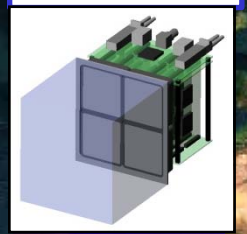
Fall 2015
State of the ID Lab

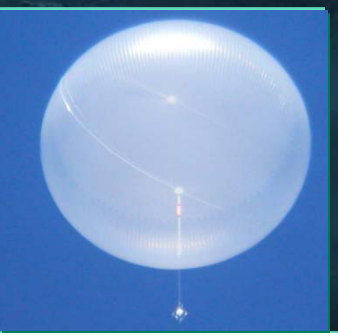
Sept 2015

New/Immediate Projects

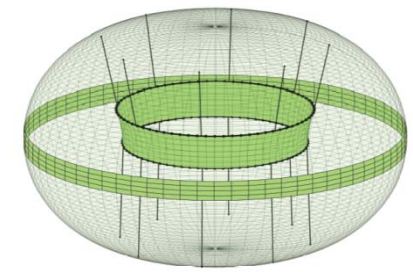
High intensity MCP-PMT Charge Sensitive Amp GRAPH ASIC

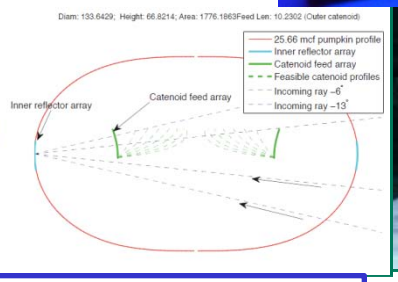
Neutron Time Cube





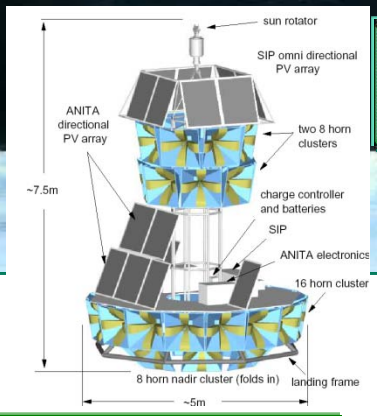
Belle II Construction & Commissioning (pixel, Silicon Upgrades)

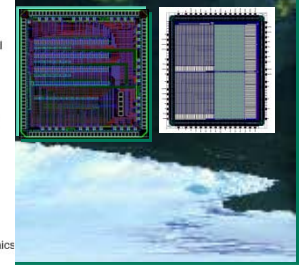




ExaVolt Antenna (EVA)

ANITA4





A long journey coming to an end

Welcome to the 1st Open Meeting of the Super KEKB Collaboration.

(T. Browder, University of Hawaii)

KEKBとBelleに携わった全ての人とともに、アップグレード計画の成功を祈念しつつ。

2008年10月9日

J. 林 誠

若い時はセノビ，
成長して大きな成果

2008年10月10日

T. Ohkawa

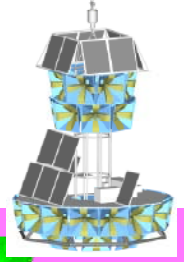
[All talks and discussions about the detector, physics and accelerator are open. However, there will be a closed session to discuss critical collaboration issues. The meetings will continue to have this format for at least the next year.]

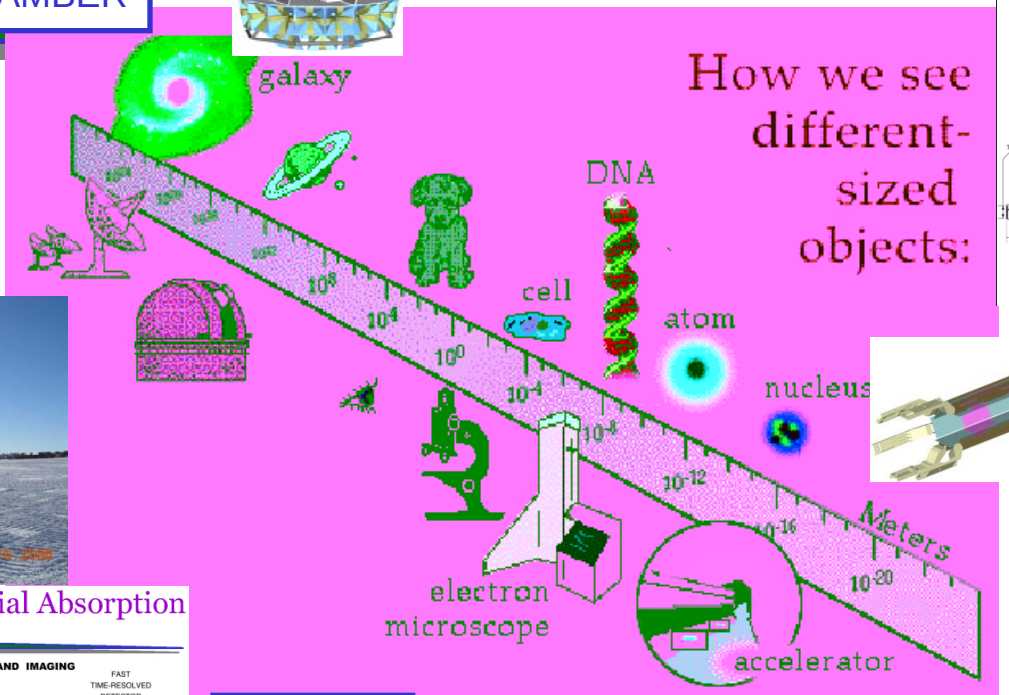
June 30, 2010

- Design Workshops started 2002
- First SuperKEKB beam in February, 2016

Big and Small

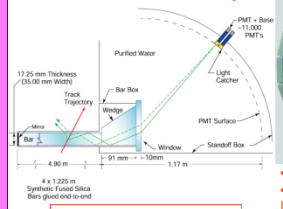
AMBER



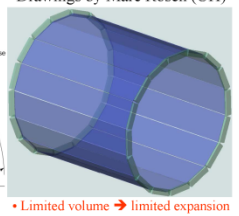


imaging TOP (iTOP)

Concept: Use best of both TOP (timing) and DIRC
And fits Belle PID envelope



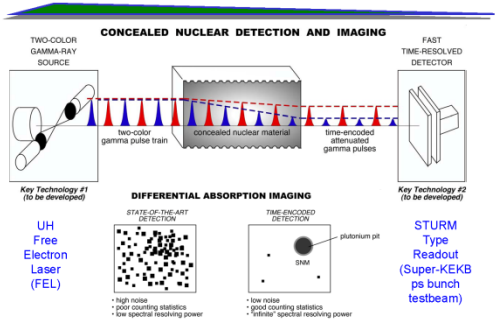
Drawings by Marc Rosen (UH)



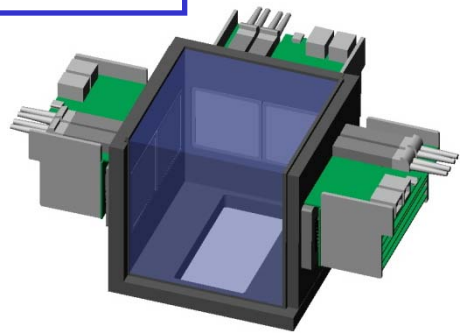
- Limited volume → limited expansion
- Use simultaneous precision T, θc [measured-predicted] for maximum K/π separation

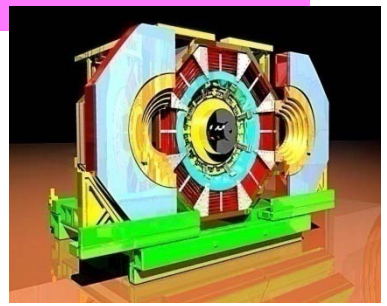
Squeeze expansion volume

Time-Encoded Differential Absorption

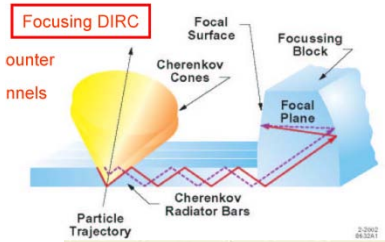


Neutrinos



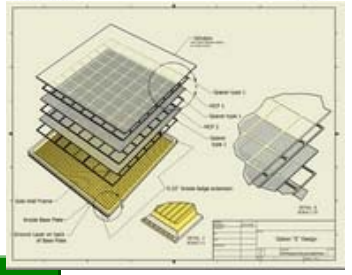


Focusing DIRC



BESIII

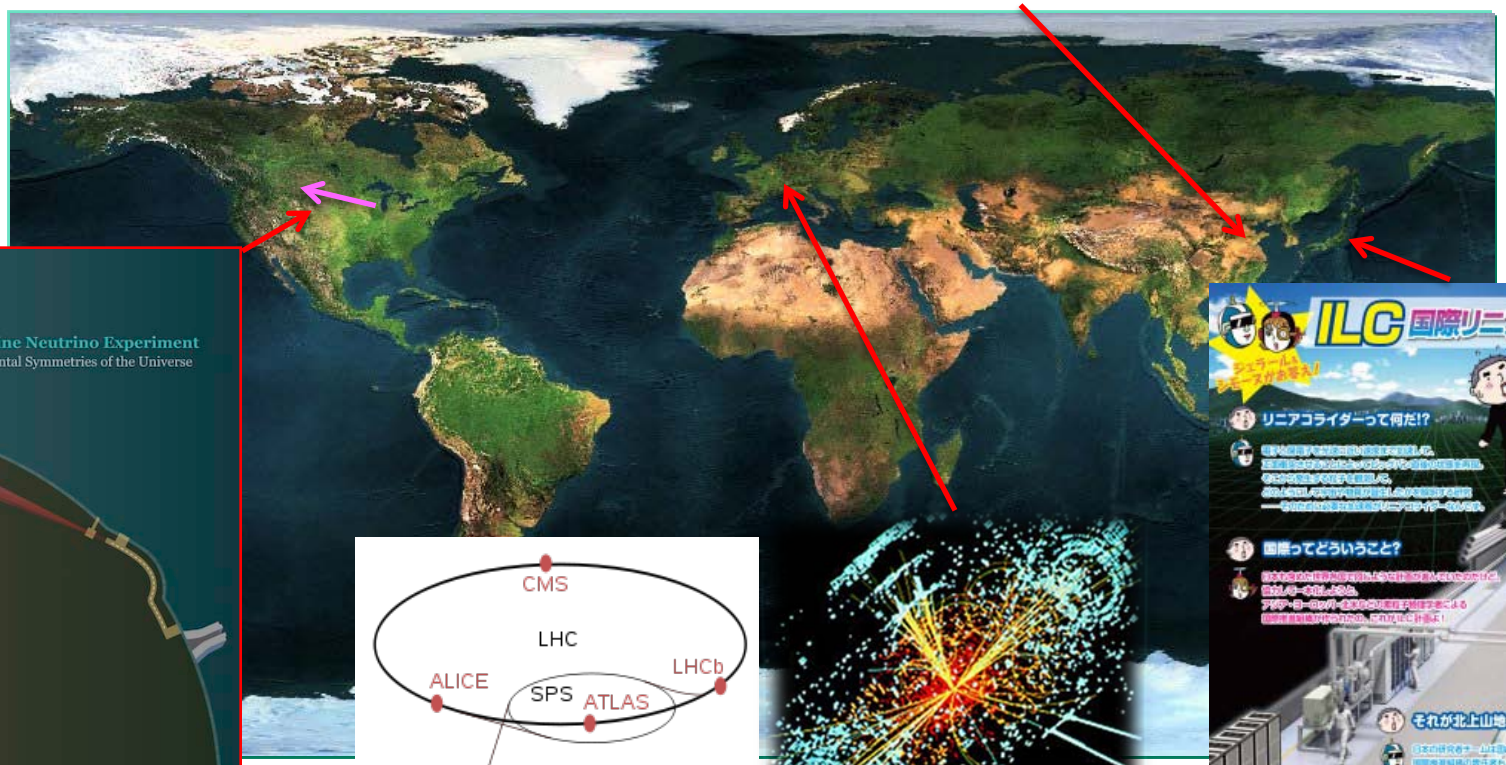
LAPPD→



We (you) are doing world-class research here

The Future?

- Future Circular Collider in China



- LBNE LHC Upgrades ILC

We need you! (for new measurements)

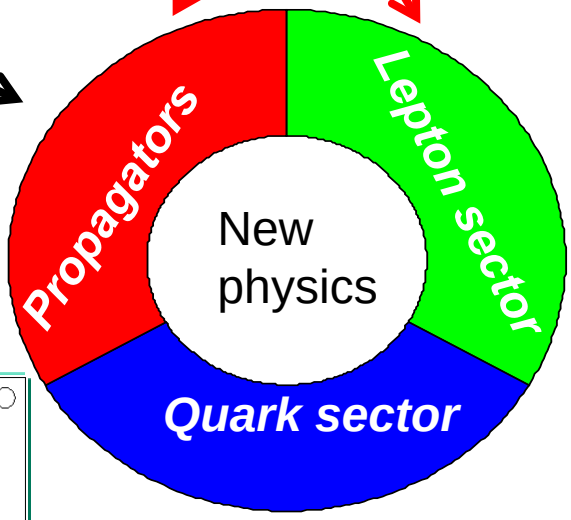
LHC, ILC

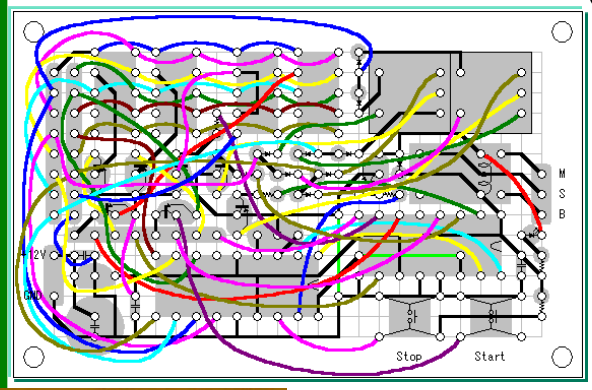
Higgs boson mass and couplings. New particle searches

UHE neutrinos

ν expts accel, reactor, g_μ-2, $\mu \to e\gamma$, etc.

ν mass and mixing, CPV, and LFV





τ LFV,
τ CPV

Flavor mixing,
CPV phases

Super B Factory,
LHCb, BESIII, Rare *K* expts

Milestones and Opportunities

- Belle II – iTOP/KLM next year, pixel upgrade thereafter
- Disruptive technology: LAPPD/STRAP/PSEC5 commercialization
- ANITA 4th Flight next year → gotta make it work
- New radio initiatives: Greenland, UHE calorimetry
- Great opportunities – life cycle of a university
  - Jr./Sr. research projects (EE 399/499, PHYS 499)
  - Directed study/NASA Space Grant/REU (Japan/Antarctica)
  - Conferences & Publications (NIM/IEEE/JINST ...)
  - Board/firmware/chip design (PHYS476)
  - Many designs in queue; ALPS, P5P, GRAPH1, RFPIX1
    - Design, layout, simulation and test opportunities