

Abstract Submitted
for the DPP14 Meeting of
The American Physical Society

Techniques to improve plasma properties for antihydrogen production in ALPHA T. THARP, J. FAJANS, University of California, Berkeley, H. BOSTOCK, N. MADSEN, Swansea University, W. BERTSCHE, University Of Manchester And The Cockcroft Institute, T. FRIESEN, Aarhus University, ALPHA COLLABORATION — Spectroscopic studies of antihydrogen in ALPHA depend on the reliable production of antihydrogen atoms in quantities large enough to achieve the necessary statistics for precision studies. The efficient production of anti-hydrogen requires the simultaneous trapping of antiproton and positron populations with high densities and very low temperatures. Presently, we report on two recent developments in the ALPHA-2 apparatus: (1) Initial experiments have been performed to identify multiple regimes of plasma compression using electrostatic rotating wall boundary conditions, and (2) a system of cryogenic flaps is being developed to actively close off various sources of radiative heating in order to achieve colder plasma temperatures.

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Date submitted: 11 Jul 2014

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