Abstract Submitted
for the DAMOP16 Meeting of
The American Physical Society

Progress in Laser Cooling of Antihydrogen C. HAMLEY, G. GABRIELSE, Harvard University, M. GEORGE, York University, B. GLOWACZ, Jagiellonian University, D. GRZONKA, Forschungszentrum Julich, E. HESSELS, York University, N. JONES, Harvard University, S.A. LEE, Colorado State University, K. MARABLE, M. MARSHALL, C. MEISENHELDER, T. MORRISON, Harvard University, W. OELERT, Forschungszentrum Julich, C. RASOR, S.R. RONALD, Colorado State University, T. SEFZICK, Forschungszentrum Julich, T. SKINNER, C. STORRY, York University, E. TARDIFF, Harvard University, M. WEEL, York University, D. YOST, Colorado State University, M. ZIELINSKI, Jagiellonian University, ATRAP COLLABORATION — Precision spectroscopy of antihydrogen promises to be one of the most stringent tests to date of CPT symmetry. Multiple groups at CERN's Antiproton Decelerator facility are endeavoring to perform precision spectroscopy on the 1S-2S two photon transition in antihydrogen for comparison to hydrogen precision measurements. For trapped antihydrogen the necessary overlapped Penning and Ioffe-Pritchard traps have a large bias and gradient contributing to significant spread due to Zeeman shifts as the antihydrogen orbits in the magnetic trap. The ATRAP collaboration is working on laser cooling of antihydrogen on the 121 nm Lyman alpha line (1S-2P) in order to reduce this spread for more precise 1S-2S spectroscopy. Here we report on the ATRAP collaboration's progress in laser cooling of antihydrogen.

Christopher Hamley
Harvard University

Date submitted: 29 Jan 2016 Electronic form version 1.4