

SRF performance on the Compact ERL at KEK

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A superconducting Compact Energy Recovery Linac (cERL) was constructed in 2013 at KEK to demonstrate energy recovery concept with low emittance, high-current CW beams of more than 10 mA for future multi-GeV ERL. cERL consists of 500 kV DC photocathode gun, the injector cavities, the main linac cavity, which made energy recovery, recirculation loop and the beam dump. Under long-term beam operation, we met several SRF performance degradation like field emission and thermal breakdown. In this presentation, we will present how to keep SRF performance and overcome these issues to give the stable beam operation and show the long-term performance of SRF cavities of injector and main linac cryomodule until now.

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