

Minutes of PITZ Physics Seminar, 2019-04-11

Project: PITZ

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1) Agenda

- a) Analysis of 4 Gun Quadrupoles Behavior. Step 1. By Igor Isaev
- b) Remarks by Frank about the group members presence during Wim Leemans talk.
- c) AOB
- d)

2) Results:

1. Overview of gun quadrupole designs.
2. Rotational quadrupole is combination of upright and skew quadrupole coils.
3. Ellipse fitting is not suitable for roundness calculation for beams with drop in middle of beam intensity.
4. Igor's "Direct algorithm" used for roundness/asymmetry analysis
5. No pronounced dependence or indication of best case settings, except that at strong solenoid currents the asymmetry minima moves.
6. Planned experiments will search for a dependence.
7. Orientation of valley in asymmetry map as possible tuning parameter.
8. Proposed gun quadrupole tuning procedure.
9. Higher order kicks remain in the beam.
10. A quadrupole pair may not compensate the asymmetry.
11. What is the improvement to more than one pair of quads? Compared to SLAC (difference in quads and solenoid positions).
12. Advice to use different camera on High.Scr3.
13. How sensitive are the quad setting versus gun settings?

Protocol prepared by G. Georgiev