

The Design of RFQ Accelerators with High Duty Factors*, H. VORMANN, A. SCHEMPP, U. BEISEL, O. ENGELS, Institut Für Angewandte Physik, Johann Wolfgang Goethe Universität, Frankfurt Am Main, Germany - For applications with high average beam currents or radioactive beams RFQ-accelerators have to work with high duty factors. Whereas the use of light ions typically requires high frequencies, lower frequencies are chosen for the acceleration of heavy ions. A high power cavity of an RFQ-resonator with a high frequency of 211 MHz has been built and tested. A low frequency resonator (36 MHz) for the acceleration of U^{4+} has been built and measured at low power level. The design of the RFQ structures, results of optimizations with respect to impedance and field quality and the status of the work on RFQ-accelerators will be discussed.

* Work supported by BMBF.