

Nanosecond laser pulse train generation with fs timing and beam diameter controls.

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The design of a robust laser pulse train generation applicable to RF photocathode guns is described, which is based on a beam splitter and combiner method. A high-power single laser pulse is used as an input, and the generated 64 pulses have 2 ns intervals synchronized to 500 MHz RF reference. Another reference optical oscillator synchronized to the RF reference is used to diagnose and control the timing of each pulse with fs resolution. The lattice parameter is tuned to obtain the desired beam diameter and power density profile of the train.

Paper submission Plan

No

Best Presentation

No

Contribution track

ICABU WG1. Accelerator Systems

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