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Design of a new photo and thermionic hybrid mode 50 kV pulsed electron gun for ELSA

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For the Linac travelling wave S-band injector at ELSA a new electron gun is being designed, to enhance the beam parameters of the old gun. Furthermore, a new single bunch injection mode is to be realized alongside the standard long pulse (multi bunch) mode, allowing to use the gun for normal operation for the experimental program as well as enabling single bunch operations for accelerator research and development. For that matter a dual-use design is pursued utilizing a dispenser cathode both as photo- as well as thermionic cathode. First steps including the design of the gun assembly and studies about its usability as a photoemitter are conducted. A preliminary design of the gun assembly and simulation results are presented.

Funding Agency

Footnotes

I have read and accept the Privacy Policy Statement

Yes

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