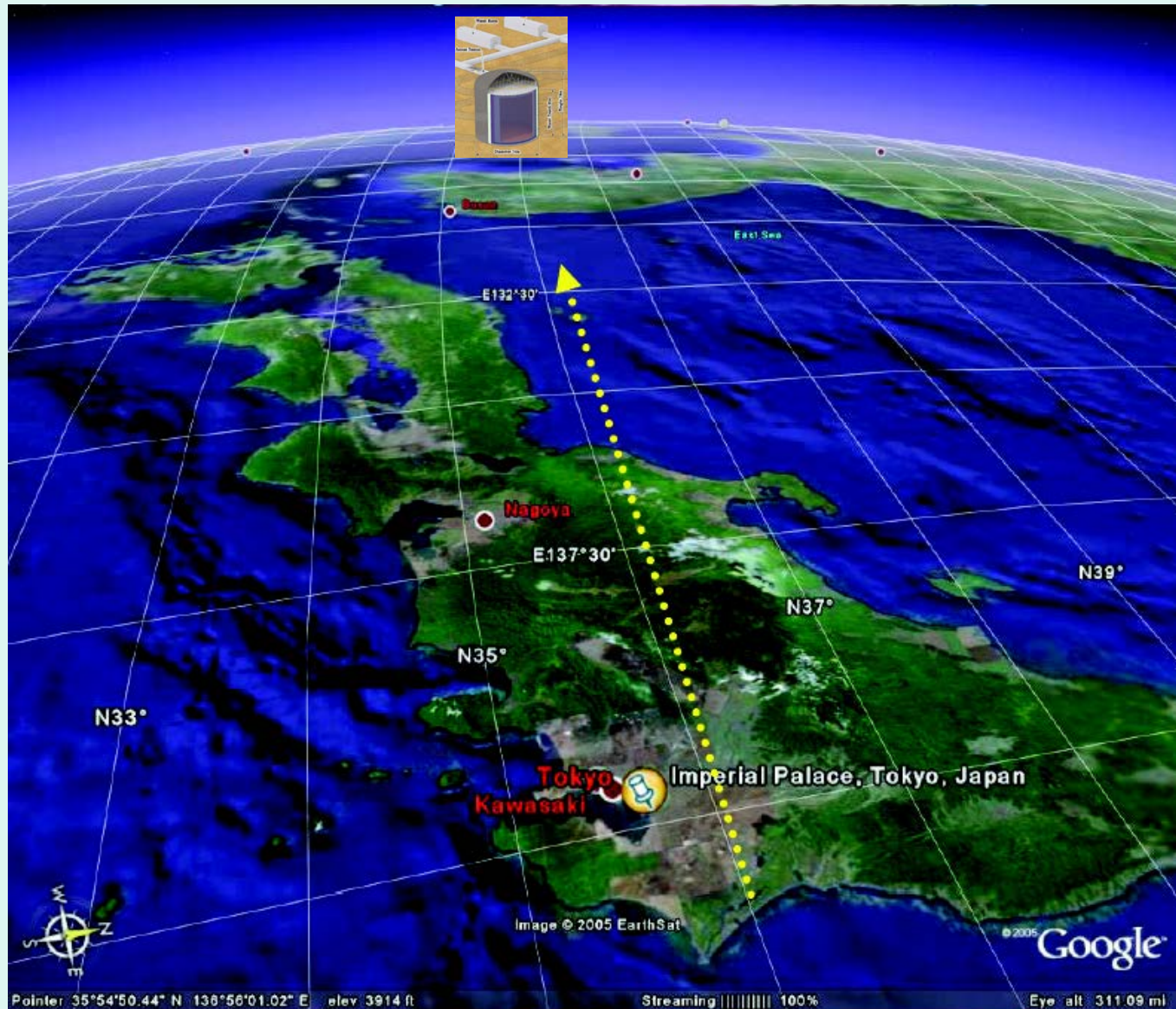


Korean Activities for 2nd HK Detector

Soo-Bong Kim, Feb. 15, 2017



After the 1st Workshop, Nov. 2016

- Efforts to expand the Korean group including astronomers, nuclear astrophysicists, particle phenomenologists, and collider experimenters

- 1st kick-off meeting with astronomers and nuclear astrophysicists (will have a special session in the spring Astronomy Society Meeting)

- Organized a group of interested phenomenologists (S. Kang)

- Made efforts to have endorsement of CMS and Belle II collaborators

- Visited the city hall of Dalseong near Mt. Bisul

- Explained our project.

- The city mayor promised his best effort to help us.

Korean Collaboration for 2nd HK Detector in Korea

- Chonnam National University: 김재률, 문동호, 임인택, 주경광, 이재식, 최기영
- Chonbuk National University: 최성렬
- Choongnam National University: 박종철
- Dongshin University: 박명렬, 최준호
- GIST: 장지승
- Gyeongsang National University: 이강영
- KASI: 김상철, 안상현, 이재준
- KIAS: 고병원, 전응진
- Konkuk University: 송정현
- Kyungpook National University: 김우영, 손동철, 김동희, 박명구, 오영도 (김홍주, 김귀년, 오용석, 최호명)
- Seoul National University: 김수봉, 윤성철, 서선희, 서현관, 권은향
- Seoul National University of Science & Technology: 강신규
- Seoyeong University: 장한일
- Soongsil University: 천명기
- Sungkyunkwan University: **Carsten Rott**, 유인태
- UNIST: 곽규진, 류동수
- Yonsei University: 박성찬, 신서동

- Start use of the remained RENO-50 R&D fund by the Samsung Science & Technology Foundation, for the R&D work for the 2nd HK detector in Korea (2017-2019)

- Geological survey & cost estimate for underground facility

- Cost estimates of tank and water purification system

- R&D for PMT mounting and photo sensors

- Meeting with a government officer at MISIP

- Described our project and strong interest from international community

- Requested a serious consideration of a national project to build this underground facility

- Several Korean students have worked on improved sensitivities in the working group.

- Efforts on reduction of systematic uncertainties based on two identical HK detectors in Kamioka and in Korea

Plans

- Continue best efforts to increase the Korean endorsement including the astronomy and geo-science communities
- Write a Korean proposal and keep close contact with the government
- Obtain cost estimate of the underground facility after a geological survey and prepare a conceptual design report
- R&D for PMT mounting, photo sensors and calibration system
- Continue efforts on further improvements with the 2nd HK detector in Korea : 1000m for overburden & ratio measurement using two identical detectors