

REF:

Date: 31st October 2019

Kindly send a quote for the following item on CIP Bangalore basis. Your quotation should clearly indicate the terms of delivery, delivery schedule, payment terms etc. The tender should be submitted in two separate sealed envelopes - one containing the technical bid and the other containing the commercial bid, both of which should reach us, duly signed on or before 17.00 hours, 20th November 2019.

Please enclose a compliance certificate along with the technical bid.

Chairman
Department of Inorganic and Physical Chemistry

Specification for X-ray photoelectron spectrometer (XPS) capable of analyzing angular resolved measurements (including tilt mechanism / module)

1. Analysis Chamber: Base pressure <math> < 10^{-10}</math> mbar; Differential pumping – Turbo / ion pump
2. Load lock (optional) / Sample preparation chamber:
 - a. Independently purged (<math> < 10^{-11}</math> mbar)
 - b. Possibility of gas dosage
 - c. Manual / automatic gate valve – to access the analyzer chamber
 - d. 4 axis manipulator
 - e. Calibration samples – Ag, Au and Cu foils
 - f. Phosphorescent sample for X ray spot alignment
3. Ion source:
 - a. Ar ion source for depth profiling and cleaning – beam alignment and focus mechanism
 - b. Enables operation with reactive gases
4. Charge compensation for insulating samples – details to be given
5. Sample holder:
 - a. At least four samples (to be simultaneously introduced in the analysis chamber) – Manual / automatic sample transfer mechanism - X, Y and tilt
 - b. 4 axis sample stage
 - c. Heating – 1000 C (optional)
 - d. Cooling - Liquid N₂ temperature (optional)
 - e. Appropriate heating power supply and cooling control (optional)
6. Sample transfer mechanism for air sensitive materials – vacuum transfer
7. Kelvin probe measurement to be included (bias module) along with sample holder and calibration for work function measurements
8. Sample viewing option – details to be given – rapid imaging to help in alignment
9. Source:
 - a. Al K(alpha) Monochromatized Mg/Al twin anode - optional
 - b. Spot size – minimum 50 microns, variable from 50 microns to several hundreds of microns
10. He (I) and He (II) UV PES
11. Water chiller circulation unit – with regulator and flow control

12. Compressor / gas cylinders along with regulators
13. Analyzer and detector:
 - a. Hemispherical
 - b. Energy resolution < 10 meV (FWHM)
 - c. Detector CCD – MCP
 - d. Fixed and scan modes
 - e. Pass energy, 1eV onwards
 - f. High S/N ratio; Achievable S/N ratio to be mentioned
14. Electronics: Appropriate electronics with low noise and drift levels
15. Software:
 - a. Spectrometer control and analysis software
16. Bake out of the entire system – 150 C
17. Spares:
 - a. Sample holder / gaskets etc.
18. Interface to connect to glove box
19. Warranty: Three years
20. Installation and Training by trained personnel on site
21. Options: Auger and EELS

Terms and conditions:

1. The vendor should have a track record of having previously supplied similar equipment in India (please furnish the details).
2. The vendor should have qualified technical service personnel for the equipment.
3. The payment will be through confirmed irrevocable Letter of Credit.
4. The lead time for the delivery of the equipment should not be more than three months from the date of receipt of our purchase order.
5. The price quoted should include must carry a comprehensive warranty of 3 years from the date of installation. Additional warranty for 2 years (total of 5 years) may be given as an option.