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(See Feature Set Intro. No.296)

BIRMINGHAM PROTON SYNCHROTRON.

Under the supervision of Professor Marcus Olyphant, F.R.S., members of the Physics Department of the Birmingham University are constructing what will be one of the largest proton synchrotrons in the world. It will be used for accelerating protons to an energy of 1,300,000,000 electron-volts for use as projectiles in the study of nuclear structure.

It is hoped that, with the aid of the synchrotron, it will be possible to find some clue to the force which holds together the particles in the nucleus of an atom. Mesons will be produced in the collision of these energetic protons with the atomic nuclei. These mesons are particles with weights intermediate between that of the proton and the electron.

The proton synchrotron is to be used for fundamental research in nuclear physics and cannot have immediate uses in applied science.

D.50196. (19). The nuclear magnetic moment method of measuring a magnetic field strength in the synchrotron magnet at any instant during the accelerating cycle. Our picture shows Mr. Leslie Allen working the controls which balance the receiver through which comes the pulse indicating the resonance between frequency and magnetic field. Hydrogen nuclei in a small sample of water provide the signal, which shows on the screen (top centre). Bottom left of the picture is the test magnet used for providing a magnetic field for checking the apparatus. (6/50).