Department of Physics

**Indian Institute of Technology Patna**

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**Requisition form for TEM/HRTEM**

1. USER and PAYMENT DETAILS

|  |  |
| --- | --- |
| Name:Department:Contact No:e-mail ID: | **Estimated analytical charges:**(See the basic charges mentioned at the end of this form. Also, please see the terms and conditions, to know about any additional charges) |

1. SAMPLE DETAILS

|  |  |
| --- | --- |
| **No of Samples with sample ID (s):** |  |
| Nature of sample | Whether the sample is Powder/ Film/ Disc?Whether the sample is Polymer/Ceramic/Metal/Composite/Biological?Whether the sample is Amorphous/ Polycrystalline/ Single Crystal?Is the sample Carcinogenic/Toxic/Radioactive/Corrosive/Explosive/Flammable?Is the sample magnetic? If yes, mention magnetism type and value.Is the sample hygroscopic? Yes/NoWhether the sample is volatile? (Yes/No)Is the sample sensitive to electron beam? (Yes/No) Medium of Dispersion:Expected morphology, & expected particle size: |

1. EXPERIMENTAL DETAILS REQUIRED

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| --- |
| 1. Micrographs required (with magnification)

Magnification for TEM Micrographs:SAED pattern micrographMagnification for STEM Micrographs:Magnification for HRTEM Micrographs:1. Composition analysis of the sample:
	1. EDS (Qualitative microanalysis Mention Expected elements)
	2. X-ray mapping: Line scan/spot scan (mention spot size):
2. Any other specific requirement:
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Signature of the user

 Name & Signature of the Supervisor

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| --- |
| 1. **Payment from Department operating grant**: An amount of Rs ………. is sanctioned as the analytical charge towards the measurement with HRTEM. The said amount may be transferred on ledger from department of ……………………. to department of Physics.
2. **Payment from R&D project:** An amount of Rs ………. is sanctioned as the analytical charge towards the measurement with HRTEM. The said amount may be transferred on ledger from the project ……….……….to ledger of analytical charges in DDF of department of Physics at R&D, IIT Patna
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Signature of HoD, user department/Dean, R&D

**Terms and Conditions for using the Facilities**

1. The mentioned charges are **excluding any applicable GST.**
2. IIT Patna does not have hard sample (Metals, thin films etc)/soft sample (polymer, biological samples, etc.) preparation unit. User needs to prepare sample by using TEM sample preparation equipment before sending for measurement.
3. Diameter for non-powder samples should not exceed 3 mm in dimension.
4. Sample should be properly dried and should not be magnetic.
5. User may contact the concerned operator for the experiment specific preparation/treatment of sample.
6. **User has to send** the respective **TEM grid for** measurement. Alternatively, additional charges of **INR 1000** will have to be paid by the user for issuing a normal carbon coated copper grid subject to availability.
7. The charges mentioned are only for measurement and providing the raw data (in the format possible with the instrument) thereafter. No analysis/software compatibility of data can be claimed later. For consultancy on data analysis, the user may contact the experts separately through head of the department.
8. Measurements are subject to the corresponding instrument being in working condition. The status of each instrumental facility will be updated regularly.
9. In case of the measurement remains incomplete due to malfunctioning or any unforeseen situation, the user will be notified. Depending upon user’s discretion, either the payment received will be returned or the measurement will be carried out after the instrument becomes functional (maximum waiting period also may be informed by user).

**Analytical charges related to experiments performed with transmission electron microscope**

|  |  |  |
| --- | --- | --- |
| Name of the facility | Measurement type\* | Analytical charges (in INR, per sample)  |
| IIT Patna Users  | Users from external academic institutes | Users from Industries /R & D laboratories |
|  HRTEM | TEM imaging  | 2000 | 3000 | 6000 |
| HRTEM | 3000 | 4000 | 8000 |
| EDS | 1000 | 2000 | 4000 |
| EDS (mapping) | 2000 | 3000 | 5000 |
| TEM+EDS | 3000 | 4000 | 8000 |
| TEM+HRTEM | 4000 | 5000 | 9000 |
| TEM+HRTEM+EDS | 5000 | 6000 | 10,000 |
| TEM+HRTEM+EDS+mapping | 6000 | 8000 | 12,000 |

\*For any specific customized measurement/testing, the analytical charges can be estimated in consultation with Physics department.

FOR OFFICE USE ONLY

1. SLOT ALLOTMENT DETAILS

Date of submission of form:

Job Order Number:

Assigned date and time of execution: No. of slots allotted:

Signature of staff operator/in-charge

Signature of Faculty in-charge