



Contribution ID: 8

Type: Talk

## Fast-neutron imaging with broad and quasi-monoenergetic sources

Wednesday, 23 October 2019 11:15 (30 minutes)

Lawrence Livermore National Laboratory (LLNL) is near-completion of a quasi-monoenergetic neutron source for fast-neutron imaging. The source is expected to produce 10-MeV neutrons with an on-axis flux of  $\sim 10^{11}$  per second per steradian through a collimated aperture with a  $\sim 7$ -degree opening angle. The application for this source is imaging of low-Z materials heavily shielded by high-Z materials. We have tested the feasibility of the system at Ohio University. We have recently used the spallation source at the Los Alamos Neutron Science Center (LANSCE) to generate radiographic images. We will discuss our recent imaging data from LANSCE and compare them with prior data obtained using a quasi-monoenergetic source. We will also discuss our results as they relate to our expectations of the near-complete neutron source at LLNL.

*\*This work performed under the auspices of the U.S. Department of Energy by Lawrence Livermore National Laboratory under Contract DE-AC52-07NA27344*

**Primary authors:** JOHNSON, Micah (Lawrence Livermore National Laboratory (LLNL)); ANDERSON, S. G. (LLNL); BLEUEL, D. (LLNL); CAGGIANO, J. A. (LLNL); FITSOS, P. (LLNL); GIBSON, D. (LLNL); HALL, J. M. (LLNL); MARSH, R. (LLNL); RATKIEWICZ, A. (LLNL); RUSNAK, B. (LLNL)

**Presenter:** JOHNSON, Micah (Lawrence Livermore National Laboratory (LLNL))

**Session Classification:** Detection and Applications

**Track Classification:** Applications