S N BOSE NATIONAL CENTRE
FOR BASIC SCIENCES
Block JD, Sector III, Salt Lake, Kolkata 700 106

DEPARTMENTAL SEMINAR

Chemical and Biological Sciences

7th December,2022 **4.00 PM** **ONLINE/ FERMION**

SPEAKER
Dr. Ankit Raj,
Postdoctoral Researcher
USIL-NYCU, Hsinchu, Taiwan,

TITLE OF THE TALK

TOWARDS STANDARDIZATION OF RAMAN SPECTROSCOPY : ACCURATE WAVENUMBER AND INTENSITY CALIBRATION SCHEMES FOR ABSOLUTELY QUANTITATIVE ANALYSIS

ABSTRACT

Raman intensities of molecular hydrogen were established as primary standards for Raman intensity calibration. For this purpose, CC response theory was used for wavelength dependent polarizability computation which was then combined with accurate ro-vibrational wavefunctions to obtain rovibrational matrix elements of polarizability relevant to explain the observed Raman intensities. The position of the Raman bands in the experiments serving as excellent frequency standards were used for reliable wavenumber calibration. Lastly, intensity comparisons with respect to H2 were done for Raman cross-section determination.

HOST FACULTY
Prof. Ranjit Biswas, Sr. Professor
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