

PulsedAmp 4x

Pulsed Amplification of Continuous Wave Radiation for Low Repetition Rates

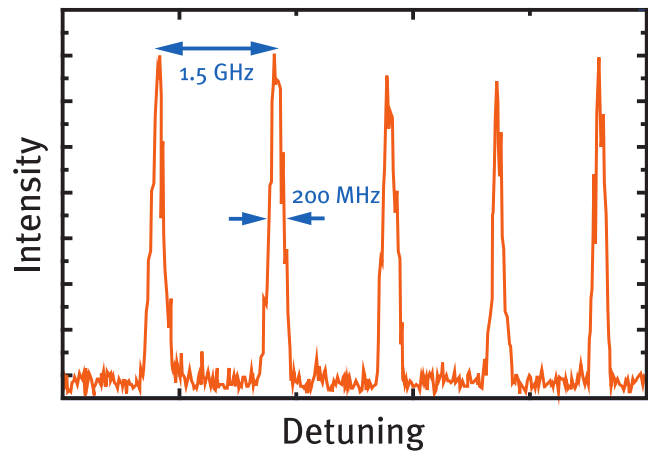
- Ideal source for single frequency laser pulses
- High peak powers while ultra low amplified spontaneous emission (ASE)
- Either Ti:Sa or dye based cw systems can be used as seed for large wavelength ranges
- Consists of four amplification stages
- Also possible: To employ diode lasers with high isolation for smaller wavelength ranges
- Three circulator systems with dye cells integrated in single housing
- Seed input power: 50 - 300 mW single frequency
- Optional SHG/THG frequency conversion or other nonlinear conversion processes can be used

Performance

Using 300 mW of seed radiation and 400 mJ of pump laser energy it is possible to generate 30 mJ pulses at 730 nm (Pyridine 2).

However, results depend of wavelength, seed laser and pump laser details.

The graph shows the spectral profile of the pulses. The linewidth is determined by the pulse duration and shape (Fourier-limit) of the pump laser, in this case a non-seeded YAG laser.



General Characteristics

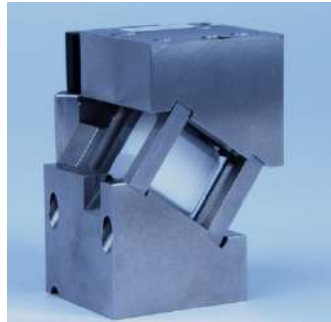
Repetition Rate	1 - 400 Hz
Wavelength Range	545 - 900 nm (pumped with 532 nm)
	374 - 560 nm (pumped with 355 nm)
Linewidth	180 MHz
Conversion Efficiency	up to < 20%
ASE	< 1%
Divergence	0.5 mrad
Beam Size	approx. 5-6 mm (typical)
Pump Energy	650 mJ @ 532 nm
	400 mJ @ 355 nm

Requirements

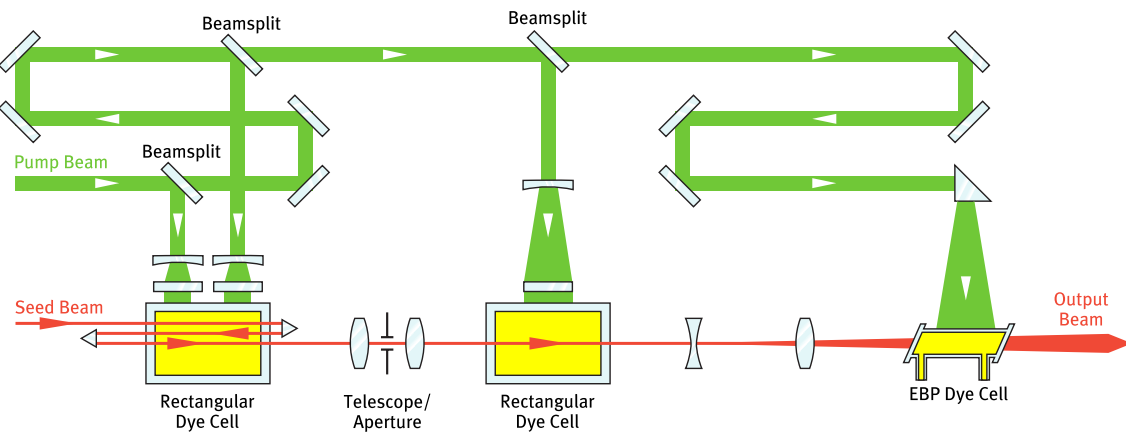
Seed Laser	50 - 300 mW, linear polarization
Ambient Conditions	constant temperature in the 20-30 °C range, 80% max. rel. humidity, non condensing
Optical Isolation	> 30 dB
Cooling	required for dye solution (600 Watt)
Laboratory	vibrational isolated optical table, dust-free air (flow box)
Voltage	110 - 220 V, single phase, 50/60 Hz

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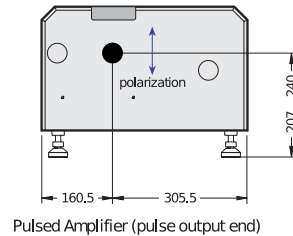
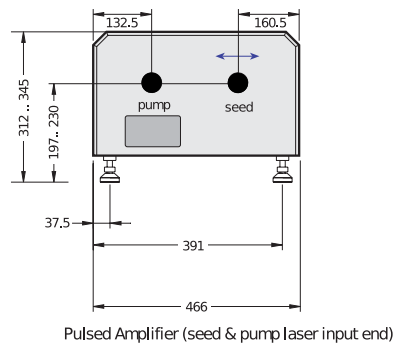
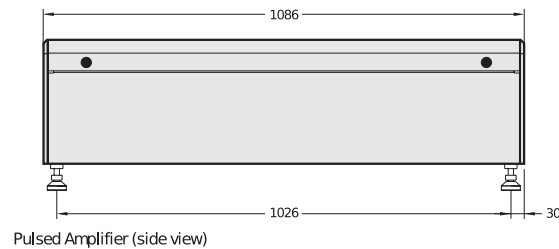
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Optical Layout



Dimensions



All Dimensions in mm
Specifications are subject to change without notice



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