

## DEVELOPING A CAMERA-BASED 3D MOMENTUM IMAGING SYSTEM CAPABLE OF 1MHITS/S

DUKE A. DEBRAH, *Chemistry, Wayne State University, Detroit, MI, USA*; GABRIEL A. STEWART, GIHAN BASNAYAKE, *Chemistry, Wayne State University, Detroit, MI, USA*; WEN LI, *Department of Chemistry, Wayne State University, Detroit, MI, USA*.

A camera-based three-dimensional (3D) imaging system with a superb time-of-flight (TOF) resolution and multi-hit capability was recently developed for electron/ion imaging [Lee et al. *J. Chem. Phys.* 141, 221101 (2014)]. In this work, we report further improvement of the event rate of the system by adopting an event-driven camera, Tpx3Cam, for detecting the 2D positions of electrons, while a high-speed digitizer provides highly accurate ( $\sim 30$  ps) TOF information for each event at a rate approaching 1 Mhits/sec.