고에너지 물리 실험 연구실 소개
(High Energy Physics Lab)

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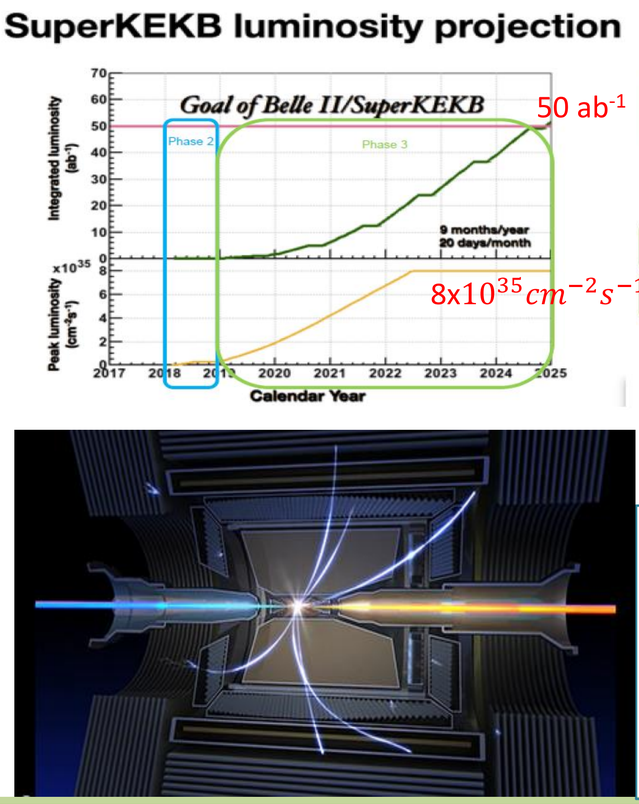
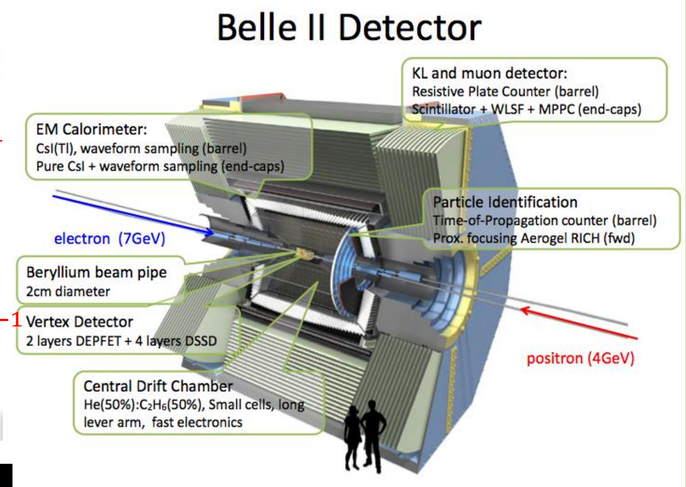
SuperKEKB / Belle II & Hardware Trigger System

- KEKB / BELLE collected 2.1x$10^{34} cm^{-2} s^{-1}$ and ~1 ab^{-1}, but not enough for the New Physics search.
- SuperKEKB target instantaneous luminosity is 8x$10^{35} cm^{-2} s^{-1}$.Target integrated luminosity ~50 ab^{-1} .
- Goal of Belle II
  - CP violation studies by precise determination of decay vertices of B mesons and tagging of D mesons
  - New Physics in decays of heavy flavor particles
- ECLTRG Group
  - Hardware Mass production
  - Firmware Development
  - Analysis
    - $B^0 \rightarrow \eta\eta,\ \Xi_c \rightarrow \Xi^-\pi^+$

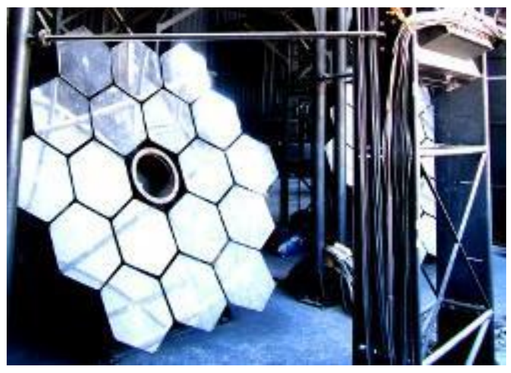


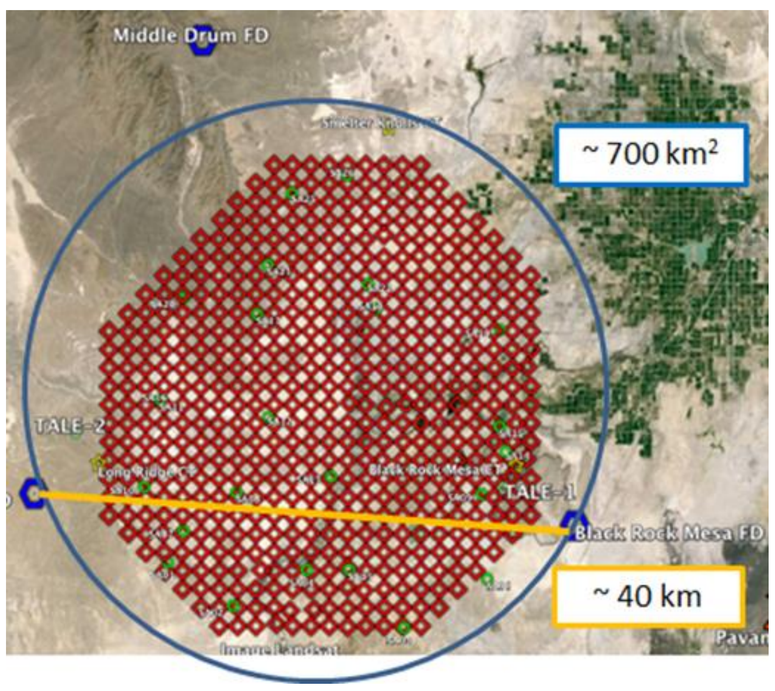


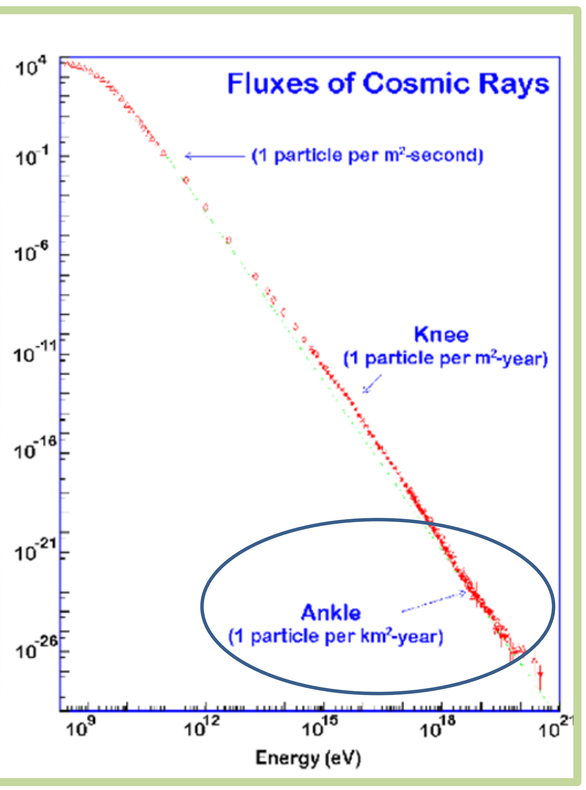
- **ECL Trigger**:
  - Based on 576 Trigger Cells (TC)
    - Physics trigger
    - Bhabha trigger
    - Event timing

Telescope Array(TA) experiment

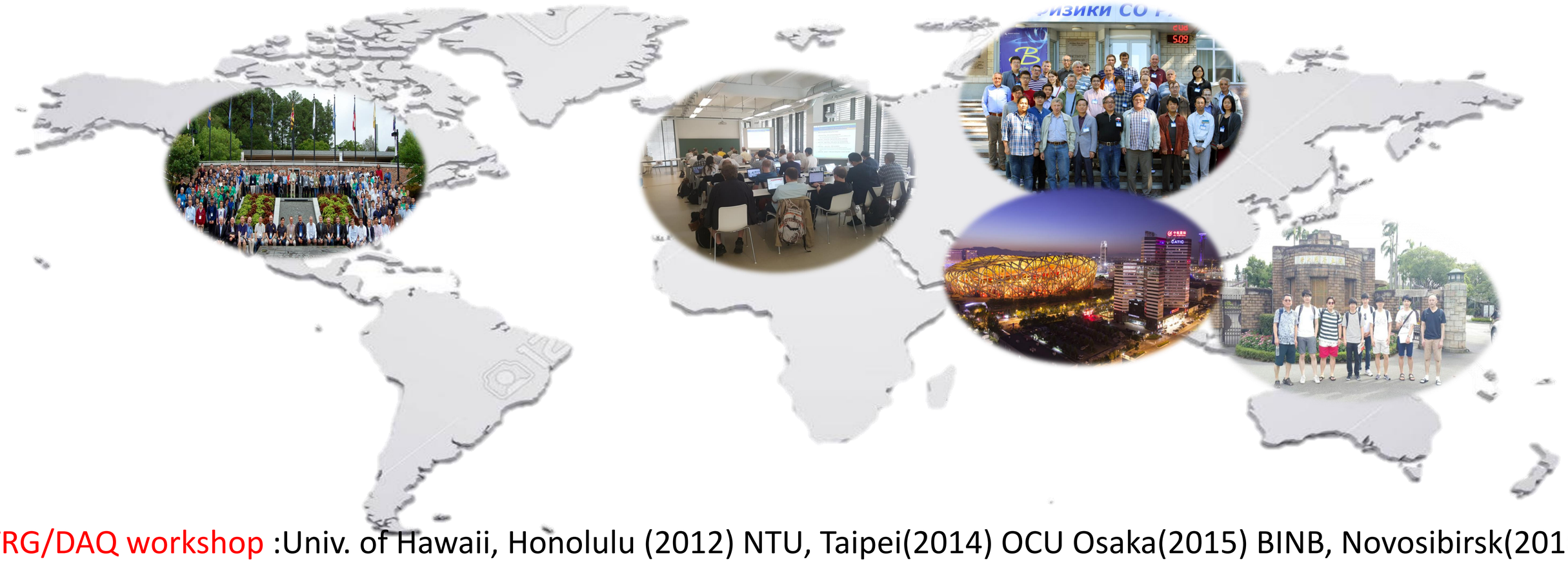
- Ultra High Energy Cosmic Ray(~>10^{18}eV)
- Origin : Black hole, Supernova, AGN, γ-ray burst
- The Utah Cosmic Ray group built the Fly's Eye at Dugway, Utah
- Hybrid Experiment of Surface Detector and Florescence Detector







국제 학회, 어디까지 가 봤 니



TRG/DAQ workshop :Univ. of Hawaii, Honolulu (2012) NTU, Taipei(2014) OCU Osaka(2015) BINB, Novosibirsk(2016) NTU, Taipei(2017) KIT, Karlsruhe (2018)

Belle II General Meeting(B2GM) : 3 times per year in KEK, Japan

Others: Calor2016, INSTR2017, TIPP2017, IEEE RT2018, ICHEP 2018