Beam interaction measurements with a Retarding Field Analyzer*

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A Retarding Field Analyzer (RFA) was designed and inserted in a drift region of a magnetic transport section of the High Current Experiment (HCX). It measures ions or electrons resulting from the beam interaction with the background gas and walls. The ions are expelled during the beam by the space-charge beam potential, and the electrons are expelled mainly at the end of the beam, when the beam potential decays. The measured electrons have a Maxwellian energy distribution and the measured ions have an energy distribution that gives the information of the beam profile, details will be presented and discussed.

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