

Versatile Photoelectron Sources for Ultra-low Intrinsic Emittance Electron Beams

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Laser technologies for generating sub-picosecond pulses at different wavelengths have propelled photocathodes to the forefront of electron sources. By leveraging nanofabrication techniques, photocathode research now promises to deliver sources for beams with sub-micron transverse dimensions and sub-nanometer emittances. The techniques for fabricating these sources are versatile, allowing them to be combined with parallel advances in photocathode research. In this talk I will present recent work in fabricating sub-micron photocathodes and briefly discuss theoretical work motivating further work.

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