# Antihydrogen Production in Positron Beam Ion Trap

Takahisa Itahashi[1]

[1] *Department of Physics, Graduate school of Science, Osaka University, Toyonaka, Osaka 560-0043, Japan*

The electron beam ion trap (EBIT) is widely applied for an accumulation of heavy ions such as Uranium and various atoms. For various fundamental research of antimatter world a production of antihydrogen is the exact starting point. Among many proposals for making an antihydrogen beam EBIS like ion production will obviously open a new physics in next era of anti-world.

With advent of new technologies such as high energy photon source, positron production is not so difficult as to generate an intense beam which could produce a deep positive potential for storing a large number of antiprotons. Since the successful experiments on the synthesis of antihydrogen atoms performed on the LEAR antiproton storage ring at CERN, fundamental physics research has been continued so far and ASACUSA project has made a progress in atomic and elementary particle physics as well as a theoretical physics of QED world. In order to investigate more precisely by using much more antimatter we should cope with several technological difficulties for its production. The positron beam ion trap might be a great step to expand the antimatter world. This will be a introduction of a proposal for making the highest rate of the antihydrogen production[1,2].

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[2] I.Meshkov and A.Skrinsky, Nucl.Instr. Meth. A 379 41(1996) 41