



Centre of Excellence in Solid State Physics



University of the Punjab, QAC, Lahore-54590, Pakistan

Tel: +92-42-9923 3133-5

Fax: +92-42-9923 1139

Email: director.cssp@pu.edu.pk

TENDER NOTICE (Corrigendum)

(Laboratory Equipment & Research Materials)

Sealed proposals on Single Stage Single Envelope basis are hereby invited from the Manufacturers / Authorized Dealers having GST, Sales Tax Number, for the supply and installation of the following items on FOR basis as per specifications detailed in the tender documents.

- 1. HEC Approved Double Entry Financial Software System**
- 2. Raman Spectrophotometer (complete with cables power source etc.)**

Specifications:

- Detector cooled down to -35°C
- Spectral range (at least) $200 - 3700 \text{ cm}^{-1}$
- Spectral resolution (at least) $8.5 - 16 \text{ cm}^{-1}$
- Laser 532nm regulated up to 200mW

- 3. Bridgman Crystal Growth Apparatus (complete with Rotary Pump and cables)**

Specifications:

- Tube length 250mm
- Maximum Temperature 1800°C
- Variable pulling speed
- Vertical design with furnace at the top
- Vacuum tight flanges
- Water cooled shaft for pulling

4. Hyperthermia Measurement System

Specifications:

- Magnetic field should be tunable (0 – 400 Oe)
- Frequency should be variable or selectable (200, 300 and 400kHz)
- Should be water cooled
- Temperature readout should be included

5. Tube Furnaces

Specifications:

- Tube of 3-inch diameter
- Maximum temperature of 2000°C
- Tube length ~ 3 feet

6. Multichannel Gas Flow Controllers

Specifications:

- Gas flow range 0 – 100 SCCM
- Gas flow range 0 – 200 SCCM
- Control range 0 – 500 SCCM

7. Target Materials

Specifications:

- 2 inch and 3-inch diameter of the following materials Ni:Ti (99.5:0.5at%), ZnS (99.9%), ZnS:Fe (99:1at%), Ni₂FeSi (99.9%), MgO (99.95%), Mg (99.95%), CoFe (99.9%), ITO (99:10at%), Ta₂O₅ (99.99%), YBCO 123 (99.9%), ZnO (99.99%), Y₂O₃ (99.99%), SiO₂ (99.999%), Cu (99.99%), Cr (99.95%), ZnS:Fe (99.1%:99.99%), ZrO₂ (99.95%)

8. Evaporation Materials (wires or chunks)

Specifications:

- High purity materials (CdS, CdTe, Al, Cu, Zn, Sn, In, Au, Ag, Se, Zr, Ga, CuS, Cu₂S, Cr, Pt, etc.)

9. Substrates

ITO coated Glass, FTO coated glass, sapphire, alumina, silica, copper, silver, titanium

10. Evaporation filaments / sheets

Tungsten, Molybdenum, Tantalum

11. Single Crystal Wafers

Specifications:

- 3 inch dia. silicon p-type 100-oriented, resistivity 1-10 ohm-cm, single side polished
- 3 inch dia. silicon n-type 111-oriented, resistivity 1-10 ohm-cm, single side polished

12. Undergraduate Laboratory Equipment

Specifications:

- Related to Mechanics
- Related to Waves & Optics
- Related to Heat & Thermodynamics
- Related to Electricity & Magnetism

Bids only through E-Pak Acquisition and disposal system (EPADS) will be entertained. No bid other than EPADS will be accepted. Bid security will be submitted before closing of tender physically in the Director's office, Quaid-e-Azam Campus, Lahore, (Tel: 042-99233133). Bidder will also upload the complete scanned copy of their bid in EPADS.

Bidding documents, containing detailed terms and conditions can be downloaded from the websites of PPRA or Punjab University (www.pu.edu.pk). In case of any query, guidance can be sought from the director's office.

The bids prepared in accordance with the instructions contained in the bidding documents must be submitted on EPADS by 17-02-2025 till 11:00 (a.m.), which will be opened on the same date at 11:30 (a.m.). If there is a public holiday announced by the Government on the tender opening date, then the tender will be opened on the next working day.



Director

**COE in Solid State Physics
University of the Punjab, Lahore**



Centre of Excellence in Solid State Physics



University of the Punjab, QAC, Lahore-54590, Pakistan

Tel: +92-42-9923 3133-5

Fax: +92-42-9923 1139

Email: director.cssp@pu.edu.pk

TENDER NOTICE

(Laboratory Equipment & Research Materials)

Sealed proposals on Single Stage Single Envelope basis are hereby invited from the Manufacturers / Authorized Dealers having GST, Sales Tax Number, for the supply and installation of the following items on FOR basis as per specifications detailed in the tender documents.

1. HEC Approved Double Entry Financial Software System

2. Raman Spectrophotometer (complete with cables power source etc.)

Specifications:

- Detector cooled down to -35°C
- Spectral range (at least) $200 - 3700 \text{ cm}^{-1}$
- Spectral resolution (at least) $8.5 - 16 \text{ cm}^{-1}$
- Laser 532nm regulated up to 200mW

3. Bridgman Crystal Growth Apparatus (complete with Rotary Pump and cables)

Specifications:

- Tube length 250mm
- Maximum Temperature 1800°C
- Variable pulling speed
- Vertical design with furnace at the top

- Vacuum tight flanges
- Water cooled shaft for pulling

4. Hyperthermia Measurement System

Specifications:

- Magnetic field should be tunable (0 – 400 Oe)
- Frequency should be variable or selectable (200, 300 and 400kHz)
- Should be water cooled
- Temperature readout should be included

5. Tube Furnaces

Specifications:

- Tube of 3-inch diameter
- Maximum temperature of 2000°C
- Tube length ~ 3 feet

6. Multichannel Gas Flow Controllers

Specifications:

- Gas flow range 0 – 100 SCCM
- Gas flow range 0 – 200 SCCM
- Control range 0 – 500 SCCM

7. Target Materials

Specifications:

- 2 inch and 3-inch diameter of the following materials Ni:Ti (99.5:0.5at%), ZnS (99.9%), ZnS:Fe (99:1at%), Ni₂FeSi (99.9%), MgO (99.95%), Mg (99.95%), CoFe (99.9%), ITO (99:10at%), Ta₂O₅ (99.99%), YBCO 123 (99.9%), ZnO (99.99%), Y₂O₃ (99.99%), SiO₂ (99.999%), Cu (99.99%), Cr (99.95%), ZnS:Fe (99.1:99.99%), ZrO₂ (99.95%)

8. Evaporation Materials (wires or chunks)

Specifications:

- High purity materials (CdS, CdTe, Al, Cu, Zn, Sn, In, Au, Ag, Se, Zr, Ga, CuS, Cu₂S, Cr, Pt, etc.)

9. Substrates

ITO coated Glass, FTO coated glass, sapphire, alumina, silica, copper, silver, titanium

10. Evaporation filaments / sheets

Tungsten, Molybdenum, Tantalum

11. Single Crystal Wafers

Specifications:

- 3 inch dia. silicon p-type 100-oriented, resistivity 1-10 ohm-cm, single side polished
- 3 inch dia. silicon n-type 111-oriented, resistivity 1-10 ohm-cm, single side polished

12. Undergraduate Laboratory Equipment

Specifications:

- Related to Mechanics
- Related to Waves & Optics
- Related to Heat & Thermodynamics
- Related to Electricity & Magnetism

Bids only through E-Pak Acquisition and disposal system (EPADS) will be entertained. No bid other than EPADS will be accepted. Bid security will be submitted before closing of tender physically in the Director's office, Quaid-e-Azam Campus, Lahore, (Tel: 042-99233133). Bidder will also upload the complete scanned copy of their bid in EPADS.

Bidding documents, containing detailed terms and conditions can be downloaded from the websites of PPRA or Punjab University (www.pu.edu.pk). In case of any query, guidance can be sought from the director's office.

The bids prepared in accordance with the instructions contained in the bidding documents must be submitted on EPADS by 28-01-2025 till 11:00 (a.m.), which will be opened on the same date at 11:30 (a.m.). If there is a public holiday announced by the Government on the tender opening date, then the tender will be opened on the next working day.

Savariaj

Director

**COE in Solid State Physics
University of the Punjab, Lahore**