Abstract Submitted
for the DAMOP20 Meeting of
The American Physical Society

Developing a camera-based 3D momentum imaging system capable of 1 Mhits/s.[1] DUKE DEBRAH, GABRIEL STEWART, GIHAN BASNAYAKE, Wayne State Univ, ANDREI NOMEROTSKI, Brookhaven National Laboratory, PETER SVIHRA, University of Manchester, SUK KYOUNG LEE, WEN LI, Wayne State Univ — 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 (∼30ps) TOF information for each event at a rate approaching 1 Mhits/sec..

[1]U.S. Department of Energy (DOE), Office of Science, Basic Energy Sciences (BES)

Duke Debrah
Wayne State Univ

Date submitted: 02 Feb 2020 Electronic form version 1.4