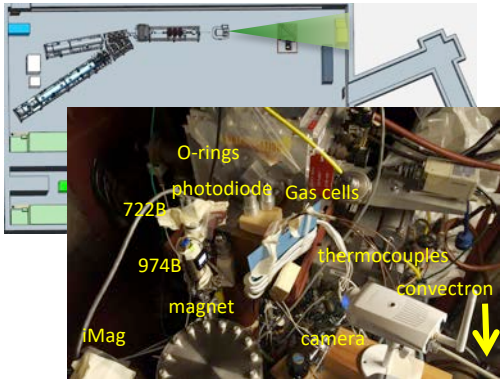
Neutron Imaging, NIF and the r-process (n,γ)

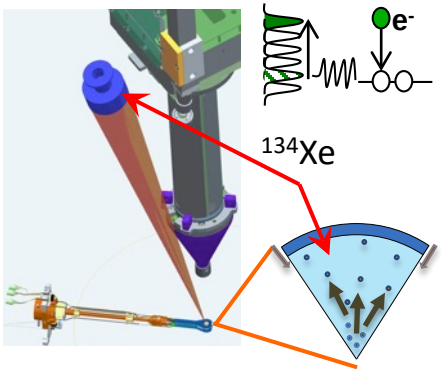
Research Overview

Production, use, and characterization of neutrons: transport, detectors, and cross sections through three separate programs (Neutron Imaging, NIF, and the beta-Oslo method using radioactive ion beams).

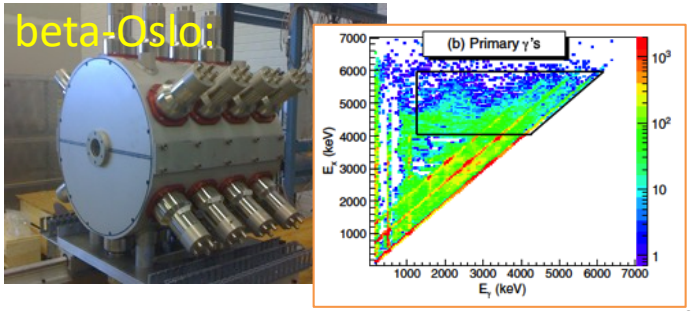
Neutron Imaging:



NIF:



beta-Oslo:



Potential Collaborations

- Neutron Imaging:
  - Construction of facility in B194
  - Equipment damage testing
  - Advanced imaging methods
  - Cross section measurements
- National Ignition Facility
  - Atmospheric xenon monitoring
  - Nuclear-plasma interactions
- beta-Oslo method
  - Gamma strength function ⇒ (n,γ)

Previous Students at LLNL

- PD: Brian Daub ⇒ WCI, 2014 (Nuclear-plasma effects)
- UG: Chris Brand ⇒ Safety Basis, 2016 (MCNP simulations for NA-22/NIF)
- GS: Cory Waltz ⇒ NIF, 2016 (HFNG)
- UG: Jaben Root ⇒ NIF, 2016 (HFNG)

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