

# **Berkeley Week at the University of Tokyo**

## **Report of Contributions**

Contribution ID: 1

Type: **not specified**

# Welcome

*Monday, 11 March 2024 10:20 (10 minutes)*

**Session Classification:** Session 1

Contribution ID: 2

Type: **not specified**

# Quantum Magnetometry in search of Dark Matter

*Monday, 11 March 2024 10:30 (40 minutes)*

**Presenter:** BLOCH, Itai (Berkeley)

**Session Classification:** Session 1

Contribution ID: 3

Type: **not specified**

# Quantum simulation of the Schwinger model with a topological term

*Monday, 11 March 2024 11:10 (40 minutes)*

**Presenter:** NAGANO, Lento (ICEPP)

**Session Classification:** Session 1

Contribution ID: 4

Type: **not specified**

## **SUSY GUT and the doublet-triplet splitting problem**

*Monday, 11 March 2024 13:00 (40 minutes)*

**Presenter:** HOR, Shihwen (Physics)

**Session Classification:** Session 2

Contribution ID: 5

Type: **not specified**

## **WZW via Generalized Cohomology**

*Monday, 11 March 2024 13:40 (40 minutes)*

**Presenter:** SAITO, Shota (Kavli IPMU)

**Session Classification:** Session 2

Contribution ID: 6

Type: **not specified**

## **Phenomenological impacts of axionic wormholes**

*Monday, 11 March 2024 14:40 (40 minutes)*

**Presenter:** KANAZAWA, Yoshiki (Physics)

**Session Classification:** Session 3

Contribution ID: 7

Type: **not specified**

# Neutrino Mass Measurement with Cosmic Gravitational Focusing

*Monday, 11 March 2024 15:20 (40 minutes)*

**Presenter:** PASQUINI, Pedro (Physics)

**Session Classification:** Session 3



Contribution ID: 8

Type: **not specified**

# Deciphering the Mysteries of the Long-Lived Particles: Perspectives from LHC, FCC-hh and Muon Collider

*Monday, 11 March 2024 16:30 (1 hour)*

Conventional searches at the LHC operate under the assumption that Beyond the Standard Model particles undergo immediate decay upon production. However, this assumption lacks inherent a priori justification. This talk delves into the exploration of displaced decay signatures across various collider experiments. Combining insights from several studies, we show how small Yukawa couplings, compressed mass spectra, and collider boosts lead to distinctive displaced decays, observable at the CMS, ATLAS and proposed future detectors. These phenomena, manifesting within both Type-I and Type-III seesaw mechanisms, the Vector-like lepton model with non-zero hypercharge, and the Inert Triplet Model, provide a unique insight into the behaviors of neutrinos and dark matter. The seminar highlights the technical challenges and breakthroughs in detecting and interpreting these signatures, emphasizing their significance in probing the depths of the extensions of the Standard Model.

References: 1) JHEP 02 (2023) 103  
2) Eur.Phys.J.C 82 (2022) 3, 230  
3) arXiv: 2310.08883 [hep-ph]  
4) arXiv: 2401.02697 [hep-ph]

**Presenter:** SEN, Chandrima (Indian Institute of Technology Hyderabad)

**Session Classification:** Seminar

Contribution ID: 9

Type: **not specified**

## Wave-like dark matter detection using qubits

*Tuesday, 12 March 2024 10:30 (40 minutes)*

**Presenter:** SICHANUGRIST, Thanaporn (Physics)

**Session Classification:** Session 4

Contribution ID: **10**

Type: **not specified**

## **Multiphonon Processes in Spin-Dependent Dark-Matter Scattering**

*Tuesday, 12 March 2024 11:10 (40 minutes)*

**Presenter:** SUTER, Bethany (Berkeley)

**Session Classification:** Session 4

Contribution ID: 11

Type: **not specified**

# **Starobinsky Inflation and beyond in Einstein-Cartan Gravity**

*Tuesday, 12 March 2024 13:00 (40 minutes)*

**Presenter:** HONG, Muzi (RESCEU)

**Session Classification:** Session 5

Contribution ID: 12

Type: **not specified**

## **WIMP search at future muon collider**

*Tuesday, 12 March 2024 13:40 (40 minutes)*

**Presenter:** NIKI, Atsuya (Physics)

**Session Classification:** Session 5

Contribution ID: 13

Type: **not specified**

## **Probing Parity-Violation in the Stochastic Gravitational Wave Background in Astrometry**

*Tuesday, 12 March 2024 14:40 (40 minutes)*

**Presenter:** LIANG, Qiuyue (Kavli IPMU)

**Session Classification:** Session 6

Contribution ID: 14

Type: **not specified**

## Revisiting Metastable Cosmic String Breaking

*Tuesday, 12 March 2024 15:20 (40 minutes)*

**Presenter:** CHITOSE, Akifumi (ICRR)

**Session Classification:** Session 6

Contribution ID: 15

Type: **not specified**

# ILC Beam Dump Experiment and New Physics Search

*Tuesday, 12 March 2024 16:20 (40 minutes)*

**Presenter:** ASAI, Kento (ICRR)

**Session Classification:** Session 7



Contribution ID: 16

Type: **not specified**

## In search of a Higgsino

*Wednesday, 13 March 2024 10:30 (40 minutes)*

**Presenter:** XU, Weishuang (Linda) (Berkeley)

**Session Classification:** Session 8

Contribution ID: 17

Type: **not specified**

## **Axion search with the observations of photon's birefringence effect**

*Wednesday, 13 March 2024 11:10 (40 minutes)*

**Presenter:** OBATA, Ippai (Kavli IPMU)

**Session Classification:** Session 8

Contribution ID: **18**

Type: **not specified**

## **Gravitational Waves to Thermal CFT data**

*Wednesday, 13 March 2024 13:00 (40 minutes)*

**Presenter:** CONCEPCION, Ben (Berkeley)

**Session Classification:** Session 9

Contribution ID: 19

Type: **not specified**

## **Axion Mass from Small Instantons?**

*Wednesday, 13 March 2024 13:40 (40 minutes)*

**Presenter:** AOKI, Takafumi (ICRR)

**Session Classification:** Session 9

Contribution ID: 20

Type: **not specified**

## Neutrinophilic Self-interacting Dark Matter

*Wednesday, 13 March 2024 14:40 (40 minutes)*

**Presenter:** AONASHI, Tatsuya (Kavli IPMU)

**Session Classification:** Session 10

Contribution ID: 21

Type: **not specified**

## **Thermal Leptogenesis in the Minimal Gauged $U(1)_{L\mu-L\tau}$ Model**

*Wednesday, 13 March 2024 15:20 (40 minutes)*

**Presenter:** WADA, Juntaro (Physics)

**Session Classification:** Session 10

Contribution ID: 22

Type: **not specified**

## **Axion detection using superfluid Helium-3**

*Wednesday, 13 March 2024 16:20 (40 minutes)*

**Presenter:** OKABE, Risshin (Kavli IPMU)

**Session Classification:** Session 11

Contribution ID: 23

Type: **not specified**

# The baryon isocurvature problem of primordial magnetic fields

*Friday, 15 March 2024 10:30 (40 minutes)*

**Presenter:** UCHIDA, Fumio (RESCEU)

**Session Classification:** Session 12



Contribution ID: 24

Type: **not specified**

## **Gamma rays from supernova axions converting in stellar magnetic fields: limits from SN1987A and a proposed future observatory**

*Friday, 15 March 2024 11:10 (40 minutes)*

**Presenter:** PARK, Yujin (Berkeley)

**Session Classification:** Session 12

Contribution ID: 25

Type: **not specified**

## **New Contributions to Lepton Dipole Moments in Vector-like Lepton Models**

*Friday, 15 March 2024 13:00 (40 minutes)*

**Presenter:** OSAKI, Genta (Physics)

**Session Classification:** Session 13

Contribution ID: 26

Type: **not specified**

## **Precise estimate of chargino decay rates**

*Friday, 15 March 2024 13:40 (40 minutes)*

**Presenter:** NAKAYAMA, Yuhei (ICRR)

**Session Classification:** Session 13

Contribution ID: 27

Type: **not specified**

## **Returning CP-observables to the frames they belong**

*Friday, 15 March 2024 14:40 (40 minutes)*

**Presenter:** BARMAN, Rahool Kumar (Kavli IPMU)

**Session Classification:** Session 14

Contribution ID: 28

Type: **not specified**

## **PBH Formation from QCD Axion Bubbles as SMBH Seeds**

*Friday, 15 March 2024 15:20 (40 minutes)*

**Presenter:** NEDA, Shunsuke (ICRR)

**Session Classification:** Session 14

Contribution ID: 29

Type: **not specified**

## **Light Thermal Dark Matter and MeV Gamma-ray Detection**

*Friday, 15 March 2024 16:20 (40 minutes)*

**Presenter:** WATANABE, Yu (Kavli IPMU)

**Session Classification:** Session 15

Contribution ID: **30**

Type: **not specified**

## **Wine & Cheese Party**

*Thursday, 14 March 2024 17:30 (1 hour)*

Contribution ID: 31

Type: **not specified**

## **Research on the Extreme Universe Opened Up by New Observational Instruments and Expanding into Interdisciplinary Fields**

*Thursday, 14 March 2024 15:30 (1h 30m)*

**Presenter:** TAKAHASHI, Tadayuki (Univ. of Tokyo)

**Session Classification:** Special Lecture