Contribution ID: **701** Contribution code: **WECD1** Type: **Contributed Oral Presentation**

Future e+e- colliders using recycling Energy-Recovery Linacs

Wednesday 4 June 2025 15:00 (20 minutes)

I will discuss potential offered by Energy-Recovery Linacs (ERLs) and particle recycling for boosting luminosity to 1E37 cm-2sec-1 level in TeV-scale electron-positron colliders. ERL-based colliders have promise not only of significantly higher luminosity, but also of higher energy efficiency measured in units of luminosity divided by the consumed AC power. Addition of recycling collided particles and their recuperations in damping ring removes insane ILC/CLIC appetite for fresh positions, offers high degrees of polarization in colliding beams as well as possibility of eliminating problems associated with beamsstrahlung.
Two examples of ERL-based factory located in LHC and FCC tunnels will be compared with well-known linear ERL collider projects: ILC and CLIC.
I will finish with discussion of possible technical breakthroughs which can make such recycling linear colliders more affordable and even more attractive.

Footnotes

Paper preparation format

Word

Region represented

America

Funding Agency

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