

A. E. Taylor

Report on research work with the
cyclotron at Gustaf Werner's
Institute for Nuclear Chemistry
in Uppsala

A proton beam has now been extracted from the cyclotron. There are small adjustments remaining to be made which should increase the beam still further from the value of 10^7 protons per second obtained on first switching on. An air lock and long vacuum tube have yet to be made in order to bring the proton beam into the experimental laboratory without undue loss. It is also proposed to build an electrostatic focussing unit similar to the one used at Harwell.

The results obtained when determining the internal proton spectrum have been briefly summarized in the accompanying report, which also gives a brief description of the extraction problem. In view of the importance of the variation in the spectrum with cyclotron conditions, more investigations along these lines are planned.

A further determination of the difference between the deuterium and hydrogen cross section has been made at 119 MeV, giving a value of 27.2 ± 2.4 mb.

Uppsala, September 30th, 1953.

A. E. Taylor.