

Abstract Submitted
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Neutron shielding studies of the RTBT line at the SNS
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Physics, University of Houston, Houston, TX 77204 — The SNS is an accelera-
tor based neutron source in Oak Ridge, Tennessee. This unique facility provides
the most intense pulsed neutron beams in the world, which are produced by bom-
barding a mercury target with energetic protons from a large accelerator complex.
A high intense pulsed proton beam traveling through the RTBT (Ring to Target
Beam Transport) line produces a high neutron background outside the target build-
ing. Detailed analysis of this background must clearly be understood for a potential
neutrino detector that may be built outside the target building. We present here
preliminary results of the neutron background using the most recent Monte Carlo
particle transport codes FLUKA and MCNP. These results can be used as a reference
for the neutron shielding studies.

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