Generalitat de Catalunya
Departament d'Empresa i Treball
Secretaria de Polítiques Digitals

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SPECIFICATION SHEET

SUPPLY, INSTALLATION AND STARTING-UP OF A COMPACT CLOSED-CYCLE CRYOSTAT FOR OPTICAL SPECTROSCOPY THROUGH AN OPEN PROCEDURE NOT SUBJECT TO HARMONIZED REGULATION

FILE NUMBER: 2024.SU.015

Contents

CLAUSE 1. Object of the contract

The purpose of this contract is the supply, installation and commissioning of a Compact closed-cycle cryostat, with optical access and low temperature (<3 K) for optical spectroscopy of rare-earth ions in solids.

The types of items supplied are linked to the CPV (Common Public Procurement Vocabulary), **38000000-5** Laboratory, optical and precision equipment (except glasses).

CLAUSE 2. Needs to satisfy

The cryostat is needed for optical spectroscopy and the realization of quantum network nodes using rare-earth doped solids. This application requires temperatures below 3.0 K and an extremely low level of vibrations. The cryostat should be operating in closed loop, due to the absence of helium recycling at ICFO and to facilitate deployment outside the laboratory.

CLAUSE 3. Technical specifications

- Cryogen-free, optical cryostat platform.
- Suitable for off-site deployment: compact dimensions and pulse-tube cooler for low-maintenance.
- Base temperature: < 3 K, with cooling power at least 0.3 W @ 4.2 K at sample mount.
- Vibration stability: <100 nm (peak-to-peak).

CLAUSE 4. Additional requirements

- 4 optical access ports with AR coating 400-1000 nm.
- 2 coax feedthroughs SMA to SMA with coax cables installed for RF excitation of the sample.
- 2 temperature sensors: one for base plate and one for sample mount.
- Water-cooled compressor.
- Control unit and user interface, with all required cables and helium hoses.
- Integration with more than 12 electrical wires for DC voltages, currents.
- Access for at least 4 optical fibres.

CLAUSE 5. Operation

The cryostat should operate without the need of external coolant, and should be fully controllable by a computer.

CLAUSE 6. Installation

Installation on site in the laboratories of Prof. de Riedmatten at ICFO should be provided.

CLAUSE 7. Warranty

Minimum 1 year warranty on all components. Additional years of warranty will be evaluated positively as stated in the Annex núm. 2 of the PCA.

CLAUSE 8. CE Marking

CLAUSE 9. Target price

- The target price for the system is 95.000,00 EUR (VAT excluded).
- Payment terms:
    - 30% upon order
    - 20% upon shipment from manufacturer
    - 50% after installation and acceptance.

CLAUSE 10. Delivery time

6 months from the PO issued by ICFO.

CLAUSE 10. Location

Hugues de Riedmatten Laboratory.

CLAUSE 11. Funding

This contract may be co-financed by the EUROQCI project (Grant: 101091638), funds from the European Union and GenCat funds.

Castelldefels, on the date of its digital signature.

Dr. Hugues de Riedmatten
Group Leader