Abstract Submitted
for the 4CF15 Meeting of
The American Physical Society

Lyman-alpha Source for Laser Cooling Anti-Hydrogen CORY RASOR, None — Measuring the 1s $\rightarrow$ 2s transition frequency in the anti-hydrogen atom will give insight into the behavior of anti-matter during interactions with light. The necessary spectroscopy to perform such a measurement must be done near the recoil limit of the atom in order to minimize uncertainties. Creating a laser source to conduct the required cooling at the Lyman-α wavelength, 121.57nm, is the focus of my talk. This source is generated by starting with a Titanium Sapphire laser tuned at 730nm, then is frequency doubled using an LBO crystal with proper phase matching, and finally frequency tripled using a mixture of Krypton and Argon gas. We currently project about 100nJ of energy per 10ns pulse.

Cory Rasor
None

Date submitted: 11 Sep 2015 Electronic form version 1.4