Solid State Institute
המכון למצב מוצק

TECHNION
Israel Institute
of Technology

הטכניון
מכון טכנולוגי
לישראל

SEMINAR

סמינר

'Attoclock' and the quest for tunneling time in strong–field physics

U. Satya Sainadh

Australian Attosecond Science Facility,
Centre for Quantum Dynamics, Griffith University, Brisbane, Australia.

Abstract

The question-'*How long does it take for a quantum particle to tunnel through a potential barrier?*' is an intriguing one that sparked debates concerning the meaning, value and the interpretation of 'tunneling time'. The advent of ultrafast technology aided in developing the 'attoclock' technique that involves inducing optical tunneling, wherein the bound electron is liberated through tunnel ionization and simultaneously probes it with a precision of few attoseconds (1 as $=10^{-18}$ s). Although the initial attoclock measurements hinted at instantaneous tunneling, later experiments contradicted those findings claimed to have measured finite tunneling times. In my talk, I would share the results of the first attoclock experiment performed with the benchmarking atomic system-atomic hydrogen, which is long believed to resolve the ongoing debate on attoclock tunneling time measurements.

ההרצאה תתקיים ביום רבעי, ה-7.11.18 בשעה 12:30

באודיטוריום המכון למצב מוצק, קומת כניסה

The lecture will take place on Wednesday, 7.11.18 at 12:30

at the Solid State Institute auditorium, entrance floor

Host: Associate Professor Oren Cohen