

GFA Accelerator Seminar

Coherent Undulator Radiation and Microbunching Tilt from a kicked Electron Beam

Monday, 12 March 2018, 16.00 h, WBGB/019

Prof. Zhirong Huang, SLAC

During the commissioning of the DELTA undulator at LCLS, an intense circularly polarized X-ray pulse was produced by kicking the electron beam prior to the DELTA undulator, in order to obtain the necessary spatial separation of the circularly polarized radiation from the background linear one produced by the LCLS main undulator. This result is non-intuitive and generated considerable theoretical discussions. In this talk, we elucidate this process by analyzing the coherent undulator radiation and microbunching tilt from a kicked electron beam. The analysis is compared with numerical simulations and experimental results.

For more details contact Hans Braun, 3241