

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

Project: PITZ

Participants:

Zeuthen: M. Gross, M. Krasilnikov, J. Good, Q. Zhao, H. Qian, F. Stephan, X. Li, H.

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## 1) Agenda

1. AOB
2. Q. Zhao: Simulated measurement of the coupling term and 4D emittance with multi-quads scan for PITZ
3. Summary of MAC-meeting

## 2) Results:

1. AOB
  - i) “Weihnachtsregelung”: 24 hours (12 hours for PhD students) have to be worked extra before or after Christmas (until end of February) and must be indicated on the corresponding application
2.
  - i) Coupling terms and space charge influence on measurement of emittance and coupling terms in quad scan phase space measurement simulated
  - ii) Results for up to 100pC, 11ps seems still acceptable; with 500pC results show significant overestimation of Twiss-parameters by simulated measurement
  - iii) Errors on measurement introduced by quad field errors are not estimated yet
  - iv) A procedure to measure phase space reliably at high charges, also following up the thesis of Georgios; inclusion of linear space charge might improve the results up to a certain extend
  - v) Time resolved slit scan seems to be more promising for high charge bunches; inclusion of (linear) space charge into quad scan will need significant effort and it might not be possible to obtain accurate results
3.
  - i) PITZ group is officially planned to continue work in Zeuthen also after decommissioning of PITZ
  - ii) FLASH requires pulse trains of longest possible length; PITZ will continue with conditioning for XFEL-parameters first; pulse length tests at 1.5 ms might be possible for gun 4.5, which is not needed currently at FLASH or XFEL as a hot spare
  - iii) XFEL organisation structure has changed; new structure for XFEL R&D money applications released
4. Please register for the Christmas party at Anne

Protocol prepared by  
G. Loisch