

Minutes of RESULTS, PITZ Physics Seminar, 2017-05-12

Project: PITZ

Participants: M. Krasilnikov, F. Stephan, Z. Zhang (Tsinghua Uni), Y. Chen, M. Gross, H. Qian, Q. Zhao, I. Isaev.

1) Agenda

- a) Tuneable bunch train and narrow-band terahertz radiation generation at Tsinghua University by Zhen Zhang
- b) Briefs from Technical Seminar at DESY Zeuthen by I. Isaev

2) Results:

- a)
 - (1) PART I: new methods to generate Terahertz radiation at Tsinghua Uni (CTR, dielectric wakefield modulation, experimental results, etc.)
 - (2) PART II: better way to generate bunch trains at SLACSome findings: theoretical analysis suggests double-horn (slice energy profile) distributions yield maximum bunching factor comparing to Gaussian distributions; Frequency can be tuned by bunch compression or changing the laser pulse envelop modulation period; Degradation of bunching factor due to non-uniform bunch compressing; Second LINAC introduced after chicane, not changing the beam energy; Slice energy spread modulation method keeps the bunching factor at 0.4 for THz gap between 1-10 THz; No strong space-charge force or beam loss in this method; The method need a beam energy of ~100 MeV to be resonant with the optical laser; Experiments with this method at Tsinghua Uni scheduled and to be started soon.
- b) LINUX Updates
 - (1) Changing from SL6 to EL7; (2) Remaining systems must be replaced; (3) New desktop concept

What is to be done?	By whom?	Until when?	Done on
Making sure LINUX updates not disturbing PITZ runs; To be reminded on the next Monday meeting	Igor, Gunter	ASAP	ASAP

Protocol prepared by
Y. Chen