

Spallation Neutron Source Second Target Station Conceptual Design

Friday, 1 December 2017 09:20 (20 minutes)

The Spallation Neutron Source is planning a facility upgrade which is split into two elements: an accelerator power upgrade and a second target station. The proton power upgrade will double the amount of power which can be delivered by the accelerator complex from 1.4 MW to 2.8 MW, of which ~2 MW will be directed to the first target station and ~700 kW to the second. The Second Target Station will support twenty-two beam lines designed for peak neutron brightness which will be produced by optimized moderators, a rotating tungsten target, and a small proton footprint on the target. Some of the beam lines will approach 100 meters in length, and these long beam lines extend from the target facility via grade-level trenches with removable shield covers. Conceptual designs for several potential instruments have also been developed. The facility and some instrument designs will be discussed along with the project status.

Formal Invitation Letter Required

No

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Session Classification: Session E

Track Classification: Neutron Source