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Realisation of a Faraday Cup for the Gun of PERLE Accelerator

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Faraday Cups have been used as diagnostic tools to measure the charged particle beam current directly. Up to now, different designs have been introduced for this purpose. In this work, a new design of Faraday Cup has been performed for the gun of PERLE, a Powerful Energy Recovery Linac to be installed at IJClab Orsay. FC's dimensions and desirable material have been considered based on PERLE Gun beam characteristics (maximum energy of 350 KeV and maximum current of 20mA). Appropriate specifications were written for this FC. In addition, the heat power generated by electron collision with FC material has been calculated and the required cooling system has been specified. The Faraday Cup is under fabrication and tests should be run early next year to measure the electron beam current out of PERLE Gun

Footnotes

Funding Agency

I have read and accept the Conference Policies

Yes

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