

NEW DEVELOPMENTS

2 μ m Microchip lasers: passively and actively Q-switched models

OPTICAL PERFORMANCE RANGE:

- › Wavelengths: fixed at 1.95 μ m or **tunable** from 1.94 μ m to 1.96 μ m
- › **Single longitudinal mode**
- › Energy per pulse: up to **250 μ J**
- › Pulse duration: 30ns...50ns
- › Repetition rate: tunable up to **5kHz**



Picture of the 2 μ m PQS laser prototype

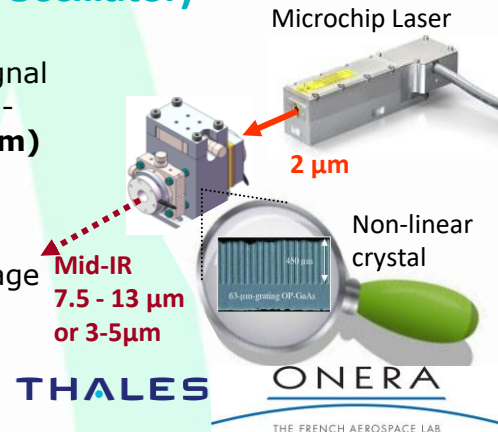
Mid-IR tunable OPO source (Optical Parametric Oscillator)

Our Optical Parametric Oscillator source converts the input signal from a 2 μ m pump laser into tunable Mid-IR beam using a non-linear crystal. We achieve **broad LWIR tunability (7.5-13 μ m)** based on Orientation-Patterned GaAs crystal.

The OPO source we offer is uniquely **compact**.

Option: additional **Optical Parametric Amplifier (OPA)** stage for a much higher output power.

Source developed in partnership with ONERA and Thales Research and Technology (project funded by DGA)



KEY FEATURES:

- › Wavelengths tunability: **7.5 to 13 μ m** and **3 to 5 μ m**
- › **Single longitudinal mode**
- › **Real-time wavelength control** with **Spectrum Analyzer** included
- › Peak power: 5W; **up to 100W with the OPA option**
- › Repetition rate: fixed at 300Hz or 1kHz
- › Pulse duration: 30ns...50ns
- › **Compact source:** $\sim 297\text{mm} \times 210\text{mm} \times 80\text{mm}$ (\sim A4 footprint)

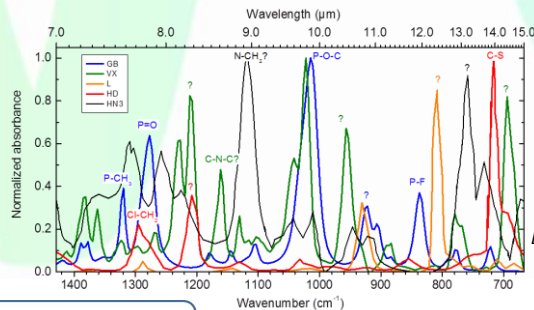


Picture of the prototype of the Mid-IR OPO compact source (on the left) and its controller (on the right)

Availability: Q4 2021

MAIN APPLICATIONS

- › Stand-off gas detection
- › Multi-species gas analysis
- › LIDAR applications
- › etc.



Example: spectral signatures of toxic gases in the LWIR wavelengths area

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