

Status and Perspective of the Energy Recovery Linac at HZB

Monday, 3 October 2022 11:30 (20 minutes)

Since end of the year 2020 the energy recovery linac (ERL) project bERLinPro of Helmholtz-Zentrum Berlin (HZB) has been officially completed. But what is the status of this facility, the next scientific goals in the framework of accelerator physics at HZB, what are the perspectives? To reflect the continuation of this endeavor and the broadening of applications of this machine from high current SRF based energy recovery concept up to an ultrafast electron diffraction (UED) facility producing shortest electron pulses, the facility is now named Sealab, Superconducting RF Electron Accelerator Laboratory. In this contribution, an overview of lessons learned so far, the status of the machine, the coming set up and commissioning steps with an outlook to midterm and future applications will be given. In summary, Sealab will expand, including the ERL application, and become a general accelerator physics and technology test machine to employ injector parameter space and UED as a first application study case. It will also be an ideal testbed to investigate new control schemes and contribute by studies to the European ERL Roadmap for high energy physics programme.

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Session Classification: Facility Reports

Track Classification: Facility Reports