0 0 1 0 1 2 0 5 4 6 7

UCRL 2467
Abstract

UNIVERSITY OF
CALIFORNIA

Radiation Laboratory

FOR REFERENCE

NOT TO BE TAKEN FROM THIS ROOM

BERKELEY, CALIFORNIA

Correlation of Engineering Design With Preliminary Operational Experience of the Bevatron Accelerator, DICK A. MACK, Radiation Laboratory, University of California, Berkeley, California, January, 1954

The precise relationship required between the frequency of the accelerating voltage and the magnetic field guiding particles accelerated in a high-energy proton synchrotron presents a challenging design problem to the electronic engineer. In the University of California Bevatron, it has been necessary to develop a number of circuits whose performance follows a prescribed function to within better than one-tenth of one per cent. Control and monitoring of the acceleration cycle is carried on at a control area suitably shielded from high-energy radiation.

Construction of the Bevatron has recently been completed. Early operational experience will be discussed in the light of original design criteria.

This work was done under the auspices of the Atomic Energy Commission.

To Be presented At IRE meeting in Portland, Oregon, May, 1954