Technology Description

Sandia’s neutron scatter camera is an innovative design which combines the benefits of gamma ray imaging with fast neutron imaging. The camera detects special nuclear material (SNM) and rejects backgrounds from naturally occurring radiation sources that can produce false alarms. Additionally, the camera can detect and localize neutrons at greater distances and through shielding since fast neutrons are more penetrating than gamma rays. One of the key advantages is higher signal to background over non imaging detectors.

Sandia’s neutron camera design is sensitive, has good angular resolution, portable, and non hazardous. The design is scalable for shorter dwell times and longer stand-off detection.

Technological Benefits

- Compact size, portable
- Can filter out gamma background radiation “noise”
- Combines gamma ray and neutron detection in one instrument
- Good angular resolution- ~5 degrees achievable
- Scalable design to tailor sensitivity to user needs
- Can penetrate heavily shielded sources

Potential Applications

- Treaty verification & monitoring
- Nuclear safeguards & nonproliferation
- Homeland security

Contact Us

For more information, please contact:
Sandia National Laboratories
ip@sandia.gov
Refer to SD#10674
Or to learn more, please visit our website at:
https://ip.sandia.gov