

ADVANCED DESIGN OF THE FAIR STORAGE RING COMPLEX

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Abstract

The preparation of high quality secondary beams in the new FAIR facility is founded in a system of three storage rings equipped with various beam cooling systems. Depending on the beam species, which can be either rare isotope beams or antiprotons, the storage rings have different tasks such as pre-cooling, accumulation or deceleration of secondary beams. Operation with stable highly charged ions is another mode of the storage rings. The ion optical design has been refined in order to have optimum performance for the planned applications. Beam cooling systems for the storage rings were specified in detail and a hardware development program has been launched. In parallel, the civil engineering design and the design of the technical infrastructure for the FAIR project is progressing.

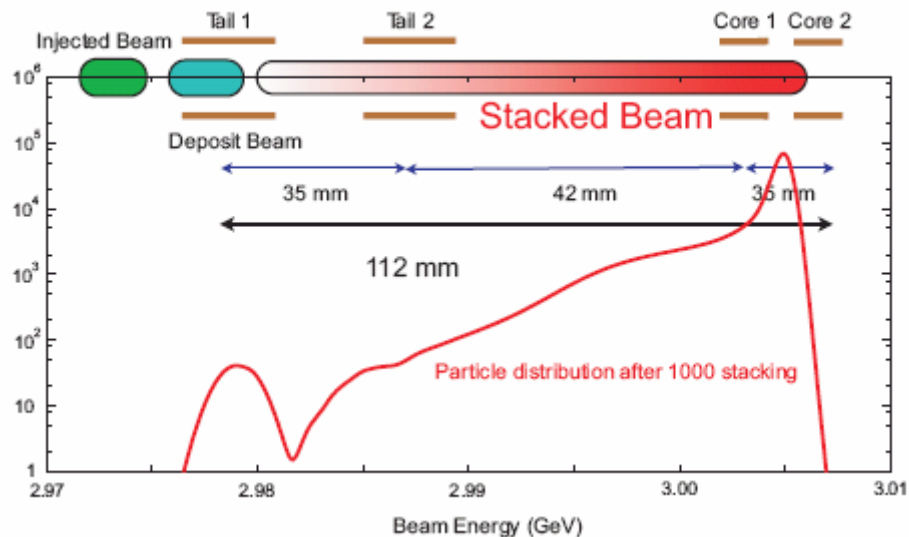


Figure 2: Geometry of the electrode system used in a simulation of accumulation in the RESR. The distribution after the accumulation of 1000 injections is shown.