

DOSE RATES DURING EXPERIMENTS WITH HEAVY IONS  
(ENERGY UP TO 20 MeV/ $\mu$ )

J. G. Festag  
Gesellschaft für Schwerionenforschung mbH  
Planckstraße 1  
6100 Darmstadt 11  
F.R. Germany

The UNILAC (universal linear accelerator) at GSI, Darmstadt accelerates heavy ions - mainly argon to uranium - up to energies till 20 MeV/ $\mu$ .

The resulting dose rates during the normal course of the nuclear chemistry and nuclear physics experiment are only estimated in a rough way or calculated by simple methods. Therefore it is necessary to measure the dose rates in order to compare experimental results with the "calculations".

The measurements are done by "rem"-counters, activations foils and G.-M tubes with filters for different combinations of projectile and targets.

More than 90 % of the dose rate are coming from neutrons; therefore angular distributions of neutrons were measured. The obtained data are within an order of magnitude in agreement with the "calculations". The results may be useful for shielding calculations at heavy ion accelerators.