



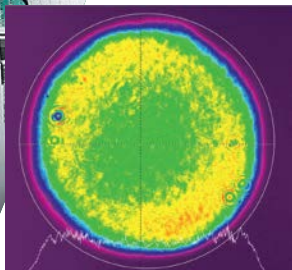
Advanced Laser Technologies

Unique laser systems
for extreme applications

Femto-, pico-, nanosecond

From single shot to kHz
repetition rates

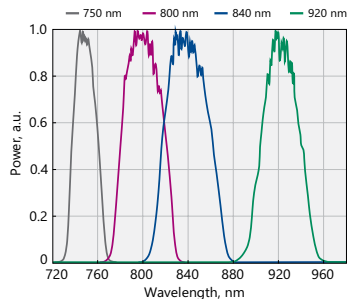
High Intensity Lasers & Laser Systems



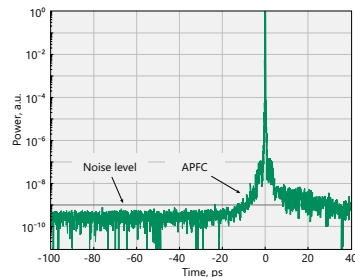
Typical UltraFlux FF8005
near field beam profile

UltraFlux femtosecond OPCPA systems of EKSPLA offer wide space of parameters to match various requirements for ultrafast pulse generation.

Superior contrast, beam profile and wavelength tunability make these systems well suited for applications like high harmonic generation, attosecond science, or particle acceleration. From compact systems with lower energy to multi-TW configurations these systems cater to both laboratory-scale and large-scale scientific projects.

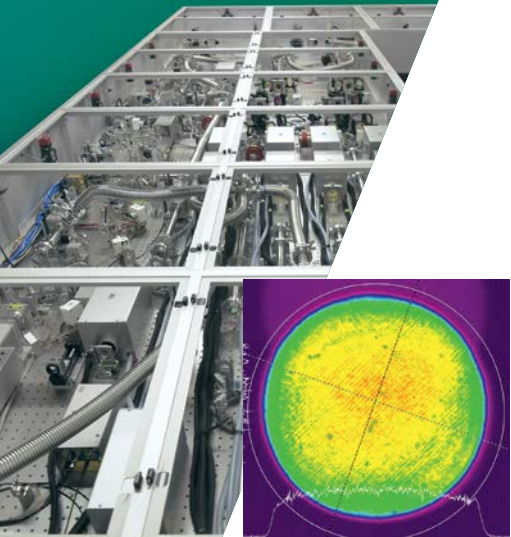


Typical output spectra of UltraFlux
FF5010 system



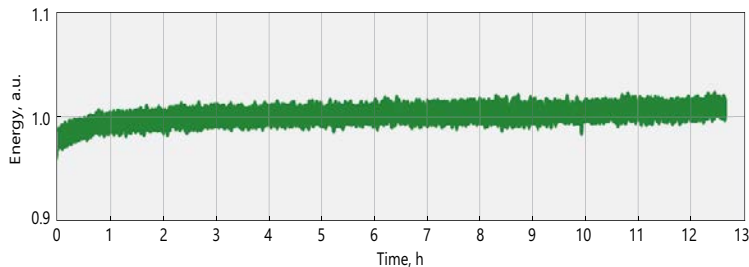
Typical temporal contrast of
UltraFlux FF10010 system

Model		UltraFlux FT031k	UltraFlux FF50100-F10	UltraFlux FF8005	UltraFlux FF1201k-F8-CEP
Output energy	Signal	300 μ J	50 mJ	800 mJ	120 mJ
	SH	60 μ J	3.5 mJ	3.5 mJ	–
	TH	15 μ J	1.2 mJ	1.2 mJ	
	FH	3 μ J	300 μ J	300 μ J	
Pulse repetition rate		1 kHz	100 Hz	5 Hz	1 kHz
Wavelength range	Signal	750 – 960 nm	840 nm	840 nm	900 nm
	SH	375 – 480 nm	420 nm	420 nm	–
	TH	250 – 320 nm	280 nm	280 nm	–
	FH	210 – 230 nm	210 nm	210 nm	–
Pulse duration		40 $\pm$ 20 fs	$\leq$ 10 fs	40 $\pm$ 20 fs	$\leq$ 8 fs ($\leq$ 3 cycles)
Pulse energy stability		$\leq$ 1.5 %	$\leq$ 1 %	$\leq$ 1.5 %	$\leq$ 1 %
Long-term power drift		$\pm$ 1.5 %	$\pm$ 1.5 %	$\pm$ 1.5 %	$\pm$ 1.5 %
Beam spatial profile		Gaussian	Super-Gaussian	Super-Gaussian	Super-Gaussian
Beam diameter		$\sim$ 2 mm	$\sim$ 80 mm	$\sim$ 70 mm	$\sim$ 100 mm
Beam pointing stability		$\leq$ 30 μ rad	$\leq$ 30 μ rad	$\leq$ 30 μ rad	$\leq$ 20 μ rad
Temporal contrast	APFC Pre-pulse	10 ¹⁰ : 1 10 ⁸ : 1	10 ¹⁰ : 1 10 ⁸ : 1	10 ¹⁰ : 1 10 ⁸ : 1	10 ¹⁰ : 1 10 ¹⁰ : 1



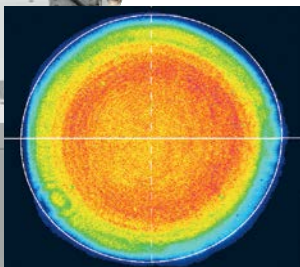
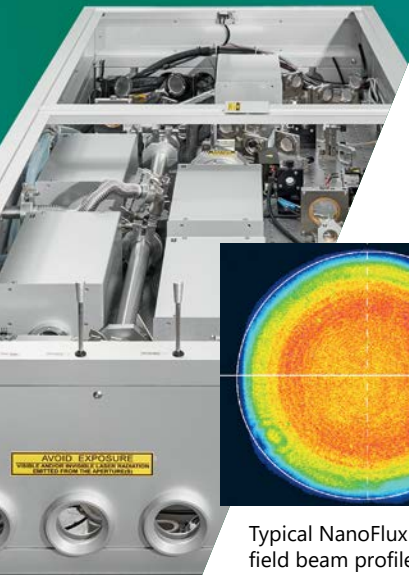
Profile at 1064 nm

PicoFlux series flash-lamp or diode pumped picosecond amplifiers are designed to produce high energy and high power ps pulses with excellent stability and superior beam quality. Advanced spacial and temporal shaping together with external seeding and multi channel capabilities make these system ideal for OPCPA pumping.

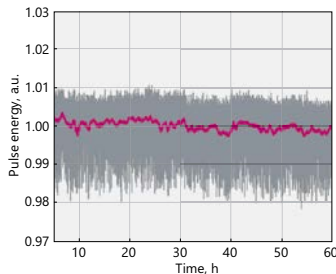


Typical energy stability of high repetition rate PicoFlux amplifier system from the cold start

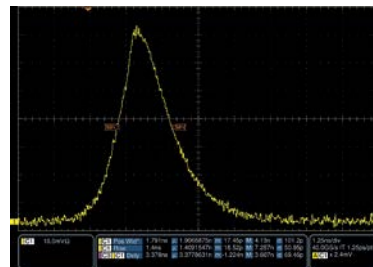
Model		PicoFlux P2k10	PicoFlux P500100	PicoFlux P1301k	PicoFlux P810k-1030
Output energy	1064 nm	2 200 mJ	500 mJ	130 mJ	8 mJ (1030 nm)
	532 nm	1 400 mJ	300 mJ	85 mJ	–
	355 nm	660 mJ	200 mJ	50 mJ	
Pulse repetition rate		10 Hz	100 Hz	1 kHz	10 kHz
Pulse duration		90 ± 10 ps	90 ± 10 ps	90 ± 10 ps	1 ± 0.2 ps
Pulse energy stability (fundamental)		≤ 0.6 %	≤ 0.5 %	≤ 0.5 %	≤ 0.5 %
Long-term power drift		± 2 %	± 1.5 %	± 1.5 %	–
Beam spatial profile		Super-Gaussian	Super-Gaussian	Super-Gaussian	Gaussian
Beam diameter		~ 23 mm	~ 12 mm	~ 7 mm	~ 6 mm
Beam pointing stability		≤ 30 μ rad	≤ 20 μ rad	≤ 20 μ rad	≤ 20 μ rad
Beam divergence		≤ 0.5 mrad	≤ 0.5 mrad	≤ 0.5 mrad	≤ 0.5 mrad
Optical pulse jitter	Trig out	< 100 ps	< 100 ps	< 100 ps	< 50 ps
	With -PLL	< 2 ps	< 2 ps	< 2 ps	–



Typical NanoFlux system near field beam profile at 1064 nm



Typical long-term energy stability of NanoFlux system



Typical temporal pulse shape of NanoFlux SLM system at 1064 nm

Model		NanoFlux N10k10-SLM	NanoFlux N5k100	NanoFlux N5k10-AWG
Output energy	1064 nm	10 000 mJ	5 000 mJ	5 000 mJ
	532 nm	5 000 mJ	3 000 mJ	3 000 mJ
	355 nm	2 500 mJ	inquire	inquire
	266 nm	1 500 mJ	–	–
Pulse repetition rate		10 Hz	100 Hz	10 Hz
Pulse duration		2 ± 0.5 ns (2 - 25 ns)	5 ± 1 ns	0.15–20 ns
Pulse energy stability (fundamental)		≤ 0.6 %	≤ 0.5 %	≤ 0.5 %
Long-term power drift		± 2 %	± 2 %	± 2 %
Beam spatial profile		Super-Gaussian	Super-Gaussian	Super-Gaussian
Beam diameter		~ 25 mm	~ 10 mm	~ 25 mm
Beam pointing stability		≤ 25 μ rad	≤ 30 μ rad	≤ 50 μ rad
Beam divergence		≤ 0.5 mrad	≤ 0.7 mrad	≤ 0.5 mrad
Linewidth		≤ 0.01 cm ⁻¹ (SLM)	≤ 1 cm ⁻¹	≤ 0.01 cm ⁻¹
Optical pulse jitter		< 200 ps	< 50 ps	< 50 ps



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