26. Title: UV pulse shaping for the photocathode RF gun

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Abstract: Recently, manipulation with the drive laser plays a significant role in high brightness electron beam production by the photocathode RF gun. The article takes efforts on the temporal shaping of the driving laser for the photocathode RF gun. Method based on pulse stacking by birefringent crystal of alpha-BBO serials was tried to directly shape ultraviolet laser pulse. Using four pieces of alpha-BBO crystals to separate an input UV pulse with appropriate duration into 16 sub-pulses can form a ps-spaced pulse train suitable for coherent THz production. The group delay dispersion induced by the crystals was also carefully considered. To avoid beam deterioration by long path propagation, imaging relay of the shaped pulse was applied.