

A High Duty Foil Stripper System in the Injection Line to the SIS, J. GLATZ, GSI Darmstadt - In order

to obtain high end energies from the heavy ion synchrotron SIS at GSI a carbon foil is used in the injection line. It increases the charge states of beams from the Unilac by a factor of up to 2.5. There are conflicting requirements on the stripper and the beam:

- stripper thickness high enough to reach the beam charge state equilibrium
- beam spot sizes small to minimize transverse beam growth by scattering
- beam spot area large and stripper thin to avoid excessive foil heating (by beams of up to 0.4 pA).

A 'virtual' beam spot widening can be achieved by sweeping the beam over the foil within one beam pulse duration. To this purpose a system has been designed using 3 kicker magnets with field ramps of 0.2 T/100 μ s. Ion optical layout, beam dynamics and equipment of the stripping section will be discussed as well as the beam-stripper interaction.