HK meeting@IPMU June. 21, 2013

Steering Group Report Situation,....

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Progress in this year

• Science Council of Japan (SCJ)

- SCI is under process to update the Master Plan of the big science project.
- SCJ symposium for HEP/NP was held in February. Yokoyama-san gave the presentation.
- We submitted the Hyper-K proposal to SCI in March.
 - Roughly 200 projects are pre-selected before June.
 - Some projects will be called for hearing in August and/or September.
 - Among the 200 pre-selected projects, 25~30 projects will be further selected by the end of 2013.
- The result will be an important input to "Roadmap of large scale research projects" to be released by MEXT in 2015.

Community situation

- HEP (High Energy Physics community)
 - Both ILC and a big neutrino detector (Hyper-K) w/J-PARC are priorities.
 - Note that we do not intend to select one between two. We want to push both.
- CRC (Cosmic-Ray Community)
 - Endorsement on Hyper-K.

Global situation

- ICFA Neutrino panel discussion starts.
- In US, the Snowmass process is on-going.
- With Japan-US research fund, we are forming the working group to making a cooperative neutrino R&D program toward the next step (accelerator, nu beam, detectors, nu cross sections, combination of oscillation measurements).
- The European strategy reports.

f) Rapid progress in neutrino oscillation physics, with significant European involvement, has established a strong scientific case for a long-baseline neutrino programme exploring CP violation and the mass hierarchy in the neutrino sector. *CERN should develop a neutrino programme to pave the way for a substantial European role in future long-baseline experiments. Europe should explore the possibility of major participation in leading neutrino projects in the US and Japan.*

 There is EUROPEAN UNION-JAPAN COOPERATION IN SCIENCE, TECHNOLOGY AND INNOVATION. Because of the large framework, not much progress.

Global situation 2

- It is often stated that we need a global strategy for the next generation neutrino experiments.
 - In the world, we need both Hyper-K w/ ~300km baseline ν beam and liquid Ar TPC w/ >1000km baseline.

Budget Request (not much change from the last time)

- Budget request for Hyper-K is not well defined yet until the SCJ master plan and/or the MEXT roadmap will be fixed.
- Budget request for R&D (Photo-sensor, etc..) is under process.
 - Submitted a proposal to Grant-in-Aid for Scientific Research on Innovative Area. ([\$2.3M for Hyper-K R&D + \$2M for T2K/J-PARC improvement] /5year) last year. The result will be clear within a week or so.

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- We have >10 Hyper-K talks in the international workshops this year, but we do not record it well.
- Missing
 - NuTel
 - ISOUPS symposium
 - others?

June 2013

13 Jun - 14 Jun Nakayama, "International Workshop on RENO 50 towards Neutrino Mass Hierarchy" (protected) New!

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)

March 2013

07 Mar - 09 Mar KOSHIO "Cosmic Frontier Workshop (presnowmass, SLAC), WIMP detction in HK" (protected)

06 Mar - 07 Mar YOKOYAMA, "Intensity Frontier Neutrino Subgroup Meeting (pre-Snowmass), SLAC, Developments in Asia" (protected)

06 Mar - 08 Mar YOKOYAMA, "Cosmic Frontier Workshop (pre snowmass, SLAC), Development of Hybrid Photodetector" (protected)

Agreements between Super-K and HyperK between T2K and Hyper-K

 For usage of Super-K software and T2K software, we have to finalize the agreements (almost at the last step) although it is basically agreed and supported.

For realization of Hyper-K

- In Japan,
 - Science Council of Japan Master Plan (2013-2014)
 - MEXT roadmap (2014-2015)
 - Approval of R&D budget (2013)
 - Keep high priority in the (HEP and CRC) communities.
- In Global
 - International collaboration.
 - Global discussions/consensus (ICFA neutrino panel, Snowmass process, International strategy, etc..)
- In reality:
 - We need the proposal and technical design report to describe our physics potential and project design.

• Discussions with the steering group members at the lunch time **today**.

We want to communicate and discuss the international situation of the Hyper-K project. Your inputs to the steering group are welcome.

Discussions

- SCJ(2013-2014) MEXT(2014-2015) process
- International issues
 - European strategy
 - Snowmass
 - P5 will form to discuss the outcome of Snowmass.
- AOB
 - HK computing
 - About Working groups
 - Accelerator/beam line and Near detector
 - Relation with T2K and Super-K

13年6月21日金曜日

Update of Neutrino Project for the SCJ proposal

- Previous proposals (2009):
 - We proposed either Hyper-K or Lq.Ar TPC@Okinoshima in equal footing as a big neutrino detector project.
 - J-PARC MR upgrade was in another proposal.
- Updated New proposal (2013):
 - Hyper-K is the primary option for a big neutrino detector.
 - J-PARC operation w/ (~1MW or higher) and a near detector construction in the same package.
 - KEK is also in the SCJ proposal because J-PARC high power operation is in the proposal for CP measurement in Hyper-K.