

Highlight of the SNS Beam Diagnostics Advisory Committee Report on Wire-Scanners

Charge to committee:

1. Are the design requirements adequately defined?
2. Is the wire scanner system design at PDR status?
3. Does the work from PDR to FDR (Winter '01) look reasonable?
4. Are there “gaps” in the design?
5. Are the interfaces defined, understood, and addressed?

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On the requirements side of the picture, little information was provided from the beam physics perspective to serve as the basis for an instrumentation performance budget or to define a quantitative tie between pertinent measurements and instrumentation requirement specifications.

1) For example, justification was not provided for the quantities and locations of wire scanners.

2) Although beam halo was identified an important issue in numerous instances, specific requirements for halo measurement are not detailed.

Recommendation –

Continue laser wire R&D; transforming that idea into a useful instrument would be a valuable contribution to beam instrumentation. Until satisfactory answers can be provided to the above questions it would be risky for SNS to rely on the laser wire as a baseline beam profile monitor.

Recommendation –

Radiation dose tolerance requirements should be specified.

Please Read the report and forward your comments to Mike Plum and Saeed Assadi.