

Hardware for Energy Recovery Linac - Development of accelerator key components and construction of R&D machine in KEK -

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The energy recovery linac (ERL) is expected to be a next generation light source. Since it allows us to produce the photons with an ultra high-brilliance or an ultra short-pulse, it could help users in new era for materials science and so on. In KEK, we have been developed the most important new accelerator components, a high current low emittance electron gun and cw super-conducting cavities including cathode materials, the driver laser and the rf sources under the cooperation with JAEA, Universities of Tokyo, Nagoya, and Hiroshima etc. In addition, we are now constructing the R&D machine (compact ERL) in ERL test facility building of KEK site to examine the performances of new accelerator components and several subjects of beam dynamics as shown in the figure. In the symposium, the current status of the development of accelerator components, the construction of compact ERL and the conceptual design of 3GeV ERL will be presented.

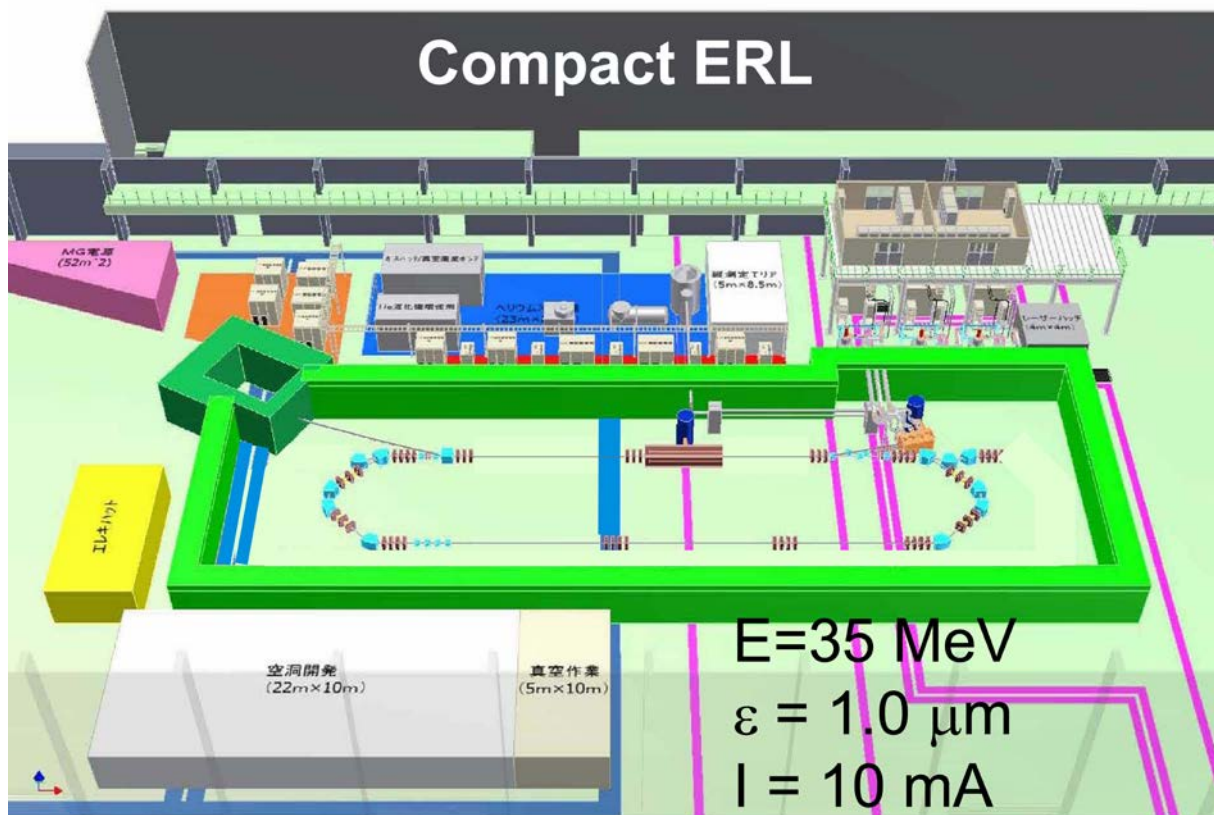


Figure : Schematic drawing of the compact ERL which is constructing in ERL test facility of KEK.