



University of Mumbai and Department of Atomic Energy
CENTRE FOR EXCELLENCE IN BASIC SCIENCES

COLLOQUIUM

Nuclear spectroscopy at the limits of Coulomb stability

A journey towards the highest shells

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Abstract: The quest for the heaviest elements and an exploration of the boundaries of the periodic chart of elements has been an enduring pursuit in nuclear physics research. Nuclei at the limits of Coulomb stability and mass represent an extremely challenging frontier. While elements up to $Z=118$ have been identified, with in-beam spectroscopy possible up to $Z=104$, several recent efforts are focused on pushing the envelope further. I shall present selected aspects of my work performed at various national and international laboratories. These will include: (i) isomeric states in the heaviest nuclei (ii) high-spin spectroscopy near and beyond shell stability (iii) reflection-asymmetric shapes in actinides. An overview of the complex measurement techniques and the advances in understanding will be presented. Future directions, including technological developments in radiation detection and data acquisition systems, will also be discussed.

Schedule: **Tuesday, October 9, 2012 at 3.45 pm**

Venue: **Seminar Room PF-AG 14, Near Annabhau
Sathe Bhavan, University of Mumbai,
Vidyanagari, Santacruz (East), Mumbai**

All are welcome