

REPETITION RATE IS NOT GOING TO BE A RESTRICTION ANYMORE

VILSER LASER SYSTEM

VILSER is a HIGH REPETITION TW SYSTEM thanks to its revolutionary technology for the green pumps, which are diode pumped solid state lasers able to work at 100 Hz, and the possibility to reach higher repetition rate.

**FIRST LASER of its category
specifically designed for
particle acceleration**

Proton Laser Applications, S.L. is a company specialized in high power ultrafast laser with high repetition rates.
The company headquarters are in Barcelona.

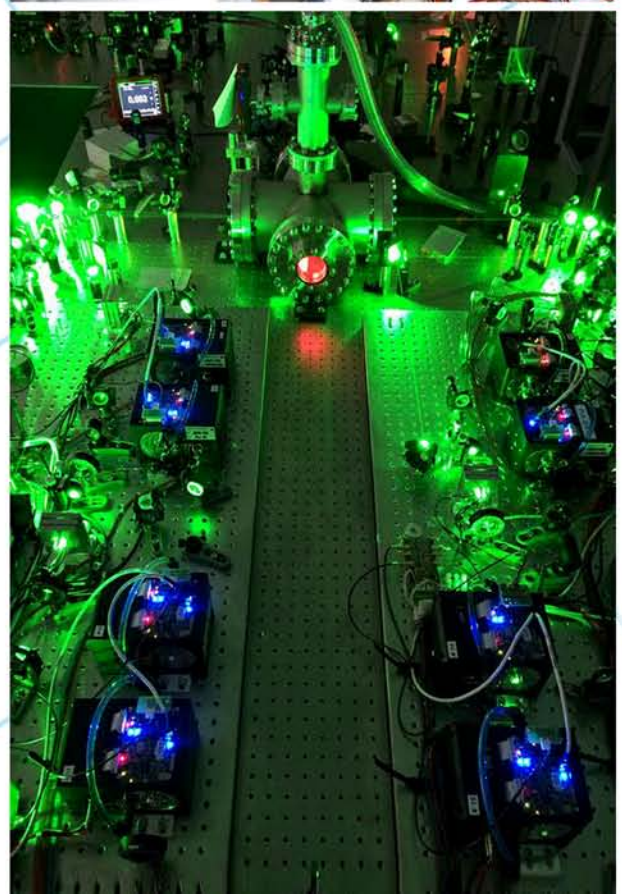
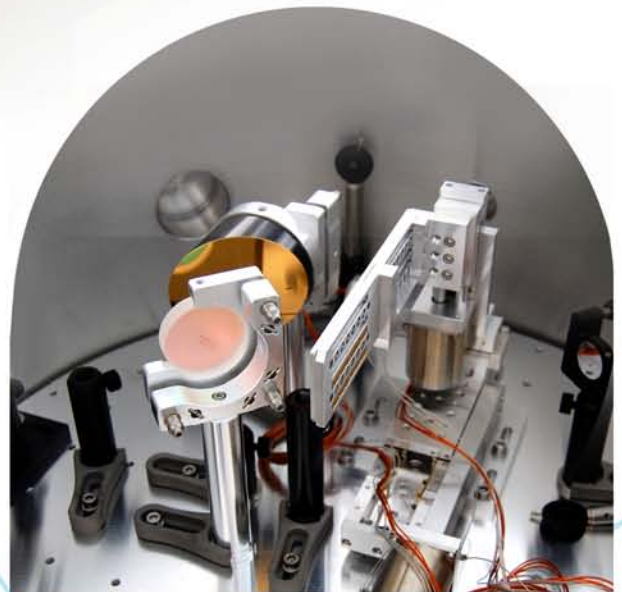


- ◊ PARTICLE (PROTON, ELECTRON, ION) ACCELERATION
- ◊ PLASMA PHYSICS
- ◊ X-RAY GENERATION
- ◊ HIGH HARMONIC GENERATION

The VILSER is provided with a built-in focusing system designed specifically for each laser specs, using a patented compressor-focusing technology developed in Proton Laser Applications to get particle acceleration.

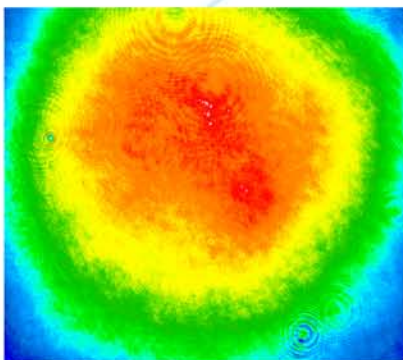
Laser and focusing system are a whole, precision and reliability are thus improved in a unique way. Also the system costs are competitive compared to general - purpose CPA laser systems.

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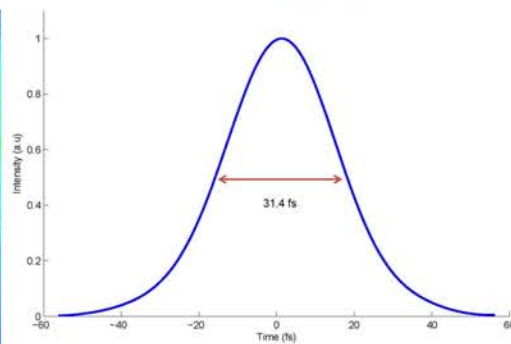


| | VILSER 1 | VILSER 10 | VILSER 50 | VILSER CM |
|--------------------|------------------------|------------------------|------------------------|------------------------|
| Active material | Ti: Sapphire | | | |
| Central wavelength | 800 nm \pm 5 nm | | | |
| Bandwidth | 30 nm | 30 nm | 30 nm | 30 nm |
| Peak power | 1 Terawatt | 10 Terawatt | 50 Terawatt | Up to 50 Terawatt |
| Repetition rate | 100 to 500 Hz | 100 Hz | 100 Hz | up to 500 Hz |
| Duration | \geq 30 fs | \geq 30 fs | \geq 30 fs | 30 fs to 80 fs |
| Energy per shot | up to 80 mJ | up to 300 mJ | up to 1500 mJ | up to 100 mJ |
| Polarization | Linear (1:100) | Linear (1:100) | Linear (1:100) | Linear (1:100) |
| ASE Contrast | better than 60 deciBel | better than 60 deciBel | better than 60 deciBel | better than 60 deciBel |
| Contrast 5ps | 50 deciBel | 50 deciBel | 50 deciBel | 50 deciBel |
| Contrast 10ps | 80 deciBel | 80 deciBel | 80 deciBel | 80 deciBel |
| Contrast 20ps | 70 deciBel | 70 deciBel | 70 deciBel | 70 deciBel |
| Energy stability | < 1 % rms | < 1 % rms | < 1 % rms | < 1 % rms |
| M square | lower than 1.3 | lower than 1.3 | lower than 1.3 | lower than 1.3 |
| Pointing stability | < 5 microrad | < 5 microrad | < 5 microrad | < 5 microrad |
| Beam divergence | <15 microrad | <15 microrad | <15 microrad | <15 microrad |
| Pump | diode pumped | diode pumped | diode pumped | diode pumped |

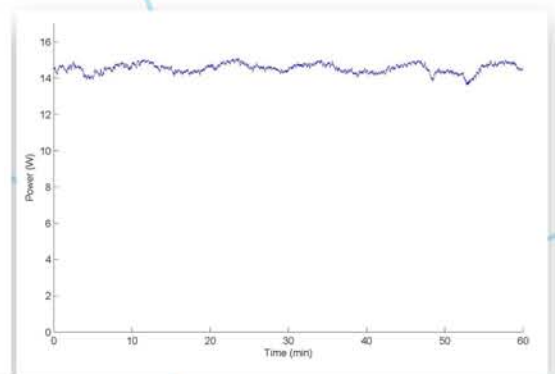
Specifications of the different systems about VILSER series



Beam Profile



Temporal Pulse Duration



Power Stability

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