Project: India-based Neutrino Observatory (INO)

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The elusive neutrinos and the INO Program

Abstract:

- Almost a decade less than a century has passed when neutrinos (actually he named it neutron) were first postulated by W. Pauli which was later formalised by Enrico Fermi. Three decade after its postulation the neutrinos were discovered by Cowan and Reines. A little more than six decades has passed since the neutrinos were first discovered but this particle continues to be as intriguing as before. Many phenomena related with neutrinos have been discovered and measured since its discovery, which has led to quite a few Nobel Prizes, but there still remains a lot that is not known about this elusive particle. Many experiments are currently underway and several proposed across the globe to study this particle. India has a rich history of carrying out experimental research on neutrinos. Continuing the legacy Indian scientists have also proposed an underground experimental facility called as India-based neutrino Observatory (INO) to study primarily neutrinos. The INO facility will house many experiments including the flagship ICAL (Iron Calorimeter) detector. I will discuss briefly the history of neutrino physics and the salient features of INO physics along with its current status.

About the Speaker:

- Md. Naimuddin is currently working as an Assistant Professor of Physics at University of Delhi. He did his Ph.D. on the measurement of oscillations between particle and anti-particle in the mesons knows as Bs mesons at the D0 detector of Fermilab Tevatron in USA. After Ph.D., he worked as a Research Associate at the Fermilab, IL, USA where he carried out research on the searches of Higgs boson and physics beyond standard model at the D0 experiment. Dr. Naimuddin currently collaborate at the CMS experiment at CERN, Geneva and ICAL experiment at INO. Dr. Naimuddin's primary interest is to search for the physics beyond standard model in collider as well as neutrino sector. In addition, Dr. Naimuddin is also involved in the R&D of particle detectors and their applications in the high energy physics as well as medical imaging.