

Abstract for an Invited Paper  
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### **Rydberg atoms in Antihydrogen Experiments<sup>1</sup>**

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Recent experiments have observed the formation of antihydrogen atoms by mixing antiprotons and positrons. In most experimental configurations, the antihydrogen is formed through three body recombination while an antiproton traverses a cold positron plasma. These experiments take place with an unusual set of parameters. In particular, the atoms are formed in strong magnetic fields and the positron plasma is much colder than usual plasmas. The anti-atoms that are formed have some unexpected properties. In this talk, I will present the results simulations and measurements that give insight into the kinds of atoms that are formed. The focus will be on properties that might affect the chances of trapping these exotic atoms.

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