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Proposal of Z pole electron-positron ERL colliders

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Electron-positron ERL colliders at the Z pole are proposed as a sustainability near future collider.The components are similar to the ILC accelerator, which consists of the linac with the 9 cell superconducting cavities, the 5 GeV damping ring, the beam delivery system for the final focus, and the electron and positron injectors. The recirculation loop is added to the ERL scheme. To fit it in the Tsukuba campus site of KEK, the accelerating gradient should be the same as the ILC of 30 MV/m, which can be achieved at 1 us RF pulse operation. Therefore, the energy recovery is imperfect because the return beam is delayed by the circulation time. In this presentation, we show the schematic views.

Footnotes

Paper preparation format

Word

Region represented

Asia

Funding Agency

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