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Dipole quadrupole magnet design for Korea-4GSR

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As multipurpose synchrotron radiation facilities, the Korea-4GSR is being promoted in Korea from July 2021 to the end of 2027. The construction project includes linac, 4 GeV booster, and storage ring. The circumference of the storage ring is about 800 meters, the beam emittance is 58 pm.rad, and there are more than 40 beam-lines with 28 superperiods. A large number of electromagnets are used in these facilities. This presentation describes the design of the dipole quadrupole (DQ) magnets used in the storage ring. The DQ magnets are basically offsetted standard quadrupoles for design simplicity. The poles are optimized for minimum harmonic content and maximum B' with tapering. All DQ magnets should have trim coils for dipole component that will be used to keep the dipole field while quadrupole field changes.

Funding Agency

Footnotes

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Yes

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