

Electron Cooling Experiments at the Heidelberg Heavy Ion Storage Ring TSR,
M. BEUTELSPACHER, M. GRIESER, R.V. HAHN,
R. REPNOW, D. SCHWALM, G. WISSLER and
A. WOLF, MPI Heidelberg - The electron beam in the TSR is used as a beam cooling device and as an electron target. The transverse temperature of the electron beam, which is of importance for recombination experiments, is reduced by adiabatic expansion of the electron beam. In the cooler an adiabatic expansion factor of approximately 25 was realized. The longitudinal friction force on heavy ions was measured using the electron cooler and induction accelerator of the TSR. Using the beam profile monitor transverse electron cooling was investigated for different ion species.