

PERLE at Orsay. Design studies on lattice, optics, magnets.

The PERLE collaboration is developing a high power (with a current of up to 20 mA of 500 MeV electrons) ERL machine with three acceleration and three deceleration passes through two cryo-modules. Here we present the design of the first stage of the this machine with one cryo-module that would demonstrate the six-passes operation at a high current with a maximal energy of 250 MeV. All the magnets and the cryo-module are chosen to be compatible with both stages to minimise the costs of upgrade to a final one. The low-beta experiment areas are foreseen in a twelve meters straight section at 250 MeV.

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