

SUMMARY OF OPTICS ISSUES

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There were three talks in this session:

1. “Review of IR Designs with CW” by Anton Bogomyagkov – Budker Institute of Nuclear Physics,
2. “FCCee La5ce with Errors and Misalignment” by Sergey Sinyatkin – Budker Institute of Nuclear Physics
3. “Issues in CEPC pretzel and parAal double ring scheme design” by Huiping Geng – Institute of High Energy Physics,

The first talk by A. Bogomyagkov analyzes the nonlinearities associated with a crab-waist optics, evaluated the effects on the dynamic aperture. It can explain the reduction of the dynamic aperture due to crab-waist sextupoles in many machines. Then he proposes a new layout for the location of the crab-sext to reduce those nonlinearities. This idea can help the issue on any machines, including SuperKEKB.

The second talk by S. Sinyatkin will be summarized in the Machine Tuning session.

The third talk by H.P. Geng introduces the progress of the lattice design for CEPC, since single-ring pretzel to the partial double ring scheme. Now they have a consistent design that involves the arc, IR, RF, etc. They have optimized the dynamic aperture using an advanced multi-objective optimization method, then it nearly reaches the goal. They are still in progress.

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