

### 3D MOMENT IMAGING WITH A USB3 OSCILLOSCOPE

YASASHRI RANGANATH RANATHUNGA, *Chemistry Department, Wayne State University, Detroit, MI, USA*; TEMITAYO OLOWOLAFE, *Chemistry, Wayne State University, Detroit, MI, USA*; SUK KYOUNG LEE, *Chemistry Department, Wayne State University, Detroit, MI, USA*; WEN LI, *Department of Chemistry, Wayne State University, Detroit, MI, USA*.

In 1997 Eppink and Parker introduced velocity map imaging (VMI) based on the ion imaging technique developed by Chandler and Houston. This method has been as a high-resolution tool to study the detailed dynamics of chemical or physical processes. This approach can measure the momenta and angular distributions of charged particles (ions/electrons) released in these processes and provide detailed information about the potential energy surfaces. Over the years, this technique has been evolving; now it can do direct three-dimensional measurements with multi-hit capability. In this work, we report further improvement to the 3D-VMI setup. With the conventional digitizers employed previously replaced by a low-cost USB oscilloscope, VMI has become more cost-effective, simpler and even portable. The performance of this new VMI apparatus was characterized in a study of laser desorption ionization of 2,5-dihydroxybenzoic acid.