

First Experiments on Stochastic Cooling of Heavy Ion Beams at the ESR, B. FRANZKE, F. NOLDEN, A. SCHWINN, GSI Darmstadt; F. CASPERS, CERN - At the experimental storage ring ESR of GSI, one half of the foreseen pick-up and kicker tanks are installed, the rest will follow in 1998. First experimental tests of the stochastic precooling system have been performed since April 1997. Longitudinal Palmer cooling was successfully demonstrated. E-folding cooling times of 8.5 seconds were determined with carbon beams. No significant dependence of the cooling time on the number of particles was observed during these first tests. This may be explained by a low signal to noise ratio of the signals obtained from the pick-ups in the present configuration. With heavy ions in higher charge states, faster cooling times are expected. The experiments are an important step towards realization of experiments with radioactive fragments, e.g. in order to measure nuclear masses or half-lives of stripped exotic ions.