

International Symposium on Cosmology and Particle Astrophysics: CosPA 2023

Report of Contributions

Contribution ID: 1

Type: **not specified**

Welcome to CosPA 2023

Friday 10 November 2023 09:00 (5 minutes)

Presenter: Prof. KIM, Sang Pyo (Kunsan Nat. U.)

Session Classification: Plenary 1

Contribution ID: 2

Type: **not specified**

Welcome to CUHK

Friday 10 November 2023 09:05 (5 minutes)

Presenter: Prof. CHAN, Alan (Chinese U. of HK)

Session Classification: Plenary 1

Contribution ID: 3

Type: **not specified**

IceCUBE

Friday 10 November 2023 09:40 (30 minutes)

Presenter: Prof. ADAMS, Jenni (U. of Canterbury)

Session Classification: Plenary 1

Contribution ID: 4

Type: **not specified**

Searching for the Milky Way's Extreme Particle Accelerators

Friday 10 November 2023 09:10 (30 minutes)

Presenter: Prof. ROWELL, Gavin (U. of Adelaide)

Session Classification: Plenary 1

Contribution ID: 5

Type: **not specified**

The KAGRA Project - Status and Plans

Friday 10 November 2023 10:10 (30 minutes)

Presenter: Prof. KAJITA, Takaaki (ICRR, U. of Tokyo)

Session Classification: Plenary 1

Contribution ID: 6

Type: **not specified**

TinQin: the Chinese Mission to Detect Gravitational Waves in Space

Friday 10 November 2023 10:40 (30 minutes)

Presenter: Prof. LUO, Jun (Sun Yat-Sen U.)

Session Classification: Plenary 1

Contribution ID: 7

Type: **not specified**

Late Growth of Brightest Cluster Galaxies Through ICM Cooling Induced Star Formation

Friday 10 November 2023 11:30 (20 minutes)

Presenter: LEVITSKIY, Arsen (U. of Hong Kong)

Session Classification: Parallel 1A

Contribution ID: 8

Type: **not specified**

A Model Independent Method for Identifying Dark Matter Substructures: Violation of Geometrical Duality in Strong Gravitational Lensing

Friday 10 November 2023 11:50 (20 minutes)

Presenter: FUNG, Leo Wing Hong (HKUST)

Session Classification: Parallel 1A

Contribution ID: 9

Type: **not specified**

Tracing the Energetic Outflows from Galactic Nuclei: Observational Evidence for a Large-scale Bipolar Radio and X-ray-emitting Bubble-like Structure in M106

Friday 10 November 2023 12:10 (20 minutes)

Presenter: ZENG, Yuxuan (U. of Hong Kong)

Session Classification: Parallel 1A

Contribution ID: 10

Type: **not specified**

Polarization Modes of Gravitational Waves in Generalized Proca Theory

Friday 10 November 2023 11:30 (20 minutes)

Presenter: DONG, Yu-Qi (Lanzhou U.)

Session Classification: Parallel 1B: Gravity I

Contribution ID: **11**

Type: **not specified**

Growth of Curvature Perturbations in Non-minimal Curvaton Scenario Revisited

Friday 10 November 2023 11:50 (20 minutes)

Presenter: CHEN, Chao (HKUST)

Session Classification: Parallel 1B: Gravity I

Contribution ID: 12

Type: **not specified**

Geodesic Tracking the Gravitational Collapse and Migration of Boson Star

Friday 10 November 2023 12:10 (20 minutes)

Presenter: ZHANG, Yu-Peng (Lanzhou U.)

Session Classification: Parallel 1B: Gravity I

Contribution ID: 13

Type: **not specified**

GRB-SN Association within the Binary-Driven Hypernova Model

Friday 10 November 2023 13:30 (30 minutes)

Presenter: Prof. RUFFINI, Remo (U. of Rome)

Session Classification: Plenary 2

Contribution ID: 14

Type: **not specified**

Picard-Lefschetz Interpretation of Cosmic Lensing and Beyond

Friday 10 November 2023 14:00 (30 minutes)

Presenter: Prof. PEN, Ue-Li (Academia Sinica)

Session Classification: Plenary 2

Contribution ID: 15

Type: **not specified**

Hyper-Kamiokande: Physics Goals and Status of Construction

Friday 10 November 2023 14:30 (30 minutes)

Presenter: Prof. MORIYAMA, Shigetaka (ICRR, U. of Tokyo)

Session Classification: Plenary 2

Contribution ID: **16**

Type: **not specified**

Neutrinos in Astrophysical Explosions

Friday 10 November 2023 15:00 (30 minutes)

Presenter: Prof. WU, Meng-Ru (Academia Sinica)

Session Classification: Plenary 2

Contribution ID: 17

Type: **not specified**

Accelerated Light Dark Matter-Earth Inelastic Scattering in Direct Detection

Friday 10 November 2023 16:00 (20 minutes)

Presenter: SU, Liangliang (Nanjing Normal U.)

Session Classification: Parallel 2A

Contribution ID: **18**

Type: **not specified**

Neutrinos from the Sun can discover dark matter-electron scattering

Friday 10 November 2023 16:20 (20 minutes)

Presenter: LAHA, Ranjan (Indian Inst. of Sci.)

Session Classification: Parallel 2A

Contribution ID: 19

Type: **not specified**

Dark Photon-Photon Tridents from the Accumulated Dark Matter inside Compact Objects

Friday 10 November 2023 16:40 (20 minutes)

Presenter: NGUYEN, Tran Quang Thong (Stockholm U.)

Session Classification: Parallel 2A

Contribution ID: 20

Type: **not specified**

Testing Black Hole Eikonal Correspondence

Friday 10 November 2023 16:00 (20 minutes)

Presenter: CHEN, Che-Yu (iTHEMS, RIKEN)

Session Classification: Parallel 2B

Contribution ID: 21

Type: **not specified**

Thermodynamics and Kinetics of the Black Hole Phase Transitions

Friday 10 November 2023 16:20 (20 minutes)

Presenter: WANG, Jin (Stony Brook U.)

Session Classification: Parallel 2B

Contribution ID: 22

Type: **not specified**

Quasinormal Modes and Greybody Factor of a Lorentz-violating Black Hole

Friday 10 November 2023 16:40 (20 minutes)

Presenter: GUO, Wen-Di (Lanzhou U.)

Session Classification: Parallel 2B

Contribution ID: 23

Type: **not specified**

Bulk Reconstruction from the Surface Growth Approach

Friday 10 November 2023 17:00 (20 minutes)

Presenter: SUN, Jia-Rui (Sun Yat-Sen U.)

Session Classification: Parallel 2B

Contribution ID: 24

Type: **not specified**

Evidence for the Nanohertz Gravitational Wave Background

Saturday 11 November 2023 09:00 (30 minutes)

Presenter: Prof. MCLAUGHLIN, Maura (West Virginia U.)

Session Classification: Plenary 3

Contribution ID: 25

Type: **not specified**

Progress of Chinese Pulsar Timing Array (by zoom)

Saturday 11 November 2023 09:30 (30 minutes)

Presenter: Prof. LEE, Kejia (Peking U.)

Session Classification: Plenary 3

Contribution ID: 26

Type: **not specified**

Promise of Persistent Multi-Messenger nano-Hz GW Astronomy

Saturday 11 November 2023 10:00 (30 minutes)

Presenter: Prof. GOPAKUMAR, Achamveedu (Tata Inst. of Fund. Res.)

Session Classification: Plenary 3

Contribution ID: 27

Type: **not specified**

Testing Gravity Using Inter-pulsar Correlation Measurements

Saturday 11 November 2023 10:30 (30 minutes)

Presenter: Dr BERNARDO, Reggie (Academia Sinica)

Session Classification: Plenary 3

Contribution ID: 28

Type: **not specified**

Non-Gaussianities from Heavy Particles with Time-dependent Mass

Saturday 11 November 2023 11:20 (20 minutes)

Presenter: Dr SANO, Fumiya (Tokyo Inst. of Tech./IBS)

Session Classification: Parallel Session 3A

Contribution ID: 29

Type: **not specified**

Weak-scale Leptogenesis in a Radiative Seesaw Model

Saturday 11 November 2023 11:40 (20 minutes)

Presenter: Dr SETO, Osamu (Hokkaido U.)

Session Classification: Parallel Session 3A

Contribution ID: 30

Type: **not specified**

Dynamics of confinement: slingshot mechanism and gravitation waves

Saturday 11 November 2023 12:00 (20 minutes)

Presenter: Dr ZANTEDESCHI, Michael (TD Lee Inst./Shanghai Jiao Tong U.)

Session Classification: Parallel Session 3A

Contribution ID: 31

Type: **not specified**

Is Cosmic Birefringence Model-dependent?

Saturday 11 November 2023 12:20 (20 minutes)

Presenter: Dr YIN, Lu (APCTP)

Session Classification: Parallel Session 3A

Contribution ID: 32

Type: **not specified**

Mapping the Interstellar Medium of the Milky Way and Nearby Galaxies

Saturday 11 November 2023 11:20 (20 minutes)

Presenter: Prof. YAN, Renbin (Chinese U. of HK)

Session Classification: Parallel Session 3B

Contribution ID: 33

Type: **not specified**

Evidence of Supernova Remnant W51C Accelerating Cosmic Rays to Sub-PeV Energies Unveiled by LHAASO

Saturday 11 November 2023 11:40 (20 minutes)

Presenter: Dr LI, Zhe (Inst. of High Energy Phy.)

Session Classification: Parallel Session 3B

Contribution ID: 34

Type: **not specified**

Caution: Photometric Redshift Catalogs in Lensing Fields Confronts Severe Contamination

Saturday 11 November 2023 12:00 (20 minutes)

Presenter: Dr ZHANG, Jiashuo (U. of Hong Kong)

Session Classification: Parallel Session 3B

Contribution ID: 35

Type: **not specified**

A Lens Finder Map to check claimed High- z Galaxies behind SMACS J0723.3–7327

Saturday 11 November 2023 12:20 (20 minutes)

Presenter: CHOW, Alex (U. of Hong Kong)

Session Classification: Parallel Session 3B

Contribution ID: 36

Type: **not specified**

Electroweakly (EW) charged WIMP

Saturday 11 November 2023 13:30 (30 minutes)

Presenter: Prof. MATSUMOTO, Shigeki (IPMU/U. of Tokyo)

Session Classification: Plenary 4

Contribution ID: 37

Type: **not specified**

Light and Ultra-light Axion Dark Matter

Saturday 11 November 2023 14:00 (30 minutes)

Presenter: Prof. HUI, Lam (Columbia U.)

Session Classification: Plenary 4

Contribution ID: **38**

Type: **not specified**

Light Dark Matter Searches

Saturday 11 November 2023 14:30 (30 minutes)

Presenter: Prof. WONG, Henry (Academia Sinica)

Session Classification: Plenary 4

Contribution ID: 39

Type: **not specified**

Uncovering the Microscopic Features of Axion with Low Energy Observables

Saturday 11 November 2023 15:00 (30 minutes)

Presenter: Prof. CHOI, Kiwoon (CTPU/IBS)

Session Classification: Plenary 4

Contribution ID: 40

Type: **not specified**

Pulsar Timing Residuals Induced by Wideband Ultralight Dark Matter

Saturday 11 November 2023 16:00 (20 minutes)

Presenter: ZHANG, Yun-Long (Nat. Astro. Obs. China)

Session Classification: Parallel Session 4A

Contribution ID: 41

Type: **not specified**

Updated Constraints and Future Prospects on Majoron Dark Matter

Saturday 11 November 2023 16:20 (20 minutes)

Presenter: NIIBO, Michiru (Ochanomizu U.)

Session Classification: Parallel Session 4A

Contribution ID: 42

Type: **not specified**

Detection of Ultra-Light Dark Matter with Stimulated Annihilation

Saturday 11 November 2023 16:40 (20 minutes)

Presenter: WU, Lei (Nanjing Normal U.)

Session Classification: Parallel Session 4A

Contribution ID: 43

Type: **not specified**

Constraining Particle Dark Matter with eROSITA Early Data

Saturday 11 November 2023 17:00 (20 minutes)

Presenter: FONG, Chi Ngam (Chinese U. of HK)

Session Classification: Parallel Session 4A

Contribution ID: 44

Type: **not specified**

Force-Free Electrodynamics and Black Hole Magnetospheres

Saturday 11 November 2023 16:00 (20 minutes)

Presenter: MENON, Govind (Troy U.)

Session Classification: Parallel Session 4B

Contribution ID: 45

Type: **not specified**

Detecting High-Frequency Gravitational Waves in Planetary Magnetosphere

Saturday 11 November 2023 16:20 (20 minutes)

Presenter: ZHANG, Chen (HKUST)

Session Classification: Parallel Session 4B

Contribution ID: 46

Type: **not specified**

Termination of Superradiance from a Binary Companion

Saturday 11 November 2023 16:40 (20 minutes)

Presenter: ZHU, Huiyu (HKUST)

Session Classification: Parallel Session 4B

Contribution ID: 47

Type: **not specified**

21cm Intensity Mapping: A New Window to Probe Dark Energy

Sunday 12 November 2023 09:00 (30 minutes)

Presenter: Prof. WANG, Bin (Shanghai Jiao Tong U./Yangzhou U.)

Session Classification: Plenary 5

Contribution ID: 48

Type: **not specified**

Primordial Black Holes and Stochastic Gravitational Waves

Sunday 12 November 2023 09:30 (30 minutes)

Presenter: Prof. CAI, Rong-Gen (ITP, CAS / Ningbo Univ.)

Session Classification: Plenary 5

Contribution ID: 49

Type: **not specified**

Simulating Cosmic Structure Formation

Sunday 12 November 2023 10:00 (30 minutes)

Presenter: Prof. YOSHIDA, Naoki (IPMU/U. of Tokyo)

Session Classification: Plenary 5

Contribution ID: 50

Type: **not specified**

CMB Constraints on New Physics

Sunday 12 November 2023 10:30 (30 minutes)

Presenter: Prof. WONG, Yvonne (U. of New South Wales)

Session Classification: Plenary 5

Contribution ID: 51

Type: **not specified**

How did Galaxy Clusters Reach Their Observed Physical States?

Sunday 12 November 2023 11:20 (20 minutes)

Presenter: Prof. LIM, Jeremy (U. of Hong Kong)

Session Classification: Parallel Session 5A

Contribution ID: 52

Type: **not specified**

Cosmological Gravitational Test by RSD and kSZ Effect

Sunday 12 November 2023 11:40 (20 minutes)

Presenter: ZHENG, Yi (Sun Yat-sen U.)

Session Classification: Parallel Session 5A

Contribution ID: 53

Type: **not specified**

Cosmological Correlators Through the Looking Glass

Sunday 12 November 2023 12:00 (20 minutes)

Presenter: ZHU, Yuhang (IBS)

Session Classification: Parallel Session 5A

Contribution ID: 54

Type: **not specified**

Cosmological Measurement of Neutrino Properties

Sunday 12 November 2023 12:20 (20 minutes)

Presenter: ZHANG, Wangzheng (Chinese U. of HK)

Session Classification: Parallel Session 5A

Contribution ID: 55

Type: **not specified**

The Impact of Baryonic Potentials on the Evolution of Self-interacting Dark Matter Halos

Sunday 12 November 2023 11:20 (20 minutes)

Presenter: Prof. ZHONG, Yiming (City U. of HK)

Session Classification: Parallel Session 5B

Contribution ID: 56

Type: **not specified**

The Sensitivity Floor for Primordial Black Holes Neutrino Searches

Sunday 12 November 2023 11:40 (20 minutes)

Presenter: LIU, Qishan (Chinese U. of HK)

Session Classification: Parallel Session 5B

Contribution ID: 57

Type: **not specified**

Lighting up Dark Matter with Gravitational Lensing

Sunday 12 November 2023 12:00 (20 minutes)

Presenter: ALFRED, Amruth (U. of Hong Kong)

Session Classification: Parallel Session 5B

Contribution ID: 58

Type: **not specified**

A Dark Matter Probe in Accreting Pulsar-Black Hole Binaries

Sunday 12 November 2023 12:20 (20 minutes)

Presenter: DING, Qianhang (IBS)

Session Classification: Parallel Session 5B

Contribution ID: 59

Type: **not specified**

The Road Towards the Ultimate WIMP Dark Matter Direct Detection

Sunday 12 November 2023 13:30 (30 minutes)

Presenter: Prof. NI, Kaixuan (UCSD)

Session Classification: Plenary Session 6

Contribution ID: **60**

Type: **not specified**

Flavours of Dark Matter

Sunday 12 November 2023 14:00 (30 minutes)

Presenter: Prof. VOLKAS, Raymond (U. of Melbourne)

Session Classification: Plenary Session 6

Contribution ID: **61**

Type: **not specified**

Status of AMoRE Project

Sunday 12 November 2023 14:30 (30 minutes)

Presenter: Prof. KIM, Yeongduk (CUP/IBS)

Session Classification: Plenary Session 6

Contribution ID: 62

Type: **not specified**

Growth of Curvature Perturbations in Non-minimal Curvaton Scenario Revisited

Sunday 12 November 2023 15:30 (20 minutes)

Presenter: CHEN, Chao (HKUST)

Session Classification: Parallel Session 6A

Contribution ID: 63

Type: **not specified**

On the Uniqueness of Λ CDM-like Evolution for Homogeneous and Isotropic Cosmology in General Relativity

Sunday 12 November 2023 15:50 (20 minutes)

Presenter: GREGORIS, Daniele (Jiangsu Univ. of Sci. & Tech)

Session Classification: Parallel Session 6A

Contribution ID: 64

Type: **not specified**

Numerical Investigation of Two-Dimensional Fokker-Planck Equation in Inflationary Models: Importance of Slow-Roll Parameters

Sunday 12 November 2023 16:10 (20 minutes)

Presenter: JIANG, Jie (Pusan Nat. U.)

Session Classification: Parallel Session 6A

Contribution ID: 65

Type: **not specified**

Odd-parity Perturbations in the Most General Scalar-vector-tensor Theory

Sunday 12 November 2023 16:30 (20 minutes)

Presenter: GONZÁLEZ-ESPINOZA, Manuel (Playa Ancha U.)

Session Classification: Parallel Session 6A

Contribution ID: 66

Type: **not specified**

Primordial Black Holes, Dark Matter, and Gravitational Waves from QCD axion and axion-like particles

Sunday 12 November 2023 15:30 (20 minutes)

Presenter: GE, Shuailiang (Peking U.)

Session Classification: Parallel Session 6B

Contribution ID: 67

Type: **not specified**

Lyman- α Constraints on the Primordial Black Hole Dark Matter

Sunday 12 November 2023 15:50 (20 minutes)

Presenter: PARASHARI, Priyank (Indian Inst. of Sci.)

Session Classification: Parallel Session 6B

Contribution ID: 68

Type: **not specified**

Constraining Abundance of Primordial Blackholes in Dark Matter via Transients Comprising Lensed Star Clusters

Sunday 12 November 2023 16:10 (20 minutes)

Presenter: LI, Sung Kei (U. of Hong Kong)

Session Classification: Parallel Session 6B

Contribution ID: 69

Type: **not specified**

The Interplay of Primordial Black Holes, Dark Matter, and Axions

Sunday 12 November 2023 16:30 (20 minutes)

Presenter: VISINELLI, Luca (Shanghai Jiao Tong U.)

Session Classification: Parallel Session 6B

Contribution ID: 70

Type: **not specified**

Direct Imaging of Supermassive Black Holes

Monday 13 November 2023 09:00 (30 minutes)

Presenter: Prof. HO, Paul (Academia Sinica)

Session Classification: Plenary Session 7

Contribution ID: 71

Type: **not specified**

Black Holes, Maximum Force, and Related Conjectures in General Relativity

Monday 13 November 2023 09:30 (30 minutes)

Presenter: Prof. ONG, Yen-Chin (Yangzhou U)

Session Classification: Plenary Session 7

Contribution ID: 72

Type: **not specified**

Quantum Tunneling in Curved Spacetime

Monday 13 November 2023 10:00 (30 minutes)

Presenter: Prof. YAMAGUCHI, Masahide (CTPU/IBS)

Session Classification: Plenary Session 7

Contribution ID: 73

Type: **not specified**

Have Pulsar Timing Array Methods Detected a Cosmological Phase Transition?

Monday 13 November 2023 11:00 (20 minutes)

Presenter: MARCIANO, Antonino (Fudan U.)

Session Classification: Parallel 7A

Contribution ID: 74

Type: **not specified**

Primordial Perturbations from Ultra-slow-roll Single-field Inflation with Quantum Loop Effects

Monday 13 November 2023 11:20 (20 minutes)

Presenter: Prof. NG, Kin-Wang (Academia Sinica)

Session Classification: Parallel 7A

Contribution ID: 75

Type: **not specified**

Higgs Inflation with a Gauss-Bonnet Term in the Einstein Frame

Monday 13 November 2023 11:40 (20 minutes)

Presenter: TUMURTUSHAA, Gansukh (Jeju Nat. U.)

Session Classification: Parallel 7A

Contribution ID: 76

Type: **not specified**

Cosmological and Astrophysical Implications of the Stochastic Ricci Flow

Monday 13 November 2023 12:00 (20 minutes)

Presenter: Prof. LULLI, Matteo (Southern U. of Sci. and Tech.)

Session Classification: Parallel 7A

Contribution ID: 77

Type: **not specified**

On Graviton-photon Conversions in Magnetic Environments

Monday 13 November 2023 11:00 (20 minutes)

Presenter: HWANG, Jai-chan (IBS)

Session Classification: Parallel Session 7B

Contribution ID: 78

Type: **not specified**

Distinguishing Dirac and Majorana Neutrinos Using Temporal Correlation

Monday 13 November 2023 11:20 (20 minutes)

Presenter: SONI, Bhavya (IIT Jodhpur)

Session Classification: Parallel Session 7B

Contribution ID: 79

Type: **not specified**

Properties of the Brightest Multiply-Lensed Lyman- α Sources in Cluster Fields

Monday 13 November 2023 11:40 (20 minutes)

Presenter: NIANIAS, James (U. of Hong Kong)

Session Classification: Parallel Session 7B

Contribution ID: **80**

Type: **not specified**

Can a Star be Smaller Than the Black Hole of the Same Mass?

Monday 13 November 2023 12:00 (20 minutes)

Presenter: LI, Shoulong (Hunan Normal U.)

Session Classification: Parallel Session 7B

Contribution ID: 81

Type: **not specified**

Thermodynamics of Apparent Gauss-Bonnet Cosmology and Multivalued Hamiltonian Issues

Monday 13 November 2023 13:30 (30 minutes)

Presenter: Prof. ALVEAR, Joel Francisco Saavedra (Pontifical Catholic Univ. of Valparaíso)

Session Classification: Plenary Session 8

Contribution ID: 82

Type: **not specified**

Cosmological Magnetic Fields (by zoom)

Monday 13 November 2023 14:00 (30 minutes)

Presenter: Prof. VACHASPATI, Tanmay (Arizona State U./CERN)

Session Classification: Plenary Session 8

Contribution ID: 83

Type: **not specified**

Cosmological Galaxy Simulations

Monday 13 November 2023 14:30 (30 minutes)

Presenter: Prof. CHAN, Tsang Keung (Chinese U. of HK)

Session Classification: Plenary Session 8

Contribution ID: 84

Type: **not specified**

Schwinger Effect in Magnetized Black Holes and KN Black Holes

Monday 13 November 2023 15:00 (30 minutes)

Presenter: Prof. KIM, Sang Pyo (Kunsan Nat. U.)

Session Classification: Plenary Session 8

Contribution ID: 85

Type: **not specified**

Quantum Gravity Induced Entanglement of Masses in Curved Spacetimes

Saturday 11 November 2023 17:00 (20 minutes)

Presenter: SHU, Fu-Wen (Nanchang University)

Session Classification: Parallel Session 4B