

Beam Dynamics Calculations for the Simultaneous Acceleration of Ions with Different Charge to Mass Ratios in a RFQ*, H. DEITINGHOFF, D. LI, M. SAUER, Institut für Angewandte Physik, Univ. Frankfurt/M. - Radio Frequency Qadrupole (RFQ) - accelerators are well known to capture, bunch, accelerate or transport ion beams very efficiently even with high space charge forces and at low ion energies due to the strong electrical quadrupole focusing. In case of direct injection into the RFQ different charge states or masses are offered simultaneously besides the design charge to mass ratio. Particle dynamics calculations have been performed to study the behaviour of such mixed beams in the RFQ. Examples of resulting changes e.g. in beam currents or beam quality at the output, resp. will be discussed.

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