HK meeting@IPMU Jan. 27, 2014

# Steering Group Report Situation,....

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## Outline

- 1. Japan Status
  - 1. Science Council of Japan
  - 2. MEXT
- 2. Global Status
- 3. Forming the IBR committee with Foreign members.
- 4. LOI of CPV with the neutrino beam for J-PARC PAC (May 14-16, 2014).
- 5. Budget and Proto-type project.
- 6. Other Update
  - 1. A new convener
  - 2. Agreements
- 7. Conference speakers
- 8. Remark

#### 1. Japan Status

1. Science Council of Japan (SCJ) Master Plan

•The Master Plan of the big science project is being updated. We submitted the Hyper-K proposal to SCI in March.

•Roughly 200 projects were pre-selected in June 2013.

•We gave the presentation on Sep. 22nd, 2013 in the SCJ hearing as a pre-selected projects (~200).

 Among the 200 pre-selected projects, 25~30 projects will be selected by March 2014 [The result is expected very soon].

#### 2. The MEXT roadmap

•With the SCJ master plan, the MEXT will make the roadmap of the big science project. We should prepare the report to the MEXT in 2014.

• The result will be an important input to "Roadmap of large scale research projects" to be released by MEXT in 2015.

#### **2. Global Status**

ICFA nu Panel

ICFA nu Asia Meeting in Kashiwa in November 13, 2013

# http://indico.ipmu.jp/indico/conferenceDisplay.py? confld=26

•Nakaya gave the presentation.

ICFA nu European Meeting at Paris in January 8-10, 2014

http://www.apc.univ-paris7.fr/APC/Conferences/

ICFA\_Neutrino\_European\_Meeting\_2014/Home.html

Francesca gave the presentation.

 ICFA nu American Meeting at Fermilab in January 30-31, 2014.

- Chris is in the Scientific Organizing Committee
- •No specific Hyper-K talk

#### **2. Global Status**

- The First Hyper-K EU Open Meeting was held in December 18, 2013.
  - <u>http://indico.cern.ch/conferenceDisplay.py?</u>
     <u>confld=278933</u>
- US P5 Process
  - Shiozawa-san gave the presentation after the faceto-face meeting with Ed.
  - <u>https://indico.fnal.gov/getFile.py/access?</u>
     <u>contribId=28&sessionId=7&resId=0&materialId=slide</u>
     <u>s&confId=7485</u>
  - We were asked the follow-up questions. The US colleagues together with the HKWG steering committee responded.

### **2. Global Status**

US Snowmass Process

 A report of Intensity Frontier just comes: <u>http://arxiv.org/abs/1401.6077</u>

#### 2.2.3 The path forward

Table 2.1 gives a summary of the many current and proposed experiments, in the U.S. and abroad, designed to address the physics questions posed in this section. The number of possibilities is endless, nonetheless we now describe a specific path forward, both in the U.S. and in an international context. Neutrino physics is a broad subfield of fundamental particle physics, and requires a multi-pronged approach in order to address all the outstanding questions and fully explore the new physics revealed by neutrino oscillation experiments. Investment in a range of large, medium and small-scale neutrino experiments (as well as in detector R&D and theory) will ensure a healthy program.

Comprehensive test of the three-flavor paradigm, via long-baseline, precision neutrino oscillation experiments: The next-generation experiments will take full advantage of conventional neutrino beams from pion decay in flight. These will begin to over-constrain the parameter space, and will start to seriously explore CP-violating phenomena in the lepton sector. The U.S., with the Long-Baseline Neutrino Experiment (LBNE) and a future multi-megawatt beam from Project X, is uniquely positioned to lead an international campaign to measure CP violation and aggressively test the three-flavor paradigm. Complementary experiments with different energies, baselines, and detector technologies (e.g., Hyper-K in Japan) are required in order to fully exploit conventional neutrino beams. The accompanying very-large detectors, if placed underground, also

#### **3.**Forming the IBR system with Foreign members.

•We are discussing to form the IBR system (International board of representatives) with foreign representatives.

• At the IB meeting from 17:00- today, we will form the IBR and start discussing the global status and foreign contributions to the project. This kind of body is necessary for the MEXT roadmap, P5, ICFA  $\nu$ , EU system.

4. LOI of CPV with the neutrino beam for J-PARC PAC (May 14-16, 2014).

- Yokoyama-san is the editor.
- Use both Hyper-K specific software and/or Super-K base software.
- Accelerator Upgrade and Near detector descriptions with systematic errors should be written.
- Update of Sensitivity and Plots.
- The J-PARC LOI meeting at 16:45 on Tuesday

#### 5. Budget status and a Proto-type Project

- The final Budget request for Hyper-K is not well defined yet until the SCJ master plan and the MEXT roadmap will be fixed.
- Budget for R&D (Photo-sensor, etc..) is approved.
  - Grant-in-Aid for Scientific Research on Innovative Area. ([\$1.7M for Hyper-K R&D + \$1.7M for T2K/J-PARC improvement] /5year).
  - The proto-type project is launched as a part of Hyper-K R&D.
     Contact Shiozawa-san.
- Another budget request for the design and the geological survey (JFY2015 budget)

•We are preparing this budget request to submit it to the ICRR director. The ICRR will submit it to the MEXT through the university of Tokyo.

## 6. Other Update

- A new software convener: Francesca
- Software agreements are done.
  - between Hyper-K and Super-K
  - between Hyper-K and T2K

#### 6. Conference Speaker

•<u>http://www-sk.icrr.u-tokyo.ac.jp/indico/categoryDisplay.py?categId=46</u>

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Home » Hyper-K Working Group » Documents » Conference, Workshop Talks
Go to parent category   iCal export   View   Create   Manage Conference, Workshop Talks
August 2013
26 Aug 16th Lomonosov Conference (M.Yokoyama) (protected)
21 Aug NuFact 2013 (T.Ishida) (protected) New!
14 Aug Windows on the Universe (rencontres du Vietnam) (Y.Suzuki) (protected) New!
July 2013
<ul> <li>01 Aug Snowmass on the Mississippi (protected)</li> <li>19 Jul EPS-HEP (protected)</li> <li>17 Jul MINAMINO, The 12th Asia Pacific Physics Conference of AAPPS (APPC12)</li> </ul>
June 2013
13 Jun - 14 Jun Nakayama, "International Workshop on RENO 50 towards Neutrino Mass Hierarchy" (protected) May 2013
25 May - 28 May ISOUPS2013 (protected)
April 2013
26 Apr YOKOYAMA, "Intensity Frontier Workshop (pre- Snowmass, Argonne), Nucleon Decay Search with Hyper- Kamiokande" (protected)
08 Apr Miura "workshop on Baryon&Lepton number Violatior Plans and prospects for Hyper-K" (protected) 10

14年1月26日日曜日

### 6. Conference Speaker

- •We expect more talks in 2014
  - •Nulnt 2014 (19-24 May 2014, London, UK)
  - TIPP2014 for Technology and Instrumentation (2-7 June 2014, Amsterdam, Netherlands)
  - NEUTRINO 2014 (2-7 June 2014, Boston, USA)
  - NDIP14 for photo-sensors (June 30 July 4, Tours, France)
  - ICHEP 2014 (2-9 July 2014, Valencia, Spain)
  - J-PARC Symposium (July 13-15, Tsukuba, Japan)
    and more....

## Remarks

- A global strategy for the next generation neutrino experiments requires Hyper-Kamiokande.
- For realization of Hyper-K
  - In Japan,
    - Science Council of Japan Master Plan (2013-2014)
    - MEXT roadmap (2014-2015)
    - Success of R&D and completion of design (2013-2017)
  - In Global
    - International collaboration.
    - Global discussions/consensus (ICFA neutrino panel, Snowmass process, P5, International strategy, etc..)
  - In reality:
    - We need the proposals and technical design report to describe our physics potential and project design.