

# **An Overview of the Low Energy Recirculation Facility**

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Though it has not run as an ERL over the last two years, the LERF machine was originally capable of record FEL power (14.3 kW) and recirculated beam power (1.3 MW). It is one of the few ERLs that has demonstrated much larger recirculated beam power than installed RF power [1]. This talk will discuss the general capabilities of the LERF, but will discuss specifically capabilities that are unique among ERLs that might be useful to the development of an ERL for an EIC cooler.

The LERF is currently being set up as a cryogenic test facility for LCLS II cryomodels. This configuration does not allow for recirculation because of the loss of the third cryomodel in the linac. It can be used for single pass experiments, including experiments with magnetized beam.

If sufficient funding is procured, the facility could be upgraded to an ERL test facility to test out many of the technologies necessary for the EIC.

### **References**

1. G. R. Neil et al., "The JLab High Power ERL Light Source", Nuclear Instr. & Methods **A557** 9 (2006).