

INTRODUCTION

The conference whose minutes are reported in this volume was the fourth in a series, previous conferences having been held in 1961 and 1962 at Brookhaven National Laboratory and in 1963 at Yale University. These conferences have been informal in nature, stressing primarily the progress made in the design of proton linear accelerators. This conference was sponsored by the Midwestern Universities Research Association and supported by the U. S. Atomic Energy Commission.

The interest in these conferences has grown appreciably, as evidenced by the increased participation and number of contributions. Starting from 20 participants and 17 contributions in 1961, we have reached a level of 96 participants and 54 contributions. The participants at this conference represented 24 institutions coming from seven different countries. Even with this size, it was possible to preserve informality and to allow speakers sufficient time to make their presentations and to hold adequate discussion. Fortunately, it was not necessary to turn away any worthy contribution or to hold concurrent sessions.

The conference was held at an especially opportune time for linac enthusiasts. In the U. S. there were three proposals for construction of linacs of energy 200 MeV or greater, these being the 500 MeV injector for the AGS at Brookhaven National Laboratory, the 200 MeV injector for the ZGS at Argonne National Laboratory, and the 800 MeV meson factory at Los Alamos Scientific Laboratory. On the foreign scene, there are plans for meson factories at Strasbourg and Karlsruhe, a new injector for the PS at CERN, and plans for an injector for a high energy AGS (Jupiter) at Saclay. Within the U. S., design studies of linacs have been closely coordinated under the auspices of the AEC by the Linac Coordination Committee. This conference gave the working members of the design teams a chance to interact freely.

The new linacs being designed require increased beam current and pulse length. This has spurred interest in beam loading phenomena and improved design of preinjectors. Much progress was reported at the conference in those areas but neither has yet arrived at a satisfactory state. For linacs whose energy is greater than 200 MeV the question of choice of rf structure remains unresolved although considerable progress has been reported. Renewed interest in the design of superconducting linacs was in evidence, particularly as reported from Karlsruhe.

We would like to take this opportunity to thank the many people, both MURA staff members and visitors, who helped make the conference run smoothly. We would particularly like to thank Lloyd Smith, Rolland Perry, Keith Symon, John O'Meara, Jim Leiss, George Wheeler, and John Blewett who assisted by serving as session chairmen.

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