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Design and analysis of photon absorbers for Korea-4GSR

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In synchrotron accelerators, managing the intense photon flux generated by bending magnets and insertion devices is crucial for maintaining the accelerator's performance. The emitted synchrotron radiation, characterized by its high intensity and broad spectrum, imposes significant thermal and structural demands on accelerator components. A crotch absorber is installed transversely in the bending chamber to intercept this power. The crotch absorber was designed based on EPU98, which exhibits the largest photon beam spreading angle and intensity among the insertion devices planned for installation in Korea-4GSR. Detailed analyses of its temperature distribution and thermal structure were performed.

Footnotes

Funding Agency

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