Abstract Submitted
for the APR12 Meeting of
The American Physical Society

Results of a Search for Axion-Like Particles using the Yale Microwave Cavity Experiment ANA MALAGON, O.K. BAKER, J.L. HIRSHFIELD, Y. JIANG, G. KAZAKEVITCH, S. KAZAKOV, M.A. LAPOINTE, A.J. MARTIN, S. SHCHELKUNOV, P.L. SLOCUM, A. SZYMKOWIAK, Yale — Light neutral bosons with couplings to two photons are allowed in several extensions to the widely accepted Standard Model. We present results from a search for such axion-like particles (ALPs) using a cylindrical Cu resonant cavity in a 7 T axial magnetic field. The present experiment is sensitive ($g>10^{-7}$/GeV) to couplings between a scalar 10^{-4} eV ALP and two microwave photons. We will discuss the existing measurements as well as modifications that are planned for detection of pseudoscalar ALPs.

Ana Malagon
Yale

Date submitted: 05 Jan 2012 Electronic form version 1.4