



THE CHINESE UNIVERSITY OF HONG KONG
Department of Physics
COLLOQUIUM

Time and Frequency Standards Based on Ultracold Atoms

by

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Time: 4:00 - 5:00 p.m.

Place: L2 Science Centre, CUHK

(Light refreshments will be served 20 minutes prior to the colloquium.)

ALL INTERESTED ARE WELCOME

Abstract

Building ultra-precise atomic clocks are one of the hottest research fields of modern AMO physics. The application of laser cooling, optical frequency comb, optical lattice and other techniques and theories improved the precision of atomic clocks by 3 orders of magnitude in the past decade, reaching the uncertainty level of 10^{-17} . In this talk, a brief introduction of laser cooled atomic time and frequency standards will be given, including cesium fountains and strontium optical clocks. The newly developed techniques, like 2D optical lattices and ultra narrow linewidth lasers, which will make the optical clocks even more precise, will also be discussed