

Status of the Precision High Voltage Divider for CRYRING

Monday, 19 September 2016 18:00 (2 hours)

To cool ion beams in the heavy ion storage ring CRYRING and thus achieve a low momentum spread, CRYRING features an electron cooler, where the ion beam is superimposed with a monoenergetic electron beam. In order to calculate the velocity of the electrons and therefore of the cooled ion beam, it is mandatory to continuously monitor the cooler voltage with a high-precision divider.

For that purpose a high-precision voltage divider for voltages up to 35 kV is currently being constructed in Münster, which will be similar to the ultrahigh-precision voltage dividers in use at the KATRIN experiment. The precision of the divider will be in the low ppm range and will, if other sources of systematic uncertainties like e.g. space charge effects are under control, allow for measurement uncertainties in the $< 10e-5$ region.

This project is supported by BMBF under contract number 05P15PMFAA.

D. Winzen thanks HGS-HIRe for FAIR for funding his scholarship.

Primary author: HANNEN, Volker (Institut für Kernphysik, Uni Münster)

Co-authors: Prof. WEINHEIMER, Christian (Institut für Kernphysik, University of Münster); Mr WINZEN, Daniel (Institut für Kernphysik, WWU Münster); Mr ORTJOHANN, Hans-Werner (Institut für Kernphysik, University of Münster); Mr REST, Oliver (Institut für Kernphysik, University of Münster); Prof. NOERTERSHAEUSER, Wilfried (TU Darmstadt)

Presenter: HANNEN, Volker (Institut für Kernphysik, Uni Münster)

Session Classification: Poster Session and Coffee