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A nanosecond power supply for grid-controlled electron guns

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Grid-controlled electron gun usually uses specially designed power supplies to supply power, the performance of the power supplies can directly affect the beam performance of the accelerator. In this paper, a nanosecond power supply for a grid-controlled electron gun is designed. It uses avalanche transistors and superimposes Marx generators to improve the power. Finally, its rise edge is less than 1 ns. The power supply can be used in the thermal cathode grid-controlled electron gun, the electronic source scheme of Hefei Advanced Light Facility (HALF), which is practical and feasible.

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Footnotes

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Primary author: XU, Chunyu (University of Science and Technology of China)

Co-authors: SHANG, Feng-lei (University of Science and Technology of China); SHANG, Lei (University of Science and Technology of China); SONG, Wen (University of Science and Technology of China)

Presenter: XU, Chunyu (University of Science and Technology of China)

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