THE CHINESE UNIVERSITY OF HONG KONG

Department of Physics

COLLOQUIUM

High-Sensitivity Superconducting Detectors and Terahertz Astronomy

by

Professor Sheng-Cai SHI (史生才教授)
Purple Mountain Observatory
Chinese Academy of Sciences, China

Date: May 21, 2024 (Tuesday)
Time: 10:30 - 11:30 a.m.
Place: L4, Science Centre, CUHK

ALL INTERESTED ARE WELCOME
****

Abstract

The terahertz (THz) regime, loosely defined as 3mm - 30μm spanning from (sub)millimeter-wave to far-infrared, occupies approximately half the photon energy in the universe after CMB. It is a unique frequency band that can observe radiation from early distant, cold and dusty objects invisible in the optical/NIR regime. Furthermore, there are plenty of molecular rotation lines and atomic fine structure lines in this regime -- important tracers for studying the physical and chemical properties of objects such as stars and planetary systems. With sensitivity approaching the quantum limit for coherent detection and the background limit for incoherent detection, superconducting detectors are playing an increasingly important role in THz astronomy. This talk will focus on recent development of THz superconducting detectors at Purple Mountain Observatory and THz astronomical projects in China from space to Antarctic to Qinghai-Tibet Plateau.

Enquiries: 3943 6303