2022 Chung-Ang University Beyond the Standard Model Workshop

Report of Contributions

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

Dark Matter, Pulsars, and the Galactic Center Gamma-Ray Excess

Monday 7 February 2022 09:30 (50 minutes)

Presenter: HOOPER, Dan

Session Classification: DM1

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

Muon (g-2) and thermal DM with $U(1)_{L_\mu - L_\tau}$ gauge symmetry: Revisited

Monday 7 February 2022 10:20 (30 minutes)

Presenter: KO, Pyungwon

Session Classification: DM1

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

Cosmic-ray-induced Boosted Dark Matter

Monday 7 February 2022 11:20 (30 minutes)

Presenter: PARK, Jong Chul

Session Classification: DM1

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

Recent results of COSINE-100

Monday 7 February 2022 11:50 (30 minutes)

Presenter: HA, Chang Hyon (Chung-Ang University)

Session Classification: DM1

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

Supernova-scope for the Direct Search of Supernova Axions

Monday 7 February 2022 13:40 (50 minutes)

Presenter: HAMAGUCHI, Koichi (University of Tokyo)

Session Classification: DM2

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

Scalar dark matter condensed by thermal fermions

Monday 7 February 2022 14:30 (30 minutes)

Presenter: CHUN, Eung Jin

Session Classification: DM2

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

TBA

Presenter: PARK, Jong Chul (Chungnam National University)

Session Classification: DM2

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

BSM Searches with Liquid Xenon Detectors

Monday 7 February 2022 16:00 (50 minutes)

Presenter: GALLOWAY, Michelle (University of Zürich)

Session Classification: DM3

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

Cosmological Imprints of Hot Axions

Monday 7 February 2022 16:50 (30 minutes)

Presenter: D'ERAMO, Francesco (University of Padua)

Session Classification: DM3

Contribution ID: **10**   Type: **not specified**

Axion rotation in the early universe

Monday 7 February 2022 17:20 (30 minutes)

Presenter: HARIGAYA, Keisuke (CERN)

Session Classification: DM3

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

Fun with composite dark matter

Tuesday 8 February 2022 11:00 (50 minutes)

Presenter: MURAYAMA, Hitoshi

Session Classification: DM4

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

Dark Matter in the time of Primordial Black Holes

Tuesday 8 February 2022 10:00 (30 minutes)

Presenter: BERNAL, Nicolas

Session Classification: DM4

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

Planetary Defense and Space Quantum Technologies for Ultralight Dark Matter

Tuesday 8 February 2022 09:30 (30 minutes)

Presenter:　TSAI, Yu-Dai

Session Classification:　DM4

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

Dark sector searches at Belle and Belle II

Tuesday 8 February 2022 11:50 (30 minutes)

Presenter: KWON, Youngjoon

Session Classification: DM4

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

How to realize inflation, and, how to use inflation

Tuesday 8 February 2022 13:40 (50 minutes)

Presenter: YAMAGUCHI, Masahide

Session Classification: Inflation1

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

Effective field theory of waterfall in hybrid inflation

Tuesday 8 February 2022 14:30 (30 minutes)

Presenter: GONG, Jinn-Ouk

Session Classification: Inflation1

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

Dark Matter at Early Universe Phase Transitions

Tuesday 8 February 2022 16:00 (50 minutes)

Presenter: KOPP, Joachim

Session Classification: DM5

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

Super Heavy Dark Matter

Tuesday 8 February 2022 16:50 (30 minutes)

Presenter: KUFLIK, Eric

Session Classification: DM5

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

Dark sector searches at Belle and Belle II

Presenter: KWON, Youngjoon

Session Classification: DM5

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

Correlated signals of first-order phase transitions from dark sector

Wednesday 9 February 2022 10:00 (30 minutes)

Presenter: TSENG, Po-Yen (National Tsing Hua University, Department of Physics)

Session Classification: GW1

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

Primordial black holes from first-order phase transitions

Wednesday 9 February 2022 09:30 (30 minutes)

Presenter: JUNG, Taehyun

Session Classification: GW1

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

Dark matter filtering-out effect during a first-order phase transition

Wednesday 9 February 2022 11:00 (30 minutes)

Presenter: SHIN, Chang Sub

Session Classification: GW1

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

PBH & GW in Higgs-Rˆ2 inflation

Wednesday 9 February 2022 11:30 (50 minutes)

Presenter: PARK, Seong Chan (Yonsei University)

Session Classification: GW1

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

QCD Axion Dark Matter in the presence of Peccei-Quinn breaking

Wednesday 9 February 2022 13:40 (50 minutes)

Presenter: TAKAHASHI, Fuminobu

Session Classification: Inflation2

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

Axionic Unification of Inflaton and Dark Matter

Wednesday 9 February 2022 14:30 (30 minutes)

Presenter: YIN, Wen

Session Classification: Inflation2

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

Higgs Inflation in Einstein-Cartan gravity

Wednesday 9 February 2022 16:00 (50 minutes)

Presenter: SHAPOSHNIKOV, Mikhail

Session Classification: Inflation3

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

Production of (dark) matter in the early Universe

Wednesday 9 February 2022 16:50 (30 minutes)

Presenter: MAMBRINI, Yann

Session Classification: Inflation3

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

Collective effects in dark matter production

Wednesday 9 February 2022 17:20 (30 minutes)

Presenter: LEBEDEV, Oleg

Session Classification: Inflation3

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

Gravitational lensing measurements of the Hubble parameter: challenges and opportunities

Thursday 10 February 2022 16:00 (50 minutes)

The time delay between the images of gravitationally lensed quasars probes a combination of angular diameter distances and the mass profile of the lens galaxy. Some observational campaigns to measure such systems have reported a determination of the Hubble parameter H0 in tension with determinations based on the cosmic microwave background and large scale structure. I will discuss challenges and opportunities associated with the lensing H0 measurements. A central challenge facing the method is the mass sheet degeneracy (MSD). To mitigate the MSD, lensing collaborations must study and constrain cosmological weak lensing distortions to the strong lensing system, which can bias the inferred value of H0 at the few percent level. I will show that in current H0 measurements, the weak lensing corrections have not been dealt with in full. Another related challenge is due to uncertainties in the intrinsic density profile of the lens galaxy, notably the possibility of an extended core feature, which could act as an approximate MSD. I will review how a careful account of this possible systematic effect in the observational data analysis had alleviated a previous claim for a lensing H0 tension. The core-MSD effect is also an interesting opportunity: it could suggest a non-minimal model of dark matter, perhaps a clue for a small relic abundance of ultralight axions.

Presenter: BLUM, Kfir

Session Classification: GW3

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

TBA

Presenter: KANG , Gungwon

Session Classification: GW3

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

Gravitational focusing of wave dark matter

Thursday 10 February 2022 16:50 (30 minutes)

Presenter: KIM, Hyungjin

Session Classification: GW3

Contribution ID: **32** Type: **not specified**

Thermal Misalignment of Scalar Dark Matter

Thursday 10 February 2022 09:30 (50 minutes)

Presenter: BATELL, Brian Thomas

Session Classification: DM6

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

Hidden dynamics of a sub-component dark matter

Thursday 10 February 2022 10:20 (30 minutes)

Presenter: SHIN, Seodong (Jeonbuk National University)

Session Classification: DM6

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

Solving the Mysteries of Supermassive Black Holes in the Era of High-resolution Numerical Simulations

Thursday 10 February 2022 14:30 (30 minutes)

Presenter: KIM, Ji-hoon

Session Classification: GW2

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

Superconducting tensor detector for mid-frequency gravitational waves: SOGRO

Thursday 10 February 2022 15:00 (30 minutes)

Presenter: KANG , Gungwon

Session Classification: GW2

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

Weakly Interacting Massive Continuum (WIC) Dark Matter

Tuesday 8 February 2022 17:20 (30 minutes)

Presenter: LEE, Seung J. (Korea University)

Session Classification: DM5

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

Out-of-equilibrium dark matter: production and cosmological signatures

Wednesday 9 February 2022 15:00 (30 minutes)

In this talk I discuss various possibilities of producing dark matter in a state out of thermal equilibrium. I will show that the non-thermal nature of dark matter can leave an imprint on the matter power spectrum, which features a cutoff analogous to that for warm dark matter. I will present a mapping procedure that allows translating the Lyman-alpha forest mass bound to such scenarios and discuss the phenomenological implications of these results.

Presenter: PIERRE, Mathias (DESY)

Session Classification: Inflation2

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

Reconstructing inflationary potential from power spectrum using generalised slow-roll approximation

Tuesday 8 February 2022 15:00 (30 minutes)

Presenter: CHOI, Ki-Young (Sungkyunkwan University)

Session Classification: Inflation1

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

Is active sub-eV neutrino, "Dirac or Majorana"?, that is the question !

Thursday 10 February 2022 11:50 (30 minutes)

Presenter: KIM, Choong Sun (Yonsei University)

Session Classification: Flavor

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

The effects of magnetic fields on magnetic dipole moments

Thursday 10 February 2022 11:20 (30 minutes)

Presenter: HONG, Deog Ki (Pusan National University (KR))

Session Classification: Flavor

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

Axino Dark Matter in Supersymmetric Clockwork Model

Monday 7 February 2022 15:00 (30 minutes)

Presenter: BAE, Kyu Jung (Kyungbook National University)

Session Classification: DM2

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

Searching for dark-matter black holes from LVK gravitational-wave detectors

Thursday 10 February 2022 13:40 (50 minutes)

Presenter: JEONG, Donghui (The Pennsylvania State University)

Session Classification: GW2

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

Latest developments on gravitational-lensing probes of dark universe

Thursday 10 February 2022 17:20 (30 minutes)

Presenter: JUNG, Sunghoon (Seoul National University)

Session Classification: GW3