Abstract Submitted
for the GEC07 Meeting of
The American Physical Society

Sorting Category: 1.11 (E)

Positron scattering from helium CASTEN MAKOCHEKANWA, ADRIC JONES, PETER CARADONNA, STEPHEN BUCKMAN, JAMES SULLIVAN, Australian National University, CENTRE FOR ANTIMATTER MATTER STUDIES COLLABORATION — The Australian Positron Beamline Facility was built to provide a source of positrons for scattering experiments. Recently, the first high resolution positron beam was produced and has been used to measure positron scattering cross sections from helium. The beamline is based on techniques developed by Cliff Surko at UCSD and uses a muffer gas trap in a strong magnetic field to trap, cool and form the positrons into a pulsed beam. A beam of 150 meV energy resolution has been obtained and was used to measure the absolute differential positron scattering cross section for helium, below the positronium formation threshold. This is the first time that these measurements have been made and the results will be compared to state of the art theoretical calculations, as a strict test of their validity. Plans for further work using this facility will also be outlined.

[X] Prefer Oral Session
[ ] Prefer Poster Session

James Sullivan
jps107@rsphysse.anu.edu.au
Australian National University

Date submitted: 15 Jun 2007 Electronic form version 1.4