

ARGOS™

Widely Tunable, CW, Single-Frequency
Mid-IR Laser

SF SERIES



Spectral Coverage:

Idler :

⇒ 2.20 μm - 4.63 μm

Signal :

⇒ 1.38 μm - 2.06 μm

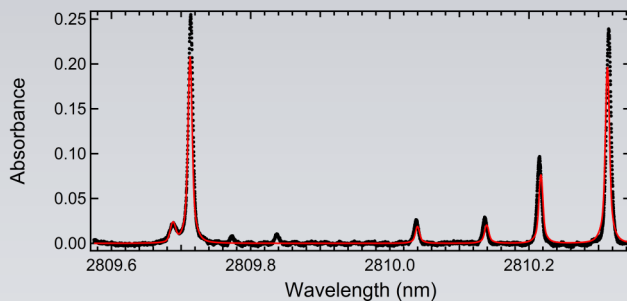
Features:

- ⇒ Up to 800 cm^{-1} tuning per wavelength module
- ⇒ Robust fiber laser pump source
- ⇒ Ultra narrow Linewidth

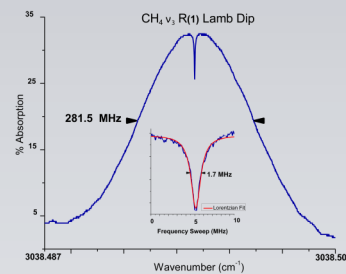
The LM Aculight® Argos SF series is a family of single-frequency, continuous-wave, optical parametric oscillators (OPOs) designed for mid-infrared spectroscopy.

**Up to 100 GHz
Mode-hop-free Tuning**

spectroscopy

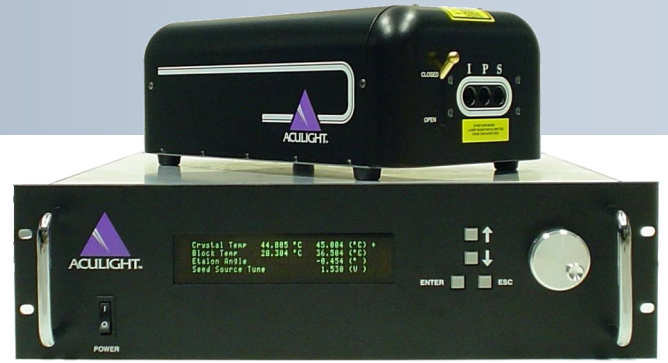


CO₂ spectrum measured with the Argos SF-15



CH₄ Lamb dip measurement supplied by Argos customer


LOCKHEED MARTIN



Product Specifications

» **Argos SF-15**

Signal Power	> 1 Watt
Idler power	> 1 Watt

» **Argos SF-10**

Signal Power	> 600 mW
Idler power	> 600 mW

Mode of Operation	CW
Idler Wavelength Coverage	Module A: 2.3 to 2.5 μm
	Module B: 2.5 to 3.2 μm
	Module C: 3.2 to 3.9 μm
	Module D: 3.9 to 4.6 μm †
Signal Wavelength Coverage*	Module A: 1.85 to 1.98 μm
	Module B: 1.60 to 1.85 μm
	Module C: 1.46 to 1.60 μm
	Module D: 1.39 to 1.46 μm †
Linewidth**	< 1 MHz
Beam Quality	TEM ₀₀
Power Stability	< 5% rms
Mode Hop Free Tuning Range	100 GHz
Maximum Tuning Rate ***	Up to 30 Hz

Cooling Method	Forced Air
Power	100-240 V AC 50-60 Hz
<i>Dimensions</i>	
Controller	3U 19" equipment rack
Fiber Laser	3U 19" equipment rack
OPO Head	4.9" x 7.5" x 13.9" (H, W, L)

Specifications subject to change without notice

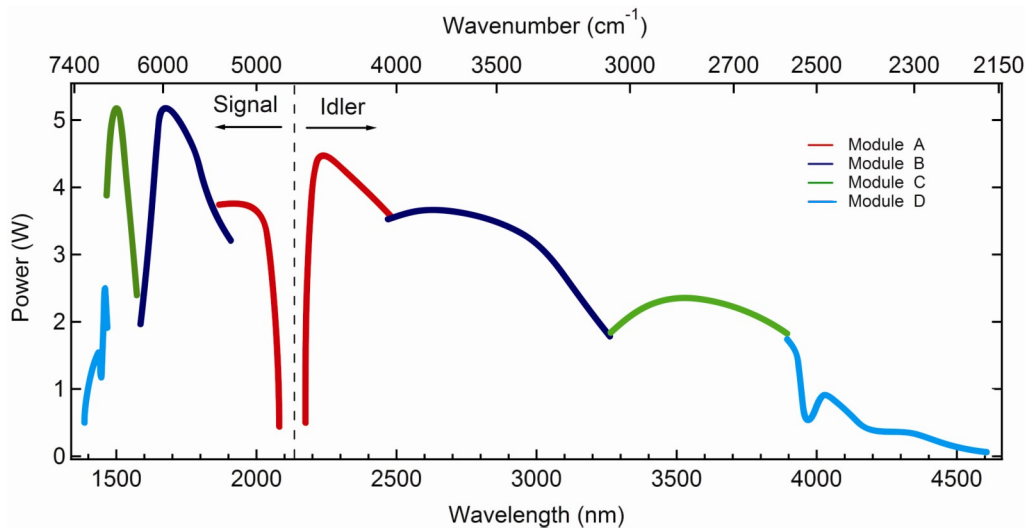
* Mode-hop-free tuning characteristics apply to idler only

** Linewidth of < 60 kHz measured on 500 μs timescale

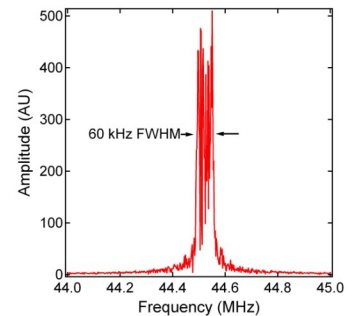
*** Higher modulation frequencies are available with smaller range

† Power specs do not apply to D module. See below for example data.

Demonstrated Performance



Typical output powers for the SF-15



Idler linewidth measurement made via beat frequency between two units over a 500 microsecond time scale.

