

Channeling 2018



Contribution ID: 165

Type: Oral presentation

The THz Radiation Development Based on High Brightness Linac at THU

Friday, 28 September 2018 15:30 (15 minutes)

Recently, the high brightness linac at Accelerator Laboratory of Tsinghua University (THU) has been focused on the production of tunable high-peak-current electron bunch trains with picosecond or sub-picosecond spacing. In this talk, we will report on recent research activities with this kind of widely tunable high intensity bunch trains in our laboratory. The production and diagnostics of the bunch trains have been successfully demonstrated. Experiments on coherent undulator radiation, coherent transition radiation, coherent Smith-Purcell radiation, dielectric wakefield radiation were performed with high peak-current electron bunch and bunch trains for THz production. Novel schemes based on laser-beam interactions to generate bunch trains with more flexibility will also be presented. The results indicate that such bunch trains are quite promising for the development of tunable high power THz source by different radiation schemes.

Primary author: Prof. YAN, Lixin (Accelerator Lab, Tsinghua University, Beijing)

Presenter: Prof. YAN, Lixin (Accelerator Lab, Tsinghua University, Beijing)

Session Classification: W2.2 Advanced Generation of THz and X-ray beams