Contribution ID: **65** Type: **Oral**

Beam dynamics study for RF tolerance estimation in Korea-4GSR

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The RF cavities in the storage ring to compensate for the energy loss through synchrotron radiation have inevitable jitter as a technical limitation of the LLRF system. This jitter in phase and amplitude causes longitudinal oscillations of the electron beam stored in the storage ring, making it difficult to provide the synchrotron radiation reliably. With modern technology, phase and amplitude stability on the order of 10^-4 can be achieved, and this level is generally considered sufficient for reliable operation. We performed a beam physics study of the electron beam motion as a function of amplitude and phase jitter to define the tolerance of the LLRF system for stable operation at the Korea-4GSR accelerator, which has 10 RF cavities.

Paper submission Plan

Yes

Best Presentation

No

Contribution track

ICABU WG2. Beam Physics, Diagnostics & Novel Techniques

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