

Abstract Submitted
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Low energy positron scattering from helium atoms. JAMES SULLIVAN, GERARD ATKINSON, STEPHEN BUCKMAN, Australian National University, CENTRE FOR ANTIMATTER MATTER STUDIES COLLABORATION — A new experiment has been constructed to conduct positron-based research. The Australian Positron Beamline Facility is a new positron beamline built on buffer gas trap technology, developed at UCSD by the Surko group [1]. This beamline is intended for use in both atomic and molecular physics and materials science. For atomic and molecular physics, specifically the study of low energy positron scattering, it makes use of the superior energy resolution offered by the Surko trap system as well as the analysis techniques developed to measure scattering in a strong (500 gauss) magnetic field. The design and construction of the beamline will be outlined as well as the operation of the trap and beam system. The first experiments on the facility will be for low energy positron scattering from helium, providing high quality data to test the best available theoretical calculations. Progress towards the first scattering measurements will be presented, along with the plans for future experimental endeavour. [1] Murphy and Surko, Phys. Rev. A **46**, 5696 (1992)

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