



INSTRUMENT USAGE SHEET

PHAROS OPTOPRIM LASER

General Information

Instrument: Pharos Optoprim Laser
Manufacturer: Light Conversion

Location:

- CRIETT
- Via Valleggio 11, Como
- Floor: 3 – Overnight Lab (V.3.12_3.034.0, CO. VALLEGGIO TORRE P3.028.0)

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Authorized Users:

Prof. Alessia Allevi
Prof. Lucia Caspani
Prof. Matteo Clerici
Dr. Ottavia Jedrkiewicz
Dr. Marco Lamperti
Prof. Luca Nardo



Training Required: Yes*

Independent use of the instrument is allowed. The practical component consists of individual training (lasting several days or weeks, as determined by the instrument supervisor). The supervisor will also provide theoretical material explaining the operating principles.

Internal tickets can be viewed on the intranet page (access with university credentials): <https://intranet.uninsubria.it/areadocumenti/ticket-strumenti-criett-utenti-interni>

The fee schedule for external users can be viewed on the website:
www.uninsubria.it/criett

Acknowledgment Requirement (see CRIETT Regulations, Art. 11):
Use of CRIETT major equipment must be acknowledged in scientific publications using the following wording:

“The scientific support from CRIETT centre of University of Insubria (instrument code: MAC27) is greatly acknowledged.”

Instrument Code: MAC27

Access Modes**1. Direct Access (Self-Service)**

Who: Only users who regularly operate the instrument have received specific training, and are authorized by the instrument supervisor.

How: Trained users may independently access and operate the instrument by booking it online.

2. Access to Scientific Technician (Full-Service)

Who: Research groups that use the instrument occasionally, external users, or those without qualified personnel.

How: Access is provided with the assistance of dedicated technical staff, who manage booking and operation.

Description and Functions

Femtosecond amplified laser with variable repetition rate, equipped with a harmonic generation module (second and third harmonics), beam delivery telescope, and laptop for software control.

Suitable for experiments in:

- Quantum optics
- Quantum information
- Quantum imaging
- Microfabrication
- Multiphoton excitation

Technical Specifications:

- Fundamental wavelength: $1030 \text{ nm} \pm 10 \text{ nm}$
- Pulse duration: variable between 190 fs and 10 ps
- Maximum pulse energy: 2 mJ
- Maximum output power: 6 W
- Repetition rate: variable from single-shot up to 200 kHz
- Harmonic module:
 - Second harmonic (515 nm)
 - Third harmonic (343 nm)
- Oscillator output: 1.1 W power, 75 MHz repetition rate

Safety Warnings

- In case of doubts or anomalies, contact the supervisor

- Use it only after completing the required training
- Do not open the main laser enclosure or the harmonic module without authorization
- Set the laser to stand-by mode after using

Operational Notes

- Booking through the internal management system is mandatory
- Self-service use is allowed only for trained and authorized users
- Any malfunction must be promptly reported to CRIETT staff

Materials and Accessories Provided by CRIETT

- None specified

User-Provided Materials and Accessories

- Thermopile
- Profilometer
- Photodiodes