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Physical design of a VHF band normal conducting RF gun

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The APEX gun experiments at LBNL have demonstrat-ed the average beam current up to 0.3 mA. The VHF band normal conducting RF gun indicates the potential to provide both high brightness and high average current beams. R&D activities for the mA-scale average beam current by using the VHF gun started in our laboratory. In this paper, the RF design, multipacting simulations, vacuum calculations, multiphysics analysis investigating the RF, thermal and mechanical properties of the VHF gun are presented.

Footnotes

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