

Abstract Submitted
for the APR14 Meeting of
The American Physical Society

The GA PEAcH: A Portable Electrostatic Accelerator¹ PATRICK MCCLANAHAN, ASHLYN BURCH, QUINTORIOUS BIVINS, MEGAN GARRETT, ZACHARY JORDAN, RHETT ROBERTS, BENJAMIN THOMAS, SHARON CARECCIA, ROMMIE JOHNSON, RALPH FRANCE III, Georgia College & State University, K.C. MCGILL, JR., MARK SPRAKER, University of North Georgia — In collaboration with the University of North Georgia, we are constructing a portable electrostatic ion accelerator at Georgia College. It will use a model 2JA066280 R.F. ion source from National Electrostatics Corporation to produce ions from gaseous elements and a model AU-100N1 100 kV power supply to produce the accelerating voltage. The linear accelerator will be less than 2 meters in length. The beam energy will be roughly determined by the acceleration voltage. Low energy proton-induced fusion reactions are envisioned for both pure and applied physics research. One potential application is to use the 17 MeV γ -ray from the ${}^7\text{Li}(p,\gamma){}^8\text{Be}$ reaction to help calibrate γ -ray detectors at the Hi γ s facility.

¹Supported by the Georgia College Faculty Research Grant Program.

Ralph France III
Georgia College & State University

Date submitted: 10 Jan 2014

Electronic form version 1.4