

## **Abstract**

Niral P Shah  
University of Michigan  
[nirpshah@umich.edu](mailto:nirpshah@umich.edu)

Demonstrating Adaptive Imaging Concepts on Complex Source Scenes made with Special Nuclear Material

We will present results from a measurement campaign conducted at the Zero Power Physics Reactor (ZPPR) facility at Idaho National Laboratory (INL). We setup three experiments using high burnup Pu-240 plates and MOX fuel pins: a line source, a split line source, and a multiple source experiment with many sources at different positions and intensities. From the line and split line source experiments, we will show that using adaptive detector movements improves reconstructed images by making them more uniform and reducing background noise. Additionally in the multiple source experiment, we will show that adaptive detector movements can be used to radially locate sources and improve angular resolution.