

Minutes of the 1st Meeting of the ICFA Working Group on High Intensity High Brightness Hadron Beams

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1. The first meeting of the ICFA Working Group on High Intensity High Brightness (HIHB) Hadron Beams was held May 13, 1997 at Hotel Vancouver, Vancouver, B.C., Canada, during the 1997 Particle Accelerator Conference. Seven members attended this meeting: R. Baartman, W. Chou, T. Linnecar, Y. Mori, T. Roser, J. Wurtele and Z.Y. Guo (for C. Zhang). Five members were excused (P. Colestock, S. Machida, D. Pestrikov, J. Galayda and G. Rees), and two were absent (R. Davidson and J. Maidment). The chairman of the ICFA Beam Dynamics Panel, K. Hirata, and four observers (E. Jensen/CERN, P. Martin/FNAL, L. Teng/ANL and J.G. Wang/U. Maryland) also attended this meeting.
2. The following briefings were presented to this meeting:
 - Hirata: The ICFA Beam Dynamics Panel and its mission;
 - Teng: The beginning of the ICFA;
 - Chou: The ICFA Working Group and its mission;
 - Martin: The 1st mini-workshop in May, 1996 at Fermilab;
 - Mori: The 2nd mini-workshop in December, 1996 at KEK;
 - Roser: The 3rd mini-workshop in May, 1997 at BNL;
 - Teng: Spallation neutron source activities at ANL;
 - Roser: Spallation neutron source activities at BNL;
 - Wang: The Electron Ring Project at University of Maryland;
 - Wurtele: The Muon Collider and its proton driver.
3. In order to make this group to be more representative and its work more effective, the meeting recommended to invite four more people to join this group: Roberto Cappi (CERN/PS Division), Phil Martin (FNAL/MI Department), Arch Thiessen (LANL/LANSCE) and Bill Weng (BNL/AGS Department).

Note: After the meeting, these people were contacted and all have accepted our invitation. The ICFA panel has approved their participation in this group.

4. The mini-workshop series on HIHB hadron beams will continue. This series features small size (20-25 participants), one selected topic each time, problem solving and no formal proceedings. The first two mini-workshops (May 1996 at FNAL and December 1996 at KEK, respectively) were held before the formation of this working group. Thus, the third one (May 1997 at BNL) was indeed the first time for it to be entitled an ICFA mini-workshop. The next one

will be November 5-7, 1997 at CERN. It has been approved by the ICFA. The topic is “*Transverse emittance preservation and measurements.*” The organizer is Roberto Cappi (CERN/PS).

The meeting decided that the present organizing committee will retain its responsibility for organizing future mini-workshops. In the meantime, proposals for new mini-workshops should be submitted to the ICFA for approval.

5. On behalf of Martin Reiser, J.G. Wang introduced a small project at University of Maryland. It is an electron ring with low energy (10 keV) and high beam intensity. The cost of this project is moderate (US\$600K for hardware including contingency), while it has the potential to study some fundamental beam dynamics problems that are essential in the design and construction of large and expensive machines, e.g., the space charge effects in high intensity hadron beams. Therefore, this group strongly endorses this project and has decided to put on its agenda the promotion of beam dynamics experiments on machines.
6. This group will take the responsibility of maintaining several important machine parameter tables. For example, the table of the comparison of proton synchrotron performance, and the table of particle losses in existing proton machines.
7. J. Wurtele, who is an organizer of muon collider workshops, expressed his wish to get support from the ICFA for muon collider studies.
8. This group has set up a home page on the web. The address is: <http://www-bd.fnal.gov/icfa/>. The announcements and summary reports of mini-workshops can be found there. It also includes a bulletin board for interactive communications.
9. As an integral part of the efforts for accomplishing its mission, this group will consider the feasibility to sponsor a symposium on high intensity high brightness hadron beams. It would include the high energy physics community, nuclear physics community and some industry. The machines to be addressed may include the Main Injector (FNAL), PS/SPS (CERN), JHF (KEK), AGS (BNL), PSR (LANL), ISIS (RAL), DESY III/PETRA (DESY), proton driver of the Muon Collider, spallation neutron sources and APT, etc.

Note: After the meeting when we began to seek sponsors of this symposium, we first contacted Dave Sutter from the US Department of Energy. His response was positive.

10. The group meeting will be held once a year. E-mail and bulletin board on the web will be the main tools for communications among group members. The date and place of the next meeting will be announced in early 1998. Proposals are welcome.