



# Single-shot electro-optic sampling of coherent transition radiation at the A0 Photoinjector

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(Submitted on 3 May 2012)

Future collider applications and present high-gradient laser plasma wakefield accelerators operating with picosecond bunch durations place a higher demand on the time resolution of bunch distribution diagnostics. This demand has led to significant advancements in the field of electro-optic sampling over the past ten years. These methods allow the probing of diagnostic light such as coherent transition radiation or the bunch wakefields with sub-picosecond time resolution. Potential applications in shot-to-shot, non-interceptive diagnostics continue to be pursued for live beam monitoring of collider and pump-probe experiments. Related to our developing work with electro-optic imaging, we present results on single-shot electro-optic sampling of the coherent transition radiation from bunches generated at the A0 photoinjector.

Comments: 3 pp

Subjects: **Accelerator Physics (physics.acc-ph)**

Report number: FERMILAB-CONF-11-414-APC

Cite as: [arXiv:1205.0800](#) [physics.acc-ph]

(or [arXiv:1205.0800v1](#) [physics.acc-ph] for this version)

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[v1] Thu, 3 May 2012 19:44:11 GMT (2437kb)

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