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Updates of Korea-4GSR impedance modeling and instability studies

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The small vacuum apertures in the 4th generation storage ring contribute significantly to beam instabilities, primarily caused by impedance. These instabilities are directly influenced by the bunch charge, which imposes a constraint on the maximum achievable beam current. The Korea-4th Generation Storage Ring (Korea-4GSR), currently under construction, aims to achieve a beam current of 400 mA. To reach this target, we have carried out comprehensive estimations and optimizations of the impedance in the current storage ring. In this presentation, we will discuss the impedance characteristics of the Korea-4GSR and analyze the associated beam instabilities.

Paper submission Plan

No

Best Presentation

No

Contribution track

ICABU WG2. Beam Physics, Diagnostics & Novel Techniques

Primary author: SEOK, Jimin (PAL)

Co-authors: Dr JANG, Gyeongsu (PAL); Mr CHOI, Hosun (PAL); KIM, Jaehyun (Pohang Accelerator Laboratory (PAL)); LEE, Jaeyu (Pohang Accelerator Laboratory); HA, Taekyun (Pohang Accelerator Laboratory (PAL))

Presenter: SEOK, Jimin (PAL)

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