

# Synthesis of antihydrogen atoms in a CUSP trap

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ASACUSA collaboration has been making a path to realize high precision microwave spectroscopy of ground-state hyperfine transitions of antihydrogen atom in flight for stringent test of the CPT symmetry. Recently, we have succeeded in synthesizing our first cold antihydrogen atoms employing a CUSP trap.

It is expected that synthesized antihydrogen atoms in the low-field-seeking states are preferentially focused along the cusp magnetic field axis whereas those in the high-field-seeking states are not focused, resulting in the formation of a spin-polarized antihydrogen beam.

We report the recent results of antihydrogen atom synthesis and beam production developed with the CUSP trap.

**Primary author:** Dr KURODA, Naofumi (University of Tokyo)

**Co-authors:** Prof. MOHRI, Akihiro (RIKEN); Dr JUHÁSZ, Bertalan (SMI); Mr KIM, Chanhyoun (University of Tokyo); Prof. WIDMANN, Eberhard (SMI); Prof. LODI-RIZZINI, Evandro (INFN Brescia); Dr IMAO, Hiroshi (RIKEN); Dr TORII, Hiroyuki A. (University of Tokyo); Dr HIGAKI, Hiroyuki (Hiroshima University); Mr TANAKA, Kazuo (University of Tokyo); Mr MICHISHIO, Koji (Tokyo University of Science); Mr FUJII, Koki (University of Tokyo); Prof. VENTURELLI, Luca (INFN Brescia); Dr LEALI, Marco (INFN Brescia); Dr CORRADINI, Maurizio (INFN Brescia); Ms OHTSUKA, Miki (University of Tokyo); Dr ZURLO, Nicola (INFN Brescia); Dr MASCAGNA, Valerio (INFN Brescia); Prof. YAMAZAKI, Yasunori (RIKEN); Dr KANAI, Yasuyuki (RIKEN); Dr MATSUDA, Yasuyuki (University of Tokyo); Prof. NAGASHIMA, Yasuyuki (Tokyo University of Science); Dr ENOMOTO, Yoshinori (RIKEN); Dr NAGATA, Yugo (RIKEN)

**Presenter:** Dr KURODA, Naofumi (University of Tokyo)

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