## 4th Open Meeting for the Hyper-Kamiokande Project

# **Report of Contributions**

Water Status

Contribution ID: 0

Type: not specified

### Water Status

*Tuesday 28 January 2014 14:55 (15 minutes)* 

HK water system and tank water flow design updates

Primary author: Dr SEKIYA, Hiroyuki (ICRR/IPMU)Presenter: Dr SEKIYA, Hiroyuki (ICRR/IPMU)Session Classification: Water System

Track Classification: Water System

Pulsed LEDs as a light source for c ...

Contribution ID: 1

Type: not specified

### Pulsed LEDs as a light source for calibration

Tuesday 28 January 2014 15:45 (15 minutes)

Pulsed LEDs provide an alternative light source for calibration and have been used in other experiments. I will present information on previous LED pulers and discuss their potential application for calibration in hyper-kamiokande.

Primary author: Dr MCCAULEY, Neil (University of Liverpool)Presenter: Dr MCCAULEY, Neil (University of Liverpool)Session Classification: Detector Calibrations

Track Classification: Detector Calibration

Supernova Relic Neutrino search w ...

Contribution ID: 2

Type: not specified

### Supernova Relic Neutrino search with Hyper-Kamiokande

Monday 27 January 2014 15:05 (25 minutes)

The sensitivity of SRN in HK is reported for several cosmic ray intensity case. The cosmic muon flux in HK is also reported.

Primary author: Dr YANO, Takatomi (Okayama Univ.)Presenter: Dr YANO, Takatomi (Okayama Univ.)Session Classification: Physics Potential and Near Detectors

Track Classification: Physics Potential

Neutron Generators for Calibration

Contribution ID: 3

Type: not specified

### **Neutron Generators for Calibration**

*Tuesday 28 January 2014 16:00 (15 minutes)* 

This talk will present neutron generators as calibration sources in water Cherenkov detectors. Discussion will include a description of existing sources as well as present ideas for a future compact neutron generator.

Primary author: WENDELL, Roger (ICRR)Presenter: WENDELL, Roger (ICRR)Session Classification: Detector Calibrations

Track Classification: Detector Calibration

Overview and plan

Contribution ID: 4

Type: not specified

### **Overview and plan**

Tuesday 28 January 2014 15:20 (10 minutes)

This talk will overview HK calibration WG status and plan, and give a brief introduction to HK calibration R&D programs.

Primary author: Dr TANAKA, Hide-Kazu (ICRR, University of Tokyo)Presenter: Dr TANAKA, Hide-Kazu (ICRR, University of Tokyo)Session Classification: Detector Calibrations

Track Classification: Detector Calibration

Computing Model for Hyper-...

Contribution ID: 5

Type: not specified

### **Computing Model for Hyper-Kamiokande**

Tuesday 28 January 2014 14:00 (20 minutes)

A description of the current computing model strategy for Hyper-Kamiokande is provided. The results from the current simulation production are presented and plans for the simulation production for the LoI shown.

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

A New Near Detector at Intermedi...

Contribution ID: 6

Type: not specified

#### A New Near Detector at Intermediate Disastance for Hyper-Kamiokande

Monday 27 January 2014 13:25 (20 minutes)

A description of the studies on a new near detector at intermediate distances (around 2km or so) for Hyper-Kamiokande is presented, along with a description of the possible benefits and design.

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 and Near Detectors

Track Classification: Near Detectors

LoI to J-PARC PAC

Contribution ID: 7

Type: not specified

### Lol to J-PARC PAC

Monday 27 January 2014 14:05 (15 minutes)

Goals and schedule for the Letter of Intent to be submitted to J-PARC PAC will be discussed.

Primary author: YOKOYAMA, Masashi (University of Tokyo)Presenter: YOKOYAMA, Masashi (University of Tokyo)Session Classification: Physics Potential and Near Detectors

Track Classification: Physics Potential

Overview of the photodetector dev...

Contribution ID: 8

Type: not specified

### **Overview of the photodetector development**

*Tuesday 28 January 2014 09:00 (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, The University of Tokyo)

**Co-author:** Dr NISHIMURA, Yasuhiro (Research Center for Cosmic Neutrinos, ICRR, The University of Tokyo)

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

Session Classification: Photodetectors

Track Classification: Photo-detector and Support

Registration

Contribution ID: 9

Type: not specified

## Registration

Monday 27 January 2014 08:30 (30 minutes)

Session Classification: Registration

Contribution ID: 11

Type: not specified

### **HK FADC Digitization and Communication Work**

Tuesday 28 January 2014 10:55 (20 minutes)

We report on two separate research projects related to HK electronics. First, we are exploring the idea of using Flash ADCs (FADCs) for digitizing the HK PMT signals (rather than ADC/TDC digitization). We have done simple tests at TRIUMF of the timing resolution achievable with FADCs. We are also thinking about how to quantify the benefits of FADCs. Second, we are investigating a solution for redundant communication between front end boards based on the RapidIO protocol. A prototype system is being developed based on a Altera Cyclone 5 evaluation board by Terasic.

Primary author: Dr LINDNER, Thomas (Triumf)

Presenter: Dr LINDNER, Thomas (Triumf)

Session Classification: DAQ and Electronics System

Track Classification: DAQ and Electronics

DAQ session ~ Introduction

Contribution ID: 12

Type: not specified

### DAQ session ~ Introduction

Tuesday 28 January 2014 10:40 (15 minutes)

Conveners' summary

Primary author: Dr HAYATO, Yoshinari (Kamioka obs., ICRR, Univ. of Tokyo)Presenter: Dr HAYATO, Yoshinari (Kamioka obs., ICRR, Univ. of Tokyo)Session Classification: DAQ and Electronics System

Track Classification: DAQ and Electronics

Introduction of Software session

Contribution ID: 13

Type: not specified

### Introduction of Software session

*Tuesday 28 January 2014 13:00 (5 minutes)* 

A review of the status of software at the previous meeting and what we will discuss in this session will be presented.

Primary author: Dr MIURA, Makoto (Kamioka Observatory, ICRR, University of Tokyo)Presenter: Dr MIURA, Makoto (Kamioka Observatory, ICRR, University of Tokyo)Session Classification: Softwares

Development of WCSim

Contribution ID: 14

Type: not specified

### **Development of WCSim**

Tuesday 28 January 2014 13:05 (25 minutes)

WCSim is a simulator for water cherenky detectors and we have developed it for Hyper-K detector simulation. We have compared WCSim with skdetsim which is used in Super-K. To determine a detector configuration of Hyper-K, simulations of HPD are going to install on WCSim. Also an event display for WCSim will be discussed here.

**Primary authors:** Dr HIMMEL, Alex (Duke University); Mr OKAJIMA, Yuji (Tokyo Institute of Technology)

**Presenters:** Dr HIMMEL, Alex (Duke University); Mr OKAJIMA, Yuji (Tokyo Institute of Technology)

Session Classification: Softwares

Development of event reconstruct...

Contribution ID: 15

Type: not specified

#### Development of event reconstruction software for Hyper-K

Tuesday 28 January 2014 13:30 (30 minutes)

fiTQun is a event reconstruction software based on maximum likelihood method and it can determine physics variables (vertex, direction, number of rings, momentum, PID) at once. It was originally developed for Super-K analysis and it could be event reconstruction software also for Hyper-K. Here we will report about status of fiTQun for Hyper-K,

**Primary authors:** Dr JAMIESON, Blair (University of Winnipeg); Dr WILKING, Michael (TRI-UMF)

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

Session Classification: Softwares

Summary and toward determinati ...

Contribution ID: 16

Type: not specified

## Summary and toward determination of detector configuration

Tuesday 28 January 2014 14:20 (10 minutes)

I will summarize the status of software and discuss plan, especially strategy to determine detector configuration of Hyper-K.

Primary author: Dr MIURA, Makoto (Kamioka Observatory, ICRR, University of Tokyo)
Presenter: Dr MIURA, Makoto (Kamioka Observatory, ICRR, University of Tokyo)
Session Classification: Softwares

Gd Status

Contribution ID: 17

Type: not specified

### **Gd Status**

*Tuesday 28 January 2014 15:10 (10 minutes)* 

The current status of gadolinium-in-water R&D studies, particularly the ongoing EGADS project, will be discussed.

Primary author: Prof. VAGINS, Mark (IPMU)Presenter: Prof. VAGINS, Mark (IPMU)Session Classification: Water System

Track Classification: Water System

Contribution ID: 18

Type: not specified

## The DAEdALUS at Hyper-K Experiment: Searching for CP Violation

Monday 27 January 2014 14:20 (20 minutes)

DAEdALUS is a phased program leading to a high-sensitivity search for CP violation. The experiment uses a set of high-intensity 800 MeV cyclotrons to produce pion decay-at-rest neutrino sources at several locations (with baselines of 1.5km, 8km, and 20km) going to the Hyper-K ultralarge, underground detector. The Hyper-K detector would be used to isolate and measure a very large sample of inverse-beta-decay events separately from each of the three sources. The DAEdALUS experiment will provide a high-statistics antineutrino data set with no matter effects that can be combined with the Hyper-K long-baseline data to provide greatly enhanced sensitivity for CP violation measurements.

Primary author: Prof. SHAEVITZ, Michael (Columbia University)

Presenter: Prof. SHAEVITZ, Michael (Columbia University)

Session Classification: Physics Potential and Near Detectors

Track Classification: Physics Potential

Status of Texas PMTs

Contribution ID: 19

Type: not specified

### **Status of Texas PMTs**

Tuesday 28 January 2014 09:40 (15 minutes)

Current status of development of 11 inch HQE PMTs from ADIT/ETEL. Schedule for delivery of prototypes and planned testing. Possible use in WATCHMAN.

Primary author: SVOBODA, Robert (UC Davis)Presenter: SVOBODA, Robert (UC Davis)Session Classification: Photodetectors

Track Classification: Photo-detector and Support

Flux Extrapolation Uncertainties f...

Contribution ID: 20

Type: not specified

#### Flux Extrapolation Uncertainties from Tokai to Hyper-K

Monday 27 January 2014 13:05 (20 minutes)

Preliminary sensitivity studies for a CP violation measurement with a Tokai-to-HyperK neutrino beam suggest that 2% systematic errors are required to remain statistics limited. We investigate the uncertainty on the flux extrapolation from potential near detector sites in Tokai, including the current ND280 site and potential sites out to 2 km from the neutrino beam production point. We evaluate the neutrino flux uncertainties using current uncertainties on hadron production data from NA61/SHINE used by T2K, and using the expected ultimate uncertainties from NA61/SHINE data. We compare the results to the 2% systematic error requirement and consider the suitability of existing or potential near detector sites.

Primary author: Prof. HARTZ, Mark (Kavli IPMU (WPI), University of Tokyo/TRIUMF)
Co-author: Dr TERRI, Ryan (Queen Mary University of London)
Presenter: Prof. HARTZ, Mark (Kavli IPMU (WPI), University of Tokyo/TRIUMF)
Session Classification: Physics Potential and Near Detectors

Track Classification: Neutrino Beamline

Measurement of large-aperture ph...

Contribution ID: 21

Type: not specified

## Measurement of large-aperture photodetectors in a water tank

Tuesday 28 January 2014 09:10 (30 minutes)

New large aperture photodetectors for Hyper-Kamiokande are under development and these usability is tested.

For the first proof test, high-QE photomultiplier tubes (51 cm  $\Phi$ ) and hybrid photodetectors (20 cm  $\Phi$ ) have been measured in a 200-ton water tank in Kamioka, Japan.

These installation, calibration and performance evaluation, and development status of other new photodetectors will be presented.

Primary author: Dr NISHIMURA, Yasuhiro (ICRR)

Presenter: Dr NISHIMURA, Yasuhiro (ICRR)

Session Classification: Photodetectors

Track Classification: Photo-detector and Support

Enhanced light collection with ph...

Contribution ID: 22

Type: not specified

### Enhanced light collection with photon trap

Tuesday 28 January 2014 09:55 (20 minutes)

We investigate the performance of photon traps for enhancing the light collection efficiency within the Hyper-Kamokiokande detector. Cerenkov photons enter the trap by going through a dichroic mirror transmitting UV and blue light and reflecting green light. Some Cerenkov photons are detected directly by a PMT while the others are absorbed in a wavelength shifting plate that reemit green photons. Green photons are confined within a box by the dichroic mirror and regular broad band mirrors covering the other walls. A large fraction of the green photons eventually hit the PMT are detected. Our simulations show that the overall detection efficiency of a 1x1m2 trap with a 12" PMT in the center exceeds the detection efficiency of a 20" PMT. However, the timing resolution is very significantly impaired. We will show the performances of the trap and discuss how it could be used in the context of Hyper-Kamiokande.

Primary authors: Dr RETIERE, Fabrice (TRIUMF); Dr POUTISSOU, Jean-Michel (TRIUMF)
Presenter: Dr POUTISSOU, Jean-Michel (TRIUMF)
Session Classification: Photodetectors

Track Classification: Photo-detector and Support

Contribution ID: 23

Type: not specified

## New source inserting system for SK as an R&D of HK calibration

Tuesday 28 January 2014 15:30 (15 minutes)

Current SK calibration is done by inserting sevarel calibration sources from the holes at the top of the tank manually in the dark. So we, Kobe group, are planning to set the source inserting system using a winch with a wire eoncoder controlled by PC. This is also the first step of R&D of the HK calibration system. The target position precision of the system is less than 1cm. By using a gate valve, we can change the sources even under the light. The installation and practical use will be done by the end of FY2015. At this stage, we can move the sources only in z (vertical) direction. At the next stage, we are thinking of testing the calibration system which is movable in all (x, y, and z) deirections in the HK prototype.

Primary author: Dr SUZUKI, Atsumu (Kobe University)

Co-author: Prof. TAKEUCHI, Yasuo (Kobe University)

Presenter: Dr SUZUKI, Atsumu (Kobe University)

Session Classification: Detector Calibrations

Track Classification: Detector Calibration

DAQ plans for HK

Contribution ID: 25

Type: not specified

### DAQ plans for HK

Tuesday 28 January 2014 11:15 (20 minutes)

Several UK institutions will participate in the development of Data Acquisition Systems (DAQ) for the prototype and full-scale detectors. We present an overview of considerations towards a conceptual design for a DAQ system and UK interests in this area.

**Primary authors:** DI LODOVICO, Francesca (Queen Mary, University of London); BARR, Giles (University of Oxford); O'KEEFFE, Helen (Lancaster University)

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

Session Classification: DAQ and Electronics System

Track Classification: DAQ and Electronics

Sensitivity studies for Tokai to Hy ...

Contribution ID: 26

Type: not specified

### Sensitivity studies for Tokai to Hyper Kamiokande

*Monday 27 January 2014 10:55 (30 minutes)* 

We will describe sensitivity studies done after the Hyper-Kamiokande LOI by adapting the code used for sensitivity studies in T2K, first to reproduce the results of this LOI and later study the effect of using the fiTQun pi-zero rejection cut and including the muon neutrino sample, as well as requirements for the near detectors constraints.

**Primary authors:** Dr BRONNER, Christophe (Kyoto University); Ms CREMONESI, Linda (Queen Mary University of London)

**Presenters:** Dr BRONNER, Christophe (Kyoto University); Ms CREMONESI, Linda (Queen Mary University of London)

Session Classification: Physics Potential and Near Detectors

Track Classification: Physics Potential

Contribution ID: 27

Type: not specified

#### HyperK sensitivity study using the VALOR T2K joint 3-flavour analysis

Monday 27 January 2014 11:25 (20 minutes)

Will present initial results from a HyperK sensitivity study using the well-established VALOR joint 3-flavour oscillation analysis. This analysis performs simultaneous fits of the HyperK single muonlike ring and single electron-like ring event reconstructed energy distributions in a framework of 3 active neutrino oscillations including matter effects. Near detector constraints from the 2013 T2K analysis are included and ~80 flux, cross-section, final state re-interaction and efficiency systematics are fully taken into account in the fit. The analysis is performed with the current T2K systematics and with HyperK-era error projection scenarios.

**Primary authors:** Dr ANDREOPOULOS, Costas (University of Liverpool and STFC Rutherford Appleton Lab); Ms ESCUDERO, Lorena (IFIC Valencia); Dr GRANT, Nick (Lancaster); Mr RAJ, Shah (Oxford University); Mr DEALTRY, Thomas (Oxford University)

**Co-authors:** Prof. WEBER, Alfons (Oxford University and STFC Rutherford Appleton Lab); Prof. WARK, Dave (Oxford University and STFC Rutherford Appleton Lab); Mr SGALABERNA, Davide (ETHZ); Mrs DEWHURST, Debra (Oxford University); Dr BAY, Fatih (ETHZ); Dr BARR, Giles (Oxford University); Ms DUFFY, Kirsty (Oxford University); Dr DI LUISE, Silvestro (ETHZ); Mr DENNIS, Steve (Warwick)

Presenter: Mr RAJ, Shah (Oxford University)

Session Classification: Physics Potential and Near Detectors

Track Classification: Physics Potential

Hyper-K site and cavern

Contribution ID: 28

Type: not specified

### Hyper-K site and cavern

Monday 27 January 2014 15:30 (30 minutes)

This talk will discuss current status and plan of geological survey at Mozumi site, and also cover status of technical design document for HK cavern construction.

Primary author: Dr TANAKA, Hide-Kazu (ICRR)Presenter: Dr TANAKA, Hide-Kazu (ICRR)Session Classification: Cavities and Tanks

Track Classification: Cavity and Tanks

Hyper-K tank

Contribution ID: 29

Type: not specified

### Hyper-K tank

Monday 27 January 2014 16:00 (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, The University of Tokyo)

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

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

Session Classification: Cavities and Tanks

Track Classification: Cavity and Tanks

The nuPRISM Near Detector: Con...

Contribution ID: 30

Type: not specified

#### The nuPRISM Near Detector: Constraining Neutrino Energy Using Multiple Off-Axis Angles

Monday 27 January 2014 13:45 (20 minutes)

At the previous Hyper-K meeting, the idea for a long water Cherenkov detector that spans multiple off-axis angles was presented. Using this configuration, it is possible to constrain the relationship between lepton kinematics and neutrino energy from the neutrino beam information, rather than relying solely on model-dependent neutrino generator extrapolations. Several details of this detector concept will be presented, such as potential near detector sites and event pileup considerations.

Primary author: Dr WILKING, Michael (TRIUMF)

**Co-authors:** Prof. KONAKA, Akira (TRIUMF); Prof. HARTZ, Mark (Kavli IPMU (WPI), University of Tokyo/TRIUMF); Dr ISHIDA, Taku (KEK)

Presenter: Dr WILKING, Michael (TRIUMF)

Session Classification: Physics Potential and Near Detectors

Track Classification: Near Detectors

Institute Representative Meeting

Contribution ID: 31

Type: not specified

### **Institute Representative Meeting**

Monday 27 January 2014 16:40 (1 hour)

Session Classification: Institute Representative Meeting

Sub-WG Meetings

Contribution ID: 32

Type: not specified

## **Sub-WG Meetings**

Monday 27 January 2014 17:40 (1 hour)

Session Classification: Sub-WG Meetings

Discussion

Contribution ID: 33

Type: not specified

### Discussion

Tuesday 28 January 2014 16:15 (30 minutes)

Session Classification: Discussion

J-PARC LOI Meeting

Contribution ID: 34

Type: not specified

## J-PARC LOI Meeting

Tuesday 28 January 2014 16:45 (1 hour)

Session Classification: J-PARC LOI Meeting

Introduction

Contribution ID: 35

Type: not specified

### Introduction

Monday 27 January 2014 10:45 (10 minutes)

Introduction to the "Physics Potential and Near Detectors" session

Primary author: Prof. YOKOYAMA, Masashi (University of Tokyo)Presenter: Prof. YOKOYAMA, Masashi (University of Tokyo)Session Classification: Physics Potential and Near Detectors

Track Classification: Physics Potential

The ESSnuSB project

Contribution ID: 36

Type: not specified

### The ESSnuSB project

Monday 27 January 2014 10:00 (20 minutes)

We are making a Design Study of a neutrino Super Beam long base line (500 km) experiment ESSnuSB based on the use of the European Spallation Source (ESS) 5 MW, 2 GeV proton linac and a Megaton water Cherenkov detector to discover leptonic CP violation, performing measurements at the second oscillation maximum, where the sensitivity to CP violation is significantly higher than at the first maximum and thereby making the CP angle measurement significantly less sensitive to systematic errors. Operation at the second maximum is made possible by the very high intensity of the ESS proton linac (1.6exp16 protons on target per year). An account is given of how the high intensity neutrino beam is generated using the ESS linac, of the properties of deep mines around 500 km from ESS that are possible sites for the neutrino detector and of the performance of the experiment for leptonic CP violation discovery.

Primary author: Prof. EKELOF, Tord (Uppsala University)Presenter: Prof. EKELOF, Tord (Uppsala University)Session Classification: J-PARC and Beamline

Track Classification: Neutrino Beamline

Contribution ID: 37

Type: not specified

#### Decomposing Neutrino Oscillation in the Propagation Basis

A general formalism of decomposing event rates in the propagation basis is established to study the neutrino oscillation phenomena. The contributions from the neutrino mass hierarchy, the atmospheric mixing angle and its octant, as well as the CP phase can be analytically disentangled in this formalism which is extrmely useful in the study of atmospheric neutrino oscillation that experiences complicated earth matter profile and can apply generally to any type of neutrino experiments. As a complementary tool to oscillogram, the decomposition formalism can unveil more detailed/hidden patterns, especially the dependence on the three unknow parameters. To illustrate its usefulness, we take SK as an example by exploring the hierarchy and octant sensitivities.

Ref: arXiv:1309.3176, arXiv:1312.0457

**Primary author:** Dr GE, Shao-Feng (KEK Theory Center)

Presenter: Dr GE, Shao-Feng (KEK Theory Center)

Track Classification: Physics Potential

Opening remark

Contribution ID: 38

Type: not specified

## **Opening remark**

Monday 27 January 2014 09:00 (15 minutes)

Opening remark

Primary author: Prof. SHIOZAWA, Masato (Kamioka Observatory, ICRR, The University of Tokyo)

**Presenter:** Prof. SHIOZAWA, Masato (Kamioka Observatory, ICRR, The University of Tokyo) **Session Classification:** Opening Session

Track Classification: Opening Session

Steering group report

Contribution ID: 39

Type: not specified

## **Steering group report**

Monday 27 January 2014 09:15 (15 minutes)

Steering group report

Primary author: Prof. NAKAYA, Tsuyoshi (Kyoto University)Presenter: Prof. NAKAYA, Tsuyoshi (Kyoto University)Session Classification: Opening Session

Track Classification: Opening Session

Status of the J-PARC accelerators / ...

Contribution ID: 40

Type: not specified

## Status of the J-PARC accelerators / neutrino facility and their upgrade plans

Monday 27 January 2014 09:30 (30 minutes)

Status of the J-PARC accelerators / neutrino facility and their upgrade plans

Primary author: Dr ISHIDA, Taku (KEK)Presenter: Dr ISHIDA, Taku (KEK)Session Classification: J-PARC and Beamline

Track Classification: Neutrino Beamline

Summary

Contribution ID: 41

Type: not specified

### **Summary**

Monday 27 January 2014 16:30 (10 minutes)

Summary

Primary author: Prof. SHIOZAWA, Masato (Kamioka Observatory, ICRR, The University of Tokyo)

**Presenter:** Prof. SHIOZAWA, Masato (Kamioka Observatory, ICRR, The University of Tokyo) **Session Classification:** Cavities and Tanks

Track Classification: Cavity and Tanks

4th Open Meetin  $\dots \ /$  Report of Contributions

Software Group

Contribution ID: 42

Type: not specified

## Software Group

Monday 27 January 2014 17:40 (1 hour)

Session Classification: Sub-WG Meetings

T2HK discussion (Flux/ND inputs...

Contribution ID: 45

Type: not specified

### T2HK discussion (Flux/ND inputs to the J-PARC LOI)

*Tuesday 28 January 2014 12:00 (1 hour)* 

Session Classification: T2HK discussion (Flux/ND inputs to the J-PARC LOI)