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THE CHINESE UNIVERSITY OF HONG KONG

Department of Information Engineering

Seminar

Cavity-less frequency comb to enable high-capacity and low-latency optical/wireless access networks

By

Prof. Zhixin LIU
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Date : 14 November 2023 (Tuesday)
Time : 10:00am – 11:00am
Venue : Room 801, Ho Sin Hang Engineering Building, CUHK

Abstract

Originally developed for metrology, optical frequency combs are becoming increasingly pervasive in a wider range of research topics including optical communications, spectroscopy, and radio or microwave signal processing, and time and frequency synchronisation. However, application demands in these fields can be more challenging, requiring a combined feature of robustness, tuneable and high performance.

Here I will talk about our recent work on cavity-less frequency comb generators and how we exploit them to address the key challeges in optical and wireless communication systems, including reference referenced multiplexing to enable low-latency optical access networks and high performance mm-wave wireless communication systems.

Biography

Dr Zhixin Liu received his PhD degree in Information Engineering from the Chinese University of Hong Kong and joined the Optoelectronics Research Centre (ORC) at the University of Southampton in 2013. In 2016, he joined the Department of Electronics and Electrical Engineering at UCL as a lecturer and became an associate professor in 2021.

His research interests include optical-assisted signal processing and its applications in communication systems and scientific instruments. He has pioneered frequency comb assisted data conversion and low-latency data communications that have led to several world's first demonstrations. As a principal investigator, Dr Liu has co-authored more than 100 papers in international peer-reviewed journals and conferences, including four high-profile papers in Nat. Electron, Nat. Comm and ten invited papers in top IEEE/OSA journals. He holds four patents, including two licenced to telecom and datacom vendors. Dr Liu has been PI on more than 15 grants from Industry and Research Councils. He is Co-I on the £6.1m Programme grant and a £4.2m EC framework grant. Dr Liu is a senior member of IEEE and Optica, recipient of EPSRC New Investigator Award and PGC Young Scientist Award.

**** ALL ARE WELCOME ****

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