

# QUARK 1000 Ultrafast Ti:Sa Laser Series

Most advanced specifications  
available on the market

Repeatable performances

Build to explore frontiers of  
plasma physics

Extreme laser pulse with  
high beam availability



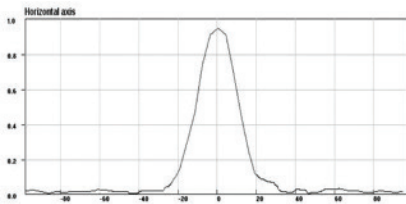
# QUARK 1000

## Ultrafast Ti:Sa Laser Series

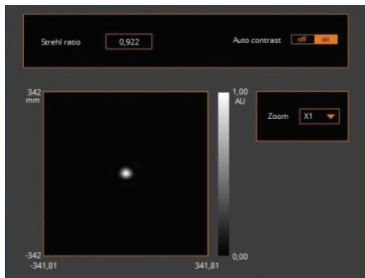
### Applications

- Electrons and ions acceleration
- Plasma physics
- VUV-Xray generation
- High order harmonic generation
- Time resolved spectroscopy

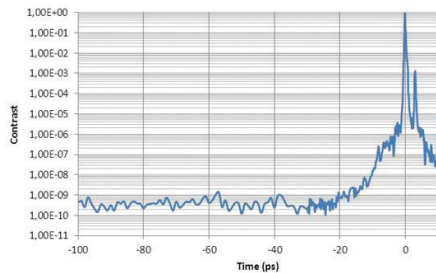
### Pulse Duration – First Sub-25 fs



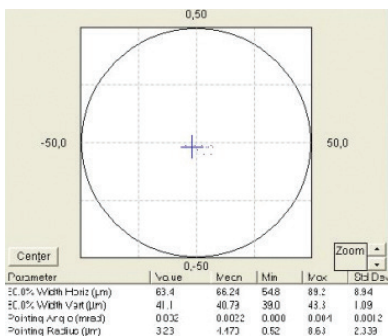
### Strehl Ratio Far Field



### Contrast Measurement with XPW



### Beam Pointing ~1.2 μrad



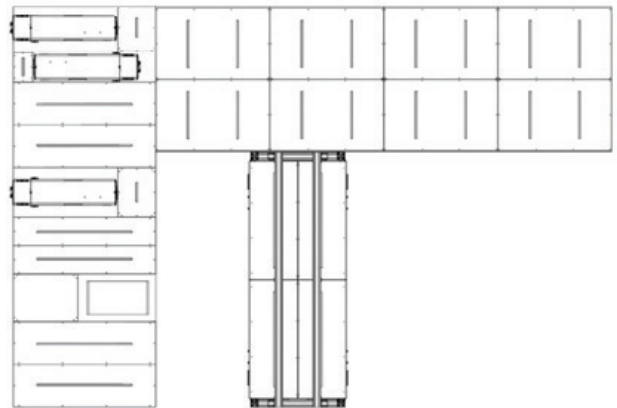
### Features and Benefits

- Giving you access to answer questions on fundamental physics
- Incomparable system providing you unique level of energy

### Specifications

Version	QUARK 1000
Repetition rate (Hz)	Up to 1
Peak power (PW)	≥ 1
Central wavelength (nm)	~ 800
Energy per pulse (J) After compression	≥ 25
Pulse duration FWHM (fs)	Down to 25
Pulse to pulse energy stability (% rms)	≤ 1
Contrast ratio obtained with XPW	1 : 10 <sup>5</sup> at - 5 ps
	1 : 10 <sup>8</sup> at - 30 ps
	1 : 10 <sup>10</sup> at - 100 ps
Strehl ratio	≥ 0.85 (with deformable mirror)

### Physical Characteristics



QUARK 1000 (1 shot/min) layout without compressor (\*)  
Table size: 5.6 x 4.2 m<sup>2</sup> (18.4 x 13.8 ft<sup>2</sup>)

(\*) Other configurations are available on request. Specifications are dependent on the chosen configuration and options.

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