

# High current photogun and photocathode preparation for the PERLE project

*Tuesday 17 September 2024 15:30 (1 hour)*

In an Energy Recovery Linac (ERL), the beam, after acceleration and interaction, is recirculated and decelerated in the accelerating cavities of the linac. In such a scheme, the energy of the beam is recovered, leading to substantial savings in electrical power. Moreover, the beam is dumped at injection energy, considerably simplifying the radioprotection of the facility. The PERLE project aims at developing a multi-turn high power ERL in Orsay. The high intensity electron beam (20 mA) will be generated by a photoinjector, based on a DC photogun. Photocathodes of bi-alkali material will be produced by preparation facility connected to the photogun under vacuum for a fast transfer. This R&D is pursued within the framework of a collaboration agreement with RI Research Instruments.

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