Dear Representative,

Kindly send your best quotation for the following item with various accessories on C.I.P. Bangalore basis to the undersigned. Your quotations should clearly indicate the terms of delivery, delivery schedule, entry tax, 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 the undersigned, duly signed on or before 1700 hours, February 25, 2020.

The technical bid must include details of technical specifications of the equipment along with commercial terms and conditions; however the price components should NOT be shown. **Please enclose a compliance certificate along with the technical bid.**

The commercial bid must include the price of the item indicating the break-up of the following:

(i) The price of the goods quoted on C.I.P. (Bangalore)

(ii) The charges for any insurance and transportation upto Bangalore customs warehouse.

(iii) The agency commission charges if any.

(iv) The installation, training and commission charges, if any.

Terms and conditions:

1. The **vendor should have qualified technical service personnel for the equipment, based in Bengaluru, India who can respond within 24 hours**. Else the equipment should be diagnosable online by the off-site manufacturer within 24 hours.

2. At least 1 year warranty from the date of delivery.

Both documents should be addressed to:

The Chairman,

Solid State and Structural Chemistry Unit,

Indian Institute of Science

Bangalore 560012.

Please deliver or mail both sealed quotations to:

Vivek Tiwari,

Solid State and Structural Chemistry Unit,

Indian Institute of Science

Bangalore – 560012.

Instrument Name and description: Piezo stage with controller and other required accessories

Piezo Specifications:

- Active Axes – X, Y and Z with at least 100 micron closed loop travel range along X and Y axis and at least 20 micron closed loop travel range along Z axis. Here Z axis is the axis vertical to the optical table if the piezo is mounted parallel to the table.
- Dimensions (LxWxH) smaller than 50 mm x 50 mm x 50 mm
- Piezo Actuators should be ceramic based
- Open loop resolution 0.2 nm typical or better, closed loop resolution 1 nm typical or better with 0.1% or better linearity error and 10 nm or better repeatability
- X and Y yaw +/- 20 microradians or better for each of X and Y axis
- Resonant frequency (in Hz) with 100 g load 180 along X, 135 along Y and 200 along Z or higher
- Unloaded Resonant frequency (in Hz) 350 along X, 220 along Y and 250 along Z or higher
- Load capacity 12 Newtons or higher
- Mass 0.4 kgs or lighter

Driver Specifications:

- Digital controller capable of controlling all the three Piezo axis simultaneously, with greater than 350 MHz DSP processor with sample rate sensor 90 kHz or higher, and sample rate control of 18 kHz or higher
- PC communication possible through all of TCP/IP, USB and RS-232
- Strain Gauge sensors with 4 or higher sensor channels

- Greater than 9 kHz sensor bandwidth
- Sensor resolution at 1 kHz sampling: 18 bit or higher
- In-built amplifier in the driver with output voltage range capable of driving the Piezo stage to full range along all the three axis simultaneously, no external input voltage source should be required for the digital driver
- Amplifier bandwidth 5 kHz or higher, digital-to-analog card resolution 18 bit or higher
- Software drivers for NI Labview and MATLAB with sample codes, along with dynamic Windows libraries
- Driver weight less than 3 kgs
- Compatible with Indian 230 VAC 50 Hz, with compatible electrical connectors between all parts of the driver and piezo stage, as well as between the driver power supply and the AC mains should be provided. If any adapters are necessary, those should be provided by the vendor during installation.

Please note that no other software or accessories other than those provided with the piezo stage and driver at the time of purchase should be required for complete interfacing and control of the X, Y, Z axes of the piezo.