

Design Study of the Injection System of RIKEN Superconducting Ring Cyclotron, S. FUJISHIMA, A. GOTO, K. IKEGAMI, T. KAWAGUCHI, J.W. KIM, T. KUBO, T. MITSUMOTO, H. OKUNO, Y. TANAKA, T. TOMINAKA, and Y. YANO, RIKEN, Japan - In the RI beam factory project at RIKEN, the Superconducting Ring Cyclotron (SRC) is designed to boost the energy of the ion beams from the existing RIKEN Ring Cyclotron (RRC) up to 400 MeV/u for light heavy ions such as carbon and 150 MeV/u for very heavy ions such as uranium. The beam from the RRC is injected into the central region of the SRC and is guided to the 1st equilibrium orbit. The transport system for injection consists of three bending magnets (BM1, BM2, BM3), two magnetic inflection channels (MIC1, MIC2) and an electrostatic inflection channel (EIC). The three bending magnets and MIC1 are required to use superconducting coils to achieve the required fields. The sizes of the elements must be small enough so that it can be placed in the limited available space of the SRC central region. In the conference, we will describe the status of the design study of the superconducting elements and orbit dynamics.