

# **Saga-Yonsei Joint Workshop XVIII**

## **Report of Contributions**

Contribution ID: 1

Type: **not specified**

## Lecture 1

**Session Classification:** Plenary

Contribution ID: 2

Type: **not specified**

## Lecture

**Session Classification:** Plenary

Contribution ID: 3

Type: **not specified**

## Welcome & opening remarks

**Session Classification:** Plenary

Contribution ID: 4

Type: **not specified**

## Welcome & opening remarks

*Thursday, 20 January 2022 14:00 (10 minutes)*

**Presenter:** Prof. FUSAYASU, Takahiro (Saga Univ.)

**Session Classification:** Plenary

Contribution ID: 5

Type: **not specified**

## Lecture 1: New Avenues for Proton Decay

*Thursday, 20 January 2022 14:10 (1h 30m)*

Within this decade, a new generation of underground detectors—JUNO, DUNE and Hyper-Kamiokande—are projected to improve significantly on the present sensitivities to various baryon decay modes. This presents a unique opportunity to test new decay modes in supersymmetric models that have not been considered before, partially because the sensitivity to those modes was not in the reach of the past underground detectors.

Encouraged by the results in 1912.04888 and 2011.03554, where we find that in many cases, the next generation of underground detectors should be able to probe models with sparticle masses that are  $O(10)$  TeV, we would like to explore B-L and flavor violating decaying modes. Non-supersymmetric B-L violating modes were considered in 1203.5544 and flavor violating modes in the context of high-scale supersymmetry in 1312.7854. Probing supersymmetric scenarios with proton decay will give us an insight into what may lie beyond the SM, an insight that the LHC will not be able to give us, since  $O(10)$  TeV masses are beyond the reach of the LHC.

**Presenter:** Dr VELASCO-SEVILLA, Liliana (CQUEST, Sogang U./KIAS)

**Session Classification:** Plenary

Contribution ID: 6

Type: **not specified**

## Getting to know one another

*Thursday, 20 January 2022 15:50 (1h 30m)*

**Session Classification:** Plenary

Contribution ID: 7

Type: **not specified**

## **Orientation for group works**

*Thursday, 20 January 2022 17:20 (10 minutes)*

**Session Classification:** Plenary



Contribution ID: 8

Type: **not specified**

## **Search for new phenomena in high-mass dilepton final states at CMS**

*Friday, 21 January 2022 11:00 (30 minutes)*

**Presenter:** Dr OH, Minseok (Seoul National U.)

**Session Classification:** Seminars

Contribution ID: 9

Type: **not specified**

## **Electroweak penguin decays from Belle and Belle II**

*Friday, 21 January 2022 11:30 (30 minutes)*

**Presenter:** Dr WATANUKI, Shun (Yonsei U.)

**Session Classification:** Seminars

Contribution ID: **10**

Type: **not specified**

## **Mathmatics for frontend circuit design**

*Friday, 21 January 2022 13:00 (1h 30m)*

**Presenter:** Prof. FUSAYASU, Takahiro (Saga Univ.)

**Session Classification:** Plenary

Contribution ID: 11

Type: **not specified**

## **Search for axion-like particles in radiative muon decays**

*Friday, 21 January 2022 15:00 (25 minutes)*

**Presenter:** Mr JHO, Yongsoo (Yonsei U.)

**Session Classification:** Plenary

Contribution ID: 12

Type: **not specified**

## **Reheating in Models with Non-minimal Coupling in metric and Palatini formalisms**

*Friday, 21 January 2022 15:25 (25 minutes)*

**Presenter:** Mr LEE, Sung Mook (Yonsei U.)

**Session Classification:** Plenary

Contribution ID: 13

Type: **not specified**

## **Particle ID & 3D reconstruction with the Dual-Readout calorimeter simulation for Future e+e- colliders**

*Friday, 21 January 2022 16:30 (25 minutes)*

**Presenter:** Mr KO, Sanghyun (Seoul National U.)

**Session Classification:** Plenary

Contribution ID: 14

Type: **not specified**

## **Search for dark photons in $B \rightarrow K A' A'$ ( $A' \rightarrow l^+ l^-$ ) at Belle**

*Friday, 21 January 2022 16:55 (20 minutes)*

**Presenter:** Mr KIM, Yongkyu (Yonsei U.)

**Session Classification:** Plenary

Contribution ID: 15

Type: **not specified**

## **The Road Less Traveled: where is new physics hidden?**

*Thursday, 27 January 2022 10:00 (1h 30m)*

**Presenter:** Prof. YOO, Jaehyeok (Korea Univ.)

**Session Classification:** Plenary



Contribution ID: 16

Type: **not specified**

## **Issues in cosmology 1: Quantum states during inflation**

*Thursday, 27 January 2022 13:00 (1h 30m)*

**Presenter:** Prof. GONG, Jin-Ouk (Ewha Womans Univ.)

**Session Classification:** Plenary

Contribution ID: 17

Type: **not specified**

## **Issues in cosmology 2: H0 tension – CMB vs. local measurements**

*Thursday, 27 January 2022 14:45 (1h 30m)*

**Presenter:** Prof. JEONG, Donghui (Penn State U. / KIAS )

**Session Classification:** Plenary

Contribution ID: **18**

Type: **not specified**

## **Can we prove that cosmic structures are of quantum mechanical origin?**

*Thursday, 27 January 2022 16:30 (1h 30m)*

**Presenter:** Prof. VENNIN, Vincent (Université de Paris)

**Session Classification:** Plenary

Contribution ID: 19

Type: **not specified**

## **Application of the persistent homology analysis to the QCD phase structure**

*Friday, 28 January 2022 10:30 (1h 30m)*

**Presenter:** Prof. KASHIWA, Kouji (Fukuoka Inst. of Tech.)

**Session Classification:** Plenary

Contribution ID: 20

Type: **not specified**

## **Group homework presentations**

*Friday, 28 January 2022 13:00 (1h 30m)*

**Session Classification:** Plenary

Contribution ID: 21

Type: **not specified**

## **Search for ALP in $B \rightarrow K a (a \rightarrow \gamma \gamma)$**

*Friday, 28 January 2022 14:40 (20 minutes)*

**Presenter:** Mr CHO, Sungjin (Yonsei U.)

**Session Classification:** Plenary

Contribution ID: 22

Type: **not specified**

## Search for $B \rightarrow X \nu \nu$ inclusive at Belle II

*Friday, 28 January 2022 15:20 (20 minutes)*

**Presenter:** PARK, Junewoo (Yonsei U.)

**Session Classification:** Plenary

Contribution ID: 23

Type: **not specified**

## **Module assembly R&D of the Dual-Readout Calorimeter for future e+e- colliders**

*Friday, 28 January 2022 16:00 (20 minutes)*

**Presenter:** Mr CHO, Guk (Yonsei U.)

**Session Classification:** Plenary



Contribution ID: 24

Type: **not specified**

## **Testing gravitational theories with the large-scale structure of the Universe**

*Friday, 28 January 2022 15:00 (20 minutes)*

**Presenter:** ISHIMARU, Shoya (Saga U.)

**Session Classification:** Plenary

Contribution ID: 25

Type: **not specified**

# Quantum kinetic theory for cosmology applications

*Friday, 28 January 2022 16:30 (1h 30m)*

**Presenter:** Prof. KAINULAINEN, Kimmo (University of Jyväskylä, Finland)

**Session Classification:** Plenary

Contribution ID: 26

Type: **not specified**

## Closing remarks

*Friday, 28 January 2022 18:00 (10 minutes)*

**Presenter:** Prof. KWON, Youngjoon (Yonsei U.)

**Session Classification:** Plenary

Contribution ID: 27

Type: **not specified**

## **H0 tension beyond LCDM**

*Friday, 21 January 2022 15:50 (20 minutes)*

**Presenter:** OKAMATSU, Fumiya (Saga U.)

**Session Classification:** Plenary

Contribution ID: 28

Type: **not specified**

## **Relaxing inflation with non-minimal coupling: A general study**

*Friday, 21 January 2022 16:10 (20 minutes)*

**Presenter:** KODAMA, Tatsuki (Saga U.)

**Session Classification:** Plenary

Contribution ID: 29

Type: **not specified**

## **Lithium problem in Big Bang Nucleosynthesis and Early Dark Energy**

*Friday, 28 January 2022 15:40 (20 minutes)*

**Presenter:** YAMASHITA, Sora

**Session Classification:** Plenary