

Development of the injection - and extraction systems for the upgrade of SIS18

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Abstract

SIS18 will serve as booster synchrotron for the proposed International Accelerator Facility FAIR at GSI. The aim is to provide high intensity proton and heavy ion beams of e.g. U^{28+} -ions with a repetition rate of 2.7 – 4 cycles per second for injection into SIS100.

The operation with low charge state heavy ions requires modifications of the injection and extraction systems. The goal is to minimize beam loss and thereby ion induced gas desorption during the injection and extraction processes. In order to increase the acceptance and for an injection at the reference energy it is necessary to build and install a new electrostatic inflector septum and a new inflector magnet.

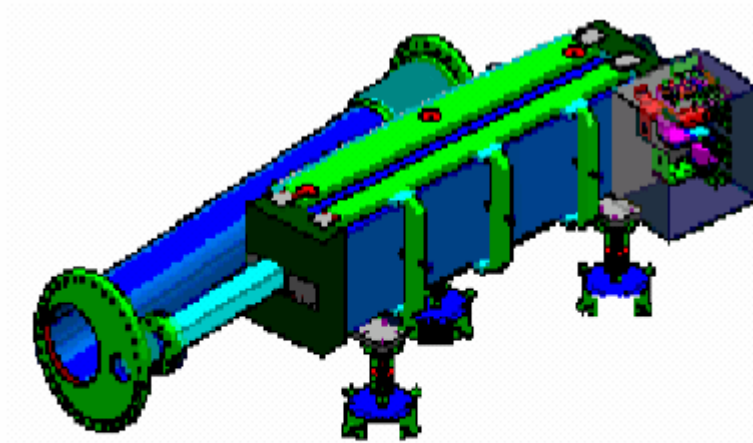


Figure 1: Sketch of the new inflector magnet (right) next to the SIS18 beam pipe (left).