

MEGAWATT CLASS SPALLATION TARGET DEVELOPMENT

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Abstract

There are three spallation neutron source facilities in the world with the potential of operating in the one megawatt proton beam power range. The SINQ facility at the Paul Scherrer Institut has already operated in this power range for several years with various water-cooled solid targets, and used a liquid metal (lead-bismuth) target for a period of four months in conducting its successful MEGAPIE project in 2006. The Spallation Neutron Source (SNS) facility at Oak Ridge National Laboratory began operation in 2006 and is approaching the one megawatt level using a liquid mercury target. The Japan Proton Accelerator Research Complex (J-PARC), which also has a mercury target, began beam-on-target operations in 2008 and is on its way to ramping-up its power level to one megawatt over the next few years. This paper will summarize the operating experience and planned improvements for the spallation targets at these megawatt class facilities.

**CONTRIBUTION NOT
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