



Contribution ID: 87

Type: **Oral Presentation**

Characterization of shielding materials for neutron scattering instrumentation

Monday, 14 October 2019 15:20 (25 minutes)

We have performed a series of experiments using both reactor based and spallation based neutron scattering instruments to characterize the suitability of different materials for neutron absorption. In particular, we characterize the usefulness of these materials in the near vicinity of the neutron beams used in neutron scattering instrumentation. We examine boron carbide based coatings as well as borated aluminum alloys. Borated polyethylene and elemental absorbers like cadmium and gadolinium are examined in detail. We also characterize high density and traditional concrete.

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Session Classification: Instruments

Track Classification: Instrument