

Beijing Hosts the First Moderator-Target Planning Meeting

The First Moderator-Target Planning Meeting for the Chinese Spallation Neutron Source (CSNS) Project took place from April 21-26, 2002, at The Institute of Physics, Chinese Academy of Sciences, Beijing, China. The idea of a Chinese Spallation Neutron Source for basic research germinated after a delegation led by Professor Yong-Xiang Lu, the President of the Chinese Academy of Sciences (CAS), visited the ISIS facility in July 2000. Subsequently, in 2001, CAS and other organizations of scientific branches sponsored three meetings, which resulted in the submission of a proposal for a feasibility study of CSNS. The proposal was granted on the eve of 2002, hence began Phase I of the CSNS Project, charging the Institute of Physics (IoP) and Institute of High Energy Physics (IoHEP), both belonging to CAS, to complete a full design and feasibility study by 2003.

The IoP organized this Moderator-Target Planning Meeting, inviting an International Advisory Team (IAT) to comment on a preliminary plan of the CSNS. Although the focus of the meeting was on the target-moderator system, the CSNS presenters and the advisory team discussed related issues on the accelerators and scattering instrumentation. The IAT consisted of Günter Bauer (Jülich, Germany), Timothy Broome (Rutherford Appleton Lab, U.K., substituted by Stephen Bennington), John Carpenter (Argonne, U.S.), Gary Russell (Los Alamos, U.S.), and Noboru Watanabe (JAERI, Japan), who together represent most of the experience to date on spallation neutron sources. Others in attendance included Chien-Hsiung Lee (INER, Taipei), Chun Loong (Argonne,



Experts came together to plan for a future Chinese Spallation Neutron Source at this meeting in Beijing.

U.S.), Jinkui Zhao (ORNL, U.S.), and key members of the CSNS Project, Jie Zhang (Project Leader, IoP, Beijing), Shouxian Fang (IoHEP, Beijing), Qiwei Yan (IoP, Beijing), Boliang Yu (IoP, Beijing), Chuang Zhang (IoHEP, Beijing), Sinian Fu (IoHEP, Beijing), and Panlin Zhang (IoP, Beijing).

The CSNS plan calls for a 70-MeV H^- linac and a 1.6 GeV synchrotron, producing a proton current of 62 μA (100 kW) at a 25 Hz repetition rate, a water-cooled tungsten target, a beryllium-reflected moderator system, and a neutron scattering facility. The IAT found that these parameters will put CSNS in the front rank of existing spallation sources and will ensure its major role to play as a versatile national research facility even after the advent of other larger regional installations. It will enable China to do competitive research in physics, chemistry, materials, and life sciences and will also provide the competitiveness for research opportunities at the larger facilities. Moreover, experience gained and experiments done at national installations, such as CSNS, provide the expertise that is necessary to make optimum use of the most powerful

sources of which only a few will be available worldwide. Further, experience elsewhere shows that access to high performance national sources has led to significant growth and success of national user communities.

The IAT also provided a number of recommendations on the design of the target-moderator system for CSNS, from materials to operation to engineering to scientific utilization. International collaboration was regarded as an important avenue to furthering Phase I of the project. The application of IoP and IoHEP for membership in the International Collaboration on Advanced Neutron Sources (ICANS) is underway. CSNS is pushing ahead to complete the Phase I feasibility study in the next year, and organizing future reviews of the project by international advisory committees and a domestic user meeting in the summer of 2002.

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