THE UNIVERSITY OF HONG KONG

DEPARTMENT OF MECHANICAL ENGINEERING

SEMINAR

Online

Title: **Large-scale Linear-to-Circular Polarization Converter with a Broad Polarization Angular Span Based on Multilayer Metasurfaces**

Speaker: **Mr. Jiang Zijie (PhD candidate)**
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Date: **29 April, 2021 (Thursday)**

Time: **3:00 p.m.**

Zoom Link: **1) Link to join the meeting:**

https://hku.zoom.com.cn/j/94657009876?pwd=ci9URDdnTjdiVVFwbGxQN3dFS0RiQT09

2) Meeting ID: 946 5700 9876

3) Password: 2887

Abstract:
Linear-to-circular polarizer (LCP) is a device that can convert linear polarization into circular polarization, and is widely used in the wireless communication, spectroscopy, quantum materials, and some other areas. The conventional LCPs are based on a quarter-wave plate made by some birefringent crystals, which is usually bulky and can only work at a single polarization angle and frequency. The advent of metasurfaces provides a new avenue towards practical LCPs. Several metasurface-based LCPs are proposed and successfully demonstrated in the microwave, terahertz, and optical regions based on different design principles. Compared with conventional LCPs, metasurface-based polarizers have the advantages of subwavelength thickness, high efficiency, and broad bandwidth. However, most of them still work at a single polarization angle. Moreover, in the optical region, the size of polarizers is greatly limited by the fabrication methods. In this presentation, a linear-to-circular polarizer valid for a broad polarization angular span is proposed, and it can be fabricated by using interference lithography to achieve a cm-scale size.

ALL INTERESTED ARE WELCOME
For further information, please contact Dr. W.D. Li at 3917 8982.

Research area: Advanced Materials