

PERLE and bERLinPro, two key accelerator projects as pathfinders for future ERL based HEP colliders

Thursday 18 July 2024 10:00 (15 minutes)

The development of Energy Recovery Linacs (ERL) has been recognized as one of the five main pillars of accelerator R&D in support of the European Strategy for Particle Physics. Two projects for high power ERLs, PERLE and bERLinPro are considered key infrastructures for the development of ERLs for future HEP colliders, like e.g. LHeC or FCC-eh. Whereas bERLinPro will be demonstrating high intensity beam creation and recovery in a single turn ERL, PERLE focusses on demanding multi-turn ERL technology as a necessary demonstrator for the future HEP machines, with which it shares the same tech choices and beam parameters. Both facilities, PERLE and bERLinPro recently joined forces to collaborate on improving the efficiency of ERLs in the context of beam operation, but also power consumption in the EU Horizon iSAS framework. Here we will report on the projects status, introduce the main ongoing achievements and describe the staged strategy for construction and on-going commissioning.

Alternate track

1. Sustainability (accelerators, detectors, computing)

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Authors: NEUMANN, Axel (Helmholtz-Zentrum Berlin); KAABI, Walid

Presenter: KAABI, Walid

Session Classification: Accelerators: Physics, Performance, and R&D for future facilities

Track Classification: 11. Accelerator: Physics, Performance, and R&D for Future Facilities