

RFQ-Accelerators for Radioactive Ion Beams,
D. HABS, O. KESTER, T. SIEBER, Sektion Physik,
Lmu München, Am Coulombwall 1, 85748 Garching,
Germany, A. SCHEMPP, Universität Frankfurt, Robert
Mayer-Str. 2-4, 60325 Frankfurt, Germany - For the REX-
ISOLDE LINAC at CERN a 4-rod RFQ is built up and
tested at Munich. This RFQ has a length of 3 m and will
accelerate neutron rich ions from 5 keV/u to 300 keV/u. It
operates at a resonant frequency of 101.28 Mhz with a
duty-cycle of 10%. The transmission has been calculated
with PARMTEQ to 98%. In this paper the mechanical
characteristics of the REX-RFQ and the results of the low-
level- and power-rf-measurements will be presented.
Furthermore for the Munich fission fragment accelerator
investigations are on progress, where we want to show,
that IH-type RFQs like the new GSI high-current-injector
RFQ (resonance frequency: 36 MHz) [1], operating at
frequencies around 100 MHz, can be used as an alternative
to the well tested and reliable 4-rod-RFQ structure. In the
IH-RFQ, the quadrupole electrodes are fixed with supports
in an interdigital arrangement in a cavity which is excited in
the TE111 Mode. Advantages of this structure might be a
high efficiency, indirect electrode cooling, easy
manufacturing and the possibility to use finger drift-tubes.
The IH-RFQ of the Munich fission fragment accelerator will
operate at 101 MHz and accelerate ions with $A/q = 6.3$ to
about 300 keV/u. The particle dynamics will be similar to
the REX-RFQ. MAFIA calculations and first
measurements on a 0.75 m model of the IH-RFQ will be
presented.

[1] U. Ratzinger, Proc. of LINAC96, CERN, Geneva