

CANS Projects Progress and Related Technology Development in China

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There are three grand national neutron sources in operation in China, including, China Spallation Neutron Source (CSNS), China Advanced Research Reactor (CARR) and China Mianyang Research Reactor (CMRR). Chinese Neutron Scattering Society (CNSS) was formally established as a branch of the Chinese Physical Society (CPS) in 2012, which forms a good situation for developing of neutron science and technology.

There are several projects with Compact Accelerator-driven Neutron Source (CANS) in operation, in construction and in proposal in China, such as, the Compact Pulsed Hadron Source (CPHS) and e-LINAC driven bimodal source in Tsinghua University, the Peking University Neutron Imaging Facility (PKUNIFTY), the compact high-energy high-flux D-Be neutron source at Institute of Modern Physics, China Academy of Science, the CANS and neutron radiography facility of China Academy of Engineering Physics, the cyclotron-based BNCT and neutron imaging facility at China Institute of Atomic Energy, the RFQ-based Boron Neutron Capture Therapy at Dongguan (D-BNCT) supported by CSNS, the electrostatic accelerator-based BNCT (AB-BNCT) of NeuBoron, the intense neutron generator and RFQ-based BNCT of Lanzhou University, the CANS and RFQ-based BNCT in Xi'an Jiaotong University, and so on. The progress of the CANS projects in China, especially the new projects and recent progress, will be presented.

The trend and opportunity of CANS projects will be discussed, especially several AB-BNCT projects have been operated, launched or proposed in recent years. The related technology development along with CANS will also be discussed.

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