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Emergency Response Demonstration: MINER (Mobile Imager of Neutrons for Emergency Responders) Measurements

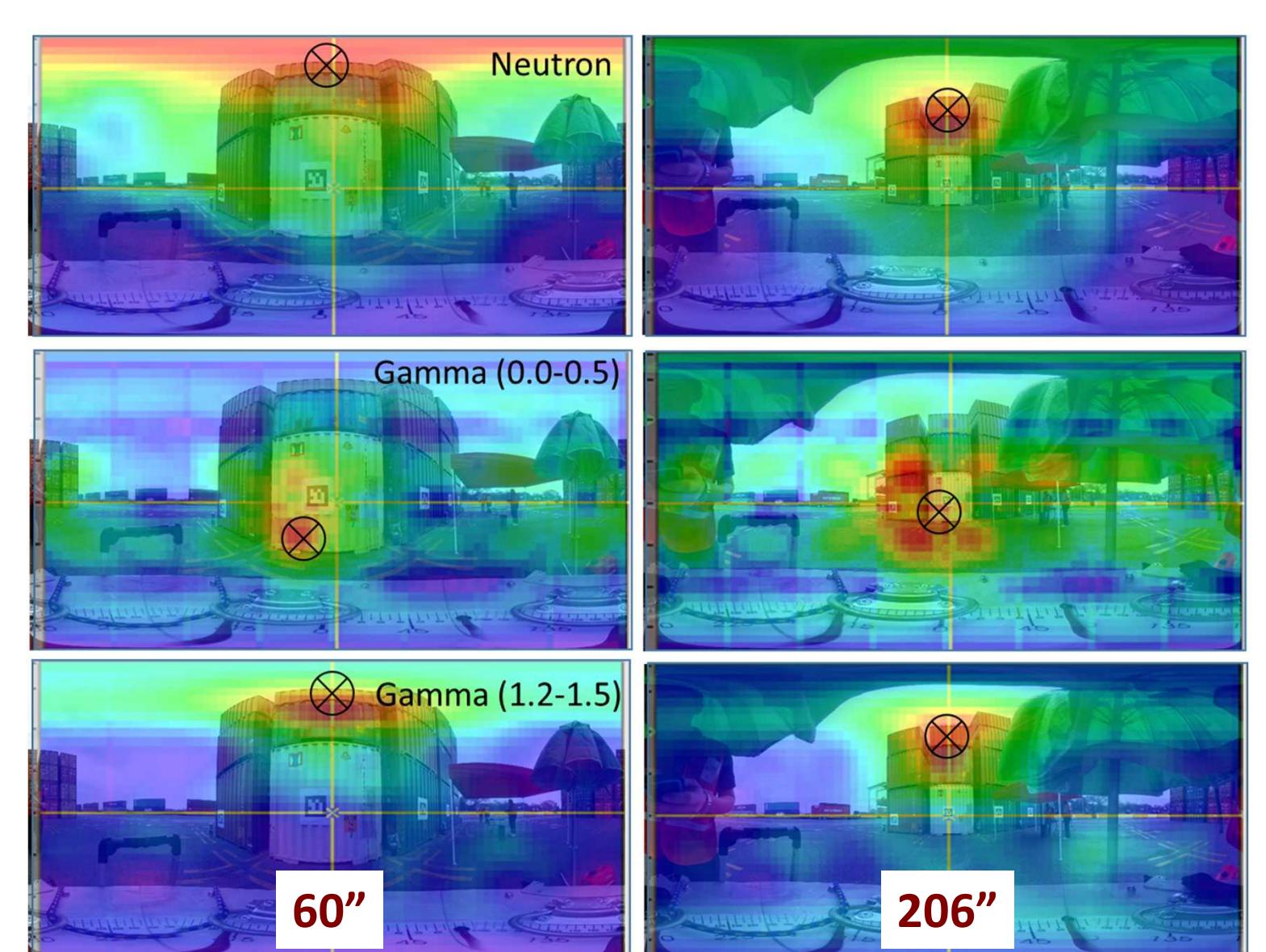
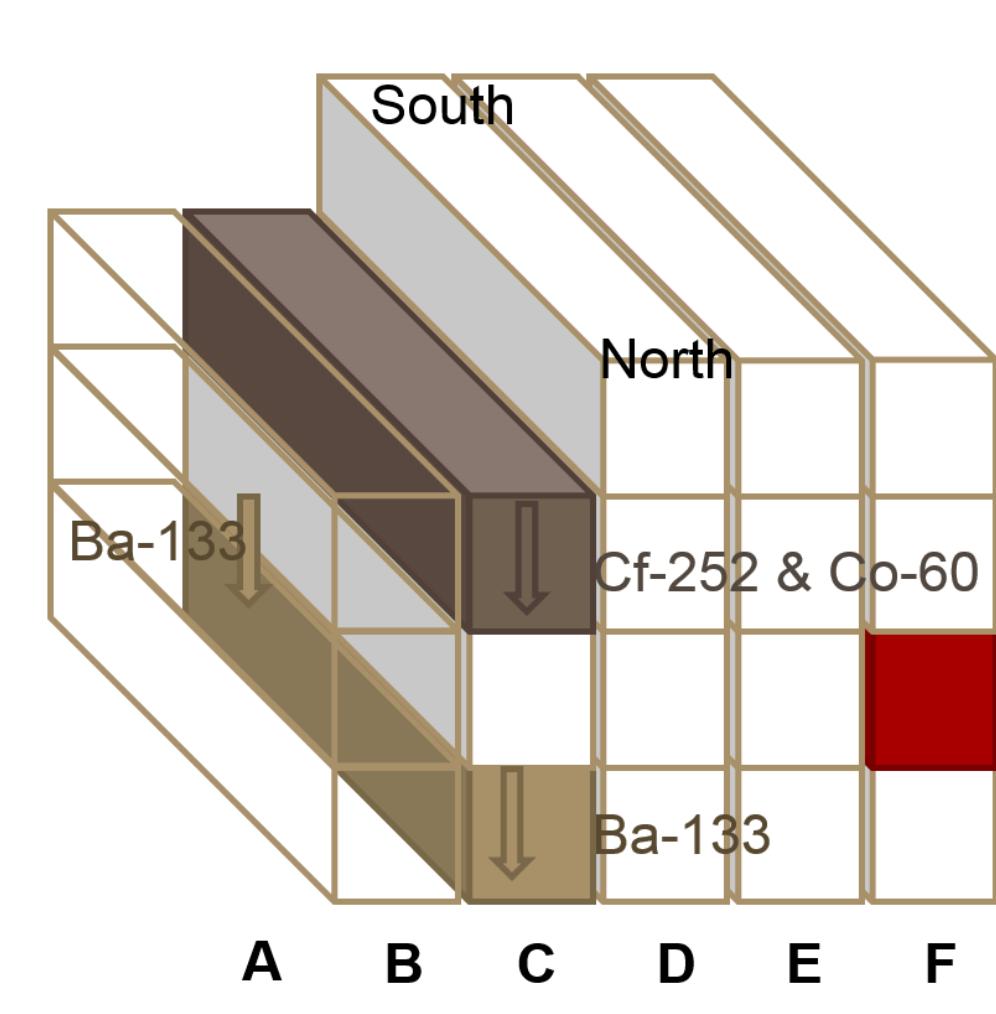
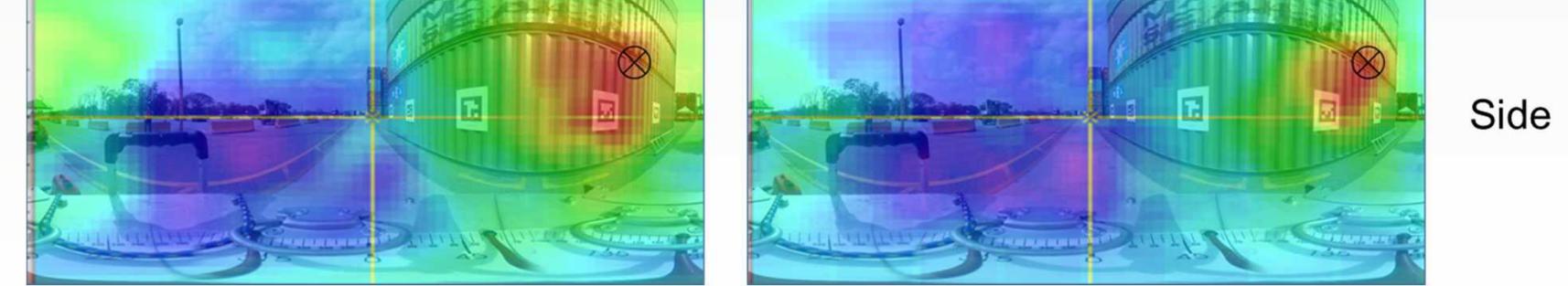
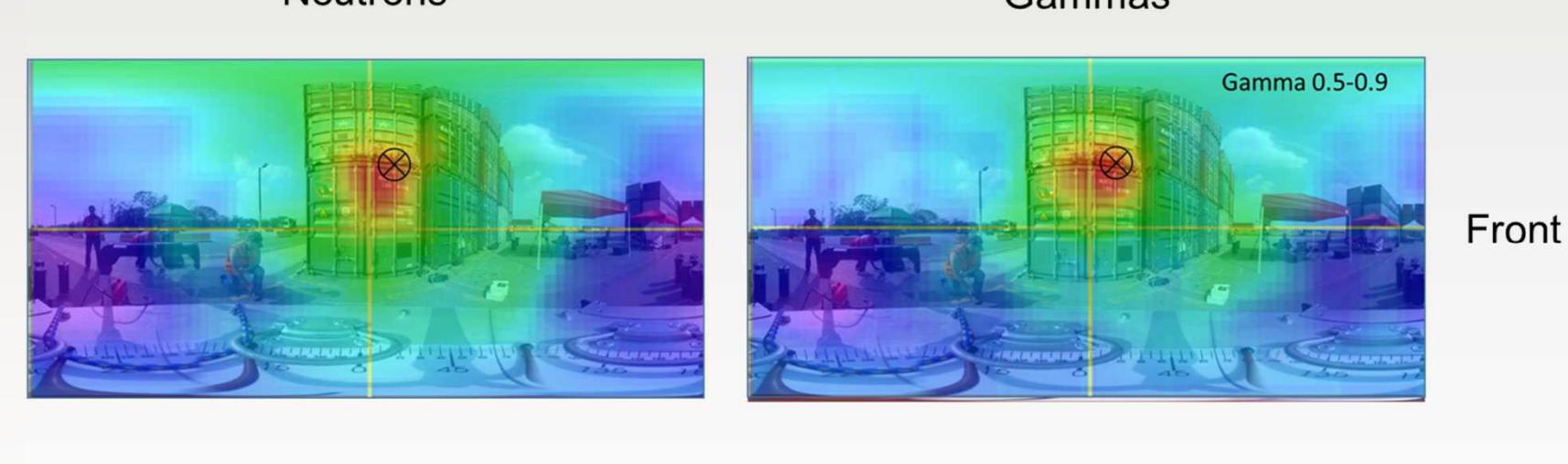
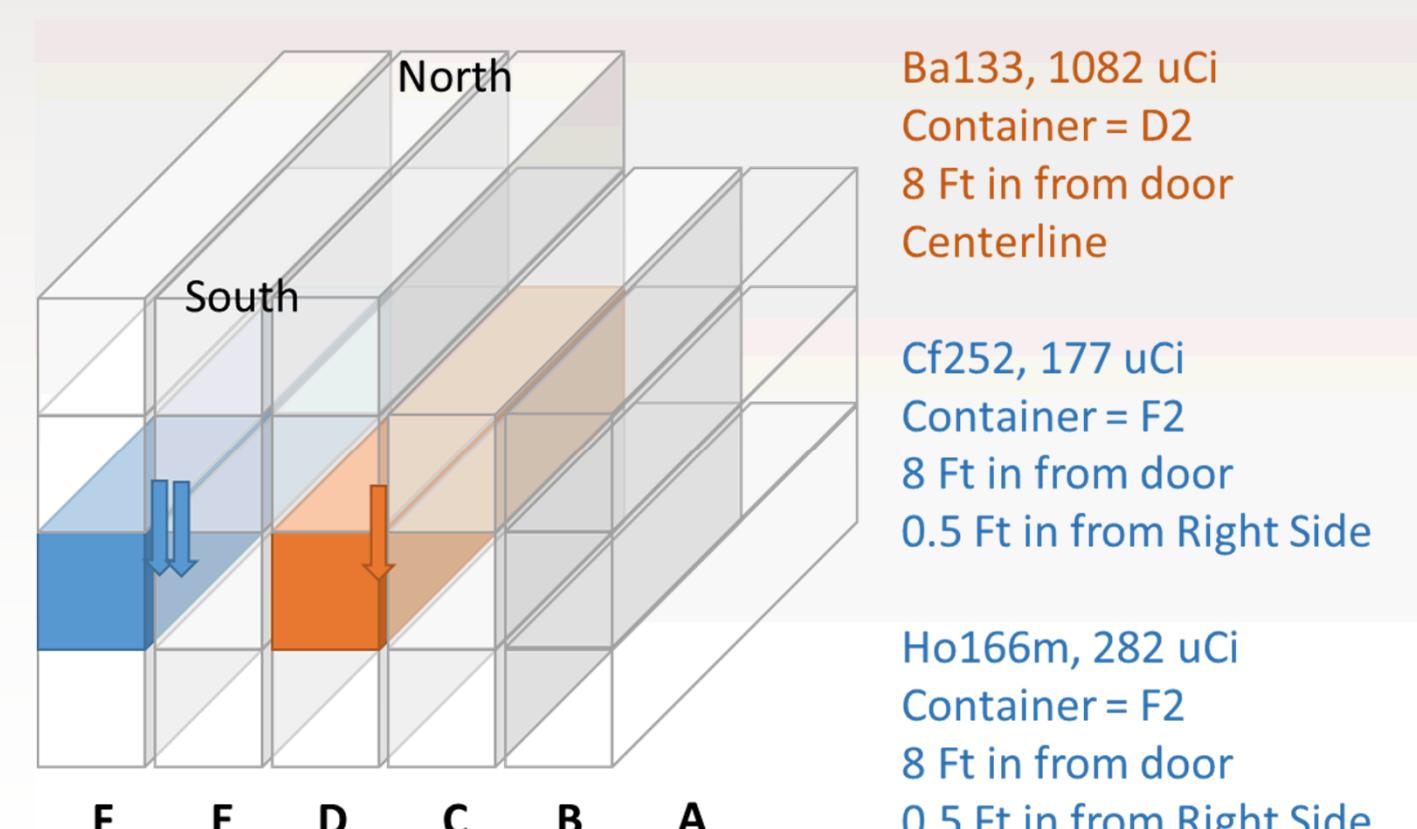
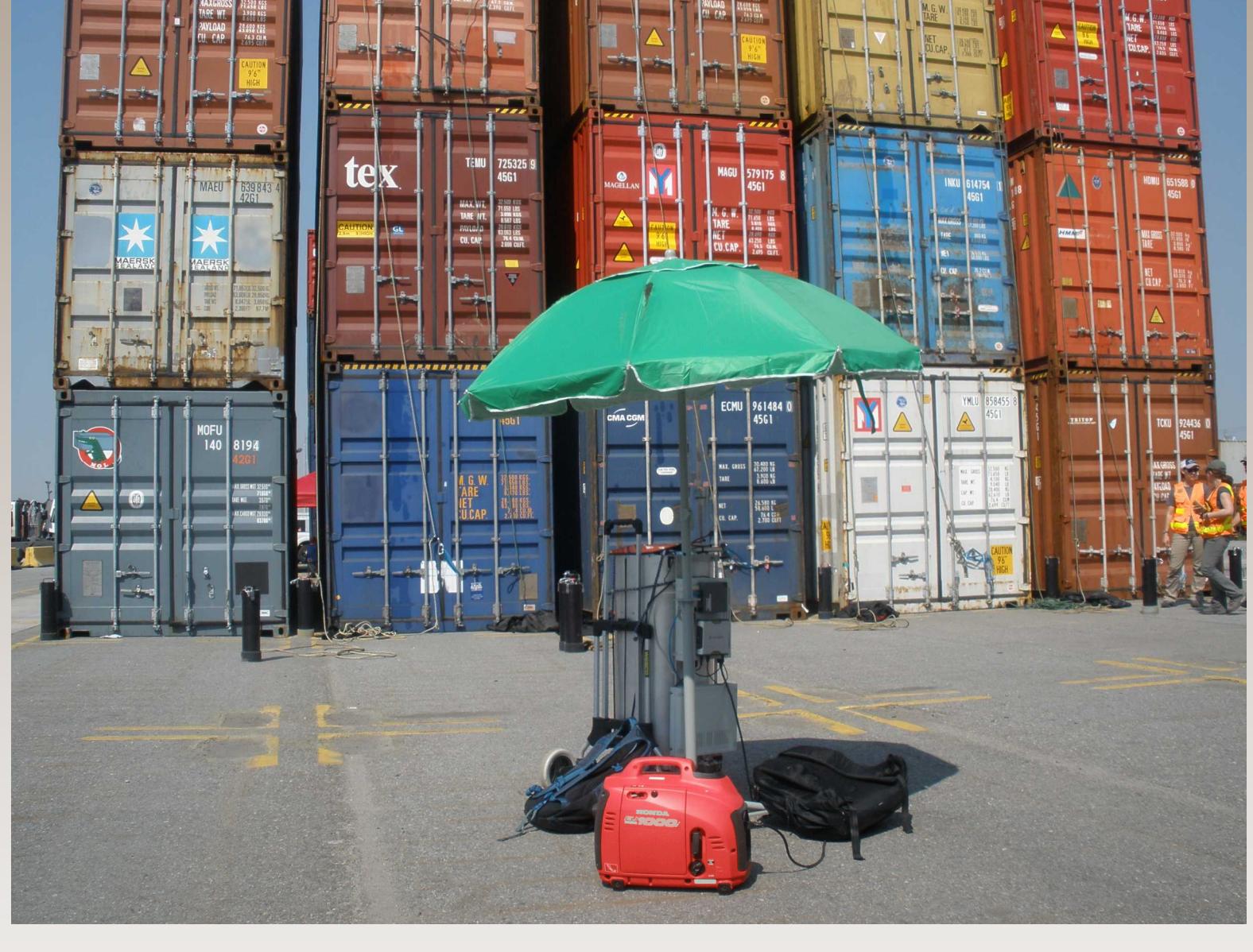
Principal Investigator: John Goldsmith, jgold@sandia.gov, 925-294-2432

Supporting Investigators: Mark Gerling and Jim Brennan

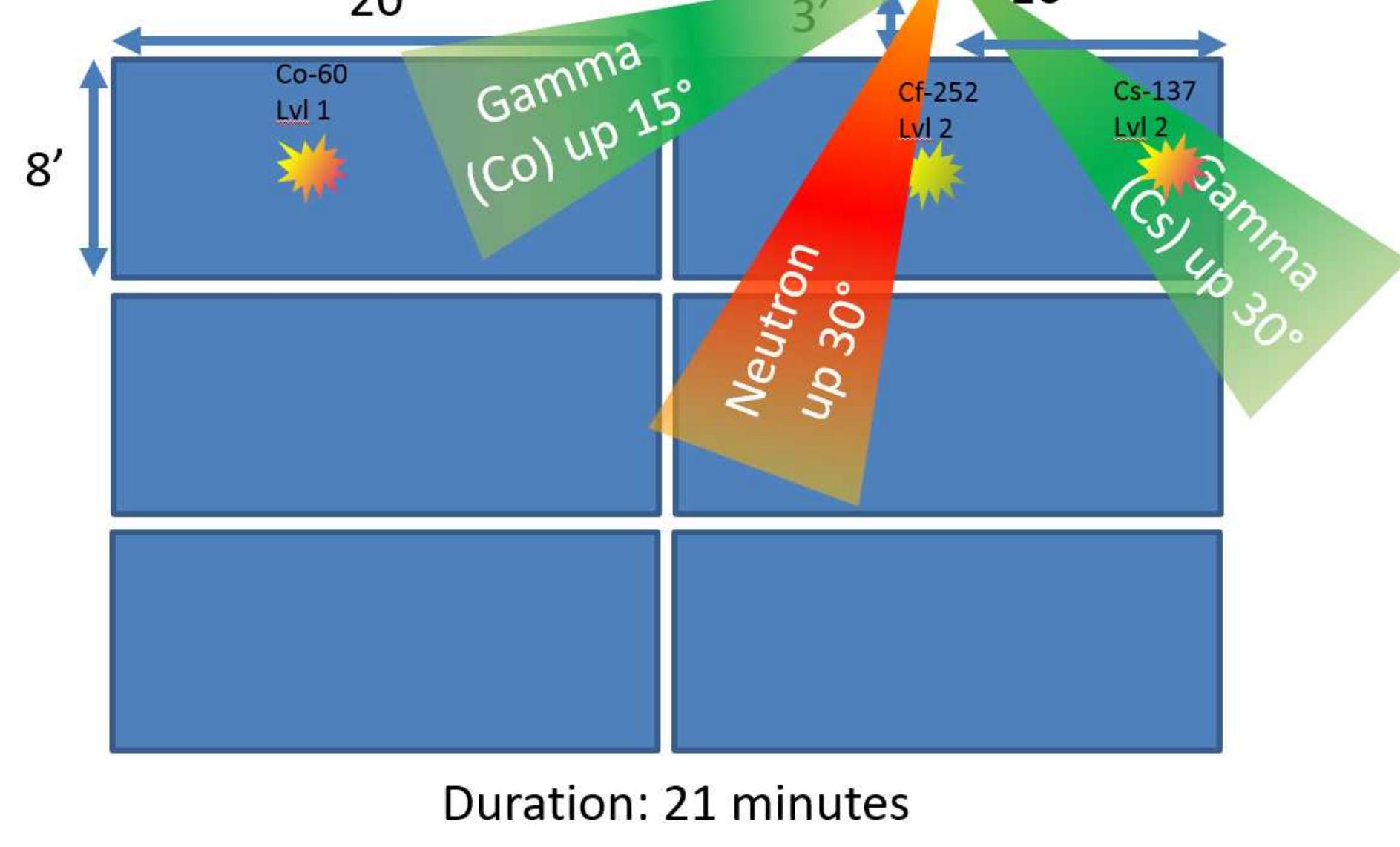
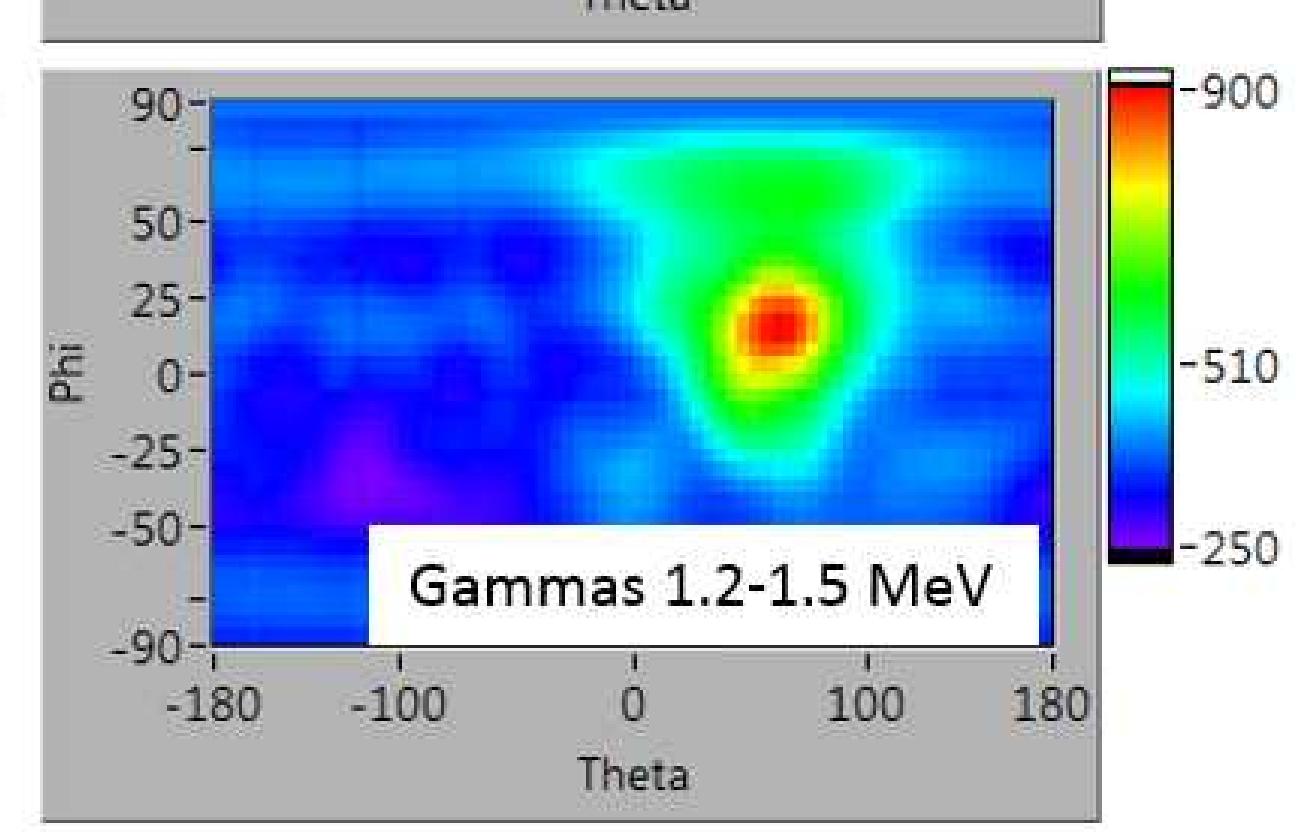
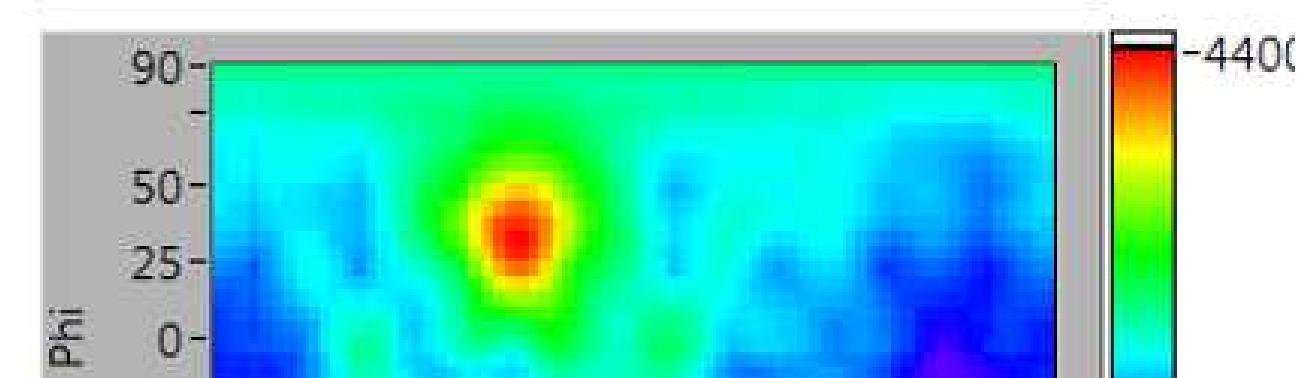
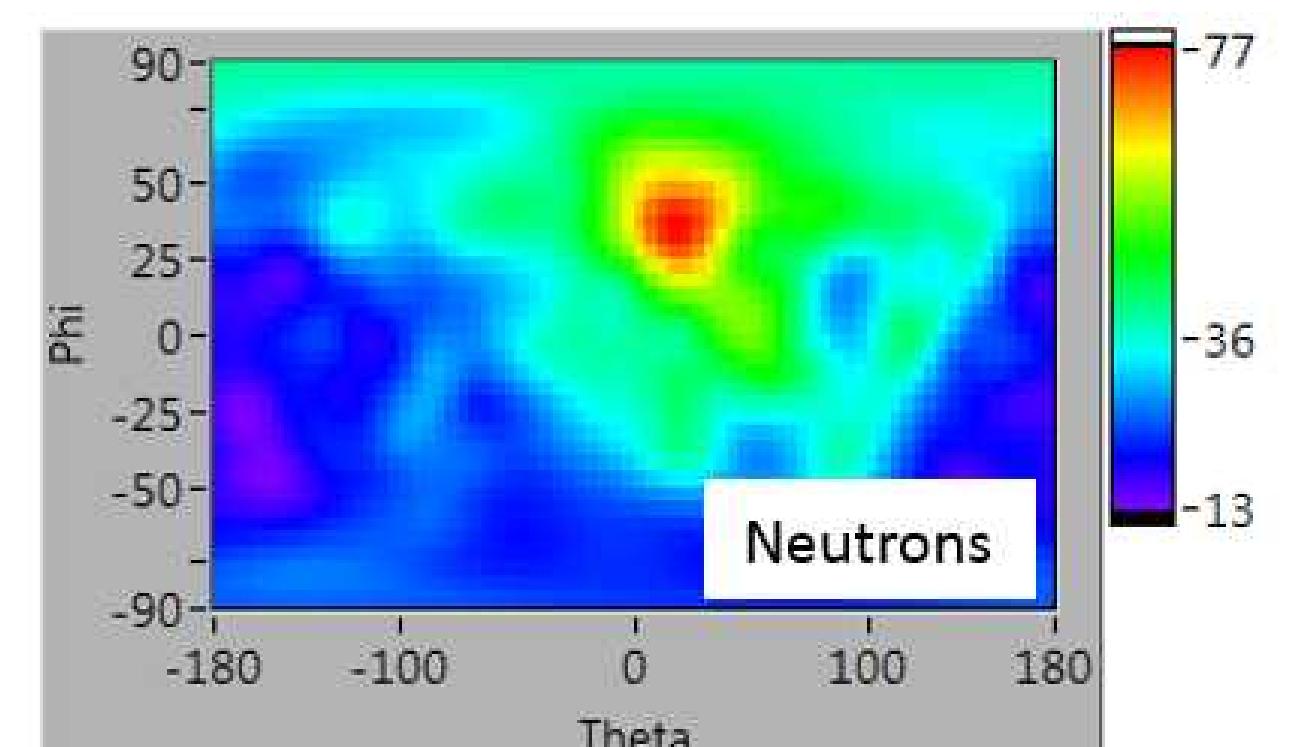
Sandia National Laboratories, Livermore, CA 94550

Project overview: This poster presents measurements performed with MINER, a compact neutron scatter camera, during three Emergency Response search demonstrations. Although designed primarily to localize fast-neutron sources, MINER can also characterize those sources, and localize and identify gamma sources (limited by the spectral resolution of the liquid scintillator detectors).

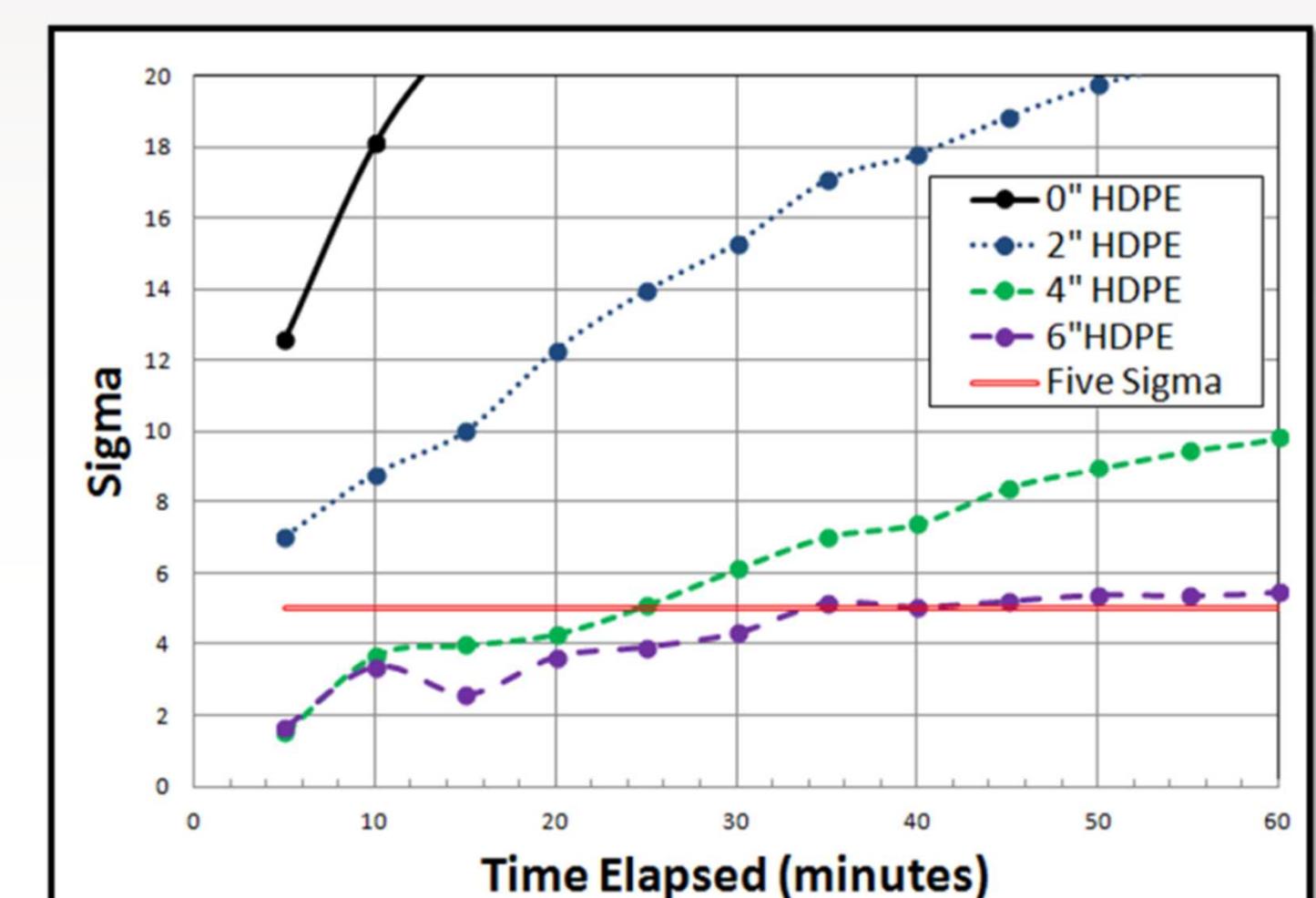
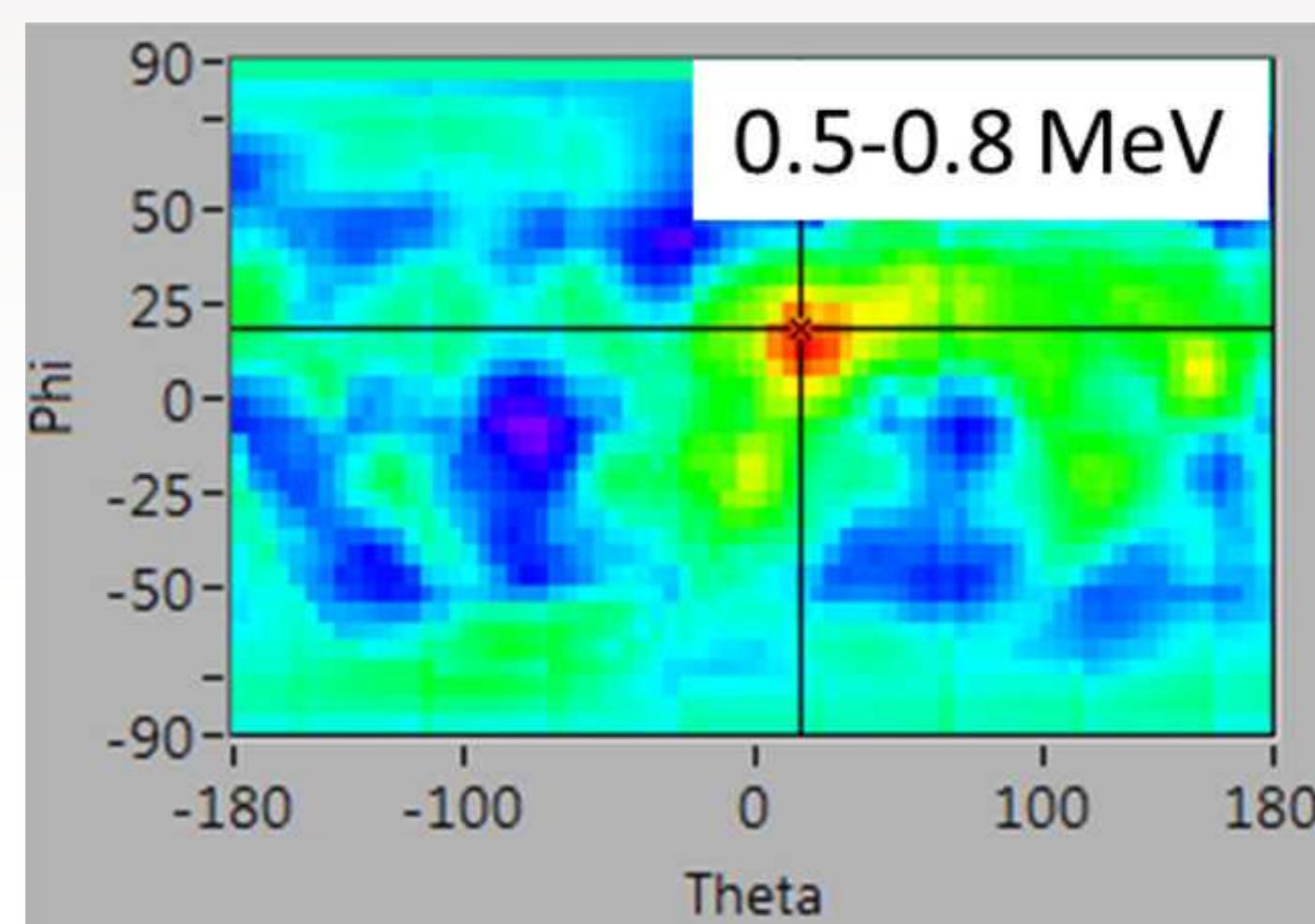
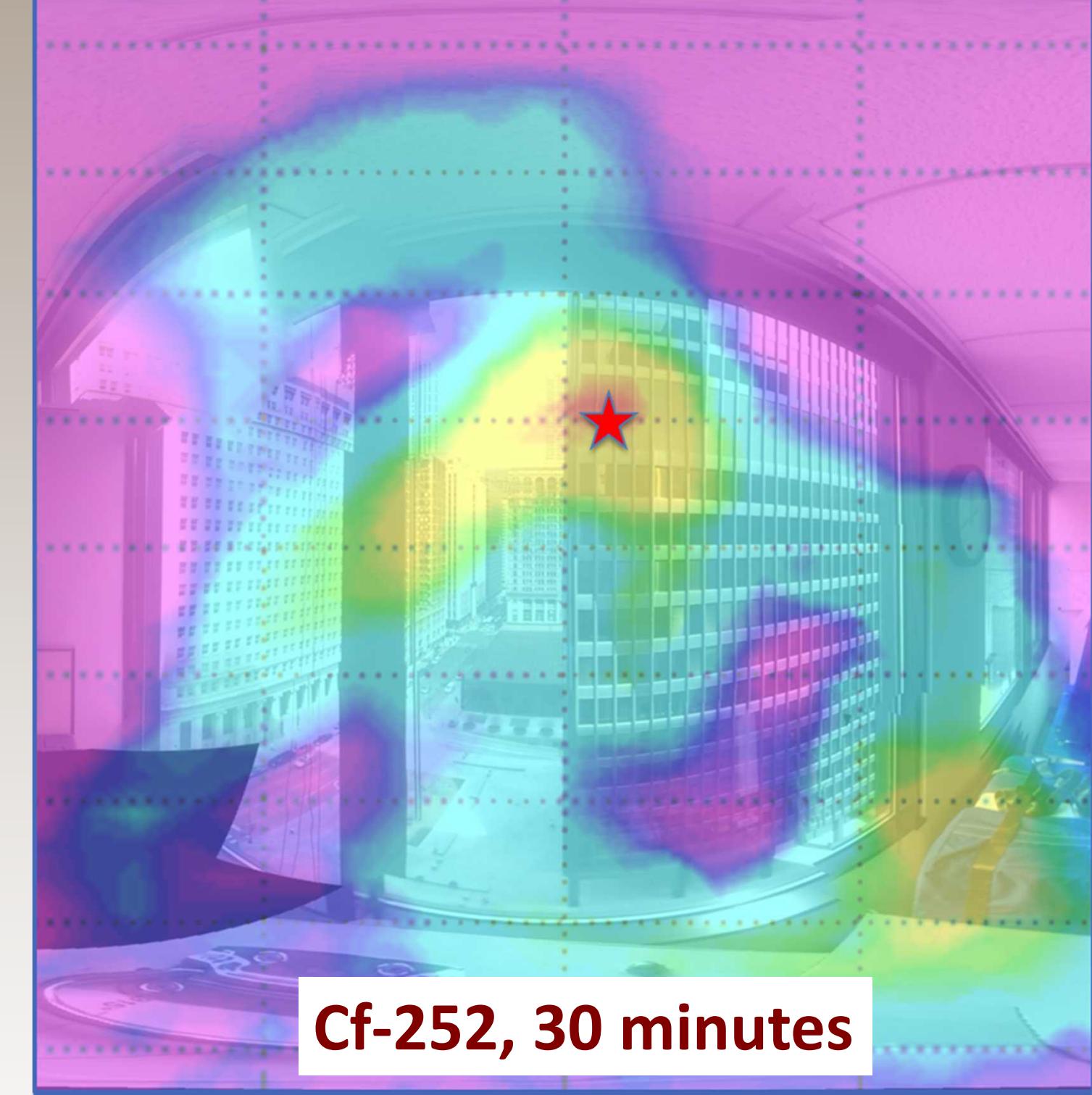
Port of Savannah Container Stack - Blind Tests



LLNL Container Stack



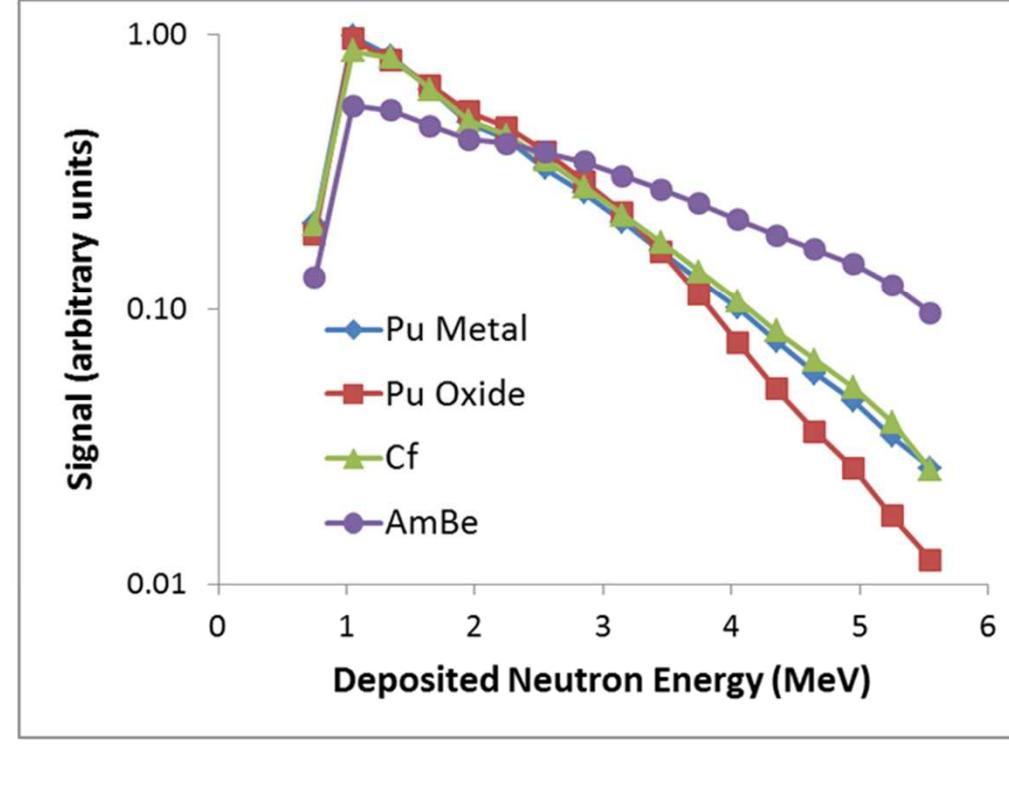
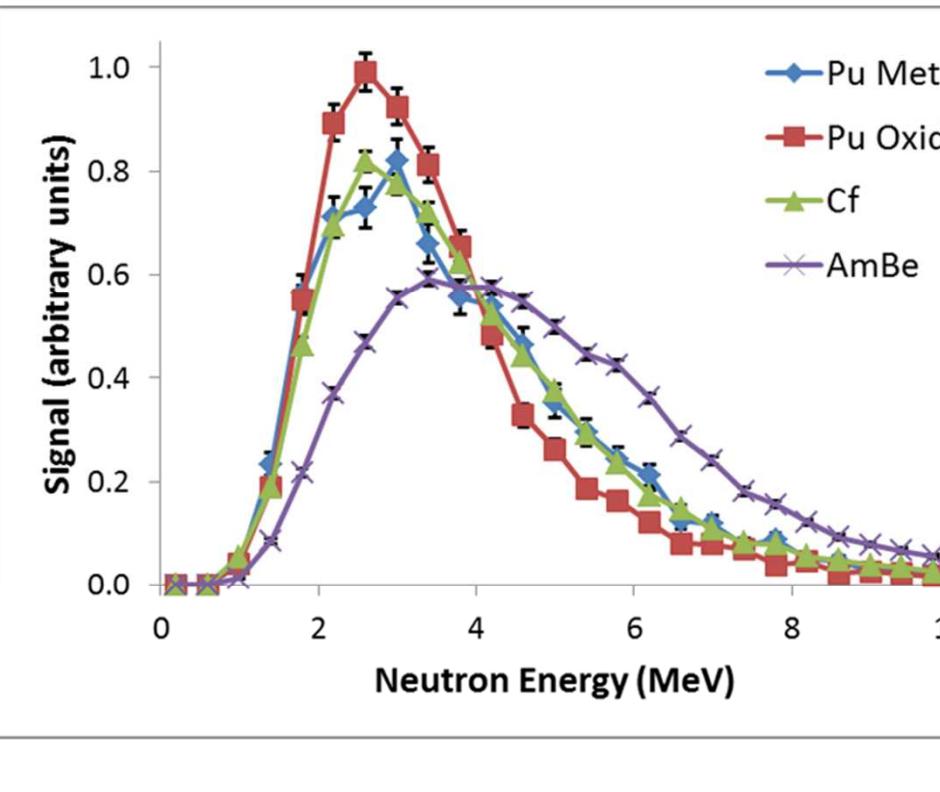
28 m High-Rise to High-Rise



Cs-137, 5 minutes

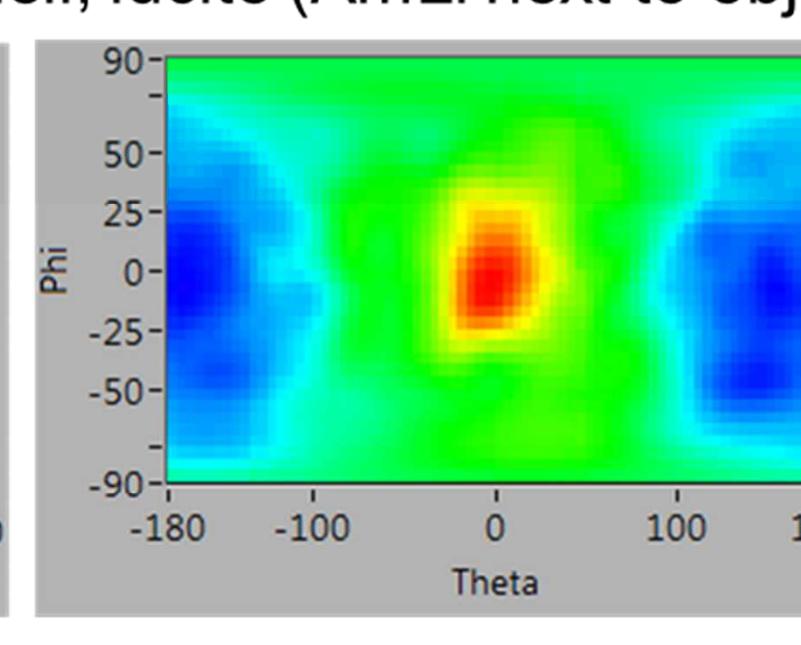
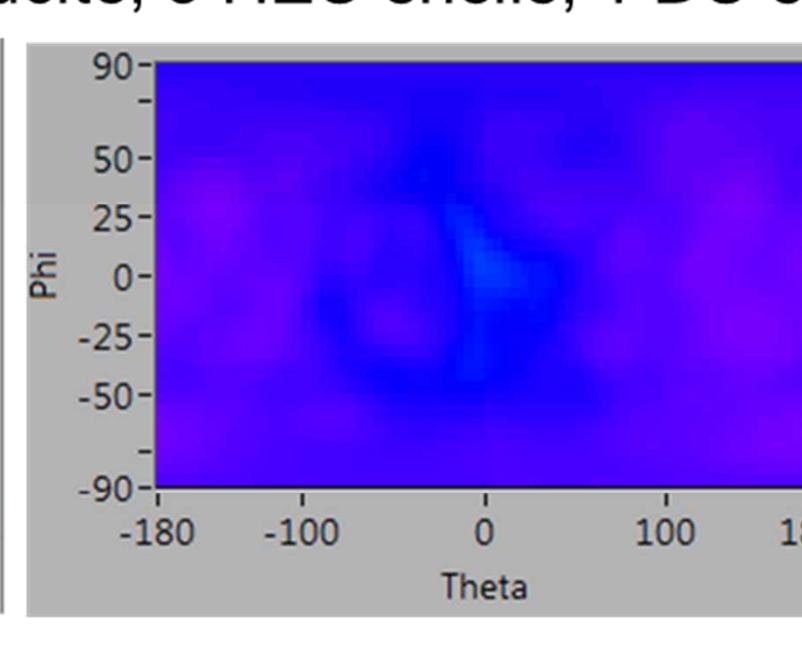
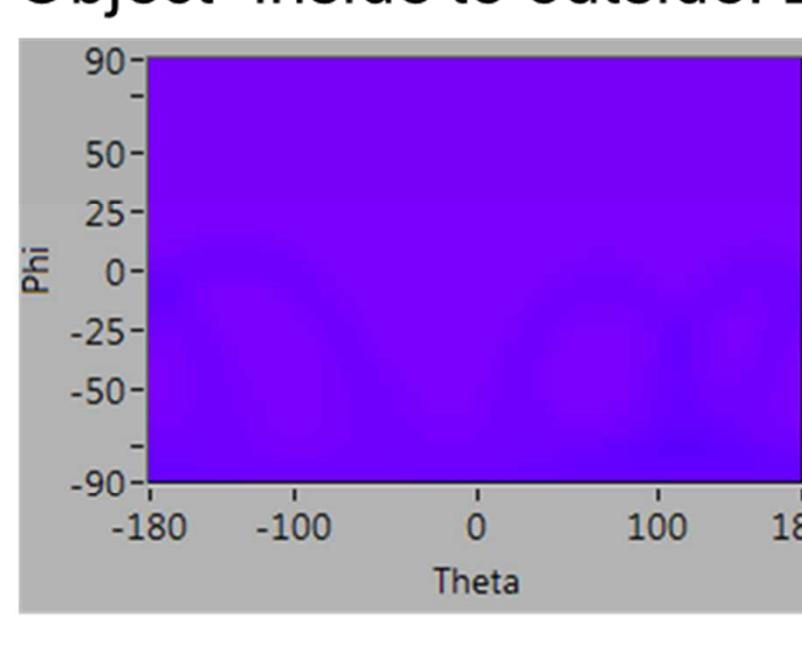
Other Capabilities

Material identification by neutron spectroscopy



HEU detection via active interrogation

"Object" inside to outside: Lucite, 3 HEU shells, 1 DU shell, lucite (AmLi next to object)



Determination of source multiplication using TCPH

