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NOTE ON THE HISTORY OF THE ELECTRON SYNCHROTRON

In May 1946 the synchrotron group was formed at T.R.E. They converted a 4 MeV betatron at Woolwich Arsenal to an 8 MeV electron synchrotron by attaching a wire-cage resonator to the outside of the donut; this was demonstrated in August 1946 (see GOWARD, F.K., BARNES, D.E. "Experimental 8 MeV synchrotron for electron acceleration". Letter to Nature v. 158, p.413, 21 Sept 1946).

This machine was moved to Malvern and converted to 14 MeV by passing D.C. as well as A.C. through the coils; this required new coils and air cooling.

The first British synchrotron designed and made as such ran at 30 MeV and had a rectangular magnet; it operated at Malvern in Oct 1947. See FRY, D.W., GALLOP, J.W., GOWARD, F.K., and DAIN, J. "30 MeV electron synchrotron" Nature v.161 pp 504-506 (3rd april 1948). There was a good deal of newspaper publicity for the synchrotron work in the middle of 1948.

See also: JAY, K.E.B., Harwell, the British Atomic Energy Research Establishment (H.M.S.O. 1952) pp 52-3.

GOWARD, F.K., LAWSON, J.D., WILKINS, J.J., GARRUTHERS, R. The design of electron synchrotrons. Proc. Instn. Elec. Engrs., v.97, Pt I, pp 320-333 (November 1950).

FRY, D.W., DAIN J., WATSON, H.H.H., PAYNE, H.E. The design and operation of a 30 MeV synchrotron. Proc. Instn. Elec. Engrs., v.97, Pt I, 305-319 (Nov. 1950).

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