



John Adams Institute for Accelerator Science Lecture Series

Thursday 7th July 2016 at 4:15 pm
Fisher Room, Denys Wilkinson Building

JAI Introducing: Introduction Seminars by Recently Started Research Staff

Designing the interaction regions of the upgrades of the LHC

Emilia Cruz Alaniz
Postdoctoral Research Assistant,
University of Oxford

This seminar explores the design of interaction regions for different possible upgrades of the LHC: The LHeC, the HL-LHC and the FCC. Designing an interaction region is an important and challenging objective in the development of any particle collider. Challenges arise as a result of the beams being brought to a focus with small beam sizes and further restrictions from the detector layout also need to be considered to design the optics of the interaction region; furthermore, the unprecedented energies and conditions of the upgrades of the large hadron collider increase the difficulty of the task. The possible design of each experiment, along with the challenges to achieve its corresponding luminosities, will be presented.

Generation of THz radiation at KEK LUCX facility

Konstantin Lekomtsev
Marie Curie Researcher,
Royal Holloway, University of London

This talk will give a brief overview of THz program, which is currently underway at Laser Undulator Compact X-ray (LUCX) facility at High Energy Accelerator Research Organisation (KEK) in Japan. LUCX facility is capable of generating four micro-bunch electron beam with few hundred femtosecond duration and adjustable micro-bunch separation. I will discuss Particle In Cell simulations of THz generators based on Smith-Purcell and Cherenkov Smith-Purcell mechanisms; recent experimental measurements; and challenges with the THz radiation detection.

For further details contact Glenn Christian: glenn.christian@physics.ox.ac.uk