

Initial Beam Parameter

An Antiproton Deceleration Device for the GBAR Experiment at CERN

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A prototype, working with a 50 keV beam, has been tested at CSNSM (Orsay, France) to pursue the study on the deceleration principle. This experimental apparatus is composed of a Penning discharge source whose acceleration potential can be set to 50 kV. The resulting energy of the exiting particles is 48 keV with an energy spread of 250 eV. This spread is mainly due to the discharge potential applied to generate ions and to the fluctuating gas pressure inside the plasma chamber. The geometrical emittance of such a source is roughly 25π mm.mrad at 48 keV. In addition to H^+ , H_2^+ ,