



Indian Institute of Technology Jodhpur

N.H. 62, Nagaur Road, Karwar, Jodhpur - 342030, Rajasthan (India)

☎ 0291-2801602 | ✉ office_physics@iitj.ac.in

Website Department: <https://www.iitj.ac.in/physics> | IITJ: www.iitj.ac.in

INDIAN INSTITUTE OF TECHNOLOGY JODHPUR

Request For Technical Information and Pro Forma Quotations

For Procurement of LAUE Diagram with Image Sensor

1. Introduction

The Indian Institute of Technology Jodhpur (IIT Jodhpur) intends to procure **LAUE Diagram with Image Sensor** for academic and research purposes.

Before initiating the formal procurement process, the Institute invites **Technical Information And Indicative Pro Forma Quotations** from eligible Original Equipment Manufacturers (OEMs) or their authorized representatives.

2. Purpose

The objectives are to:

- Obtain technical information from prospective OEMs/authorized representatives.
- Obtain indicative Pro forma quotations for estimating the procurement cost.

3. Disclaimer

This document is issued **only for obtaining technical information and indicative Pro Forma quotations**.

Submission of information under this proposal:

- shall **not** be treated as a financial bid;
- shall **not** constitute any commitment on the part of IIT Jodhpur to procure the equipment;
- shall **not** confer any right upon the participating firm for award of any future contract;
- shall **not** automatically qualify the responding firm for participation in any future tender.

The Institute reserves the right to modify the technical specifications, estimated cost, procurement methodology, or procurement timeline based on its requirements.

4. Equipment Details

- Name of Equipment: **LAUE Diagram with Image Sensor**
- Quantity: 01



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- Broad Functional Requirements (The essential functions or capabilities that the equipment should have, without mentioning a specific make, model, or brand):

(The above requirements are indicative and may be revised after evaluation of the responses.)

Technical Specifications for LAUE Diagram with image sensor

Specification	Minimum Technical Requirement
System Type	Fully integrated Laue X-ray Diffraction (Single Crystal Orientation) System based on back-reflection Laue geometry for rapid, non-destructive crystallographic orientation of single crystals.
Applications	Crystal orientation, crystallinity assessment, cutting alignment, wafer orientation, grain mapping, quality control, and crystallographic axis determination.
Materials/Target Samples	System shall be suitable for orientation and characterization of semiconductor, oxide, metallic, piezoelectric, ferroelectric, superconducting, optical, perovskite, sapphire, silicon, SiC, GaN, Ge, diamond, quartz, lithium niobate, lithium tantalate, turbine blade alloys, and other single crystalline materials.
Crystal Size**	Suitable for crystals from 0.5 mm × 0.5 mm × 0.5 mm up to 50 mm wafers or equivalent large samples depending on configuration.
Sample Geometry	Capable of measuring bulk crystals, wafers, rods, plates, boules, irregular crystals, and cut specimens.
X-ray Source	Sealed microfocus/fine-focus X-ray tube with Tungsten target or equivalent suitable for white-beam Laue diffraction.
X-ray Tube Voltage	Up to 30–50 kV .
Tube Current	Automatically controlled for continuous operation.



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X-ray Beam	White (polychromatic) X-ray beam suitable for Laue diffraction.
Beam Size	Adjustable using interchangeable collimators; minimum beam diameter $\leq 1 \text{ mm}$, preferably $\leq 250 \text{ }\mu\text{m}$.
Beam Alignment	Computer-controlled beam alignment with adjustable beam position.
X-ray Shutter	Computer-controlled automatic shutter with timer and safety interlock.
Cooling	Air-cooled or closed-loop water-cooled system.
Detector Type	High-sensitivity digital X-ray detector suitable for Laue diffraction.
Detector Active Area	Minimum $75 \times 100 \text{ mm}$; larger detector preferred.
Detector Resolution	Pixel size $\leq 100 \text{ }\mu\text{m}$, preferably $\leq 50 \text{ }\mu\text{m}$.
Dynamic Range	High dynamic range suitable for weak diffraction spots.
Exposure Time	Adjustable from approximately 1 s to 300 s .
Data Acquisition	Real-time digital acquisition and display.
Sample Stage	Precision XYZ translation stage with integrated multi-axis goniometer.
Linear Travel	X, Y and Z translation with sufficient travel for crystal positioning.
Goniometer	Minimum three rotational axes.
Rotation Range	360° continuous rotation.



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Tilt Range	Minimum $\pm 20^\circ$ about two axes or better.
Positioning Accuracy	Better than $\pm 20 \mu\text{m}$.
Stage Type	Manual or motorized; fully motorized preferred.
Optical Camera	Integrated high-resolution live viewing camera for sample alignment.
Energy Range	Approximately 5–30 keV or wider.
Orientation Accuracy	Better than 0.2° , preferably $\leq 0.1^\circ$.
Measurement Time	Typical orientation determination within 2 minutes .
Measurement Modes	Single-point orientation, multiple-point orientation, automated scanning, grain orientation mapping (optional), wafer mapping (optional).
Software	Dedicated Laue diffraction software for automatic indexing and crystal orientation analysis.
Software Functions	Automatic spot detection, indexing, orientation calculation, misorientation analysis, crystal axis determination, pole figure generation, image enhancement, batch processing, scripting/macros, CSV export, report generation, and database management.
Data Export	TIFF, BMP, PNG, JPEG, CSV, PDF, and other standard formats.
Operating System	Computer System with latest version.
Radiation Safety	Fully enclosed radiation-safe cabinet with lead shielding, door interlock, emergency stop, warning lights, key switch, and X-ray ON indicators.



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Standard Accessories	Standard and fine collimators, reference silicon crystal, calibration tools, sample holders, alignment jig, software license, cables, and complete installation kit.
Optional Accessories	Motorized XYZ stage, motorized goniometer, grain mapping module, wafer mapping module, laser alignment, remote diagnostics, fine-focus optics, and large-area detector.
Installation	Complete installation, calibration, commissioning, acceptance testing, and demonstration at the user's laboratory.
Training	Minimum 3 days on-site operation, software, application, and maintenance training.
Documentation	Operation manual, service manual, calibration certificate, software manual, electrical drawings, and test reports.
Warranty	Minimum 3 years comprehensive onsite warranty , including software updates, labour, spare parts, and technical support.
Compliance	CE, IEC radiation safety standards, ISO-certified manufacturing facility, and applicable electrical safety standards.

5. Eligibility Criteria

Interested firms should:

- Be an Original Equipment Manufacturer (OEM) or an authorized distributor/dealer.
- Have experience in supplying similar equipment.
- Have adequate installation and after-sales service support in India.

6. Information/Documents to be Submitted

The interested firms shall submit the following (*Annexure-I*):

1. Company Profile.
2. Details of the OEM.
3. Product Brochure/Catalogue.
4. Detailed Technical Specifications.
5. Compliance with the Broad Functional Requirements.
6. List of previous users/clients with installation reports
7. Details of Warranty.
8. Details of After-Sales Service Support.
9. Authorization Letter from OEM (where applicable).



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10. Any additional technical information relevant to the offered equipment.

7. Pro forma Quotation

- Interested firms are requested to submit a Pro forma Quotation (*Annexure-II*) along with their Request For Technical Information and Pro Forma Quotations response. Indicative **Pro Forma** quotation in Indian Rupees (INR), including the cost of the equipment, essential accessories, taxes, duties, freight, insurance, installation, commissioning, training, and any other associated charges. Wherever applicable, the Annual Maintenance Contract (AMC) and/or Comprehensive Maintenance Contract (CMC) charges and spare parts shall be quoted separately as additional charges.
- Expected delivery schedule and other relevant technical and commercial information.

Important Note:

- The **Pro Forma** quotation is required only for cost estimation and budget planning purposes.
- The prices quoted shall be indicative/non-binding.
- The Pro Forma quotation shall not be treated as a financial bid.
- Submission of a **Pro Forma** quotation shall not confer any right or preference in the subsequent procurement process.

8. Presentation/Demonstration

The Institute may invite for a technical presentation or product demonstration. The date and venue shall be communicated separately.

9. Submission:

Interested firms may submit their Proforma Quotations on or before the due date in sealed cover or through email (as applicable).

The envelope/email should be superscribed as:

"Request For Technical Information and Pro forma Quotations for Procurement of LAUE Diagram with Image Sensor"

8. Important Dates

Activity	Date
Publication	20 th July 2026
Last Date for Submission	27 th July 2026
Technical Presentation (if required)	To be informed
Clarification Meeting (if required)	To be informed



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10. General Terms & Conditions

1. This **Request For Technical Information and Pro forma Quotations** is issued only for obtaining technical information and **Pro Forma** estimates.
2. The Institute reserves the right to accept or reject any or all responses without assigning any reason.
3. Submission of an **Request For Technical Information and Pro forma Quotations** does not create any contractual obligation.
4. The Institute may seek additional information, technical clarifications, demonstrations, or presentations from any participant.
5. The Institute may modify the technical requirements based on the responses received.
6. The final technical specifications may be prepared by the User Committee after evaluating all **Request For Technical Information and Pro forma Quotations** responses.
7. The subsequent procurement, if any, shall be carried out through an appropriate procurement method in accordance with the GFR 2017 and applicable procurement rules.
8. Participation in this **Request For Technical Information and Pro forma Quotations** does not automatically entitle any firm to participate in or receive any preference during the subsequent tender process.

11. Contact Details

Name: Dr. Naveen Tailor

Designation: Assistant Professor

Department: Physics

Email: nktailor@iitj.ac.in



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Annexure-I

Request For Technical Information and Pro forma Quotations Response Format

1. Name of the Firm:
2. Registered Address:
3. Name of OEM (if applicable):
4. Contact Person:
5. Email:
6. Phone:
7. Product Name and Model:
8. Brief Technical Description:
9. Compliance with Broad Functional Requirements:
10. List of previous users/clients with installation reports:
11. After-Sales Service Details:
12. Any Additional Features:
13. Remarks (if any).



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Annexure-II

Format for Pro forma Quotation

Sl. No.	Description	Amount (INR)
1	Indicative Pro forma quotation in Indian Rupees (INR), including the cost of the equipment, essential accessories, taxes, duties, freight, insurance, installation, commissioning, training, and any other associated charges.	

Warranty Period: _____

AMC/CMC Charges (after warranty): _____

Delivery Period: _____

Authorized Signatory

Name: _____

Designation: _____

Company Seal & Signature