Canadian Association of Physicists
Association canadienne des physiciens et physiciennes

Contribution ID: **2197** Type: **Oral Competition (Graduate Student) / Compétition orale (Étudiant(e) du 2e ou 3e cycle)**

Antihydrogen 1S-2P Spectroscopy (G)*

Wednesday 13 June 2018 08:15 (15 minutes)

Antihydrogen and hydrogen are simple atomic systems which provide an ideal platform to study differences between antimatter and matter; current theories predict that the universe should be composed of equal quantities of matter and antimatter but cosmological observations place the ratio of the two near 10^-4. The ALPHA (Antihydrogen Laser PHysics Apparatus) collaboration at CERN studies the atomic structure of antihydrogen through electromagnetic interactions. The second generation of experimental hardware used by ALPHA, called ALPHA2, produces antihydrogen by mixing samples of antiprotons and positrons, using a Penning trap, inside a minimum B trap; the antiatoms that have a low enough kinetic energy can the confined and studied. This talk will report on recent measurements related to our ongoing studies of 1s-2p spectroscopy of antihydrogen.

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Session Classification: W1-2 Strategies and Good Practices for Teaching Atomic, Molecular and Optical Physics (DAMOPC/DPE) | Stratégies et bonnes pratiques d'enseignement de la physique atomique, moléculaire et optique (DPAMPC/DEP)

Track Classification: Division of Atomic, Molecular and Optical Physics, Canada / Division de la physique atomique, moléculaire et photonique, Canada (DAMOPC-DPAMPC)