

COMMENTS ON THE CONFERENCE

This is the first Particle Accelerator Conference held away from Washington, D.C. Chicago once again upheld its reputation as a convention city. The smooth handling of the conference by our host laboratories--Argonne National Laboratory and National Accelerator Laboratory--made its management seem deceptively simple and effortless.

The attendance of 712 this year is down by about 100 from the peak at the 1967 conference. This may simply be a reaction to the uncertain March weather in Chicago, but is more likely a result of the reduction in federal funding for research.

The funding reduction did not, however, have any adverse effect on either the quantity or the quality of the work reported at the conference. A record 304 contributed papers are published in this Proceedings, 88 of which were presented orally at the conference. In addition, the program contains 39 invited papers and 3 panel discussions. A cursory reading of the Proceedings will reveal the high quality of the work reported. This is perhaps a testimony to the thesis that during financially lean times people tend to exercise more ingenuity and resourcefulness. All sessions were well attended, especially those containing invited papers and panel discussions. Exchanges of ideas both in and out of sessions were free and enthusiastic.

The expanded program at the conference was made possible by paralleling three topical sessions instead of the traditional two. The reaction to this modification spans over a wide range from hearty endorsement to silent disapproval. I expect that this will be reviewed carefully by the Program Committee for our next conference.

Despite financial limitations an impressive amount of progress was made on construction and modification projects since our last conference in 1969. Two years ago ground had just been broken for the 500 GeV synchrotron at Batavia. During the week before the conference a 1 GeV beam from the injector linac and booster was injected into the first completed section of the main ring. A 200 GeV beam is expected in July, 1971. This fast moving project provided a great deal of material for both contributed and invited papers.

Congratulations are in order for the European 300 GeV project "CERN II" which finally gained approval of the CERN Council just one week before the conference. The Japanese 12 GeV synchrotron was also approved not long prior to the conference. Construction of two heavy ion linacs of novel designs--the Unilac at Darmstadt and the SuperHilac at Berkeley--were started during the past two years.

The LAMPF at Los Alamos is now in an advanced stage of construction. The 200 MeV linac for the Brookhaven AGS conversion project is now in operation; the entire project is nearing completion. Several cyclotrons--Indiana, Zürich, Vancouver--are in various stages of construction. A terminal voltage of 20 MV was achieved on the TU-tandem.

The most prominent event reported at the conference is the phenomenally speedy running-in of the CERN ISR. This is the first proton colliding-beam machine and the first time p-p interactions at an equivalent energy of more than 1000 GeV have been obtained artificially. A single beam of nearly 4A and colliding beams of about 2A each were achieved. Many interesting high intensity phenomena limiting the beam current were observed. This "brick wall" effect formed the central topic for several extemporaneous discussion sessions.

There have been, however, no significant advances on the technological frontier. The maximum field achieved in large superconducting rf cavities has so far been disappointingly low. The limitation, although believed to be not fundamental, is not yet understood. Superconducting magnet technology, both dc and pulsed, underwent only a slow evolution. No new milestone has been reached in the development of the ERA, both in this country and in the USSR.

At the banquet session we heard the address by Representative John B. Anderson of Illinois. Mr. Anderson is a ranking member of the Joint Congressional Committee on Atomic Energy and the Chairman of the House Republican Conference. In a punchy speech Representative Anderson reminded us of the multitude of demands made by the society on government resources and the need for research workers to understand national priorities and to be realistic in their requests for government funds.

I am sure we can look forward to an equally informative and enjoyable conference in 1973 in the golden city of San Francisco.

Lee C. Teng
Chairman of the Program Committee