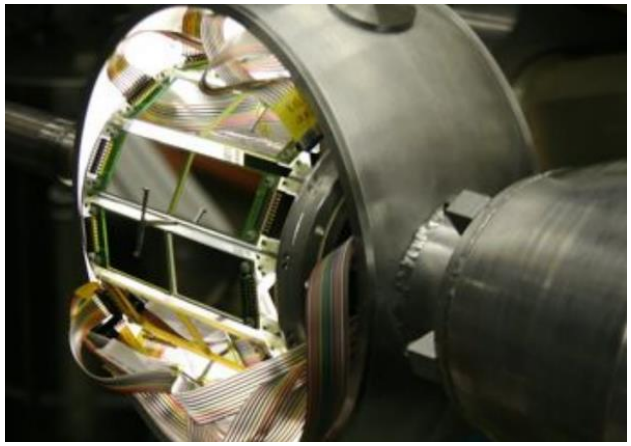
Silicon Array Working Group:

Heard community updates on:

- Physics scope
- Existing, new and planned devices
- Community needs for instrumentation
- Community needs for beams and *beam quality* (esp. purity)



Session Agenda

• *Decay measurements at FRIB*	Chris Wrede (MSU)
• *Helios Silicon Upgrade*	Daniel McNeel (University of Connecticut)
• *APOLLO with HELIOS*	Jack Winkelbauer (LANL)
• *ANASEN Overview*	Jeff Blackmon (Louisiana State University)
• *sORRUBA + JENSA for astrophysics*	Kelly Chipps (ORNL)
• *Si Tracking Array*	Dennis Mücher (University of Guelph)
• *Silicon + gamma setups at FRIB*	Steve Pain (ORNL)
• *Update on HINP4 ASICs*	Lee Sobotka (WashU)

- Community discussion

Silicon Array Working Group:

Priority Physics

- Direct (a,p) (p,a) measurements
- Scattering and transfer on rp process nuclei
- Transfer on r process nuclei
- Surrogate measurements for n capture
- Decay measurements on proton-rich nuclei

Priority Beams

- Si detectors are used for too broad a physics scope to list individual nuclides here
- Proton-rich beams of rp-process nuclei
- Neutron-rich nuclei (esp in vicinity of shell closures)

Priority (Planned) Equipment

- Community support for a large (up to 1000ch) suite of standardized FRIB digitizer/DAQ explicitly for Si, well integrated and readily coupled to other large devices (HRS,GRETINA,ISLA,etc)
- ASICs system required for large (1000+) channel systems
- Some standardization of FRIB detectors possible, but many individual systems stewarded across the community
- Si for HELIOS-like spectrometer

Beam property and DAQ requirements?

- Beam purity is a paramount concern to the community
- Community concern about beam detectors coping with contaminated beams at FRIB rates (and time structure)
- May be necessary to couple to recoil separators to fill this need (at cost of experimental complication)
- Well integrated DAQ with other devices, ability to view/analyze merged data in real time