Canadian Association of Physicists
Association canadienne des physiciens et physiciennes

Contribution ID: **4519** Type: **Oral Competition (Graduate Student) / Compétition orale (Étudiant(e) du 2e ou 3e cycle)**

(G*) Development of a novel magnetic trap towards an (anti)hydrogen fountain in the HAICU experiment.

Monday 27 May 2024 17:00 (15 minutes)

The development of new techniques to trap and cool antimatter is of interest for fundamental studies that use antimatter as a testbed for new physics. The HAICU experiment, which is in its initial phase at TRIUMF, ultimately aims to cool and trap antihydrogen in such a way that quantum effects used in the precision measurements of normal atoms could also be exploited for measurements on antihydrogen. One such precision measurement technique is the "atomic fountain", which is the focus of HAICU. Following a brief overview of the HAICU experimental setup, this talk will focus on the technical challenges and procedures associated with the construction and testing of a "Bitter"style electromagnet that will be used to confine neutral hydrogen in the first stage of the experiment.

Keyword-1

Precision Measurements

Keyword-2

Nuclear and Particle Physics

Keyword-3

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Track Classification: Technical Sessions / Sessions techniques: Nuclear Physics / Physique nucléaire (DNP-DPN)