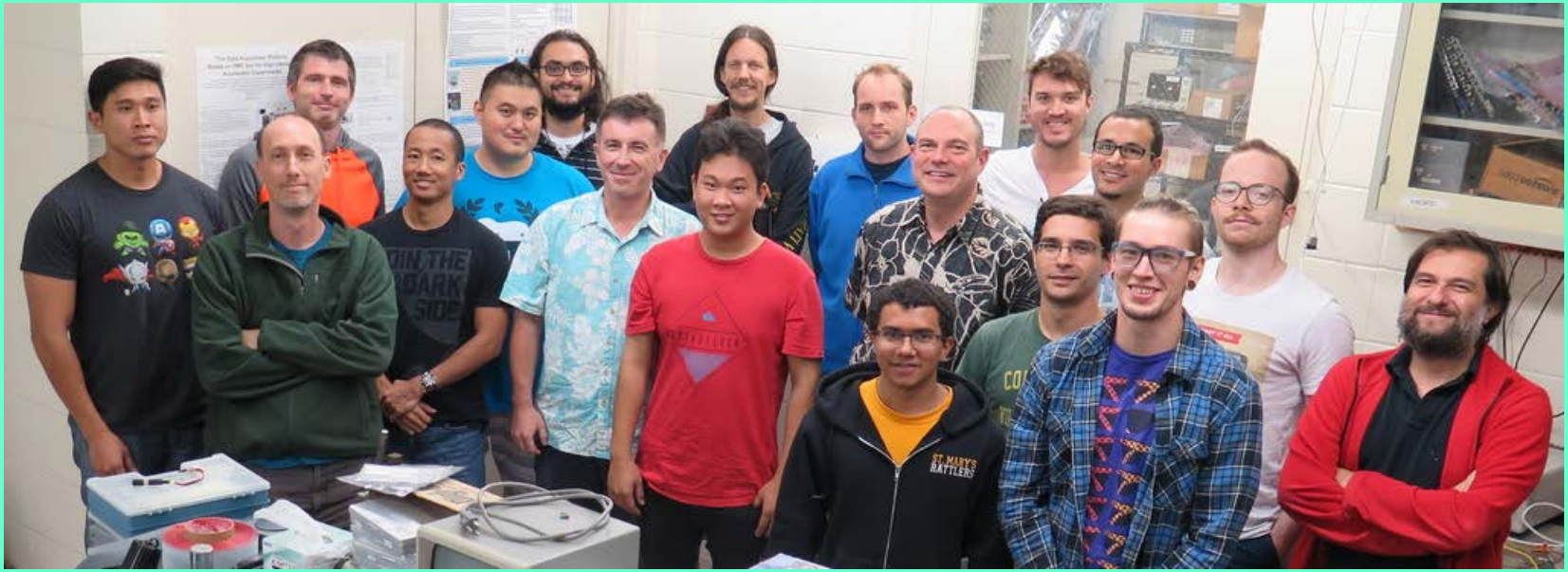
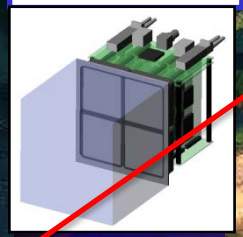


ID Lab Personnel
2 Visiting scholars (Nalu Scientific)
4 Postdocs
1 staff engineer, 1 Faculy
3 PhD, 5 Masters Grad Students
Numerous Undergraduates

Current Projects

High intensity MCP-PMT Charge Sensitive Amp GRAPH ASIC

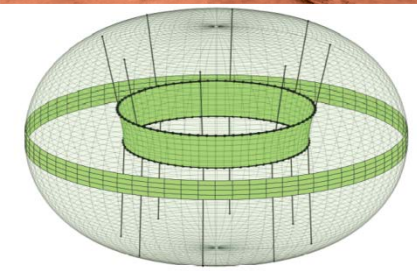
Neutron Time Cube

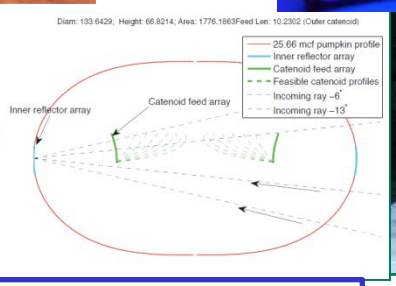


Belle II Construction & Commissioning (pixel, Silicon Upgrades)

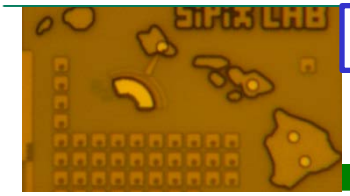
Belle II

Cherenkov Telescope Array (CTA)

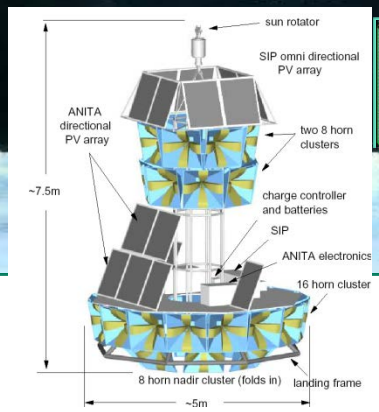


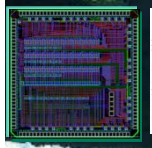


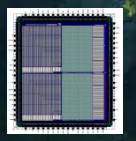
ExaVolt Antenna (EVA)



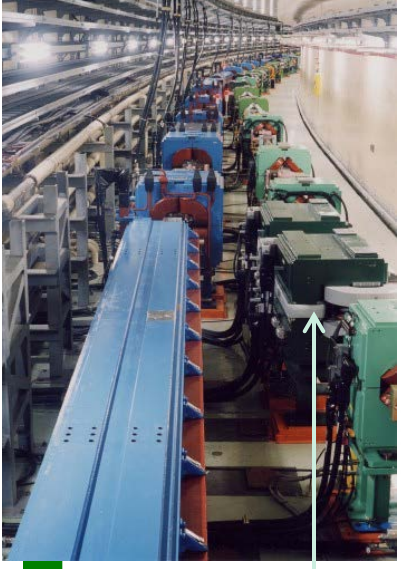
ANITA4



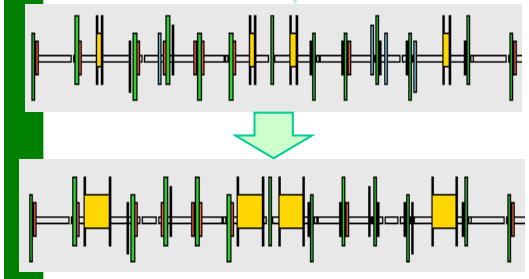




KEKB to SuperKEKB



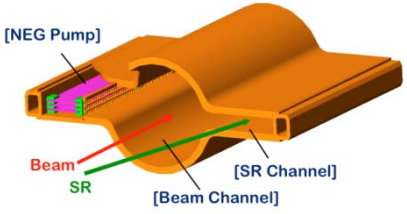
Replace short dipoles with longer ones (LER)

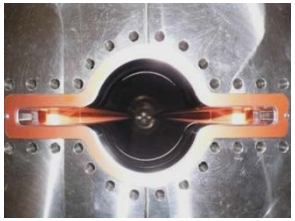


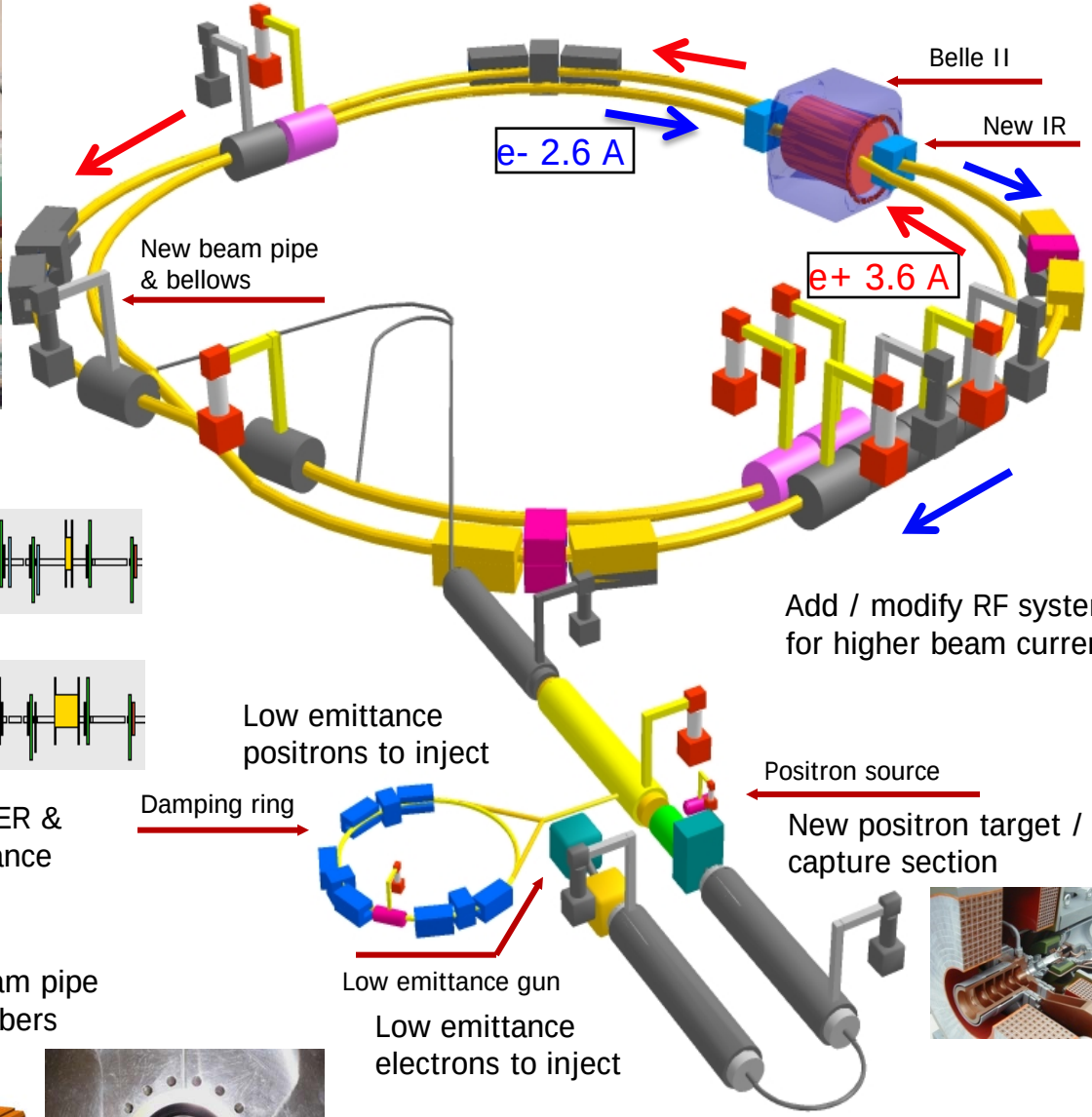
Redesign the lattices of HER & LER to squeeze the emittance

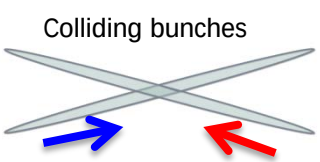
Nano-beams!

TiN-coated beam pipe with antechambers

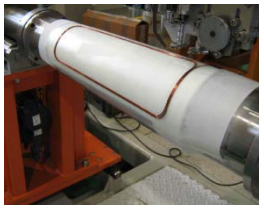








New superconducting /permanent final focusing quads near the IP



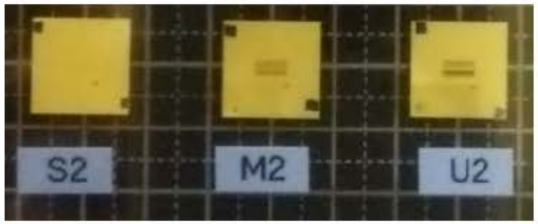
Add / modify RF systems for higher beam current

New positron target / capture section

To get x40 higher luminosity

XRM: Hardware

X-ray beam line under construction at LER



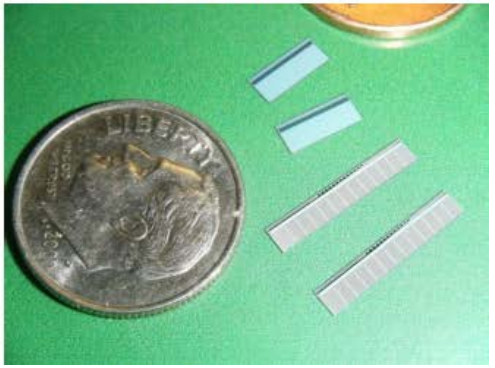
Masks: ~20 μm Au on 600 μm CVD diamond substrate

Water-cooled mask holder

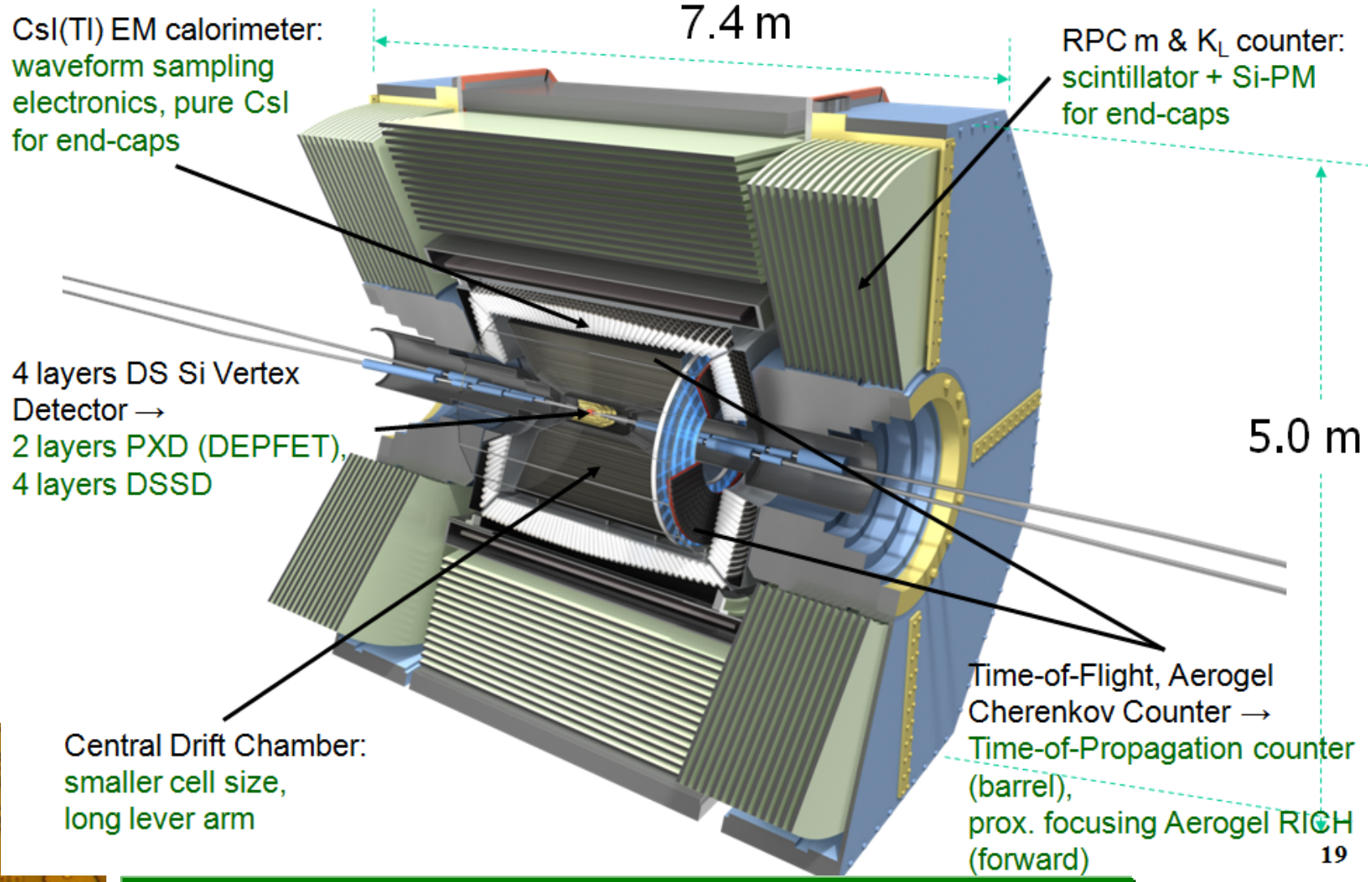
US-Japan Collaboration (U. Hawaii, SLAC, Cornell U.)

High-speed readout electronics for the X-ray monitor, being developed by U of Hawaii.

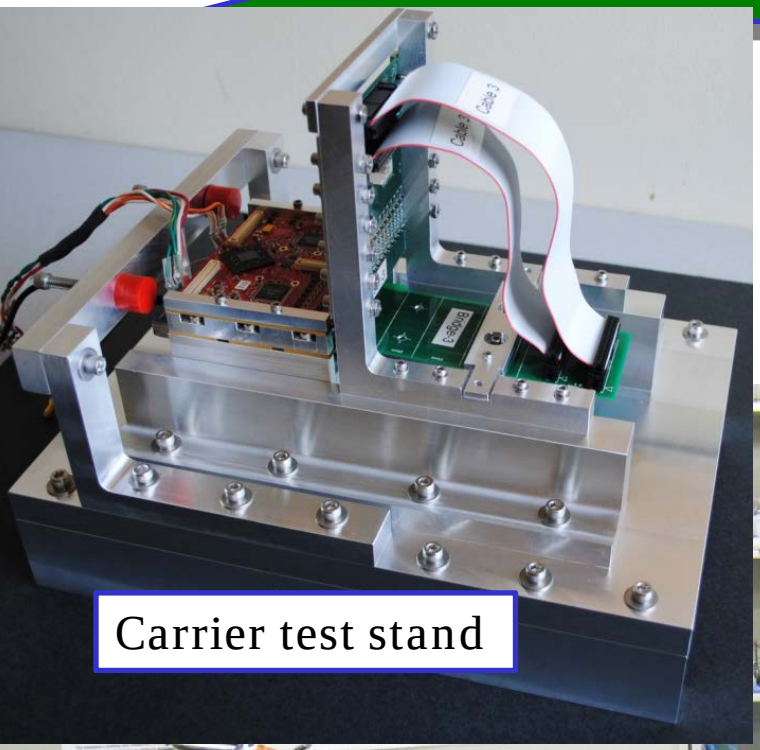
Deep Si pixel detector and spectrometer chips for the X-ray monitor, being developed at SLAC.



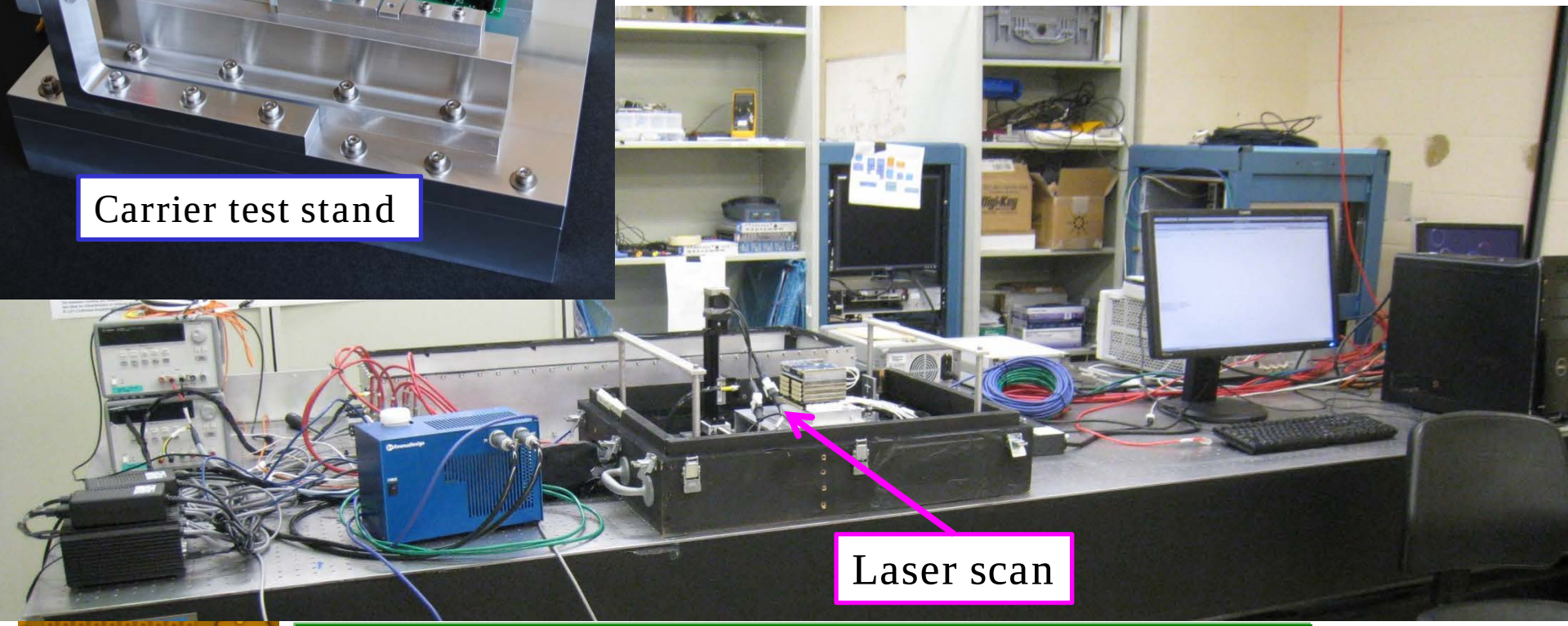
Belle II detector upgrade



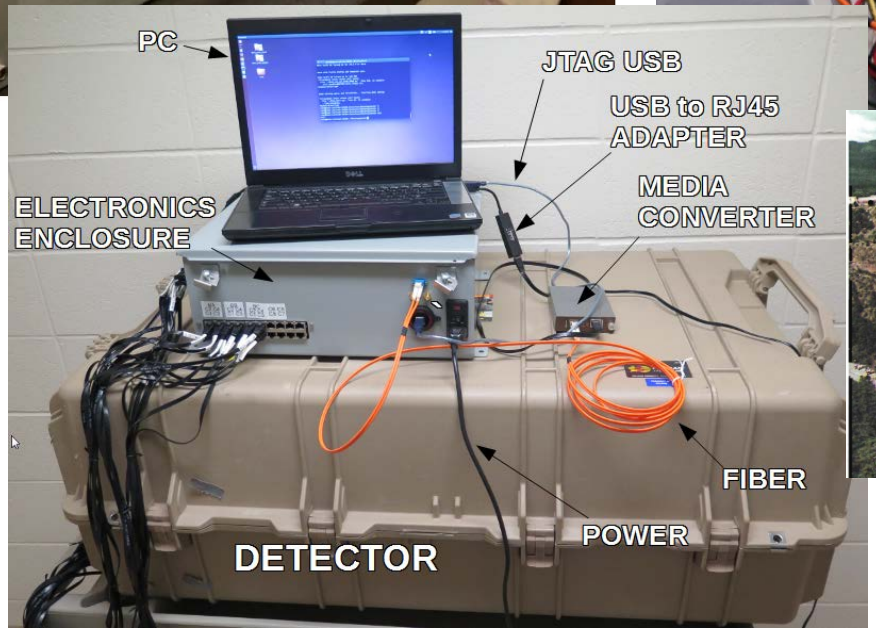
iTOP Production Testing

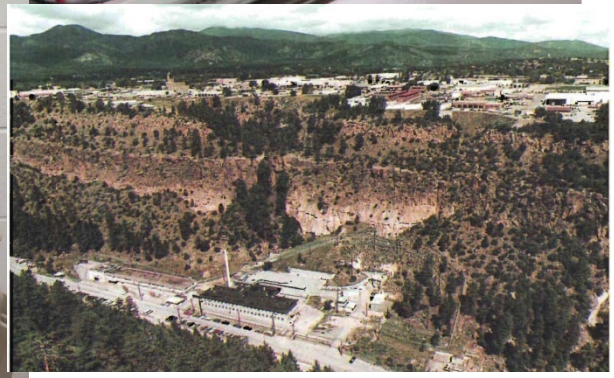


- **2x Carrier test stations at South Carolina, 1x backup in Hawaii**
- **Laser test stand Hawaii**
- **SCROD test stand in Pittsburgh**
- **Firmware test at PNNL**

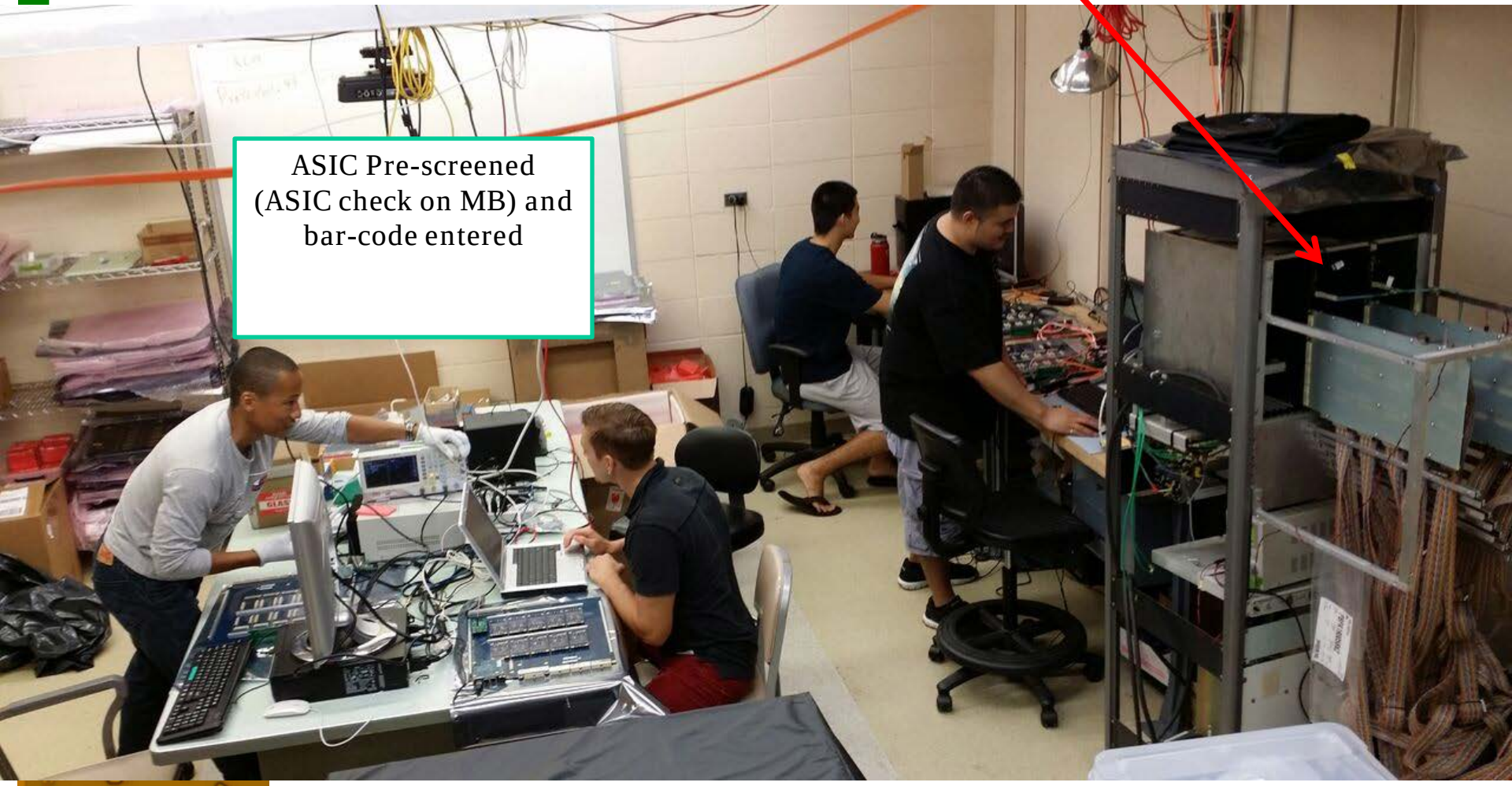


Borehole Muon Prototype

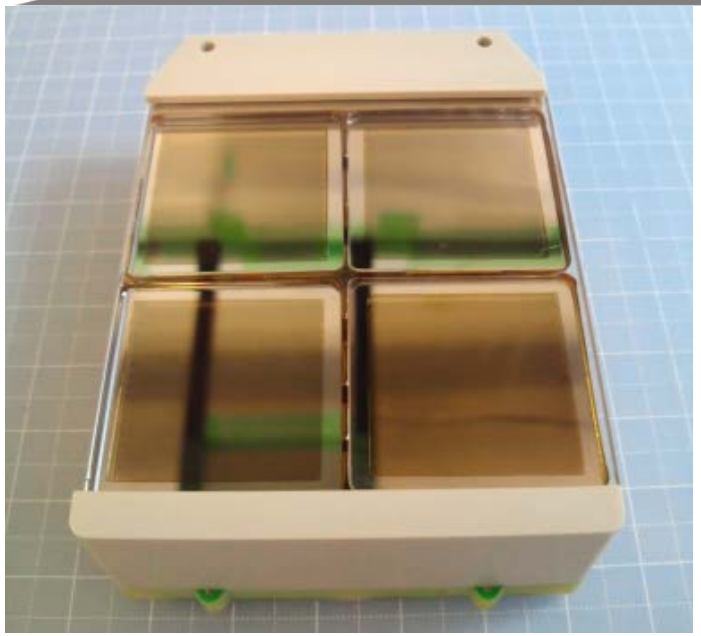


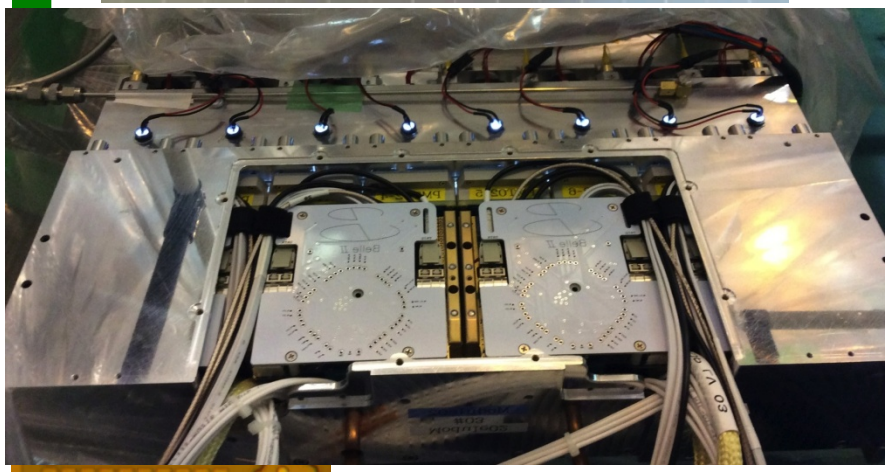


- 4x parallel Motherboard + DC test stations
- Final RHIC test station with 2x Scintillating Fiber trackers



Now have to actually make work...

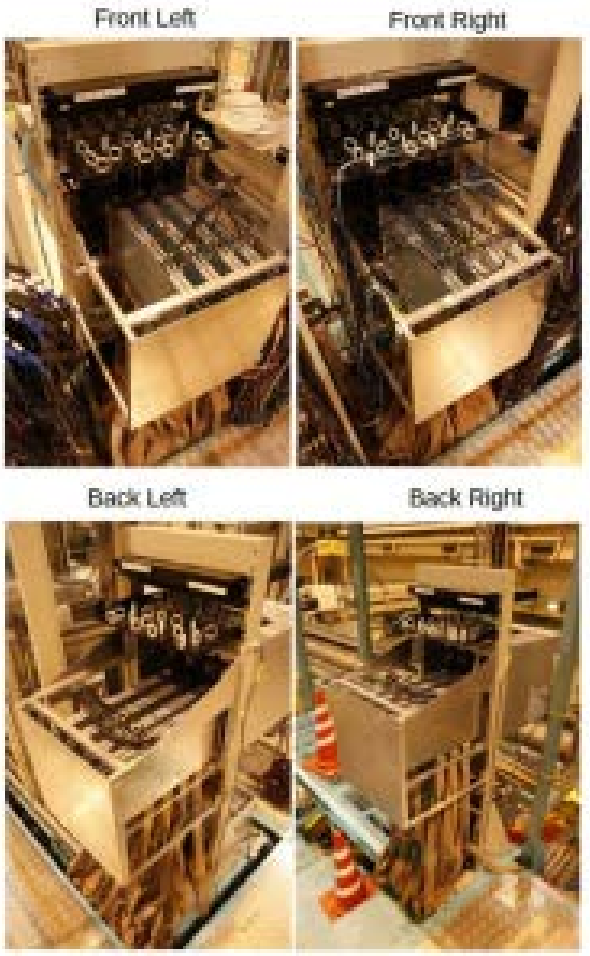




Now have to actually make work...

>20,000
Channels

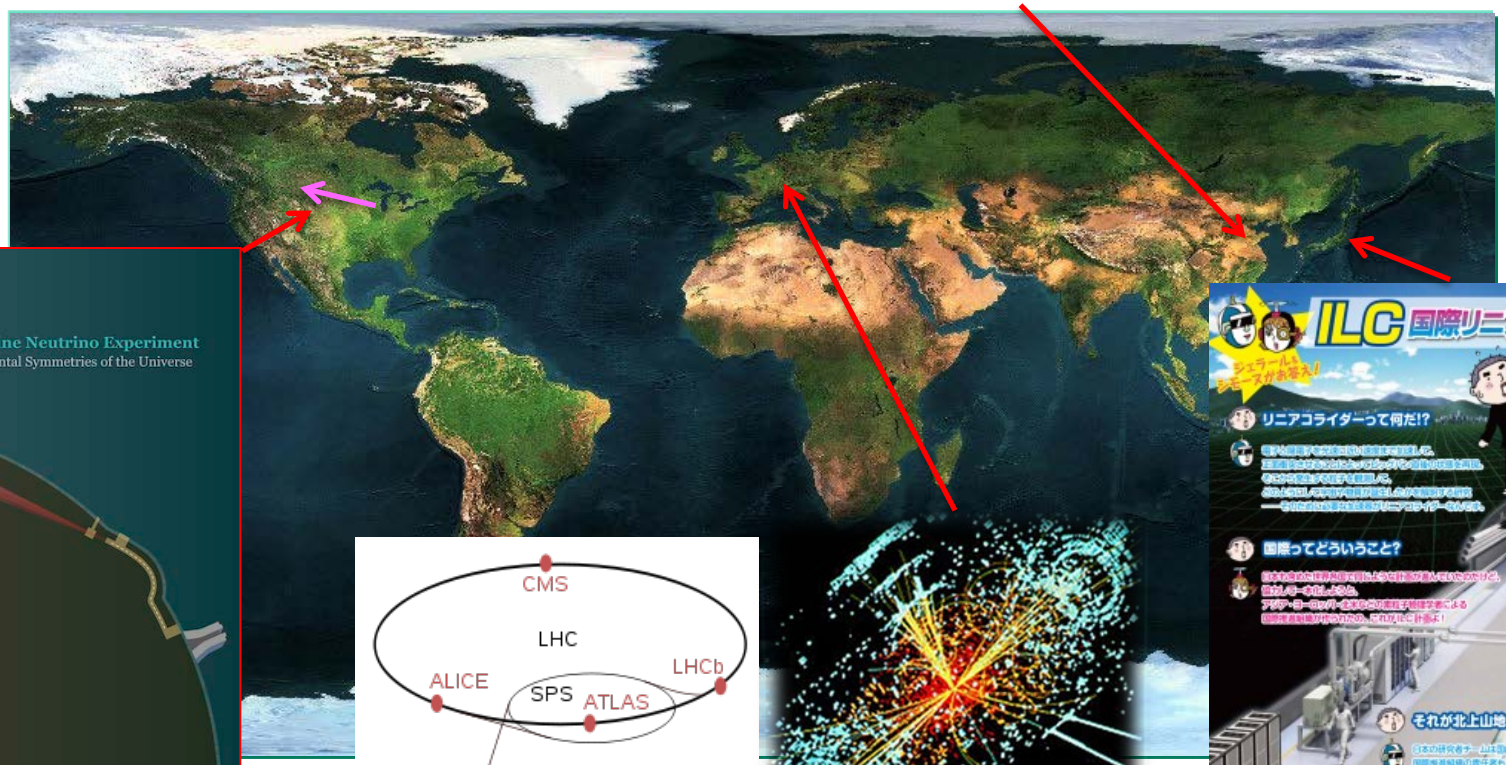
Modules ready to ship



Barrel scint. readout modules
Photo: Chris Ketter, UH

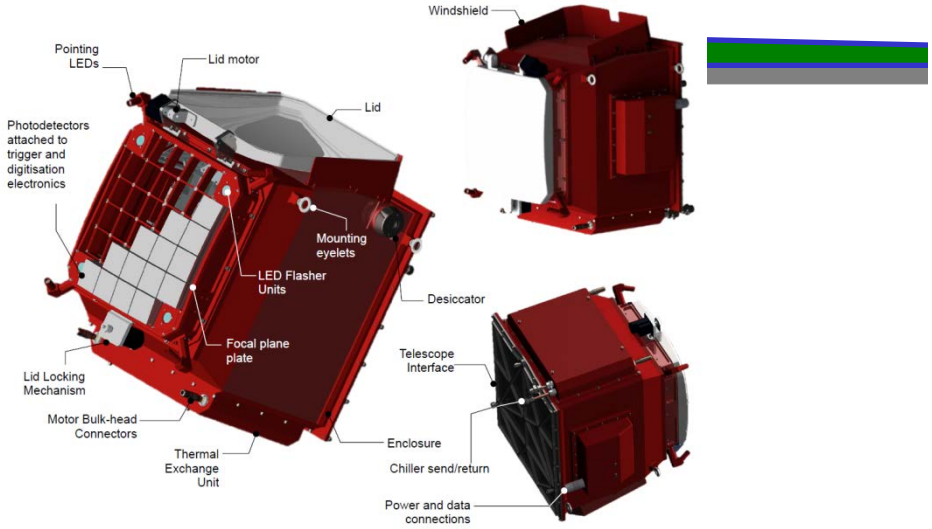
Thinking toward the future

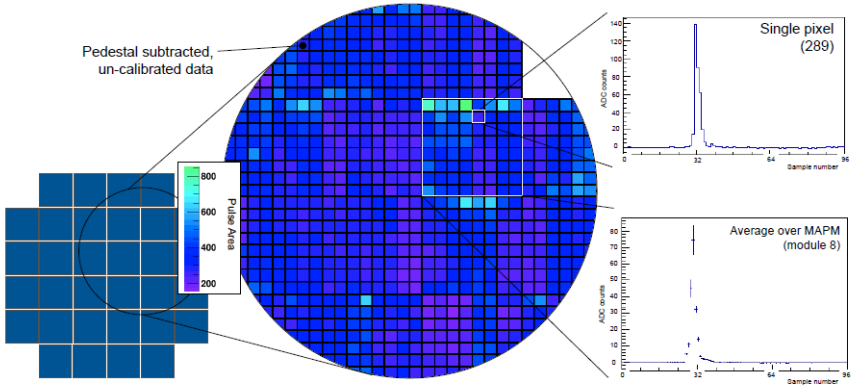
- Future Circular Collider in China

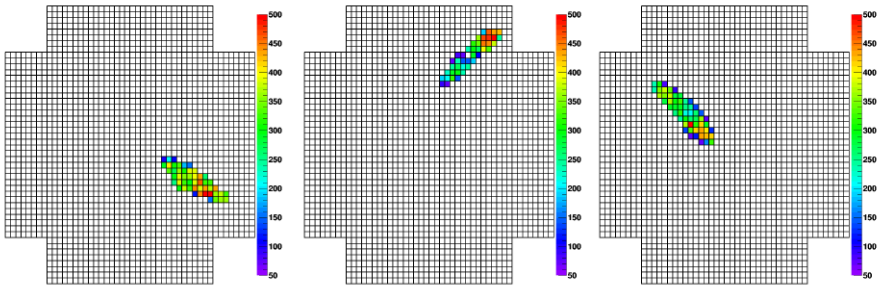


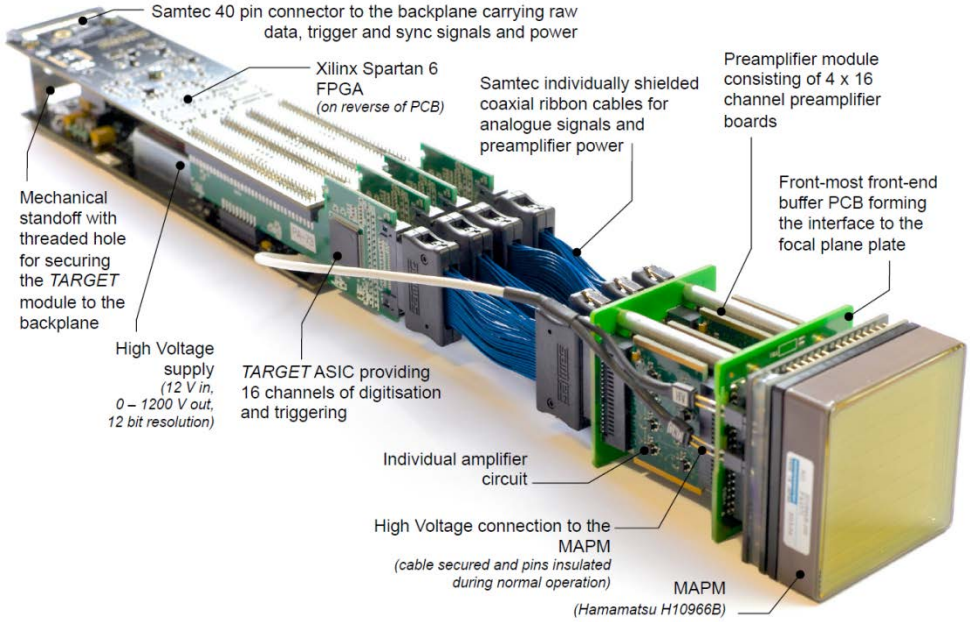
- LBNE LHC Upgrades ILC

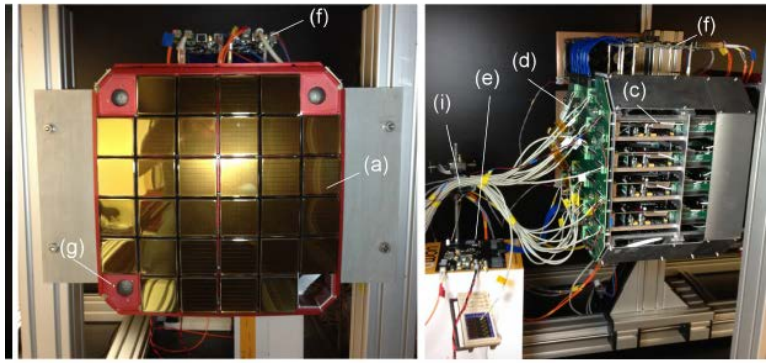
GCT Camera (CTA) – TARGET ASIC





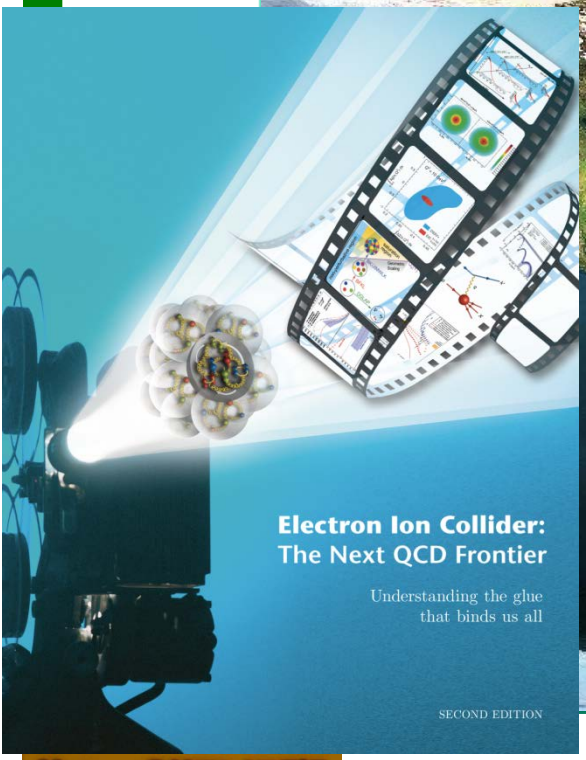


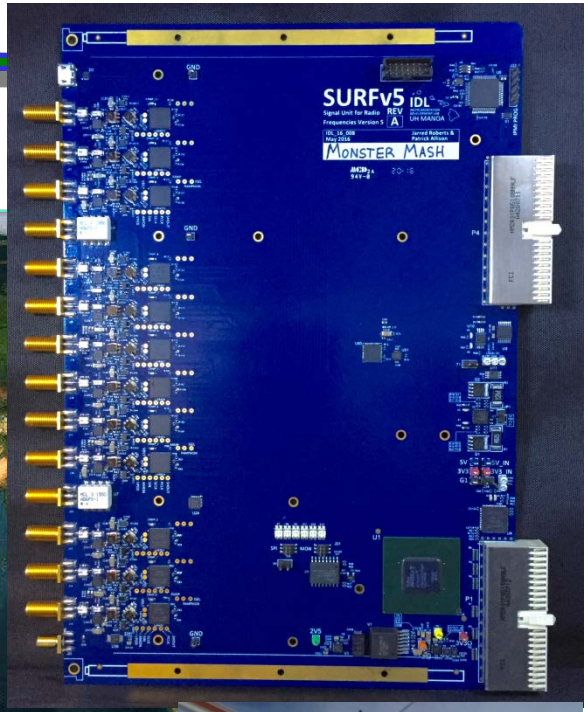




More about Future

- GAPS, new detector development





- JLAB e-Ion Collider ANITA-V