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HONG KONG BAPTIST UNIVERSITY

FACULTY OF SCIENCE

Department of Physics & Institute of Computational and Theoretical Studies

JOINT COLLOQUIUM

X-ray free electron laser diffraction from inorganic nanoparticles

BY

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4:00pm – 5:00pm (Tea will be served)

T714, Science Tower, HSH Campus

Abstract

XFELs provide new opportunities for structure determination of biomolecules, viruses, and nanomaterials. With unprecedented peak brightness and ultra-short pulse duration, XFELs can outrun radiation damage that often limits resolution with conventional x-ray diffraction imaging techniques. Using XFEL pulses, it is potentially possible to collect scattering patterns from single particles at high resolution. Over-sampled scattering patterns can then be subjected to model reconstructions utilizing iterative phasing algorithms. Using the XFEL facility at the Linac Coherent Light Source (LCLS), core shell were used as a model for proof-of-principle coherent diffraction imaging experiments. We developed computational methods to characterize the nano-scale samples from the experimental XFEL scattering patterns and to analyze size and orientation determination.

All Interested Are Welcome!