ZENITH PICOSECOND OPO

Products:ZENITH PICOSECOND OPO

Product Introduction:

Key Features:

- Highest output power with >4 W at the peak of the 1387 – 2020 nm (4950 -7209 cm-1) range and >2 W at the peak of the 2100 – 4000 nm (2500 – 4761 cm-1) range
- Three output ports available: 1) Signal, 2) Idler, and 3) Pump. These can be delivered simultaneously
- Hands-free operation with dedicated control software. Control drivers available
- Picosecond pulse duration across the range
- Sealed, compact, and virtually maintenance-free
- Integrated spectrometer

Description

The Zenith is a **picosecond OPO** based laser system broadly tunable in the 1387 – 4000 nm (2500 – 7209 cm-1) range. Featuring the highest power levels in the market [>4W across 1387 – 2020 nm (4950 – 7209 cm-1) and >2W across 2100 – 4000 nm (2500 – 4761 cm-1)], Zenith delivers a powerful and convenient source for ultrafast spectroscopy and pump-probe experimental sciences.

The picosecond OPO Zenith has been especially designed for fully-automated tuning to enhance usability and practicality in applications. A simple and reliable control software renders it an extremely convenient hands-free system which enables the researcher to effectively focus on advancing their research with minimum time investment in laser maintenance. Control drivers are available.

Three output ports deliver: 1) the signal, 2) the idler and 3) the pump bypass.

Excellent beam pointing stability with time and wavelength is provided.

Zenith is a sealed fully-integrated laser system, incorporating the pump laser and OPO, which ensures maximum compactness and stability.The Zenith is provided directly by Radiantis.

Models:

Zenith LP
Tuning range
Signal wavelength: 1387 – 2020 nm
Idler wavelength: 2100 – 4000 nm
Pump wavelength: 1030 nm
SHG wavelength: –
Average power
Signal average power: >2 W
Idler average power: >1 W
Pump average power: –
SHG average power: –
Pulse duration: Picosecond
Integrated pump: Yes

Zenith HP
Tuning range
Signal wavelength: 1387 – 2020 nm
Idler wavelength: 2100 – 4000 nm
Pump wavelength: 1030 nm
SHG wavelength: –
Average power
Signal average power: >4 W
Idler average power: >2 W
Pump average power: –
SHG average power: –
Pulse duration: Picosecond

Specifications:

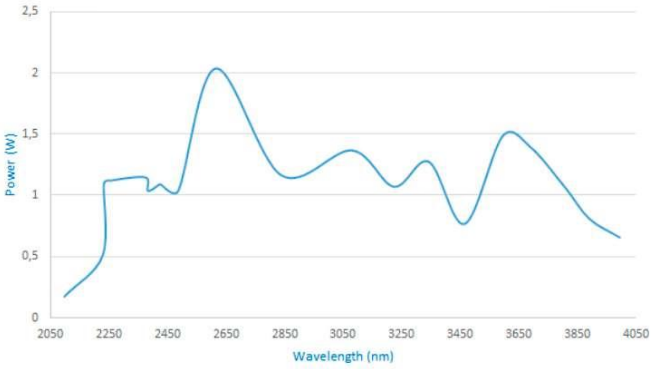
Output Characteristics	Zenith LP	Zenith HP
Signal Tuning Range(2)	1387 – 2020 nm (4950 – 7209 cm-1)	1387 – 2020 nm (4950 – 7209 cm-1)
SHG Signal Tuning Range(4)	693 – 1010 nm (9900 – 14430 cm-1)	693 – 1010 nm (9900 – 14430 cm-1)
Idler Tuning Range(3)	2100 – 4000 nm (2500 – 4761 cm-1)	2100 – 4000 nm (2500 – 4761 cm-1)
SHG Idler Tuning Range(4)	1050 – 2000 nm (5000 – 9523 cm-1)	1050 – 2000 nm (5000 – 9523 cm-1)
Pump Wavelength	1030 nm (9708 cm-1)	1030 nm (9708 cm-1)
Signal Output Power(2)	> 2 W	> 4 W
Idler Output Power(2)	> 1 W	> 2 W
Signal Pulse Width	> 5 ps	> 5 ps
Idler Pulse Width	> 5 ps	> 5 ps
Pump Pulse Width	> 5 ps	> 5 ps
Beam Diameter	3 mm +/- 10%	3 mm +/- 10%
Spatial Mode	TEM00	TEM00
Output Ports	1) Signal 2) Idler 3) Pump	1) Signal 2) Idler 3) Pump
Power Stability(5)	< 0.5 % rms	< 0.5 % rms

Polarization	Linear	Linear
Repetition Rate	80 MHz	80 MHz
Size (W x L x H)	625 x 330 x 163 mm (24.6 x 12.99 x 6.4 inch)	625 x 330 x 163 mm (24.6 x 12.99 x 6.4 inch)

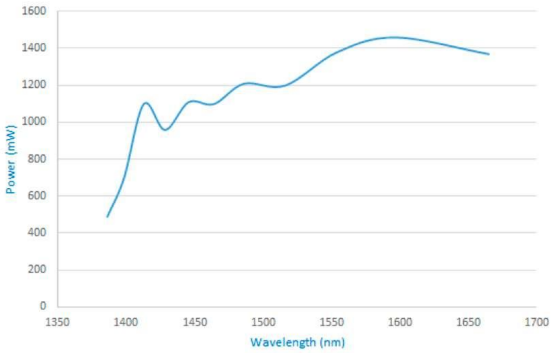
Performance charts:

Zenith HP – Typical Signal Curve

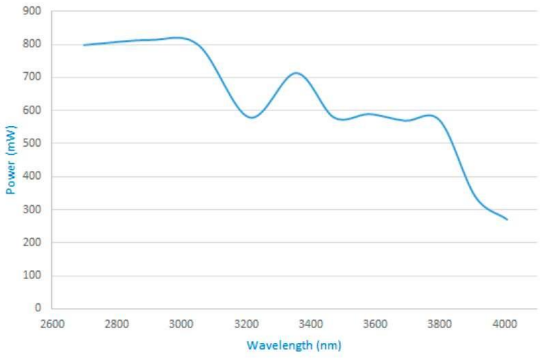
Zenith HP – Typical Idler Curve



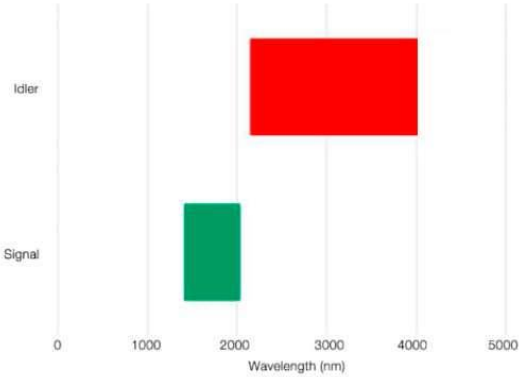
Zenith LP – Typical Signal Curve



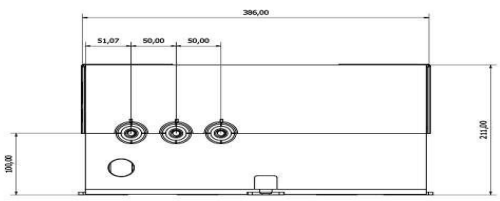
Zenith LP – Typical Idler Curve

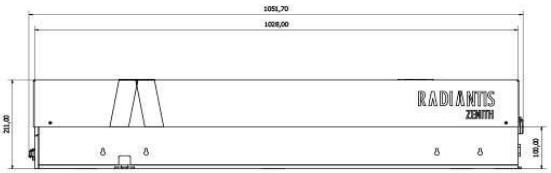


Wavelength Coverage

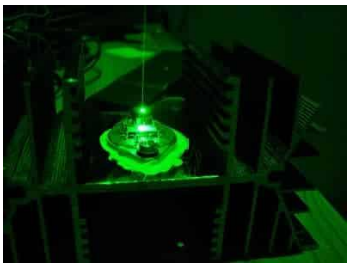


Dimensions:

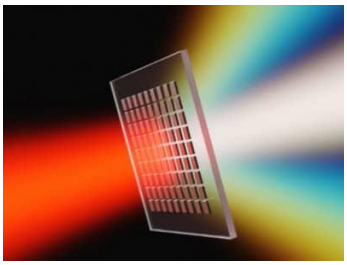




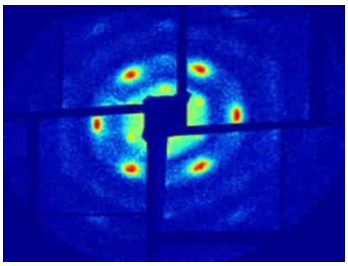
Applications:



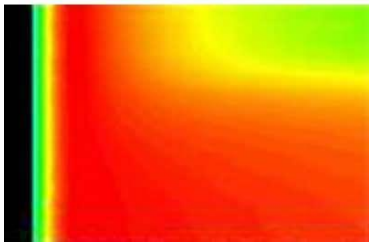
Device characterisation



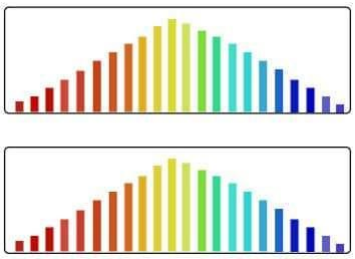
Harmonic generation



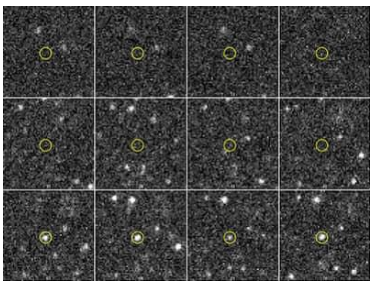
Pump-probe experiments



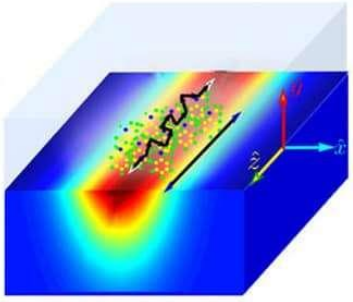
Time-resolved spectroscopy in the Mid-IR



Single and dual-comb spectroscopy



Semiconductor research and spectroscopy



Vibrational spectroscopy