

FEATURES

- Industrial grade for a compact footprint
- Unmatched energy stability and beam pointing
- High contrast using XPW filter
- Tango Panorama software
- Option : beam transport to experimental area

APPLICATIONS

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

QUARK 1000

Ultrafast Ti:Sa Laser Series





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Ultrafast Ti:Sa Laser Series

Recognized project management skills to achieve the most demanding systems in terms of performance and schedule commitments. The unique PW laser reference with demonstrated specification and industrial reliability dedicated to laser facilities.

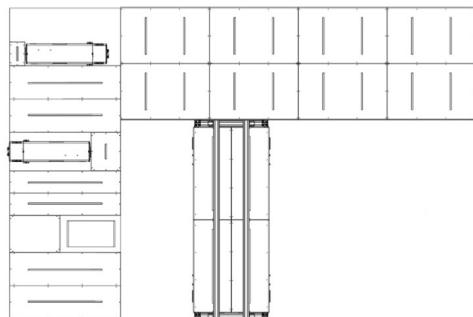
Specifications

Repetition rate (Hz)	Up to 1 Hz
Peak Power (PWV)	≥ 1
Central Wavelength (nm)	~ 800 nm
Energy per pulse (J) After compression	>25
Pulse to pulse energy stability (% rms)	≤ 1
Pulse duration FWHM (fs)	down to 25
Contrast Ratio (ps) obtained with XPWV	1 : 10^5 under 5 1 : 10^8 under 30 1 : 10^{10} under 100
Strehl Ratio	≥ 0.85 (with deformable mirror)

Physical characteristics

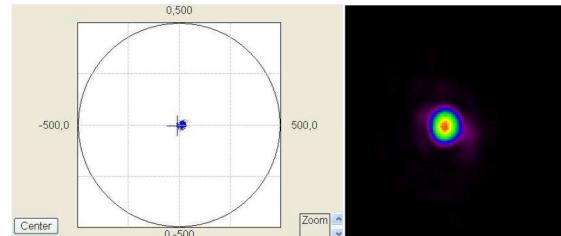
QUARK 1000 (1 shot/min) layout(*)

Table size: 5.6 x 4.2 m² (18.4 x 13.8 ft²)



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

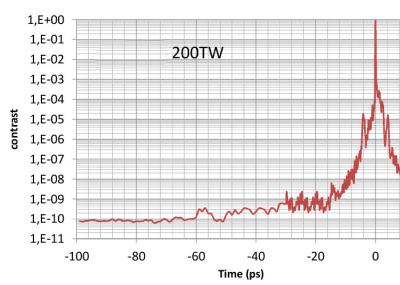
Focus on Beam Pointing Stability



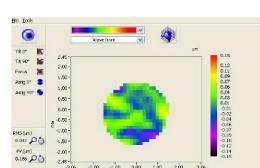
Parameter	Value	Mean	Min	Max	Std D...
86.5% Width (μm)	202.6	212.44	192.8	228.4	8.36
Pointing Position Hori...	-19.6	-0.44	-26.6	32.3	10.40
Pointing Position Vert ...	-0.6	0.35	-28.6	28.4	9.62
Pointing Angle (mrad)	0.002	0.0013	0.000	0.004	0.0006

Beam pointing stability < 1 μrad rms

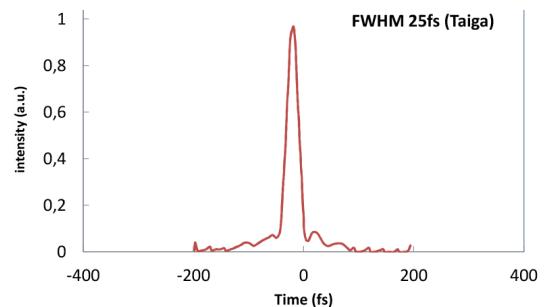
Typical measurements



Contrast measurement with XPW



Strehl ratio > 0.9 and far field



Pulse duration

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