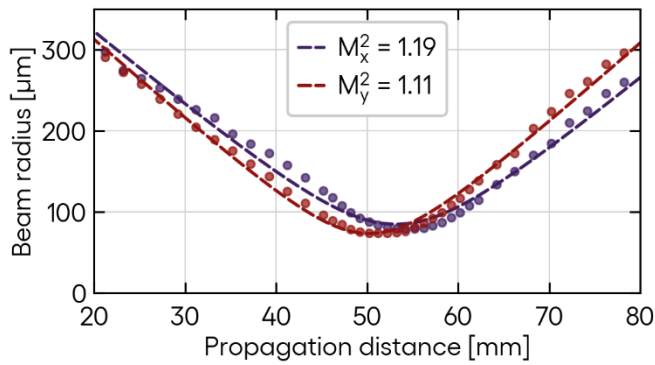
- Pulse energy: 1 mJ – 100  $\mu\text{J}$
- Repetition rate: 10 kHz – 100 kHz
- Average power: 10 W
- Pulse duration: 750 fs
- Wavelength: 2085 nm / 10 nm (-3dB)
- Beam quality:  $\text{TEM}_{00}$ ,  $M^2 < 1.2$
- Beam height: 60 mm
- Size (laser head): 420 x 297 x 92 mm<sup>3</sup>
- Misalignment-free
- Water-cooled

### Pulse and spectral characterization (100 $\mu\text{J}$ )



- Emission of a smooth spectrum and a close-to transform-limited pulse duration

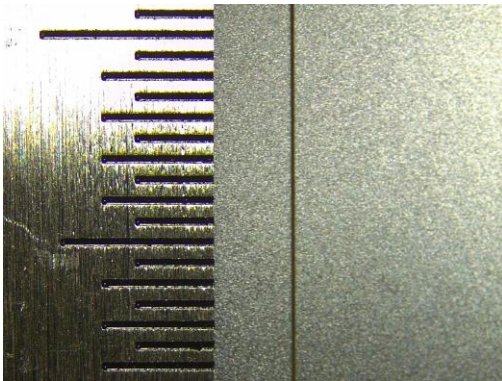
## Beam quality and power stability



- Close-to diffraction-limited beam quality and high power stability

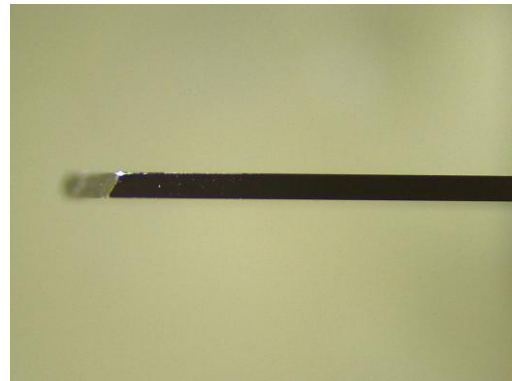
## Materials processing

Scribing



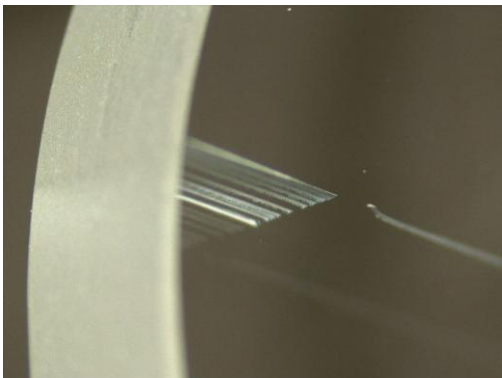
Silicon wafer, 350 $\mu\text{m}$  thick, fine ground

Cleaving



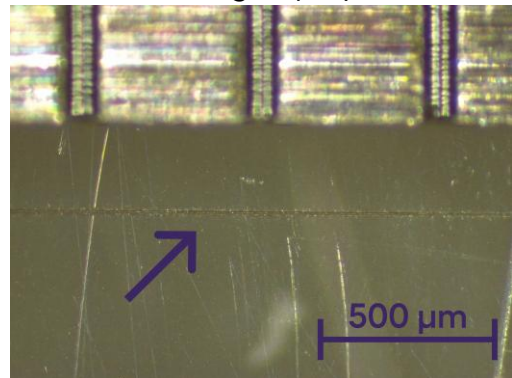
Silicon wafer, 350 $\mu\text{m}$  thick, cleaved edge

In-volume modification



Corning 7979, 6.35mm thick

Machining of polymers



Line scribe in PMMA (transparent)

## Contacts

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