



AVUS

high power OPA

AVUS is an Optical Parametric Amplifier (OPA) providing widely tunable high-energy pulses and high repetition rates (up to 1 MHz).

AVUS offers highest average output power on the market.

It provides the option to operate several AVUS OPAs in parallel.

- 1 μm pumped fs-OPA
- Full automation
- Up to 5 W output (Signal and Idler)
- Pump power up to 50 W
- UV / VIS and IR (210 nm to 11 μm) options
- Single output port and automated wavelength separation
- Air cooled



AVUS is very user friendly with fully automated tuning and wavelength separation. Little or no user training is required and the **AVUS** comes ready for remote operation.

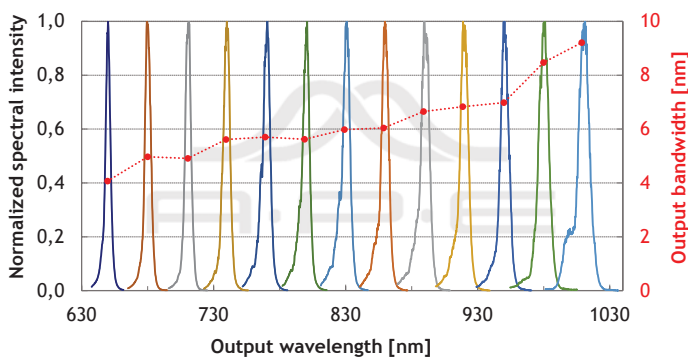
High repetition rates of up to 1 MHz enable fast data acquisition, which is critical to many experiments.

With the combination of the highest commercially available average power and high repetition rates, **AVUS** is the optimal system for multi-photon interaction.

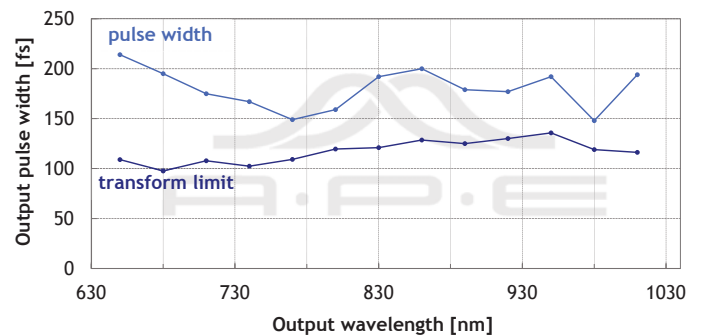
Applications

- Ultrafast time-resolved spectroscopy
- Photoelectron spectroscopy
- Non-linear microscopy and imaging
- Pump-probe spectroscopy

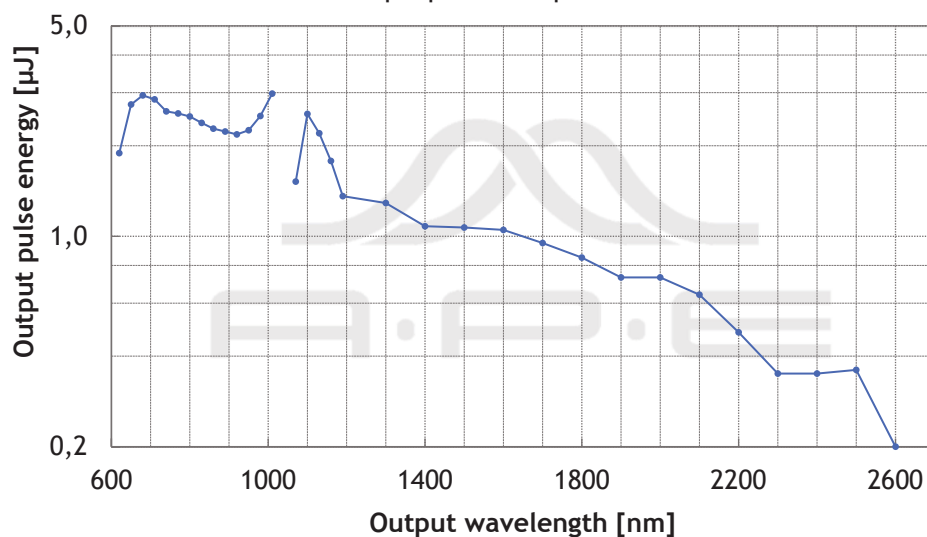
AVUS output spectra and bandwidth
- pumped with 35 μJ at 1 MHz -



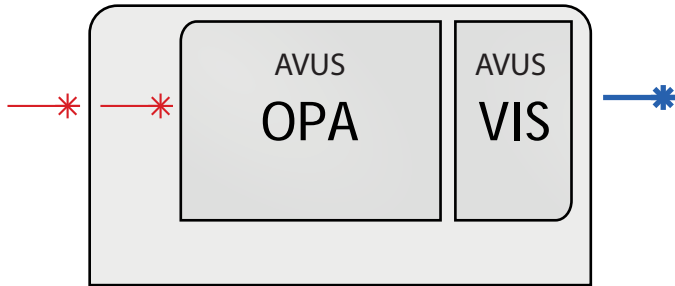
AVUS output pulse width
- pumped with 35 μJ at 1 MHz -



AVUS output pulse energy
- pumped with 35 μJ at 1 MHz -



Single Output Port and Fully Automated Tuning

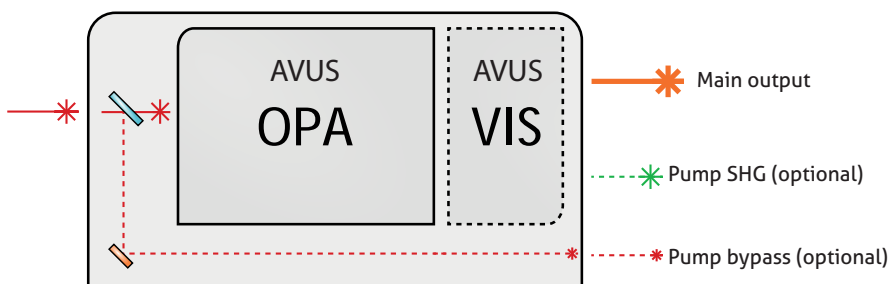


AVUS features one single main output port for the whole wavelength range, without manual adjustment. External beam routing or re-alignment by the user is not necessary.

Options

- Integrated UV / VIS and IR extensions
- Parallel operation of multiple OPAs and three input port options
- Pump laser bypass
- Second harmonic output of pump laser

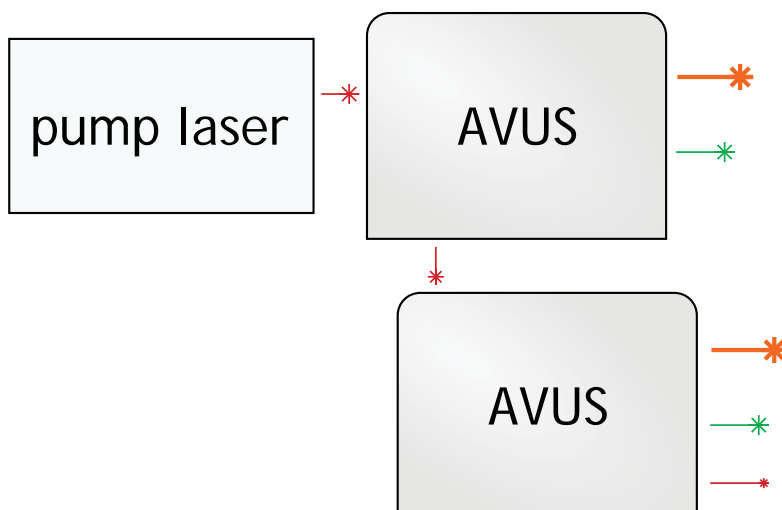
OPA Options



AVUS offers options for a separate output of the pump laser second harmonic, as well as a pump laser beam bypass.

In the bypass mode the undepleted residual pump beam is accessible without special beam separation.

All shutters are computer controlled and can be accessed remotely. For maximum flexibility several **AVUS** units can be operated in parallel with different input options.



Pump laser parameters

Maximum input power	50 W
Input energy	20 ... 200 μ J
Wavelength	approx. 1030 nm
Repetition rate	up to 1 MHz
Pulse width	200 ... 400 fs

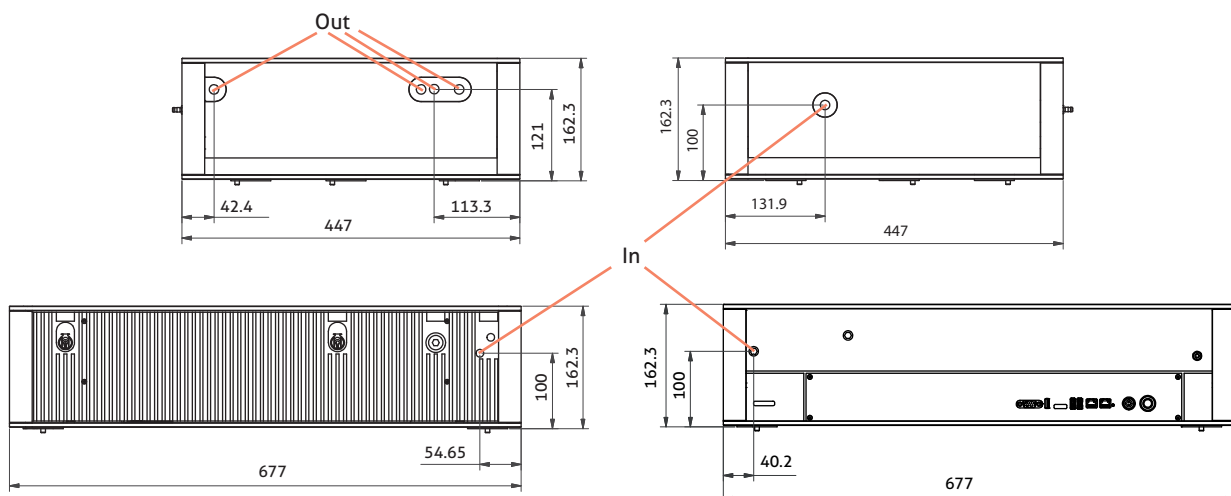
OPA parameters

Conversion efficiency @ peak	12 % (Signal + Idler, measured @ 35 W input power)
Time bandwidth product	< 1
Pulse width	typ. 200 fs
Bandwidth	70 ... 120 cm^{-1}
Polarization	horizontal
Tuning range	
Basic	630 ... 1020 nm / 1040 ... 2600 nm
UV / VIS extension	210 ... 255 nm / 260 ... 510 nm / 520 ... 630 nm
IR extension	up to 11 μ m

Power supply	100 ... 240 V AC / 50 ... 60 Hz
Max. power consumption	100 W
Ambient temperature during operation	19 ... 25° C (< 60 % relative humidity)

Weight and dimensions:

Weight: 59 kg **Dimensions (Basic version):** 677 x 163 x 447 (in mm)



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APE follows a policy of continued product improvement.
 Therefore, specifications are subject to change without notice.
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