

COMMENTS ON THE 1985 PARTICLE ACCELERATOR CONFERENCE

The 11th Particle Accelerator Conference was held at the Hotel Vancouver in Vancouver, British Columbia, from May 13-16, 1985, under the auspices of the Institute of Electrical and Electronics Engineers - Nuclear and Plasma Sciences Society. This was the first time that this biennial meeting had been held outside the United States, and TRIUMF, Canada's national meson facility, was honoured to have been chosen as host. In spite of the extra travelling required, both attendance and contributions set new records, testifying to the continuing vitality of the field.

This last year has indeed been an auspicious one for accelerators - a year in which everyone in the field has been pleased and honoured by the award of the Nobel Prize to Simon van der Meer and Carlo Rubbia for one of the greatest discoveries in twentieth century physics - the experimental confirmation of the unity of electromagnetism and the weak force through the discovery of the W and Z bosons. Dr. van der Meer, as a member of our community, described his crucial contribution - stochastic cooling - in an invited paper to the 1983 conference. Dr. Rubbia, though primarily a particle physicist, has a deep interest and understanding of accelerators and gave an invited paper to the 1981 conference. On behalf of the conference, I am happy to record congratulations to them both, and to their colleagues at CERN, for this great achievement.

Reports on particle physics projects at the conference included the Fermilab Tevatron (Energy Saver and p source), CERN ACOL and LEP, Stanford SLC, DESY HERA and KEK TRISTAN. A special session was devoted to superconducting super colliders, both American and European. For nuclear physics there were reports on the Chalk River superconducting cyclotron, the ANL ATLAS linac, the Darmstadt SIS synchrotron and on possible relativistic heavy ion colliders. Accelerators are playing an increasingly large role in other fields as well. Two intense pulsed neutron sources have come into operation - the Rutherford SNS and the Los Alamos PSR. Accelerator radiation sources, both synchrotron- and free-electron laser-based, are revolutionizing optical and X-ray spectroscopy; projects for 6 GeV synchrotrons are under consideration both in the USA and in Europe. Light- and heavy-ion accelerators are being developed for inertial confinement fusion. Novel accelerators are being designed for radiation therapy, isotope production and radiation processing. The greatest challenge, however, remains to reach the very highest energies; for this the novel techniques of laser-driven plasma beat-wave, wake-field and two-beam accelerators have been showing some promise.

The meeting was the largest yet in this series, with 1011 registrants. Of these, 249 came from outside the United States, maintaining the international flavour that the conference has acquired over the years. There were 66 invited talks and 730 contributed abstracts, of which 62 were eventually withdrawn and 94 requested only publication in the proceedings. The total number of authors was 1825. The Organizing Committee's decision to extend the period of the conference from the traditional three days to four made it possible to accommodate all this material in no more than two parallel oral and two parallel poster sessions. In all there were 45 contributed oral and 529 poster presentations. Another innovation, designed to make it easier for a specialist to take in all the papers on a popular subject, was to distribute these among different time slots, in groups of no more than 20 papers per session. For these proceedings the papers have been regrouped under the titles of the 14 oral

sessions. Those papers presented orally appear first, the remainder being grouped by subject and ordered alphabetically by institutional acronym.

A further advantage of the four-day conference was that it provided the opportunity for an evening event in addition to the traditional banquet - in this case a barbecue and tour of the host laboratory. At the banquet Dr. Erich Vogt gave a memorable and entertaining speech on "Accelerators - Instruments and Symbols for Power", which we are pleased to be able to include verbatim in these proceedings.

An important question which came up for consideration by the Organizing Committee during the conference was how to respond to an expected change in the guidelines for publication in the IEEE Transactions, requiring each paper to be fully reviewed by two or three referees. Should we attempt to marshal this extra effort, accepting some delay in publication? Or should we withdraw from the Transactions, accepting that publication will be less archival and distribution less widespread? After much discussion in the corridors, the distribution and analysis of a questionnaire, and a joint meeting with the Program Committee, the Organizing Committee passed the following motion unanimously:

"This Committee recommends that the papers of future Particle Accelerator Conferences be published as a Conference Record under the auspices of the IEEE. The papers should follow the practices of the 1985 and previous conferences with regard to the number of pages allowed."

This decision recognizes that there are major differences between the features required in fully refereed journals and those that are important in conference papers. Much material that is popular and valuable at a conference because it is up to date or open ended (particularly status reports and proposals) may not be fully archival and might be rejected by a referee as incomplete or untested. The constraints imposed by the conference (such as the deadline and the limited number of pages) also make it difficult to be complete and thorough. The new requirements are still being examined by IEEE, but if they receive final approval the Organizing Committee hopes that the change will have a positive effect in stimulating publication of completed work in refereed journals - IEEE Transactions in Nuclear Science, Particle Accelerators, Nuclear Instruments and Methods, etc.

Arrangements for the conference were organized very effectively by Joop Burgerjon. Registration was handled by Lorraine King with her usual efficiency, along with the bulk of the conference correspondence. Shayna Randeon co-ordinated hotel and travel arrangements. Corlin Bordeaux acted as treasurer and business manager, with the able assistance of Shirley Sargent as accountant. Oral sessions and audio-visual arrangements were supervised by Paul Schmor, poster sessions (and poster-board construction) by Alan Otter. Commercial exhibits were handled in-house by Milos Zach and provided a modest but useful profit. David Gurd organized the social events very successfully, as did Elizabeth Bordeaux the companions' program. Data management and computer typesetting were handled by Corrie Kost, Ron Balden and Joe Chuma, printing and mailing by George Ludgate, and press and publicity by Michael La Brooy. Finally the abstracts and papers have been collected and prepared for publication under the meticulous eye of the editor, Ada Strathdee. Credit for the smooth running of the conference must go to those mentioned here and to their assistants.

M.K. Craddock
Conference Chairman