

## Minutes of PITZ Physics Seminar, 14.07.2022

Project: PITZ

Participants: R. Niemczyk, F. Stephan, M. Krasilnikov, Ch. Richard, G. Georgiev, A. Hoffmann, A. Lueangaramwong, G. Adhikari, N. Aftab, Z. Amirkhanyan, J. Good, F. Riemer, P. Boonpornprasert

### Agenda:

- 1) AOB
- 2) Talk by Ekkachi Kongmon

### Results:

- 1) AOB
  - a. FS: Guided tours? NA: I can do some. MG: If I'm not on holiday. PB: If I won't be at LINAC
  - b. FS: Outing: Date okay? NA: There is IBIC, Chris & me are there. FS: Okay, new date has to be found.
  - c. FS: @Felix: News from ADVACAM and their data analysis? FR: Yes, trip to PTB was planned, it was postponed to Sept/Oct. FS: We are preparing experiments at PITZ, all preparations ongoing, hopefully experiments will be carried out asap. FR: Not yet ordered. FS: Get them, so we can get experience as soon as possible.
  - d. RN: Update on screen business upgrade
  - e. MK: Should we change the cathode? RN: I would not do it, minimise all risks, and maximise working time of construction people.
- 2) Talk by EK:
  - a. FS: Slide 25: You reduce the bunch charge to 50 pC, and lengthen the bunch length: How critically is energy spread? EK: Simulations done by Natthawut Chaisueb. AL: I know that there is a spectrometer, perhaps you can tell us later the measured energy spread. MK: Do you have the energy spread measurement?
  - b. MK: What are the two diagnostics port in the middle of the undulator for? EK: This will be for a screen station: You will insert a screen through one, and couple out the light through the second one. FS: But then you will create a lot of radiation. Does this not harm the undulator? RN: It's an em undulator, it does not matter here.
  - c. RN: Are waveguide effects appearing when you create the THz radiation inside such a small vacuum beamline? EK: I don't understand the question.
  - d. PB: What temperature sensor are you using? The problem might be, that you measure the temperature on the outside of the coil, while the temperature on the inside is higher. What is the maximum temperature the undulator can take? EK: 200 deg Celsius.

- e. AL: Did you consider the chance of emittance growth before the undulator. In your simulation, can you modify/adjust the emittance and see the results? EK: I hope I can add this in future
- f. PB: How do you plane to construct the undulator, if no machine in Thailand can machine it? Are you creating it all from one piece, but how?

Protocol prepared by  
Raffael Niemczyk, 14.07.2022