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## Impedance modeling for Korea's fourth-generation storage ring

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Recently, the Korean government decided to construct a fourth-generation storage ring (4GSR). Compared to a third-generation storage ring (3GSR), emittance is significantly smaller so that we can achieve higher photon beam brightness. This small emittance enables because of a multi-bend achromat (MBA) which necessitates high magnetic field gradients. Accordingly, the vacuum chamber aperture is several times smaller than the 3GSR and the small apertures lead to high impedances that cause various beam instabilities. Hence, estimating the impedance of the components and mitigating the beam instabilities are key tasks during the 4GSR construction. Here, we present the impedance of some Korea 4GSR components calculated through numerical and analytical methods.

### Funding Agency

### Footnotes

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Yes

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