ANL/IPNS/CP-98045

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ICANS-XIV
14th Meeting of the International Collaboration on
Advanced Neutron Sources
June 14-19, 1998
Starved Rock Lodge, Utica, Illinois, USA

# Report on the International Workshop on Cold Moderators for Pulsed Neutron Sources

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The International Workshop on Cold Moderators for Pulsed Neutron Sources resulted from the coincidence of two forces. Our sponsors in the Materials Sciences Branch of DOE's Office of Energy Research and the community of moderator and neutron facility developers both realized that it was time. The Neutron Sources Working Group of the Megascience Forum of the Organization for Economic Cooperation and Development offered to contribute its support by publishing the proceedings, which with DOE and Argonne sponsorship cemented the initiative.

This workshop was the second of its kind. The earlier one, the International Workshop on Cold Neutron Sources, took place at Los Alamos National Laboratory March 5–8, 1990 [1].

Although originally our idea was to convene the meeting on the windswept shore of Lake Michigan in February, this and other notions for venues and dates did not work out. Finally we took the waning opportunity to use Argonne's *gemütlich* old Freund Lodge. The workshop took place September 28–October 2, 1997, with meals served in the Lodge and meetings held in the IPNS office area. Participation was by invitation, which, as workshop organizer, I arranged after consulting with my colleagues who are prominent in the field. Thirty-two scientists took part, representing sixteen institutions from eight countries, on four continents in two hemispheres. This demonstrates the $2^n$ rule of conference organization (an unplanned outcome) and the unity of one world in science. Laura J. Miller served as our super-effective workshop secretary during all phases of workshop planning and execution.

The purposes of the workshop were:

- to recall and improve the theoretical groundwork of time-dependent neutron thermalization
- to pose and examine the needs for and benefits of cold moderators for neutron scattering and other applications of pulsed neutron sources
- to summarize experience with pulsed source cold moderators, their performance, effectiveness, successes, problems and solutions, and the needs for operational data
- to compile and evaluate new ideas for cold moderator materials and geometries
- to review methods of measuring and characterizing pulsed source cold moderator performance
- to appraise methods of calculating needed source characteristics and to evaluate the needs and prospects for improvements
- to assess the state of knowledge of data needed for calculating the neutronic and engineering performance of cold moderators, and
- to outline the needs for facilities for testing various aspects of pulsed source cold moderator performance.

A reception followed by dinner on Sunday evening at the Freund Lodge prepared the participants for the workshop. Plenary sessions consumed the first day and a half, following