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## Study and Simulation of Cryogenic Photonic-Band-Gap Disk-loaded Structure

*Thursday, 23 May 2024 16:00 (2 hours)*

In order to further improve the accelerating gradient of accelerators, the cryogenic accelerating structure is studied. Based on material characteristics and technical conditions, the basic design is completed. Photonic band-gap (PBG) structures use a lattice of rods to prevent propagation of RF field through the lattice at certain frequencies while the higher order modes are damped. The design of the single-cell PBG structure has been modified, which changes the shape of the rods surrounding the defect region to reduce the peak surface magnetic field in the structure.

### Footnotes

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