

# **Neutrino Frontier Workshop 2016**

## **Report of Contributions**

Contribution ID: 1

Type: **not specified**

## **A01:Recent T2K results and future prospects**

*Tuesday, 29 November 2016 09:00 (25 minutes)*

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

**Session Classification:** Session3

Contribution ID: 2

Type: **not specified**

## **A02:Latest results from Double Chooz with two detectors**

*Monday, 28 November 2016 13:35 (25 minutes)*

**Presenter:** MATSUBARA, Tsunayuki (Japan, Tokyo Metropolitan University)

**Session Classification:** Session1

Contribution ID: 3

Type: **not specified**

## **A03:Design and Physics potentials of Hyper-K**

*Monday, 28 November 2016 14:00 (25 minutes)*

**Presenter:** Dr YANO, Takatomi (Kobe University)

**Session Classification:** Session1

Contribution ID: 4

Type: **not specified**

## **A04:Recent results from IceCube**

*Monday, 28 November 2016 14:25 (25 minutes)*

**Presenter:** LU, Lu (Chiba University)

**Session Classification:** Session1

Contribution ID: 5

Type: **not specified**

## **B01:Nuclear emulsion production and applications**

*Monday, 28 November 2016 14:50 (12 minutes)*

**Presenter:** SATO, Osamu

**Session Classification:** Session1

Contribution ID: 6

Type: **not specified**

## **B02:Development of Far-infrared Spectrophotometers based on Superconducting Tunnel Junction (STJ) for COBAND experiment**

*Monday, 28 November 2016 15:15 (25 minutes)*

**Presenter:** TAKEUCHI, Yuji (University of Tsukuba)

**Session Classification:** Session1

Contribution ID: 7

Type: **not specified**

## **B03:Status of liquid Argon TPC R&D**

*Monday, 28 November 2016 16:10 (25 minutes)*

**Presenter:** NEGISHI, Kentaro (Iwate Univ.)

**Session Classification:** Session2



Contribution ID: 8

Type: **not specified**

## **C01:Tensions in the current neutrino data and non-standard interactions**

*Monday, 28 November 2016 16:35 (25 minutes)*

**Presenter:** GHOSH, Monojit (Tokyo Metropolitan University)

**Session Classification:** Session2

Contribution ID: 9

Type: **not specified**

## **C02:Recent updates on neutrino-nucleus scattering models**

*Monday, 28 November 2016 17:00 (25 minutes)*

**Presenter:** NAKAMURA, Satoshi (Osaka University)

**Session Classification:** Session2

Contribution ID: **10**

Type: **not specified**

## **C03:Primordial Lepton Oscillation and Baryogenesis**

*Monday, 28 November 2016 17:25 (25 minutes)*

**Presenter:** KITANO, Ryuichiro (KEK)

**Session Classification:** Session2

Contribution ID: 11

Type: **not specified**

## **A01:Status and future prospect of J-PARC MR FX**

*Tuesday, 29 November 2016 09:25 (15 minutes)*

**Presenter:** NAITO, Daichi (J-PARC)

**Session Classification:** Session3

Contribution ID: 12

Type: **not specified**

## **A01:Wagasci Project**

*Tuesday, 29 November 2016 09:40 (15 minutes)*

**Presenter:** KIN, Ken'ichi (Osaka City University)

**Session Classification:** Session3

Contribution ID: 13

Type: **not specified**

## **A02:** 逆ベータ崩壊反応を用いたニュートリノ方向測定

*Tuesday, 29 November 2016 16:30 (20 minutes)*

**Presenter:** KANEDA, Michiru (Tokyo Institute of Technology)

**Session Classification:** Session6

Contribution ID: 14

Type: **not specified**

## A02 young 2

**Session Classification:** Session3

Contribution ID: 15

Type: **not specified**

## **A03:Neutron tagging in water Cherenkov detector**

*Wednesday, 30 November 2016 09:15 (15 minutes)*

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

**Session Classification:** Session7



Contribution ID: 16

Type: **not specified**

## **A03:Photo-detector R&D for Hyper-Kamiokande**

*Wednesday, 30 November 2016 09:00 (15 minutes)*

**Presenter:** MUTO, Fumimasa (Nagoya university)

**Session Classification:** Session7

Contribution ID: 17

Type: **not specified**

## **Status of the T2K experiment and neutrino interaction measurements**

*Tuesday, 29 November 2016 14:00 (25 minutes)*

**Presenters:** WASCKO, Morgan (Imperial College London); WASCKO, Morgan (Blackett Lab.High Energy Phys.Group-Imperial College-Unknown)

**Session Classification:** Session5

Contribution ID: **18**

Type: **not specified**

## **Intermediate water Cherenkov detector**

*Tuesday, 29 November 2016 14:25 (25 minutes)*

**Presenter:** ISHITSUKA, Masaki (Tokyo Institute of Technology (JP))

**Session Classification:** Session5

Contribution ID: 19

Type: **not specified**

## **Impact of gravitational wave detection and its perspective**

*Tuesday, 29 November 2016 15:15 (25 minutes)*

**Presenter:** TANAKA, Takahiro (Kyoto University)

**Session Classification:** Session5

Contribution ID: 20

Type: **not specified**

## **JSNS2; particle- and astro-physics with J-PARC MeV neutrino beams**

*Tuesday, 29 November 2016 14:50 (25 minutes)*

**Presenter:** SHIMA, Tatsushi (Research Center for Nuclear Physics, Osaka University)

**Session Classification:** Session5

Contribution ID: 21

Type: **not specified**

## Invited 5

**Session Classification:** Session6

Contribution ID: 22

Type: **not specified**

## Invited 6

**Session Classification:** Session6

Contribution ID: 23

Type: **not specified**

## 加速器科学とニュートリノ

*Tuesday, 29 November 2016 17:10 (4 minutes)*

A01

**Presenter:** NAKADAIRA, Takeshi (HIGH ENERGY ACCELERATOR RESEARCH ORGANIZATION, KEK)

**Session Classification:** Session6



Contribution ID: 24

Type: **not specified**

## Normal hierarchy を探索可能な **double-beta** 実験と ニュートリノ混合行列のユニタリティ検証実験

*Tuesday, 29 November 2016 17:14 (4 minutes)*

A03

**Presenter:** ISHITSUKA, Masaki (Tokyo Institute of Technology (JP))

**Session Classification:** Session6

Contribution ID: 25

Type: **not specified**

## 次世代南極ニュートリノ望遠鏡計画

*Tuesday, 29 November 2016 17:18 (4 minutes)*

A04

**Presenter:** ISHIHARA, Aya (Chiba University)

**Session Classification:** Session6

Contribution ID: 26

Type: **not specified**

## 超電導検出器によるニュートリノ質量+暗黒物質

*Tuesday, 29 November 2016 17:22 (4 minutes)*

B02

**Presenter:** TAKEUCHI, Yuji (University of Tsukuba)

**Session Classification:** Session6

Contribution ID: 27

Type: **not specified**

## 液体アルゴン

*Tuesday, 29 November 2016 17:26 (4 minutes)*

B03

**Presenter:** SAKASHITA, Ken (High Energy Accelerator Research Organization(KEK), Institute of Particle and Nuclear Study)

**Session Classification:** Session6

Contribution ID: 28

Type: **not specified**

## 世界のステライルニュートリノ探索の状況

*Tuesday, 29 November 2016 17:30 (4 minutes)*

**Presenter:** IWAI, Eito (University of Michigan)

**Session Classification:** Session6

Contribution ID: 29

Type: **not specified**

## Discussion on the proposals

*Tuesday, 29 November 2016 17:46 (30 minutes)*

**Session Classification:** Session6

Contribution ID: **30**

Type: **not specified**

## **A04:ARA detector development and calibration**

*Wednesday, 30 November 2016 09:30 (15 minutes)*

**Presenter:** ISOBE, Hikaru (Chiba University)

**Session Classification:** Session7

Contribution ID: **31**

Type: **not specified**

## **A04 young 2**

**Session Classification:** Session4



Contribution ID: 32

Type: **not specified**

## **B01: A development of time-resolved emulsion detector**

*Wednesday, 30 November 2016 09:45 (15 minutes)*

時間軸をもつ原子核乾板検出器の開発  
A development of time-resolved emulsion detector

**Presenter:** Dr TAKAHASHI, Satoru (Kobe University)

**Session Classification:** Session7

Contribution ID: 33

Type: **not specified**

## **B01: Measurement of Cosmic-rays with Nuclear Emulsion inside Egyptian Pyramids**

*Wednesday, 30 November 2016 10:00 (15 minutes)*

**Presenter:** MORISHIMA, Kunihiro

**Session Classification:** Session7

Contribution ID: 34

Type: **not specified**

## **B02:R&D Status of Nb/Al-STJ with SOI cryogenic preamplifier**

*Wednesday, 30 November 2016 11:00 (15 minutes)*

**Presenter:** YAGI, Shunsuke (University of Tsukuba)

**Session Classification:** Session8

Contribution ID: 35

Type: **not specified**

## **B02:R&D Status of Hf-STJ**

*Wednesday, 30 November 2016 10:45 (15 minutes)*

**Presenter:** TAKEMASA, Kenichi (University of Tsukuba)

**Session Classification:** Session8

Contribution ID: 36

Type: **not specified**

## **B03:Status of LArIAT**

*Tuesday, 29 November 2016 16:50 (20 minutes)*

**Presenter:** MARUYAMA, Takasumi (KEK)

**Session Classification:** Session6

Contribution ID: 37

Type: **not specified**

## **B03 young 2**

**Session Classification:** Session8

Contribution ID: 38

Type: **not specified**

## **C01:Detection possibility of geuged $U(1)_{\{L_{\mu} - L_{\tau}\}}$ model**

*Wednesday, 30 November 2016 11:15 (25 minutes)*

**Presenter:** SHIMOMURA, Takashi (University of Miyazaki)

**Session Classification:** Session8

Contribution ID: **39**

Type: **not specified**

## **C01 young 2**

**Session Classification:** Session8



Contribution ID: 40

Type: **not specified**

## **C02 young 1**

**Session Classification:** Session8

Contribution ID: 41

Type: **not specified**

## **C02 young 2**

**Session Classification:** Session8

Contribution ID: 42

Type: **not specified**

## **C03:Thermal relic dark matter beyond the unitarity limit**

*Wednesday, 30 November 2016 13:00 (15 minutes)*

**Presenter:** IBE, Masahiro (ICRR, Univ. of Tokyo)

**Session Classification:** Session9

Contribution ID: 43

Type: **not specified**

## **C03:Electroweak-Skyrmion as Topological Dark Matter**

*Wednesday, 30 November 2016 11:40 (15 minutes)*

**Presenter:** KURACHI, Masafumi (KEK)

**Session Classification:** Session8

Contribution ID: 44

Type: **not specified**

## Neutrinos from explosive astrophysical objects

*Tuesday, 29 November 2016 15:40 (20 minutes)*

**Presenter:** SUWA, Yudai (Yukawa Institute for Theoretical Physics, Kyoto University)

**Session Classification:** Session5

Contribution ID: 45

Type: **not specified**

## **Research of a new TOF method for neutrino-less double beta decay search**

*Wednesday, 30 November 2016 13:15 (20 minutes)*

**Presenter:** MATSUOKA, Kodai (Nagoya University)

**Session Classification:** Session9

Contribution ID: 46

Type: **not specified**

## **The CANDLES project aiming for the low background frontier**

*Wednesday, 30 November 2016 13:35 (20 minutes)*

**Presenter:** IIDA, Takashi (Osaka University)

**Session Classification:** Session9

Contribution ID: 47

Type: **not specified**

## **Experimental efforts toward neutrino mass measurements by using CMB polarization**

*Wednesday, 30 November 2016 13:55 (20 minutes)*

**Presenter:** TAJIMA, Osamu (KEK)

**Session Classification:** Session9



Contribution ID: 48

Type: **not specified**

## **Testing neutrino mass generation mechanisms from the lepton flavor violating decay of the Higgs boson**

*Wednesday, 30 November 2016 14:15 (20 minutes)*

**Presenter:** AOKI, Mayumi (Kanazawa University)

**Session Classification:** Session9

Contribution ID: 49

Type: **not specified**

## Application 6

**Session Classification:** Session9

Contribution ID: 50

Type: **not specified**

## COBAND 実験における STJ 検出器較正用遠赤外光源 開発

*Tuesday, 29 November 2016 10:25 (3 minutes)*

**Presenter:** ASANO, Chisa (University of Fukui)

**Session Classification:** Session4

Contribution ID: 51

Type: **not specified**

## ハイパーカミオカンデにおけるフロントエンドデータ 転送システムの開発

*Tuesday, 29 November 2016 10:28 (3 minutes)*

**Presenter:** SONODA, Yutaro (ICRR, University of Tokyo)

**Session Classification:** Session4

Contribution ID: 52

Type: **not specified**

## 大気 $\text{numu}/\text{numu-bar}$ 識別に向けた **stopping-muon** 解析

*Tuesday, 29 November 2016 10:31 (3 minutes)*

**Presenter:** MURASE, Misaki (Nagoya University)

**Session Classification:** Session4

Contribution ID: 53

Type: **not specified**

## **AXEL** の読み出し回路の開発

*Tuesday, 29 November 2016 10:34 (3 minutes)*

**Presenter:** NAKAMURA, Kazuhiro (Kyoto University)

**Session Classification:** Session4

Contribution ID: 54

Type: **not specified**

## $0\nu\beta\beta$ 探索実験 **AXEL** のシミュレーション

**Presenter:** NAKAMURA, Kiseki (Kyoto university)

**Session Classification:** Session4

Contribution ID: 55

Type: **not specified**

## スーパーカミオカンデの新 **DAQ** 開発

*Tuesday, 29 November 2016 10:37 (3 minutes)*

**Presenter:** MORI, Masamitsu (Kyoto university)

**Session Classification:** Session4



Contribution ID: 56

Type: **not specified**

## **Detector development for IceCube-Gen2**

*Tuesday, 29 November 2016 10:40 (3 minutes)*

**Presenter:** STOESSL, Achim (Chiba University)

**Session Classification:** Session4

Contribution ID: 57

Type: **not specified**

## **ARA slim detector R&D**

*Tuesday, 29 November 2016 10:43 (3 minutes)*

**Presenter:** ARCHAMBAUL, Simon (Chiba University)

**Session Classification:** Session4

Contribution ID: 58

Type: **not specified**

## **Construction of new water module for the WAGASCI experiment**

*Tuesday, 29 November 2016 10:46 (3 minutes)*

**Presenter:** HOSOMI, Fuminao (University of Tokyo)

**Session Classification:** Session4

Contribution ID: 59

Type: **not specified**

## ニュートリノ崩壊光探索に向けた極低温増幅器の開発 と現状

*Tuesday, 29 November 2016 10:49 (3 minutes)*

**Presenter:** WAKASA, Rena (University of Tsukuba)

**Session Classification:** Session4

Contribution ID: **60**

Type: **not specified**

# 原子核乳剤を用いた高分解能冷・超冷中性子検出器の 開発

*Tuesday, 29 November 2016 10:52 (3 minutes)*

**Presenter:** NAGANAWA, Naotaka (Nagoya University)

**Session Classification:** Session4

Contribution ID: 61

Type: **not specified**

## T2K 前置検出器 **INGRID** を用いたニュートリノビームの安定性

*Tuesday, 29 November 2016 10:55 (3 minutes)*

**Presenter:** HAYASHINO, Tatsuya (Kyoto University)

**Session Classification:** Session4

Contribution ID: 62

Type: **not specified**

## **Light gauge boson and neutrino trident production process**

*Tuesday, 29 November 2016 17:38 (4 minutes)*

C01

**Presenter:** SHIMOMURA, Takashi (University of Miyazaki)

**Session Classification:** Session6

Contribution ID: 63

Type: **not specified**

## 初期宇宙論におけるニュートリノの新たな可能性

*Tuesday, 29 November 2016 17:42 (4 minutes)*

C03

**Presenter:** IBE, Masahiro (ICRR, Univ. of Tokyo)

**Session Classification:** Session6



Contribution ID: 64

Type: **not specified**

## Opening remarks

*Monday, 28 November 2016 13:30 (5 minutes)*

**Presenter:** Prof. SHIOZAWA, Masato (ICRR)

**Session Classification:** Session1

Contribution ID: 65

Type: **not specified**

## Closeing remarks

*Wednesday, 30 November 2016 14:35 (5 minutes)*

**Presenter:** KUZE, Masahiro (Tokyo Institute of Technology (JP))

**Session Classification:** Session9

Contribution ID: **66**

Type: **not specified**

## **GRAINE** 気球実験における宇宙線ハドロン反応解析

*Tuesday, 29 November 2016 10:58 (3 minutes)*

**Presenter:** KAWAHARA, Hiroaki (Nagoya University)

**Session Classification:** Session4

Contribution ID: 67

Type: **not specified**

## **J-PARC T59 WAGASCI** 実験における信号読出しシステムの開発

*Tuesday, 29 November 2016 11:01 (3 minutes)*

**Presenter:** CHIKUMA, Naruhiro (The University of Tokyo)

**Session Classification:** Session4

Contribution ID: **68**

Type: **not specified**

## **NuPRISM detector performance study**

*Tuesday, 29 November 2016 11:04 (3 minutes)*

**Presenter:** YOSHIDA, Tomoyo (Tokyo Institute of Technology)

**Session Classification:** Session4

Contribution ID: 69

Type: **not specified**

## **Sensitivity studies for a second Hyper-K detector in Korea**

*Tuesday, 29 November 2016 11:07 (3 minutes)*

**Presenter:** BERNs, Lukas (Kuze Lab, Tokyo Institute of Technology)

**Session Classification:** Session4

Contribution ID: 70

Type: **not specified**

広周波数領域に対応可能なビームモニターの設計  
**(J-PARC MR)**

*Tuesday, 29 November 2016 11:10 (3 minutes)*

**Presenter:** UNO, Wataru (Kyoto university)

**Session Classification:** Session4

Contribution ID: 72

Type: **not specified**

## **J-PARC T60** 実験における電磁成分の解析

*Tuesday, 29 November 2016 11:13 (3 minutes)*

**Presenter:** SUZUKI, Yosuke (Nagoya University)

**Session Classification:** Session4



Contribution ID: 73

Type: **not specified**

## 高圧 **Xe** ガス **TPC AXEL** のドリフト電場形成回路の開発

*Tuesday, 29 November 2016 11:16 (3 minutes)*

**Presenter:** YOSHIDA, Masashi (Kyoto University High Energy Physics Laboratory)

**Session Classification:** Session4

Contribution ID: 74

Type: **not specified**

## **Sensitivity of new physics by joint analysis of neutrino oscillation on Hyper-Kamiokande**

*Tuesday, 29 November 2016 11:19 (3 minutes)*

**Presenter:** JIANG, Miao (Kyoto University)

**Session Classification:** Session4

Contribution ID: 75

Type: **not specified**

## **Study of low background bolometer for CANDLES**

*Tuesday, 29 November 2016 11:22 (3 minutes)*

**Presenter:** TETSUNO, Konosuke (Osaka University)

**Session Classification:** Session4

Contribution ID: 76

Type: **not specified**

## **Double Cnooz** 検出器のエネルギー応答の研究とステ ライルニュートリノ探索

*Tuesday, 29 November 2016 11:25 (3 minutes)*

**Presenter:** MACHIDA, Atsushi (Tokyo Metropolitan University)

**Session Classification:** Session4

Contribution ID: 77

Type: **not specified**

## **Energy calibration by means of $(n,\gamma)$ reaction for the CANDLES<sup>III+</sup> project.**

*Tuesday, 29 November 2016 11:28 (3 minutes)*

**Presenter:** OHATA, Takaki (Osaka University)

**Session Classification:** Session4

Contribution ID: 78

Type: **not specified**

## **GRAINE** 計画一気球搭載エマルシオンガンマ線望遠鏡

**Presenter:** ROKUJO, Hiroki (Nagoya University)

**Session Classification:** Session4

Contribution ID: 79

Type: **not specified**

## ニュートリノ崩壊光探索に向けた極低温増幅器の開発 と現状

**Presenter:** WAKASA, Rena (University of Tsukuba)

**Session Classification:** Poster

Contribution ID: **80**

Type: **not specified**

原子核乳剤を用いた高分解能冷・超冷中性子検出器の  
開発

**Presenter:** NAGANAWA, Naotaka (Nagoya University)

**Session Classification:** Poster



Contribution ID: **81**

Type: **not specified**

## **T2K** 前置検出器 **INGRID** を用いたニュートリノビームの安定性

**Presenter:** HAYASHINO, Tatsuya (Kyoto University)

**Session Classification:** Poster

Contribution ID: 82

Type: **not specified**

ニュートリノ中性反応精密測定のための核子・酸素原子核反応に関する研究

*Tuesday, 29 November 2016 11:31 (3 minutes)*

**Presenter:** ASHIDA, Yosuke (Kyoto University)

**Session Classification:** Session4

Contribution ID: 83

Type: **not specified**

## **B01:** 原子核乾板技術とその応用

*Tuesday, 29 November 2016 17:34 (4 minutes)*

**Presenter:** KOMATSU, Masahiro (Nagoya University (JP))

**Session Classification:** Session6

Contribution ID: 84

Type: **not specified**

## **J-PARC T60 - Study of neutrino-nucleus interactions with nuclear emulsion at J-PARC**

*Tuesday, 29 November 2016 11:34 (3 minutes)*

**Presenter:** OSHIMA, Hitoshi (Toho University)

**Session Classification:** Session4

Contribution ID: 85

Type: **not specified**

原子核乾板を用いたニュートリノを伴わない二重ベータ崩壊探索実験の基礎研究

*Tuesday, 29 November 2016 11:37 (3 minutes)*

**Presenter:** HAMABE, Dai (Tokyo Institute of Technology)

**Session Classification:** Session4

Contribution ID: 86

Type: **not specified**

## **Development of the web interface for the online DAQ system of the Double Chooz experiment**

*Tuesday, 29 November 2016 11:40 (3 minutes)*

**Presenter:** KANEDA, Michiru (Tokyo Institute of Technology)

**Session Classification:** Session4

Contribution ID: 87

Type: **not specified**

ニュートリノ物理のための中性子・酸素原子核反応からのガンマ線測定

*Tuesday, 29 November 2016 11:43 (3 minutes)*

**Presenter:** NAGATA, Hirotaka (Okayama University)

**Session Classification:** Session4

Contribution ID: **88**

Type: **not specified**

## **B01:Detailed study of neutrino-nucleus interactions using nuclear emulsion at J-PARC (T60 experiment)**

*Monday, 28 November 2016 15:02 (13 minutes)*

**Presenter:** OGAWA, Satoru (Toho University (JP))

**Session Classification:** Session1



Contribution ID: **89**

Type: **not specified**

## **Quick fire slides (all talks combined)**

*Tuesday, 29 November 2016 11:46 (1 minute)*

**Session Classification:** Session4