5th Open Meeting for the Hyper-Kamiokande Project

Report of Contributions

Contribution ID: **0** Type: **not specified**

Water status

Monday 21 July 2014 11:15 (15 minutes)

Topics of the talk are as follows;
1. The updated water purification system based on vacuum degasifiers instead of membrane degasifiers.
2. The results of the simulation of the water flow in the tank.

Primary author: Dr SEKIYA, Hiroyuki (ICRR/IPMU)

Presenter: Dr SEKIYA, Hiroyuki (ICRR/IPMU)

Session Classification: Water System

Contribution ID: **1** Type: **not specified**

Gd Status

Monday 21 July 2014 11:30 (10 minutes)

The current status of and plans for EGADS, the main Gd test facility for Super-K and Hyper-K, will be discussed.

Primary author: Prof. VAGINS, Mark (IPMU)

Presenter: Prof. VAGINS, Mark (IPMU)

Session Classification: Water System

Contribution ID: **2** Type: **not specified**

Opening remark

Sunday 20 July 2014 09:10 (20 minutes)

some backgrounds, meeting goals (HK physics, detector design, foreign contributions)

Primary author: Prof. SHIOZAWA, Masato (The University of Tokyo, Institute for Cosmic Ray Research, ICRR)

Presenter: Prof. SHIOZAWA, Masato (The University of Tokyo, Institute for Cosmic Ray Research, ICRR)

Session Classification: Opening Session

Contribution ID: **3** Type: **not specified**

Accelerator design and modeling for the decay-at-rest neutrino experiments DAEδALUS and IsoDAR

Sunday 20 July 2014 15:40 (20 minutes)

The proposed Decay-At-rest Experiment for δCP violation At the Laboratory for Underground Science (DAEδALUS) and the Isotope Decay-At-Rest experiment (IsoDAR), search for CP violation in the neutrino sector and sterile (non-interacting) neutrinos. Both are short baseline experiments that use proton driver beams. In the IsoDAR case, a 60 MeV proton beam will impinge on a high purity lithium/beryllium target to produce isotope decay-at-rest and in DAEδALUS, 800 MeV protons will hit a carbon target to produce pion/muon decay-at-rest. The drivers are cyclotrons, because they are comparatively cheap, compact and deliver the highest intensities in the considered energy range. In order to obtain the necessary high neutrino fluxes, the primary proton beam current needs to be even higher than current state-of-the-art machines at PSI have demonstrated. This has led to a substantial R&D effort on the accelerator side of DAEδALUS and IsoDAR. In this contribution, we will report on the latest driver designs and the challenges we are faced in creating, transporting, and accelerating high intensity beams.

Primary author: Dr WINKLEHNER, Daniel (MIT)

Presenter: Dr WINKLEHNER, Daniel (MIT)

Session Classification: Accelerators and Beamline

Contribution ID: **4** Type: **not specified**

Solar neutrino measurement in Hyper-Kamiokande

Monday 21 July 2014 09:40 (15 minutes)

The modified sensitivity for the solar neutrino in Hyper-Kamiokande using the correct depth will be reported.

Primary author: Dr KOSHIO, Yusuke (Okayama university)

Presenter: Dr KOSHIO, Yusuke (Okayama university)

Session Classification: Physics Potential

Contribution ID: **5** Type: **not specified**

Sensitivity of T2HK using the simple fitter

Monday 21 July 2014 09:10 (20 minutes)

We will present the sensitivity studies for the Hyper-Kamiokande experiment assuming 7.5MW total integrated POT and 320 kA horn current.
The systematic errors from a few different sources have been included: near detector (ND280) fit constrained parameters, parameters non-constrained by the near detector fit, Hyper-K detector systematics (rescaled from the Super-K one) and FSI parameters.
We will describe both the studies included in the 2014 LoI and recent extensions.

Primary author: Ms CREMONESI, Linda (Queen Mary University of London)

Presenter: Ms CREMONESI, Linda (Queen Mary University of London)

Session Classification: Physics Potential

Contribution ID: **6** Type: **not specified**

Hyper-K site and cavern

Monday 21 July 2014 10:15 (30 minutes)

I will discuss Hyper-K candidate site and cavern construction.

Primary author: Dr TANAKA, Hide-Kazu (ICRR, University of Tokyo)

Presenter: Dr TANAKA, Hide-Kazu (ICRR, University of Tokyo)

Session Classification: Cavities and Tanks

Contribution ID: **7** Type: **not specified**

The nuPRISM Near Detector

Tuesday 22 July 2014 10:25 (20 minutes)

In order to reach the projected T2HK physics sensitivities, a better understanding of neutrino interaction uncertainties is required. The nuPRISM detector concept is a novel new technique to directly measure neutrino interaction final states for any oscillated spectra at Hyper-K. This removes neutrino interaction uncertainties from the accelerator-based oscillation measurements, and provides the first ever direct experimental constraint on the relationship between lepton kinematics (what experiments observe) and neutrino energy (what experiments wish to measure). In addition, nuPRISM provides a highly sensitive probe of the MiniBooNE sterile neutrino oscillation signal. Other measurements, such as unique cross section measurements, including the first ever measurements of neutral current cross sections as a function of neutrino energy, are also possible. The feasibility and current analysis status for a nuPRISM detector for Hyper-K will be presented.

Primary author: Dr WILKING, Michael (TRIUMF)

Presenter: Dr WILKING, Michael (TRIUMF)

Session Classification: Flux and Near Detectors

Contribution ID: **8** Type: **not specified**

Short and long baseline sensitivities with nuPRISM

Tuesday 22 July 2014 10:45 (20 minutes)

The nuPRISM detector concept provides a powerful tool for neutrino physics, using measurements at multiple off-axis angles to produce oscillated or mono-energetic neutrino beams. This talk describes the current long baseline sensitivity studies with nuPRISM, quantitatively demonstrating the benefits this technique brings to oscillation analyses. It will also discuss the short baseline sensitivities, comparing these to the MiniBooNE sterile searches.

Summary

The initial short and long baseline sensitivity studies carried out for the nuPRISM detector

Primary author: Dr SCOTT, Mark (TRIUMF)

Presenter: Dr SCOTT, Mark (TRIUMF)

Session Classification: Flux and Near Detectors

Contribution ID: **9** Type: **not specified**

Hyper-K Tank

Monday 21 July 2014 10:45 (30 minutes)

This talk will discuss current status and plan of Hyper-K tank design, and also cover status of technical design document for the tank design.

Primary author: Dr NAKAYAMA, Shoei (Kamioka Observatory, ICRR, University of Tokyo)

Co-authors: Dr TANAKA, Hide-Kazu (Kamioka Observatory, ICRR, University of Tokyo); Prof. SHIOZAWA, Masato (Kamioka Observatory, ICRR, University of Tokyo)

Presenter: Dr NAKAYAMA, Shoei (Kamioka Observatory, ICRR, University of Tokyo)

Session Classification: Cavities and Tanks

Contribution ID: **11** Type: **not specified**

Welcome

Sunday 20 July 2014 09:00 (10 minutes)

Presenter: Prof. BAGGER, Jonathan (TRIUMF)

Session Classification: Opening Session

Contribution ID: **12** Type: **not specified**

European strategy

Sunday 20 July 2014 09:50 (20 minutes)

Presenter: NAKADA, Tatsuya (Ecole Polytechnique Federale de Lausanne (CH))

Session Classification: Opening Session

Contribution ID: **13** Type: **not specified**

HEPAP P5 report

Sunday 20 July 2014 10:10 (20 minutes)

Presenter: Prof. AIHARA, Hiroaki (University of Tokyo)

Session Classification: Opening Session

Contribution ID: **14** Type: **not specified**

Physics potential of Hyper-K and complementarity (accelerator nu)

Sunday 20 July 2014 10:50 (10 minutes)

Presenter: Prof. YOKOYAMA, Masashi (University of Tokyo)

Session Classification: Message to the FNAL summit from Hyper-K (see http://www-sk.icrr.u-tokyo.ac.jp/indico/conferenceDisplay.py?confId=1949)

Contribution ID: **15** Type: **not specified**

Physics Potential of Hyper-K and complementarity (atmospheric nu and Proton decays)

Sunday 20 July 2014 11:15 (10 minutes)

Presenter: WENDELL, Roger (ICRR)

Session Classification: Message to the FNAL summit from Hyper-K (see http://www-sk.icrr.u-tokyo.ac.jp/indico/conferenceDisplay.py?confId=1949)

Contribution ID: **16** Type: **not specified**

Physics Potential of Hyper-K and complementarity (astrophysics)

Sunday 20 July 2014 11:25 (10 minutes)

Presenters: Prof. WALTER, Chris (Duke University); Dr O'SULLIVAN, Erin (Duke University)

Session Classification: Message to the FNAL summit from Hyper-K (see http://www-sk.icrr.u-tokyo.ac.jp/indico/conferenceDisplay.py?confId=1949)

Contribution ID: **17** Type: **not specified**

Discussions and Summary

Sunday 20 July 2014 11:35 (55 minutes)

Presenter: Prof. NAKAYA, Tsuyoshi (Kyoto)

Session Classification: Message to the FNAL summit from Hyper-K (see http://www-sk.icrr.u-tokyo.ac.jp/indico/conferenceDisplay.py?confId=1949)

Contribution ID: **18** Type: **not specified**

Steering committee and IBR Report

Sunday 20 July 2014 09:30 (20 minutes)

Presenter: Prof. NAKAYA, Tsuyoshi (Kyoto)

Session Classification: Opening Session

Contribution ID: **19** Type: **not specified**

Overview of SNOLab

Sunday 20 July 2014 13:30 (20 minutes)

Presenter: Prof. SMITH, Nigel (SNOLab)

Session Classification: Future Experiments

Contribution ID: **20** Type: **not specified**

PINGU

Presenter: Prof. DARREN GRANT

Contribution ID: **21** Type: **not specified**

Opportunities for a WC detector at the second Oscillation maximum at LBNF/Homestake

Sunday 20 July 2014 11:00 (15 minutes)

Primary author: WG CONVENERS

Presenter: Dr KONAKA, Akira (TRIUMF)

Session Classification: Message to the FNAL summit from Hyper-K (see http://www-sk.icrr.u-tokyo.ac.jp/indico/conferenceDisplay.py?confId=1949)

Contribution ID: **22** Type: **not specified**

Calibration source deployment system

Monday 21 July 2014 17:20 (15 minutes)

Because of the large detector, Hyper-K will need an automated calibration source deployment system.
Here, the status of R&D of automated calibration source deployment system will be reported.

Primary author: Dr YANO, Takatomi (Kobe Univ.)

Presenter: Dr YANO, Takatomi (Kobe Univ.)

Session Classification: Detector Calibrations

Contribution ID: **23** Type: **not specified**

WCsim and bonsai reconstruction tool

Monday 21 July 2014 15:50 (12 minutes)

Bonsai is a reconstruction algorithm for low energy events at Super-K.
Here, R&D of bonsai with WCsim and application for Hyper-K will be reported.

Primary author: Dr YANO, Takatomi (Okayama Univ.)

Presenter: Dr YANO, Takatomi (Okayama Univ.)

Session Classification: Softwares and Detector optimization

Contribution ID: **24** Type: **not specified**

Sensitivity Studies for Near Detectors in a Tokai-to-Hyper-K Experiment

Tuesday 22 July 2014 09:30 (15 minutes)

The sensitivities for measuring CP violation and other neutrino oscillation parameters in a Tokai-to-Hyper-K long baseline experiment depend on systematic uncertainties in the neutrino flux and cross section models. These model uncertainties are constrained by data from near detectors. In this talk, I will present studies of the effect of near detector data on the CP violation sensitivity for different assumptions about the properties of the near detector, including its distance from the neutrino production point, the direction to the near detector, and the target material of the near detector.

Primary author: Prof. HARTZ, Mark (Kavli IPMU (WPI), The University of Tokyo/TRIUMF)

Presenter: Prof. HARTZ, Mark (Kavli IPMU (WPI), The University of Tokyo/TRIUMF)

Session Classification: Flux and Near Detectors

Contribution ID: **25** Type: **not specified**

SNO+ Detector: Design and Calibration

Monday 21 July 2014 17:50 (15 minutes)

SNO+ is a 780-ton liquid scintillator detector that aims at measuring neutrinoless double beta decay of Te-130 using the underground facility at SNOLAB and the original SNO detector.
In this talk, the SNO+ detector design and calibration hardware will be presented with an overview of the new physics goals and potential.

Primary author: Dr MANECKI, Szymon (Queen's University)

Presenter: Dr MANECKI, Szymon (Queen's University)

Session Classification: Detector Calibrations

Contribution ID: **26** Type: **not specified**

High Pressure Gas TPC

One of the dominant sources of systematic uncertainty in the HK CPV search will stem from neutrino-nucleus interaction modelling. Gas TPC detectors, which have fine-grained final-state particle reconstruction, excellent particle identification, low particle momentum thresholds, and the ability to change target nucleus, provide a unique opportunity for neutrino-nucleus interaction-model discrimination and generator tuning. Because of the high fluxes of accelerator beam neutrinos in the HK era, it will be feasible to use detectors with gas as the primary neutrino target as part of the near detector suite. Recent progress toward high pressure gas TPCs will be surveyed.

Primary author: Dr WASCKO, Morgan (Imperial College London)

Presenter: Dr WASCKO, Morgan (Imperial College London)

Contribution ID: **27** Type: **not specified**

Lorentz invariance violation sensitivity in T2HK experiment

The Lorentz invariance violation (LV) arises at Planck scale, as a consequence of merging standard model and gravity. Though LV effects are naturally highly supressed at low energy, possible measurable effects are predicted in sensitive channels as neutrino oscillations. In this channel, LV operates both by modifying the PMNS oscillations at far detector, but also predicting new oscillations at short distance.

Because of its very high statistics, we focused in this talk on the INGRID near detector. Using

Primary author: Mr QUILAIN, Benjamin (Ecole Polytechnique, Laboratoire Leprince-Ringuet, In2p3)

Presenter: Mr QUILAIN, Benjamin (Ecole Polytechnique, Laboratoire Leprince-Ringuet, In2p3)

Contribution ID: **28** Type: **not specified**

Development of the next generation digital optical module for IceCube upgrades

Monday 21 July 2014 14:05 (15 minutes)

This talk will present the status of the next generation digital optical module being designed for the IceCube upgrade detectors.

Primary author: Mr SANDSTROM, Perry (WIPAC)

Presenter: Mr SANDSTROM, Perry (WIPAC)

Session Classification: DAQ and Electronics System

Contribution ID: **29** Type: **not specified**

Status of PINGU

Recent updates from the design studies of the PINGU project will be presented.

Primary author: Dr WILLIAMS, Dawn

Presenter: Dr WILLIAMS, Dawn

Contribution ID: **30** Type: **not specified**

Status of the Photosensor Testing Facility

Monday 21 July 2014 17:35 (15 minutes)

I will discuss the status of the Photosensor Testing Facility (PTF) which is currently being built at TRIUMF. The PTF will measure the optical properties (acceptance, reflectivity, …) of the PMTs under investigation for Hyper-Kamiokande using two robotic gantries.

Primary author: Dr FEUSELS, Tom (University of British Columbia)

Presenter: Dr FEUSELS, Tom (University of British Columbia)

Session Classification: Detector Calibrations

Contribution ID: **31** Type: **not specified**

TITUS selection with Gd

Tuesday 22 July 2014 09:45 (20 minutes)

The TITUS detector is an original multi-purpose new detector for the Hyper-K experiment, located 2 km from the J-PARC neutrino beam. TITUS consists of a gadolinium-doped water Cherenkov detector, partially enclosed by a muon range detector (MRD)
The detector will be exposed to a neutrino flux similar to the Hyper-K far detector, minimising the uncertainty on the near-to-far extrapolation. The addition of Gadolinium allows neutron tagging which will provide discrimination between neutrino and anti-neutrino, and measurement of multi-nucleon interactions. Recent developments in the design of the TITUS water tank as well as software and physics analysis will be presented.

Primary author: Dr HADLEY, David (University of Warwick)

Presenter: Dr HADLEY, David (University of Warwick)

Session Classification: Flux and Near Detectors

Contribution ID: **33** Type: **not specified**

DAQ work plan (general + Japan & US)

Monday 21 July 2014 13:50 (15 minutes)

Presenter: Dr HAYATO, Yoshinari (Kamioka obs., ICRR, Univ. of Tokyo)

Session Classification: DAQ and Electronics System

Contribution ID: **34** Type: **not specified**

DAQ R&D status in UK

Contribution ID: **35** Type: **not specified**

DAQ R&D status in Canada

Monday 21 July 2014 14:35 (15 minutes)

Presenter: Dr RETIERE, Fabrice (Triumf)

Session Classification: DAQ and Electronics System

Contribution ID: **36** Type: **not specified**

Experience from ICECUBE

Contribution ID: **37** Type: **not specified**

A status and prospect of the photodetector development in Kamioka

Monday 21 July 2014 13:30 (20 minutes)

The R&D of photosensors and plan in Kamioka, Japan, are presented.

Primary author: Dr NISHIMURA, Yasuhiro (ICRR)

Presenter: Dr NISHIMURA, Yasuhiro (ICRR)

Session Classification: Photodetectors

Contribution ID: **38** Type: **not specified**

Overview of the photodetector development

Monday 21 July 2014 12:40 (10 minutes)

I will present a brief introduction of current activities in the photodetector sub-WG and the plan for the photodetector development.

Primary author: Dr NAKAYAMA, Shoei (Kamioka Observatory, ICRR, University of Tokyo)

Presenter: Dr NAKAYAMA, Shoei (Kamioka Observatory, ICRR, University of Tokyo)

Session Classification: Photodetectors

Contribution ID: **39** Type: **not specified**

Computing framework and MC production

Sunday 20 July 2014 16:10 (20 minutes)

In this talk we will first describe the current computing infrastructure, ie
the software release structure, how to access the code, the efforts to
get an independent Hyper-K software code, etc.
Then, we will describe the current status of the MC physics
production with the latest release and how to access the simulated data.

Primary author: Prof. DI LODOVICO, Francesca (Queen Mary, University of London)

Presenter: Prof. DI LODOVICO, Francesca (Queen Mary, University of London)

Session Classification: Physics Potential

Contribution ID: **40** Type: **not specified**

Summary of the Software session and Prospects

Monday 21 July 2014 16:27 (13 minutes)

I will summarize developments of software towards Hyper-K and show some prospects.

Primary author: Dr MIURA, Makoto (Kamioka Observatory, ICRR, University of Tokyo)

Presenter: Dr MIURA, Makoto (Kamioka Observatory, ICRR, University of Tokyo)

Session Classification: Softwares and Detector optimization

Contribution ID: **41** Type: **not specified**

UK DAQ plans for Hyper-Kamiokande

Monday 21 July 2014 14:20 (15 minutes)

Within the UK, several institutions will participate in the development of Data Acquisition systems (DAQ) for the Hyper-Kamiokande experiment. This talk will discuss UK interests, physics considerations for the design of the DAQ and progress towards a conceptual design.

Primary author: Dr O'KEEFFE, Helen (Lancaster University)

Presenter: Dr O'KEEFFE, Helen (Lancaster University)

Session Classification: DAQ and Electronics System

Contribution ID: **42** Type: **not specified**

New 50-cm diameter photodetectors

Monday 21 July 2014 13:10 (20 minutes)

We have been developing 50-cm diameter Box&line PMTs and Hybrid Photo-Detectors (HPDs) for Hyper-Kamiokande.
Both have excellent performance compared with Super-Kamiokande PMT.
We present the principle and basic performance (typical waveforms, timing response, dark count rate, linearity and response uniformity) and the result of the pre-calibration for a test in a 200-ton water Cherenkov detector (EGADS tank).

Primary author: Mr SUDA, Yusuke (University of Tokyo)

Presenter: Mr SUDA, Yusuke (University of Tokyo)

Session Classification: Photodetectors

Contribution ID: **43** Type: **not specified**

Viability test of photodetectors in the water tank

Monday 21 July 2014 12:50 (20 minutes)

In August 2013, eight hybrid photodetectors (HPDs) with 20-cm diameter and five 50-cm High-QE (HQE) photomultiplier tubes (PMTs) have been installed into a water tank and a validity test started.
I will present a progress and results on the 20-cm HPDs and 50-cm HQE PMTs test in the water tank and a status and plan for a next test with new 50-cm box-and-line dynode PMTs.

Primary author: Mr OKAJIMA, Yuji (Tokyo Institute of Technology)

Presenter: Mr OKAJIMA, Yuji (Tokyo Institute of Technology)

Session Classification: Photodetectors

Contribution ID: **44** Type: **not specified**

J-PARC accelerators: status and upgrade plans

Sunday 20 July 2014 14:40 (20 minutes)

Recent operational status of the accelerators at J-PARC will be reviewed, and necessary steps towards achieving the design 750 kW beam power, and further ideas to realize MW-class beam operation, will be presented.

Primary author: Dr ISHIDA, Taku (KEK)

Presenter: Dr ISHIDA, Taku (KEK)

Session Classification: Accelerators and Beamline

Contribution ID: **45** Type: **not specified**

TITUS talks

Contribution ID: **46** Type: **not specified**

nuPRISM talks

Contribution ID: **47** Type: **not specified**

HK calibration overview

Monday 21 July 2014 17:00 (5 minutes)

I will discuss overview of HK calibration R&D and prototyping projects.

Primary author: Dr TANAKA, Hide-Kazu (ICRR, University of Tokyo)

Presenter: Dr TANAKA, Hide-Kazu (ICRR, University of Tokyo)

Session Classification: Detector Calibrations

Contribution ID: **48** Type: **not specified**

LED Pulsers as Light Sources for Calibration

Monday 21 July 2014 17:05 (15 minutes)

LED pulsers can provide nanosecond scale pulses ideal for the calibration of Hyper-Kamiokande. The latest developments in the design of a prototype driver for Hyper-Kamiokande in the UK will be presented.

Primary author: Dr MCCAULEY, Neil (University of Liverpool)

Presenter: Dr MCCAULEY, Neil (University of Liverpool)

Session Classification: Detector Calibrations

Contribution ID: **49** Type: **not specified**

T2HK sensitivity studies using VaLOR

Monday 21 July 2014 09:30 (10 minutes)

We will present sensitivity studies for T2HK assuming a total integrated beam power of 7.5MW years and a 320kA horn current. The studies presented will focus on the effect and limitations caused by the current sources of systematic errors for T2K.

Primary author: Mr SHAH, raj (oxford university)

Presenter: Mr SHAH, raj (oxford university)

Session Classification: Physics Potential

Contribution ID: **50** Type: **not specified**

Study of detector setup in WCSim

Monday 21 July 2014 15:20 (30 minutes)

Baseline design of the Hyper-Kamiokande detector has been implemented in WCSim, a simulation software developed to study the detector design and physics potential of HK.
In addition, implementation of new photo sensors and other detailed detector components are ongoing to evaluate the impact on the performance of the HK detector, including the energy resolution and particle identification. In this talk, current status and future plan of simulation software development are presented.

Primary author: Mr OKAJIMA, Yuji (Tokyo Institute of Technology)

Presenter: Mr OKAJIMA, Yuji (Tokyo Institute of Technology)

Session Classification: Softwares and Detector optimization

Contribution ID: **51** Type: **not specified**

Introduction

Monday 21 July 2014 09:00 (10 minutes)

Presenter: Prof. YOKOYAMA, Masashi (University of Tokyo)

Session Classification: Physics Potential

Contribution ID: **52** Type: **not specified**

(no title)

Contribution ID: **53** Type: **not specified**

Recent status of J-PARC neutrino beamline

Sunday 20 July 2014 15:00 (20 minutes)

The J-PARC neutrino beamline has had beam operation in the period May-June 2014 after a year long shutdown. Several beamline components were upgraded during the shutdown. The main upgrade was a replacement of all three magnetic horns. The new magnetic horns were upgraded to improve the acceptable beam power and to solve some known problems. The operation status of the neutrino beamline will be presented.

Primary author: Dr SEKIGUCHI, Tetsuro (KEK)

Presenter: Dr SEKIGUCHI, Tetsuro (KEK)

Session Classification: Accelerators and Beamline

Contribution ID: **54** Type: **not specified**

Future upgrade of the neutrino beam-line for multi-MW beam

Sunday 20 July 2014 15:20 (20 minutes)

Upgrade plan of the neutrino beam-line for multi-MW beam in coming several years is reported.

Primary author: Dr OYAMA, Yuichi (KEK)

Presenter: Dr OYAMA, Yuichi (KEK)

Session Classification: Accelerators and Beamline

Contribution ID: **55** Type: **not specified**

Introduction for software session

Monday 21 July 2014 15:10 (10 minutes)

This is a introduction talk for the software session. It shows what are going to be discussed in the session.

Primary author: Dr MIURA, Makoto (Kamioka Observatory, ICRR, University of Tokyo)

Presenter: Dr MIURA, Makoto (Kamioka Observatory, ICRR, University of Tokyo)

Session Classification: Softwares and Detector optimization

Contribution ID: **56** Type: **not specified**

Summary

Sunday 20 July 2014 16:30 (30 minutes)

Presenter: Prof. NAKAYA, Tsuyoshi (Kyoto)

Session Classification: Message to the FNAL summit from Hyper-K (see http://www-sk.icrr.u-tokyo.ac.jp/indico/conferenceDisplay.py?confId=1949)

Contribution ID: **57** Type: **not specified**

Hyper-Kamiokande Event Reconstruction (fiTQun) Status

Monday 21 July 2014 16:02 (25 minutes)

The current status of the fiTQun event reconstruction for Hyper-Kamiokande events will be presented.

Primary author: Dr WILKING, Michael (TRIUMF)

Co-author: Prof. JAMIESON, Blair (University of Winnipeg)

Presenters: Prof. JAMIESON, Blair (University of Winnipeg); Dr WILKING, Michael (TRIUMF)

Session Classification: Softwares and Detector optimization

Contribution ID: **58** Type: **not specified**

A magnetized muon range detector for the 2km TITUS detector

Tuesday 22 July 2014 10:05 (20 minutes)

This talk will describe the advantages of surrounding the proposed 2km TITUS water Cherenkov with a magnetized iron range detector. The benefits for sample size, energy resolution and charge reconstruction will be discussed.

Primary author: Dr RAYNER, Mark (Université de Genève)

Presenter: Dr RAYNER, Mark (Université de Genève)

Session Classification: Flux and Near Detectors

Contribution ID: **59** Type: **not specified**

Status of the Precision IceCube Next Generation Upgrade (PINGU)

Sunday 20 July 2014 13:50 (20 minutes)

The IceCube Neutrino Observatory, completed in 2010 and located at the geographic South Pole, is the largest neutrino telescope in the world. IceCube includes the more densely instrumented DeepCore subarray, which increases IceCube's sensitivity at neutrino energies down to 10 GeV. DeepCore has recently demonstrated sensitivity to muon neutrino disappearance from atmospheric neutrino oscillation. A further extension is under consideration, the Precision IceCube Next Generation Upgrade (PINGU) which would lower the energy threshold and increase the sensitivity to low energy neutrino physics. In particular, PINGU would be sensitive to the effects of the neutrino mass hierarchy, which is one of the outstanding questions in particle physics. I will discuss the status of the planned PINGU array.

Primary author: Prof. WILLIAMS, Dawn (University of Alabama)

Presenter: Prof. WILLIAMS, Dawn (University of Alabama)

Session Classification: Future Experiments

Contribution ID: **60** Type: **not specified**

Water-based Liquid Scintillator

Tuesday 22 July 2014 09:05 (25 minutes)

The newly developed, water-based liquid scintillator (WbLS) is an advanced scintillation liquid for future massive detectors with the unique capability of exploring physics below the Cherenkov threshold and has the ability of loading any (hydrophilic) metallic ions of interest for neutron tagging or other physics enhancements. The same water-based detector could also be used as a near detector for long baseline neutrino flux monitoring and an active water target for neutrino cross section measurement. In this presentation, the application of WbLS to a variety of physics topics will be discussed.

*Research sponsored by the U.S. Department of Energy, Office of Nuclear Physics and Office of High Energy Physics, under contract with Brookhaven National Laboratory –Brookhaven Science Associates

Primary author: Dr YEH, Minfang (Brookhaven National Laboratory)

Presenter: Dr YEH, Minfang (Brookhaven National Laboratory)

Session Classification: Flux and Near Detectors

Contribution ID: **61** Type: **not specified**

WATCHMAN

Sunday 20 July 2014 14:10 (20 minutes)

WATCHMAN is a US project designed to demonstrate the feasibility of using a large gadolinium-loaded water Cherenkov detector to remotely locate clandestine nuclear reactors in uncooperative nations via their antineutrino emissions. The current status and upcoming plans for WATCHMAN in its nonproliferation role will be discussed, as well as its expected physics output.

Primary author: Prof. VAGINS, Mark (Kavli IPMU)

Presenter: Prof. VAGINS, Mark (Kavli IPMU)

Session Classification: Future Experiments

Contribution ID: **62** Type: **not specified**

logistic information

Sunday 20 July 2014 08:58 (2 minutes)

Primary author: Dr KONAKA, Akira (TRIUMF)

Presenter: Dr KONAKA, Akira (TRIUMF)

Session Classification: Logistic information

Contribution ID: **63** Type: **not specified**

Registration

Sunday 20 July 2014 08:30 (28 minutes)

Presenter: Dr KONAKA, Akira (TRIUMF)

Session Classification: Registration

Contribution ID: **64** Type: **not specified**

Overview

Saturday 19 July 2014 13:00 (20 minutes)

Presenter: Prof. SHIOZAWA, Masato (The University of Tokyo, Institute for Cosmic Ray Research, ICRR)

Session Classification: Prototype-detector meeting

Contribution ID: **65** Type: **not specified**

Hyper-K prototype : case study for EGADS 200t tank

Saturday 19 July 2014 13:20 (20 minutes)

Presenter: Dr YANO, Takatomi (Kobe Univ.)

Session Classification: Prototype-detector meeting

Contribution ID: **66** Type: **not specified**

DAQ plan

Saturday 19 July 2014 13:40 (20 minutes)

Presenter: Dr HAYATO, Yoshinari (Kamioka obs., ICRR, Univ. of Tokyo)

Session Classification: Prototype-detector meeting

Contribution ID: **67** Type: **not specified**

Reports by other institutes/countries

Saturday 19 July 2014 14:00 (20 minutes)

Session Classification: Prototype-detector meeting

Contribution ID: **68** Type: **not specified**

Discussions

Saturday 19 July 2014 14:20 (20 minutes)

Session Classification: Prototype-detector meeting

Contribution ID: **69** Type: **not specified**

Flux Uncertainties

Saturday 19 July 2014 09:00 (10 minutes)

Presenter: Prof. HARTZ, Mark (Kavli IPMU (WPI), The University of Tokyo/TRIUMF)

Session Classification: ND pre-meeting

Contribution ID: **70** Type: **not specified**

TITUS Introduction

Saturday 19 July 2014 09:10 (5 minutes)

Presenter: Prof. DI LODOVICO, Francesca (Queen Mary, University of London)

Session Classification: ND pre-meeting

Contribution ID: **71** Type: **not specified**

TITUS Gadolinium Introduction

Saturday 19 July 2014 09:15 (15 minutes)

Presenter: MALEK, Matthew

Session Classification: ND pre-meeting

Contribution ID: **72** Type: **not specified**

TITUS Gd Analysis

Saturday 19 July 2014 09:30 (20 minutes)

Presenter: Dr HADLEY, David (University of Warwick)

Session Classification: ND pre-meeting

Contribution ID: **73** Type: **not specified**

TITUS MRD

Saturday 19 July 2014 09:50 (20 minutes)

Presenter: Dr RAYNER, Mark (Université de Genève)

Session Classification: ND pre-meeting

Contribution ID: **74** Type: **not specified**

ANNIE

Saturday 19 July 2014 10:10 (20 minutes)

Presenter: Prof. DI LODOVICO, Francesca (Queen Mary, University of London)

Session Classification: ND pre-meeting

Contribution ID: **75** Type: **not specified**

nuPRISM Overview

Saturday 19 July 2014 10:30 (35 minutes)

Presenter: Dr WILKING, Michael (TRIUMF)

Session Classification: ND pre-meeting

Contribution ID: **76** Type: **not specified**

nuPRISM Analysis

Saturday 19 July 2014 11:05 (35 minutes)

Presenter: Dr SCOTT, Mark (TRIUMF)

Session Classification: ND pre-meeting

Contribution ID: **77** Type: **not specified**

High Pressure TPC

Saturday 19 July 2014 11:40 (25 minutes)

Presenter: Dr WASCKO, Morgan (Imperial College London)

Session Classification: ND pre-meeting

Contribution ID: **78** Type: **not specified**

Introduction

Tuesday 22 July 2014 09:00 (5 minutes)

Presenter: Prof. HARTZ, Mark (Kavli IPMU (WPI), The University of Tokyo/TRIUMF)

Session Classification: Flux and Near Detectors

Contribution ID: **79** Type: **not specified**

Discussions

Tuesday 22 July 2014 11:40 (20 minutes)

Session Classification: Discussion