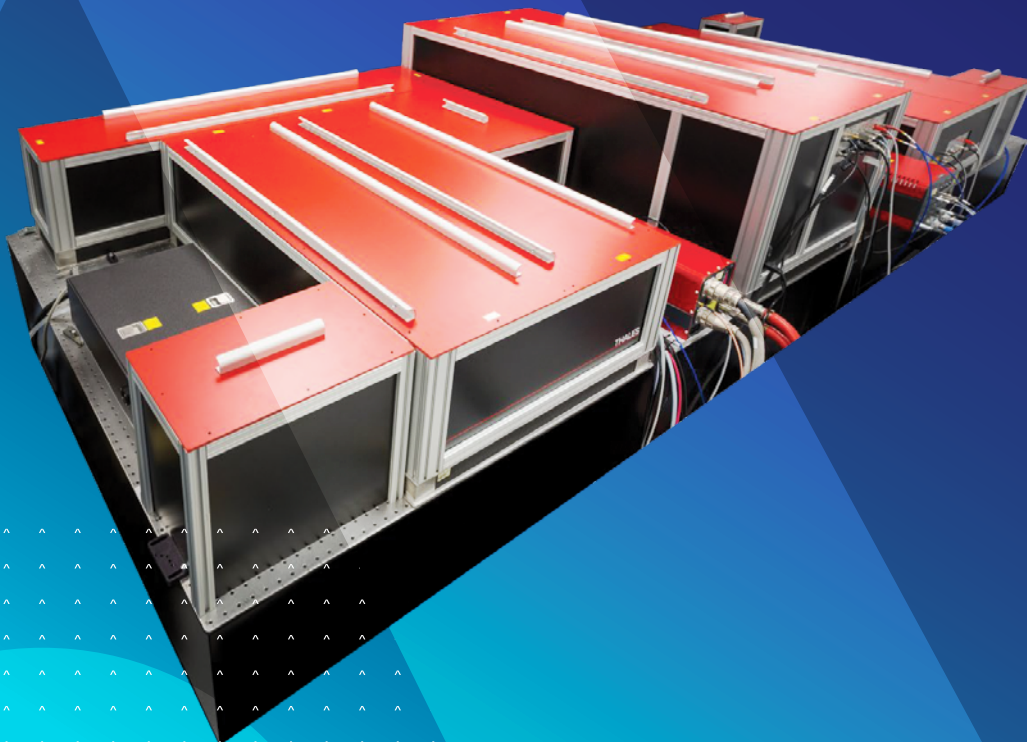


# QUARK 30 / 45 Ultrafast Ti:Sa Laser Series

Pioneer and innovative  
in high peak power laser  
Reliable, industrial grade  
technologies  
Smart platform for easy  
and effective integration



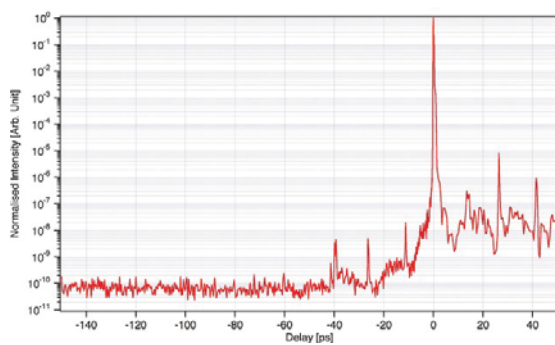
# QUARK 30 / 45

## Ultrafast Ti:Sa Laser Series

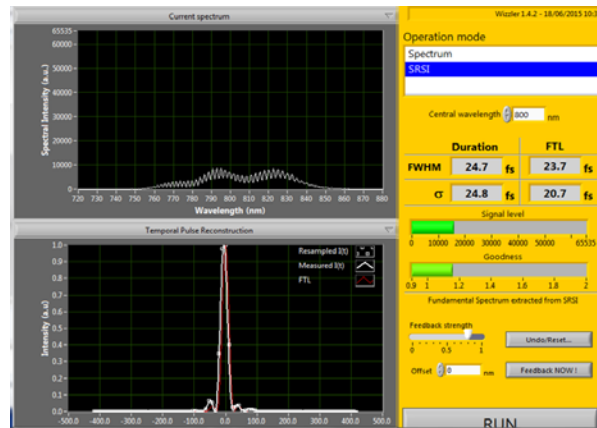
### Applications

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

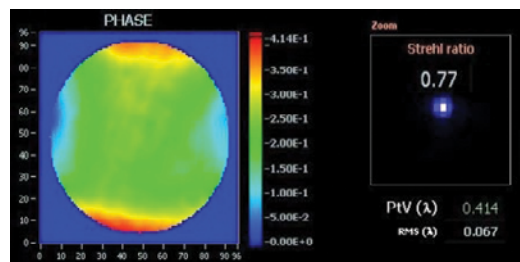
### Contrast Measurement with XPW



### Pulse Duration



### Strehl Ratio and Far Field without Deformable Mirror



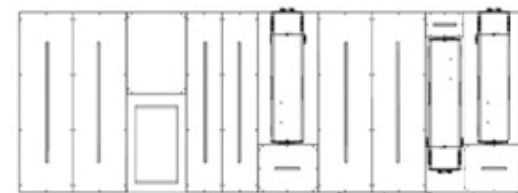
### Features and Benefits

- Patented technologies offering state-of-the-art performances along with industrial grade
- Qualified hardware with robust software solution providing highest availability
- User friendly interface designed for daily operation
- Modular platform based on reliable building blocks engineered for evolution

### Specifications

Version	QUARK 30	QUARK 45
Repetition rate (Hz)	5 or 10	
Peak power (TW)	≥ 30	≥ 45
Central wavelength (nm)	~ 800	
Energy per pulse (J) After compression	≥ 0.75	≥ 1.2
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)	
	≥ 0.65 (without deformable mirror)	

### Physical Characteristics



#### QUARK 45 layout example without compressor(\*)

Table size: 1.5 x 4.2 m<sup>2</sup> (4.9 x 13.8 ft<sup>2</sup>)

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

Thales LAS France SAS – 2, avenue Gay-Lussac – 78990 Élancourt – FRANCE

Tél: + 33 (0)1 30 96 70 00 > thalesgroup.com < [in](#) [t](#) [f](#) [v](#)

thales-laser@fr.thalesgroup.com – www.thalesgroup.com/en/lasers