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RADIANTIS
www.radiantis.com

Broadly Tunable Femtosecond Mid-IR Laser

Fully-integrated OPO-Laser for the Mid-IR with wide tuning across 1270 - 1290 nm (7751 - 7874 cm^{-1}) and 6000 - 7000 nm (1428 - 1666 cm^{-1})

MIRage

KEY FEATURES

- High output power with >500 mW at peak of the signal and >100 mW at peak of the idler range.
- Two simultaneous outputs available: 1) Signal and 2) Idler.
- Dispersion adjustment independent for each wavelength for minimum pulse duration.
- Excellent beam pointing stability across the complete spectral range with TEM_{00} spatial profile.
- Hands-free operation with dedicated control software. Control drivers available.
- Sealed, compact, and virtually maintenance-free.

APPLICATIONS

- Multiple Wavelength Pump-Probe Experiments.
- Semiconductor Research and Spectroscopy.
- Single and Dual-Comb Spectroscopy.
- Time-Resolved Spectroscopy in the Mid-IR.
- Vibrational Overtone Spectroscopy.

Description

Radiantis introduces the MIRage, the first commercial mid-IR [>4000 nm (> 2500 cm^{-1})] OPO-based laser system. MIRage offers unprecedented tuning coverage and power levels in the mid-IR [>100 mW across 6000 – 7000 nm (1428 - 1666cm^{-1}) and >500 mW across 1270 - 1290 nm (7751 - 7874 cm^{-1})], in a sealed and fully-automated laser enclosure for maximum reliability and usability.

The MIRage incorporates, for the first time, a fiber pump laser and a mid-IR [>4000 nm (> 2500 cm^{-1})] OPO in a single platform, providing maximum power stability in a compact design.

To ensure shortest pulse durations across the spectral range, an advanced dynamic dispersion compensation module is included within the MIRage, allowing independent optimisation of the pulse length for different wavelengths. Additionally, excellent beam pointing stability with time and wavelength is provided which increases usability in applications where reduced beam misalignment due to laser beam displacement is required.

MIRage is a fully-automated ultrafast OPO-based laser system which is offered with a dedicated control software and drivers. Sealed and hands-free design of MIRage, combined with virtual maintenance-free operation, provides a superior

Specifications(1)

Output Characteristics	MIRage
Idler Tuning Range	6000 - 7000 nm (1428 - 1666 cm^{-1})
Signal Tuning Range	1270 - 1290 nm (7751 - 7874 cm^{-1})
Idler Output Power(2)	> 100 mW
Signal Output Power(2)	> 450 mW
Signal Pulse Width	< 200 fs at 1205 nm
Idler Pulse Width	< 200 fs
Beam Diameter	3 mm +/- 10 %
Spatial Mode	TEM_{00}
Noise	< 1 % rms
Output Ports	1) Signal 2) Idler
Power Stability	< 5 %
Polarization	Linear
Size (W x L x H)	652 x 320 x 150 mm (25.7 x 12.6 x 6 inch)

Notes: (1) Specifications are subject to change without notice. (2) At peak of pump and OPO tuning range.

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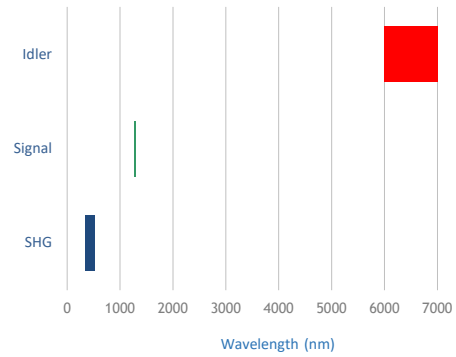
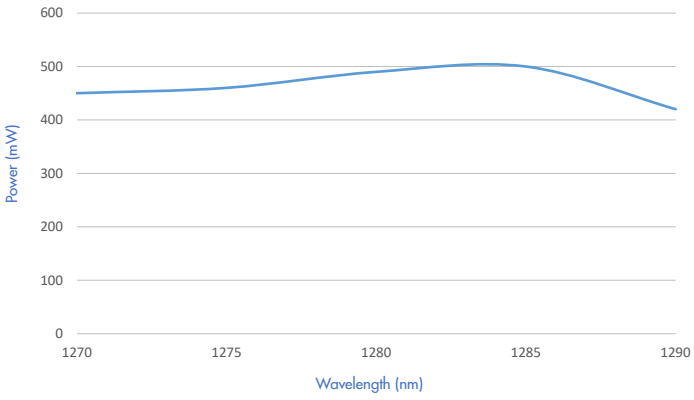
MIRage Wavelength Coverage

Output Ports

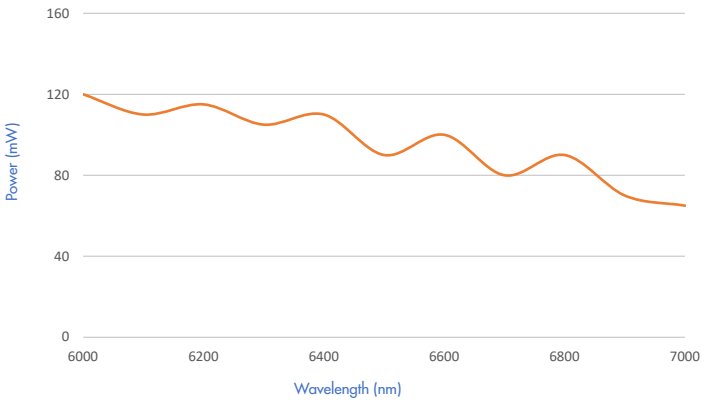


Three output ports deliver 1) the signal; 2) the idler; and 3) the pump (at 1064 nm). An incorporated pump bypass enables the selection of 100% of the pump (with no signal or idler power); 2) a percentage of the pump (simultaneously with partial signal and idler power); 3) 100% of the signal and idler power (simultaneous) with 0% of the pump.

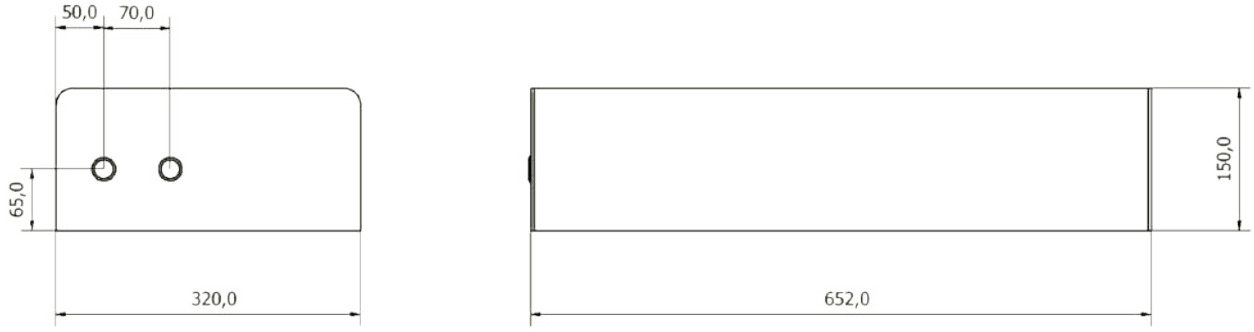
Typical Signal Tuning Curve



Typical Idler Tuning Curve



Dimensions



Notes: Dimensions in mm

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Broadly Tunable Picosecond OPO Laser

Tuning across 1387 - 2020 nm (4950 - 7209 cm^{-1}) and 2100 - 4000 nm (2500 -4761 cm^{-1})

ZENITH

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.
- Sealed, compact, and virtually maintenance-free.
- Integrated spectrometer.

APPLICATIONS

- Device Characterisation.
- Harmonic Generation.
- Pump-Probe Spectroscopy.
- Semiconductor Research and Spectroscopy.
- Single and Dual-Comb Spectroscopy.
- Time-Resolved Spectroscopy in the Mid-IR.
- Vibrational Spectroscopy.

RADIANTIS

Description

Radiantis introduces Zenith Vis, a Picosecond OPO Laser broadly tunable across the 1387 – 4000 nm range and 694 - 1010 nm. Featuring the highest power levels in the market [a >4 W across 1387 - 2020 nm (4950 - 7209 cm-1), >2 W across 2100 - 4000 nm (2500 -4761 cm-1)] and >1.2 W at 775 nm, Zenith Vis delivers a powerful and convenient source for ultrafast spectroscopy, pump-probe experimental sciences, and vibrational spectroscopy.

Zenith has been especially designed for fully-automated tuning to enhance usability and practicality in scientific 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. 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.

Specifications(1)

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	TEM_{00}	TEM_{00}
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)

Notes: (1) Specifications are subject to change without notice. (2) At peak of pump and OPO signal/idler tuning range. (3) Available for XT model. (4) SHG available on request. (5) Power Stability Signal Noise at 1700 nm and Idler Noise at 2613 nm.

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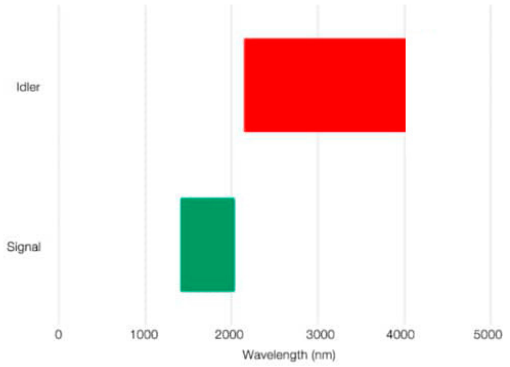
TUNE YOUR WAVELENGTH
Broadly Tunable Laser Systems for Science & Technology

Zenith Wavelength Coverage

Output Ports

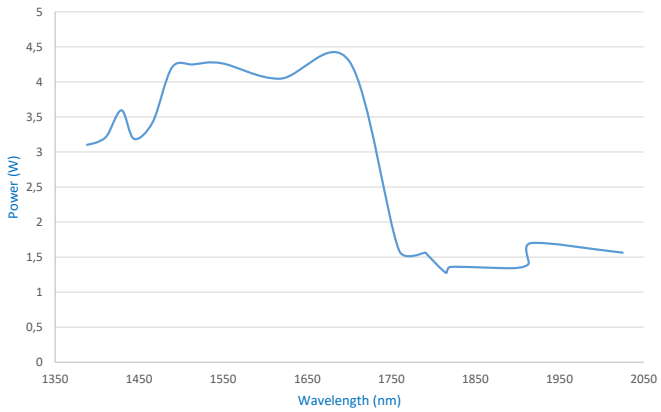


Zenith includes three output ports which deliver:

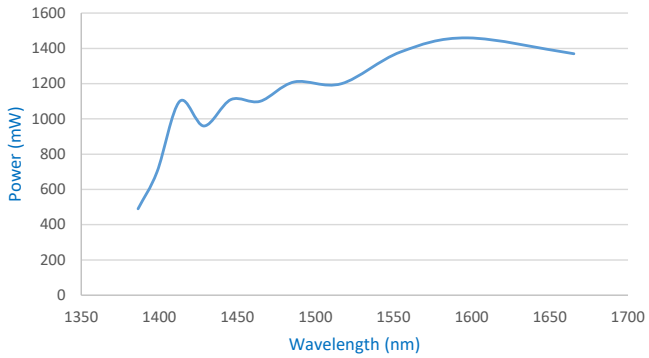
1) The Signal 1387 - 2020 nm (4950 - 7209 cm^{-1})
2) The Idler 2100 - 4000 nm (2500 - 4761 cm^{-1})
3) The Pump 1030 nm (9708 cm^{-1})

Typical Signal Tuning Curve

Zenith HP Signal

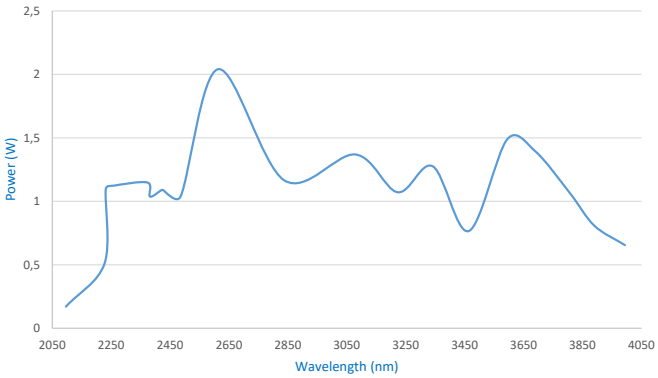


Zenith LP Signal

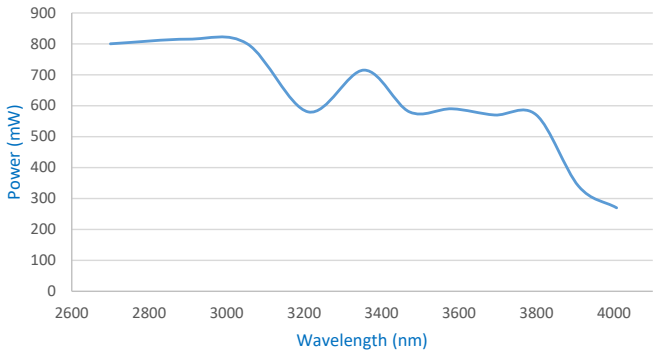


Typical Idler Tuning Curve

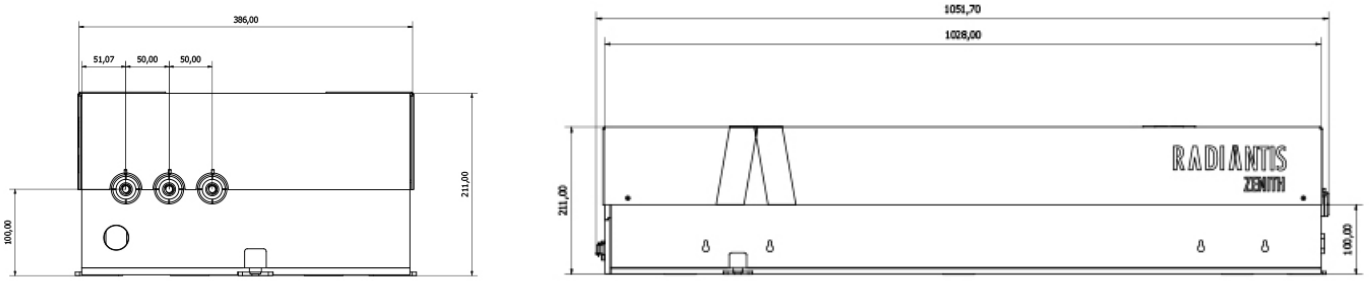
Zenith HP Idler



Zenith LP Idler



Dimensions



Notes: Dimensions in mm

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