Abstract Submitted for the DNP11 Meeting of The American Physical Society

Characterization and development of photocathodes using laser induced time-of-flight spectroscopy E. RAMIREZ-HOMS, University of Texas at El Paso, D. VELAZQUEZ, L. SPENTZOURIS, J. TERRY, Illinois Institute of Technology — The emittance of a beam generated for use in particle accelerators is a critical performance parameter. In order to achieve peak performance, intrinsic transverse emittance on the order of 0.1mm-mrad is required. This initial emittance is about an order of magnitude lower than provided by today's sources. Several important efforts are being made to reach this lower emittance with cathode design modifications. A photocathode design study and implementation of experimental techniques for the characterization is proposed and discussed.

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Date submitted: 01 Aug 2011

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