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Type: **Invited Oral Presentation**

Monochromatization a new operation mode for e+e-circular colliders

Tuesday, 21 May 2024 11:00 (30 minutes)

Monochromatization of the beams is presented as a technique to reduce the energy spread and thus improve the CM energy resolution in colliding-beam experiments. Monochromatization consists of generating opposite correlations between a spatial position and the energy deviation in the colliding beams. In beam-optics terms, this can be achieved by generating a nonzero dispersion function of opposite signs for the two beams at the Interaction Points. For the FCC-ee collider monochromatization could enable measurement of the electron Yukawa coupling. This talk will describe the different possible implementation schemes in FCC-ee, its interaction with a modified large-acceptance lattice, and possible experimental tests at the Daphne or SuperKEKB colliders.

Footnotes

Funding Agency

Paper preparation format

Region represented

Europe

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Session Classification: TUYD: Colliders and other Particle and Nuclear Physics Accelerators (Invited)

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