LABORATORY/SCIENCE CHALLENGE:

Jefferson Lab developed a way to improve breast cancer detection by adding a new capability to a gamma camera already using Jefferson Lab nuclear physics detector technology.

TECHNOLOGY SOLUTION: *3-D IMAGING OF BREAST CANCERS*

Developed a new type of variable slant hole (VASH) collimator for gamma ray detection that allows for reduced radiation dose and better 3-D imaging of possible breast cancer tumors.

PATENT:

U.S. Patent 9,711,251

APPLICATIONS:

- New device, when installed in existing breast imaging systems, offers 3D imaging up to six times better than current imaging methods.
- VASH, creates better images of the breast than traditional molecular breast imaging, while also reducing a patient's radiation exposure
- Has the potential to reduce false positive diagnoses

RESULTS:

- An existing imaging system with the VASH collimator installed provided images with six times better contrast of tumors in the breast, suggesting the radiation dose given to patients for imaging could be cut in half.
- License with industry partner in negotiation

Jefferson Lab