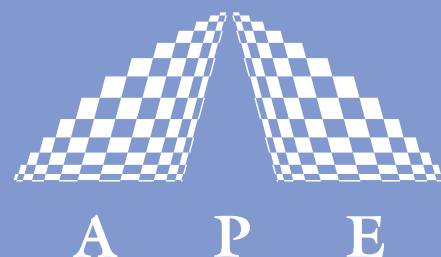


# LEVANTE

## EMERALD



### PICOSECOND-OPO

### The Ultimate Light Source for CARS Microscopy



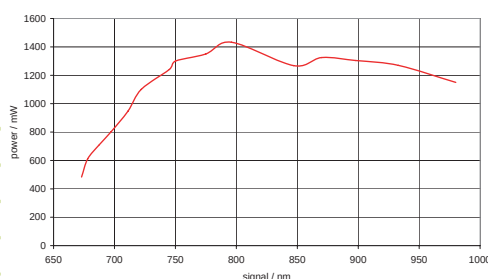
德国**APE**（中国）金牌服务  
杨立城  
**13520381780**

Using a frequency doubled Nd:YVO-Laser (532 nm) as pump source this OPO provides the user with an attractive and economic solution for generating picosecond pulses tuneable over a wide range with high output energy in the NIR from 680 nm ... 2450 nm. Thereby the Levante Emerald substitutes "long pulse picosecond" Ti:Sapphire laser plus synchronously pumped OPO.

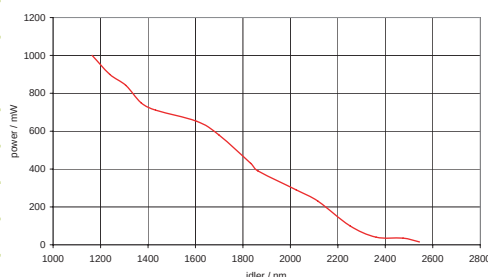
The output pulses are nearly transform limited, show high beam quality and great pointing stability at the same time. The system covers a wide wavelength range in the NIR; it is easy to use, fast and PC controllable.

The perfect spatial and temporal overlap of signal and idler beam, which are outcoupled on one single beam axis (collinear), constitutes a completely new quality. The difference in energy between the two wavelengths is continuously tuneable. These features make the Levante Emerald the ideal light source for multicolor excitation experiments such as CARS microscopy (Coherent anti-Stokes Raman scattering). Alternatively, signal and idler are led to exit at different output ports by using the included beam separator.

Levante Emerald / typical signal power @ 4.5W pump



Levante Emerald typical idler power @ 4.5W pump



Signal and Idler Power Curves  
typ. @ 4.5 W pump

### Picosecond Pulses for CARS technique

### Two-Colour Output

### Perfect Pulse Synchronization

### Automatic Wavelength Tuning via PC-Software

Ultrafast Pulse Diagnostics

Wavelength Conversion

Pulse Management

Acoustooptics

**Your Partner in Ultrafast**

### TECHNICAL DATA

|                                     | Signal                          | Idler                         |
|-------------------------------------|---------------------------------|-------------------------------|
| Tuning ranges                       | 690 (typ. 680) ... 990 nm       | 1150 ... 2300 nm (typ. >2450) |
| Output power                        | > 0.75 W (750 - 990 nm)         | + > 0.6 W (1150 - 1350 nm)    |
|                                     | @ 532 nm, 4 W pump              |                               |
| $\Delta\nu$ Signal-Idler            | 1350 ... 10000 $\text{cm}^{-1}$ |                               |
| $\Delta\nu$ Signal - 1064 nm        | 700 ... 5000 $\text{cm}^{-1}$   |                               |
| Pulse length                        | ~ 5 - 6 ps                      |                               |
| Spectral bandwidth (Signal/typical) | 0.3 - 0.4 nm                    |                               |
| Time bandwidth product              | typ. 0,6                        |                               |
| Pulse repetition rate               | 76 MHz (others on request)      |                               |
| Interface                           | RS 232                          |                               |
| $M^2$                               | < 1.1 (typ. 1.05)               | < 1.2 (typ. 1.1)              |
| Polarization                        | horizontal (signal + idler)     |                               |

The APE Levante Emerald is delivered with an integrated spectrometer and removeable signal/idler beam separator

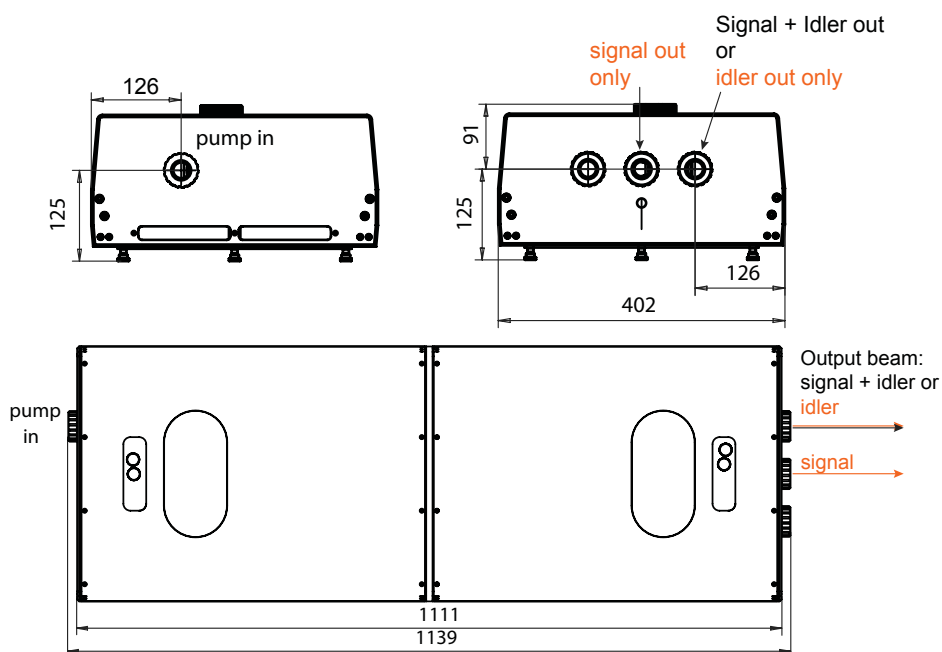
Also available for 1064 nm pump: **Levante IR**

### DIMENSIONS (in mm)

Control Electronics (W\*L\*H\*) 267 x 312 x 180

Optics Unit:

• optional beam separation by using included beam separator



Distributors

see APE website [www.ape-berlin.com](http://www.ape-berlin.com)

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