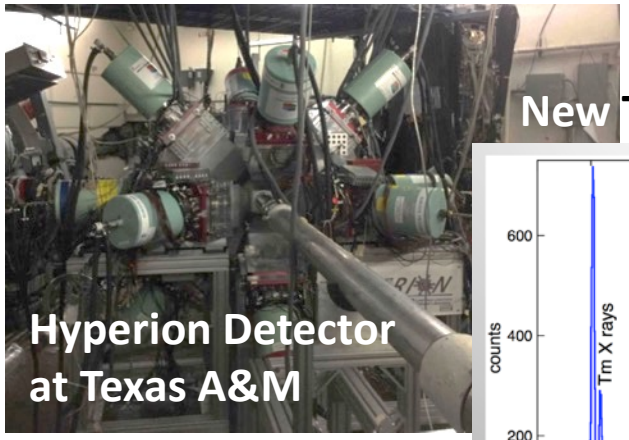
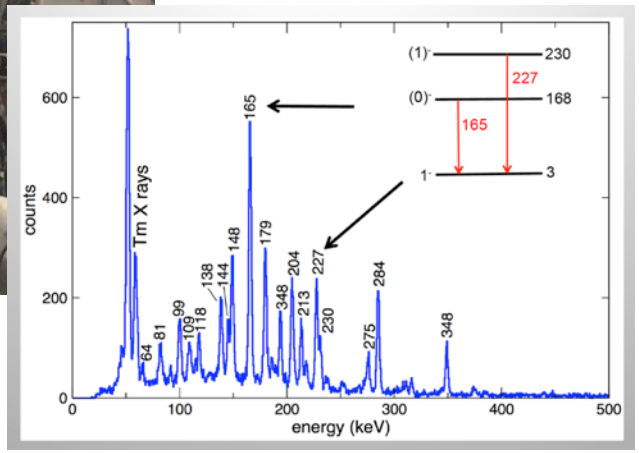
# Surrogate Nuclear Reactions

## Research Overview

We have developed a new technique called surrogate reactions to measure cross sections of short lived isotopes. We measure nuclear structure of unstable nuclei, half-lives of short lived nuclear states, and branching ratios.




New Transitions in Tm-168




## Potential Collaborations

- Studies of reaction cross sections in astrophysical r-process
- Nuclear astrophysics and stockpile stewardship applications.
- Th-229m for nuclear clocks

## Skills Students Acquire

- Accelerator experiments
- Monte Carlo, C/C++
- Solid state detectors
- Big Data analysis (multi-TB)

## NSSC Students

Justin Monson (2014) ⇒ LBL
Perry Chodash (2015) ⇒ LANL
Tomi Akindele (since 2014)

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