Abstract Submitted
for the DNP16 Meeting of
The American Physical Society

Simulations for a Multi-Reflection Time-of-Flight Mass Spectrometer at the University of Notre Dame[1] JAMES M KELLY, University of Notre Dame, CATHERINE NICOLOFF, Wellesley College, BRADLEY E SCHULTZ, MAXIME BRODEUR, University of Notre Dame — A multi-reflection time-of-flight mass spectrometer (MR-ToF) has been built at the University of Notre Dame. The MR-ToF will provide isobarically pure ion bunches to experiments at Argonne National Laboratory's (ANL) future "N = 126 Factory", a unique facility capable of producing very neutron-rich nuclei around the N = 126 shell closure. Prior to its installation at ANL, the MR-ToF is being evaluated in an off-line test setup consisting of a surface ion source, a Bradbury-Nielsen Gate (BNG) to chop the beam before injection into the MR-ToF, and a micro-channel plate detector to record the resulting bunches. The series of simulations investigating the feasibility of this bunching method, as well as the injection of these bunches into the MR-ToF, will be presented.

[1]This work is supported by the National ScienceFoundation.

James M Kelly
University of Notre Dame

Date submitted: 01 Jul 2016 Electronic form version 1.4